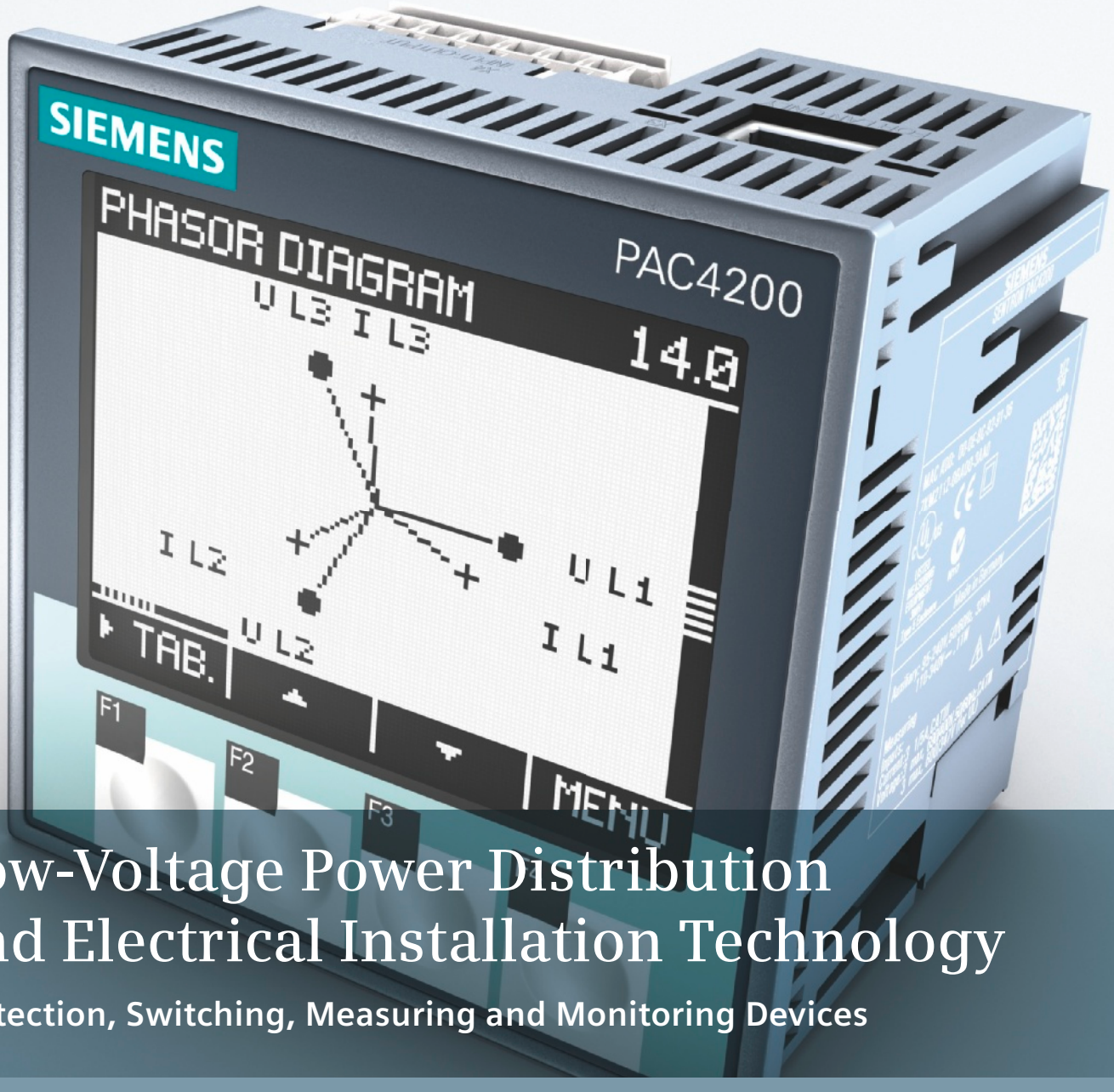
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SIEMENS



Low-Voltage Power Distribution and Electrical Installation Technology

Protection, Switching, Measuring and Monitoring Devices

SENTRON

Catalog LV 10.1

Edition 2013

Answers for infrastructure and cities.

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Contents

Air circuit breakers • Molded case circuit breakers • Miniature circuit breakers • Residual current protective devices / AFD units • Fuse systems • Overvoltage protection devices • Switch disconnectors • Switching devices • Transformers, power supply units and socket outlets • Busbar systems • Measuring devices and power monitoring • Monitoring devices • Software

Switchboards • Busbar trunking systems • System cubicles, system lighting and system air-conditioning • Distribution boards • Molded-plastic distribution systems • iPo installation terminals

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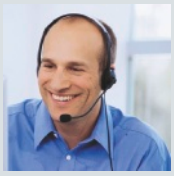
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Low-Voltage Power Distribution and Electrical Installation Technology

Protection, Switching, Measuring and Monitoring Devices

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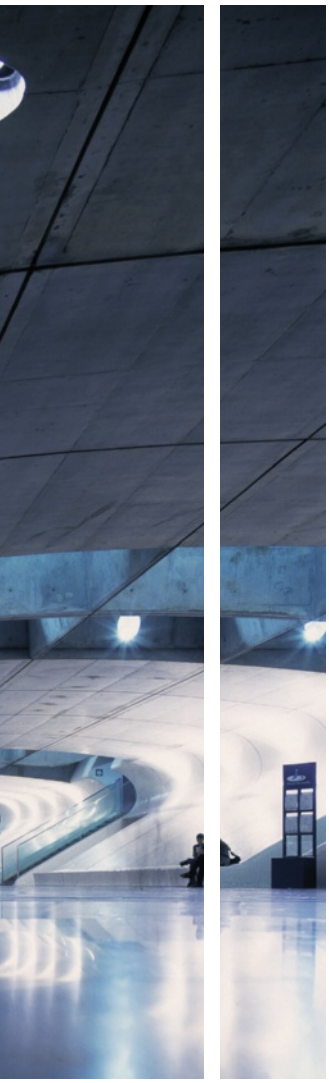
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New developments



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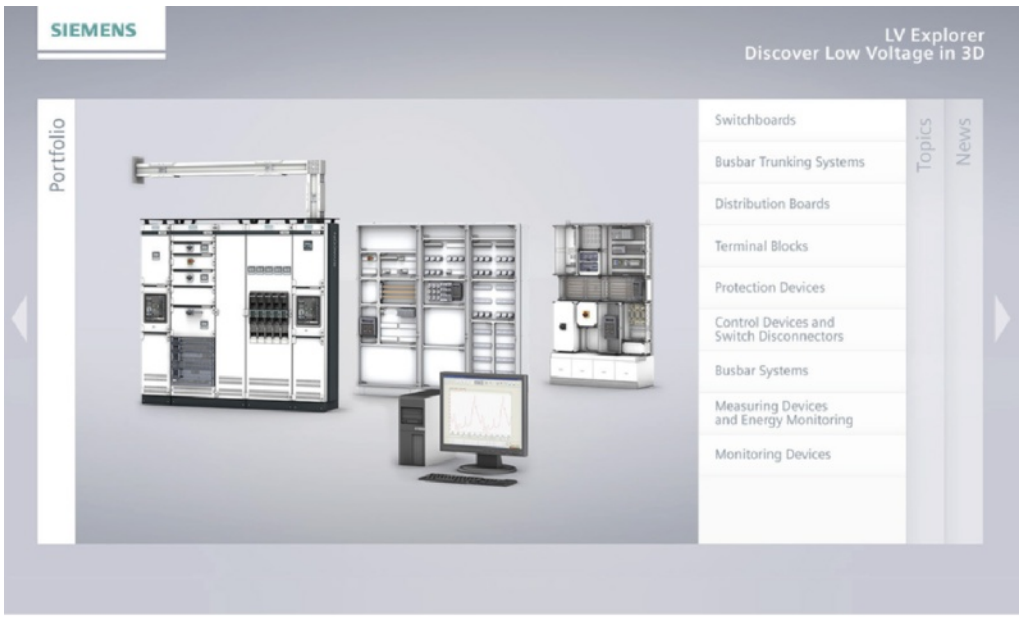
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Air Circuit Breakers



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3WL air circuit breakers/ non-automatic air circuit breakers up to 6300 A (AC), IEC

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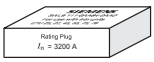
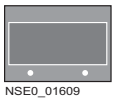
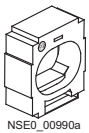
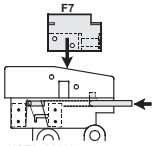
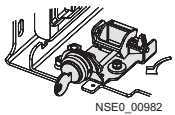
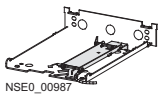
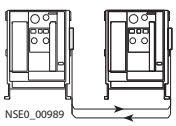
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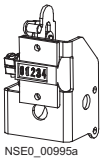
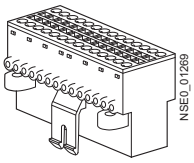
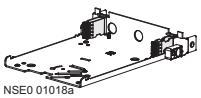
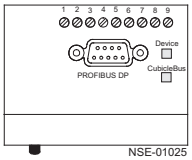
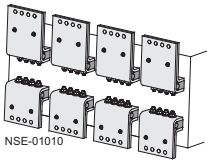
Air Circuit Breakers

Introduction

Overview

Devices		Page	Applications/ Individual components	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
	**3WL air circuit breakers/ non-automatic air circuit breakers up to 6300 A (AC), IEC**	1/9 ... 1/36	As incoming-feeder, distribution, tie, and outgoing-feeder circuit breakers in electrical installations. For switching and protecting motors, capacitors, generators, transformers, busbars and cables.	IEC 60947-2, climate-proof according to IEC 60068-2-30	✓	--	✓
	**3WL non-automatic air circuit breakers up to 4000 A (DC)**	1/66 ... 1/68	As incoming-feeder, distribution, tie, and outgoing-feeder circuit breakers in electrical installations. For switching and protecting motors, capacitors, generators, transformers, busbars and cables.	IEC 60947-2, climate-proof according to IEC 60068-2-30	✓	--	✓
	Protective devices with device holder and optional measurement function (ETU)	1/51	Electronic Trip Unit with protection functions LI, LSI, LSING and LSIN(G), with or without measurement function *Plus*	As for circuit breakers	✓	--	✓
 NSE0_00992b	**Rating Plugs**	1/51	For rated currents I_n from 250 A to 6300 A. The maximum rated current of the circuit breaker must not be exceeded.	As for circuit breakers	✓	--	✓
 NSE0_01027a	**Ground-fault modules**	1/51	With alarm and tripping	As for circuit breakers	✓	--	✓
 NSE0_01609	**Displays**	1/51	4-line displays for ETU45B	As for circuit breakers	✓	--	✓
 NSE0_00990a	**Current transformers for N conductor protection**	1/51	Internal transformers for N conductors, external transformers for N conductors	As for circuit breakers	✓	--	✓
	EMC filters	1/51	Common-mode interference suppressor filters	As for circuit breakers	✓	--	✓
 NSE0_00999a	**More accessories for Electronic Trip Units**	1/52	Sealable and lockable covers, automatic reset of the reclosing lockout, remote reset solenoid, retrofittable internal **Cubicle**BUS wiring, retrofittable internal wiring for connection of external N and G transformers	As for circuit breakers	✓	--	✓
 NSE0_00982	**Locking devices**	1/52	Interlocking set for mechanical ON/OFF, locking devices against unauthorized closing in operator panels/for withdrawable circuit breakers, locking devices for operating mechanism handle with padlock, locking devices to prevent movement of the withdrawable circuit breakers, interlocking systems	As for circuit breakers	✓	--	✓
 NSE0_00987	**Locking mechanisms**	1/53	To prevent movement of the withdrawable circuit breakers into disconnected position, to prevent opening of the cabinet door in ON position, to prevent opening of the cabinet door, to prevent movement with the cabinet door open	As for circuit breakers	✓	--	✓
 NSE0_00989	**Interlocks**	1/54	Mutual mechanical interlocking, couplings on the circuit breaker (with ring) for mutual interlocking, Bowden wire	As for circuit breakers	✓	--	✓

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Devices		Page	Applications/ Individual components	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
	Test devices	1/54	Manual tester Release 2 for Electronic Trip Units, function testers	As for circuit breakers	✓	--	✓
	Capacitor storage devices	1/54	For shunt releases	As for circuit breakers	✓	--	✓
 NSE0_00995a	**Indicators, control elements**	1/55	Ready-to-close signaling switches, signaling switches, tripped signaling switches, operating cycles counters, stored energy status signaling switches, position signaling switches for guide frames, electric ON buttons, motor shutdown switches, EMERGENCY-STOP buttons	As for circuit breakers	✓	--	✓
 NSE0_01269	**Auxiliary conductor connections**	1/56	Male connectors for circuit breakers, extension for 1000 V male connector versions, male connectors and extension for 1000 V, auxiliary supply connectors for circuit breakers or guide frames, coding kits, sliding contacts for guide frames, blanking blocks for circuit breakers	As for circuit breakers	✓	--	✓
	Auxiliary releases	1/57	Closing solenoids/shunt releases, undervoltage releases	As for circuit breakers	✓	--	✓
	Operating mechanisms	1/57	Motorized operating mechanism	As for circuit breakers	✓	--	✓
	Auxiliary contacts	1/57	Auxiliary switch blocks	As for circuit breakers	✓	--	✓
	Door sealing frames, hoods, shutters	1/58	Door sealing frames, IP55 protective covers, shutters	As for circuit breakers	✓	--	✓
	Arc chutes	1/58	Arc chutes, arc chute covers	As for circuit breakers	✓	--	✓
	Coding for withdrawable version	1/58	By customer, for 36 coding variants	As for circuit breakers	✓	--	✓
 NSE0 01018a	**Grounding connections**	1/59	Grounding connection between the guide frame and the withdrawable circuit breaker, contacting modules for withdrawable circuit breakers	As for circuit breakers	✓	--	✓
	Support brackets	1/59	For mounting fixed-mounted circuit breakers on vertical plane	As for circuit breakers	✓	--	✓
	CubicleBUS modules	1/59	Digital and analog input and output modules, Zone Selective Interlocking modules	As for circuit breakers	✓	--	✓
	Parameterization systems	1/59	Breaker Data Adapter (BDA), BDA *Plus*, Connection cables for BDA *Plus*, powerconfig parameterization software	As for circuit breakers	✓	--	✓
	Accessories for communications	1/60	Factory-fitted cables for CubicleBUS modules, SENTRON manuals for communication solutions, voltage transformers	As for circuit breakers	✓	--	✓
 NSE-01025	**Retrofitting and spare parts**	1/60	PROFIBUS retrofit kits, COM15 PROFIBUS modules, COM16 MODBUS modules, MODBUS IEC retrofit kits, Breaker Status Sensor (BSS), measurement function *Plus*	As for circuit breakers	✓	--	✓
 NSE-01010	**Main conductor connections, fixed-mounted** **Main conductor connections, withdrawable**	1/61 1/62	Front-accessible main connections with double or single hole, rear vertical main connections, rear horizontal main connections, circuit connecting flanges, supports for front and DIN connecting bars	As for circuit breakers	✓	--	✓

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Air Circuit Breakers

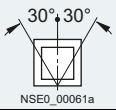
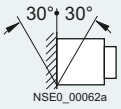
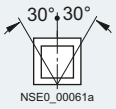
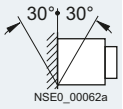
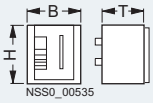
Introduction


Size I


Size II


Size III


ATC5300

Air circuit breakers						Transfer control devices
3WL air circuit breakers/non-automatic air circuit breakers up to 6300 A (AC), IEC					**3WL non-automatic air circuit breakers up to 4000 A (DC)**	**3KC ATC5300 transfer control devices**
Size		I, II, III			II	
Rated current I_n	A	630, 800, 1000, 1250, 1600, 2000, 2500, 3200, 4000, 5000, 6300			1000, 2000, 4000	see chapter "Monitoring devices".
Number of poles		3-pole, 4-pole			3-pole, 4-pole	
Rated operational voltage U_e	V AC V DC	... 690/1000/1150 --			-- ... 1000	
Rated ultimate short-circuit breaking capacity at 500 V AC	kA	Size I 55/66/85	Size II 66/80/100	Size III 100/150 (3-pole), 130 (4-pole)	30/25/20 (at 300/600/1000 V DC)	
Endurance	Operating cycles	Up to 20000	15000	10000	15000	
Mounting position		 NSE0_00061a	 NSE0_00062a		 NSE0_00061a  NSE0_00062a	
Degree of protection With cover Without cover (with door sealing frame)		IP55 IP41			IP55 IP41	
Dimensions 3-/4-pole  NSS0_00535		W mm	320/410	460/590	704/914	460/590
	Fixed-mounted	H mm	434	434	434	434
		D mm	291	291	291	291
	Withdrawable	H mm	465.5	465.5	465.5	465.5
		D mm	471	471	471	471


NSE0_01106a


NSE0_01107a


NSE0_01108a


NSE0_01109a


NSE0_01111a

Electronic Trip Units for 3WL air circuit breakers					
Type	ETU15B[1)]	ETU25B	ETU27B	ETU45B	ETU76B
Overload protection	✓	✓	✓	✓	✓
Short-time delayed short-circuit protection	--	✓	✓	✓	✓
Instantaneous short-circuit protection	✓	✓	✓	✓	✓
Neutral conductor protection	--	--	✓	✓	✓
Ground-fault protection	--	--	✓	❑	❑
Zone Selective Interlocking	--	--	--	❑	❑
LCD, 4-line	--	--	--	❑	--
LCD, graphic	--	--	--	--	✓
Communication	--	--	--	❑	❑
Measurement function *Plus*	--	--	--	❑	❑
Selectable parameter sets	--	--	--	--	✓
Parameters freely programmable	--	--	--	--	✓
CubicleBUS	--	--	--	✓	✓

✓ Standard
-- Not available
❑ Optional

1) ETU15B cannot be used with 3WL air circuit breakers, size III.

3WL air circuit breakers/non-automatic air circuit breakers according to UL 489 up to 5,000 A, see Catalog LV 16.

3KC ATC5300 transfer control devices, see chapter "Monitoring Devices".

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Breaking capacity

Size		I			II			III		
Type		3WL11			3WL12			3WL13		
Breaking capacity class		N (N)	S (S)	H (H)	N (N)	S (S)	H (H)	H (H)	C 3-pole (C)	C 4-pole (C)
Short-circuit breaking capacity										
Rated operational voltage U_e up to 415 V AC										
I_{cu}	kA	55	66	85	66	80	100	100	150	130
I_{cs}	kA	55	66	85	66	80	100	100	150	130
I_{cm}	kA	121	145	187	145	176	220	220	330	286
Rated operational voltage U_e up to 500 V AC										
I_{cu}	kA	55	66	85	66	80	100	100	150	130
I_{cs}	kA	55	66	85	66	80	100	100	150	130
I_{cm}	kA	121	145	187	145	176	220	220	330	286
Rated operational voltage U_e up to 690 V AC										
I_{cu}	kA	42	50	66	50	75	85	85	150	130
I_{cs}	kA	42	50	66	50	75	85	85	150	130
I_{cm}	kA	88	105	145	105	165	187	187	330	286
Rated operational voltage U_e up to 1000 V/1150 V AC										
I_{cu}	kA	--	--	50[9]	--	--	50	50	70[4]	70[4]
I_{cs}	kA	--	--	50[9]	--	--	50	50	70[4]	70[4]
I_{cm}	kA	--	--	105[9]	--	--	105	105	154[4]	154[4]
Rated short-time withstand current I_{cw} of the circuit breakers[3]										
0.5 s	kA	55	66	75	66	80	100	100	100	100
1 s	kA	42	50	66	55	66	80	100	100	100
2 s	kA	29.5	35	46	39	46	65[1]/70[2]	80	80	80
3 s	kA	24	29	37	32	44	50[1]/65[2]	65	65	65
Short-circuit breaking capacity I_{cc} of the non-automatic air circuit breakers										
Up to 500 V AC	kA	55	66	75	66	80	100	100	100	100
Up to 690 V AC	kA	42	50	66	50	75	85	85	100	100
Up to 1000 V /1150 V AC	kA	--	--	50[9]	--	--	50[4]	50[4]	70[4]	70[4]

Size		II (DC)
Type		3WL12
Breaking capacity class		DC
Short-circuit breaking capacity		
Up to 220 V DC I_{cc}	kA	35
Up to 300 V DC I_{cc}	kA	30
Up to 600 V DC I_{cc}	kA	25
Up to 1000 V DC I_{cc}	kA	20
Rated short-time withstand current I_{cw}		
0.5 s	kA	--
1 s	kA	35[5]/30[6]/25[7]/20[8]
2 s	kA	--
3 s	kA	--

(N) Circuit breaker with ECO breaking capacity N

(S) Circuit breaker with standard breaking capacity S

(H) Circuit breaker with high breaking capacity H

(C) Circuit breakers with very high breaking capacity C

(DC) Non-automatic air circuit breakers with DC breaking capacity

These breaking capacities are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Note:

For further technical specifications see the configuration manual "Air Circuit Breakers". Free download from: www.siemens.com/lowvoltage/manuals

1) Size II with $I_{n\,max} \leq 2500$ A.

2) Size II with $I_{n\,max}$ = 3200 A and $I_{n\,max}$ = 4000 A.

3) At a rated voltage of ≥ 690 V the I_{cw} value of the circuit breaker cannot be greater than the I_{cu} or I_{cs} value at 690 V.

Abbreviations* (functions)	English long text	Explanation
L	Long Time Delay	Overload protection
S	Short Time Delay	Short-circuit protection (short-time delayed)
I	Instantaneous	Short-circuit protection (instantaneous)
N	Neutral Protection	Neutral conductor protection
G	Ground Fault	Ground-fault protection

* Designations according to IEC 60947-2, Appendix K.

4) Rated operational voltage U_e = 1150 V.

5) At U_e = 220 V DC.

6) At U_e = 300 V DC.

7) At U_e = 600 V DC.

8) At U_e = 1000 V DC.

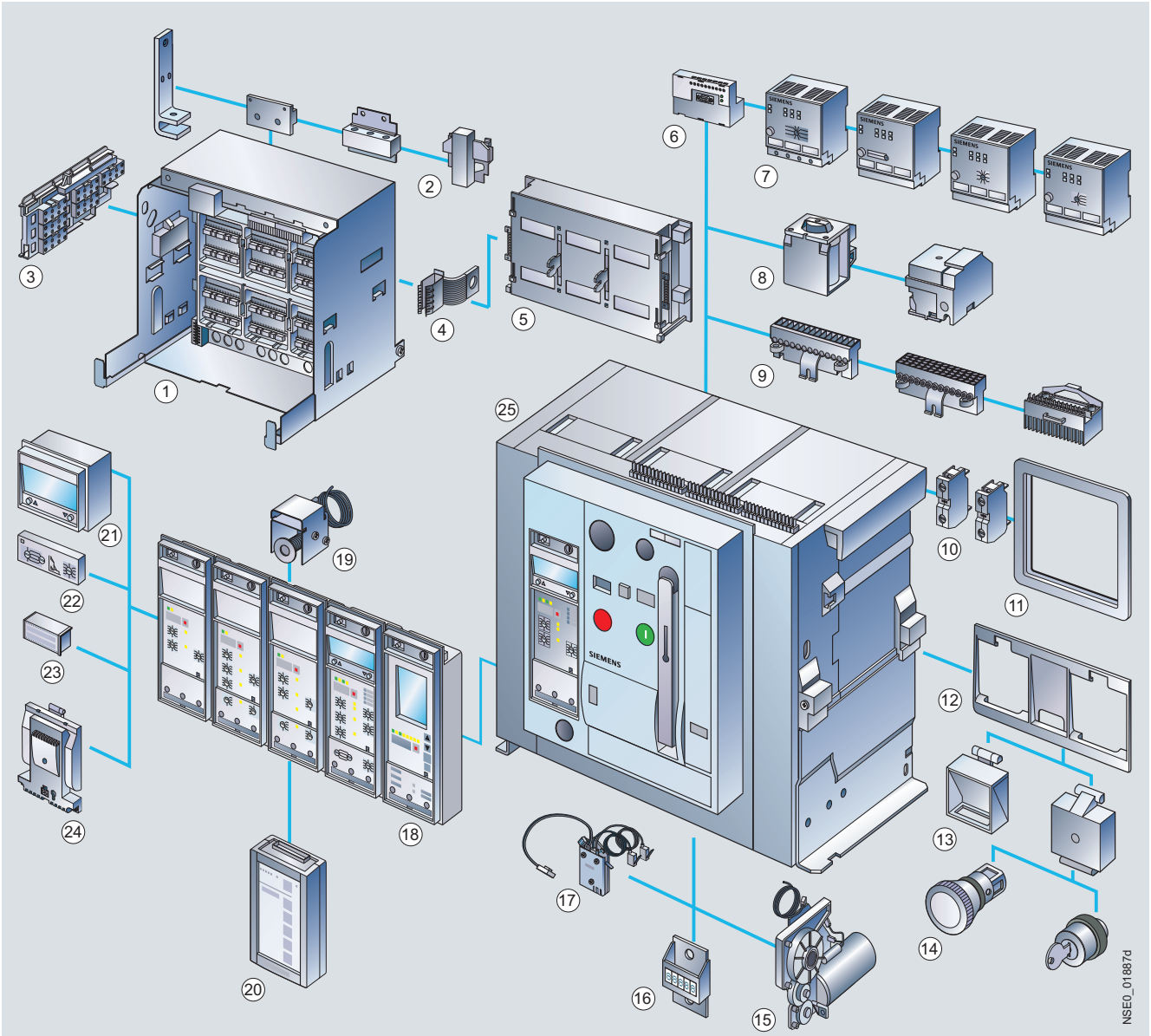
9) Values also apply to 690 V + 20 % version with Z-option "A16".

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Air Circuit Breakers

Introduction

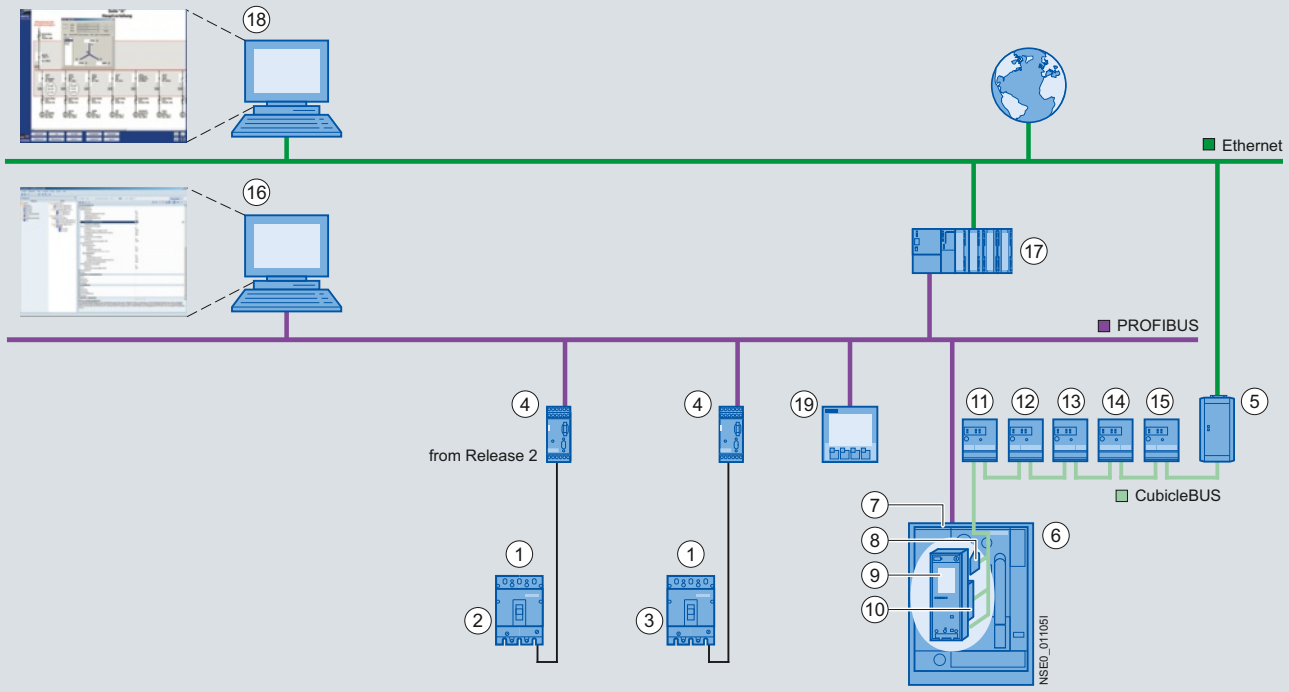
3WL air circuit breakers:
Superior individual products integrated into uniform power distribution systems - up to and including industry-specific industrial and infrastructure solutions



1. Guide frame (pages 1/45 to 1/50)
2. Main circuit connection front, flange, horizontal, vertical (pages 1/42, 1/61 and 1/62)
3. Position signaling switch (pages 1/40 and 1/55)
4. Grounding connection, leading (page 1/59)
5. Shutters (pages 1/40 and 1/58)
6. COM15 PROFIBUS module or COM16 MODBUS module (pages 1/40 and 1/60)
7. External **Cubicle**BUS modules (page 1/59)
8. Closing coil, auxiliary release (pages 1/37, 1/39 and 1/57)
9. Auxiliary conductor plug-in system (pages 1/41 and 1/56)
10. Auxiliary switch block (pages 1/37 and 1/57)
11. Door sealing frame (pages 1/39 and 1/58)
12. Interlocking set for mechanical ON/OFF (page 1/52)
13. Transparent panel, function insert (page 1/52)
14. EMERGENCY-STOP pushbutton, key operated (page 1/55)
15. Motorized operating mechanism (pages 1/39 and 1/57)
16. Operating cycles counters (pages 1/39 and 1/55)
17. Breaker status sensor (BSS) (pages 1/40 and 1/60)
18. Protective device with device holder, Electronic Trip Unit (ETU) (page 1/51)
19. Remote reset solenoid (pages 1/39 and 1/52)
20. Breaker data adapter (BDA *Plus*) (page 1/59)
21. Four-line display (page 1/51)
22. Ground-fault protection module (page 1/51)
23. Rating plug (pages 1/38 and 1/51)
24. Measurement function module (pages 1/40 and 1/51)
25. Air circuit breaker (pages 1/9 to 1/36)

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Communication-capable circuit breakers (with ETU45B or ETU76B Electronic Trip Unit)



1 3VL molded case circuit breakers
2 Electronic Trip Unit LCD
3 Electronic Trip Unit
4 COM20 Release 2 PROFIBUS module[1] Including ZSS
5 BDA *Plus* with Ethernet interface
6 3WL air circuit breakers
7 COM15 PROFIBUS module[2]
8 Breaker status sensor (BSS)
9 Electronic Trip Unit
10 Measurement function *Plus*
11 Zone Selective Interlocking modules
12 Digital output module with relay contacts
13 Digital output module with relay contacts, configurable
14 Analog output modules
15 Digital input module
16 powerconfig as of V2.3
17 PLC, e. g. SIMATIC S7
18 e. g. Powermanager or SIMATIC powerrate
19 7KM PAC measuring devices

[1] For a MODBUS-RTU connection the COM21 module is required.
[2] For a MODBUS-RTU connection the COM16 module is required.

Features

- Coordinated communication concept using the PROFIBUS DP or MODBUS, ranging from 16 A to 6300 A with 3VL molded case circuit breakers and 3WL air circuit breakers
- The high level of modularity of circuit breakers and accessories allows easy retrofitting of all communication components
- Significant additional benefits for the switchgear due to the possibility of linking up external input and output modules to the circuit breaker-internal **Cubicle**BUS of the 3WL
- Innovative software products for parameterization, operation, monitoring, and diagnostics of circuit breakers, both locally or via PROFIBUS DP, MODBUS or Ethernet/Intranet/Internet
- Complete integration of the circuit breakers into the Totally Integrated Power and Totally Integrated Automation solutions

Communication:

- For air circuit breakers with optional communication function (ETU45B or ETU76B Electronic Trip Unit) see pages 1/9 to 1/36.
- For accessories see pages 1/59 and 1/60.
- For more information see also chapters "Measuring Devices and Power Monitoring" and "Software".

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Introduction

Benefits

Low space requirements

The 3WL air circuit breakers require very little space. Size I devices (up to 2000 A) fit into a 400 mm wide switchgear panel. Size III devices (up to 6300 A) are the smallest of their kind and with their construction width of 704 mm fit into an 800 mm wide switchgear panel.

Modular design

Components like auxiliary releases, motorized operating mechanisms, Electronic Trip Units, current transformers, auxiliary circuit signaling switches, automatic reset devices, interlocks and engagement operating mechanisms can all be exchanged or retrofitted at a later stage, thus allowing the circuit breaker to be adapted to new, changing requirements.

The main contact elements can all be replaced in order to increase the endurance of the circuit breaker.

Retrofittable modules for Electronic Trip Units

Modularity is one of the main features of the new 3WL air circuit breakers.
Special LCDs, ground-fault modules, rating plugs and communication modules for the Electronic Trip Units are available for fast and easy retrofitting and adaptation to changing requirements.

Communication/measurement functions

The use of modern communication-capable circuit breakers opens up completely new possibilities in terms of start-up, parameterization, diagnostics, maintenance and operation. This allows many different ways of reducing costs and improving productivity in industrial plants, buildings and infrastructure projects to be achieved:

- Fast and reliable parameterization
- Timely information and response can prevent plant stoppages
- Effective diagnostics management
- Measured values are the basis for efficient load management, for drawing up power demand profiles and for allocating energy to cost centers
- Preventive maintenance reduces the risk of expensive plant downtimes
- Measurement function with a very wide range of measured values, such as current, voltage, energy, power etc.
- Can be used in 1000 V AC and 690 V IT networks

Applications

- As incoming-feeder, distribution, tie, and outgoing-feeder circuit breakers in electrical installations.
- For switching and protecting motors, capacitors, generators, transformers, busbars and cables.

When connected to an electronic I&C system, the air circuit breakers offer a wide range of options for monitoring network events.

The extensive, coordinated SENTRON range of devices covers applications between 16 A and 6300 A with molded case and air circuit breakers.

The AC devices are available as circuit breakers and non-automatic air circuit breakers. DC devices are only available as non-automatic air circuit breakers.

Standards

3WL air circuit breakers comply with:

- IEC 60947-2
- Climate-proof according to IEC 60068-2-30.

Versions with UL 489 also available, see Catalog LV 16.

For further standards, see Appendix.

Conductor cross-sections

Size			I				II				
Type			**Up to 3WL11 10**	**3WL11 12**	**3WL11 16**	**3WL11 20**	**3WL12 08**	**3WL12 10**	**3WL12 12**	**3WL12 16**	**3WL12 20**
Permissible load for withdrawable versions at rear horizontal main connections	• Up to 55 °C (Cu bare)	A	1000	1250	1600	2000	800	1000	1250	1600	2000
	• Up to 60 °C (Cu bare)[1]	A	1000	1250	1600	1930	800	1000	1250	1600	2000
	• Up to 70 °C (Cu black painted)[1]	A	1000	1210	1490[2]	1780	800	1000	1250	1600	2000
Main conductor minimum cross-sections	• Copper bars, bare	Unit(s) mm²	1 × 60 × 10	2 × 40 × 10	2 × 50 × 10	3 × 50 × 10	1 × 50 × 10	1 × 60 × 10	2 × 40 × 10	2 × 50 × 10	3 × 50 × 10
	• Copper bars, painted black	Unit(s) mm²	1 × 60 × 10	2 × 40 × 10	2 × 50 × 10	3 × 50 × 10	1 × 50 × 10	1 × 60 × 10	2 × 40 × 10	2 × 50 × 10	3 × 50 × 10

Size			II			III		
Type			**3WL12 25**	**3WL12 32**	**3WL12 40[3]**	**3WL13 40**	**3WL13 50**	**3WL13 63[3]**
Permissible load for withdrawable versions at rear horizontal main connections	• Up to 55 ·C (Cu bare)	A	2500	3200	3950[4]	4000	5000	5920
	• Up to 60 ·C (Cu bare)[1]	A	2500	3020	3810	4000	5000	5810
	• Up to 70 °C (Cu black painted)[1]	A	2280	2870	3600	4000	5000	5500
Main conductor minimum cross-sections	• Copper bars, bare	Unit(s) mm²	2 × 100 × 10	3 × 100 × 10	4 × 120 × 10	4 × 100 x 10	6 x 100 x 10	6 x 120 x 10
	• Copper bars, painted black	Unit(s) mm²	2 × 100 × 10	3 × 100 × 10	4 × 100 × 10[5]	4 × 100 × 10	6 × 100 × 10	6 × 120 × 10

1) ETU76B with graphics display can be used up to max. 55 °C.

2) At breaking capacity H: 1600 A up to 70 °C

3) With rear vertical connections

4) Size II, 3-pole, in fixed-mounted version

5) Minimum main conductor cross-sections for 4-pole withdrawable circuit breakers: 4 × 120 mm × 10 mm

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

3-pole, fixed-mounted versions

Selection and ordering data

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 55/66 kA at 500 V, ECO breaking capacity N (N) — Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Horizontal main circuit connection										
I	630	630	55		**3WL11 06-2□□32-□□□□**		1	1 unit	103	43.000
	800	800			**3WL11 08-2□□32-□□□□**		1	1 unit	103	43.000
	1000	1000			**3WL11 10-2□□32-□□□□**		1	1 unit	103	43.000
	1250	1250			**3WL11 12-2□□32-□□□□**		1	1 unit	103	43.000
	1600	1600			**3WL11 16-2□□32-□□□□**		1	1 unit	103	43.000
	2000	2000			**3WL11 20-2□□32-□□□□**		1	1 unit	103	43.000
II	800	800	66		**3WL12 08-2□□32-□□□□**		1	1 unit	103	56.000
	1000	1000			**3WL12 10-2□□32-□□□□**		1	1 unit	103	56.000
	1250	1250			**3WL12 12-2□□32-□□□□**		1	1 unit	103	56.000
	1600	1600			**3WL12 16-2□□32-□□□□**		1	1 unit	103	56.000
	2000	2000			**3WL12 20-2□□32-□□□□**		1	1 unit	103	56.000
	2500	2500			**3WL12 25-2□□32-□□□□**		1	1 unit	103	59.000
	3200	3200			**3WL12 32-2□□32-□□□□**		1	1 unit	103	64.000
Vertical main circuit connection										
I	630	630	55		**3WL11 06-2□□31-□□□□**		1	1 unit	103	43.000
	800	800			**3WL11 08-2□□31-□□□□**		1	1 unit	103	43.000
	1000	1000			**3WL11 10-2□□31-□□□□**		1	1 unit	103	43.000
	1250	1250			**3WL11 12-2□□31-□□□□**		1	1 unit	103	43.000
	1600	1600			**3WL11 16-2□□31-□□□□**		1	1 unit	103	43.000
	2000	2000			**3WL11 20-2□□31-□□□□**		1	1 unit	103	43.000
II	800	800	66		**3WL12 08-2□□31-□□□□**		1	1 unit	103	56.000
	1000	1000			**3WL12 10-2□□31-□□□□**		1	1 unit	103	56.000
	1250	1250			**3WL12 12-2□□31-□□□□**		1	1 unit	103	56.000
	1600	1600			**3WL12 16-2□□31-□□□□**		1	1 unit	103	56.000
	2000	2000			**3WL12 20-2□□31-□□□□**		1	1 unit	103	56.000
	2500	2500			**3WL12 25-2□□31-□□□□**		1	1 unit	103	59.000
	3200	3200			**3WL12 32-2□□31-□□□□**		1	1 unit	103	64.000
	4000	4000			**3WL12 40-2□□31-□□□□**		1	1 unit	103	85.000

Options				Add. price
Non-automatic air circuit breakers[2]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU15B: Protection functions LI[6]	**BB**		✓
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[3]	**EB**		✓
	ETU45B: Protection functions LSIN[3] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[3] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[4]	**DG**		✓
	ETU45B: Protection functions LSING[3][5]	**EG**		✓
	ETU45B: Protection functions LSING[3][5] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[3][5] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

3) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51.

4) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

5) ETU45B and ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

6) ETU15B cannot be used with 3WL air circuit breakers, size III.

* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

3-pole, fixed-mounted versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 55/66 kA at 500 V, ECO breaking capacity N (N) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Front main circuit connection, single hole										
I	630	630	55		**3WL11 06-2□□33-□□□□**		1	1 unit	103	43.000
	800	800			**3WL11 08-2□□33-□□□□**		1	1 unit	103	43.000
	1000	1000			**3WL11 10-2□□33-□□□□**		1	1 unit	103	43.000
	1250	1250			**3WL11 12-2□□33-□□□□**		1	1 unit	103	43.000
	1600	1600			**3WL11 16-2□□33-□□□□**		1	1 unit	103	43.000
II	800	800	66		**3WL12 08-2□□33-□□□□**		1	1 unit	103	56.000
	1000	1000			**3WL12 10-2□□33-□□□□**		1	1 unit	103	56.000
	1250	1250			**3WL12 12-2□□33-□□□□**		1	1 unit	103	56.000
	1600	1600			**3WL12 16-2□□33-□□□□**		1	1 unit	103	56.000
	2000	2000			**3WL12 20-2□□33-□□□□**		1	1 unit	103	56.000
	2500	2500			**3WL12 25-2□□33-□□□□**		1	1 unit	103	59.000
	3200	3200			**3WL12 32-2□□33-□□□□**		1	1 unit	103	64.000
Front main circuit connection, double hole										
I	630	630	55		**3WL11 06-2□□34-□□□□**		1	1 unit	103	43.000
	800	800			**3WL11 08-2□□34-□□□□**		1	1 unit	103	43.000
	1000	1000			**3WL11 10-2□□34-□□□□**		1	1 unit	103	43.000
	1250	1250			**3WL11 12-2□□34-□□□□**		1	1 unit	103	43.000
	1600	1600			**3WL11 16-2□□34-□□□□**		1	1 unit	103	43.000
	2000	2000			**3WL11 20-2□□34-□□□□**		1	1 unit	103	43.000
II	800	800	66		**3WL12 08-2□□34-□□□□**		1	1 unit	103	56.000
	1000	1000			**3WL12 10-2□□34-□□□□**		1	1 unit	103	56.000
	1250	1250			**3WL12 12-2□□34-□□□□**		1	1 unit	103	56.000
	1600	1600			**3WL12 16-2□□34-□□□□**		1	1 unit	103	56.000
	2000	2000			**3WL12 20-2□□34-□□□□**		1	1 unit	103	56.000
	2500	2500			**3WL12 25-2□□34-□□□□**		1	1 unit	103	59.000
	3200	3200			**3WL12 32-2□□34-□□□□**		1	1 unit	103	64.000

Options				Add. price
Non-automatic air circuit breakers[2]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU15B: Protection functions LI[6]	**BB**		✓
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[3]	**EB**		✓
	ETU45B: Protection functions LSIN[3] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[3] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[4]	**DG**		✓
	ETU45B: Protection functions LSING[3][5]	**EG**		✓
	ETU45B: Protection functions LSING[3][5] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[3][5] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

3) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51.

4) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

5) ETU45B and ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

6) ETU15B cannot be used with 3WL air circuit breakers, size III.

* You can order this quantity or a multiple thereof.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

3-pole, fixed-mounted versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 66/80 kA at 500 V, standard breaking capacity S (S) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Horizontal main circuit connection										
I	630	630	66		**3WL11 06-3□□32-□□□□**		1	1 unit	103	43.000
	800	800			**3WL11 08-3□□32-□□□□**		1	1 unit	103	43.000
	1000	1000			**3WL11 10-3□□32-□□□□**		1	1 unit	103	43.000
	1250	1250			**3WL11 12-3□□32-□□□□**		1	1 unit	103	43.000
	1600	1600			**3WL11 16-3□□32-□□□□**		1	1 unit	103	43.000
	2000	2000			**3WL11 20-3□□32-□□□□**		1	1 unit	103	43.000
II	800	800	80		**3WL12 08-3□□32-□□□□**		1	1 unit	103	56.000
	1000	1000			**3WL12 10-3□□32-□□□□**		1	1 unit	103	56.000
	1250	1250			**3WL12 12-3□□32-□□□□**		1	1 unit	103	56.000
	1600	1600			**3WL12 16-3□□32-□□□□**		1	1 unit	103	56.000
	2000	2000			**3WL12 20-3□□32-□□□□**		1	1 unit	103	56.000
	2500	2500			**3WL12 25-3□□32-□□□□**		1	1 unit	103	59.000
	3200	3200			**3WL12 32-3□□32-□□□□**		1	1 unit	103	64.000
Vertical main circuit connection										
I	630	630	66		**3WL11 06-3□□31-□□□□**		1	1 unit	103	43.000
	800	800			**3WL11 08-3□□31-□□□□**		1	1 unit	103	43.000
	1000	1000			**3WL11 10-3□□31-□□□□**		1	1 unit	103	43.000
	1250	1250			**3WL11 12-3□□31-□□□□**		1	1 unit	103	43.000
	1600	1600			**3WL11 16-3□□31-□□□□**		1	1 unit	103	43.000
	2000	2000			**3WL11 20-3□□31-□□□□**		1	1 unit	103	43.000
II	800	800	80		**3WL12 08-3□□31-□□□□**		1	1 unit	103	56.000
	1000	1000			**3WL12 10-3□□31-□□□□**		1	1 unit	103	56.000
	1250	1250			**3WL12 12-3□□31-□□□□**		1	1 unit	103	56.000
	1600	1600			**3WL12 16-3□□31-□□□□**		1	1 unit	103	56.000
	2000	2000			**3WL12 20-3□□31-□□□□**		1	1 unit	103	56.000
	2500	2500			**3WL12 25-3□□31-□□□□**		1	1 unit	103	59.000
	3200	3200			**3WL12 32-3□□31-□□□□**		1	1 unit	103	64.000
	4000	4000			**3WL12 40-3□□31-□□□□**		1	1 unit	103	85.000

Options					Add. price
Non-automatic air circuit breakers[2]	without Electronic Trip Units		**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**				
	ETU15B: Protection functions LI[6]		**BB**		✓
	ETU25B: Protection functions LSI		**CB**		✓
	ETU45B: Protection functions LSIN[3]		**EB**		✓
	ETU45B: Protection functions LSIN[3] with 4-line display		**FB**		✓
	ETU76B: Protection functions LSIN[3] with graphics display		**NB**		✓
	Versions with ground-fault protection				
	ETU27B: Protection functions LSING[4]		**DG**		✓
	ETU45B: Protection functions LSING[3][5]		**EG**		✓
	ETU45B: Protection functions LSING[3][5] with 4-line display		**FG**		✓
	ETU76B: Protection functions LSING[3][5] with graphics display		**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO			**1AA2**	**None**
	For further Order No. supplements see page 1/37				

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

3) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51.

4) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

5) ETU45B and ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

6) ETU15B cannot be used with 3WL air circuit breakers, size III.

* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

3-pole, fixed-mounted versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 66/80 kA at 500 V, standard breaking capacity S (S) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Front main circuit connection, single hole										
I	630	630	66		**3WL11 06-3□□33-□□□□**		1	1 unit	103	43.000
	800	800			**3WL11 08-3□□33-□□□□**		1	1 unit	103	43.000
	1000	1000			**3WL11 10-3□□33-□□□□**		1	1 unit	103	43.000
	1250	1250			**3WL11 12-3□□33-□□□□**		1	1 unit	103	43.000
	1600	1600			**3WL11 16-3□□33-□□□□**		1	1 unit	103	43.000
II	800	800	80		**3WL12 08-3□□33-□□□□**		1	1 unit	103	56.000
	1000	1000			**3WL12 10-3□□33-□□□□**		1	1 unit	103	56.000
	1250	1250			**3WL12 12-3□□33-□□□□**		1	1 unit	103	56.000
	1600	1600			**3WL12 16-3□□33-□□□□**		1	1 unit	103	56.000
	2000	2000			**3WL12 20-3□□33-□□□□**		1	1 unit	103	56.000
	2500	2500			**3WL12 25-3□□33-□□□□**		1	1 unit	103	59.000
	3200	3200			**3WL12 32-3□□33-□□□□**		1	1 unit	103	64.000
Front main circuit connection, double hole										
I	630	630	66		**3WL11 06-3□□34-□□□□**		1	1 unit	103	43.000
	800	800			**3WL11 08-3□□34-□□□□**		1	1 unit	103	43.000
	1000	1000			**3WL11 10-3□□34-□□□□**		1	1 unit	103	43.000
	1250	1250			**3WL11 12-3□□34-□□□□**		1	1 unit	103	43.000
	1600	1600			**3WL11 16-3□□34-□□□□**		1	1 unit	103	43.000
	2000	2000			**3WL11 20-3□□34-□□□□**		1	1 unit	103	43.000
II	800	800	80		**3WL12 08-3□□34-□□□□**		1	1 unit	103	56.000
	1000	1000			**3WL12 10-3□□34-□□□□**		1	1 unit	103	56.000
	1250	1250			**3WL12 12-3□□34-□□□□**		1	1 unit	103	56.000
	1600	1600			**3WL12 16-3□□34-□□□□**		1	1 unit	103	56.000
	2000	2000			**3WL12 20-3□□34-□□□□**		1	1 unit	103	56.000
	2500	2500			**3WL12 25-3□□34-□□□□**		1	1 unit	103	59.000
	3200	3200			**3WL12 32-3□□34-□□□□**		1	1 unit	103	64.000

Options				Add. price
Non-automatic air circuit breakers[2]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU15B: Protection functions LI[6]	**BB**		✓
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[3]	**EB**		✓
	ETU45B: Protection functions LSIN[3] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[3] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[4]	**DG**		✓
	ETU45B: Protection functions LSING[3][5]	**EG**		✓
	ETU45B: Protection functions LSING[3][5] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[3][5] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

3) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51.

4) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

5) ETU45B and ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

6) ETU15B cannot be used with 3WL air circuit breakers, size III.

* You can order this quantity or a multiple thereof.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

3-pole, fixed-mounted versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 85/100 kA at 500 V, high breaking capacity H (H) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Horizontal main circuit connection										
I	630	630	85		**3WL11 06-4□□32-□□□□**		1	1 unit	103	43.000
	800	800			**3WL11 08-4□□32-□□□□**		1	1 unit	103	43.000
	1000	1000			**3WL11 10-4□□32-□□□□**		1	1 unit	103	43.000
	1250	1250			**3WL11 12-4□□32-□□□□**		1	1 unit	103	43.000
	1600	1600			**3WL11 16-4□□32-□□□□**		1	1 unit	103	43.000
	2000	2000			**3WL11 20-4□□32-□□□□**		1	1 unit	103	43.000
II	800	800	100		**3WL12 08-4□□32-□□□□**		1	1 unit	103	56.000
	1000	1000			**3WL12 10-4□□32-□□□□**		1	1 unit	103	56.000
	1250	1250			**3WL12 12-4□□32-□□□□**		1	1 unit	103	56.000
	1600	1600			**3WL12 16-4□□32-□□□□**		1	1 unit	103	56.000
	2000	2000			**3WL12 20-4□□32-□□□□**		1	1 unit	103	56.000
	2500	2500			**3WL12 25-4□□32-□□□□**		1	1 unit	103	59.000
	3200	3200			**3WL12 32-4□□32-□□□□**		1	1 unit	103	64.000
III	4000	4000	100		**3WL13 40-4□□32-□□□□**		1	1 unit	103	82.000
	5000	5000			**3WL13 50-4□□32-□□□□**		1	1 unit	103	82.000
Vertical main circuit connection										
I	630	630	85		**3WL11 06-4□□31-□□□□**		1	1 unit	103	43.000
	800	800			**3WL11 08-4□□31-□□□□**		1	1 unit	103	43.000
	1000	1000			**3WL11 10-4□□31-□□□□**		1	1 unit	103	43.000
	1250	1250			**3WL11 12-4□□31-□□□□**		1	1 unit	103	43.000
	1600	1600			**3WL11 16-4□□31-□□□□**		1	1 unit	103	43.000
	2000	2000			**3WL11 20-4□□31-□□□□**		1	1 unit	103	43.000
II	800	800	100		**3WL12 08-4□□31-□□□□**		1	1 unit	103	56.000
	1000	1000			**3WL12 10-4□□31-□□□□**		1	1 unit	103	56.000
	1250	1250			**3WL12 12-4□□31-□□□□**		1	1 unit	103	56.000
	1600	1600			**3WL12 16-4□□31-□□□□**		1	1 unit	103	56.000
	2000	2000			**3WL12 20-4□□31-□□□□**		1	1 unit	103	56.000
	2500	2500			**3WL12 25-4□□31-□□□□**		1	1 unit	103	59.000
	3200	3200			**3WL12 32-4□□31-□□□□**		1	1 unit	103	64.000
	4000	4000			**3WL12 40-4□□31-□□□□**		1	1 unit	103	85.000
III	4000	4000	100		**3WL13 40-4□□31-□□□□**		1	1 unit	103	82.000
	5000	5000			**3WL13 50-4□□31-□□□□**		1	1 unit	103	82.000
	6300	6300			**3WL13 63-4□□31-□□□□**		1	1 unit	103	90.000

Options					Add. price
Non-automatic air circuit breakers[2]	without Electronic Trip Units		**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**				
	ETU15B: Protection functions LI[6]		**BB**		✓
	ETU25B: Protection functions LSI		**CB**		✓
	ETU45B: Protection functions LSIN[3]		**EB**		✓
	ETU45B: Protection functions LSIN[3] with 4-line display		**FB**		✓
	ETU76B: Protection functions LSIN[3] with graphics display		**NB**		✓
	Versions with ground-fault protection				
	ETU27B: Protection functions LSING[4]		**DG**		✓
	ETU45B: Protection functions LSING[3][5]		**EG**		✓
	ETU45B: Protection functions LSING[3][5] with 4-line display		**FG**		✓
	ETU76B: Protection functions LSING[3][5] with graphics display		**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO			**1AA2**	**None**
	For further Order No. supplements see page 1/37				

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

3) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51.

4) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

5) ETU45B and ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

6) ETU15B cannot be used with 3WL air circuit breakers, size III.

* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

3-pole, fixed-mounted versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 85/100 kA at 500 V, high breaking capacity H (H)		PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
					Order No.	Basic price per PU				
	A	A	kA							kg
Front main circuit connection, single hole										
II	800	800	100		**3WL12 08-4□□33-□□□□**		1	1 unit	103	56.000
	1000	1000			**3WL12 10-4□□33-□□□□**		1	1 unit	103	56.000
	1250	1250			**3WL12 12-4□□33-□□□□**		1	1 unit	103	56.000
	1600	1600			**3WL12 16-4□□33-□□□□**		1	1 unit	103	56.000
	2000	2000			**3WL12 20-4□□33-□□□□**		1	1 unit	103	56.000
	2500	2500			**3WL12 25-4□□33-□□□□**		1	1 unit	103	59.000
	3200	3200			**3WL12 32-4□□33-□□□□**		1	1 unit	103	64.000
III	4000	4000	100		**3WL13 40-4□□33-□□□□**		1	1 unit	103	82.000
Front main circuit connection, double hole										
I	630	630	85		**3WL11 06-4□□34-□□□□**		1	1 unit	103	43.000
	800	800			**3WL11 08-4□□34-□□□□**		1	1 unit	103	43.000
	1000	1000			**3WL11 10-4□□34-□□□□**		1	1 unit	103	43.000
	1250	1250			**3WL11 12-4□□34-□□□□**		1	1 unit	103	43.000
	1600	1600			**3WL11 16-4□□34-□□□□**		1	1 unit	103	43.000
	2000	2000			**3WL11 20-4□□34-□□□□**		1	1 unit	103	43.000
II	800	800	100		**3WL12 08-4□□34-□□□□**		1	1 unit	103	56.000
	1000	1000			**3WL12 10-4□□34-□□□□**		1	1 unit	103	56.000
	1250	1250			**3WL12 12-4□□34-□□□□**		1	1 unit	103	56.000
	1600	1600			**3WL12 16-4□□34-□□□□**		1	1 unit	103	56.000
	2000	2000			**3WL12 20-4□□34-□□□□**		1	1 unit	103	56.000
	2500	2500			**3WL12 25-4□□34-□□□□**		1	1 unit	103	59.000
	3200	3200			**3WL12 32-4□□34-□□□□**		1	1 unit	103	64.000
III	4000	4000	100		**3WL13 40-4□□34-□□□□**		1	1 unit	103	82.000

Options					Add. price
Non-automatic air circuit breakers[2]	without Electronic Trip Units		**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**				
	ETU15B: Protection functions LI[6]		**BB**		✓
	ETU25B: Protection functions LSI		**CB**		✓
	ETU45B: Protection functions LSIN[3]		**EB**		✓
	ETU45B: Protection functions LSIN[3] with 4-line display		**FB**		✓
	ETU76B: Protection functions LSIN[3] with graphics display		**NB**		✓
	Versions with ground-fault protection				
	ETU27B: Protection functions LSING[4]		**DG**		✓
	ETU45B: Protection functions LSING[3)5)]		**EG**		✓
	ETU45B: Protection functions LSING[3)5)] with 4-line display		**FG**		✓
	ETU76B: Protection functions LSING[3)5)] with graphics display		**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO			**1AA2**	**None**
	For further Order No. supplements see page 1/37				

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

3) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51.

4) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

5) ETU45B and ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

6) ETU15B cannot be used with 3WL air circuit breakers, size III.

* You can order this quantity or a multiple thereof.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

3-pole, fixed-mounted versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 150 kA at 500 V, very high breaking capacity C (C) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Horizontal main circuit connection										
III	4000	4000	150		**3WL13 40-5□□32-□□□□**		1	1 unit	103	82.000
	5000	5000			**3WL13 50-5□□32-□□□□**		1	1 unit	103	82.000
Vertical main circuit connection										
III	4000	4000	150		**3WL13 40-5□□31-□□□□**		1	1 unit	103	82.000
	5000	5000			**3WL13 50-5□□31-□□□□**		1	1 unit	103	82.000
	6300	6300			**3WL13 63-5□□31-□□□□**		1	1 unit	103	90.000

Options				Add. price
Non-automatic air circuit breakers[2]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[3]	**EB**		✓
	ETU45B: Protection functions LSIN[3] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[3] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[4]	**DG**		✓
	ETU45B: Protection functions LSING[3][5]	**EG**		✓
	ETU45B: Protection functions LSING[3][5] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[3][5] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

3) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51.

4) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

5) ETU45B and ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

3-pole, withdrawable versions

Selection and ordering data

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 55/66 kA at 500 V, ECO breaking capacity N (N) — Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Without guide frames[2] (for guide frames, see page 1/45 to 1/50)										
I	630	630	55		**3WL11 06-2□□35-□□□□**		1	1 unit	103	45.000
	800	800			**3WL11 08-2□□35-□□□□**		1	1 unit	103	45.000
	1000	1000			**3WL11 10-2□□35-□□□□**		1	1 unit	103	45.000
	1250	1250			**3WL11 12-2□□35-□□□□**		1	1 unit	103	45.000
	1600	1600			**3WL11 16-2□□35-□□□□**		1	1 unit	103	45.000
	2000	2000			**3WL11 20-2□□35-□□□□**		1	1 unit	103	45.000
II	800	800	66		**3WL12 08-2□□35-□□□□**		1	1 unit	103	60.000
	1000	1000			**3WL12 10-2□□35-□□□□**		1	1 unit	103	60.000
	1250	1250			**3WL12 12-2□□35-□□□□**		1	1 unit	103	60.000
	1600	1600			**3WL12 16-2□□35-□□□□**		1	1 unit	103	60.000
	2000	2000			**3WL12 20-2□□35-□□□□**		1	1 unit	103	60.000
	2500	2500			**3WL12 25-2□□35-□□□□**		1	1 unit	103	63.000
	3200	3200			**3WL12 32-2□□35-□□□□**		1	1 unit	103	68.000
With guide frames, horizontal main circuit connection										
I	630	630	55		**3WL11 06-2□□36-□□□□**		1	1 unit	103	70.000
	800	800			**3WL11 08-2□□36-□□□□**		1	1 unit	103	70.000
	1000	1000			**3WL11 10-2□□36-□□□□**		1	1 unit	103	70.000
	1250	1250			**3WL11 12-2□□36-□□□□**		1	1 unit	103	70.000
	1600	1600			**3WL11 16-2□□36-□□□□**		1	1 unit	103	70.000
	2000	2000			**3WL11 20-2□□36-□□□□**		1	1 unit	103	70.000
II	800	800	66		**3WL12 08-2□□36-□□□□**		1	1 unit	103	91.000
	1000	1000			**3WL12 10-2□□36-□□□□**		1	1 unit	103	91.000
	1250	1250			**3WL12 12-2□□36-□□□□**		1	1 unit	103	91.000
	1600	1600			**3WL12 16-2□□36-□□□□**		1	1 unit	103	91.000
	2000	2000			**3WL12 20-2□□36-□□□□**		1	1 unit	103	91.000
	2500	2500			**3WL12 25-2□□36-□□□□**		1	1 unit	103	102.000
	3200	3200			**3WL12 32-2□□36-□□□□**		1	1 unit	103	113.000

Options				Add. price
Non-automatic air circuit breakers[3]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU15B: Protection functions LI	**BB**		✓
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[4]	**EB**		✓
	ETU45B: Protection functions LSIN[4] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[4] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[5]	**DG**		✓
	ETU45B: Protection functions LSING[4][6]	**EG**		✓
	ETU45B: Protection functions LSING[4][6] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[4][6] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) Z options which are installed on the guide frame are not available.

3) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

4) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51.

5) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

6) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

* You can order this quantity or a multiple thereof.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

3-pole, withdrawable versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 55/66 kA at 500 V, ECO breaking capacity N (N)		PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
					Order No.	Basic price per PU				
	A	A	kA							kg
With guide frames, vertical main circuit connection										
I	630	630	55		**3WL11 06-2□□37-□□□□**		1	1 unit	103	70.000
	800	800			**3WL11 08-2□□37-□□□□**		1	1 unit	103	70.000
	1000	1000			**3WL11 10-2□□37-□□□□**		1	1 unit	103	70.000
	1250	1250			**3WL11 12-2□□37-□□□□**		1	1 unit	103	70.000
	1600	1600			**3WL11 16-2□□37-□□□□**		1	1 unit	103	70.000
	2000	2000			**3WL11 20-2□□37-□□□□**		1	1 unit	103	70.000
II	800	800	66		**3WL12 08-2□□37-□□□□**		1	1 unit	103	91.000
	1000	1000			**3WL12 10-2□□37-□□□□**		1	1 unit	103	91.000
	1250	1250			**3WL12 12-2□□37-□□□□**		1	1 unit	103	91.000
	1600	1600			**3WL12 16-2□□37-□□□□**		1	1 unit	103	91.000
	2000	2000			**3WL12 20-2□□37-□□□□**		1	1 unit	103	91.000
	2500	2500			**3WL12 25-2□□37-□□□□**		1	1 unit	103	102.000
	3200	3200			**3WL12 32-2□□37-□□□□**		1	1 unit	103	113.000
	4000	4000			**3WL12 40-2□□37-□□□□**		1	1 unit	103	121.000
With guide frames, connecting flanges										
I	630	630	55		**3WL11 06-2□□38-□□□□**		1	1 unit	103	70.000
	800	800			**3WL11 08-2□□38-□□□□**		1	1 unit	103	70.000
	1000	1000			**3WL11 10-2□□38-□□□□**		1	1 unit	103	70.000
	1250	1250			**3WL11 12-2□□38-□□□□**		1	1 unit	103	70.000
	1600	1600			**3WL11 16-2□□38-□□□□**		1	1 unit	103	70.000
	2000	2000			**3WL11 20-2□□38-□□□□**		1	1 unit	103	70.000
II	800	800	66		**3WL12 08-2□□38-□□□□**		1	1 unit	103	91.000
	1000	1000			**3WL12 10-2□□38-□□□□**		1	1 unit	103	91.000
	1250	1250			**3WL12 12-2□□38-□□□□**		1	1 unit	103	91.000
	1600	1600			**3WL12 16-2□□38-□□□□**		1	1 unit	103	91.000
	2000	2000			**3WL12 20-2□□38-□□□□**		1	1 unit	103	91.000
	2500	2500			**3WL12 25-2□□38-□□□□**		1	1 unit	103	102.000
	3200	3200			**3WL12 32-2□□38-□□□□**		1	1 unit	103	113.000

Options				Add. price
Non-automatic air circuit breakers[3]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU15B: Protection functions LI	**BB**		✓
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[4]	**EB**		✓
	ETU45B: Protection functions LSIN[4] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[4] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[5]	**DG**		✓
	ETU45B: Protection functions LSING[4][6]	**EG**		✓
	ETU45B: Protection functions LSING[4][6] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[4][6] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) Z options which are installed on the guide frame are not available.

3) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

4) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51.

5) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

6) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

3-pole, withdrawable versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 66/80 kA at 500 V, standard breaking capacity S (S) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Without guide frames[2] (for guide frames, see page 1/45 to 1/50)										
I	630	630	66		**3WL11 06-3□□35-□□□□**		1	1 unit	103	45.000
	800	800			**3WL11 08-3□□35-□□□□**		1	1 unit	103	45.000
	1000	1000			**3WL11 10-3□□35-□□□□**		1	1 unit	103	45.000
	1250	1250			**3WL11 12-3□□35-□□□□**		1	1 unit	103	45.000
	1600	1600			**3WL11 16-3□□35-□□□□**		1	1 unit	103	45.000
	2000	2000			**3WL11 20-3□□35-□□□□**		1	1 unit	103	45.000
II	800	800	80		**3WL12 08-3□□35-□□□□**		1	1 unit	103	60.000
	1000	1000			**3WL12 10-3□□35-□□□□**		1	1 unit	103	60.000
	1250	1250			**3WL12 12-3□□35-□□□□**		1	1 unit	103	60.000
	1600	1600			**3WL12 16-3□□35-□□□□**		1	1 unit	103	60.000
	2000	2000			**3WL12 20-3□□35-□□□□**		1	1 unit	103	60.000
	2500	2500			**3WL12 25-3□□35-□□□□**		1	1 unit	103	63.000
	3200	3200			**3WL12 32-3□□35-□□□□**		1	1 unit	103	68.000
With guide frames, horizontal main circuit connection										
I	630	630	66		**3WL11 06-3□□36-□□□□**		1	1 unit	103	70.000
	800	800			**3WL11 08-3□□36-□□□□**		1	1 unit	103	70.000
	1000	1000			**3WL11 10-3□□36-□□□□**		1	1 unit	103	70.000
	1250	1250			**3WL11 12-3□□36-□□□□**		1	1 unit	103	70.000
	1600	1600			**3WL11 16-3□□36-□□□□**		1	1 unit	103	70.000
	2000	2000			**3WL11 20-3□□36-□□□□**		1	1 unit	103	70.000
II	800	800	80		**3WL12 08-3□□36-□□□□**		1	1 unit	103	91.000
	1000	1000			**3WL12 10-3□□36-□□□□**		1	1 unit	103	91.000
	1250	1250			**3WL12 12-3□□36-□□□□**		1	1 unit	103	91.000
	1600	1600			**3WL12 16-3□□36-□□□□**		1	1 unit	103	91.000
	2000	2000			**3WL12 20-3□□36-□□□□**		1	1 unit	103	91.000
	2500	2500			**3WL12 25-3□□36-□□□□**		1	1 unit	103	102.000
	3200	3200			**3WL12 32-3□□36-□□□□**		1	1 unit	103	113.000

Options				Add. price
Non-automatic air circuit breakers[3]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU15B: Protection functions LI	**BB**		✓
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[4]	**EB**		✓
	ETU45B: Protection functions LSIN[4] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[4] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[5]	**DG**		✓
	ETU45B: Protection functions LSING[4][6]	**EG**		✓
	ETU45B: Protection functions LSING[4][6] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[4][6] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) Z options which are installed on the guide frame are not available.

3) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

4) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51.

5) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

6) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

* You can order this quantity or a multiple thereof.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

3-pole, withdrawable versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 66/80 kA at 500 V, standard breaking capacity S (S) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
With guide frames, vertical main circuit connection										
I	630	630	66		**3WL11 06-3□□37-□□□□**		1	1 unit	103	70.000
	800	800			**3WL11 08-3□□37-□□□□**		1	1 unit	103	70.000
	1000	1000			**3WL11 10-3□□37-□□□□**		1	1 unit	103	70.000
	1250	1250			**3WL11 12-3□□37-□□□□**		1	1 unit	103	70.000
	1600	1600			**3WL11 16-3□□37-□□□□**		1	1 unit	103	70.000
	2000	2000			**3WL11 20-3□□37-□□□□**		1	1 unit	103	70.000
II	800	800	80		**3WL12 08-3□□37-□□□□**		1	1 unit	103	91.000
	1000	1000			**3WL12 10-3□□37-□□□□**		1	1 unit	103	91.000
	1250	1250			**3WL12 12-3□□37-□□□□**		1	1 unit	103	91.000
	1600	1600			**3WL12 16-3□□37-□□□□**		1	1 unit	103	91.000
	2000	2000			**3WL12 20-3□□37-□□□□**		1	1 unit	103	91.000
	2500	2500			**3WL12 25-3□□37-□□□□**		1	1 unit	103	102.000
	3200	3200			**3WL12 32-3□□37-□□□□**		1	1 unit	103	113.000
	4000	4000			**3WL12 40-3□□37-□□□□**		1	1 unit	103	121.000
With guide frames, connecting flanges										
I	630	630	66		**3WL11 06-3□□38-□□□□**		1	1 unit	103	70.000
	800	800			**3WL11 08-3□□38-□□□□**		1	1 unit	103	70.000
	1000	1000			**3WL11 10-3□□38-□□□□**		1	1 unit	103	70.000
	1250	1250			**3WL11 12-3□□38-□□□□**		1	1 unit	103	70.000
	1600	1600			**3WL11 16-3□□38-□□□□**		1	1 unit	103	70.000
	2000	2000			**3WL11 20-3□□38-□□□□**		1	1 unit	103	70.000
II	800	800	80		**3WL12 08-3□□38-□□□□**		1	1 unit	103	91.000
	1000	1000			**3WL12 10-3□□38-□□□□**		1	1 unit	103	91.000
	1250	1250			**3WL12 12-3□□38-□□□□**		1	1 unit	103	91.000
	1600	1600			**3WL12 16-3□□38-□□□□**		1	1 unit	103	91.000
	2000	2000			**3WL12 20-3□□38-□□□□**		1	1 unit	103	91.000
	2500	2500			**3WL12 25-3□□38-□□□□**		1	1 unit	103	102.000
	3200	3200			**3WL12 32-3□□38-□□□□**		1	1 unit	103	113.000

Options				Add. price
Non-automatic air circuit breakers[3]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU15B: Protection functions LI	**BB**		✓
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[4]	**EB**		✓
	ETU45B: Protection functions LSIN[4] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[4] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[5]	**DG**		✓
	ETU45B: Protection functions LSING[4)6)]	**EG**		✓
	ETU45B: Protection functions LSING[4)6)] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[4)6)] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) Z options which are installed on the guide frame are not available.

3) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

4) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51.

5) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

6) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

3-pole, withdrawable versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 85/100 kA at 500 V, high breaking capacity H (H) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Without guide frames[2] (for guide frames, see page 1/45 to 1/50)										
I	630	630	85		**3WL11 06-4□□35-□□□□**		1	1 unit	103	45.000
	800	800			**3WL11 08-4□□35-□□□□**		1	1 unit	103	45.000
	1000	1000			**3WL11 10-4□□35-□□□□**		1	1 unit	103	45.000
	1250	1250			**3WL11 12-4□□35-□□□□**		1	1 unit	103	45.000
	1600	1600			**3WL11 16-4□□35-□□□□**		1	1 unit	103	45.000
	2000	2000			**3WL11 20-4□□35-□□□□**		1	1 unit	103	45.000
II	800	800	100		**3WL12 08-4□□35-□□□□**		1	1 unit	103	60.000
	1000	1000			**3WL12 10-4□□35-□□□□**		1	1 unit	103	60.000
	1250	1250			**3WL12 12-4□□35-□□□□**		1	1 unit	103	60.000
	1600	1600			**3WL12 16-4□□35-□□□□**		1	1 unit	103	60.000
	2000	2000			**3WL12 20-4□□35-□□□□**		1	1 unit	103	60.000
	2500	2500			**3WL12 25-4□□35-□□□□**		1	1 unit	103	63.000
	3200	3200			**3WL12 32-4□□35-□□□□**		1	1 unit	103	68.000
III	4000	4000	100		**3WL13 40-4□□35-□□□□**		1	1 unit	103	88.000
	5000	5000			**3WL13 50-4□□35-□□□□**		1	1 unit	103	88.000
	6300	6300			**3WL13 63-4□□35-□□□□**		1	1 unit	103	96.000
With guide frames, horizontal main circuit connection										
I	630	630	85		**3WL11 06-4□□36-□□□□**		1	1 unit	103	70.000
	800	800			**3WL11 08-4□□36-□□□□**		1	1 unit	103	70.000
	1000	1000			**3WL11 10-4□□36-□□□□**		1	1 unit	103	70.000
	1250	1250			**3WL11 12-4□□36-□□□□**		1	1 unit	103	70.000
	1600	1600			**3WL11 16-4□□36-□□□□**		1	1 unit	103	70.000
	2000	2000			**3WL11 20-4□□36-□□□□**		1	1 unit	103	70.000
II	800	800	100		**3WL12 08-4□□36-□□□□**		1	1 unit	103	91.000
	1000	1000			**3WL12 10-4□□36-□□□□**		1	1 unit	103	91.000
	1250	1250			**3WL12 12-4□□36-□□□□**		1	1 unit	103	91.000
	1600	1600			**3WL12 16-4□□36-□□□□**		1	1 unit	103	91.000
	2000	2000			**3WL12 20-4□□36-□□□□**		1	1 unit	103	91.000
	2500	2500			**3WL12 25-4□□36-□□□□**		1	1 unit	103	102.000
	3200	3200			**3WL12 32-4□□36-□□□□**		1	1 unit	103	113.000
III	4000	4000	100		**3WL13 40-4□□36-□□□□**		1	1 unit	103	148.000
	5000	5000			**3WL13 50-4□□36-□□□□**		1	1 unit	103	148.000

Options				Add. price
Non-automatic air circuit breakers[3]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU15B: Protection functions LI[7]	**BB**		✓
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[4]	**EB**		✓
	ETU45B: Protection functions LSIN[4] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[4] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[5]	**DG**		✓
	ETU45B: Protection functions LSING[4][6]	**EG**		✓
	ETU45B: Protection functions LSING[4][6] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[4][6] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) Z options which are installed on the guide frame are not available.

3) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

4) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51.

5) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

6) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

7) ETU15B cannot be used with 3WL air circuit breakers, size III.

* You can order this quantity or a multiple thereof.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

3-pole, withdrawable versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 85/100 kA at 500 V, high breaking capacity H (H) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
With guide frames, vertical main circuit connection										
I	630	630	85		**3WL11 06-4□□37-□□□□**		1	1 unit	103	70.000
	800	800			**3WL11 08-4□□37-□□□□**		1	1 unit	103	70.000
	1000	1000			**3WL11 10-4□□37-□□□□**		1	1 unit	103	70.000
	1250	1250			**3WL11 12-4□□37-□□□□**		1	1 unit	103	70.000
	1600	1600			**3WL11 16-4□□37-□□□□**		1	1 unit	103	70.000
	2000	2000			**3WL11 20-4□□37-□□□□**		1	1 unit	103	70.000
II	800	800	100		**3WL12 08-4□□37-□□□□**		1	1 unit	103	91.000
	1000	1000			**3WL12 10-4□□37-□□□□**		1	1 unit	103	91.000
	1250	1250			**3WL12 12-4□□37-□□□□**		1	1 unit	103	91.000
	1600	1600			**3WL12 16-4□□37-□□□□**		1	1 unit	103	91.000
	2000	2000			**3WL12 20-4□□37-□□□□**		1	1 unit	103	91.000
	2500	2500			**3WL12 25-4□□37-□□□□**		1	1 unit	103	102.000
	3200	3200			**3WL12 32-4□□37-□□□□**		1	1 unit	103	113.000
	4000	4000			**3WL12 40-4□□37-□□□□**		1	1 unit	103	121.000
III	4000	4000	100		**3WL13 40-4□□37-□□□□**		1	1 unit	103	148.000
	5000	5000			**3WL13 50-4□□37-□□□□**		1	1 unit	103	148.000
	6300	6300			**3WL13 63-4□□37-□□□□**		1	1 unit	103	166.000
With guide frames, connecting flanges										
I	630	630	85		**3WL11 06-4□□38-□□□□**		1	1 unit	103	70.000
	800	800			**3WL11 08-4□□38-□□□□**		1	1 unit	103	70.000
	1000	1000			**3WL11 10-4□□38-□□□□**		1	1 unit	103	70.000
	1250	1250			**3WL11 12-4□□38-□□□□**		1	1 unit	103	70.000
	1600	1600			**3WL11 16-4□□38-□□□□**		1	1 unit	103	70.000
	2000	2000			**3WL11 20-4□□38-□□□□**		1	1 unit	103	70.000
II	800	800	100		**3WL12 08-4□□38-□□□□**		1	1 unit	103	91.000
	1000	1000			**3WL12 10-4□□38-□□□□**		1	1 unit	103	91.000
	1250	1250			**3WL12 12-4□□38-□□□□**		1	1 unit	103	91.000
	1600	1600			**3WL12 16-4□□38-□□□□**		1	1 unit	103	91.000
	2000	2000			**3WL12 20-4□□38-□□□□**		1	1 unit	103	91.000
	2500	2500			**3WL12 25-4□□38-□□□□**		1	1 unit	103	102.000
	3200	3200			**3WL12 32-4□□38-□□□□**		1	1 unit	103	113.000
III	4000	4000	100		**3WL13 40-4□□38-□□□□**		1	1 unit	103	148.000

Options				Add. price
Non-automatic air circuit breakers[3]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU15B: Protection functions LI[7]	**BB**		✓
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[4]	**EB**		✓
	ETU45B: Protection functions LSIN[4] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[4] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[5]	**DG**		✓
	ETU45B: Protection functions LSING[4)6)]	**EG**		✓
	ETU45B: Protection functions LSING[4)6)] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[4)6)] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) Z options which are installed on the guide frame are not available.

3) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

4) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51.

5) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

6) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

7) ETU15B cannot be used with 3WL air circuit breakers, size III.

* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

3-pole, withdrawable versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 150 kA at 500 V, very high breaking capacity C (C) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Without guide frames[2] (for guide frames, see page 1/45 to 1/50)										
III	4000	4000	150		**3WL13 40-5□□35-□□□□**		1	1 unit	103	88.000
	5000	5000			**3WL13 50-5□□35-□□□□**		1	1 unit	103	88.000
	6300	6300			**3WL13 63-5□□35-□□□□**		1	1 unit	103	96.000
With guide frames, horizontal main circuit connection										
III	4000	4000	150		**3WL13 40-5□□36-□□□□**		1	1 unit	103	148.000
	5000	5000			**3WL13 50-5□□36-□□□□**		1	1 unit	103	148.000
With guide frames, vertical main circuit connection										
III	4000	4000	150		**3WL13 40-5□□37-□□□□**		1	1 unit	103	148.000
	5000	5000			**3WL13 50-5□□37-□□□□**		1	1 unit	103	148.000
	6300	6300			**3WL13 63-5□□37-□□□□**		1	1 unit	103	166.000

Options				Add. price
Non-automatic air circuit breakers[3]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[4]	**EB**		✓
	ETU45B: Protection functions LSIN[4] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[4] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[5]	**DG**		✓
	ETU45B: Protection functions LSING[4)6)]	**EG**		✓
	ETU45B: Protection functions LSING[4)6)] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[4)6)] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) Z options which are installed on the guide frame are not available.

3) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

4) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51.

5) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

6) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

* You can order this quantity or a multiple thereof.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

4-pole, fixed-mounted versions

Selection and ordering data

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 55/66 kA at 500 V, ECO breaking capacity N (N)		PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
					Order No.	Basic price per PU				
	A	A	kA							kg
Horizontal main circuit connection										
I	630	630	55		**3WL11 06-2□□42-□□□□**		1	1 unit	103	50.000
	800	800			**3WL11 08-2□□42-□□□□**		1	1 unit	103	50.000
	1000	1000			**3WL11 10-2□□42-□□□□**		1	1 unit	103	50.000
	1250	1250			**3WL11 12-2□□42-□□□□**		1	1 unit	103	50.000
	1600	1600			**3WL11 16-2□□42-□□□□**		1	1 unit	103	50.000
	2000	2000			**3WL11 20-2□□42-□□□□**		1	1 unit	103	50.000
II	800	800	66		**3WL12 08-2□□42-□□□□**		1	1 unit	103	67.000
	1000	1000			**3WL12 10-2□□42-□□□□**		1	1 unit	103	67.000
	1250	1250			**3WL12 12-2□□42-□□□□**		1	1 unit	103	67.000
	1600	1600			**3WL12 16-2□□42-□□□□**		1	1 unit	103	67.000
	2000	2000			**3WL12 20-2□□42-□□□□**		1	1 unit	103	67.000
	2500	2500			**3WL12 25-2□□42-□□□□**		1	1 unit	103	71.000
	3200	3200			**3WL12 32-2□□42-□□□□**		1	1 unit	103	77.000
Vertical main circuit connection										
I	630	630	55		**3WL11 06-2□□41-□□□□**		1	1 unit	103	50.000
	800	800			**3WL11 08-2□□41-□□□□**		1	1 unit	103	50.000
	1000	1000			**3WL11 10-2□□41-□□□□**		1	1 unit	103	50.000
	1250	1250			**3WL11 12-2□□41-□□□□**		1	1 unit	103	50.000
	1600	1600			**3WL11 16-2□□41-□□□□**		1	1 unit	103	50.000
	2000	2000			**3WL11 20-2□□41-□□□□**		1	1 unit	103	50.000
II	800	800	66		**3WL12 08-2□□41-□□□□**		1	1 unit	103	75.000
	1000	1000			**3WL12 10-2□□41-□□□□**		1	1 unit	103	75.000
	1250	1250			**3WL12 12-2□□41-□□□□**		1	1 unit	103	75.000
	1600	1600			**3WL12 16-2□□41-□□□□**		1	1 unit	103	75.000
	2000	2000			**3WL12 20-2□□41-□□□□**		1	1 unit	103	67.000
	2500	2500			**3WL12 25-2□□41-□□□□**		1	1 unit	103	71.000
	3200	3200			**3WL12 32-2□□41-□□□□**		1	1 unit	103	77.000
	4000	4000			**3WL12 40-2□□41-□□□□**		1	1 unit	103	103.000

Options				Add. price
Non-automatic air circuit breakers[2]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU15B: Protection functions LI	**BB**		✓
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[3]	**EB**		✓
	ETU45B: Protection functions LSIN[3] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[3] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[4]	**DG**		✓
	ETU45B: Protection functions LSING[3][5]	**EG**		✓
	ETU45B: Protection functions LSING[3][5] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[3][5] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

3) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51. The internal current transformers for N conductors can be ordered by adding the supplement "–Z" and the order code "F23", see page 1/40.

4) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

5) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

4-pole, fixed-mounted versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 55/66 kA at 500 V, ECO breaking capacity N (N) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Front main circuit connection, single hole										
I	630	630	55		**3WL11 06-2□□43-□□□□**		1	1 unit	103	50.000
	800	800			**3WL11 08-2□□43-□□□□**		1	1 unit	103	50.000
	1000	1000			**3WL11 10-2□□43-□□□□**		1	1 unit	103	50.000
	1250	1250			**3WL11 12-2□□43-□□□□**		1	1 unit	103	50.000
	1600	1600			**3WL11 16-2□□43-□□□□**		1	1 unit	103	50.000
II	800	800	66		**3WL12 08-2□□43-□□□□**		1	1 unit	103	67.000
	1000	1000			**3WL12 10-2□□43-□□□□**		1	1 unit	103	67.000
	1250	1250			**3WL12 12-2□□43-□□□□**		1	1 unit	103	67.000
	1600	1600			**3WL12 16-2□□43-□□□□**		1	1 unit	103	67.000
	2000	2000			**3WL12 20-2□□43-□□□□**		1	1 unit	103	67.000
	2500	2500			**3WL12 25-2□□43-□□□□**		1	1 unit	103	71.000
	3200	3200			**3WL12 32-2□□43-□□□□**		1	1 unit	103	77.000
Front main circuit connection, double hole										
I	630	630	55		**3WL11 06-2□□44-□□□□**		1	1 unit	103	50.000
	800	800			**3WL11 08-2□□44-□□□□**		1	1 unit	103	50.000
	1000	1000			**3WL11 10-2□□44-□□□□**		1	1 unit	103	50.000
	1250	1250			**3WL11 12-2□□44-□□□□**		1	1 unit	103	50.000
	1600	1600			**3WL11 16-2□□44-□□□□**		1	1 unit	103	50.000
	2000	2000			**3WL11 20-2□□44-□□□□**		1	1 unit	103	50.000
II	800	800	66		**3WL12 08-2□□44-□□□□**		1	1 unit	103	67.000
	1000	1000			**3WL12 10-2□□44-□□□□**		1	1 unit	103	67.000
	1250	1250			**3WL12 12-2□□44-□□□□**		1	1 unit	103	67.000
	1600	1600			**3WL12 16-2□□44-□□□□**		1	1 unit	103	67.000
	2000	2000			**3WL12 20-2□□44-□□□□**		1	1 unit	103	67.000
	2500	2500			**3WL12 25-2□□44-□□□□**		1	1 unit	103	71.000
	3200	3200			**3WL12 32-2□□44-□□□□**		1	1 unit	103	77.000

Options					Add. price
Non-automatic air circuit breakers[2]	without Electronic Trip Units		**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**				
	ETU15B: Protection functions LI		**BB**		✓
	ETU25B: Protection functions LSI		**CB**		✓
	ETU45B: Protection functions LSIN[3]		**EB**		✓
	ETU45B: Protection functions LSIN[3] with 4-line display		**FB**		✓
	ETU76B: Protection functions LSIN[3] with graphics display		**NB**		✓
	Versions with ground-fault protection				
	ETU27B: Protection functions LSING[4]		**DG**		✓
	ETU45B: Protection functions LSING[3][5]		**EG**		✓
	ETU45B: Protection functions LSING[3][5] with 4-line display		**FG**		✓
	ETU76B: Protection functions LSING[3][5] with graphics display		**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO			**1AA2**	**None**
	For further Order No. supplements see page 1/37				

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

3) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51. The internal current transformers for N conductors can be ordered by adding the supplement "–Z" and the order code "F23", see page 1/40.

4) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

5) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

* You can order this quantity or a multiple thereof.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

4-pole, fixed-mounted versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 66/80 kA at 500 V, standard breaking capacity S (S) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Horizontal main circuit connection										
I	630	630	66		**3WL11 06-3□□42-□□□□**		1	1 unit	103	50.000
	800	800			**3WL11 08-3□□42-□□□□**		1	1 unit	103	50.000
	1000	1000			**3WL11 10-3□□42-□□□□**		1	1 unit	103	50.000
	1250	1250			**3WL11 12-3□□42-□□□□**		1	1 unit	103	50.000
	1600	1600			**3WL11 16-3□□42-□□□□**		1	1 unit	103	50.000
	2000	2000			**3WL11 20-3□□42-□□□□**		1	1 unit	103	50.000
II	800	800	80		**3WL12 08-3□□42-□□□□**		1	1 unit	103	67.000
	1000	1000			**3WL12 10-3□□42-□□□□**		1	1 unit	103	67.000
	1250	1250			**3WL12 12-3□□42-□□□□**		1	1 unit	103	67.000
	1600	1600			**3WL12 16-3□□42-□□□□**		1	1 unit	103	67.000
	2000	2000			**3WL12 20-3□□42-□□□□**		1	1 unit	103	67.000
	2500	2500			**3WL12 25-3□□42-□□□□**		1	1 unit	103	71.000
	3200	3200			**3WL12 32-3□□42-□□□□**		1	1 unit	103	77.000
Vertical main circuit connection										
I	630	630	66		**3WL11 06-3□□41-□□□□**		1	1 unit	103	50.000
	800	800			**3WL11 08-3□□41-□□□□**		1	1 unit	103	50.000
	1000	1000			**3WL11 10-3□□41-□□□□**		1	1 unit	103	50.000
	1250	1250			**3WL11 12-3□□41-□□□□**		1	1 unit	103	50.000
	1600	1600			**3WL11 16-3□□41-□□□□**		1	1 unit	103	50.000
	2000	2000			**3WL11 20-3□□41-□□□□**		1	1 unit	103	50.000
II	800	800	80		**3WL12 08-3□□41-□□□□**		1	1 unit	103	67.000
	1000	1000			**3WL12 10-3□□41-□□□□**		1	1 unit	103	67.000
	1250	1250			**3WL12 12-3□□41-□□□□**		1	1 unit	103	67.000
	1600	1600			**3WL12 16-3□□41-□□□□**		1	1 unit	103	67.000
	2000	2000			**3WL12 20-3□□41-□□□□**		1	1 unit	103	67.000
	2500	2500			**3WL12 25-3□□41-□□□□**		1	1 unit	103	71.000
	3200	3200			**3WL12 32-3□□41-□□□□**		1	1 unit	103	77.000
	4000	4000			**3WL12 40-3□□41-□□□□**		1	1 unit	103	103.000

Options				Add. price
Non-automatic air circuit breakers[2]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU15B: Protection functions LI	**BB**		✓
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[3]	**EB**		✓
	ETU45B: Protection functions LSIN[3] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[3] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[4]	**DG**		✓
	ETU45B: Protection functions LSING[3][5]	**EG**		✓
	ETU45B: Protection functions LSING[3][5] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[3][5] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

3) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51. The internal current transformers for N conductors can be ordered by adding the supplement "–Z" and the order code "F23", see page 1/40.

4) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

5) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

4-pole, fixed-mounted versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 66/80 kA at 500 V, standard breaking capacity S (S) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Front main circuit connection, single hole										
I	630	630	66		**3WL11 06-3□□43-□□□□**		1	1 unit	103	50.000
	800	800			**3WL11 08-3□□43-□□□□**		1	1 unit	103	50.000
	1000	1000			**3WL11 10-3□□43-□□□□**		1	1 unit	103	50.000
	1250	1250			**3WL11 12-3□□43-□□□□**		1	1 unit	103	50.000
	1600	1600			**3WL11 16-3□□43-□□□□**		1	1 unit	103	50.000
II	800	800	80		**3WL12 08-3□□43-□□□□**		1	1 unit	103	67.000
	1000	1000			**3WL12 10-3□□43-□□□□**		1	1 unit	103	67.000
	1250	1250			**3WL12 12-3□□43-□□□□**		1	1 unit	103	67.000
	1600	1600			**3WL12 16-3□□43-□□□□**		1	1 unit	103	67.000
	2000	2000			**3WL12 20-3□□43-□□□□**		1	1 unit	103	67.000
	2500	2500			**3WL12 25-3□□43-□□□□**		1	1 unit	103	71.000
	3200	3200			**3WL12 32-3□□43-□□□□**		1	1 unit	103	77.000
Front main circuit connection, double hole										
I	630	630	66		**3WL11 06-3□□44-□□□□**		1	1 unit	103	50.000
	800	800			**3WL11 08-3□□44-□□□□**		1	1 unit	103	50.000
	1000	1000			**3WL11 10-3□□44-□□□□**		1	1 unit	103	50.000
	1250	1250			**3WL11 12-3□□44-□□□□**		1	1 unit	103	50.000
	1600	1600			**3WL11 16-3□□44-□□□□**		1	1 unit	103	50.000
	2000	2000			**3WL11 20-3□□44-□□□□**		1	1 unit	103	50.000
II	800	800	80		**3WL12 08-3□□44-□□□□**		1	1 unit	103	67.000
	1000	1000			**3WL12 10-3□□44-□□□□**		1	1 unit	103	67.000
	1250	1250			**3WL12 12-3□□44-□□□□**		1	1 unit	103	67.000
	1600	1600			**3WL12 16-3□□44-□□□□**		1	1 unit	103	67.000
	2000	2000			**3WL12 20-3□□44-□□□□**		1	1 unit	103	67.000
	2500	2500			**3WL12 25-3□□44-□□□□**		1	1 unit	103	71.000
	3200	3200			**3WL12 32-3□□44-□□□□**		1	1 unit	103	77.000

Options				Add. price
Non-automatic air circuit breakers[2]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU15B: Protection functions LI	**BB**		✓
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[3]	**EB**		✓
	ETU45B: Protection functions LSIN[3] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[3] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[4]	**DG**		✓
	ETU45B: Protection functions LSING[3][5]	**EG**		✓
	ETU45B: Protection functions LSING[3][5] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[3][5] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

3) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51. The internal current transformers for N conductors can be ordered by adding the supplement "–Z" and the order code "F23", see page 1/40.

4) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

5) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

* You can order this quantity or a multiple thereof.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

4-pole, fixed-mounted versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 85/100 kA at 500 V, high breaking capacity H (H) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Horizontal main circuit connection										
I	630	630	85		**3WL11 06-4□□42-□□□□**		1	1 unit	103	50.000
	800	800			**3WL11 08-4□□42-□□□□**		1	1 unit	103	50.000
	1000	1000			**3WL11 10-4□□42-□□□□**		1	1 unit	103	50.000
	1250	1250			**3WL11 12-4□□42-□□□□**		1	1 unit	103	50.000
	1600	1600			**3WL11 16-4□□42-□□□□**		1	1 unit	103	50.000
	2000	2000			**3WL11 20-4□□42-□□□□**		1	1 unit	103	50.000
II	800	800	100		**3WL12 08-4□□42-□□□□**		1	1 unit	103	67.000
	1000	1000			**3WL12 10-4□□42-□□□□**		1	1 unit	103	67.000
	1250	1250			**3WL12 12-4□□42-□□□□**		1	1 unit	103	67.000
	1600	1600			**3WL12 16-4□□42-□□□□**		1	1 unit	103	67.000
	2000	2000			**3WL12 20-4□□42-□□□□**		1	1 unit	103	67.000
	2500	2500			**3WL12 25-4□□42-□□□□**		1	1 unit	103	71.000
	3200	3200			**3WL12 32-4□□42-□□□□**		1	1 unit	103	77.000
III	4000	4000	100		**3WL13 40-4□□42-□□□□**		1	1 unit	103	99.000
	5000	5000			**3WL13 50-4□□42-□□□□**		1	1 unit	103	99.000
Vertical main circuit connection										
I	630	630	85		**3WL11 06-4□□41-□□□□**		1	1 unit	103	50.000
	800	800			**3WL11 08-4□□41-□□□□**		1	1 unit	103	50.000
	1000	1000			**3WL11 10-4□□41-□□□□**		1	1 unit	103	50.000
	1250	1250			**3WL11 12-4□□41-□□□□**		1	1 unit	103	50.000
	1600	1600			**3WL11 16-4□□41-□□□□**		1	1 unit	103	50.000
	2000	2000			**3WL11 20-4□□41-□□□□**		1	1 unit	103	50.000
II	800	800	100		**3WL12 08-4□□41-□□□□**		1	1 unit	103	67.000
	1000	1000			**3WL12 10-4□□41-□□□□**		1	1 unit	103	67.000
	1250	1250			**3WL12 12-4□□41-□□□□**		1	1 unit	103	67.000
	1600	1600			**3WL12 16-4□□41-□□□□**		1	1 unit	103	67.000
	2000	2000			**3WL12 20-4□□41-□□□□**		1	1 unit	103	67.000
	2500	2500			**3WL12 25-4□□41-□□□□**		1	1 unit	103	71.000
	3200	3200			**3WL12 32-4□□41-□□□□**		1	1 unit	103	77.000
	4000	4000			**3WL12 40-4□□41-□□□□**		1	1 unit	103	103.000
III	4000	4000	100		**3WL13 40-4□□41-□□□□**		1	1 unit	103	99.000
	5000	5000			**3WL13 50-4□□41-□□□□**		1	1 unit	103	99.000
	6300	6300			**3WL13 63-4□□41-□□□□**		1	1 unit	103	108.000

Options				Add. price
Non-automatic air circuit breakers[2]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU15B: Protection functions LI[6]	**BB**		✓
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[3]	**EB**		✓
	ETU45B: Protection functions LSIN[3] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[3] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[4]	**DG**		✓
	ETU45B: Protection functions LSING[3][5]	**EG**		✓
	ETU45B: Protection functions LSING[3][5] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[3][5] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

3) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51. The internal current transformers for N conductors can be ordered by adding the supplement "–Z" and the order code "F23", see page 1/40.

4) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

5) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

6) ETU15B cannot be used with 3WL air circuit breakers, size III.

* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

4-pole, fixed-mounted versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 85/100 kA at 500 V, high breaking capacity H (H) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Front main circuit connection, single hole										
II	800	800	100		**3WL12 08-4□□43-□□□□**		1	1 unit	103	67.000
	1000	1000			**3WL12 10-4□□43-□□□□**		1	1 unit	103	67.000
	1250	1250			**3WL12 12-4□□43-□□□□**		1	1 unit	103	67.000
	1600	1600			**3WL12 16-4□□43-□□□□**		1	1 unit	103	67.000
	2000	2000			**3WL12 20-4□□43-□□□□**		1	1 unit	103	67.000
	2500	2500			**3WL12 25-4□□43-□□□□**		1	1 unit	103	71.000
	3200	3200			**3WL12 32-4□□43-□□□□**		1	1 unit	103	77.000
III	4000	4000	100		**3WL13 40-4□□43-□□□□**		1	1 unit	103	99.000
Front main circuit connection, double hole										
I	630	630	85		**3WL11 06-4□□44-□□□□**		1	1 unit	103	50.000
	800	800			**3WL11 08-4□□44-□□□□**		1	1 unit	103	50.000
	1000	1000			**3WL11 10-4□□44-□□□□**		1	1 unit	103	50.000
	1250	1250			**3WL11 12-4□□44-□□□□**		1	1 unit	103	50.000
	1600	1600			**3WL11 16-4□□44-□□□□**		1	1 unit	103	50.000
	2000	2000			**3WL11 20-4□□44-□□□□**		1	1 unit	103	50.000
II	800	800	100		**3WL12 08-4□□44-□□□□**		1	1 unit	103	67.000
	1000	1000			**3WL12 10-4□□44-□□□□**		1	1 unit	103	67.000
	1250	1250			**3WL12 12-4□□44-□□□□**		1	1 unit	103	67.000
	1600	1600			**3WL12 16-4□□44-□□□□**		1	1 unit	103	67.000
	2000	2000			**3WL12 20-4□□44-□□□□**		1	1 unit	103	67.000
	2500	2500			**3WL12 25-4□□44-□□□□**		1	1 unit	103	71.000
	3200	3200			**3WL12 32-4□□44-□□□□**		1	1 unit	103	77.000
III	4000	4000	100		**3WL13 40-4□□44-□□□□**		1	1 unit	103	99.000

Options					Add. price
Non-automatic air circuit breakers[2]	without Electronic Trip Units		**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**				
	ETU15B: Protection functions LI[6]		**BB**		✓
	ETU25B: Protection functions LSI		**CB**		✓
	ETU45B: Protection functions LSIN[3]		**EB**		✓
	ETU45B: Protection functions LSIN[3] with 4-line display		**FB**		✓
	ETU76B: Protection functions LSIN[3] with graphics display		**NB**		✓
	Versions with ground-fault protection				
	ETU27B: Protection functions LSING[4]		**DG**		✓
	ETU45B: Protection functions LSING[3][5]		**EG**		✓
	ETU45B: Protection functions LSING[3][5] with 4-line display		**FG**		✓
	ETU76B: Protection functions LSING[3][5] with graphics display		**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO			**1AA2**	**None**
	For further Order No. supplements see page 1/37				

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

3) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51. The internal current transformers for N conductors can be ordered by adding the supplement "–Z" and the order code "F23", see page 1/40.

4) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

5) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

6) ETU15B cannot be used with 3WL air circuit breakers, size III.

* You can order this quantity or a multiple thereof.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

4-pole, fixed-mounted versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 130 kA at 500 V, very high breaking capacity C Ⓒ Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Horizontal main circuit connection										
III	4000	4000	130		**3WL13 40-5□□42-□□□□**		1	1 unit	103	99.000
	5000	5000			**3WL13 50-5□□42-□□□□**		1	1 unit	103	99.000
Vertical main circuit connection										
III	4000	4000	130		**3WL13 40-5□□41-□□□□**		1	1 unit	103	99.000
	5000	5000			**3WL13 50-5□□41-□□□□**		1	1 unit	103	99.000
	6300	6300			**3WL13 63-5□□41-□□□□**		1	1 unit	103	108.000

Options				Add. price
Non-automatic air circuit breakers[2]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[3]	**EB**		✓
	ETU45B: Protection functions LSIN[3] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[3] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[4]	**DG**		✓
	ETU45B: Protection functions LSING[3)5)]	**EG**		✓
	ETU45B: Protection functions LSING[3)5)] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[3)5)] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

3) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51. The internal current transformers for N conductors can be ordered by adding the supplement "–Z" and the order code "F23", see page 1/40.

4) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

5) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

4-pole, withdrawable versions

Selection and ordering data

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 55/66 kA at 500 V, ECO breaking capacity N (N) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Without guide frames[2] (for guide frames, see page 1/45 to 1/50)										
I	630	630	55		**3WL11 06-2□□45-□□□□**		1	1 unit	103	54.000
	800	800			**3WL11 08-2□□45-□□□□**		1	1 unit	103	54.000
	1000	1000			**3WL11 10-2□□45-□□□□**		1	1 unit	103	54.000
	1250	1250			**3WL11 12-2□□45-□□□□**		1	1 unit	103	54.000
	1600	1600			**3WL11 16-2□□45-□□□□**		1	1 unit	103	54.000
	2000	2000			**3WL11 20-2□□45-□□□□**		1	1 unit	103	54.000
II	800	800	66		**3WL12 08-2□□45-□□□□**		1	1 unit	103	75.000
	1000	1000			**3WL12 10-2□□45-□□□□**		1	1 unit	103	75.000
	1250	1250			**3WL12 12-2□□45-□□□□**		1	1 unit	103	75.000
	1600	1600			**3WL12 16-2□□45-□□□□**		1	1 unit	103	75.000
	2000	2000			**3WL12 20-2□□45-□□□□**		1	1 unit	103	72.000
	2500	2500			**3WL12 25-2□□45-□□□□**		1	1 unit	103	76.000
	3200	3200			**3WL12 32-2□□45-□□□□**		1	1 unit	103	82.000
With guide frames, horizontal main circuit connection										
I	630	630	55		**3WL11 06-2□□46-□□□□**		1	1 unit	103	84.000
	800	800			**3WL11 08-2□□46-□□□□**		1	1 unit	103	84.000
	1000	1000			**3WL11 10-2□□46-□□□□**		1	1 unit	103	84.000
	1250	1250			**3WL11 12-2□□46-□□□□**		1	1 unit	103	84.000
	1600	1600			**3WL11 16-2□□46-□□□□**		1	1 unit	103	84.000
	2000	2000			**3WL11 20-2□□46-□□□□**		1	1 unit	103	84.000
II	800	800	66		**3WL12 08-2□□46-□□□□**		1	1 unit	103	109.000
	1000	1000			**3WL12 10-2□□46-□□□□**		1	1 unit	103	109.000
	1250	1250			**3WL12 12-2□□46-□□□□**		1	1 unit	103	109.000
	1600	1600			**3WL12 16-2□□46-□□□□**		1	1 unit	103	109.000
	2000	2000			**3WL12 20-2□□46-□□□□**		1	1 unit	103	109.000
	2500	2500			**3WL12 25-2□□46-□□□□**		1	1 unit	103	123.000
	3200	3200			**3WL12 32-2□□46-□□□□**		1	1 unit	103	136.000

Options				Add. price
Non-automatic air circuit breakers[3]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU15B: Protection functions LI	**BB**		✓
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[4]	**EB**		✓
	ETU45B: Protection functions LSIN[4] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[4] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[5]	**DG**		✓
	ETU45B: Protection functions LSING[4][6]	**EG**		✓
	ETU45B: Protection functions LSING[4][6] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[4][6] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) Z options which are installed on the guide frame are not available.

3) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

4) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51. The internal current transformers for N conductors can be ordered by adding the supplement "–Z" and the order code "F23", see page 1/40.

5) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

6) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

* You can order this quantity or a multiple thereof.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

4-pole, withdrawable versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 55/66 kA at 500 V, ECO breaking capacity N (N) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
With guide frames, vertical main circuit connection										
I	630	630	55		**3WL11 06-2□□47-□□□□**		1	1 unit	103	84.000
	800	800			**3WL11 08-2□□47-□□□□**		1	1 unit	103	84.000
	1000	1000			**3WL11 10-2□□47-□□□□**		1	1 unit	103	84.000
	1250	1250			**3WL11 12-2□□47-□□□□**		1	1 unit	103	84.000
	1600	1600			**3WL11 16-2□□47-□□□□**		1	1 unit	103	84.000
	2000	2000			**3WL11 20-2□□47-□□□□**		1	1 unit	103	84.000
II	800	800	66		**3WL12 08-2□□47-□□□□**		1	1 unit	103	109.000
	1000	1000			**3WL12 10-2□□47-□□□□**		1	1 unit	103	109.000
	1250	1250			**3WL12 12-2□□47-□□□□**		1	1 unit	103	109.000
	1600	1600			**3WL12 16-2□□47-□□□□**		1	1 unit	103	109.000
	2000	2000			**3WL12 20-2□□47-□□□□**		1	1 unit	103	109.000
	2500	2500			**3WL12 25-2□□47-□□□□**		1	1 unit	103	123.000
	3200	3200			**3WL12 32-2□□47-□□□□**		1	1 unit	103	136.000
	4000	4000			**3WL12 40-2□□47-□□□□**		1	1 unit	103	146.000
With guide frames, connecting flanges										
I	630	630	55		**3WL11 06-2□□48-□□□□**		1	1 unit	103	84.000
	800	800			**3WL11 08-2□□48-□□□□**		1	1 unit	103	84.000
	1000	1000			**3WL11 10-2□□48-□□□□**		1	1 unit	103	84.000
	1250	1250			**3WL11 12-2□□48-□□□□**		1	1 unit	103	84.000
	1600	1600			**3WL11 16-2□□48-□□□□**		1	1 unit	103	84.000
	2000	2000			**3WL11 20-2□□48-□□□□**		1	1 unit	103	84.000
II	800	800	66		**3WL12 08-2□□48-□□□□**		1	1 unit	103	109.000
	1000	1000			**3WL12 10-2□□48-□□□□**		1	1 unit	103	109.000
	1250	1250			**3WL12 12-2□□48-□□□□**		1	1 unit	103	109.000
	1600	1600			**3WL12 16-2□□48-□□□□**		1	1 unit	103	109.000
	2000	2000			**3WL12 20-2□□48-□□□□**		1	1 unit	103	109.000
	2500	2500			**3WL12 25-2□□48-□□□□**		1	1 unit	103	123.000
	3200	3200			**3WL12 32-2□□48-□□□□**		1	1 unit	103	136.000

Options					Add. price
Non-automatic air circuit breakers[3]	without Electronic Trip Units		**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**				
	ETU15B: Protection functions LI		**BB**		✓
	ETU25B: Protection functions LSI		**CB**		✓
	ETU45B: Protection functions LSIN[4]		**EB**		✓
	ETU45B: Protection functions LSIN[4] with 4-line display		**FB**		✓
	ETU76B: Protection functions LSIN[4] with graphics display		**NB**		✓
	Versions with ground-fault protection				
	ETU27B: Protection functions LSING[5]		**DG**		✓
	ETU45B: Protection functions LSING[4][6]		**EG**		✓
	ETU45B: Protection functions LSING[4][6] with 4-line display		**FG**		✓
	ETU76B: Protection functions LSING[4][6] with graphics display		**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO			**1AA2**	**None**
	For further Order No. supplements see page 1/37				

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) Z options which are installed on the guide frame are not available.

3) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

4) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51. The internal current transformers for N conductors can be ordered by adding the supplement "–Z" and the order code "F23", see page 1/40.

5) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

6) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

4-pole, withdrawable versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 66/80 kA at 500 V, standard breaking capacity S (S) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Without guide frames[2] (for guide frames, see page 1/45 to 1/50)										
I	630	630	66		**3WL11 06-3□□45-□□□□**		1	1 unit	103	54.000
	800	800			**3WL11 08-3□□45-□□□□**		1	1 unit	103	54.000
	1000	1000			**3WL11 10-3□□45-□□□□**		1	1 unit	103	54.000
	1250	1250			**3WL11 12-3□□45-□□□□**		1	1 unit	103	54.000
	1600	1600			**3WL11 16-3□□45-□□□□**		1	1 unit	103	54.000
	2000	2000			**3WL11 20-3□□45-□□□□**		1	1 unit	103	54.000
II	800	800	80		**3WL12 08-3□□45-□□□□**		1	1 unit	103	72.000
	1000	1000			**3WL12 10-3□□45-□□□□**		1	1 unit	103	72.000
	1250	1250			**3WL12 12-3□□45-□□□□**		1	1 unit	103	72.000
	1600	1600			**3WL12 16-3□□45-□□□□**		1	1 unit	103	72.000
	2000	2000			**3WL12 20-3□□45-□□□□**		1	1 unit	103	72.000
	2500	2500			**3WL12 25-3□□45-□□□□**		1	1 unit	103	76.000
	3200	3200			**3WL12 32-3□□45-□□□□**		1	1 unit	103	82.000
With guide frames, horizontal main circuit connection										
I	630	630	66		**3WL11 06-3□□46-□□□□**		1	1 unit	103	84.000
	800	800			**3WL11 08-3□□46-□□□□**		1	1 unit	103	84.000
	1000	1000			**3WL11 10-3□□46-□□□□**		1	1 unit	103	84.000
	1250	1250			**3WL11 12-3□□46-□□□□**		1	1 unit	103	84.000
	1600	1600			**3WL11 16-3□□46-□□□□**		1	1 unit	103	84.000
	2000	2000			**3WL11 20-3□□46-□□□□**		1	1 unit	103	84.000
II	800	800	80		**3WL12 08-3□□46-□□□□**		1	1 unit	103	109.000
	1000	1000			**3WL12 10-3□□46-□□□□**		1	1 unit	103	109.000
	1250	1250			**3WL12 12-3□□46-□□□□**		1	1 unit	103	109.000
	1600	1600			**3WL12 16-3□□46-□□□□**		1	1 unit	103	109.000
	2000	2000			**3WL12 20-3□□46-□□□□**		1	1 unit	103	109.000
	2500	2500			**3WL12 25-3□□46-□□□□**		1	1 unit	103	123.000
	3200	3200			**3WL12 32-3□□46-□□□□**		1	1 unit	103	136.000

Options				Add. price
Non-automatic air circuit breakers[3]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU15B: Protection functions LI	**BB**		✓
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[4]	**EB**		✓
	ETU45B: Protection functions LSIN[4] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[4] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[5]	**DG**		✓
	ETU45B: Protection functions LSING[4][6]	**EG**		✓
	ETU45B: Protection functions LSING[4][6] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[4][6] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) Z options which are installed on the guide frame are not available.

3) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

4) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51. The internal current transformers for N conductors can be ordered by adding the supplement "–Z" and the order code "F23", see page 1/40.

5) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

6) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

* You can order this quantity or a multiple thereof.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

4-pole, withdrawable versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 66/80 kA at 500 V, standard breaking capacity S (S) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
With guide frames, vertical main circuit connection										
I	630	630	66		**3WL11 06-3□□47-□□□□**		1	1 unit	103	84.000
	800	800			**3WL11 08-3□□47-□□□□**		1	1 unit	103	84.000
	1000	1000			**3WL11 10-3□□47-□□□□**		1	1 unit	103	84.000
	1250	1250			**3WL11 12-3□□47-□□□□**		1	1 unit	103	84.000
	1600	1600			**3WL11 16-3□□47-□□□□**		1	1 unit	103	84.000
	2000	2000			**3WL11 20-3□□47-□□□□**		1	1 unit	103	84.000
II	800	800	80		**3WL12 08-3□□47-□□□□**		1	1 unit	103	109.000
	1000	1000			**3WL12 10-3□□47-□□□□**		1	1 unit	103	109.000
	1250	1250			**3WL12 12-3□□47-□□□□**		1	1 unit	103	109.000
	1600	1600			**3WL12 16-3□□47-□□□□**		1	1 unit	103	109.000
	2000	2000			**3WL12 20-3□□47-□□□□**		1	1 unit	103	109.000
	2500	2500			**3WL12 25-3□□47-□□□□**		1	1 unit	103	123.000
	3200	3200			**3WL12 32-3□□47-□□□□**		1	1 unit	103	136.000
	4000	4000			**3WL12 40-3□□47-□□□□**		1	1 unit	103	146.000
With guide frames, connecting flanges										
I	630	630	66		**3WL11 06-3□□48-□□□□**		1	1 unit	103	84.000
	800	800			**3WL11 08-3□□48-□□□□**		1	1 unit	103	84.000
	1000	1000			**3WL11 10-3□□48-□□□□**		1	1 unit	103	84.000
	1250	1250			**3WL11 12-3□□48-□□□□**		1	1 unit	103	84.000
	1600	1600			**3WL11 16-3□□48-□□□□**		1	1 unit	103	84.000
	2000	2000			**3WL11 20-3□□48-□□□□**		1	1 unit	103	84.000
II	800	800	80		**3WL12 08-3□□48-□□□□**		1	1 unit	103	109.000
	1000	1000			**3WL12 10-3□□48-□□□□**		1	1 unit	103	109.000
	1250	1250			**3WL12 12-3□□48-□□□□**		1	1 unit	103	109.000
	1600	1600			**3WL12 16-3□□48-□□□□**		1	1 unit	103	109.000
	2000	2000			**3WL12 20-3□□48-□□□□**		1	1 unit	103	109.000
	2500	2500			**3WL12 25-3□□48-□□□□**		1	1 unit	103	123.000
	3200	3200			**3WL12 32-3□□48-□□□□**		1	1 unit	103	136.000

Options					Add. price
Non-automatic air circuit breakers[3]	without Electronic Trip Units	**AA**			**None**
Electronic Trip Units	**Versions without ground-fault protection**				
	ETU15B: Protection functions LI	**BB**			✓
	ETU25B: Protection functions LSI	**CB**			✓
	ETU45B: Protection functions LSIN[4]	**EB**			✓
	ETU45B: Protection functions LSIN[4] with 4-line display	**FB**			✓
	ETU76B: Protection functions LSIN[4] with graphics display	**NB**			✓
	Versions with ground-fault protection				
	ETU27B: Protection functions LSING[5]	**DG**			✓
	ETU45B: Protection functions LSING[4)6)]	**EG**			✓
	ETU45B: Protection functions LSING[4)6)] with 4-line display	**FG**			✓
	ETU76B: Protection functions LSING[4)6)] with graphics display	**NG**			✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**		**None**
	For further Order No. supplements see page 1/37				

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) Z options which are installed on the guide frame are not available.

3) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

4) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51. The internal current transformers for N conductors can be ordered by adding the supplement "–Z" and the order code "F23", see page 1/40.

5) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

6) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

4-pole, withdrawable versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 85/100 kA at 500 V, high breaking capacity H (H) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
Without guide frames[2] (for guide frames, see page 1/45 to 1/50)										
I	630	630	85		**3WL11 06-4□□45-□□□□**		1	1 unit	103	54.000
	800	800			**3WL11 08-4□□45-□□□□**		1	1 unit	103	54.000
	1000	1000			**3WL11 10-4□□45-□□□□**		1	1 unit	103	54.000
	1250	1250			**3WL11 12-4□□45-□□□□**		1	1 unit	103	54.000
	1600	1600			**3WL11 16-4□□45-□□□□**		1	1 unit	103	54.000
	2000	2000			**3WL11 20-4□□45-□□□□**		1	1 unit	103	54.000
II	800	800	100		**3WL12 08-4□□45-□□□□**		1	1 unit	103	72.000
	1000	1000			**3WL12 10-4□□45-□□□□**		1	1 unit	103	72.000
	1250	1250			**3WL12 12-4□□45-□□□□**		1	1 unit	103	72.000
	1600	1600			**3WL12 16-4□□45-□□□□**		1	1 unit	103	72.000
	2000	2000			**3WL12 20-4□□45-□□□□**		1	1 unit	103	72.000
	2500	2500			**3WL12 25-4□□45-□□□□**		1	1 unit	103	76.000
	3200	3200			**3WL12 32-4□□45-□□□□**		1	1 unit	103	82.000
III	4000	4000	100		**3WL13 40-4□□45-□□□□**		1	1 unit	103	106.000
	5000	5000			**3WL13 50-4□□45-□□□□**		1	1 unit	103	106.000
	6300	6300			**3WL13 63-4□□45-□□□□**		1	1 unit	103	108.000
With guide frames, horizontal main circuit connection										
I	630	630	85		**3WL11 06-4□□46-□□□□**		1	1 unit	103	84.000
	800	800			**3WL11 08-4□□46-□□□□**		1	1 unit	103	84.000
	1000	1000			**3WL11 10-4□□46-□□□□**		1	1 unit	103	84.000
	1250	1250			**3WL11 12-4□□46-□□□□**		1	1 unit	103	84.000
	1600	1600			**3WL11 16-4□□46-□□□□**		1	1 unit	103	84.000
	2000	2000			**3WL11 20-4□□46-□□□□**		1	1 unit	103	84.000
II	800	800	100		**3WL12 08-4□□46-□□□□**		1	1 unit	103	109.000
	1000	1000			**3WL12 10-4□□46-□□□□**		1	1 unit	103	109.000
	1250	1250			**3WL12 12-4□□46-□□□□**		1	1 unit	103	109.000
	1600	1600			**3WL12 16-4□□46-□□□□**		1	1 unit	103	109.000
	2000	2000			**3WL12 20-4□□46-□□□□**		1	1 unit	103	109.000
	2500	2500			**3WL12 25-4□□46-□□□□**		1	1 unit	103	123.000
	3200	3200			**3WL12 32-4□□46-□□□□**		1	1 unit	103	136.000
III	4000	4000	100		**3WL13 40-4□□46-□□□□**		1	1 unit	103	190.000
	5000	5000			**3WL13 50-4□□46-□□□□**		1	1 unit	103	190.000

Options				Add. price
Non-automatic air circuit breakers[3]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU15B: Protection functions LI[7]	**BB**		✓
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[4]	**EB**		✓
	ETU45B: Protection functions LSIN[4] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[4] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[5]	**DG**		✓
	ETU45B: Protection functions LSING[4][6]	**EG**		✓
	ETU45B: Protection functions LSING[4][6] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[4][6] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) Z options which are installed on the guide frame are not available.

3) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

4) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51. The internal current transformers for N conductors can be ordered by adding the supplement "–Z" and the order code "F23", see page 1/40.

5) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

6) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

7) ETU15B cannot be used with 3WL air circuit breakers, size III.

* You can order this quantity or a multiple thereof.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

4-pole, withdrawable versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 85/100 kA at 500 V, high breaking capacity H (H) Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	kA							kg
With guide frames, vertical main circuit connection										
I	630	630	85		**3WL11 06-4□□47-□□□□**		1	1 unit	103	84.000
	800	800			**3WL11 08-4□□47-□□□□**		1	1 unit	103	84.000
	1000	1000			**3WL11 10-4□□47-□□□□**		1	1 unit	103	84.000
	1250	1250			**3WL11 12-4□□47-□□□□**		1	1 unit	103	84.000
	1600	1600			**3WL11 16-4□□47-□□□□**		1	1 unit	103	84.000
	2000	2000			**3WL11 20-4□□47-□□□□**		1	1 unit	103	84.000
II	800	800	100		**3WL12 08-4□□47-□□□□**		1	1 unit	103	109.000
	1000	1000			**3WL12 10-4□□47-□□□□**		1	1 unit	103	109.000
	1250	1250			**3WL12 12-4□□47-□□□□**		1	1 unit	103	109.000
	1600	1600			**3WL12 16-4□□47-□□□□**		1	1 unit	103	109.000
	2000	2000			**3WL12 20-4□□47-□□□□**		1	1 unit	103	109.000
	2500	2500			**3WL12 25-4□□47-□□□□**		1	1 unit	103	123.000
	3200	3200			**3WL12 32-4□□47-□□□□**		1	1 unit	103	136.000
	4000	4000			**3WL12 40-4□□47-□□□□**		1	1 unit	103	146.000
III	4000	4000	100		**3WL13 40-4□□47-□□□□**		1	1 unit	103	190.000
	5000	5000			**3WL13 50-4□□47-□□□□**		1	1 unit	103	190.000
	6300	6300			**3WL13 63-4□□47-□□□□**		1	1 unit	103	227.000
With guide frames, connecting flanges										
I	630	630	85		**3WL11 06-4□□48-□□□□**		1	1 unit	103	84.000
	800	800			**3WL11 08-4□□48-□□□□**		1	1 unit	103	84.000
	1000	1000			**3WL11 10-4□□48-□□□□**		1	1 unit	103	84.000
	1250	1250			**3WL11 12-4□□48-□□□□**		1	1 unit	103	84.000
	1600	1600			**3WL11 16-4□□48-□□□□**		1	1 unit	103	84.000
	2000	2000			**3WL11 20-4□□48-□□□□**		1	1 unit	103	84.000
II	800	800	100		**3WL12 08-4□□48-□□□□**		1	1 unit	103	109.000
	1000	1000			**3WL12 10-4□□48-□□□□**		1	1 unit	103	109.000
	1250	1250			**3WL12 12-4□□48-□□□□**		1	1 unit	103	109.000
	1600	1600			**3WL12 16-4□□48-□□□□**		1	1 unit	103	109.000
	2000	2000			**3WL12 20-4□□48-□□□□**		1	1 unit	103	109.000
	2500	2500			**3WL12 25-4□□48-□□□□**		1	1 unit	103	123.000
	3200	3200			**3WL12 32-4□□48-□□□□**		1	1 unit	103	136.000
III	4000	4000	100		**3WL13 40-4□□48-□□□□**		1	1 unit	103	190.000

Options				Add. price
Non-automatic air circuit breakers[3]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU15B: Protection functions LI[7]	**BB**		✓
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[4]	**EB**		✓
	ETU45B: Protection functions LSIN[4] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[4] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[5]	**DG**		✓
	ETU45B: Protection functions LSING[4][6]	**EG**		✓
	ETU45B: Protection functions LSING[4][6] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[4][6] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) Z options which are installed on the guide frame are not available.

3) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

4) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51. The internal current transformers for N conductors can be ordered by adding the supplement "–Z" and the order code "F23", see page 1/40.

5) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

6) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

7) ETU15B cannot be used with 3WL air circuit breakers, size III.

* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

4-pole, withdrawable versions

Size	Max. rated circuit breaker current $I_{n\ max.}$	Rated current[1] I_n	Breaking capacity $I_{cu} = I_{cs}$	DT	I_{cu} 130 kA at 500 V, very high breaking capacity C (C)		PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
					Order No.	Basic price per PU				
	A	A	kA							kg
Without guide frames[2] (for guide frames, see page 1/45 to 1/50)										
III	4000	4000	130		**3WL13 40-5□□45-□□□□**		1	1 unit	103	115.000
	5000	5000			**3WL13 50-5□□45-□□□□**		1	1 unit	103	106.000
	6300	6300			**3WL13 63-5□□45-□□□□**		1	1 unit	103	108.000
With guide frames, horizontal main circuit connection										
III	4000	4000	130		**3WL13 40-5□□46-□□□□**		1	1 unit	103	190.000
	5000	5000			**3WL13 50-5□□46-□□□□**		1	1 unit	103	190.000
With guide frames, vertical main circuit connection										
III	4000	4000	130		**3WL13 40-5□□47-□□□□**		1	1 unit	103	190.000
	5000	5000			**3WL13 50-5□□47-□□□□**		1	1 unit	103	190.000
	6300	6300			**3WL13 63-5□□47-□□□□**		1	1 unit	103	227.000

Options				Add. price
Non-automatic air circuit breakers[3]	without Electronic Trip Units	**AA**		**None**
Electronic Trip Units	**Versions without ground-fault protection**			
	ETU25B: Protection functions LSI	**CB**		✓
	ETU45B: Protection functions LSIN[4]	**EB**		✓
	ETU45B: Protection functions LSIN[4] with 4-line display	**FB**		✓
	ETU76B: Protection functions LSIN[4] with graphics display	**NB**		✓
	Versions with ground-fault protection			
	ETU27B: Protection functions LSING[5]	**DG**		✓
	ETU45B: Protection functions LSING[4)6)]	**EG**		✓
	ETU45B: Protection functions LSING[4)6)] with 4-line display	**FG**		✓
	ETU76B: Protection functions LSING[4)6)] with graphics display	**NG**		✓
Operating mechanism, auxiliary release, auxiliary switch	Manual operating mechanism with mechanical closing, without 1st and 2nd auxiliary releases; auxiliary switch 2 NC + 2 NO		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

✓ Additional price

1) The rated current is determined by the rating plug. For the standard version, the supplied module is equal to the maximum rated current. If a lower rated current is required, adaptation by order code on page 1/38.

2) Z options which are installed on the guide frame are not available.

3) For permissible rated short-time current I_{cc} and rated short-circuit making capacity I_{cm} for non-automatic air circuit breakers see page 1/5.

4) Current transformers for protection of the N conductor and current transformers for detection of the ground-fault current in the grounded neutral point of the transformer are to be ordered separately, see page 1/51. The internal current transformers for N conductors can be ordered by adding the supplement "–Z" and the order code "F23", see page 1/40.

5) Current transformers for protection of the N conductor are to be ordered separately, see page 1/51.

6) ETU45B to ETU76B with ground-fault protection module GFM AT (alarm and tripping), see page 1/51.

* You can order this quantity or a multiple thereof.

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Selection and ordering data

				Order No. supplement 3WL 1...-.....- □□□□	Additional price
Operating mechanisms					
Manual operating mechanism with mechanical closing				1	
Manual operating mechanism with mechanical and electrical closing, closing coil suitable for uninterrupted duty, 100 % duty ratio					
50/60 Hz V AC	V DC				
110	110 ... 125			2	
230	220			3	
Manual/motorized operating mechanism with mechanical and electrical closing, closing coil suitable for uninterrupted duty, 100 % duty ratio					
Motor		Closing solenoid			
50/60 Hz V AC	V DC	50/60 Hz V AC	V DC		
208 ... 240	220 ... 250	230	220	4	
110 ... 127	110 ... 125	110	110 ... 125	5	
--	24	--	24	6	
Note					
To order different voltages for motorized operating mechanism and closing solenoid or closing coil for synchronization purposes: "1" at the 13th digit of the Order No. and order codes, see page 1/39.					
1st auxiliary releases					
Type	Condition	U_s 50/60 Hz V AC	U_s V DC		
Without 1st auxiliary release	--	--	--	A	**None**
Shunt release suitable for uninterrupted duty, 100 % duty ratio	Operating range 0.85 ... 1.1 × U_s	--	24	B	✓
		--	30	C	✓
		--	48	D	✓
		--	60	E	✓
		110 ... 127	110 ... 125	F	✓
		208 ... 240	220 ... 250	G	✓
2nd auxiliary releases					
Type	Condition	U_s 50/60 Hz V AC	U_s V DC		
Without 2nd auxiliary release	--	--	--	A	**None**
Shunt release suitable for uninterrupted duty, 100 % duty ratio	Operating range 0.85 ... 1.1 × U_s	--	24	B	✓
		--	30	C	✓
		--	48	D	✓
		--	60	E	✓
		110 ... 127	110 ... 125	F	✓
		208 ... 240	220 ... 250	G	✓
Undervoltage release, instantaneous (≤ 80 ms), short-delay (≤ 200 ms)	Operating range 0.85 ... 1.1 × U_s	--	24	J	✓
		--	30	K	✓
		--	48	L	✓
		--	60	U	✓
		110 ... 127	110 ... 125	M	✓
		208 ... 240	220 ... 250	N	✓
		380 ... 415	--	P	✓
Undervoltage release, can be delayed between 0.2 s and 3.2 s	Operating range 0.85 ... 1.1 × U_s	--	48	Q	✓
		110 ... 127	110 ... 125	R	✓
		208 ... 240	220 ... 250	S	✓
		380 ... 415	--	T	✓
Auxiliary switches					
1st auxiliary switch block					
2 NO + 2 NC				2	**None**
1st + 2nd auxiliary switch blocks					
4 NO + 4 NC				4	✓
6 NO + 2 NC				7	✓
5 NO + 3 NC				8	✓

✓ Additional price

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Options

Add "**-Z**" to the complete Order No. and indicate the appropriate order code(s).			**3WL....-.....-....-Z** □□□ +...+...	Additional price	
Operating manuals					
Printed version	French/Italian		**A 1 1**	✓	
	Spanish/Portuguese		**A 1 2**	✓	
Rated voltage 1000 V AC and 690 V IT networks				Add. price 3-pole	Add. price 4-pole
Conditions	Size	Rated current I_n			
Only for circuit breakers with high breaking capacity H (8th digit of the Order No. is a "4") Cannot be combined with "Rated voltage 1150 V AC order code "A15".	I[1]	Up to 2000 A	**A 0 5**	✓	✓
	II[1]	Up to 2000 A	**A 0 5**	✓	✓
		2500 A	**A 0 5**	✓	✓
		3200 A	**A 0 5**	✓	✓
	III[1)2)]	4000 A	**A 0 5**	✓	✓
		5000 A	**A 0 5**	✓	✓
		6300 A	**A 0 5**	✓	✓
Rated voltage 1150 V AC					
Conditions	Size	Rated current I_n			
Only for circuit breakers with high breaking capacity H (8th digit of the Order No. is a "4") Cannot be combined with "Rated voltage 1000 V AC order code "A05".	II	Up to 2000 A	**A 1 5**	✓	✓
		2500 A	**A 1 5**	✓	✓
		3200 A	**A 1 5**	✓	✓
		4000 A	**A 1 5**	✓	✓
Note					
For size III select a circuit breaker with very high breaking capacity C, which can be used as standard up to 1150 V AC.					
Rated voltage 690 V AC (+ 20 %)					
Conditions	Size	Rated current I_n			
Only for 3WL11 circuit breakers, size I, with high breaking capacity H (8th digit of the Order No. is a "4").	I	Up to 2000 A	**A 1 6**	✓	✓
Tinned version of the customer's connections on the guide frame[3)4)]					
Conditions	Size				
Only for circuit breakers in withdrawable version with horizontal connection or flange connection. The normal delivery time increases to 15 work days.	I		**A 0 8**	✓	✓
	II		**A 0 8**	✓	✓
	III		**A 0 8**	✓	✓
Special packaging (moisture protection)				Additional price	
Special packaging for extended technical requirements					
Cardboard packaging with water-repellent coating on corrugated cardboard (moisture protection)			**A 6 1**	✓	
Rated current modules / Rating plugs				Additional price	
Conditions	Size	Rated current I_n A			
Only one module is possible per circuit breaker (not in conjunction with Electronic Trip Unit ETU15B). As standard the Electronic Trip Units are equipped with a rating plug which is equal to the maximum rated current circuit breaker ($I_{n\,max}$). The rated current of the selected rating plug must be smaller than $I_{n\,max}$.	I, II	250	**B 0 2**	**None**	
		315	**B 0 3**	**None**	
		400	**B 0 4**	**None**	
		500	**B 0 5**	**None**	
		630	**B 0 6**	**None**	
		800	**B 0 8**	**None**	
		1000	**B 1 0**	**None**	
	I, II, III	1250	**B 1 2**	**None**	
		1600	**B 1 6**	**None**	
		2000	**B 2 0**	**None**	
	II, III	2500	**B 2 5**	**None**	
		3200	**B 3 2**	**None**	
		4000	**B 4 0**	**None**	
	III	5000	**B 5 0**	**None**	
		6300	**B 6 3**	**None**	

✓ Additional price

1) If ordering withdrawable circuit breaker and guide frame separately, specify order code "A05" for withdrawable circuit breaker and guide frame.

2) Not necessary for circuit breakers with very high breaking capacity C as these circuit breakers can be used as standard up to 1150 V AC.

3) Front connections are tinned as standard.

4) The permissible temperature-rise limits according to IEC 60947-2 are 5 K lower for a tin surface than for a silver surface.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Options

Add "**-Z**" to the complete Order No. and indicate the appropriate order code(s).

				3WL....-.....-....-Z □□□ +...+...	Additional price
Indication/operator control elements, door sealing frames					
5-digit mechanical operating cycles counter[1]				C 0 1	✓
Electrical ON button in the operator panel[2] Possible only for circuit breakers with closing coil.	Button with sealing cap			C 1 1	✓
	Key operation with lock CES			C 1 2	✓
Storage status signaling switch[2] **(S21)**	1 NO contact			C 2 0	✓
Ready-to-close signaling switch (S20)	1 NO contact			C 2 2	✓
Signaling switches[2]	For the first auxiliary release (S22)			C 2 6	✓
	For the second auxiliary release (S23)			C 2 7	✓
Motor shutdown switch in the operator panel[3]				S 2 5	✓
EMERGENCY-STOP pushbutton	Mushroom pushbutton instead of the mechanical OFF pushbutton			S 2 4	✓
Door sealing frame				T 4 0	✓
Reclosing lockout and remote resets					
Automatic reset of the reclosing lockout				K 0 1	✓
Tripped signaling switch[2][4]	1 CO contact			K 0 7	✓
Type	50/60 Hz V AC	V DC			
Remote reset solenoid for display and reset button including automatic reset of the reclosing lockout	--	24		K 1 0	✓
	--	48		K 1 1	✓
	120	125		K 1 2	✓
	208 ... 250	208 ... 250		K 1 3	✓
Motorized operating mechanisms and closing/opening coils					
Type	Conditions	Motor 50/60 Hz V AC	V DC		
Motorized operating mechanism	Only possible if the 13th digit of the Order No. = "1"	--	24 ... 30	M 0 1	✓
		--	48 ... 60	M 0 3	✓
		110 ... 127	110 ... 125	M 0 5	✓
		208 ... 240	220 ... 250	M 0 6	✓
Type	Conditions	Activation coils 50/60 Hz V AC	V DC		
Closing coil suitable for uninterrupted duty, 100 % duty ratio	Only possible if the 13th digit of the Order No. = "1"	--	24	M 2 1	✓
		--	30	M 2 2	✓
		--	48	M 2 3	✓
		--	60	M 2 4	✓
		110 ... 127	110 ... 125	M 2 5	✓
		208 ... 240	220 ... 250	M 2 6	✓
Type	Conditions	Activation coils 50/60 Hz V AC	V DC		
Closing coil[5] **not suitable for uninterrupted duty, 5 % duty ratio, synchronizable**	Only possible if the 13th digit of the Order No. = "1"	--	24	M 3 1	✓
		--	48	M 3 3	✓
		110 ... 127	110 ... 125	M 3 5	✓
		208 ... 240	220 ... 250	M 3 6	✓
Type	Conditions	Activation coils 50/60 Hz V AC	V DC		
Opening coils (shunt release)[6][7]	Not suitable for uninterrupted duty, 5% duty ratio, synchronizable	--	24	M 4 1	✓
		--	48	M 4 3	✓
		110 ... 127	110 ... 125	M 4 5	✓
		208 ... 240	220 ... 250	M 4 6	✓

✓ Additional price

1) Only possible with motorized operating mechanism.
2) Not possible with communications interface option, order code "F02" or "F12".
3) Only for switches with motorized operating mechanism, not possible with order codes "C11", "C12".
4) Not available for non-automatic air circuit breakers.
5) Overexcited, i.e. opening time 50 ms (standard > 80 ms).
6) Only possible if the 14th position of the Order No. for the circuit breaker is "A", i.e. "without 1st auxiliary release".
7) Overexcited, i.e. operating time 50 ms (standard > 80 ms).

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Options

				3WL....-.....-....-Z □□□ +...+...	Additional price
Add **"-Z"** to the complete Order No. and indicate the appropriate order code(s).					
Interlocks, covers, position signaling switches (for fixed-mounted version)					
Mutual mechanical interlockings (interlocking module with Bowden wire 2 m)	Fixed-mounted circuit breakers			**S 5 5**	✓
Interlocks, covers, position signaling switches (for withdrawable version)					
Mutual mechanical interlockings (interlocking module with Bowden wire 2 m)	Version				
	For withdrawable circuit breakers with guide frame			**R 5 5**	✓
	For guide frames			**R 5 6**	✓
	For withdrawable circuit breakers			**R 5 7**	✓
Arc chute covers Not available for - 1000 V version (order code "A05") - DC version - 4000 A size II - 1150 V version (order code "A15") - 150 kA version, size III	Number of poles	Size			
	3-pole	I		**R 1 0**	✓
		II		**R 1 0**	✓
		III		**R 1 0**	✓
	4-pole	I		**R 1 0**	✓
		II		**R 1 0**	✓
		III		**R 1 0**	✓
Shutters 2-part lockable with padlocks[1)]	Number of poles	Size			
	3-pole	I		**R 2 1**	✓
		II		**R 2 1**	✓
		III		**R 2 1**	✓
	4-pole	I		**R 2 1**	✓
		II		**R 2 1**	✓
		III		**R 2 1**	✓
Position signaling switches for guide frames	Connected position	Test position	Disconnected position		
	1 CO	1 CO	1 CO	**R 1 5**	✓
	3 CO	2 CO	1 CO	**R 1 6**	✓
Communication and measurement functions (for withdrawable version)					
Breaker status sensor (BSS)				**F 0 1**	✓
PROFIBUS-DP communications interface[2)]	Including COM15 and breaker status sensor (BSS)			**F 0 2**	✓
MODBUS-RTU communications interface[2)]	Including COM16 and breaker status sensor (BSS)			**F 1 2**	✓
Measurement function *Plus* (without PROFIBUS/MODBUS communications interface)[3)]				**F 0 5**	✓
Overload and short-circuit protection for neutral conductors (for withdrawable version)					
Internal current transformer for N conductor Only possible with 4-pole circuit breakers with ETU27B to ETU76B	Size				
	I			**F 2 3**	✓
	II			**F 2 3**	✓
	III			**F 2 3**	✓
EMC filters (for withdrawable version)					
EMC filters • Common-mode interference suppressor filters (e.g. in IT networks, caused by frequency converters) • Insertion loss (asymmetric) in the range 40 kHz to 10 MHz >40 dB.				**F 3 1**	✓

✓ Additional price

1) Padlocks not included in scope of supply.

2) If ordering withdrawable circuit breaker and guide frame separately, specify order code "F02" or "F12" for withdrawable circuit breaker only.

3) Additional voltage transformers are required for connection of the measurement function *Plus*, see page 1/60.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Options

	Add **"-Z"** to the complete Order No. and indicate the appropriate order code(s).	**3WL....-.....-....-Z** □□□ +...+...	Additional price
Locking devices (for fixed-mounted and withdrawable versions)			
Locking devices against unauthorized closing, in the operator panels The disconnector unit fulfills the requirements for main circuit breakers according to EN 60204-1	Version		
	Made by CES	**S 0 1**	✓
	Made by IKON	**S 0 3**	✓
	Assembly kit FORTRESS or Castell[1]	**S 0 5**	✓
	Assembly kit for padlocks[2]	**S 0 7**	✓
	Made by Ronis	**S 0 8**	✓
	Made by Profalux	**S 0 9**	✓
EMERGENCY-STOP pushbuttons	Mushroom pushbutton instead of the mechanical OFF pushbutton	**S 2 4**	✓
Locking devices for operating mechanism handles with padlock[2]		**S 3 3**	✓
Locking devices (for withdrawable version)			
Locking devices against unauthorized closing, for withdrawable circuit breakers The disconnector unit fulfills the requirements for main circuit breakers acc. to EN 60204-1, consisting of a lock in the cabinet door, active in the connected position, function is retained when circuit breaker is replaced	Version		
	Made by CES	**R 6 1**	✓
	Made by Ronis	**R 6 8**	✓
	Made by Profalux	**R 6 0**	✓
Locking devices to prevent movement of the withdrawable circuit breakers Safety lock for mounting on the circuit breaker	Version		
	Made by CES	**S 7 1**	✓
	Made by Profalux	**S 7 5**	✓
	Made by Ronis	**S 7 6**	✓
Locking mechanisms (for fixed-mounted versions)			
Locking devices Not possible in combination with order code "R81", "R85" or "R86".	To prevent opening of the cabinet door in ON position	**S 3 0**	✓
Locking devices (for withdrawable version)			
Locking devices Not possible in combination with order code "R81", "R85" or "R86".	Version		
	To prevent opening of the cabinet door in connected position	**R 3 0**	✓
	To prevent movement with the cabinet door open	**R 5 0**	✓
Locking mechanism to prevent movement of the withdrawable circuit breakers in disconnected position, consisting of Bowden wire and lock in the cabinet door Not possible in combination with order code "R30" or "R50".	Version		
	Made by CES	**R 8 1**	✓
	Made by Ronis	**R 8 5**	✓
	Made by Profalux	**R 8 6**	✓
Connection methods for auxiliary conductors (for fixed-mounted and withdrawable versions)			
Connections for screwless terminals (tension spring)	Version		
	Fixed-mounted	**N 6 1**	✓
	Withdrawable	**P 6 1**	✓

✓ Additional price

1) Locks must be ordered from the manufacturer.

2) Padlock not included in the scope of supply.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Options

Add "**-Z**" to the complete Order No. and indicate the appropriate order code(s).			**3WL....-.....-....-Z** □□□ +...+...			Additional price	
For withdrawable circuit breakers with guide frames or for guide frames[1]						Add. price 3-pole	Add. price 4-pole
Note							
To select this connection method the 12th digit of the Order No. for the circuit breaker must be a "6".							
Connection methods for main connections	Size	Rated current I_n					
Top and bottom:[2] accessible from front, single hole	I	Up to 1600 A	**P**	**0**	**0**	✓	✓
	II	Up to 2000 A	**P**	**0**	**0**	✓	✓
		Up to 2500 A	**P**	**0**	**0**	✓	✓
		Up to 3200 A	**P**	**0**	**0**	✓	✓
	III	Up to 4000 A	**P**	**0**	**0**	✓	✓
Connection methods for main connections	Size	Rated current I_n					
Top and bottom: accessible from front, double hole	I	Up to 2000 A	**P**	**0**	**1**	✓	✓
	II	Up to 2000 A	**P**	**0**	**1**	✓	✓
		Up to 2500 A	**P**	**0**	**1**	✓	✓
		Up to 3200 A	**P**	**0**	**1**	✓	✓
	III	Up to 4000 A	**P**	**0**	**1**	✓	✓
Connection methods for main connections	Size	Rated current I_n					
Top:[2] horizontal, double hole Bottom: accessible from front, single hole	I	Up to 1600 A	**P**	**0**	**7**	✓	✓
	II	Up to 2000 A	**P**	**0**	**7**	✓	✓
		Up to 2500 A	**P**	**0**	**7**	✓	✓
		Up to 3200 A	**P**	**0**	**7**	✓	✓
	III	Up to 4000 A	**P**	**0**	**7**	✓	✓
Connection methods for main connections	Size	Rated current I_n					
Top: vertical Bottom: horizontal	I	Up to 2000 A	**P**	**1**	**8**	✓	✓
	II	Up to 2000 A	**P**	**1**	**8**	✓	✓
		Up to 2500 A	**P**	**1**	**8**	✓	✓
		Up to 3200 A	**P**	**1**	**8**	✓	✓
	III	Up to 4000 A	**P**	**1**	**8**	✓	✓
		Up to 5000 A	**P**	**1**	**8**	✓	✓
Connection methods for main connections	Size	Rated current I_n					
Top: Connecting flange Bottom: horizontal	I	Up to 2000 A	**P**	**1**	**9**	✓	✓
	II	Up to 2000 A	**P**	**1**	**9**	✓	✓
		Up to 2500 A	**P**	**1**	**9**	✓	✓
		Up to 3200 A	**P**	**1**	**9**	✓	✓
	III	Up to 4000 A	**P**	**1**	**9**	✓	✓
Connection methods for main connections	Size	Rated current I_n					
Top: horizontal Bottom: vertical	I	Up to 2000 A	**P**	**2**	**3**	✓	✓
	II	Up to 2000 A	**P**	**2**	**3**	✓	✓
		Up to 2500 A	**P**	**2**	**3**	✓	✓
		Up to 3200 A	**P**	**2**	**3**	✓	✓
	III	Up to 4000 A	**P**	**2**	**3**	✓	✓
		Up to 5000 A	**P**	**2**	**3**	✓	✓

✓ Additional price

1) Only horizontal connection and vertical connection are available for circuit breakers with very high breaking capacity C.

2) Not for 3WL size I with high breaking capacity H

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Add "**-Z**" to the complete Order No. and indicate the appropriate order code(s).

			3WL....-.....-....-Z □□□ **+...+...**	Additional price	
For fixed-mounted circuit breakers				Add. price 3-pole	Add. price 4-pole
Note					
To select this connection method the 12th digit of the Order No. for the circuit breaker must be a "2".					
Connection methods for main connections	Size	Rated current I_n			
Top:[1] horizontal Bottom: accessible from front, single hole	I	Up to 1600 A	**N 1 1**	✓	✓
	II	Up to 2000 A	**N 1 1**	✓	✓
		Up to 2500 A	**N 1 1**	✓	✓
		Up to 3200 A	**N 1 1**	✓	✓
	III	Up to 4000 A	**N 1 1**	✓	✓
Connection methods for main connections	Size	Rated current I_n			
Top: vertical Bottom: horizontal	I	Up to 1600 A	**N 2 0**	✓	✓
		Up to 2000 A	**N 2 0**	✓	✓
	II	Up to 2000 A	**N 2 0**	✓	✓
		Up to 2500 A	**N 2 0**	✓	✓
		Up to 3200 A	**N 2 0**	✓	✓
	III	Up to 4000 A	**N 2 0**	✓	✓
		Up to 5000 A	**N 2 0**	✓	✓
Connection methods for main connections	Size	Rated current I_n			
Top: horizontal Bottom: vertical	I	Up to 1600 A	**N 2 4**	✓	✓
		Up to 2000 A	**N 2 4**	✓	✓
	II	Up to 2000 A	**N 2 4**	✓	✓
		Up to 2500 A	**N 2 4**	✓	✓
		Up to 3200 A	**N 2 4**	✓	✓
	III	Up to 4000 A	**N 2 4**	✓	✓
		Up to 5000 A	**N 2 4**	✓	✓

✓ Additional price

[1] Not for 3WL size I with high breaking capacity H

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Air Circuit Breakers

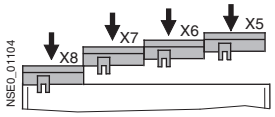
3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Accessories and spare parts

Overview

Determination of the number of auxiliary supply connectors required

This selection is only required if the guide frame is ordered under a separate Order No.



The required number of auxiliary supply connectors depends on:
- Operating mechanism type
- Electronic Trip Unit with/without current transformer
- Type and number of auxiliary releases
- Number of auxiliary switches
- COM15/COM16 communication interface

		Number of auxiliary supply connectors	Terminal
a	**First auxiliary supply connector X6 always required.**	**1**	X6
b	**Operating mechanisms**		
b1	Manual operating mechanism with stored-energy feature with mechanical closing	**0**	
b2	Manual operating mechanism with stored-energy feature with mechanical and electrical closing	**0**	X6
b3	Manual/motorized operating mechanism with stored-energy feature with mechanical and electrical closing	**+1**	X5
c	**Electronic Trip Units**		
c1	Electronic Trip Units ETU15B, ETU25B, ETU27B	**0**	
c2	Electronic Trip Units ETU45B, ETU76B (internal Cubicle**BUS**)	**+1**	X8
	Connections for external current transformers for overload protection in the N conductor and ground-fault protection		
c3	Current transformer installed in the N conductor (required with 3-pole circuit breakers if c2 is not selected)	**+1**	X8
c4	Current transformer in the neutral point of the transformer (required if c2 or c3 is not selected)	**+1**	X8
d	**Auxiliary releases**		
d1	With/without 1st auxiliary release (shunt release F1)	**0**	X6
d2	2nd auxiliary release (shunt release F2, undervoltage release F3, delayable undervoltage release F4)	**+1**	X5
e	**Auxiliary switch blocks**		
e1	1st auxiliary switch block 2 NO + 2 NC	**0**	X6
e2	1st and 2nd auxiliary switch block 4 NO + 4 NC or 6 NO + 2 NC or 5 NO + 3 NC (required if b3 or d2 is not selected)	**+1**	X5
f	**Communication modules**		
f1	Without communication module COM15/COM16	**0**	
f2	With communication module COM15/COM16 – occupies the entire terminal strip X7, making the following options no longer possible: • Tripped signal switch S24 • Stored-energy status indication S21 • Electrical ON button S10 • Signaling switch on first and second auxiliary release S22 + S23	**+1**	X7
g	**Optional signals/accessories**		
g1	Tripped signaling switch S24 (only when f2 not selected)	**+1**	X7
g2	Stored-energy status indicator S21 (only when f2 not selected, required if g1 not selected)	**+1**	X7
g3	Electric ON button S10 (only when f2 not selected, required if g1 or g2 not selected)	**+1**	X7
g4	Signaling switch at first auxiliary release S22 (only when f2 not selected, required if g1, g2 or g3 not selected)	**+1**	X7
g5	Signaling switch at second auxiliary release S23 (only when f2 not selected, required if g1, g2, g3 or g4 not selected)	**+1**	X7
g6	Switch on ready-to-close signaling switch S20	**0**	X6
g7	Motor shutdown switch S12 (only if motorized operating mechanism selected)	**0**	X5
g8	Remote reset solenoid F7 (required if c2 not selected)	**+1**	X8
h	**Total number of auxiliary supply connectors**	**(max. 4)**	

For ordering the auxiliary supply connectors see at "Accessories and spare parts, Guide frames for AC circuit breakers/non-automatic air circuit breakers", pages 1/45 to 1/50 and under "Accessories and spare parts, Auxiliary conductor connections, Auxiliary supply connectors", page 1/56.

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Selection and ordering data

Guide frames for AC circuit breakers/non-automatic air circuit breakers

Size	Max. rated circuit breaker current $I_{n\ max.}$	Breaking capacity $I_{cu} = I_{cs}$	DT	Guide frames for 3-pole circuit breakers/ non-automatic air circuit breakers Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	kA							kg
Front main circuit connection, single hole									
I	1000	... 66		**3WL9 211-1AA□□-□□A1**		1	1 unit	103	25.000
	1600	... 66		**3WL9 211-2AA□□-□□A1**		1	1 unit	103	25.000
II	2000	... 100		**3WL9 212-3AA□□-□□A1**		1	1 unit	103	31.000
	2500	... 100		**3WL9 212-4AA□□-□□A1**		1	1 unit	103	39.000
	3200	... 100		**3WL9 212-5AA□□-□□A1**		1	1 unit	103	45.000
III	4000	... 100		**3WL9 213-6AA□□-□□A1**		1	1 unit	103	60.000
Front main circuit connection, double hole									
I	1000	... 66		**3WL9 211-1AB□□-□□A1**		1	1 unit	103	25.000
	1600	... 66		**3WL9 211-2AB□□-□□A1**		1	1 unit	103	25.000
	2000[1]	... 85		**3WL9 211-3AB□□-□□A1**		1	1 unit	103	25.000
II	2000	... 100		**3WL9 212-3AB□□-□□A1**		1	1 unit	103	31.000
	2500	... 100		**3WL9 212-4AB□□-□□A1**		1	1 unit	103	39.000
	3200	... 100		**3WL9 212-5AB□□-□□A1**		1	1 unit	103	45.000
III	4000	... 100		**3WL9 213-6AB□□-□□A1**		1	1 unit	103	60.000
Horizontal main circuit connection									
I	1000	... 66		**3WL9 211-1AC□□-□□A1**		1	1 unit	103	25.000
	1600	... 66		**3WL9 211-2AC□□-□□A1**		1	1 unit	103	25.000
	2000[1]	... 85		**3WL9 211-3AC□□-□□A1**		1	1 unit	103	25.000
II	2000	... 100		**3WL9 212-3AC□□-□□A1**		1	1 unit	103	31.000
	2500	... 100		**3WL9 212-4AC□□-□□A1**		1	1 unit	103	39.000
	3200	... 100		**3WL9 212-5AC□□-□□A1**		1	1 unit	103	45.000
III	4000	... 100		**3WL9 213-6AC□□-□□A1**		1	1 unit	103	60.000
	5000	... 100		**3WL9 213-7AC□□-□□A1**		1	1 unit	103	60.000
	4000	... 150		**3WL9 213-6AC□□-□□C1**		1	1 unit	103	63.000
	5000	... 150		**3WL9 213-7AC□□-□□C1**		1	1 unit	103	63.000

Options								Add. price
Number of auxiliary supply connectors	Without		**0**					**None**
	1 connector		**1**					✓
	2 connectors		**2**					✓
	3 connectors		**3**					✓
	4 connectors		**4**					✓
Note								
For required number of auxiliary supply connectors, see table on page 1/44.								
Type of auxiliary circuit connections	Without			**0**				**None**
	With screw connection (SIGUT, standard)			**1**				✓
	With screwless connection method (tension spring)			**2**				✓
Position signaling switches	Without				**0**			**None**
	Option 1: Connected position 1 CO, test position 1 CO, disconnected position 1 CO				**1**			✓
	Option 2: Connected position 3 CO, test position 2 CO, disconnected position 1 CO				**2**			✓
Shutters	Without					**A**		**None**
	With shutter, 2-part, lockable	Size I				**B**		✓
		Size II				**B**		✓
		Size III				**B**		✓

✓ Additional price

[1] For 3WL air circuit breakers size I from 630 A to 2000 A with high breaking capacity H and 3WL air circuit breakers size I with rated current I_n = 2000 A.

* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Accessories and spare parts

Add "**-Z**" to the complete Order No. and indicate the appropriate order code(s).	**3WL921.-.....-....-Z** □ □ □			Additional price
Rated voltage 1000 V AC and 690 V IT networks				
Size I (breaking capacity H)	**A**	**0**	**5**	✓
Size II, except 4000 A (breaking capacity H)	**A**	**0**	**5**	✓
Size III, not necessary with circuit breakers with very high breaking capacity	**A**	**0**	**5**	✓
Rated voltage 1150 V AC				
Size II, except 4000 A (breaking capacity H)	**A**	**1**	**5**	✓
Rated voltage 690 V AC (+ 20 %)				
Size I (breaking capacity H)	**A**	**1**	**6**	✓
Tinned version of the customer's connections on guide frame[1)2)] Only for guide frames with horizontal connection or flange connection				
Size I	**A**	**0**	**8**	✓
Size II	**A**	**0**	**8**	✓
Size III	**A**	**0**	**8**	✓
Notes				
• For main circuit connection vertical and main circuit connecting flange see the following page. • All other accessory parts must be ordered by specifying "–Z" and the corresponding order code, see pages 1/38 to 1/43.				

✓ Additional price

1) Front connections are tinned as standard.

2) The permissible temperature-rise limits according to IEC 60947-2 are 5 K lower for a tin surface than for a silver surface.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Accessories and spare parts

Size	Max. rated circuit breaker current $I_{n\ max.}$	Breaking capacity $I_{cu} = I_{cs}$	DT	Guide frames for 3-pole circuit breakers/ non-automatic air circuit breakers Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	kA							kg
Vertical main circuit connection									
I	1000	... 66		**3WL9 211-1AD□□-□□A1**		1	1 unit	103	25.000
	1600	... 66		**3WL9 211-2AD□□-□□A1**		1	1 unit	103	25.000
	2000[1]	... 85		**3WL9 211-3AD□□-□□A1**		1	1 unit	103	25.000
II	2000	... 100		**3WL9 212-3AD□□-□□A1**		1	1 unit	103	31.000
	2500	... 100		**3WL9 212-4AD□□-□□A1**		1	1 unit	103	39.000
	3200	... 100		**3WL9 212-5AD□□-□□A1**		1	1 unit	103	45.000
III	4000	... 100		**3WL9 213-6AD□□-□□A1**		1	1 unit	103	60.000
	5000	... 100		**3WL9 213-7AD□□-□□A1**		1	1 unit	103	60.000
	6300	... 100		**3WL9 213-8AD□□-□□A1**		1	1 unit	103	70.000
	4000	... 150		**3WL9 213-6AD□□-□□C1**		1	1 unit	103	63.000
	5000	... 150		**3WL9 213-7AD□□-□□C1**		1	1 unit	103	63.000
	6300	... 150		**3WL9 213-8AD□□-□□C1**		1	1 unit	103	74.000
Main circuit connection connecting flanges									
I	1000	... 66		**3WL9 211-1AE□□-□□A1**		1	1 unit	103	25.000
	1600	... 66		**3WL9 211-2AE□□-□□A1**		1	1 unit	103	25.000
	2000[1]	... 85		**3WL9 211-3AE□□-□□A1**		1	1 unit	103	25.000
II	2000	... 100		**3WL9 212-3AE□□-□□A1**		1	1 unit	103	31.000
	2500	... 100		**3WL9 212-4AE□□-□□A1**		1	1 unit	103	39.000
	3200	... 100		**3WL9 212-5AE□□-□□A1**		1	1 unit	103	45.000
III	4000	... 100		**3WL9 213-6AE□□-□□A1**		1	1 unit	103	60.000

Options							Add. price
Number of auxiliary supply connectors	Without		**0**				**None**
	1 connector		**1**				✓
	2 connectors		**2**				✓
	3 connectors		**3**				✓
	4 connectors		**4**				✓
Note							
For required number of auxiliary supply connectors, see table on page 1/44.							
Type of auxiliary circuit connections	Without			**0**			**None**
	With screw connection (SIGUT, standard)			**1**			✓
	With screwless connection method (tension spring)			**2**			✓
Position signaling switches	Without				**0**		**None**
	Option 1: Connected position 1 CO, test position 1 CO, disconnected position 1 CO				**1**		✓
	Option 2: Connected position 3 CO, test position 2 CO, disconnected position 1 CO				**2**		✓
Shutters	Without					**A**	**None**
	With shutter, 2-part, lockable	Size I				**B**	✓
		Size II				**B**	✓
		Size III				**B**	✓

	Add "**-Z**" to the complete Order No. and indicate the appropriate order code(s).	**3WL921.-.....-....-Z** □ □ □	Additional price
Rated voltage 1000 V AC and 690 V IT networks			
Size I (breaking capacity H)		**A 0 5**	✓
Size II, except 4000 A (breaking capacity H)		**A 0 5**	✓
Size III, not necessary with circuit breakers with very high breaking capacity		**A 0 5**	✓
Rated voltage 1150 V AC			
Size II, except 4000 A (breaking capacity H)		**A 1 5**	✓
Rated voltage 690 V AC (+ 20 %)			
Size I (breaking capacity H)		**A 1 6**	✓
Tinned version of the customer's connections on guide frame[1)2)] Only for guide frames with horizontal connection or flange connection			
Size I		**A 0 8**	✓
Size II		**A 0 8**	✓
Size III		**A 0 8**	✓
Notes			
• For main circuit connection vertical and main circuit connecting flange see the following page. • All other accessory parts must be ordered by specifying "–Z" and the corresponding order code, see pages 1/38 to 1/43.			

✓ Additional price

1) For 3WL air circuit breakers size I from 630A to 2000A with high breaking capacity H and 3WL air circuit breakers size I with rated current I_n = 2000 A.

2) Front connections are tinned as standard.

3) The permissible temperature-rise limits according to IEC 60947-2 are 5 K lower for a tin surface than for a silver surface.

* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Accessories and spare parts

Size	Max. rated circuit breaker current $I_{n\ max.}$	Breaking capacity $I_{cu} = I_{cs}$	DT	Guide frames for 4-pole circuit breakers/ non-automatic air circuit breakers Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	kA							kg
Front main circuit connection, single hole									
I	1000	... 66		**3WL9 211-1BA□□-□□A1**		1	1 unit	103	30.000
	1600	... 66		**3WL9 211-2BA□□-□□A1**		1	1 unit	103	30.000
II	2000	... 100		**3WL9 212-3BA□□-□□A1**		1	1 unit	103	37.000
	2500	... 100		**3WL9 212-4BA□□-□□A1**		1	1 unit	103	47.000
	3200	... 100		**3WL9 212-5BA□□-□□A1**		1	1 unit	103	54.000
III	4000	... 100		**3WL9 213-6BA□□-□□A1**		1	1 unit	103	84.000
Front main circuit connection, double hole									
I	1000	... 66		**3WL9 211-1BB□□-□□A1**		1	1 unit	103	30.000
	1600	... 66		**3WL9 211-2BB□□-□□A1**		1	1 unit	103	30.000
	2000[1)]	... 85		**3WL9 211-3BB□□-□□A1**		1	1 unit	103	30.000
II	2000	... 100		**3WL9 212-3BB□□-□□A1**		1	1 unit	103	37.000
	2500	... 100		**3WL9 212-4BB□□-□□A1**		1	1 unit	103	47.000
	3200	... 100		**3WL9 212-5BB□□-□□A1**		1	1 unit	103	54.000
III	4000	... 100		**3WL9 213-6BB□□-□□A1**		1	1 unit	103	84.000
Horizontal main circuit connection									
I	1000	... 66		**3WL9 211-1BC□□-□□A1**		1	1 unit	103	30.000
	1600	... 66		**3WL9 211-2BC□□-□□A1**		1	1 unit	103	30.000
	2000[1)]	... 85		**3WL9 211-3BC□□-□□A1**		1	1 unit	103	30.000
II	2000	... 100		**3WL9 212-3BC□□-□□A1**		1	1 unit	103	37.000
	2500	... 100		**3WL9 212-4BC□□-□□A1**		1	1 unit	103	47.000
	3200	... 100		**3WL9 212-5BC□□-□□A1**		1	1 unit	103	54.000
III	4000	... 100		**3WL9 213-6BC□□-□□A1**		1	1 unit	103	84.000
	5000	... 100		**3WL9 213-7BC□□-□□A1**		1	1 unit	103	84.000
	4000	... 130		**3WL9 213-6BC□□-□□C1**		1	1 unit	103	87.000
	5000	... 130		**3WL9 213-7BC□□-□□C1**		1	1 unit	103	87.000

Options							Add. price
Number of auxiliary supply connectors	Without		**0**				**None**
	1 connector		**1**				✓
	2 connectors		**2**				✓
	3 connectors		**3**				✓
	4 connectors		**4**				✓
Note							
For required number of auxiliary supply connectors, see table on page 1/44.							
Type of auxiliary circuit connections	Without			**0**			**None**
	With screw connection (SIGUT, standard)			**1**			✓
	With screwless connection method (tension spring)			**2**			✓
Position signaling switches	Without				**0**		**None**
	Option 1: Connected position 1 CO, test position 1 CO, disconnected position 1 CO				**1**		✓
	Option 2: Connected position 3 CO, test position 2 CO, disconnected position 1 CO				**2**		✓
Shutters	Without					**A**	**None**
	With shutter, 2-part, lockable	Size I				**B**	✓
		Size II				**B**	✓
		Size III				**B**	✓

✓ Additional price

1) For 3WL air circuit breakers size I from 630 A to 2000 A with high breaking capacity H and 3WL air circuit breakers size I with rated current I_n = 2000 A.

* You can order this quantity or a multiple thereof.

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Add "**-Z**" to the complete Order No. and indicate the appropriate order code(s).	**3WL921.-.....-....-Z** □ □ □	Additional price
Rated voltage 1000 V AC and 690 V IT networks		
Size I (breaking capacity H)	**A 0 5**	✓
Size II, except 4000 A (breaking capacity H)	**A 0 5**	✓
Size III, not necessary with circuit breakers with very high breaking capacity	**A 0 5**	✓
Rated voltage 1150 V AC		
Size II, except 4000 A (breaking capacity H)	**A 1 5**	✓
Rated voltage 690 V AC (+ 20 %)		
Size I (breaking capacity H)	**A 1 6**	✓
Tinned version of the customer's connections on guide frame[1)2)] Only for guide frames with horizontal connection or flange connection		
Size I	**A 0 8**	✓
Size II	**A 0 8**	✓
Size III	**A 0 8**	✓
Notes		
• For main circuit connection vertical and main circuit connecting flange see the following page.		
• All other accessory parts must be ordered by specifying "–Z" and the corresponding order code, see pages 1/38 to 1/43.		

✓ Additional price

1) Front connections are tinned as standard.

2) The permissible temperature-rise limits according to IEC 60947-2 are 5 K lower for a tin surface than for a silver surface.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Accessories and spare parts

Size	Max. rated circuit breaker current $I_{n\,max.}$	Breaking capacity $I_{cu} = I_{cs}$	DT	Guide frames for 4-pole circuit breakers/ non-automatic air circuit breakers Order No.	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	kA							kg
Vertical main circuit connection									
I	1000	... 66		**3WL9 211-1BD□□-□□A1**		1	1 unit	103	30.000
	1600	... 66		**3WL9 211-2BD□□-□□A1**		1	1 unit	103	30.000
	2000[1)]	... 85		**3WL9 211-3BD□□-□□A1**		1	1 unit	103	30.000
II	2000	... 100		**3WL9 212-3BD□□-□□A1**		1	1 unit	103	37.000
	2500	... 100		**3WL9 212-4BD□□-□□A1**		1	1 unit	103	47.000
	3200	... 100		**3WL9 212-5BD□□-□□A1**		1	1 unit	103	54.000
III	4000	... 100		**3WL9 213-6BD□□-□□A1**		1	1 unit	103	84.000
	5000	... 100		**3WL9 213-7BD□□-□□A1**		1	1 unit	103	84.000
	6300	... 100		**3WL9 213-8BD□□-□□A1**		1	1 unit	103	119.000
	4000	... 130		**3WL9 213-6BD□□-□□C1**		1	1 unit	103	88.000
	5000	... 130		**3WL9 213-7BD□□-□□C1**		1	1 unit	103	88.000
	6300	... 130		**3WL9 213-8BD□□-□□C1**		1	1 unit	103	124.000
Main circuit connection connecting flanges									
I	1000	... 66		**3WL9 211-1BE□□-□□A1**		1	1 unit	103	30.000
	1600	... 66		**3WL9 211-2BE□□-□□A1**		1	1 unit	103	30.000
	2000[1)]	... 85		**3WL9 211-3BE□□-□□A1**		1	1 unit	103	30.000
II	2000	... 100		**3WL9 212-3BE□□-□□A1**		1	1 unit	103	37.000
	2500	... 100		**3WL9 212-4BE□□-□□A1**		1	1 unit	103	47.000
	3200	... 100		**3WL9 212-5BE□□-□□A1**		1	1 unit	103	54.000
III	4000	... 100		**3WL9 213-6BE□□-□□A1**		1	1 unit	103	84.000

Options							Add. price
Number of auxiliary supply connectors	Without		**0**				**None**
	1 connector		**1**				✓
	2 connectors		**2**				✓
	3 connectors		**3**				✓
	4 connectors		**4**				✓
Note							
For required number of auxiliary supply connectors, see table on page 1/44.							
Type of auxiliary circuit connections	Without			**0**			**None**
	With screw connection (SIGUT, standard)			**1**			✓
	With screwless connection method (tension spring)			**2**			✓
Position signaling switches	Without				**0**		**None**
	Option 1: Connected position 1 CO, test position 1 CO, disconnected position 1 CO				**1**		✓
	Option 2: Connected position 3 CO, test position 2 CO, disconnected position 1 CO				**2**		✓
Shutters	Without					**A**	**None**
	With shutter, 2-part, lockable	Size I				**B**	✓
		Size II				**B**	✓
		Size III				**B**	✓

	Add "**-Z**" to the complete Order No. and indicate the appropriate order code(s).	**3WL921.-.....-....-Z** □ □ □	Additional price
Rated voltage 1000 V AC and 690 V IT networks			
Size I (breaking capacity H)		**A 0 5**	✓
Size II, except 4000 A (breaking capacity H)		**A 0 5**	✓
Size III, not necessary with circuit breakers with very high breaking capacity		**A 0 5**	✓
Rated voltage 1150 V AC			
Size II, except 4000 A (breaking capacity H)		**A 1 5**	✓
Rated voltage 690 V AC (+ 20 %)			
Size I (breaking capacity H)		**A 1 6**	✓
Tinned version of the customer's connections on guide frame[1)2)] **Only for guide frames with horizontal connection or flange connection**			
Size I		**A 0 8**	✓
Size II		**A 0 8**	✓
Size III		**A 0 8**	✓
Notes			
• For main circuit connection vertical and main circuit connecting flange see the following page. • All other accessory parts must be ordered by specifying "–Z" and the corresponding order code, see pages 1/38 to 1/43.			

✓ Additional price

[1)] For 3WL air circuit breakers size I from 630A to 2000A with high breaking capacity H and 3WL air circuit breakers size I with rated current I_n = 2000 A.

[2)] Front connections are tinned as standard.

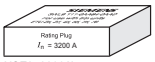
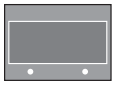
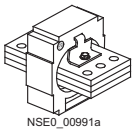
[3)] The permissible temperature-rise limits according to IEC 60947-2 are 5 K lower for a tin surface than for a silver surface.

* You can order this quantity or a multiple thereof.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Accessories and spare parts

	Designation			DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
 NSE0_01610b 3WL9 31.-.AA.0-0AA1	**Protective devices with device holder and optional measurement function**[1]									
	Type	With protection function	Measurement function							
	ETU15B	LI	Without		**3WL9 311-5AA00-0AA2**		1	1 unit	103	0.720
	ETU25B	LSI	Without		**3WL9 312-5AA00-0AA2**		1	1 unit	103	0.720
	ETU27B	LSING	Without		**3WL9 312-7AA00-0AA2**		1	1 unit	103	0.720
	ETU45B (without display)	LSIN(G)	Without		**3WL9 314-5AA00-0AA2**		1	1 unit	103	0.720
			With measurement function *Plus*		**3WL9 314-5AA20-0AA2**		1	1 unit	103	0.720
	ETU76B	LSIN(G)	Without		**3WL9 317-6AA00-0AA2**		1	1 unit	103	0.720
			With measurement function *Plus*		**3WL9 317-6AA20-0AA2**		1	1 unit	103	0.720
 NSE0_00992b 3WL9 111-0AA64-0AA0	**Rating plugs**[2]									
	Size		Rated current I_n (A)							
	I, II		250		**3WL9 111-0AA51-0AA0**		1	1 unit	103	0.010
			315		**3WL9 111-0AA52-0AA0**		1	1 unit	103	0.010
			400		**3WL9 111-0AA53-0AA0**		1	1 unit	103	0.010
			500		**3WL9 111-0AA54-0AA0**		1	1 unit	103	0.010
			630		**3WL9 111-0AA55-0AA0**		1	1 unit	103	0.010
			800		**3WL9 111-0AA56-0AA0**		1	1 unit	103	0.010
			1000		**3WL9 111-0AA57-0AA0**		1	1 unit	103	0.010
	I, II, III		1250		**3WL9 111-0AA58-0AA0**		1	1 unit	103	0.010
			1600		**3WL9 111-0AA61-0AA0**		1	1 unit	103	0.010
			2000		**3WL9 111-0AA62-0AA0**		1	1 unit	103	0.010
	II, III		2500		**3WL9 111-0AA63-0AA0**		1	1 unit	103	0.010
			3200		**3WL9 111-0AA64-0AA0**		1	1 unit	103	0.010
			4000		**3WL9 111-0AA65-0AA0**		1	1 unit	103	0.010
	III		5000		**3WL9 111-0AA66-0AA0**		1	1 unit	103	0.010
			6300		**3WL9 111-0AA67-0AA0**		1	1 unit	103	0.010
 NSE0_01027a 3WL9 111-0AT53-0AA0	**Ground-fault modules**[3]									
	Versions									
	• GFM AT 45B (only for ETU45B) alarm and tripping				**3WL9 111-0AT53-0AA0**		1	1 unit	103	0.030
	• GFM AT 55B–76B (only for ETU76B) alarm and tripping				**3WL9 111-0AT56-0AA0**		1	1 unit	103	0.030
 NSE0_01609 3WL9 111-0AT81-0AA0	**Displays** • For ETU45B • 4-line				**3WL9 111-0AT81-0AA0**		1	1 unit	103	0.060
 NSE0_00990a 3WL9 111-0AA2.-0AA0	**Internal current transformers for N conductor** Including wiring kit									
	ETU Release 2		Size							
	--		I		**3WL9 111-0AA11-0AA0**		1	1 unit	103	0.200
			II		**3WL9 111-0AA12-0AA0**		1	1 unit	103	0.280
			III		**3WL9 111-0AA13-0AA0**		1	1 unit	103	0.500
	✓		I		**3WL9 111-0AA14-0AA0**		1	1 unit	103	0.200
			II		**3WL9 111-0AA15-0AA0**		1	1 unit	103	0.280
			III		**3WL9 111-0AA16-0AA0**		1	1 unit	103	0.500
 NSE0_00991a 3WL9 111-0AA3.-0AA0	**External current transformers for N conductor** For T5, "Measurement Method" function see Technical Information at www.siemens.com/lowvoltage/support.									
	Copper connection pieces		Size							
	--		I		**3WL9 111-0AA21-0AA0**		1	1 unit	103	0.300
			II		**3WL9 111-0AA22-0AA0**		1	1 unit	103	0.380
			III		**3WL9 111-0AA23-0AA0**		1	1 unit	103	0.680
	✓		I		**3WL9 111-0AA31-0AA0**		1	1 unit	103	1.600
			II		**3WL9 111-0AA32-0AA0**		1	1 unit	103	4.260
			III		**3WL9 111-0AA33-0AA0**		1	1 unit	103	8.500
	EMC filters • Common-mode interference suppressor filters (e.g. in IT networks, caused by frequency converters) • Insertion loss (asymmetric) in the range 40 kHz to 10 MHz >40 dB.									
	Versions									
	• Not for ETU Release 2				**3WL9 111-0AK32-0AA0**		1	1 unit	103	0.280
	• Only for ETU Release 2				**3WL9 111-0AK34-0AA0**		1	1 unit	103	0.280

1) For replacement in existing circuit breakers please specify the circuit breaker ID No. when ordering.

2) With the rating plug selected, the maximum rated current $I_{n\,max}$ of the circuit breaker must not be exceeded. The following applies $I_n \leq I_{n\,max}$.

3) For direct measurement of the ground-fault current, e.g. in the neutral point of the transformer, a 1,200 A/1 A current transformer, class 1, is required. The internal load of the 3WL air circuit breaker is 0.11 Ω. If the ground-fault current is to be determined using the vectorial sum of the phases, a transformer must be installed in the neutral conductor.

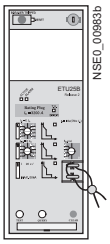
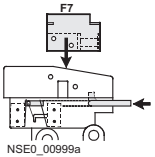
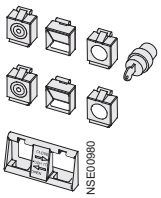
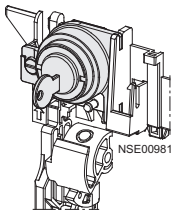
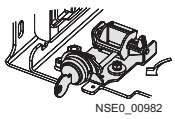
* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Accessories and spare parts

	Designation	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
More accessories for Electronic Trip Units								
 3WL9 111-0AT45-0AA0	**Sealable and lockable covers**							
	Versions							
	• For ETU15B to ETU45B		**3WL9 111-0AT45-0AA0**		1	1 unit	103	0.050
	• For ETU76		**3WL9 111-0AT46-0AA0**		1	1 unit	103	0.050
	Automatic reset of the reclosing lockout Spare part for option **K01,** see "-Z" + order code, page 1/39.		**3WL9 111-0AK21-0AA0**		1	1 unit	103	0.050
 3WL9 111-0AK0.-0AA0	**Remote reset coils**[1] • For mechanical tripped indicator • Spare part for option **K10** to **K13,** see "-Z" + order code, page 1/39.							
	Versions							
	• 24 V DC		**3WL9 111-0AK03-0AA0**		1	1 unit	103	0.200
	• 48 V DC		**3WL9 111-0AK04-0AA0**		1	1 unit	103	0.200
	• 120 V AC/125 V DC		**3WL9 111-0AK05-0AA0**		1	1 unit	103	0.200
	• 208-250 V AC/208-250 V DC		**3WL9 111-0AK06-0AA0**		1	1 unit	103	0.200
	Retrofittable internal CubicleBUS wiring for connection to terminal X8 • For ETU45B and ETU76B • Without male connector[2]		**3WL9 111-0AK30-0AA0**		1	1 unit	103	0.150
	Retrofittable internal wiring for connection of the external N- and G-transformers to terminal X8 • Not for ETU Release 2 • Without male connector		**3WL9 111-0AK31-0AA0**		1	1 unit	103	0.020
	Retrofittable internal wiring for connection of the external N- and G-transformers to terminal X8 • For ETU Release 2 • Without male connector		**3WL9 111-0AK33-0AA0**		1	1 unit	103	0.020
Locking devices								
 3WL9 111-0BA22-0AA0	**Interlocking set for mechanical ON/OFF** • consisting of 2 transparent covers each for sealing or for attaching padlocks[4], • Cover with 6.35 mm hole (for tool actuation) • Lock mount for safety lock for key operation							
	Versions							
	• Without safety lock		**3WL9 111-0BA21-0AA0**		1	1 unit	103	0.100
	• Made by CES		**3WL9 111-0BA22-0AA0**		1	1 unit	103	0.300
	• Made by IKON		**3WL9 111-0BA24-0AA0**		1	1 unit	103	0.300
 3WL9 111-0BA31-0AA0	**Locking devices against unauthorized closing, in the operator panels** • The disconnector unit fulfills the requirements for main circuit breakers acc. to EN 60204-1 • Spare part for option **S01** to **S09,** see "-Z" + order code, page 1/41.							
	Versions							
	• Assembly kit FORTRESS or CASTELL[3]		**3WL9 111-0BA31-0AA0**		1	1 unit	103	0.200
	• Made by Ronis		**3WL9 111-0BA33-0AA0**		1	1 unit	103	0.400
	• Made by KIRK-Key[3]		**3WL9 111-0BA34-0AA0**		1	1 unit	103	0.270
	• Made by Profalux		**3WL9 111-0BA35-0AA0**		1	1 unit	103	0.250
	• Made by CES		**3WL9 111-0BA36-0AA0**		1	1 unit	103	0.200
	• Made by IKON		**3WL9 111-0BA38-0AA0**		1	1 unit	103	0.200
	• Assembly kit for padlocks[4]		**3WL9 111-0BA41-0AA0**		1	1 unit	103	0.360
 3WL9 111-0BA53-0AA0	**Locking devices against unauthorized closing, for withdrawable circuit breakers** • The disconnector unit fulfills the requirements for main circuit breakers acc. to EN 60204-1 • Consisting of lock in the cabinet door, active in connected position; function is retained when circuit breaker is replaced • Spare part for option **R60, R61, R68**, see "-Z" + order code, page 1/41.							
	Versions							
	• Made by CES		**3WL9 111-0BA51-0AA0**		1	1 unit	103	0.300
	• Made by IKON		**3WL9 111-0BA53-0AA0**		1	1 unit	103	0.300
	• Made by KIRK-Key[3]		**3WL9 111-0BA57-0AA0**		1	1 unit	103	0.300
	• Made by Ronis		**3WL9 111-0BA58-0AA0**		1	1 unit	103	0.300
	• Made by Profalux		**3WL9 111-0BA50-0AA0**		1	1 unit	103	0.227

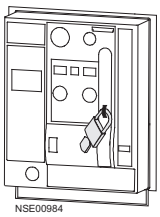
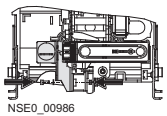
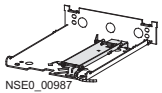
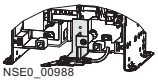
1) Can only be used in conjunction with "automatic reset of reclosing lockout", e. g. "–Z" + "K01", 3WL9 111-0AK21-0AA0.
2) Required if communication is retrofitted.
3) Locks, cylinders and keys must be ordered from the manufacturer.
4) Padlock not included in the scope of supply.

* You can order this quantity or a multiple thereof.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Accessories and spare parts

	Designation	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
 NSE00984 3WL9 111-0BA71-0AA0	**Locking devices for operating mechanism handle with padlock**[1] Spare part for option **S33,** see "-Z" + order code, page 1/41.		**3WL9 111-0BA71-0AA0**		1	1 unit	103	0.080
 NSE0_00986 3WL9 111-0BA76-0AA0	**Locking devices to prevent movement of the withdrawable circuit breakers** • Safety lock for mounting on the circuit breaker • Spare part for option **S71, S75, S76,** see "-Z" + order code, page 1/41.							
	Versions							
	• Made by CES		**3WL9 111-0BA73-0AA0**		1	1 unit	103	0.300
	• Made by IKON		**3WL9 111-0BA75-0AA0**		1	1 unit	103	0.200
	• Made by Profalux		**3WL9 111-0BA76-0AA0**		1	1 unit	103	0.300
	• Made by Ronis		**3WL9 111-0BA77-0AA0**		1	1 unit	103	0.300
	• Made by KIRK-Key[2]		**3WL9 111-0BA80-0AA0**		1	1 unit	103	0.400
	Interlocking systems • Made by CES • 2 of the same keys for 3 circuit breakers • Locking device in OFF position • Lock in the operator panel • A maximum of 2 circuit breakers can be switched on		**3WL9 111-0BA43-0AA0**		1	1 unit	103	0.360
Locking mechanisms								
 NSE0_00987 3WL9 111-0BA83-0AA0	**Locking devices to prevent movement of the withdrawable circuit breakers in disconnected position** • Consisting of Bowden wire and lock in the cabinet door on the circuit breaker • Spare part for option **R81**, **R85**, **R86,** see "-Z" + order code, page 1/41. Order code, page 1/41.							
	Versions							
	• Made by CES		**3WL9 111-0BA81-0AA0**		1	1 unit	103	0.800
	• Made by IKON		**3WL9 111-0BA83-0AA0**		1	1 unit	103	0.800
	• Made by Profalux		**3WL9 111-0BA85-0AA0**		1	1 unit	103	0.800
	• Made by Ronis		**3WL9 111-0BA86-0AA0**		1	1 unit	103	0.800
	Note							
	Not possible in combination with "Locking device to prevent opening of the cabinet door" (order code "R30") or "Locking device to prevent movement with the cabinet door open" (order code "R50").							
 NSE0_00988 3WL9 111-0BB12-0AA0	**Locking devices to prevent opening of the cabinet door in ON position** • Fixed-mounted • Can be defeated • Spare part for option **S30,** see "-Z" + order code, page 1/41.		**3WL9 111-0BB12-0AA0**		1	1 unit	103	0.600
	Locking devices to prevent opening of the cabinet door • Guide frames • Can be defeated • Spare part for option **R30,** see "-Z" + order code, page 1/41.		**3WL9 111-0BB13-0AA0**		1	1 unit	103	0.150
	Note							
	Not possible in combination with "Locking device to prevent movement of the withdrawable circuit breakers in disconnected position" (order codes "R81", "R85" or "R86").							
	Locking devices to prevent movement with the cabinet door open • Guide frames • Spare part for option **R50,** see "-Z" + order code, page 1/41.		**3WL9 111-0BB15-0AA0**		1	1 unit	103	0.150
	Note							
	Not possible in combination with "Locking device to prevent movement of the withdrawable circuit breakers in disconnected position" (order codes "R81", "R85" or "R86").							

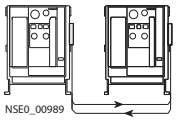
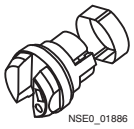
1) Padlock not included in the scope of supply.
2) Locks, cylinders and keys must be ordered from the manufacturer.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Accessories and spare parts

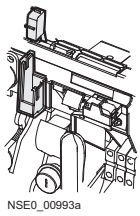
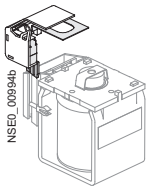
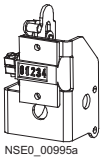
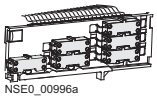
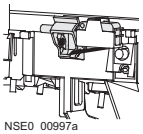
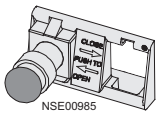
	Designation			DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Interlocks										
 NSE0_00989 3WL9 111-0BB21-0AA0	**Mutual mechanical interlocking** with 2000 mm Bowden wire (one required for each circuit breaker)									
	Type	When ordered separately	Spare part for							
	Fixed-mounted circuit breakers	--	Option **S55,** see "-Z" + order code, page 1/40.		**3WL9 111-0BB21-0AA0**		1	1 unit	103	2.700
	Module for withdrawable circuit breakers with guide frame	--	Option **R55,** see "-Z" + order code, page 1/40.		**3WL9 111-0BB24-0AA0**		1	1 unit	103	1.130
	Module for guide frame	✓	Option **R56,** see "-Z" + order code, page 1/40.		**3WL9 111-0BB22-0AA0**		1	1 unit	103	1.100
	Module for withdrawable circuit breaker	✓	Option **R57,** see "-Z" + order code, page 1/40.		**3WL9 111-0BB23-0AA0**		1	1 unit	103	0.150
	Adapter for size III Withdrawable circuit breaker	✓	--		**3WL9 111-0BB30-0AA0**		1	1 unit	103	0.100
 NSE0_01886 3WL9 112-8HA47-0AA0	**Couplings on the circuit breaker (with ring) for mutual interlocking** Can be used in all circuit breakers				**3WL9 112-8AH47-0AA0**		1	1 unit	103	0.160
	Bowden wires									
	Versions									
	2000 mm				**3WL9 111-0BB45-0AA0**		1	1 unit	103	0.150
	3000 mm				**3WL9 111-0BB46-0AA0**		1	1 unit	103	0.220
	4500 mm				**3WL9 111-0BB47-0AA0**		1	1 unit	103	0.360
Test devices										
	Manual tester Release 2 for Electronic Trip Units ETU15B to ETU76B For testing the Electronic Trip Unit functions of all 3WL ETUs (release 1 and release 2)				**3WL9 111-0AT32-0AA0**		1	1 unit	103	1.100
	Function testers For testing the tripping characteristics for Electronic Trip Units ETU15B to ETU76B				**3WL9 111-0AT44-0AA0**		1	1 unit	103	8.210
Capacitor storage devices										
	Capacitor storage devices • For shunt releases • Storage time 5 min				**3WL9 111-0BA14-0AA0**		1	1 unit	103	0.520
	Rated control supply voltage/rated operational voltage									
	50/60 Hz V AC	V DC								
	220 ... 240	220 ... 250								
	Note									
	• Rated control supply voltage must match the rated control supply voltage of the shunt release • Suitable also for 3VL and 3WN circuit breakers									

* You can order this quantity or a multiple thereof.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Accessories and spare parts

	Designation	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Indicators, control elements								
 NSE0_00993a 3WL9 111-0AH01-0AA0	**Ready-to-close signaling switches** • 1 NO contact • Spare part for option **C22,** see "-Z" + order code, page 1/39.		**3WL9 111-0AH01-0AA0**		1	1 unit	103	0.020
 NSE0_00994b 3WL9 111-0AH02-0AA0	**Signaling switches**[1)2)] • 1st or 2nd auxiliary release • Spare part for option **C26** and **C27,** see "-Z" + order code, page 1/39.		**3WL9 111-0AH02-0AA0**		1	1 unit	103	0.020
	Tripped signaling switches[1)2)] • 1 CO contact • Spare part for option **K07,** see "-Z" + order code, page 1/39.		**3WL9 111-0AH14-0AA0**		1	1 unit	103	0.080
 NSE0_00995a 3WL9 111-0AH07-0AA0	**Operating cycles counters** • Mechanical[3)] • Spare part for option **C01,** see "-Z" + order code, page 1/39.		**3WL9 111-0AH07-0AA0**		1	1 unit	103	0.100
	Stored energy status signaling switches[1)2)] • 1 NO contact • Spare part for option **C20,** see "-Z" + order code, page 1/39.		**3WL9 111-0AH08-0AA0**		1	1 unit	103	0.030
 NSE0_00996a 3WL9 111-0AH12-0AA0	**Position signaling switches for guide frames** Spare part for option **R15** and **R16,** see "-Z" + order code, page 1/40.							
	Versions							
	• 1st block (3 CO contacts) • 2nd block (6 CO contacts)		**3WL9 111-0AH11-0AA0** **3WL9 111-0AH12-0AA0**		1 1	1 unit 1 unit	103 103	0.200 0.400
 NSE0_00997a 3WL9 111-0AJ0.-0AA0	**Electrical ON buttons**[1)4)] • Button + wiring[2)] • For operator panel • Spare part for option **C11** and **C12,** see "-Z" + order code, page 1/39							
	Versions							
	• With sealing cap • With CES assembly kit • With IKON assembly kit		**3WL9 111-0AJ02-0AA0** **3WL9 111-0AJ03-0AA0** **3WL9 111-0AJ05-0AA0**		1 1 1	1 unit 1 unit 1 unit	103 103 103	0.150 0.140 0.140
	Note							
	Possible only for circuit breakers with closing coil.							
	Motor shutdown switches[5)] • Mounting on operator panel • Spare part for option **S25,** see "-Z" + order code, page 1/39.		**3WL9 111-0AJ06-0AA0**		1	1 unit	103	0.100
 NSE00985 3WL9 111-0BA72-0AA0	**EMERGENCY-STOP pushbuttons** • Mushroom pushbutton instead of the mechanical OFF pushbutton • Spare part for option **S24,** see "-Z" + order code, page 1/39.		**3WL9 111-0BA72-0AA0**		1	1 unit	103	0.080

1) Not possible with communications interface option, order code "F02" or "F12".

2) X7 auxiliary supply connector required for circuit breakers or guide frames. If this is not already available, please order additionally (see pages 1/44 and 1/56).

3) Only in conjunction with motorized operating mechanism.

4) Not possible with motor shutdown switch.

5) Not possible with electrical ON button.

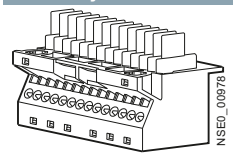
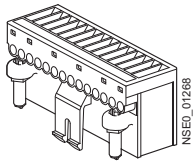
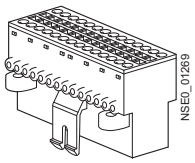
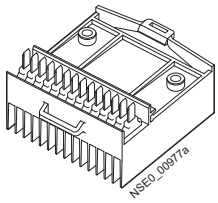
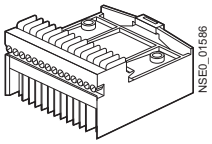
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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Accessories and spare parts

	Designation	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Auxiliary conductor connections								
 3WL9 111-0AB01-0AA0	**Male connectors for circuit breakers** ①		**3WL9 111-0AB01-0AA0**		1	1 unit	103	0.100
	Extension for the 1000 V male connector versions Male connector must be ordered separately.		**3WL9 111-0AB02-0AA0**		1	1 unit	103	0.150
	Male connectors and extension for 1000 V		**3WL9 111-0AB10-0AA0**		1	1 unit	103	1.000
 3WL9 111-0AB03-0AA0  3WL9 111-0AB04-0AA0	**Auxiliary supply connectors for circuit breakers or guide frames** ② Versions • Screw connection (SIGUT) • Screwless connection method (tension spring)		 **3WL9 111-0AB03-0AA0** **3WL9 111-0AB04-0AA0**		 1 1	 1 unit 1 unit	 103 103	 0.070 0.070
 3WL9 111-0AB07-0AA0	**Coding kits** For fixed-mounted versions (X5 to X8) ③		**3WL9 111-0AB07-0AA0**		1	1 unit	103	0.020
 3WL9 111-0AB08-0AA0	**Sliding contact modules for guide frames** ④		**3WL9 111-0AB08-0AA0**		1	1 unit	103	0.100
 3WL9 111-0AB18-0AA0	**One-part sliding contact modules for guide frames** Screw connection (SIGUT) ⑤		**3WL9 111-0AB18-0AA0**		1	1 unit	103	0.120
	Blanking blocks for circuit breakers		**3WL9 111-0AB12-0AA0**		1	1 unit	103	0.030

For a complete auxiliary current connection you must order:

Fixed-mounted version: ① + ② + ③

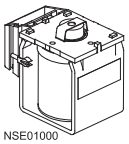
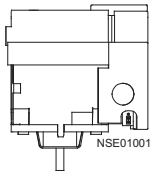
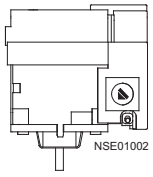
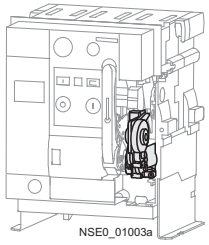
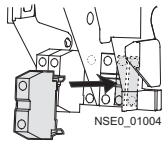
Withdrawable version: ① + ④ + ② or ① + ⑤

* You can order this quantity or a multiple thereof.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Accessories and spare parts

	Designation		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Auxiliary releases									
 NSE01000 3WL9 111-0AD06-0AA0	**Closing coils/shunt releases**								
	Versions	Voltage							
	100 % duty ratio	24 V DC		**3WL9 111-0AD01-0AA0**		1	1 unit	103	0.700
		30 V DC		**3WL9 111-0AD02-0AA0**		1	1 unit	103	0.700
		48 V DC		**3WL9 111-0AD03-0AA0**		1	1 unit	103	0.700
		60 V DC		**3WL9 111-0AD04-0AA0**		1	1 unit	103	0.700
		110 ... 125 V DC/110 ... 127 V AC		**3WL9 111-0AD05-0AA0**		1	1 unit	103	0.700
		220 ... 250 V DC/208 ... 240 V AC		**3WL9 111-0AD06-0AA0**		1	1 unit	103	0.700
	5 % duty ratio[1)]	24 V DC		**3WL9 111-0AD11-0AA0**		1	1 unit	103	0.700
		48 V DC		**3WL9 111-0AD12-0AA0**		1	1 unit	103	0.700
		110 ... 125 V DC/110 ... 127 V AC		**3WL9 111-0AD13-0AA0**		1	1 unit	103	0.700
		220 ... 250 V DC/208 ... 240 V AC		**3WL9 111-0AD14-0AA0**		1	1 unit	103	1.800
 NSE01001 3WL9 111-0AE0.-0AA0	**Undervoltage releases**								
	Versions	Voltage							
	Instantaneous	24 V DC		**3WL9 111-0AE01-0AA0**		1	1 unit	103	0.730
		30 V DC		**3WL9 111-0AE02-0AA0**		1	1 unit	103	0.730
		48 V DC		**3WL9 111-0AE03-0AA0**		1	1 unit	103	0.730
		60 V DC		**3WL9 111-0AE07-0AA0**		1	1 unit	103	0.730
		110 ... 125 V DC/110 ... 127 V AC		**3WL9 111-0AE04-0AA0**		1	1 unit	103	0.730
		220 ... 250 V DC/208 ... 240 V AC		**3WL9 111-0AE05-0AA0**		1	1 unit	103	0.730
		380 ... 415 V AC		**3WL9 111-0AE06-0AA0**		1	1 unit	103	0.730
 NSE01002 3WL9 111-0AE1.-0AA0	Delayed	48 V DC		**3WL9 111-0AE11-0AA0**		1	1 unit	103	0.740
		110 ... 125 V DC/110 ... 127 V AC		**3WL9 111-0AE12-0AA0**		1	1 unit	103	0.740
		220 ... 250 V DC/208 ... 240 V AC		**3WL9 111-0AE13-0AA0**		1	1 unit	103	0.740
		380 ... 415 V AC		**3WL9 111-0AE14-0AA0**		1	1 unit	103	0.740
Operating mechanisms									
 NSE0_01003a 3WL9 111-0AF0.-0AA0	**Motorized operating mechanisms[2)]**								
	Versions								
	• 24 ... 30 V DC			**3WL9 111-0AF01-0AA0**		1	1 unit	103	1.510
	• 48 ... 60 V DC			**3WL9 111-0AF02-0AA0**		1	1 unit	103	1.510
	• 110 ... 125 V DC/110 ... 127 V AC			**3WL9 111-0AF03-0AA0**		1	1 unit	103	1.510
	• 220 ... 250 V DC/208 ... 240 V AC			**3WL9 111-0AF04-0AA0**		1	1 unit	103	1.510
Auxiliary contacts									
 NSE0_01004 3WL9 111-0AG03-0AA0	**Auxiliary switch blocks**								
	Versions								
	• 2 NO contacts + 2 NC contacts			**3WL9 111-0AG01-0AA0**		1	1 unit	103	0.180
	• 2 NO contacts			**3WL9 111-0AG02-0AA0**		1	1 unit	103	0.080
	• 1 NO contact + 1 NC contact			**3WL9 111-0AG03-0AA0**		1	1 unit	103	0.070

1) Overexcited, i.e. operating time 50 ms (standard >80 ms).

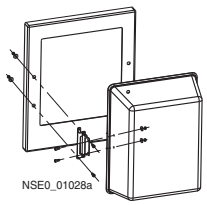
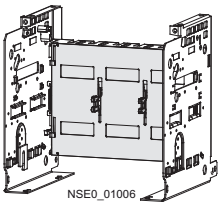
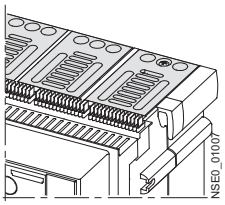
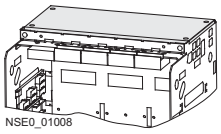
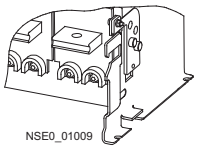
2) X7 auxiliary supply connector required for circuit breakers or guide frames. If this is not already available, please order additionally (see pages 1/44 and 1/47).

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Accessories and spare parts

	Designation	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Door sealing frames, hoods, shutters								
	Door sealing frames Spare part for option **T40,** see "-Z" + order code, page 1/39.		**3WL9 111-0AP01-0AA0**		1	1 unit	103	0.360
 3WL9 111-0AP02-0AA0	**Protective covers** IP55 Notes • Cannot be used in conjunction with door sealing frames • Hood removable and can be opened on both sides		**3WL9 111-0AP02-0AA0**		1	1 unit	103	1.600
 3WL9 111-0AP0.-0AA0	**Shutters** Spare part for option **R21,** see "-Z" + order code, page 1/40.							
	Number of poles / Size							
	3-pole, I		**3WL9 111-0AP04-0AA0**		1	1 unit	103	0.500
	3-pole, II		**3WL9 111-0AP06-0AA0**		1	1 unit	103	0.630
	3-pole, III		**3WL9 111-0AP07-0AA0**		1	1 unit	103	0.860
	4-pole, I		**3WL9 111-0AP08-0AA0**		1	1 unit	103	0.600
	4-pole, II		**3WL9 111-0AP11-0AA0**		1	1 unit	103	0.770
	4-pole, III		**3WL9 111-0AP12-0AA0**		1	1 unit	103	1.070
Arc chutes								
 3WL9 111-0AS0.-0AA0	**Arc chutes** Versions / Size							
	690 V, I		**3WL9 111-0AS01-0AA0**		1	1 unit	103	1.110
	690 V, II		**3WL9 111-0AS02-0AA0**		1	1 unit	103	1.680
	690 V, III		**3WL9 111-0AS03-0AA0**		1	1 unit	103	2.980
	1000 V / 1150 V, II		**3WL9 111-0AS05-0AA0**		1	1 unit	103	3.140
	1000 V / 1150 V, III		**3WL9 111-0AS06-0AA0**		1	1 unit	103	5.620
 3WL9 111-0AS3.-0AA0	**Arc chute covers**[1)] • Parts kit for guide frame • Spare part for option **R10,** see "-Z" + order code, page 1/40.							
	Number of poles / Size							
	3-pole, I		**3WL9 111-0AS32-0AA0**		1	1 unit	103	1.850
	3-pole, II		**3WL9 111-0AS36-0AA0**		1	1 unit	103	2.600
	3-pole, III		**3WL9 111-0AS38-0AA0**		1	1 unit	103	4.050
	4-pole, I		**3WL9 111-0AS42-0AA0**		1	1 unit	103	2.340
	4-pole, II		**3WL9 111-0AS44-0AA0**		1	1 unit	103	3.300
	4-pole, III		**3WL9 111-0AS46-0AA0**		1	1 unit	103	5.210
Coding for withdrawable version								
 3WL9 111-0AR12-0AA0 3WL9 111-0AR13-0AA0	**Coding for withdrawable version** By customer, for 36 coding variants							
	Versions							
	• Sizes I and II		**3WL9 111-0AR12-0AA0**		1	1 unit	103	0.400
	• Size III		**3WL9 111-0AR13-0AA0**		1	1 unit	103	0.310

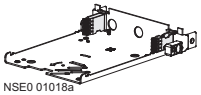
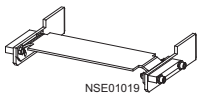
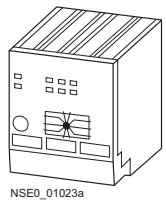
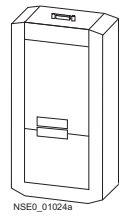
1) Not available for
- 1000 V version (order code "A05"),
- 1150 V version (order code "A15"),
- DC version,
- 4000 A size II,
- circuit breaker with very high breaking capacity C.

* You can order this quantity or a multiple thereof.

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3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Accessories and spare parts

	Designation	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Grounding connection								
 NSE0 01018a 3WL9 111-0BA02-0AA0	**Grounding connection between the guide frame and the withdrawable circuit breaker** • For 30 kA ground short-circuit current[1] • Contacting modules for guide frame							
	Versions							
	• Size I and II[2] • Size III		**3WL9 111-0BA01-0AA0** **3WL9 111-0BA02-0AA0**		1 1	1 unit 1 unit	103 103	0.330 0.350
 NSE01019 3WL9 111-0BA07-0AA0	**Contacting modules for withdrawable circuit breakers**							
	Number of poles / Size							
	3-pole: I		**3WL9 111-0BA05-0AA0**		1	1 unit	103	1.250
	3-pole: II[2]		**3WL9 111-0BA06-0AA0**		1	1 unit	103	1.530
	3-pole: III		**3WL9 111-0BA07-0AA0**		1	1 unit	103	2.270
	4-pole: I		**3WL9 111-0BA08-0AA0**		1	1 unit	103	1.500
	4-pole: II[2]		**3WL9 111-0BA04-0AA0**		1	1 unit	103	1.850
	4-pole: III		**3WL9 111-0BA10-0AA0**		1	1 unit	103	2.950
Support brackets								
 NSE-01022 3WL9 111-0BB50-0AA0	**Support brackets** • For mounting fixed-mounted circuit breakers on vertical plane • Only for sizes I and II (1 set = 2 units)		**3WL9 111-0BB50-0AA0**		1	1 unit	103	7.000
CubicleBUS modules[3][6]								
 NSE0_01023a 3WL9 111-0AT23-0AA0	**Digital output modules with rotary coding switch, relay outputs**		**3WL9 111-0AT26-0AA0**		1	1 unit	103	0.240
	Digital output modules, configurable, relay outputs		**3WL9 111-0AT20-0AA0**		1	1 unit	103	0.310
	Digital input modules		**3WL9 111-0AT27-0AA0**		1	1 unit	103	0.240
	Analog output modules		**3WL9 111-0AT23-0AA0**		1	1 unit	103	0.240
	Zone Selective Interlocking modules		**3WL9 111-0AT21-0AA0**		1	1 unit	103	0.240
Parameterization systems[6]								
 NSE0_01024a 3WL9 111-0AT28-0AA0	**BDA *Plus*[4][5]** • Parameterization, operation, monitoring and diagnostics of 3WL air circuit breakers using the local interface • Breaker Data Adapter, connection cable to the 3WL air circuit breaker and to the programming device (e.g. notebook) • Can be run with Internet Explorer with JAVA2 VM 1.4.0-01 and higher • With Ethernet interface for connection to Ethernet/Intranet/Internet		**3WL9 111-0AT33-0AA0**		1	1 unit	103	1.200
	Connection cables for BDA *Plus* • Connection cable for connection of BDA *Plus* to terminal X8 of the 3WL air circuit breaker • Required if neither COM15 nor COM16 nor other external **Cubicle**BUS modules are available • Length 2 m		**3WL9 111-0BC21-0AA0**		1	1 unit	103	0.350
	powerconfig parameterization software • Parameterization, operation, monitoring and diagnostics of 3WL air circuit breakers using powerconfig software see chapter 13 Software, "Configuring, Visualizing and Controlling with SENTRON". • powerconfig is available free of charge at http://support.automation.siemens.com/WW/view/en/50241697							

1) For 60 kA ground short-circuit current, order 2.

2) Can also be used for size II, 4000 A.

3) Each **Cubicle**BUS module is supplied with a 0.2 m factory-fitted cable to connect the modules with each other. A longer factory-fitted cable is required for connection to the circuit breaker.

4) A 24 V DC power supply unit is required.

5) Operation under Windows Vista and Windows 7 possible with restrictions.

6) All communication components, **Cubicle**BUS modules and measurement functions are available for the ETU45B and ETU76B.

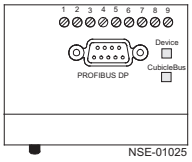
* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Accessories and spare parts

	Designation	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Accessories for communications[3]								
	Preassembled cables for CubicleBUS **modules**							
	Versions							
	• 0.2 m long, for connection to 3WL with COM15/COM16		**3WL9 111-0BC04-0AA0**		1	1 unit	103	0.020
	• 1 m long, for connection to 3WL with COM15/COM16		**3WL9 111-0BC02-0AA0**		1	1 unit	103	0.050
	• 2 m long, for connection to 3WL with COM15/COM16		**3WL9 111-0BC03-0AA0**		1	1 unit	103	0.060
	• 2 m long, for connection to 3WL without COM15/COM16		**3WL9 111-0BC05-0AA0**		1	1 unit	103	0.070
	SENTRON manual for communication solutions • Detailed description of the communication functions for circuit breakers. Installation, connection, commissioning, data transmission to the PLC. • Free download from: www.siemens.com/lowvoltage/manuals							
	Manuals							
	• PROFIBUS, German, token fee		**A5E0151347**					
	• PROFIBUS, English, token fee		**A5E0151353**					
	• MODBUS, German, token fee		**3ZX10 12-0WL10-1AB1**					
	• MODBUS, English, token fee		**3ZX10 12-0WL10-1AC1**					
	Voltage transformers • 3-pole, for 3WL air circuit breakers with measurement function *Plus*[1] • 380 ... 690 V/100 V, class 0.5		**3WL9 111-0BB68-0AA0**		1	1 unit	103	2.600
Retrofitting and spare parts[3]								
	PROFIBUS retrofit kits Retrofit kit for PROFIBUS communications including COM15, BSS and set of cables for all 3WL air circuit breakers with ETU45B and ETU76B		**3WL9 111-0AT12-0AA0**		1	1 unit	103	0.260
 3WL9 111-0AT15-0AA0	**COM15 PROFIBUS module** For ETU45B and ETU76B		**3WL9 111-0AT15-0AA0**		1	1 unit	103	0.140
	COM16 MODBUS modules For ETU45B and ETU76B		**3WL9 111-0AT17-0AA0**		1	1 unit	103	0.140
	MODBUS IEC retrofit kits Retrofit kit for MODBUS communications including COM16, BSS and set of cables for all 3WL air circuit breakers with ETU45B and ETU76B		**3WL9 111-0AT18-0AA0**		1	1 unit	103	0.260
	Breaker status sensor (BSS) For ETU45B and ETU76B		**3WL9 111-0AT16-0AA0**		1	1 unit	103	0.120
	Measurement function *Plus*[2] • For ETUs Release 2 • Voltage transformer required		**3WL9 111-0AT04-0AA0**		1	1 unit	103	0.250

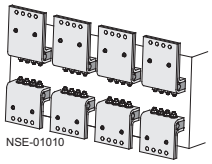
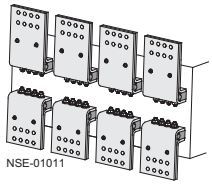
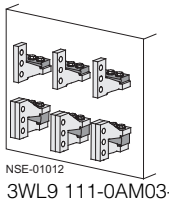
1) Is required for operation of the measurement function *Plus*.

2) A measuring accuracy of 3 % is reached if retrofitted.

3) All communication components, **Cubicle**BUS modules and measurement functions are available for the ETU45B and ETU76B.

* You can order this quantity or a multiple thereof.

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	Designation		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Main conductor connections, fixed-mounted versions (essential accessory)									
	Specified for each connection								
3WL9 111-0AL06-0AA0  NSE-01010 3WL9 111-0AL56-0AA0	**Front-accessible main connections, single hole at top**[1]								
	Size	Rated current I_n							
	I	Up to 1000 A		**3WL9 111-0AL01-0AA0**		1	1 unit	103	1.100
		1250 A to 1600 A		**3WL9 111-0AL02-0AA0**		1	1 unit	103	1.600
	II	Up to 2000 A		**3WL9 111-0AL03-0AA0**		1	1 unit	103	2.000
		Up to 2500 A		**3WL9 111-0AL04-0AA0**		1	1 unit	103	3.600
		Up to 3200 A		**3WL9 111-0AL05-0AA0**		1	1 unit	103	3.500
	III	Up to 4000 A		**3WL9 111-0AL06-0AA0**		1	1 unit	103	6.100
	Front-accessible main connections, single hole at bottom[1]								
	Size	Rated current I_n							
	I	Up to 1000 A		**3WL9 111-0AL51-0AA0**		1	1 unit	103	1.000
		1250 A to 1600 A		**3WL9 111-0AL52-0AA0**		1	1 unit	103	1.300
	II	Up to 2000 A		**3WL9 111-0AL53-0AA0**		1	1 unit	103	1.800
		Up to 2500 A		**3WL9 111-0AL54-0AA0**		1	1 unit	103	3.100
		Up to 3200 A		**3WL9 111-0AL55-0AA0**		1	1 unit	103	3.000
	III	Up to 4000 A		**3WL9 111-0AL56-0AA0**		1	1 unit	103	5.200
3WL9 111-0AL14-0AA0  NSE-01011 3WL9 111-0AL64-0AA0	**Front-accessible main connections according to DIN 43673, double hole at top**								
	Size	Rated current I_n							
	I	Up to 1000 A [1]		**3WL9 111-0AL07-0AA0**		1	1 unit	103	1.400
		1250 A to 2000 A		**3WL9 111-0AL08-0AA0**		1	1 unit	103	2.000
	II	Up to 2000 A		**3WL9 111-0AL11-0AA0**		1	1 unit	103	2.400
		Up to 2500 A		**3WL9 111-0AL12-0AA0**		1	1 unit	103	4.500
		Up to 3200 A		**3WL9 111-0AL13-0AA0**		1	1 unit	103	4.400
	III	Up to 4000 A		**3WL9 111-0AL14-0AA0**		1	1 unit	103	7.800
	Front-accessible main connections according to DIN 43673, double hole at bottom								
	Size	Rated current I_n							
	I	Up to 1000 A [1]		**3WL9 111-0AL57-0AA0**		1	1 unit	103	1.300
		1250 A to 2000 A		**3WL9 111-0AL58-0AA0**		1	1 unit	103	1.700
	II	Up to 2000 A		**3WL9 111-0AL61-0AA0**		1	1 unit	103	2.000
		Up to 2500 A		**3WL9 111-0AL62-0AA0**		1	1 unit	103	3.700
		Up to 3200 A		**3WL9 111-0AL63-0AA0**		1	1 unit	103	3.600
	III	Up to 4000 A		**3WL9 111-0AL64-0AA0**		1	1 unit	103	6.400
 NSE-01012 3WL9 111-0AM03-0AA0	**Rear vertical main connections**								
	Size	Rated current I_n							
	I[2]	Up to 2000 A		**3WL9 111-0AM01-0AA0**		1	1 unit	103	0.500
	II[3]	Up to 3200 A		**3WL9 111-0AM02-0AA0**		1	1 unit	103	2.200
	III	Up to 6300 A		**3WL9 111-0AM03-0AA0**		1	1 unit	103	5.000

1) Not for 3WL size I with high breaking capacity H

2) In the case of vertical connection size I with breaking capacity N and S, up to 1000 A one 3WL9 111–0AM01-0AA0 vertical connection is required, up to 2000 A or with breaking capacity H two 3WL9 111-0AM01-0AA0 vertical connections are required.

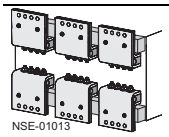
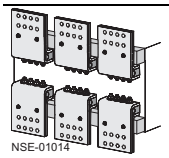
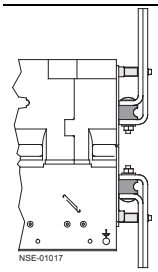
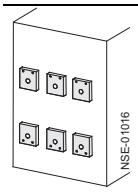
3) In the case of vertical connection size II, up to 2500 A one 3WL9 111–0AM02-0AA0 vertical connection is required, up to 3200 A two 3WL9 111-0AM02-0AA0 vertical connections are required.

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Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

Accessories and spare parts

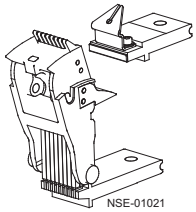
	Designation		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Main conductor connections, withdrawable versions (essential accessory)									
	Specified for each connection								
 NSE-01013 3WL9 111-0AN06-0AA0	**Front-accessible main connections, single hole at top or at bottom[1) 2)]**								
	Size	Rated current I_n							
	I	Up to 1000 A		**3WL9 111-0AN01-0AA0**		1	1 unit	103	1.000
		1250 A to 1600 A		**3WL9 111-0AN02-0AA0**		1	1 unit	103	1.300
	II	Up to 2000 A		**3WL9 111-0AN03-0AA0**		1	1 unit	103	1.800
		Up to 2500 A		**3WL9 111-0AN04-0AA0**		1	1 unit	103	3.100
		Up to 3200 A		**3WL9 111-0AN05-0AA0**		1	1 unit	103	3.000
	III	Up to 4000 A		**3WL9 111-0AN06-0AA0**		1	1 unit	103	5.200
 NSE-01014 3WL9 111-0AN14-0AA0	**Front-accessible main connections according to DIN 43673, double hole at top or at bottom[1)]**								
	Size	Rated current I_n							
	I	Up to 1000 A [2)]		**3WL9 111-0AN07-0AA0**		1	1 unit	103	1.300
		1250 A to 2000 A		**3WL9 111-0AN08-0AA0**		1	1 unit	103	1.700
	II	Up to 2000 A		**3WL9 111-0AN11-0AA0**		1	1 unit	103	2.000
		Up to 2500 A		**3WL9 111-0AN12-0AA0**		1	1 unit	103	3.700
		Up to 3200 A		**3WL9 111-0AN13-0AA0**		1	1 unit	103	3.600
	III	Up to 4000 A		**3WL9 111-0AN14-0AA0**		1	1 unit	103	6.400
 NSE-01017 3WL9 111-0AN41-0AA0	**Supports for front and DIN connecting bars**								
	Number of poles	Size							
	3-pole for 3 bars	I		**3WL9 111-0AN41-0AA0**		1	1 unit	103	0.700
		II		**3WL9 111-0AN42-0AA0**		1	1 unit	103	1.350
		III		**3WL9 111-0AN43-0AA0**		1	1 unit	103	2.420
	4-pole for 4 bars	I		**3WL9 111-0AN44-0AA0**		1	1 unit	103	1.200
		II		**3WL9 111-0AN45-0AA0**		1	1 unit	103	2.200
		III		**3WL9 111-0AN46-0AA0**		1	1 unit	103	3.200
 NSE-01015 3WL9 111-0AN23-0AA0	**Rear vertical main connections**								
	Size	Rated current I_n							
	I	Up to 1000 A [2)]		**3WL9 111-0AN15-0AA0**		1	1 unit	103	0.660
		1250 A to 2000 A		**3WL9 111-0AN16-0AA0**		1	1 unit	103	0.870
	II	Up to 2000 A		**3WL9 111-0AN17-0AA0**		1	1 unit	103	1.150
		Up to 2500 A		**3WL9 111-0AN18-0AA0**		1	1 unit	103	1.490
		Up to 3200 A		**3WL9 111-0AN21-0AA0**		1	1 unit	103	2.580
	III	Up to 5000 A		**3WL9 111-0AN22-0AA0**		1	1 unit	103	6.380
		Up to 6300 A, 3 busbar connection pieces for 3-pole circuit breakers		**3WL9 111-0AN23-0AA0**		1	1 unit	103	19.170
		Up to 6300 A, at top, 4 busbar connection pieces for 4-pole circuit breakers		**3WL9 111-0AN20-0AA0**		1	1 unit	103	18.410
		Up to 6300 A, at bottom, 4 busbar connection pieces for 4-pole circuit breakers		**3WL9 111-0AN10-0AA0**		1	1 unit	103	18.300
	Rear horizontal main connections								
	Size	Rated current I_n							
	I	Up to 1000 A [2)]		**3WL9 111-0AN32-0AA0**		1	1 unit	103	0.630
		1250 A to 2000 A		**3WL9 111-0AN33-0AA0**		1	1 unit	103	0.770
	II	Up to 2000 A		**3WL9 111-0AN34-0AA0**		1	1 unit	103	1.020
		Up to 2500 A		**3WL9 111-0AN35-0AA0**		1	1 unit	103	1.240
		Up to 3200 A		**3WL9 111-0AN36-0AA0**		1	1 unit	103	2.170
	III	Up to 5000 A		**3WL9 111-0AN37-0AA0**		1	1 unit	103	3.860
 NSE-01016 3WL9 111-0AN24-0AA0	**Connecting flanges**								
	Size	Rated current I_n							
	I	Up to 1000 A [2)]		**3WL9 111-0AN24-0AA0**		1	1 unit	103	0.610
		1250 A to 2000 A		**3WL9 111-0AN25-0AA0**		1	1 unit	103	0.640
	II	Up to 2000 A		**3WL9 111-0AN26-0AA0**		1	1 unit	103	0.980
		Up to 2500 A		**3WL9 111-0AN27-0AA0**		1	1 unit	103	1.020
		Up to 3200 A		**3WL9 111-0AN28-0AA0**		1	1 unit	103	1.310
	III	Up to 4000 A		**3WL9 111-0AN31-0AA0**		1	1 unit	103	2.370

[1)] When using front-accessible mains connections (withdrawable circuit breakers) supports are required.

[2)] Not for 3WL size I with high breaking capacity H

* You can order this quantity or a multiple thereof.

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	Designation		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
									kg
Conversion sets									
	Conversion set for converting fixed-mounted circuit breakers into withdrawable circuit breakers Guide frames and sliding contact modules must be ordered separately.								
	Number of poles	Size							
	3-pole	I		**3WL9 111-0BC11-0AA0**		1	1 unit	103	5.100
		II		**3WL9 111-0BC12-0AA0**		1	1 unit	103	5.900
		III		**3WL9 111-0BC13-0AA0**		1	1 unit	103	8.100
	4-pole	I		**3WL9 111-0BC14-0AA0**		1	1 unit	103	6.400
		II		**3WL9 111-0BC15-0AA0**		1	1 unit	103	6.450
		III		**3WL9 111-0BC16-0AA0**		1	1 unit	103	10.700
Main contact elements									
	**Main contact elements**								
	Size	$I_{n\,max}$							
	I	Up to 1600 A		**3WL9 111-0AM90 L1Y**[1)]		1	1 unit	103	2.800
	II	Up to 2500 A		**3WL9 111-0AM91 L1Y**[1)]		1	1 unit	103	5.870
	II	Up to 4000 A		**3WL9 111-0AM92 L1Y**[1)]		1	1 unit	103	7.700
	III	Up to 6300 A		**3WL9 111-0AM93 L1Y**[1)]		1	1 unit	103	13.740
	Notes								
	• The circuit breaker ID No. must be specified when ordering • Specified for each connection (depending on the number of poles on the circuit breaker, order 3 or 4 units) • Order No. is automatically adapted to the circuit breaker ID number								

1) Please specify the circuit breaker ID No. in plain text when ordering.

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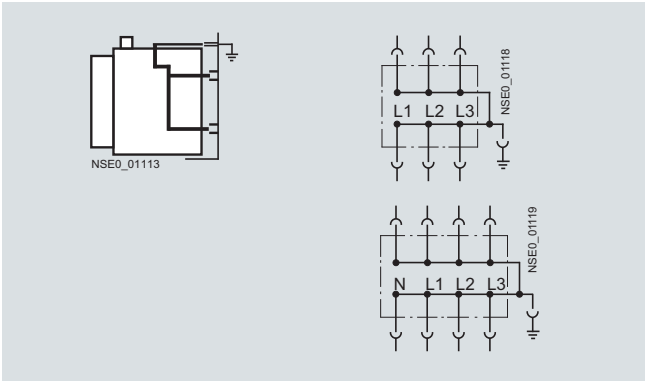
Air Circuit Breakers

3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC

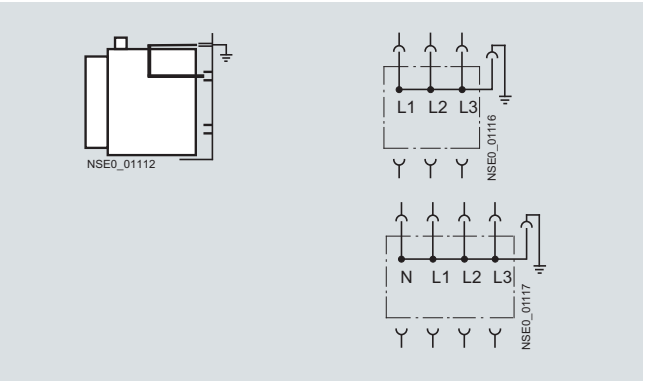
Accessories and spare parts

Version	Size	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Withdrawable short-circuiting, grounding and bridging units								
Withdrawable short-circuiting, grounding and bridging units Top and bottom system components are short-circuited and grounded.								
Number of poles: 3-pole	Rated current I_n: Up to 1600 A	I	**3WL9 111-0BD01-0AA0**		1	1 unit	103	30.000
	Up to 3200 A	II	**3WL9 111-0BD03-0AA0**		1	1 unit	103	40.500
	Up to 6300 A	III	**3WL9 111-0BD05-0AA0**		1	1 unit	103	65.000
4-pole	Up to 1600 A	I	**3WL9 111-0BD02-0AA0**		1	1 unit	103	35.000
	Up to 3200 A	II	**3WL9 111-0BD04-0AA0**		1	1 unit	103	46.000
	Up to 6300 A	III	**3WL9 111-0BD06-0AA0**		1	1 unit	103	70.000

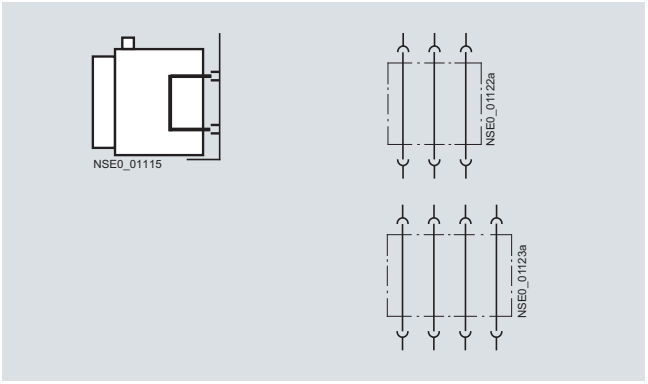
Conversion for the following applications is possible



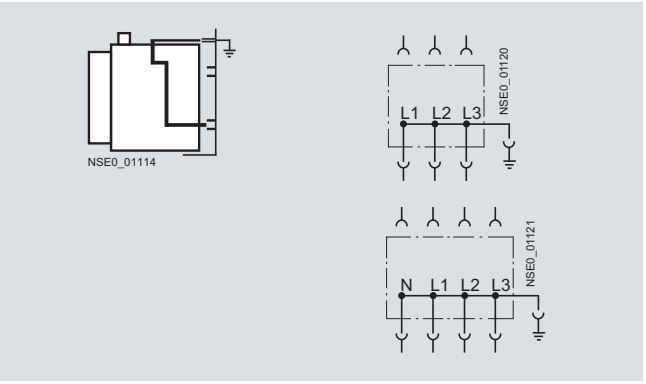
Top and bottom system components are short-circuited and grounded (as-supplied state)



Top system component is short-circuited and grounded, infeed from bottom



Withdrawable bridging unit, infeed and outgoing sides are permanently connected to each other



Bottom system component is short-circuited and grounded, infeed from top

* You can order this quantity or a multiple thereof.

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Options

Structure of the Order No.

3WL1 2 2 0 – 4 N G 3 1 – 1 F A 2

Example

5th position:	Size	Size II
6th and 7th positions:	Max. rated circuit breaker current $I_{n\,max}$	$I_{n\,max}$ = 2000 A
8th position:	Breaking capacity class	High breaking capacity "H": 100 kA
9th position:	Electronic Trip Units	ETU76B with graphics display
		...
10th position:	Electronic Trip Unit supplement	... with ground-fault protection
11th position:	Number of poles	Three-pole
12th position:	Installation type	Fixed-mounted, main connections on rear, vertical
13th position:	Operating mechanisms	Manual operating mechanism with mechanical closing
14th position:	1st auxiliary release	Shunt release 50/60 Hz 110 V AC
15th position:	2nd auxiliary release	Without 2nd auxiliary release
16th position:	Auxiliary switches	2 NO contacts + 2 NC contacts

An important prerequisite for computer-based order processing is that order numbers must be structured according to standardized criteria.

They are used as an unambiguous means of communication for various purposes:

- Offer processing
  Selection and configuration
- Order processing
  Orders
  Order confirmation
  Processing of products for storage
  Order processing in supply locations
  Supply and dispatch
- Reporting and planning
- Service and warranty

The standardized structure ensures that only one Order No. has to be administered for one device.

This saves time and effort during planning, configuring, ordering and in stock keeping, and consequently above all it saves costs.

The example opposite explains the various positions within an Order No.

Accessories: with first order (components are already mounted)

Example

3WL1 2 1 6 – 4 J G 3 1 – 1 F A 3 – Z F 0 2

"–Z" with order code

Communications interface
"Standard" + Breaker Status Sensor (BSS)
+ communication module COM15 for connection to PROFIBUS DP

Z F 0 2

Additional accessory components can be ordered ready-mounted.

These supplements are identified by **"–Z"**.

Even with additional components, one Order No. is sufficient.

Accessories: for retrofitting (components for subsequent fitting)

Example

3WL9 1 1 1 – 0 B A 2 1 – 0 A A 0

Interlocking set for mechanical ON/OFF without lock

Additional accessories which are not intended to be ready-mounted in the factory, such as spare parts for storage, can also be ordered separately from the circuit breaker.

Accessories for retrofitting are identified by the Order No. stem 3WL9.

Documentation

Operating manual	German/English	Order No.	**3ZX18 12-0WL00-0AN1**
Complete set	French/Italian	Order No.	**3ZX18 12-0WL00-0AJ1**
	Spanish/Portuguese	Order No.	**3ZX18 12-0WL00-0AL1**
PROFIBUS manual	German	Order No.	**A5E0151347**
Communication	English	Order No.	**A5E0151353**
MODBUS manual	German	Order No.	**3ZX10 12-0WL10-1AB1**
Communication	English	Order No.	**3ZX10 12-0WL10-1AC1**

Delivery time class C
On request
On request

Free download of documentation from
www.siemens.com/lowvoltage/manuals

More information

Up-to-date information on the Internet at:
www.siemens.com/sentron

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Air Circuit Breakers

3WL Non-Automatic Air Circuit Breakers up to 4000 A (DC)

3- and 4-pole, fixed-mounted versions

Selection and ordering data

For general data see page 1/8.

Size	Max. rated circuit breaker current $I_{n\ max.}$	DT	3-pole non-automatic air circuit breakers (DC) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A							kg
Horizontal main circuit connection								
II	1000		**3WL12 10-8□□32-□□□□**		1	1 unit	103	56.000
	2000		**3WL12 20-8□□32-□□□□**		1	1 unit	103	56.000
	4000[1]		**3WL12 40-8□□32-□□□□**		1	1 unit	103	64.000
Vertical main circuit connection								
II	1000		**3WL12 10-8□□31-□□□□**		1	1 unit	103	56.000
	2000		**3WL12 20-8□□31-□□□□**		1	1 unit	103	56.000
	4000[1]		**3WL12 40-8□□31-□□□□**		1	1 unit	103	85.000
Front main circuit connection, single hole								
II	1000		**3WL12 10-8□□33-□□□□**		1	1 unit	103	56.000
	2000		**3WL12 20-8□□33-□□□□**		1	1 unit	103	56.000
Front main circuit connection, double hole								
II	1000		**3WL12 10-8□□34-□□□□**		1	1 unit	103	56.000
	2000		**3WL12 20-8□□34-□□□□**		1	1 unit	103	56.000

Options			Add. price
Non-automatic air circuit breakers[2]	without Electronic Trip Units	**AA**	**None**
Operating mechanisms	Manual operating mechanism with mechanical closing	**1AA2**	**None**
	For further Order No. supplements see page 1/37		

Size	Max. rated circuit breaker current $I_{n\ max.}$	DT	4-pole non-automatic air circuit breakers (DC) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A							kg
Horizontal main circuit connection								
II	1000		**3WL12 10-8□□42-□□□□**		1	1 unit	103	67.000
	2000		**3WL12 20-8□□42-□□□□**		1	1 unit	103	67.000
	4000[1]		**3WL12 40-8□□42-□□□□**		1	1 unit	103	77.000
Vertical main circuit connection								
II	1000		**3WL12 10-8□□41-□□□□**		1	1 unit	103	75.000
	2000		**3WL12 20-8□□41-□□□□**		1	1 unit	103	75.000
	4000[1]		**3WL12 40-8□□41-□□□□**		1	1 unit	103	103.000
Front main circuit connection, single hole								
II	1000		**3WL12 10-8□□43-□□□□**		1	1 unit	103	67.000
	2000		**3WL12 20-8□□43-□□□□**		1	1 unit	103	67.000
Front main circuit connection, double hole								
II	1000		**3WL12 10-8□□44-□□□□**		1	1 unit	103	67.000
	2000		**3WL12 20-8□□44-□□□□**		1	1 unit	103	67.000

Options			Add. price
Non-automatic air circuit breakers[2]	without Electronic Trip Units	**AA**	**None**
Operating mechanisms	Manual operating mechanism with mechanical closing	**1AA2**	**None**
	For further Order No. supplements see page 1/37		

Add "**-Z**" to the complete Order No. and indicate the appropriate order code(s).

3WL12.0-8....-....-Z
□ □ □

Condition	Size	Rated current I_n				Additional price 3-pole	Additional price 4-pole
Rated voltage 1000 V DC	II	Up to 2000 A	**A**	**0**	**5**	✓	✓
		Up to 4000 A	**A**	**0**	**5**	✓	✓

Note

For voltages over 600 V use the version for 1000 V DC rated voltage: Order with "-Z" and order code "A05".

All other accessory parts must be ordered by specifying "-Z" and the corresponding order code, see "3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC", "Options", page 1/38 onwards.

An external overload and short-circuit protection device is available from the company "mat" for the 3WL non-automatic air circuit breakers.

Available only directly from the company mat – Maschinen- und Anlagentechnik (for address see page 1/68).

✓ Additional price

[1] Provisions to dissipate heat must be made on the line side.

[2] For permissible rated short-time current I_{cw} and short-circuit breaking capacity I_{cc} for non-automatic air circuit breakers, see page 1/5.

* You can order this quantity or a multiple thereof.

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Selection and ordering data

Size	Max. rated circuit breaker current $I_{n\ max.}$	DT	3-pole non-automatic air circuit breakers (DC) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A							kg
Without guide frames (for guide frames, see page 1/69)								
II	1000		**3WL12 10-8□□35-□□□□**		1	1 unit	103	60.000
	2000		**3WL12 20-8□□35-□□□□**		1	1 unit	103	60.000
	4000[1]		**3WL12 40-8□□35-□□□□**		1	1 unit	103	68.000
With guide frames, horizontal main circuit connection								
II	1000		**3WL12 10-8□□36-□□□□**		1	1 unit	103	91.000
	2000		**3WL12 20-8□□36-□□□□**		1	1 unit	103	91.000
	4000[1]		**3WL12 40-8□□36-□□□□**		1	1 unit	103	113.000
With guide frames, vertical main circuit connection								
II	1000		**3WL12 10-8□□37-□□□□**		1	1 unit	103	91.000
	2000		**3WL12 20-8□□37-□□□□**		1	1 unit	103	91.000
	4000[1]		**3WL12 40-8□□37-□□□□**		1	1 unit	103	121.000
With guide frames, connecting flanges								
II	1000		**3WL12 10-8□□38-□□□□**		1	1 unit	103	91.000
	2000		**3WL12 20-8□□38-□□□□**		1	1 unit	103	91.000
	4000[1]		**3WL12 40-8□□38-□□□□**		1	1 unit	103	113.000

Options				Add. price
Non-automatic air circuit breakers[2]	without Electronic Trip Units	**AA**		**None**
Operating mechanisms	Manual operating mechanism with mechanical closing		**1AA2**	**None**
	For further Order No. supplements see page 1/37			

Add "**-Z**" to the complete Order No. and indicate the appropriate order code(s).			**3WL12.0-8..3.-....-Z** □ □ □	Additional price 3-pole
Condition	Size	Rated current I_n		
Rated voltage 1000 V DC	II[4]	Up to 2000 A	**A 0 5**	✓
		Up to 4000 A	**A 0 5**	✓
Tinned version of the customer's connections on the guide frame[3] Only for circuit breakers in withdrawable version with horizontal connection or flange connection. The normal delivery time increases to 15 work days.	II		**A 0 8**	✓

Note

For voltages over 600 V use the version for 1000 V DC rated voltage: Order with "-Z" and order code "A05".

All other accessory parts must be ordered by specifying "-Z" and the corresponding order code, see "3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC", "Options", page 1/38 onwards.

An external overload and short-circuit protection device is available from the company "mat" for the 3WL non-automatic air circuit breakers.

Available only directly from the company mat – Maschinen- und Anlagentechnik (for address see page 1/68).

✓ Additional price

1) Provisions to dissipate heat must be made on the line side.

2) For permissible rated short-time current I_{cw} and short-circuit breaking capacity I_{cc} for non-automatic air circuit breakers, see page 1/5.

3) The permissible temperature-rise limits according to IEC 60947-2 are 5 K lower for a tin surface than for a silver surface.

4) If ordering withdrawable circuit breaker and guide frame separately, specify order code "A05" for withdrawable circuit breaker and guide frame.

* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Non-Automatic Air Circuit Breakers up to 4000 A (DC)

3- and 4-pole, withdrawable versions

Selection and ordering data

Size	Max. rated circuit breaker current $I_{n\ max.}$	DT	4-pole non-automatic air circuit breakers (DC) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A							kg
Without guide frames (for guide frames, see page 1/69)								
II	1000		**3WL12 10-8□□45-□□□□**		1	1 unit	103	75.000
	2000		**3WL12 20-8□□45-□□□□**		1	1 unit	103	75.000
	4000[1]		**3WL12 40-8□□45-□□□□**		1	1 unit	103	82.000
With guide frames, horizontal main circuit connection								
II	1000		**3WL12 10-8□□46-□□□□**		1	1 unit	103	109.000
	2000		**3WL12 20-8□□46-□□□□**		1	1 unit	103	109.000
	4000[1]		**3WL12 40-8□□46-□□□□**		1	1 unit	103	136.000
With guide frames, vertical main circuit connection								
II	1000		**3WL12 10-8□□47-□□□□**		1	1 unit	103	109.000
	2000		**3WL12 20-8□□47-□□□□**		1	1 unit	103	109.000
	4000[1]		**3WL12 40-8□□47-□□□□**		1	1 unit	103	146.000
With guide frames, connecting flanges								
II	1000		**3WL12 10-8□□48-□□□□**		1	1 unit	103	109.000
	2000		**3WL12 20-8□□48-□□□□**		1	1 unit	103	109.000
	4000[1]		**3WL12 40-8□□48-□□□□**		1	1 unit	103	136.000

Options			Add. price
Non-automatic air circuit breakers[2]	without Electronic Trip Units	**AA**	**None**
Operating mechanisms	Manual operating mechanism with mechanical closing	**1AA2**	**None**
	For further Order No. supplements see page 1/37		

Add "**-Z**" to the complete Order No. and indicate the appropriate order code(s).			**3WL12.0-8..4.-....-Z** □ □ □	Additional price 4-pole
Condition	Size	Rated current I_n		
Rated voltage 1000 V DC	II[4]	Up to 2000 A	**A 0 5**	✓
		Up to 4000 A	**A 0 5**	✓
Tinned version of the customer's connections on the guide frame[3] Only for circuit breakers in withdrawable version with horizontal connection or flange connection. The normal delivery time increases to 15 work days.	II		**A 0 8**	✓

Note

For voltages over 600 V use the version for 1000 V DC rated voltage: Order with "-Z" and order code "A05".

All other accessory parts must be ordered by specifying "-Z" and the corresponding order code, see "3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC", "Options", page 1/38 onwards.

An external overload and short-circuit protection device is available from the company "mat" for the 3WL non-automatic air circuit breakers.

Available only directly from the company mat – Maschinen- und Anlagentechnik[5].

✓ Additional price

1) Provisions to dissipate heat must be made on the line side.

2) For permissible rated short-time current I_{cw} and short-circuit breaking capacity I_{cc} for non-automatic air circuit breakers, see page 1/5.

3) The permissible temperature-rise limits according to IEC 60947-2 are 5 K lower for a tin surface than for a silver surface.

4) If ordering withdrawable circuit breaker and guide frame separately, specify order code "A05" for withdrawable circuit breaker and guide frame.

5) **mat – Maschinen- und Anlagentechnik**
Dr. Becker GmbH
Rudolf-Diesel-Straße 22
22941 Bargteheide
Tel.: +49 (45 32) 20-2101
Fax: +49 (45 32) 20-2121
E-mail: info@m-a-t.de
Internet: www.m-a-t.de

* You can order this quantity or a multiple thereof.

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Selection and ordering data

Guide frames for DC non-automatic air circuit breakers

Size	Max. rated circuit breaker current $I_{n\,max}$	DT	Guide frames for 3-pole non-automatic air circuit breakers Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A							kg
Front main circuit connection, single hole								
II	2000		**3WL9 212-3DA□□-□□A1**		1	1 unit	103	31.000
Front main circuit connection, double hole								
II	2000		**3WL9 212-3DB□□-□□A1**		1	1 unit	103	31.000
Horizontal main circuit connection								
II	2000		**3WL9 212-3DC□□-□□A1**		1	1 unit	103	31.000
	4000		**3WL9 212-6DC□□-□□A1**		1	1 unit	103	60.000
Vertical main circuit connection								
II	2000		**3WL9 212-3DD□□-□□A1**		1	1 unit	103	31.000
	4000		**3WL9 212-6DD□□-□□A1**		1	1 unit	103	60.000
Main circuit connection connecting flanges								
II	2000		**3WL9 212-3DE□□-□□A1**		1	1 unit	103	31.000
	4000		**3WL9 212-6DE□□-□□A1**		1	1 unit	103	60.000

Options						Add. price 3-pole
Number of auxiliary supply connectors	Without	**0**				**None**
	1 connector	**1**				✓
	2 connectors	**2**				✓
	3 connectors	**3**				✓
	4 connectors	**4**				✓
Note						
For required number of auxiliary supply connectors, see table on page 1/44.						
Type of auxiliary circuit connections	Without		**0**			**None**
	With screw connection (SIGUT, standard)		**1**			✓
	With screwless connection method (tension spring)		**2**			✓
Position signaling switches	Without			**0**		**None**
	Option 1: Connected position 1 CO, test position 1 CO, disconnected position 1 CO			**1**		✓
	Option 2: Connected position 3 CO, test position 2 CO, disconnected position 1 CO			**2**		✓
Shutters	Without				**A**	**None**
	With shutter, 2-part, lockable				**B**	✓

	Add "**-Z**" to the complete Order No. and indicate the appropriate order code(s).	**3WL9212-.....-..A1-Z** □ □ □	Additional price
Rated voltage 1000 V DC			
Size II		**A 0 5**	✓
Tinned version of the customer's connections on the guide frame[1)] Only for guide frames with horizontal connection or flange connection			
Size II		**A 0 8**	✓
Notes			
• For guide frames for 4-pole DC non-automatic air circuit breakers see the following page. • All other accessory parts must be ordered by specifying "–Z" and the corresponding order code, see "3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC", "Options", page 1/38 onwards.			

✓ Additional price

1) The permissible temperature-rise limits according to IEC 60947-2 are 5 K lower for a tin surface than for a silver surface.

* You can order this quantity or a multiple thereof.

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Air Circuit Breakers

3WL Non-Automatic Air Circuit Breakers up to 4000 A (DC)

Accessories and spare parts

Size	Max. rated circuit breaker current $I_{n\,max}$	DT	Guide frames for 4-pole non-automatic air circuit breakers Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A							kg
Front main circuit connection, single hole								
II	2000		**3WL9 212-3EA□□-□□A1**		1	1 unit	103	37.000
Front main circuit connection, double hole								
II	2000		**3WL9 212-3EB□□-□□A1**		1	1 unit	103	37.000
Horizontal main circuit connection								
II	2000		**3WL9 212-3EC□□-□□A1**		1	1 unit	103	37.000
II	4000		**3WL9 212-6EC□□-□□A1**		1	1 unit	103	84.000
Vertical main circuit connection								
II	2000		**3WL9 212-3ED□□-□□A1**		1	1 unit	103	37.000
II	4000		**3WL9 212-6ED□□-□□A1**		1	1 unit	103	84.000
Main circuit connection connecting flanges								
II	2000		**3WL9 212-3EE□□-□□A1**		1	1 unit	103	37.000
II	4000		**3WL9 212-6EE□□-□□A1**		1	1 unit	103	84.000

Options			Add. price 4-pole
Number of auxiliary supply connectors	Without	**0**	**None**
	1 connector	**1**	✓
	2 connectors	**2**	✓
	3 connectors	**3**	✓
	4 connectors	**4**	✓
Note			
For required number of auxiliary supply connectors, see table on page 1/44.			
Type of auxiliary circuit connections	Without	**0**	**None**
	With screw connection (SIGUT, standard)	**1**	✓
	With screwless connection method (tension spring)	**2**	✓
Position signaling switches	Without	**0**	**None**
	Option 1: Connected position 1 CO, test position 1 CO, disconnected position 1 CO	**1**	✓
	Option 2: Connected position 3 CO, test position 2 CO, disconnected position 1 CO	**2**	✓
Shutters	Without	**A**	**None**
	With shutter, 2-part, lockable	**B**	✓

	Add "**-Z**" to the complete Order No. and indicate the appropriate order code(s).	**3WL9212-.....-..A1-Z** □ □ □	Additional price
Rated voltage 1000 V DC			
Size II		**A 0 5**	✓
Tinned version of the customer's connections on the guide frame[1)] Only for guide frames with horizontal connection or flange connection			
Size II		**A 0 8**	✓
Notes			
• For guide frames for 3-pole DC non-automatic air circuit breakers see previous page. • All other accessory parts must be ordered by specifying "–Z" and the corresponding order code, see "3WL Air Circuit Breakers/Non-Automatic Air Circuit Breakers up to 6300 A (AC), IEC", "Options", page 1/38 onwards.			

✓ Additional price

1) The permissible temperature-rise limits according to IEC 60947-2 are 5 K lower for a tin surface than for a silver surface.

* You can order this quantity or a multiple thereof.

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Molded Case Circuit Breakers



2/2 **Introduction**

3VL molded case circuit breakers up to 1600 A, IEC
2/8 Introduction
2/12 3-pole
2/36 4-pole
2/57 Options
2/61 Accessories and spare parts

Ch. 12 **3KC ATC5300 transfer control devices**

For further technical product information:

Service&Support portal:
www.siemens.com/lowvoltage/technical-support

→ Product list:
Technical specifications

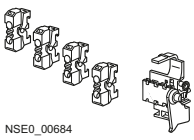
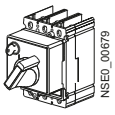
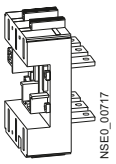
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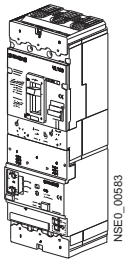
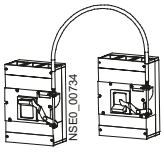
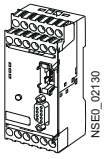
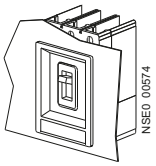
2

Introduction

Overview

Devices		Page	Applications/ Individual components	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
	**3VL molded case circuit breakers for system protection** **3VL molded case circuit breakers for generator protection**	2/12 ... 2/27, 2/36 ... 2/53	The overload and short-circuit releases are designed for the protection of cables, leads and non-motor loads. The overload and short-circuit releases can be used for optimized protection of generators.	IEC 60947-1, EN 60947-1, IEC 60947-2, EN 60947-2.	✓	✓	✓
	**3VL molded case circuit breakers for motor protection**	2/28 ... 2/31	Circuit breakers for motor protection are specifically designed for the characteristic curve of the motor, and have additional functions such as phase failure detection and adjustable trip class.	IEC 60947-1, EN 60947-1, IEC 60947-2, EN 60947-2.	✓	✓	✓
	**3VL molded case circuit breakers for starter protection**	2/32, 2/33	Starter combinations consist of: Motor starter protector + contactor + overload relay. The motor starter protector provides short-circuit protection and the isolating function. The task of the contactor is the operational switching of the feeder. The overload relay provides overload protection, which is specifically designed for the motor.	IEC 60947-1, EN 60947-1, IEC 60947-2, EN 60947-2.	✓	✓	✓
	**3VL non-automatic molded case circuit breakers**	2/32, 2/33, 2/54, 2/55	These circuit breakers are used as feeder circuit breakers, main control switches or disconnectors without overload protection. They have fixed short-circuit releases.	IEC 60947-1, EN 60947-1, IEC 60947-2, EN 60947-2. Isolating features according to IEC 60947-2 and EN 60947-2.	✓	✓	✓
 NSE0_00684	**Auxiliary switches and auxiliary releases for 3VL molded case circuit breakers**	2/61, 2/62	Auxiliary switches, alarm switches, undervoltage releases and shunt releases	As for circuit breakers	✓	✓	✓
 NSE0_00679	**Operating mechanisms**	2/64 ... 2/71	The manual operating mechanisms are available in two versions: • Front-operated rotary operating mechanisms, • Door-coupling rotary operating mechanisms In the case of the motorized operating mechanisms there are also two versions: • MO for standard applications • SEO for network synchronization tasks	As for circuit breakers	✓	✓	✓
 NSE0_00717	**Plug-in versions/ withdrawable versions**	2/72 ... 2/77	Assembly in plug-in and withdrawable versions allows the 3VL molded case circuit breaker to be replaced quickly without accessing the terminals.	As for circuit breakers	✓	✓	✓

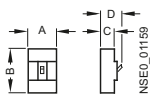
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Devices		Page	Applications/ Individual components	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
 NSE0_00583	**RCD modules**	2/78	Protection of plant and personnel against damage or injury caused by residual currents and insulation faults.	As for circuit breakers	✓	✓	✓
 NSE0_00702	**Connection parts for fixed-mounted circuit breakers**	2/79 ... 2/84	Front connecting bars, rear terminals, box terminals, circular conductor terminals, multiple feed-in terminals, auxiliary conductor terminals, terminal plates, connections with screw terminals, terminal covers for circuit breakers, phase barriers for circuit breakers	As for circuit breakers	✓	✓	✓
 NSE0_00734	**Interlocks**	2/85 ... 2/90	Locking devices for toggle levers, rear interlocking modules, interlocking modules for Bowden wire interlocking	As for circuit breakers	✓	✓	✓
	**40 mm busbar systems and 60 mm busbar systems**	2/91, 2/92	Busbar adapters	As for circuit breakers	✓	✓	✓
 NSE0_02130	**Accessories for communication**	2/93	Data transmission through COM20, COM21: COM20 (PROFIBUS) for releases with communication function, COM21 (MODBUS) for releases with communication function, powerconfig parameterization software	As for circuit breakers	✓	✓	✓
 NSE0_00574	**Further accessories**	2/94 ... 2/97	Masking frames (cover frames) for door cutouts, to increase degree of protection	As for circuit breakers	✓	✓	✓

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Type		VL160X/3VL1		VL160/3VL2		VL250/3VL3		VL400/3VL4	
Molded case circuit breakers									
3VL molded case circuit breakers up to 1600 A									
Rated current I_n at 50 °C ambient temperature	A	16 ... 160		50 ... 160		200 ... 250		200 ... 400	
Number of poles		3	4	3	4	3	4	3	4
Rated operational voltage U_e									
50/60 Hz AC	V	690	690	690	690	690	690	690	690
DC[1]	V	500	500	600	600	600	600	600	600
Overcurrent releases									
Thermal-magnetic		✓	✓	✓	✓	✓	✓	✓	✓
Electronic LCD ETU/ETU		--	--	✓	✓	✓	✓	✓	✓
PROFIBUS module COM20		--	--	✓	✓	✓	✓	✓	✓
Dimensions									
									
A	mm	105	139	105	139	105	139	139	183
B	mm	157	157	175	175	175	175	279	279
C	mm	81	81	81	81	81	81	102	102
D	mm	107	107	107	107	107	107	138	138
Breaking capacity I_{cu}/I_{cs} RMS value according to IEC 60947-2									
Standard breaking capacity N[2] (N)									
Up to 240 V AC	kA	65/65		65/65		65/65		65/65	
Up to 415 V AC	kA	55/55		55/55		55/55		55/55	
Up to 440 V AC	kA	25/20		25/20		25/20		35/26	
Up to 500/525 V AC	kA	18/14		25/20		25/20		25/20	
Up to 690 V AC	kA	8/4[3]		12/6		12/6		15/8	
Up to 250 V DC[4]	kA	30/30		32/32		32/32		32/32	
Up to 500 V DC[4]	kA	--		--		--		--	
Up to 600 V DC[4]	kA	--		--		--		--	
NEMA breaking capacity[5]									
Up to 480 V AC	kA	25		25		25		35	
Up to 600 V AC	kA	8[3]		12		12		20	
High breaking capacity H[2] (H)									
Up to 240 V AC	kA	100/75		100/75		100/75		100/75	
Up to 415 V AC	kA	70/70		70/70		70/70		70/70	
Up to 440 V AC	kA	42/32		50/38		50/38		50/38	
Up to 500/525 V AC	kA	30/23		40/30		40/30		40/30	
Up to 690 V AC	kA	12/6[3]		12/6		12/6		15/8	
Up to 250 V DC[4]	kA	30/30		32/32		32/32		32/32	
Up to 500 V DC[4]	kA	30/30		32/32		32/32		32/32	
Up to 600 V DC[4]	kA	--		--		--		--	
NEMA breaking capacity[5]									
Up to 480 V AC	kA	42		50		50		50	
Up to 600 V AC	kA	12[3]		12		12		20	
Very high breaking capacity L[2] (L)									
Up to 240 V AC	kA	--		200/150		200/150		200/150	
Up to 415 V AC	kA	--		100/75		100/75		100/75	
Up to 440 V AC	kA	--		75/50		75/50		75/50	
Up to 500/525 V AC	kA	--		50/38		50/38		50/38	
Up to 690 V AC	kA	--		12/6		12/6		15/8	
Up to 250 V DC[4]	kA	--		32/32		32/32		32/32	
Up to 500 V DC[4]	kA	--		32/32		32/32		32/32	
Up to 600 V DC[4]	kA	--		32/32		32/32		32/32	
NEMA breaking capacity[5]									
Up to 480 V AC	kA	--		75		75		75	
Up to 600 V AC	kA	--		12		12		20	

✓ Available
-- Not available

[1] Rated DC voltage applies only for circuit breakers with thermal-magnetic release.

For 3VL molded case circuit breakers according to UL 489 see Catalog LV16.

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VL630/3VL5



VL800/3VL6



VL1250/3VL7



VL1600/3VL8



ATC5300

									Transfer control devices
	3VL molded case circuit breakers up to 1600 A								**3KC ATC5300 transfer control devices**
	315 ... 630		800		1000 ... 1250		1600		see chapter "Monitoring devices".
	3	4	3	4	3	4	3	4	
	690 600	690 600	690 --	690 --	690 --	690 --	690 --	690 --	
	✓ ✓ ✓	✓ ✓ ✓	-- ✓ ✓	-- ✓ ✓	-- ✓ ✓	-- ✓ ✓	-- ✓ ✓	-- ✓ ✓	
	190 279 102 138	253 279 102 138	190 406 114 151	253 406 114 151	229 406 152 207	305 406 152 207	229 406 152 207	305 406 152 207	
	65/65 55/55 35/26 25/20 20/10 30/30 -- -- 25 20		65/65 55/55 35/26 25/20 20/10 -- -- -- 25 20		65/35 55/28 35/26 25/20 20/10 -- -- -- 25 20		65/35 55/28 35/26 25/20 20/10 -- -- -- 25 20		
	100/75 70/70 50/38 40/30 20/10 30/30 30/30 -- 50 30		100/75 70/70 50/38 40/30 20/10 -- -- -- 50 30		100/50 70/35 50/38 40/30 30/15 -- -- -- 50 30		100/50 70/35 50/38 40/30 30/15 -- -- -- 50 30		
	200/150 100/75 75/50 50/38 20/10 30/30 30/30 30/30 65 35		200/150 100/75 75/50 50/38 20/10 -- -- -- 65 35		200/100 100/50 75/50 50/38 35/17 -- -- -- 65 35		200/100 100/50 75/50 50/38 35/17 -- -- -- 65 35		

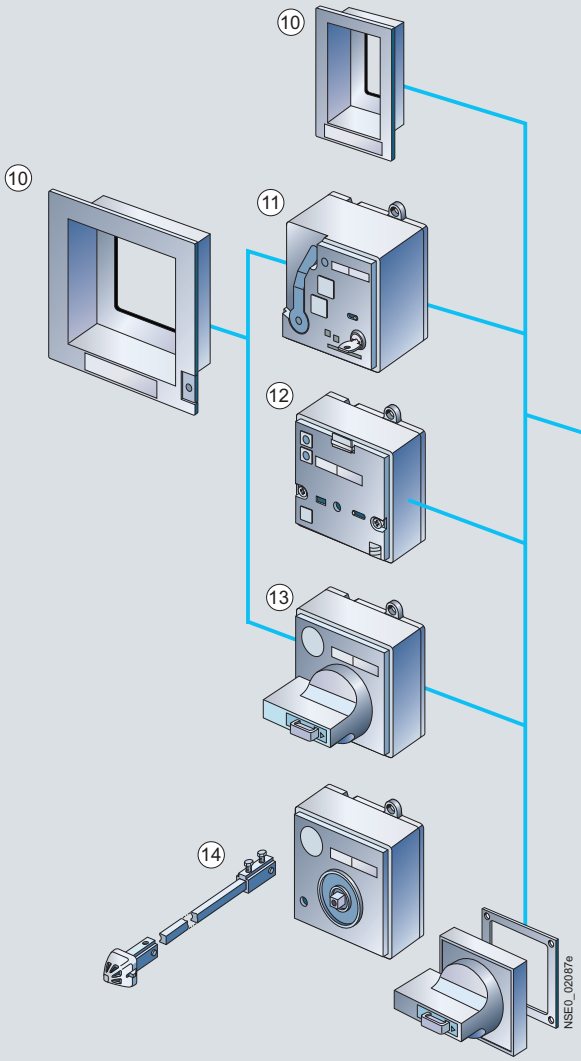
[2] At 240 V AC, 415 V AC and 525 V AC max. 5 % overvoltage, at 440 V AC, 500 V AC and 690 V AC max. 10 % overvoltage, at 250/500/600 V DC max. 5 % overvoltage.

[3] Rated current $I_n \geq$ at 25 A.

[4] The maximum permitted DC voltage for each conducting path needs to be taken into account for DC switching applications; see Technical Information at www.siemens.com/lowvoltage/support; time constant t = 15 ms.

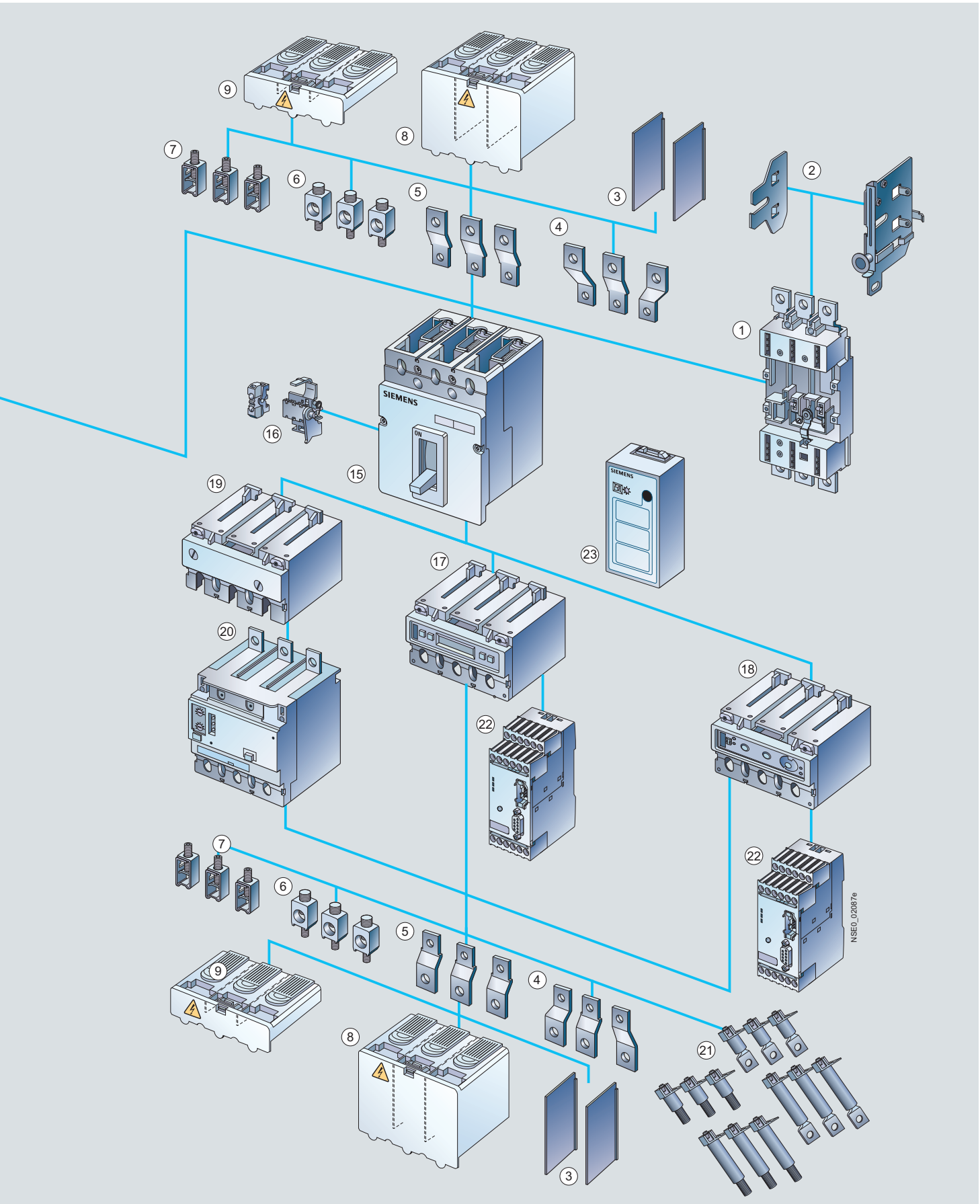
[5] The NEMA breaking capacity can be found on the rating plate of each IEC circuit breaker.

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① Withdrawable/plug-in bases (pages 2/72 to 2/77)
② Side walls of withdrawable unit (pages 2/72 to 2/77)
③ Phase barriers (pages 2/79 to 2/84)
④ Flared front busbar connecting bars (pages 2/79 to 2/84)
⑤ Straight connecting bars (pages 2/79 to 2/84)
⑥ Circular conductor terminals for Al/Cu (pages 2/79 to 2/81)
⑦ Box terminals for Cu (pages 2/79 to 2/84)
⑧ Extended connection covers (terminal covers) (pages 2/79 to 2/84)
⑨ Standard connection covers (pages 2/79 to 2/84)
⑩ Masking frames/cover frames for door cutout (pages 2/94 to 2/97)
⑪ Motorized operating mechanisms with stored energy mechanism (SEO) (page 2/68)
⑫ Motorized operating mechanism (MO) (page 2/68)
⑬ Front-operated rotary operating mechanisms (pages 2/64 to 2/67)
⑭ Door-coupling rotary operating mechanisms (pages 2/64 to 2/67)
⑮ 3VL molded case circuit breakers (pages 2/12 to 2/55)
⑯ Internal accessories (pages 2/59, 2/60, 2/61 to 2/63)
⑰ Electronic Trip Units LCD ETU (pages 2/22, 2/26, 2/30, 2/46 and 2/48)
⑱ Electronic Trip Units with communication function (pages 2/14 to 2/30 and 2/42 to 2/52)
⑲ Thermal/magnetic overcurrent releases (pages 2/12 to 2/14, 2/32, 2/36 to 2/40, 2/54)
⑳ RCD modules (page 2/78)
㉑ Rear terminals – flat and round (pages 2/79 to 2/84)
㉒ COM20/21 communication modules to the PROFIBUS DP/MODBUS (page 2/93)
㉓ Battery power supplies with test function for Electronic Trip Units (pages 2/86 to 2/90)

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Introduction

Benefits

- The compact design of the 3VL molded case circuit breakers coupled with excellent characteristics fulfills the high demands of today's electrical distribution systems.
- These circuit breakers offer a broad product range, improved technology, space savings and easy operation.
- They are available both in thermal-magnetic (16 A to 630 A) and in electronic versions (63 A to 1,600 A).

Communication

The use of modern communication-capable circuit breakers opens up completely new possibilities in terms of start-up, parameterization, diagnostics, maintenance and operation. This allows many different ways of reducing costs and improving productivity in industrial plants, buildings and infrastructure projects to be achieved:

- Fast and reliable parameterization
- Timely information and response can prevent plant stoppages
- Effective diagnostics management

Measured values are the basis for efficient load management, for drawing up power demand profiles and for assigning power to cost centers.

Communication:

- For molded case circuit breakers with communication function see pages 2/14 to 2/30, 2/42 to 2/52.
- For accessories, see page 2/93.
- For more information see also chapters "Measuring Devices and Power Monitoring" and "Software".

Applications

The different versions of 3VL molded case circuit breakers are suitable for the following applications:

- Incoming and outgoing circuit breakers in distribution systems
- Switching and protection devices for motors, transformers and capacitors
- Disconnector units with features for stopping and switching off in an emergency (main control switches and EMERGENCY-STOP switches) in conjunction with lockable rotary operating mechanisms and terminal covers.

The 3VL molded case circuit breakers are available in the following versions:

1. For system protection (in 3- and 4-pole versions)
   The overload and short-circuit releases are designed for the protection of cables, leads and non-motor loads.
2. For motor protection (in 3-pole version)
   The overload and short-circuit releases are designed for optimized protection and direct-on-line starting of induction squirrel-cage motors. The circuit breakers for motor protection are susceptible to phase failure and feature an adjustable trip class. The Electronic Trip Units operate with a microprocessor.
3. For starter combinations (in 3-pole version)
   These circuit breakers are used both for short-circuit protection as well as for isolating functions, which may be required in starter combinations consisting of motor starter protectors, overload relays and motor contactors. These circuit breakers exclusively feature adjustable, instantaneous short-circuit releases.
4. As non-automatic air circuit breakers (in 3- and 4-pole versions)
   These circuit breakers can be used as feeder circuit breakers, main control switches or non-automatic circuit breakers without overload protection. They incorporate an integrated short-circuit self-protection system, eliminating the need for back-up fuses.

Breaking capacity

(N)	Circuit breakers with standard breaking capacity N (I_{cu} up to 55 kA at 415 V)
(H)	Circuit breakers with high breaking capacity H (I_{cu} up to 70 kA at 415 V)
(L)	Circuit breakers with very high breaking capacity L (I_{cu} up to 100 kA at 415 V)
	These breaking capacities are indicated in the corresponding tables by the symbols shown on orange backgrounds.

Standards and specifications

3VL molded case circuit breakers comply with:

IEC 60947-1, EN 60947-1,
IEC 60947-2, EN 60947-2.
Isolating features according to IEC 60947-2, EN 60947-2.

Disconnecting features (main control switches) according to EN 60204-1.
The 3VL molded case circuit breakers comply in addition with requirements for "disconnector units with features for stopping and switching off in an emergency" (EMERGENCY-STOP switches) in conjunction with lockable rotary operating mechanisms (red-yellow) and terminal covers.

Please contact Siemens for details of other standards.

The Electronic Trip Units of the circuit breakers for motor protection also fulfill IEC 60947-4-1.

VL160X to VL400 circuit breakers can be equipped with a 3VL RCD module. They then comply with IEC 60947-2 Appendix B.

The 3VL RCD module complies with IEC 61000-4-2 to IEC 61000-4-6, IEC 61000-4-11 and EN 55011, Class B (equivalent to CISPR 11) with regard to electromagnetic compatibility.

Operating conditions

The 3VL molded case circuit breakers are designed for operation in enclosed areas.

Suitable enclosures must be provided for operation in areas with severe ambient conditions (such as dust, caustic vapors, hazardous gases).

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RCD modules

The RCD module is designed for retrofitting to the circuit breaker. It can also be retrofitted by the customer.

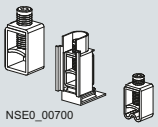
The combination of 3VL molded case circuit breaker and RCD module can be fed from the top or bottom.

All 3VL molded case circuit breakers with RCD modules are available with auxiliary switches, alarm switches, undervoltage and shunt releases.

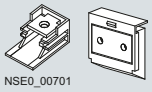
Protection of plant and equipment against overload or damage by ground faults (ground-fault protection).

The RCD module trips the circuit breaker through vectorial summation current formation for all phase currents if the vectorial sum of the currents in the poles (= the ground fault current) overshoots the pre-set response and delay time values. AC currents and pulsating DC currents are measured (CBR, design A according to EN 60947-2).

Main connections, basic equipment and options



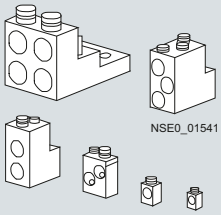
Box terminal
(for copper cables or solid/ flexible busbars)



Connection with screw terminal (available with direct cable lug connection on VL160X, VL160, VL250, VL400)



Connection to front busbar connecting bars (screw terminal required)



Circular conductor terminals multiple feed-in terminal (for Al/Cu terminal)

Main connections (for conductor cross-sections see below)

Circuit breakers	Connection overview and further options				
	Box terminals	Screw terminals with metric thread for flat connection	Circular conductor terminal/multiple feed-in terminals	Rear terminals	Front-accessible connecting bars
VL160X	□	□	×	×	×
VL160	□	□	×	×	×
VL250	□	□	×	×	×
VL400	×	○	×[2)3)]	×	×
VL630	×[1)]	○	×[2)]	×	×
VL800	--	○	×[2)]	×	×
VL1250	--	○	×[2)]	×	×
VL1600	--	×	--	×	○

○ Scope of supply
□ Optional scope of supply
× Available
-- Not available

1) Connecting terminal plate for flexible busbar; not for 690 V AC/600 V DC.
2) Multiple feed-in terminal
3) Circular conductor terminal also available.

Conductor cross-sections

Type			VL160X 3VL1	VL160 3VL2	VL250 3VL3	VL400 3VL4	VL630 3VL5	VL800 3VL6	VL1250 3VL7	VL1600 3VL8
Conductor cross-sections										
Box terminals[1)]										
• Solid or stranded cable	Copper only	mm^2	2.5 ... 95	2.5 ... 95	25 ... 185	50 ... 300	--	--	--	--
• Finely stranded with end sleeve		mm^2	2.5 ... 50	2.5 ... 50	25 ... 120	50 ... 240	--	--	--	--
• Flexible busbar		mm	12 × 10	12 × 10	17 × 10	25 × 10	--	--	--	--
Connecting terminal plate for flexible busbar[2)]		mm	--	--	--	--	2 units 10 × 32	--	--	--
Circular conductor terminal for cable[1)]										
• Solid or stranded cable	Cu or Al	mm^2	16 ... 70	16 ... 70	25 ... 185	50 ... 300	--	--	--	--
- with terminal cover	Cu or Al	mm^2	16 ... 150	16 ... 150	120 ... 240	--	--	--	--	--
• Finely stranded with end sleeve		mm^2	10 ... 50	10 ... 50	25 ... 120	50 ... 240	--	--	--	--
Multiple feed-in terminal[1)]										
• Solid or stranded cable	Cu or Al	mm^2	--	--	--	2 units 50 ... 120	2 units 50 ... 240	3 units 50 ... 240	4 units 50 ... 240	--
- with terminal cover	Cu or Al	mm^2	--	--	--	2 units 70 ... 300	--	--	--	--
• Finely stranded with end sleeve		mm^2	--	--	--	2 units 50 ... 95	2 units 50 ... 185	3 units 50 ... 185	4 units 50 ... 185	--
• Direct connection of busbars	Cu or Al	mm	17 × 7	22 × 7	24 × 7	32 × 10	40 × 10	2 × 40 × 10	2 × 50 × 10	3 × 60 × 10
• Screw for connection with screw terminal			M6	M6	M8	M8	M6	M8	M8	--
Conductor cross-sections for control circuits with terminal connection										
Screw terminals										
• Solid		mm^2	0.75 ... 1.5	0.75 ... 1.5	0.75 ... 1.5	0.75 ... 1.5	0.75 ... 1.5	0.75 ... 1.5	0.75 ... 1.5	0.75 ... 1.5
• Finely stranded with end sleeve		mm^2	0.75 ... 1.0	0.75 ... 1.0	0.75 ... 1.0	0.75 ... 1.0	0.75 ... 1.0	0.75 ... 1.0	0.75 ... 1.0	0.75 ... 1.0
For details see Mounting Instruction.										

1) Cross-sections according to IEC 60999.
2) Not for 690 V AC/600 V DC.

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VL160 to VL1600 Electronic Trip Units – Functional overview

Order No. supplement	Releases	System protection	System/generator protection	Motor protection	Starter protection	Non-automatic circuit breakers	Function	Setting options					
								L	S[1]		I[1]	G	
								Overload protection	Short-circuit protection (short-time delayed)		Short-circuit protection (instantaneous)	Ground-fault protection	
								I_r = × I_n	I_{sd} = × I_r	t_{sd} [s]	I_i = × I_n	I_g = × I_n	t_g [s]
DK	M	--	--	--	✓	--	I	--	--	--	7 ... 15	--	--
DE	M	--	--	--	--	✓	I	--	--	--	8 ... 18	--	--
EE	M	--	--	--	--	✓	I	--	--	--	8 ... 18	--	--
DA	TM[2]	✓	--	--	--	--	LI	1	--	--	9 ... 18[4]	--	--
DD	TM[2]	✓	--	--	--	--	LI	0.8 ... 1	--	--	9 ... 18[4]	--	--
DC	TM[2]	✓	--	--	--	--	LI	0.8 ... 1	--	--	5 ... 10	--	--
EH	TM[2]	✓	--	--	--	--	LI	1	--	--	9 ... 18[4]	--	--
EJ	TM[2]	✓	--	--	--	--	LI	0.8 ... 1	--	--	5 ... 10	--	--
EA/EL	TM[2]	✓	--	--	--	--	LIN	1	--	--	9 ... 18[4]	--	--
EC	TM[2]	✓	--	--	--	--	LIN	0.8 ... 1	--	--	5 ... 10	--	--
EM	TM[2]	✓	--	--	--	--	LIN	0.8 ... 1	--	--	5 ... 10	--	--
SP	ETU10M[3]	--	--	✓	--	--	LI	0.4 ... 1	--	--	1.25 ... 11	--	--
MP	ETU10M[3]	--	--	✓	--	--	LI	0.4 ... 1	--	--	1.25 ... 11	--	--
SB	ETU10	✓	--	--	--	--	LI	0.4 ... 1	--	--	1.25 ... 11	--	--
MB	ETU10	✓	--	--	--	--	LI	0.4 ... 1	--	--	1.25 ... 11	--	--
LB	ETU10	✓	--	--	--	--	LI	0.4 ... 1	--	--	1.25 ... 11	--	--
TA	ETU10	✓	--	--	--	--	LIN	0.4 ... 1	--	--	1.25 ... 11	--	--
NA	ETU10	✓	--	--	--	--	LIN	0.4 ... 1	--	--	1.25 ... 11	--	--
LA	ETU10	✓	--	--	--	--	LIN	0.4 ... 1	--	--	1.25 ... 11	--	--
TB	ETU10	✓	--	--	--	--	LI	0.4 ... 1	--	--	1.25 ... 11	--	--
NB	ETU10	✓	--	--	--	--	LI	0.4 ... 1	--	--	1.25 ... 11	--	--
SL	ETU12	✓	--	--	--	--	LIG	0.4 ... 1	--	--	1.25 ... 11	0.6 ... 1, OFF	0.1 ... 0.3
ML	ETU12	✓	--	--	--	--	LIG	0.4 ... 1	--	--	1.25 ... 11	0.6 ... 1, OFF	0.1 ... 0.3
SF	ETU12	✓	--	--	--	--	LIG	0.4 ... 1	--	--	1.25 ... 11	0.6 ... 1, OFF	0.1 ... 0.3
MF	ETU12	✓	--	--	--	--	LIG	0.4 ... 1	--	--	1.25 ... 11	0.6 ... 1, OFF	0.1 ... 0.3
TN	ETU12	✓	--	--	--	--	LING	0.4 ... 1	--	--	1.25 ... 11	0.6 ... 1, OFF	0.1 ... 0.3
NN	ETU12	✓	--	--	--	--	LING	0.4 ... 1	--	--	1.25 ... 11	0.6 ... 1, OFF	0.1 ... 0.3
SE	ETU20	--	✓	--	--	--	LSI	0.4 ... 1	1.5 ... 10	0 ... 0.5	11	--	--
ME	ETU20	--	✓	--	--	--	LSI	0.4 ... 1	1.5 ... 10	0 ... 0.5	11	--	--
LE	ETU20	--	✓	--	--	--	LSI	0.4 ... 1	1.5 ... 10	0 ... 0.5	11	--	--
TE	ETU20	--	✓	--	--	--	LSI	0.4 ... 1	1.5 ... 10	0 ... 0.5	11	--	--
NE	ETU20	--	✓	--	--	--	LSI	0.4 ... 1	1.5 ... 10	0 ... 0.5	11	--	--
TF	ETU20	--	✓	--	--	--	LSIN	0.4 ... 1	1.5 ... 10	0 ... 0.5	11	--	--
NF	ETU20	--	✓	--	--	--	LSIN	0.4 ... 1	1.5 ... 10	0 ... 0.5	11	--	--
LF	ETU20	--	✓	--	--	--	LSIN	0.4 ... 1	1.5 ... 10	0 ... 0.5	11	--	--
SG	ETU22	--	✓	--	--	--	LSIG	0.4 ... 1	1.5 ... 10	0 ... 0.5	11	0.6 ... 1, OFF	0.1 ... 0.3
MG	ETU22	--	✓	--	--	--	LSIG	0.4 ... 1	1.5 ... 10	0 ... 0.5	11	0.6 ... 1, OFF	0.1 ... 0.3
SH	ETU22	--	✓	--	--	--	LSIG	0.4 ... 1	1.5 ... 10	0 ... 0.5	11	0.6 ... 1, OFF	0.1 ... 0.3
MH	ETU22	--	✓	--	--	--	LSIG	0.4 ... 1	1.5 ... 10	0 ... 0.5	11	0.6 ... 1, OFF	0.1 ... 0.3
TH	ETU22	--	✓	--	--	--	LSING	0.4 ... 1	1.5 ... 10	0 ... 0.5	11	0.6 ... 1, OFF	0.1 ... 0.3
NH	ETU22	--	✓	--	--	--	LSING	0.4 ... 1	1.5 ... 10	0 ... 0.5	11	0.6 ... 1, OFF	0.1 ... 0.3
SS	ETU30M[3]	--	--	✓	--	--	LI	0.4 ... 1	--	--	6/8/11	--	--
MS	ETU30M[3]	--	--	✓	--	--	LI	0.4 ... 1	--	--	6/8/11	--	--
LS	ETU30M[3]	--	--	✓	--	--	LI	0.4 ... 1	--	--	6/8/11	--	--
UP	LCD ETU40M[3]	--	--	✓	--	--	LI	0.4 ... 1	--	--	1.25 ... 11	--	--
UH	LCD ETU40	--	✓	--	--	--	LI, LS, LSI	0.4 ... 1	1.5 ... 10	0 ... 0.5	1.25 ... 11	--	--
UJ	LCD ETU40	--	✓	--	--	--	LI, LSI, LIN, LSIN	0.4 ... 1	1.5 ... 10	0 ... 0.5	1.25 ... 11	--	--
UL	LCD ETU42	--	✓	--	--	--	LSIG	0.4 ... 1	1.5 ... 10	0 ... 0.5	1.25 ... 11	0.4 ... 1	0.1 ... 0.5
UM	LCD ETU42	--	✓	--	--	--	LSIG	0.4 ... 1	1.5 ... 10	0 ... 0.5	1.25 ... 11	0.4 ... 1	0.1 ... 0.5
UN	LCD ETU42	--	✓	--	--	--	LSIG, LSING	0.4 ... 1	1.5 ... 10	0 ... 0.5	1.25 ... 11	0.4 ... 1	0.1 ... 0.5

✓ Function is available.
-- Function not available
1) Size dependent.
2) TM up to I_n = 630 A.
3) Motor protection up to I_n = 500 A.
4) Non-adjustable.

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Order No. supplement	Releases	Thermal image	Phase failure	Communication-capable	Ground-fault protection	Number of poles	N pole protected[1]	I^2t (ON/OFF)	Trip class (t_C)	Time-lag class (t_R)	Thermal-magnetic releases	Magnetic releases	Electronic Trip Unit	LCD display
DK	M	--	--	--	--	3	--	--	--	--	--	✓	--	--
DE	M	--	--	--	--	3	--	--	--	--	--	✓	--	--
EE	M	--	--	--	--	4	--	--	--	--	--	✓	--	--
DA	TM[2]	✓	--	--	--	3	--	--	--	--	✓	--	--	--
DD	TM[2]	✓	--	--	--	3	--	--	--	--	✓	--	--	--
DC	TM[2]	✓	--	--	--	3	--	--	--	--	✓	--	--	--
EH	TM[2]	✓	--	--	--	4	--	--	--	--	✓	--	--	--
EJ	TM[2]	✓	--	--	--	4	--	--	--	--	✓	--	--	--
EA/EL	TM[2]	✓	--	--	--	4	100 %	--	--	--	✓	--	--	--
EC	TM[2]	✓	--	--	--	4	60 %	--	--	--	✓	--	--	--
EM	TM[2]	✓	--	--	--	4	100 %	--	--	--	✓	--	--	--
SP	ETU10M[3]	✓	40 % I_R	--	--	3	--	--	10	--	--	--	✓	--
MP	ETU10M[3]	✓	40 % I_R	✓[4]	--	3	--	--	10	--	--	--	✓	--
SB	ETU10	✓	--	--	--	3	--	--	--	2.5 ... 30	--	--	✓	--
MB	ETU10	✓	--	✓[4]	--	3	--	--	--	2.5 ... 30	--	--	✓	--
LB	ETU10	✓	--	--	--	3	--	--	--	2.5 ... 30	--	--	✓	--
TA	ETU10	✓	--	--	--	4	50/100 %	--	--	2.5 ... 30	--	--	✓	--
NA	ETU10	✓	--	✓[4]	--	4	50/100 %	--	--	2.5 ... 30	--	--	✓	--
LA	ETU10	✓	--	--	--	4	50/100 %	--	--	2.5 ... 30	--	--	✓	--
TB	ETU10	✓	--	--	--	4	--	--	--	2.5 ... 30	--	--	✓	--
NB	ETU10	✓	--	✓[4]	--	4	--	--	--	2.5 ... 30	--	--	✓	--
SL	ETU12	✓	--	--	①	3	--	--	--	2.5 ... 30	--	--	✓	--
ML	ETU12	✓	--	✓[4]	①	3	--	--	--	2.5 ... 30	--	--	✓	--
SF	ETU12	✓	--	--	②	3	--	--	--	2.5 ... 30	--	--	✓	--
MF	ETU12	✓	--	✓[4]	②	3	--	--	--	2.5 ... 30	--	--	✓	--
TN	ETU12	✓	--	--	②	4	50/100 %	--	--	2.5 ... 30	--	--	✓	--
NN	ETU12	✓	--	✓[4]	②	4	50/100 %	--	--	2.5 ... 30	--	--	✓	--
SE	ETU20	✓	--	--	--	3	--	✓	--	--	--	--	✓	--
ME	ETU20	✓	--	✓[4]	--	3	--	✓	--	--	--	--	✓	--
LE	ETU20	✓	--	--	--	3	--	✓	--	--	--	--	✓	--
TE	ETU20	✓	--	--	--	4	--	✓	--	--	--	--	✓	--
NE	ETU20	✓	--	✓[4]	--	4	--	✓	--	--	--	--	✓	--
TF	ETU20	✓	--	--	--	4	50/100 %	✓	--	--	--	--	✓	--
NF	ETU20	✓	--	✓[4]	--	4	50/100 %	✓	--	--	--	--	✓	--
LF	ETU20	✓	--	--	--	4	50/100 %	✓	--	--	--	--	✓	--
SG	ETU22	✓	--	--	①	3	--	✓	--	--	--	--	✓	--
MG	ETU22	✓	--	✓[4]	①	3	--	✓	--	--	--	--	✓	--
SH	ETU22	✓	--	--	②	3	--	✓	--	--	--	--	✓	--
MH	ETU22	✓	--	✓[4]	②	3	--	✓	--	--	--	--	✓	--
TH	ETU22	✓	--	--	②	4	50/100 %	✓	--	--	--	--	✓	--
NH	ETU22	✓	--	✓[4]	②	4	50/100 %	✓	--	--	--	--	✓	--
SS	ETU30M[3]	✓	40 % I_R	--	--	3	--	--	10, 20, 30	--	--	--	✓	--
MS	ETU30M[3]	✓	40 % I_R	✓[4]	--	3	--	--	10, 20, 30	--	--	--	✓	--
LS	ETU30M[3]	✓	40 % I_R	--	--	3	--	--	10, 20, 30	--	--	--	✓	--
UP	LCD ETU40M[3]	✓	5 ... 50 % I_R	✓[4]	--	3	--	--	5, 10, 15, 20, 30	--	--	--	✓	✓
UH	LCD ETU40	✓	--	✓[4]	--	3	--	✓	--	2.5 ... 30	--	--	✓	✓
UJ	LCD ETU40	✓	--	✓[4]	--	4	50 ... 100 %, OFF	✓	--	2.5 ... 30	--	--	✓	✓
UL	LCD ETU42	✓	--	✓[4]	①	3	--	✓	--	2.5 ... 30	--	--	✓	✓
UM	LCD ETU42	✓	--	✓[4]	①/③	3	--	✓	--	2.5 ... 30	--	--	✓	✓
UN	LCD ETU42	✓	--	✓[4]	②	4	50 ... 100 %, OFF	✓	--	2.5 ... 30	--	--	✓	✓

Ground-fault protection
① Vectorial summation current formation (3-conductor system)
② Vectorial summation current formation (4-conductor system)
③ Direct detection of ground-fault current in the neutral point of the transformer

✓ Function is available.
-- Function not available

1) Size dependent.
2) TM up to I_n = 630 A.
3) Motor protection up to I_n = 500 A.
4) With COM20/COM21.

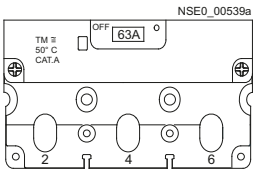
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Selection and ordering data

Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "**L**" I_R	Operating current of the instantaneous short-circuit releases "**I**" I_i	DT**	I_{cu} up to 55 kA at 415 V, standard breaking capacity N See "Overview". Order No. / Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	A							kg

3-pole, fixed-mounted, for system protection, 16 A to 160 A, thermal-magnetic releases LI


NSE0_00695



System protection, TM, LI function

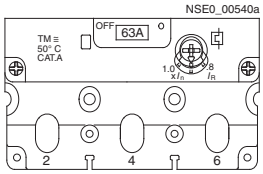
With non-adjustable thermal overcurrent releases, non-adjustable short-circuit releases

	16	16	300	**3VL17 96-1DA3□-□□□□**	1	1 unit	113	1.900
VL160X/	20	20	300	**3VL17 02-1DA3□-□□□□**	1	1 unit	113	1.900
3VL1	25	25	300	**3VL17 25-1DA3□-□□□□**	1	1 unit	113	2.000
	32	32	300	**3VL17 03-1DA3□-□□□□**	1	1 unit	113	2.000
	40	40	600	**3VL17 04-1DA3□-□□□□**	1	1 unit	113	2.000
	50	50	600	**3VL17 05-1DA3□-□□□□**	1	1 unit	113	2.000
	63	63	600	**3VL17 06-1DA3□-□□□□**	1	1 unit	113	2.000
	80	80	1000	**3VL17 08-1DA3□-□□□□**	1	1 unit	113	2.000
	100	100	1000	**3VL17 10-1DA3□-□□□□**	1	1 unit	113	2.000
	125	125	1000	**3VL17 12-1DA3□-□□□□**	1	1 unit	113	2.000
	160	160	1500	**3VL17 16-1DA3□-□□□□**	1	1 unit	113	2.000

Connection type can be selected by assignment of the 12th position of the Order No.

• Connection with box terminal	**3**
• Connection with flat screw terminal not in conjunction with RCD module	**6**


NSE0_00703



System protection, TM, LI function

With adjustable thermal overcurrent releases, non-adjustable short-circuit releases

VL160X/	20	16 ... 20	300	**3VL17 02-1DD3□-□□□□**	1	1 unit	113	1.900
3VL1	32	25 ... 32	300	**3VL17 03-1DD3□-□□□□**	1	1 unit	113	2.000
	40	32 ... 40	600	**3VL17 04-1DD3□-□□□□**	1	1 unit	113	2.000
	50	40 ... 50	600	**3VL17 05-1DD3□-□□□□**	1	1 unit	113	2.000
	63	50 ... 63	600	**3VL17 06-1DD3□-□□□□**	1	1 unit	113	2.000
	80	63 ... 80	1000	**3VL17 08-1DD3□-□□□□**	1	1 unit	113	2.000
	100	80 ... 100	1000	**3VL17 10-1DD3□-□□□□**	1	1 unit	113	2.000
	125	100 ... 125	1000	**3VL17 12-1DD3□-□□□□**	1	1 unit	113	2.000
	160	125 ... 160	1500	**3VL17 16-1DD3□-□□□□**	1	1 unit	113	2.000

Connection type can be selected by assignment of the 12th position of the Order No.

• Connection with box terminal	**3**
• Connection with flat screw terminal not in conjunction with RCD module	**6**

** Delivery time class A for Order No. supplement "0AA0", see page 2/58.

* You can order this quantity or a multiple thereof.

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DT**	I_{cu} up to 70 kA at 415 V, high breaking capacity H					(H)	DT**	I_{cu} up to 100 kA at 415 V, very high breaking capacity L					(L)
	Order No. Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL17 96-2DA3□-□□□□		1	1 unit	113	1.900		**--**					
	3VL17 02-2DA3□-□□□□		1	1 unit	113	1.900		**--**					
	3VL17 25-2DA3□-□□□□		1	1 unit	113	2.000		**--**					
	3VL17 03-2DA3□-□□□□		1	1 unit	113	2.000		**--**					
	3VL17 04-2DA3□-□□□□		1	1 unit	113	2.000		**--**					
	3VL17 05-2DA3□-□□□□		1	1 unit	113	2.000		**--**					
	3VL17 06-2DA3□-□□□□		1	1 unit	113	2.000		**--**					
	3VL17 08-2DA3□-□□□□		1	1 unit	113	2.000		**--**					
	3VL17 10-2DA3□-□□□□		1	1 unit	113	2.000		**--**					
	3VL17 12-2DA3□-□□□□		1	1 unit	113	2.000		**--**					
	3VL17 16-2DA3□-□□□□		1	1 unit	113	2.000		**--**					
	3												
	6												
	3VL17 02-2DD3□-□□□□		1	1 unit	113	1.900		**--**					
	3VL17 03-2DD3□-□□□□		1	1 unit	113	2.000		**--**					
	3VL17 04-2DD3□-□□□□		1	1 unit	113	2.000		**--**					
	3VL17 05-2DD3□-□□□□		1	1 unit	113	2.000		**--**					
	3VL17 06-2DD3□-□□□□		1	1 unit	113	2.000		**--**					
	3VL17 08-2DD3□-□□□□		1	1 unit	113	2.000		**--**					
	3VL17 10-2DD3□-□□□□		1	1 unit	113	2.000		**--**					
	3VL17 12-2DD3□-□□□□		1	1 unit	113	2.000		**--**					
	3VL17 16-2DD3□-□□□□		1	1 unit	113	2.000		**--**					
	3												
	6												

** Delivery time class A for Order No. supplement "0AA0", see page 2/58.

* You can order this quantity or a multiple thereof.

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Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "L" I_R	Operating current of the instantaneous short-circuit releases "I" I_i	DT	I_{cu} up to 55 kA at 415 V, standard breaking capacity N See "Overview". Order No. / Order No. supplement required, see page 2/58	Basic price per PU / Price see page 2/34	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. (N)
	A	A	A							kg
3-pole, fixed-mounted, for system protection, 50 A to 630 A, thermal-magnetic releases LI										
					NSE0_00541a / NSE0_00691					
System protection, TM, LI function										
With adjustable thermal overcurrent releases, adjustable short-circuit releases										
VL160/3VL2	50	40 ... 50	300 ... 600		**3VL27 05-1DC3□-□□□□**		1	1 unit	113	2.200
	63	50 ... 63	300 ... 600		**3VL27 06-1DC3□-□□□□**		1	1 unit	113	2.200
	80	63 ... 80	400 ... 800		**3VL27 08-1DC3□-□□□□**		1	1 unit	113	2.200
	100	80 ... 100	500 ... 1000		**3VL27 10-1DC3□-□□□□**		1	1 unit	113	2.200
	125	100 ... 125	625 ... 1250		**3VL27 12-1DC3□-□□□□**		1	1 unit	113	2.200
	160	125 ... 160	800 ... 1600		**3VL27 16-1DC3□-□□□□**		1	1 unit	113	2.200
VL250/3VL3	200	160 ... 200	1000 ... 2000		**3VL37 20-1DC3□-□□□□**		1	1 unit	113	2.300
	250	200 ... 250	1250 ... 2500		**3VL37 25-1DC3□-□□□□**		1	1 unit	113	2.300
Connection type can be selected by assignment of the 12th position of the Order No.										
• Connection with box terminal					**3**					
• Connection with flat screw terminal					**6**					
VL400/3VL4	200	160 ... 200	1000 ... 2000		**3VL47 20-1DC36-□□□□**		1	1 unit	113	5.700
	250	200 ... 250	1250 ... 2500		**3VL47 25-1DC36-□□□□**		1	1 unit	113	5.700
	315	250 ... 315	1575 ... 3150		**3VL47 31-1DC36-□□□□**		1	1 unit	113	5.700
	400	320 ... 400	2000 ... 4000		**3VL47 40-1DC36-□□□□**		1	1 unit	113	5.700
VL630/3VL5	315	250 ... 315	1575 ... 3150		**3VL57 31-1DC36-□□□□**		1	1 unit	113	9.000
	400	320 ... 400	2000 ... 4000		**3VL57 40-1DC36-□□□□**		1	1 unit	113	9.000
	500	400 ... 500	2500 ... 5000		**3VL57 50-1DC36-□□□□**		1	1 unit	113	9.000
	630	500 ... 630	3150 ... 6300		**3VL57 63-1DC36-□□□□**		1	1 unit	113	9.000
3-pole, fixed-mounted, for system protection, 63 A to 1600 A, Electronic Trip Units LI										
					NSE0_02119 / NSE0_00691					
ETU10, LI function										
With adjustable overcurrent releases, adjustable short-circuit releases										
VL160/3VL2	63	25 ... 63	1.25 ... 11 × I_n		**3VL27 06-1□□3□-□□□□**		1	1 unit	113	2.400
	100	40 ... 100	1.25 ... 11 × I_n		**3VL27 10-1□□3□-□□□□**		1	1 unit	113	2.400
	160	64 ... 160	1.25 ... 11 × I_n		**3VL27 16-1□□3□-□□□□**		1	1 unit	113	2.400
VL250/3VL3	200	80 ... 200	1.25 ... 11 × I_n		**3VL37 20-1□□3□-□□□□**		1	1 unit	113	2.500
	250	100 ... 250	1.25 ... 11 × I_n		**3VL37 25-1□□3□-□□□□**		1	1 unit	113	2.500
Connection type can be selected by assignment of the 12th position of the Order No.										
• Connection with box terminal					**3**					
• Connection with flat screw terminal					**6**					
VL400/3VL4	315	128 ... 315	1.25 ... 11 × I_n		**3VL47 31-1□□36-□□□□**		1	1 unit	113	5.900
	400	160 ... 400	1.25 ... 11 × I_n		**3VL47 40-1□□36-□□□□**		1	1 unit	113	5.900
VL630/3VL5	630	252 ... 630	1.25 ... 10 × I_n		**3VL57 63-1□□36-□□□□**		1	1 unit	113	9.300
VL800/3VL6	800	320 ... 800	1.25 ... 8 × I_n		**3VL67 80-1□□36-□□□□**		1	1 unit	113	16.000
VL1250/3VL7	1000	400 ... 1000	1.25 ... 11 × I_n		**3VL77 10-1□□36-□□□□**		1	1 unit	113	25.000
	1250	500 ... 1250	1.25 ... 11 × I_n		**3VL77 12-1□□36-□□□□**		1	1 unit	113	25.000
VL1600/3VL8[1)]	1600	640 ... 1600	1.25 ... 9 × I_n		**3VL87 16-1□□30-□□□□**		1	1 unit	113	31.300
• Without communication preparation					**SB**					
• With communication preparation					**MB**					
• Marine engineering-certified LRS, DNV, GL and BV (not communication-ready)					**LB**					

1) Front busbar connection pieces are included in the scope of supply and are to be fitted by the customer.

Communication:

- For accessories, see page 2/93.
- For more information see also chapters "Measuring Devices and Power Monitoring" and "Software".

* You can order this quantity or a multiple thereof.

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DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)						DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)					
	Order No. / Order No. supplement required, see page 2/58	Basic price per PU/ Price see page 2/34	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. / Order No. supplement required, see page 2/58	Basic price per PU/ Price see page 2/34	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 05-2DC3□-□□□□		1	1 unit	113	2.200		**3VL27 05-3DC3□-□□□□**		1	1 unit	113	2.200
	3VL27 06-2DC3□-□□□□		1	1 unit	113	2.200		**3VL27 06-3DC3□-□□□□**		1	1 unit	113	2.200
	3VL27 08-2DC3□-□□□□		1	1 unit	113	2.200		**3VL27 08-3DC3□-□□□□**		1	1 unit	113	2.200
	3VL27 10-2DC3□-□□□□		1	1 unit	113	2.200		**3VL27 10-3DC3□-□□□□**		1	1 unit	113	2.200
	3VL27 12-2DC3□-□□□□		1	1 unit	113	2.200		**3VL27 12-3DC3□-□□□□**		1	1 unit	113	2.200
	3VL27 16-2DC3□-□□□□		1	1 unit	113	2.200		**3VL27 16-3DC3□-□□□□**		1	1 unit	113	2.200
	3VL37 20-2DC3□-□□□□		1	1 unit	113	2.300		**3VL37 20-3DC3□-□□□□**		1	1 unit	113	2.300
	3VL37 25-2DC3□-□□□□		1	1 unit	113	2.300		**3VL37 25-3DC3□-□□□□**		1	1 unit	113	2.300
	3 6							**3 6**					
	3VL47 20-2DC36-□□□□		1	1 unit	113	5.700		**3VL47 20-3DC36-□□□□**		1	1 unit	113	5.700
	3VL47 25-2DC36-□□□□		1	1 unit	113	5.700		**3VL47 25-3DC36-□□□□**		1	1 unit	113	5.700
	3VL47 31-2DC36-□□□□		1	1 unit	113	5.700		**3VL47 31-3DC36-□□□□**		1	1 unit	113	5.700
	3VL47 40-2DC36-□□□□		1	1 unit	113	5.700		**3VL47 40-3DC36-□□□□**		1	1 unit	113	5.700
	3VL57 31-2DC36-□□□□		1	1 unit	113	9.000		**3VL57 31-3DC36-□□□□**		1	1 unit	113	9.000
	3VL57 40-2DC36-□□□□		1	1 unit	113	9.000		**3VL57 40-3DC36-□□□□**		1	1 unit	113	9.000
	3VL57 50-2DC36-□□□□		1	1 unit	113	9.000		**3VL57 50-3DC36-□□□□**		1	1 unit	113	9.000
	3VL57 63-2DC36-□□□□		1	1 unit	113	9.000		**3VL57 63-3DC36-□□□□**		1	1 unit	113	9.000
	3VL27 06-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 06-3□□3□-□□□□**		1	1 unit	113	2.400
	3VL27 10-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 10-3□□3□-□□□□**		1	1 unit	113	2.400
	3VL27 16-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 16-3□□3□-□□□□**		1	1 unit	113	2.400
	3VL37 20-2□□3□-□□□□		1	1 unit	113	2.500		**3VL37 20-3□□3□-□□□□**		1	1 unit	113	2.500
	3VL37 25-2□□3□-□□□□		1	1 unit	113	2.500		**3VL37 25-3□□3□-□□□□**		1	1 unit	113	2.500
	3 6							**3 6**					
	3VL47 31-2□□36-□□□□		1	1 unit	113	5.900		**3VL47 31-3□□36-□□□□**		1	1 unit	113	5.900
	3VL47 40-2□□36-□□□□		1	1 unit	113	5.900		**3VL47 40-3□□36-□□□□**		1	1 unit	113	5.900
	3VL57 63-2□□36-□□□□		1	1 unit	113	9.300		**3VL57 63-3□□36-□□□□**		1	1 unit	113	9.300
	3VL67 80-2□□36-□□□□		1	1 unit	113	16.000		**3VL67 80-3□□36-□□□□**		1	1 unit	113	16.000
	3VL77 10-2□□36-□□□□		1	1 unit	113	25.000		**3VL77 10-3□□36-□□□□**		1	1 unit	113	25.000
	3VL77 12-2□□36-□□□□		1	1 unit	113	25.000		**3VL77 12-3□□36-□□□□**		1	1 unit	113	25.000
	3VL87 16-2□□30-□□□□		1	1 unit	113	31.300		**3VL87 16-3□□30-□□□□**		1	1 unit	113	31.300
	SB MB LB							**SB MB LB**					

* You can order this quantity or a multiple thereof.

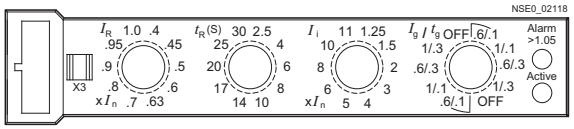
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3-pole

Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "L" I_R	Operating current of the instantaneous short-circuit releases "I" I_i	Ground-fault protection "G" I_g	DT	I_{cu} up to 55 kA at 415 V, standard breaking capacity N See "Overview". Order No. / Order No. supplement required, see page 2/58	Price see page 2/34	PU (UNIT, SET, M)	PS*/ P. unit	PG	(N) Weight per PU approx.
	A	A	A	A							kg

3-pole, fixed-mounted, for system protection, 63 A to 1600 A, Electronic Trip Units LIG





ETU12, LIG function for 3-wire three-phase systems

With adjustable overcurrent releases, adjustable short-circuit releases, vectorial summation current formation, ground fault delay t_g = 0.1 ... 0.3 s, ground fault function (G) can be switched off.

VL160/3VL2	63	25 ... 63	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL27 06-1□□3□-□□□□**	1	1 unit	113	2.400
	100	40 ... 100	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL27 10-1□□3□-□□□□**	1	1 unit	113	2.400
	160	64 ... 160	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL27 16-1□□3□-□□□□**	1	1 unit	113	2.400
VL250/3VL3	200	80 ... 200	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL37 20-1□□3□-□□□□**	1	1 unit	113	2.500
	250	100 ... 250	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL37 25-1□□3□-□□□□**	1	1 unit	113	2.500

Connection type can be selected by assignment of the 12th position of the Order No.

• Connection with box terminal	**3**
• Connection with screw terminal	**6**

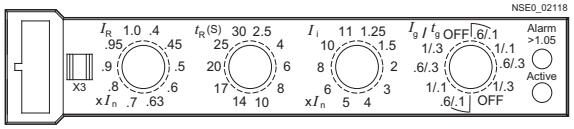
VL400/3VL4	315	128 ... 315	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL47 31-1□□36-□□□□**	1	1 unit	113	5.900
	400	160 ... 400	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL47 40-1□□36-□□□□**	1	1 unit	113	5.900
VL630/3VL5	630	252 ... 630	1.25 ... 10 × I_n	0.6 ... 1 × I_n, OFF	**3VL57 63-1□□36-□□□□**	1	1 unit	113	9.300
VL800/3VL6	800	320 ... 800	1.25 ... 8 × I_n	0.6 ... 1 × I_n, OFF	**3VL67 80-1□□36-□□□□**	1	1 unit	113	16.000
VL1250/3VL7	1000	400 ... 1000	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL77 10-1□□36-□□□□**	1	1 unit	113	25.000
	1250	500 ... 1250	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL77 12-1□□36-□□□□**	1	1 unit	113	25.000
VL1600/3VL8[1]	1600	640 ... 1600	1.25 ... 9 × I_n	0.6 ... 1 × I_n, OFF	**3VL87 16-1□□30-□□□□**	1	1 unit	113	31.300

• Without communication preparation	**SL**
• With communication preparation	**ML**

3-pole, fixed-mounted, for system protection, 63 A to 1600 A, Electronic Trip Units LIG



NSE0_00693



ETU12, LIG function for 4-wire three-phase systems

With adjustable overcurrent releases, adjustable short-circuit releases, vectorial summation current formation, external current transformers required in addition, see page 2/92.
Ground fault delay t_g = 0.1 ...0.3 s, ground fault function (G) can be switched off.

VL160/3VL2	63	25 ... 63	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL27 06-1□□3□-□□□□**	1	1 unit	113	2.400
	100	40 ... 100	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL27 10-1□□3□-□□□□**	1	1 unit	113	2.400
	160	64 ... 160	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL27 16-1□□3□-□□□□**	1	1 unit	113	2.400
VL250/3VL3	200	80 ... 200	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL37 20-1□□3□-□□□□**	1	1 unit	113	2.500
	250	100 ... 250	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL37 25-1□□3□-□□□□**	1	1 unit	113	2.500

Connection type can be selected by assignment of the 12th position of the Order No.

• Connection with box terminal	**3**
• Connection with screw terminal	**6**

VL400/3VL4	315	128 ... 315	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL47 31-1□□36-□□□□**	1	1 unit	113	5.900
	400	160 ... 400	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL47 40-1□□36-□□□□**	1	1 unit	113	5.900
VL630/3VL5	630	252 ... 630	1.25 ... 10 × I_n	0.6 ... 1 × I_n, OFF	**3VL57 63-1□□36-□□□□**	1	1 unit	113	9.300
VL800/3VL6	800	320 ... 800	1.25 ... 8 × I_n	0.6 ... 1 × I_n, OFF	**3VL67 80-1□□36-□□□□**	1	1 unit	113	16.000
VL1250/3VL7	1000	400 ... 1000	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL77 10-1□□36-□□□□**	1	1 unit	113	25.000
	1250	500 ... 1250	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL77 12-1□□36-□□□□**	1	1 unit	113	25.000
VL1600/3VL8[1]	1600	640 ... 1600	1.25 ... 9 × I_n	0.6 ... 1 × I_n, OFF	**3VL87 16-1□□30-□□□□**	1	1 unit	113	31.300

• Without communication preparation	**SF**
• With communication preparation	**MF**

[1] Front busbar connection pieces are included in the scope of supply and are to be fitted by the customer.

* You can order this quantity or a multiple thereof.

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DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H						DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L						
	Order No. / Order No. supplement required, see page 2/58	Price see page 2/34	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. / Order No. supplement required, see page 2/58	Price see page 2/34	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg	
	3VL27 06-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 06-3□□3□-□□□□**		1	1 unit	113	2.400	
	3VL27 10-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 10-3□□3□-□□□□**		1	1 unit	113	2.400	
	3VL27 16-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 16-3□□3□-□□□□**		1	1 unit	113	2.400	
	3VL37 20-2□□3□-□□□□		1	1 unit	113	2.500		**3VL37 20-3□□3□-□□□□**		1	1 unit	113	2.500	
	3VL37 25-2□□3□-□□□□		1	1 unit	113	2.500		**3VL37 25-3□□3□-□□□□**		1	1 unit	113	2.500	
	3 6							**3 6**						
	3VL47 31-2□□36-□□□□		1	1 unit	113	5.900		**3VL47 31-3□□36-□□□□**		1	1 unit	113	5.900	
	3VL47 40-2□□36-□□□□		1	1 unit	113	5.900		**3VL47 40-3□□36-□□□□**		1	1 unit	113	5.900	
	3VL57 63-2□□36-□□□□		1	1 unit	113	9.300		**3VL57 63-3□□36-□□□□**		1	1 unit	113	9.300	
	3VL67 80-2□□36-□□□□		1	1 unit	113	16.000		**3VL67 80-3□□36-□□□□**		1	1 unit	113	16.000	
	3VL77 10-2□□36-□□□□		1	1 unit	113	25.000		**3VL77 10-3□□36-□□□□**		1	1 unit	113	25.000	
	3VL77 12-2□□36-□□□□		1	1 unit	113	25.000		**3VL77 12-3□□36-□□□□**		1	1 unit	113	25.000	
	3VL87 16-2□□30-□□□□		1	1 unit	113	31.300		**3VL87 16-3□□30-□□□□**		1	1 unit	113	31.300	
	SL ML							**SL ML**						

DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H						DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L						
	Order No. / Order No. supplement required, see page 2/58	Price see page 2/34	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. / Order No. supplement required, see page 2/58	Price see page 2/34	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg	
	3VL27 06-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 06-3□□3□-□□□□**		1	1 unit	113	2.400	
	3VL27 10-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 10-3□□3□-□□□□**		1	1 unit	113	2.400	
	3VL27 16-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 16-3□□3□-□□□□**		1	1 unit	113	2.400	
	3VL37 20-2□□3□-□□□□		1	1 unit	113	2.500		**3VL37 20-3□□3□-□□□□**		1	1 unit	113	2.500	
	3VL37 25-2□□3□-□□□□		1	1 unit	113	2.500		**3VL37 25-3□□3□-□□□□**		1	1 unit	113	2.500	
	3 6							**3 6**						
	3VL47 31-2□□36-□□□□		1	1 unit	113	5.900		**3VL47 31-3□□36-□□□□**		1	1 unit	113	5.900	
	3VL47 40-2□□36-□□□□		1	1 unit	113	5.900		**3VL47 40-3□□36-□□□□**		1	1 unit	113	5.900	
	3VL57 63-2□□36-□□□□		1	1 unit	113	9.300		**3VL57 63-3□□36-□□□□**		1	1 unit	113	9.300	
	3VL67 80-2□□36-□□□□		1	1 unit	113	16.000		**3VL67 80-3□□36-□□□□**		1	1 unit	113	16.000	
	3VL77 10-2□□36-□□□□		1	1 unit	113	25.000		**3VL77 10-3□□36-□□□□**		1	1 unit	113	25.000	
	3VL77 12-2□□36-□□□□		1	1 unit	113	25.000		**3VL77 12-3□□36-□□□□**		1	1 unit	113	25.000	
	3VL87 16-2□□30-□□□□		1	1 unit	113	31.300		**3VL87 16-3□□30-□□□□**		1	1 unit	113	31.300	
	SF MF							**SF MF**						

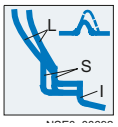
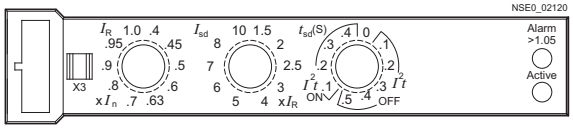
Communication:

•For accessories, see page 2/93.

- For more information see also chapters "Measuring Devices and Power Monitoring" and "Software".

* You can order this quantity or a multiple thereof.

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Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "**L**" I_R	Operating current of the instantaneous short-circuit releases "**I**" I_i	S function short-circuit protection (short-time delayed) **S**	DT	I_{cu} **up to 55 kA at 415 V, standard breaking capacity N** see "Overview". Order No. / Order No. supplement required, see page 2/58	Price see page 2/34	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	A	A							kg
3-pole, fixed-mounted, for system protection - generator protection, 63 A to 1600 A, Electronic Trip Units LSI											
 											
ETU20, LSI function for time-based discrimination With adjustable overcurrent releases, non-adjustable short-circuit releases, short-circuit delay (t_{sd} = 0 to 0.5 s)											
VL160/3VL2	63	0.4 ... 1.0 × I_n	11 × I_n	1.5 ... 10 × I_R		**3VL27 06-1□□3□-□□□□**		1	1 unit	113	2.400
	100	0.4 ... 1.0 × I_n	11 × I_n	1.5 ... 10 × I_R		**3VL27 10-1□□3□-□□□□**		1	1 unit	113	2.400
	160	0.4 ... 1.0 × I_n	11 × I_n	1.5 ... 10 × I_R		**3VL27 16-1□□3□-□□□□**		1	1 unit	113	2.400
VL250/3VL3	200	0.4 ... 1.0 × I_n	11 × I_n	1.5 ... 10 × I_R		**3VL37 20-1□□3□-□□□□**		1	1 unit	113	2.500
	250	0.4 ... 1.0 × I_n	11 × I_n	1.5 ... 10 × I_R		**3VL37 25-1□□3□-□□□□**		1	1 unit	113	2.500
						Connection type can be selected by assignment of the 12th position of the Order No.					
						• Connection with box terminal	**3**				
						• Connection with screw terminal	**6**				
VL400/3VL4	315	0.4 ... 1.0 × I_n	11 × I_n	1.5 ... 10 × I_R		**3VL47 31-1□□36-□□□□**		1	1 unit	113	5.900
	400	0.4 ... 1.0 × I_n	11 × I_n	1.5 ... 10 × I_R		**3VL47 40-1□□36-□□□□**		1	1 unit	113	5.900
VL630/3VL5	630	0.4 ... 1.0 × I_n	10 × I_n	1.5 ... 9 × I_R		**3VL57 63-1□□36-□□□□**		1	1 unit	113	9.300
VL800/3VL6	800	0.4 ... 1.0 × I_n	8 × I_n	1.5 ... 7 × I_R		**3VL67 80-1□□36-□□□□**		1	1 unit	113	16.000
VL1250/3VL7	1000	0.4 ... 1.0 × I_n	11 × I_n	1.5 ... 10 × I_R		**3VL77 10-1□□36-□□□□**		1	1 unit	113	25.000
	1250	0.4 ... 1.0 × I_n	11 × I_n	1.5 ... 10 × I_R		**3VL77 12-1□□36-□□□□**		1	1 unit	113	25.000
VL1600/3VL8[1)]	1600	0.4 ... 1.0 × I_n	9 × I_n	1.5 ... 8 × I_R		**3VL87 16-1□□30-□□□□**		1	1 unit	113	31.300
						• Without communication preparation	**SE**				
						• With communication preparation	**ME**				
						• Marine engineering-certified LRS, DNV, GL and BV (not communication-ready)	**LE**				

[1)] Front busbar connection pieces are included in the scope of supply and are to be fitted by the customer.

Communication:

- For accessories, see page 2/93.
- For more information see also chapters "Measuring Devices and Power Monitoring" and "Software".

* You can order this quantity or a multiple thereof.

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DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)					DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)				
	Order No. / Order No. supplement required, see page 2/58	Price see page 2/34	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. / Order No. supplement required, see page 2/58	Price see page 2/34	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 06-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 06-3□□3□-□□□□**		1	1 unit	113	2.400
	3VL27 10-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 10-3□□3□-□□□□**		1	1 unit	113	2.400
	3VL27 16-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 16-3□□3□-□□□□**		1	1 unit	113	2.400
	3VL37 20-2□□3□-□□□□		1	1 unit	113	2.500		**3VL37 20-3□□3□-□□□□**		1	1 unit	113	2.500
	3VL37 25-2□□3□-□□□□		1	1 unit	113	2.500		**3VL37 25-3□□3□-□□□□**		1	1 unit	113	2.500
	3 6							**3 6**					
	3VL47 31-2□□36-□□□□		1	1 unit	113	5.900		**3VL47 31-3□□36-□□□□**		1	1 unit	113	5.900
	3VL47 40-2□□36-□□□□		1	1 unit	113	5.900		**3VL47 40-3□□36-□□□□**		1	1 unit	113	5.900
	3VL57 63-2□□36-□□□□		1	1 unit	113	9.300		**3VL57 63-3□□36-□□□□**		1	1 unit	113	9.300
	3VL67 80-2□□36-□□□□		1	1 unit	113	16.000		**3VL67 80-3□□36-□□□□**		1	1 unit	113	16.000
	3VL77 10-2□□36-□□□□		1	1 unit	113	25.000		**3VL77 10-3□□36-□□□□**		1	1 unit	113	25.000
	3VL77 12-2□□36-□□□□		1	1 unit	113	25.000		**3VL77 12-3□□36-□□□□**		1	1 unit	113	25.000
	3VL87 16-2□□30-□□□□		1	1 unit	113	31.300		**3VL87 16-3□□30-□□□□**		1	1 unit	113	31.300
	SE ME LE							**SE ME LE**					

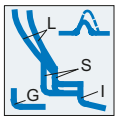
* You can order this quantity or a multiple thereof.

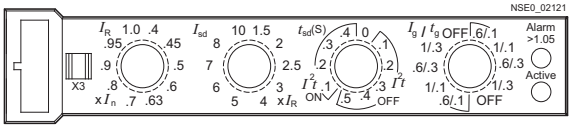
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3-pole

Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "**L**" I_R	Operating current of the instantaneous short-circuit releases "**I**" I_i	S function short-circuit protection (short-time delayed) **S**	Ground-fault protection "**G**" I_g	DT	I_{cu} **up to 55 kA at 415 V, standard breaking capacity N** See "Overview".		PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
							Order No. / Order No. supplement required, see page 2/58	Price see page 2/34				
	A	A	A	A	A							kg

3-pole, fixed-mounted, for system protection - generator protection, 63 A to 1600 A, Electronic Trip Units LSIG





ETU22, LSIG function for 3-wire three-phase systems and time-based discrimination

With adjustable overcurrent releases, non-adjustable short-circuit releases, ground fault delay t_g = 0.1 ... 0.3 s, short-circuit delay t_{sd} = 0 ... 0.5 s, ground-fault protection (G) can be switched off

VL160/3VL2	63	25 ... 63	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF	**3VL27 06-1□□3□-□□□□**	1	1 unit	113	2.400
	100	40 ... 100	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF	**3VL27 10-1□□3□-□□□□**	1	1 unit	113	2.400
	160	64 ... 160	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF	**3VL27 16-1□□3□-□□□□**	1	1 unit	113	2.400
VL250/3VL3	200	80 ... 200	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF	**3VL37 20-1□□3□-□□□□**	1	1 unit	113	2.500
	250	100 ... 250	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF	**3VL37 25-1□□3□-□□□□**	1	1 unit	113	2.500

Connection type can be selected by assignment of the 12th position of the Order No.

• Connection with box terminal	**3**
• Connection with screw terminal	**6**

VL400/3VL4	315	128 ... 315	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF	**3VL47 31-1□□36-□□□□**	1	1 unit	113	5.900
	400	160 ... 400	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF	**3VL47 40-1□□36-□□□□**	1	1 unit	113	5.900
VL630/3VL5	630	252 ... 630	10 × I_n	1.5 ... 9 × I_R	0.6 ... 1 × I_n, OFF	**3VL57 63-1□□36-□□□□**	1	1 unit	113	9.300
VL800/3VL6	800	320 ... 800	8 × I_n	1.5 ... 7 × I_R	0.6 ... 1 × I_n, OFF	**3VL67 80-1□□36-□□□□**	1	1 unit	113	16.000
VL1250/3VL7	1000	400 ... 1000	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF	**3VL77 10-1□□36-□□□□**	1	1 unit	113	25.000
	1250	500 ... 1250	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF	**3VL77 12-1□□36-□□□□**	1	1 unit	113	25.000
VL1600/3VL8[1]	1600	640 ... 1600	9 × I_n	1.5 ... 8 × I_R	0.6 ... 1 × I_n, OFF	**3VL87 16-1□□30-□□□□**	1	1 unit	113	31.300

• Without communication preparation	**SG**
• With communication preparation	**MG**

[1] Front busbar connection pieces are included in the scope of supply and are to be fitted by the customer.

Communication:

- For accessories, see page 2/93.
- For more information see also chapters "Measuring Devices and Power Monitoring" and "Software".

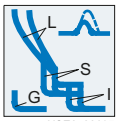
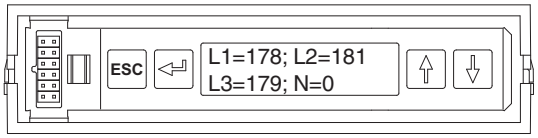
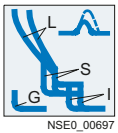
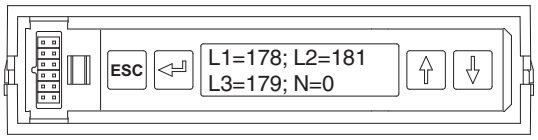
* You can order this quantity or a multiple thereof.

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DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)						DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)					
	Order No. / Order No. supplement required, see page 2/58	Price see page 2/34	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. / Order No. supplement required, see page 2/58	Price see page 2/34	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 06-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 06-3□□3□-□□□□**		1	1 unit	113	2.400
	3VL27 10-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 10-3□□3□-□□□□**		1	1 unit	113	2.400
	3VL27 16-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 16-3□□3□-□□□□**		1	1 unit	113	2.400
	3VL37 20-2□□3□-□□□□		1	1 unit	113	2.500		**3VL37 20-3□□3□-□□□□**		1	1 unit	113	2.500
	3VL37 25-2□□3□-□□□□		1	1 unit	113	2.500		**3VL37 25-3□□3□-□□□□**		1	1 unit	113	2.500
	3 6							**3 6**					
	3VL47 31-2□□36-□□□□		1	1 unit	113	5.900		**3VL47 31-3□□36-□□□□**		1	1 unit	113	5.900
	3VL47 40-2□□36-□□□□		1	1 unit	113	5.900		**3VL47 40-3□□36-□□□□**		1	1 unit	113	5.900
	3VL57 63-2□□36-□□□□		1	1 unit	113	9.300		**3VL57 63-3□□36-□□□□**		1	1 unit	113	9.300
	3VL67 80-2□□36-□□□□		1	1 unit	113	16.000		**3VL67 80-3□□36-□□□□**		1	1 unit	113	16.000
	3VL77 10-2□□36-□□□□		1	1 unit	113	25.000		**3VL77 10-3□□36-□□□□**		1	1 unit	113	25.000
	3VL77 12-2□□36-□□□□		1	1 unit	113	25.000		**3VL77 12-3□□36-□□□□**		1	1 unit	113	25.000
	3VL87 16-2□□30-□□□□		1	1 unit	113	31.300		**3VL87 16-3□□30-□□□□**		1	1 unit	113	31.300
	SG MG							**SG MG**					

* You can order this quantity or a multiple thereof.

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Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "**L**" I_R	Operating current of the instantaneous short-circuit releases "**I**" I_i	S function short-circuit protection (short-time delayed) **S**	Ground-fault protection "**G**" I_g	DT	I_{cu} **up to 55 kA at 415 V, standard breaking capacity N** See "Overview". Order No. / Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	A	A	A							kg
3-pole, fixed-mounted, for system protection - generator protection, 63 A to 1600 A, Electronic Trip Units LSIG												
 NSE0_00697												
 NSE0_02129												
LCD-ETU42, LSIG function for 3-wire three-phase systems and time-based discrimination												
With adjustable overcurrent releases, adjustable short-circuit releases												
Vectorial summation current formation, ground fault delay t_g = 0.1 ... 0.5 s, short-circuit delay t_{sd} = 0 ... 0.5 s												
VL160/3VL2	63	25 ... 63	11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n		**3VL27 06-1UL3□-□□□□**		1	1 unit	113	2.400
	100	40 ... 100	11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n		**3VL27 10-1UL3□-□□□□**		1	1 unit	113	2.400
	160	64 ... 160	11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n		**3VL27 16-1UL3□-□□□□**		1	1 unit	113	2.400
VL250/3VL3	200	80 ... 200	11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n		**3VL37 20-1UL3□-□□□□**		1	1 unit	113	2.500
	250	100 ... 250	11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n		**3VL37 25-1UL3□-□□□□**		1	1 unit	113	2.500
Connection type can be selected by assignment of the 12th position of the Order No.												
• Connection with box terminal							**3**					
• Connection with screw terminal							**6**					
VL400/3VL4	315	128 ... 315	11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n		**3VL47 31-1UL36-□□□□**		1	1 unit	113	5.900
	400	160 ... 400	11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n		**3VL47 40-1UL36-□□□□**		1	1 unit	113	5.900
VL630/3VL5	630	252 ... 630	10 × I_n	1.5 ... 9 × I_R	0.4 ... 1 × I_n		**3VL57 63-1UL36-□□□□**		1	1 unit	113	9.300
VL800/3VL6	800	320 ... 800	8 × I_n	1.5 ... 7 × I_R	0.4 ... 1 × I_n		**3VL67 80-1UL36-□□□□**		1	1 unit	113	16.000
VL1250/3VL7	1000	400 ... 1000	11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n		**3VL77 10-1UL36-□□□□**		1	1 unit	113	25.000
	1250	500 ... 1250	11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n		**3VL77 12-1UL36-□□□□**		1	1 unit	113	25.000
VL1600/3VL8[1)]	1600	640 ... 1600	9 × I_n	1.5 ... 8 × I_R	0.4 ... 1 × I_n		**3VL87 16-1UL30-□□□□**		1	1 unit	113	31.300
 NSE0_00697												
 NSE0_02129												
LCD-ETU42, LSIG function for 4-wire three-phase systems and time-based discrimination												
With adjustable overcurrent releases, adjustable short-circuit releases. External current transformer required in addition, see page 2/92.												
Vectorial summation current formation, ground fault delay t_g = 0.1 ... 0.5 s, short-circuit delay t_{sd} = 0 ... 0.5 s												
VL160/3VL2	63	25 ... 63	11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n		**3VL27 06-1UM3□-□□□□**		1	1 unit	113	2.400
	100	40 ... 100	11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n		**3VL27 10-1UM3□-□□□□**		1	1 unit	113	2.400
	160	64 ... 160	11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n		**3VL27 16-1UM3□-□□□□**		1	1 unit	113	2.400
VL250/3VL3	200	80 ... 200	11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n		**3VL37 20-1UM3□-□□□□**		1	1 unit	113	2.500
	250	100 ... 250	11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n		**3VL37 25-1UM3□-□□□□**		1	1 unit	113	2.500
Connection type can be selected by assignment of the 12th position of the Order No.												
• Connection with box terminal							**3**					
• Connection with screw terminal							**6**					
VL400/3VL4	315	128 ... 315	11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n		**3VL47 31-1UM36-□□□□**		1	1 unit	113	5.900
	400	160 ... 400	11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n		**3VL47 40-1UM36-□□□□**		1	1 unit	113	5.900
VL630/3VL5	630	252 ... 630	10 × I_n	1.5 ... 9 × I_R	0.4 ... 1 × I_n		**3VL57 63-1UM36-□□□□**		1	1 unit	113	9.300
VL800/3VL6	800	320 ... 800	8 × I_n	1.5 ... 7 × I_R	0.4 ... 1 × I_n		**3VL67 80-1UM36-□□□□**		1	1 unit	113	16.000
VL1250/3VL7	1000	400 ... 1000	11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n		**3VL77 10-1UM36-□□□□**		1	1 unit	113	25.000
	1250	500 ... 1250	11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n		**3VL77 12-1UM36-□□□□**		1	1 unit	113	25.000
VL1600/3VL8[1)]	1600	640 ... 1600	9 × I_n	1.5 ... 8 × I_R	0.4 ... 1 × I_n		**3VL87 16-1UM30-□□□□**		1	1 unit	113	31.300

[1)] Front busbar connection pieces are included in the scope of supply and are to be fitted by the customer.

* You can order this quantity or a multiple thereof.

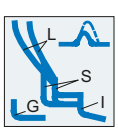
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DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)						DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)					
	Order No. Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 06-2UL3□-□□□□		1	1 unit	113	2.400		**3VL27 06-3UL3□-□□□□**		1	1 unit	113	2.400
	3VL27 10-2UL3□-□□□□		1	1 unit	113	2.400		**3VL27 10-3UL3□-□□□□**		1	1 unit	113	2.400
	3VL27 16-2UL3□-□□□□		1	1 unit	113	2.400		**3VL27 16-3UL3□-□□□□**		1	1 unit	113	2.400
	3VL37 20-2UL3□-□□□□		1	1 unit	113	2.500		**3VL37 20-3UL3□-□□□□**		1	1 unit	113	2.500
	3VL37 25-2UL3□-□□□□		1	1 unit	113	2.500		**3VL37 25-3UL3□-□□□□**		1	1 unit	113	2.500
	3 6							**3 6**					
	3VL47 31-2UL36-□□□□		1	1 unit	113	5.900		**3VL47 31-3UL36-□□□□**		1	1 unit	113	5.900
	3VL47 40-2UL36-□□□□		1	1 unit	113	5.900		**3VL47 40-3UL36-□□□□**		1	1 unit	113	5.900
	3VL57 63-2UL36-□□□□		1	1 unit	113	9.300		**3VL57 63-3UL36-□□□□**		1	1 unit	113	9.300
	3VL67 80-2UL36-□□□□		1	1 unit	113	16.000		**3VL67 80-3UL36-□□□□**		1	1 unit	113	16.000
	3VL77 10-2UL36-□□□□		1	1 unit	113	25.000		**3VL77 10-3UL36-□□□□**		1	1 unit	113	25.000
	3VL77 12-2UL36-□□□□		1	1 unit	113	25.000		**3VL77 12-3UL36-□□□□**		1	1 unit	113	25.000
	3VL87 16-2UL30-□□□□		1	1 unit	113	31.300		**3VL87 16-3UL30-□□□□**		1	1 unit	113	31.300
	3VL27 06-2UM3□-□□□□		1	1 unit	113	2.400		**3VL27 06-3UM3□-□□□□**		1	1 unit	113	2.400
	3VL27 10-2UM3□-□□□□		1	1 unit	113	2.400		**3VL27 10-3UM3□-□□□□**		1	1 unit	113	2.400
	3VL27 16-2UM3□-□□□□		1	1 unit	113	2.400		**3VL27 16-3UM3□-□□□□**		1	1 unit	113	2.400
	3VL37 20-2UM3□-□□□□		1	1 unit	113	2.500		**3VL37 20-3UM3□-□□□□**		1	1 unit	113	2.500
	3VL37 25-2UM3□-□□□□		1	1 unit	113	2.500		**3VL37 25-3UM3□-□□□□**		1	1 unit	113	2.500
	3 6							**3 6**					
	3VL47 31-2UM36-□□□□		1	1 unit	113	5.900		**3VL47 31-3UM36-□□□□**		1	1 unit	113	5.900
	3VL47 40-2UM36-□□□□		1	1 unit	113	5.900		**3VL47 40-3UM36-□□□□**		1	1 unit	113	5.900
	3VL57 63-2UM36-□□□□		1	1 unit	113	9.300		**3VL57 63-3UM36-□□□□**		1	1 unit	113	9.300
	3VL67 80-2UM36-□□□□		1	1 unit	113	16.000		**3VL67 80-3UM36-□□□□**		1	1 unit	113	16.000
	3VL77 10-2UM36-□□□□		1	1 unit	113	25.000		**3VL77 10-3UM36-□□□□**		1	1 unit	113	25.000
	3VL77 12-2UM36-□□□□		1	1 unit	113	25.000		**3VL77 12-3UM36-□□□□**		1	1 unit	113	25.000
	3VL87 16-2UM30-□□□□		1	1 unit	113	31.300		**3VL87 16-3UM30-□□□□**		1	1 unit	113	31.300

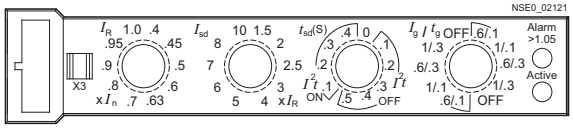
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Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "**L**" I_R	Operating current of the instantaneous short-circuit releases "**I**" I_i	S function short-circuit protection (short-time delayed) **S**	Ground-fault protection "**G**" I_g	DT	I_{cu} **up to 55 kA at 415 V, standard breaking capacity N** See "Overview".					(N)
							Order No. / Order No. supplement required, see page 2/58	Price see page 2/34	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	A	A	A							kg
3-pole, fixed-mounted, for system protection - generator protection, 63 A to 1600 A, Electronic Trip Units LSIG												
VL160/3VL2	63	25 ... 63	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF		**3VL27 06-1□□3□-□□□□**		1	1 unit	113	2.400
	100	40 ... 100	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF		**3VL27 10-1□□3□-□□□□**		1	1 unit	113	2.400
	160	64 ... 160	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF		**3VL27 16-1□□3□-□□□□**		1	1 unit	113	2.400
VL250/3VL3	200	80 ... 200	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF		**3VL37 20-1□□3□-□□□□**		1	1 unit	113	2.500
	250	100 ... 250	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF		**3VL37 25-1□□3□-□□□□**		1	1 unit	113	2.500
							Connection type can be selected by assignment of the 12th position of the Order No.					
							• Connection with box terminal	**3**				
							• Connection with screw terminal	**6**				
VL400/3VL4	315	128 ... 315	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF		**3VL47 31-1□□36-□□□□**		1	1 unit	113	5.900
	400	160 ... 400	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF		**3VL47 40-1□□36-□□□□**		1	1 unit	113	5.900
VL630/3VL5	630	252 ... 630	10 × I_n	1.5 ... 9 × I_R	0.6 ... 1 × I_n, OFF		**3VL57 63-1□□36-□□□□**		1	1 unit	113	9.300
VL800/3VL6	800	320 ... 800	8 × I_n	1.5 ... 7 × I_R	0.6 ... 1 × I_n, OFF		**3VL67 80-1□□36-□□□□**		1	1 unit	113	16.000
VL1250/3VL7	1000	400 ... 1000	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF		**3VL77 10-1□□36-□□□□**		1	1 unit	113	25.000
	1250	500 ... 1250	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF		**3VL77 12-1□□36-□□□□**		1	1 unit	113	25.000
VL1600/3VL8[1]	1600	640 ... 1600	9 × I_n	1.5 ... 8 × I_R	0.6 ... 1 × I_n, OFF		**3VL87 16-1□□30-□□□□**		1	1 unit	113	31.300
							• Without communication preparation	**SH**				
							• With communication preparation	**MH**				



NSE0_00694



ETU22, LSIG function for 4-wire three-phase systems and time-based discrimination

With adjustable overcurrent releases, non-adjustable short-circuit releases, external current transformers required in addition, see page 2/92.
Ground fault delay t_g = 0.1 ... 0.3 s, short-circuit delay t_{sd} = 0 ... 0.5 s, ground-fault protection (G) can be switched off

[1] Front busbar connection pieces are included in the scope of supply and are to be fitted by the customer.

Communication:

- For accessories, see page 2/93.
- For more information see also chapters "Measuring Devices and Power Monitoring" and "Software".

* You can order this quantity or a multiple thereof.

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DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)						DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)					
	Order No. / Order No. supplement required, see page 2/58	Price see page 2/34	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. / Order No. supplement required, see page 2/58	Price see page 2/34	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 06-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 06-3□□3□-□□□□**		1	1 unit	113	2.400
	3VL27 10-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 10-3□□3□-□□□□**		1	1 unit	113	2.400
	3VL27 16-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 16-3□□3□-□□□□**		1	1 unit	113	2.400
	3VL37 20-2□□3□-□□□□		1	1 unit	113	2.500		**3VL37 20-3□□3□-□□□□**		1	1 unit	113	2.500
	3VL37 25-2□□3□-□□□□		1	1 unit	113	2.500		**3VL37 25-3□□3□-□□□□**		1	1 unit	113	2.500
	3 6							**3 6**					
	3VL47 31-2□□36-□□□□		1	1 unit	113	5.900		**3VL47 31-3□□36-□□□□**		1	1 unit	113	5.900
	3VL47 40-2□□36-□□□□		1	1 unit	113	5.900		**3VL47 40-3□□36-□□□□**		1	1 unit	113	5.900
	3VL57 63-2□□36-□□□□		1	1 unit	113	9.300		**3VL57 63-3□□36-□□□□**		1	1 unit	113	9.300
	3VL67 80-2□□36-□□□□		1	1 unit	113	16.000		**3VL67 80-3□□36-□□□□**		1	1 unit	113	16.000
	3VL77 10-2□□36-□□□□		1	1 unit	113	25.000		**3VL77 10-3□□36-□□□□**		1	1 unit	113	25.000
	3VL77 12-2□□36-□□□□		1	1 unit	113	25.000		**3VL77 12-3□□36-□□□□**		1	1 unit	113	25.000
	3VL87 16-2□□30-□□□□		1	1 unit	113	31.300		**3VL87 16-3□□30-□□□□**		1	1 unit	113	31.300
	SH MH							**SH MH**					

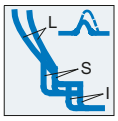
* You can order this quantity or a multiple thereof.

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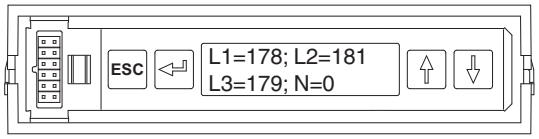
3-pole

Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "**L**" I_R	Operating current of the instantaneous short-circuit releases "**I**" I_i	S function short-circuit protection (short-time delayed) **S**	DT	I_{cu} **up to 55 kA at 415 V, standard breaking capacity N** see "Overview".					Ⓝ
						Order No. / Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	A	A							kg

3-pole, fixed-mounted, for system protection - generator protection, 63 A to 1600 A, Electronic Trip Units LI, LS, LSI



NSE0_00696



NSE0_02129

LCD-ETU40, LI/LS/LSI function selectable

With adjustable overcurrent releases, adjustable short-circuit releases, short-circuit delay (t_{sd} = 0 to 0.5 s)

VL160/3VL2	63	25 ... 63	1.25 ... 11 × I_n	1.5 ... 10 × I_R	**3VL27 06-1UH3□-□□□□**	1	1 unit	113	2.400
	100	40 ... 100	1.25 ... 11 × I_n	1.5 ... 10 × I_R	**3VL27 10-1UH3□-□□□□**	1	1 unit	113	2.400
	160	64 ... 160	1.25 ... 11 × I_n	1.5 ... 10 × I_R	**3VL27 16-1UH3□-□□□□**	1	1 unit	113	2.400
VL250/3VL3	200	80 ... 200	1.25 ... 11 × I_n	1.5 ... 10 × I_R	**3VL37 20-1UH3□-□□□□**	1	1 unit	113	2.500
	250	100 ... 250	1.25 ... 11 × I_n	1.5 ... 10 × I_R	**3VL37 25-1UH3□-□□□□**	1	1 unit	113	2.500

Connection type can be selected by assignment of the 12th position of the Order No.

• Connection with box terminal	**3**
• Connection with screw terminal	**6**

VL400/3VL4	315	128 ... 315	1.25 ... 11 × I_n	1.5 ... 10 × I_R	**3VL47 31-1UH36-□□□□**	1	1 unit	113	5.900
	400	160 ... 400	1.25 ... 11 × I_n	1.5 ... 10 × I_R	**3VL47 40-1UH36-□□□□**	1	1 unit	113	5.900
VL630/3VL5	630	252 ... 630	1.25 ... 10 × I_n	1.5 ... 9 × I_R	**3VL57 63-1UH36-□□□□**	1	1 unit	113	9.300
VL800/3VL6	800	320 ... 800	1.25 ... 8 × I_n	1.5 ... 7 × I_R	**3VL67 80-1UH36-□□□□**	1	1 unit	113	16.000
VL1250/3VL7	1000	400 ... 1000	1.25 ... 11 × I_n	1.5 ... 10 × I_R	**3VL77 10-1UH36-□□□□**	1	1 unit	113	25.000
	1250	500 ... 1250	1.25 ... 11 × I_n	1.5 ... 10 × I_R	**3VL77 12-1UH36-□□□□**	1	1 unit	113	25.000
VL1600/3VL8[1)]	1600	640 ... 1600	1.25 ... 9 × I_n	1.5 ... 8 × I_R	**3VL87 16-1UH30-□□□□**	1	1 unit	113	31.300

[1)] Front busbar connection pieces are included in the scope of supply and are to be fitted by the customer.

* You can order this quantity or a multiple thereof.

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DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)						DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)					
	Order No. / Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. / Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 06-2UH3□-□□□□		1	1 unit	113	2.400		**3VL27 06-3UH3□-□□□□**		1	1 unit	113	2.400
	3VL27 10-2UH3□-□□□□		1	1 unit	113	2.400		**3VL27 10-3UH3□-□□□□**		1	1 unit	113	2.400
	3VL27 16-2UH3□-□□□□		1	1 unit	113	2.400		**3VL27 16-3UH3□-□□□□**		1	1 unit	113	2.400
	3VL37 20-2UH3□-□□□□		1	1 unit	113	2.500		**3VL37 20-3UH3□-□□□□**		1	1 unit	113	2.500
	3VL37 25-2UH3□-□□□□		1	1 unit	113	2.500		**3VL37 25-3UH3□-□□□□**		1	1 unit	113	2.500
	3 6							**3 6**					
	3VL47 31-2UH36-□□□□		1	1 unit	113	5.900		**3VL47 31-3UH36-□□□□**		1	1 unit	113	5.900
	3VL47 40-2UH36-□□□□		1	1 unit	113	5.900		**3VL47 40-3UH36-□□□□**		1	1 unit	113	5.900
	3VL57 63-2UH36-□□□□		1	1 unit	113	9.300		**3VL57 63-3UH36-□□□□**		1	1 unit	113	9.300
	3VL67 80-2UH36-□□□□		1	1 unit	113	16.000		**3VL67 80-3UH36-□□□□**		1	1 unit	113	16.000
	3VL77 10-2UH36-□□□□		1	1 unit	113	25.000		**3VL77 10-3UH36-□□□□**		1	1 unit	113	25.000
	3VL77 12-2UH36-□□□□		1	1 unit	113	25.000		**3VL77 12-3UH36-□□□□**		1	1 unit	113	25.000
	3VL87 16-2UH30-□□□□		1	1 unit	113	31.300		**3VL87 16-3UH30-□□□□**		1	1 unit	113	31.300

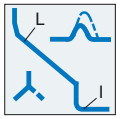
* You can order this quantity or a multiple thereof.

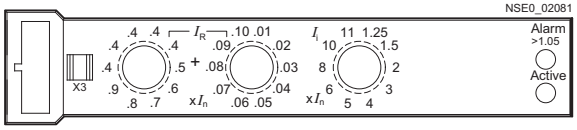
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3-pole

Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "**L**" I_R	Operating current of the instantaneous short-circuit releases "**I**" I_i	DT	I_{cu} **up to 55 kA at 415 V, standard breaking capacity N** See "Overview". Order No. / Order No. supplement required, see page 2/58	Price see page 2/34	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	A							kg

3-pole, fixed-mounted, for motor protection, 63 A to 500 A, Electronic Trip Units LI


NSE0_00943



ETU10M, LI function

With thermal image, with non-adjustable trip class t_C = 10, with phase failure sensitivity 40 % I_R

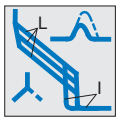
VL160/3VL2	63	25 ... 63	1.25 ... 11 × I_n	**3VL27 06-1□□3□-□□□□**		1	1 unit	113	2.400
	100	40 ... 100	1.25 ... 11 × I_n	**3VL27 10-1□□3□-□□□□**		1	1 unit	113	2.400
	160	64 ... 160	1.25 ... 11 × I_n	**3VL27 16-1□□3□-□□□□**		1	1 unit	113	2.400
VL250/3VL3	200	80 ... 200	1.25 ... 11 × I_n	**3VL37 20-1□□3□-□□□□**		1	1 unit	113	2.500
	250	100 ... 250	1.25 ... 11 × I_n	**3VL37 25-1□□3□-□□□□**		1	1 unit	113	2.500

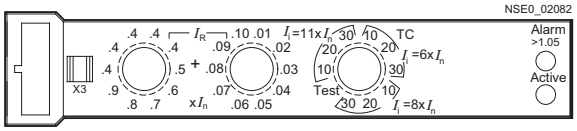
Connection type can be selected by assignment of the 12th position of the Order No.

• Connection with box terminal	**3**
• Connection with screw terminal	**6**

VL400/3VL4	315	125 ... 315	1.25 ... 11 × I_n	**3VL47 31-1□□36-□□□□**		1	1 unit	113	5.900
VL630/3VL5	500	200 ... 500	1.25 ... 12.5 × I_n	**3VL57 50-1□□36-□□□□**		1	1 unit	113	9.300

• Without communication preparation	**SP**
• With communication preparation	**MP**


NSE0_01419



ETU30M, LI function

With thermal image, with adjustable trip class t_C = 10, 20, 30, with phase failure sensitivity 40 % I_R

VL160/3VL2	63	25 ... 63	6/8/11 × I_n	**3VL27 06-1□□3□-□□□□**		1	1 unit	113	2.400
	100	40 ... 100	6/8/11 × I_n	**3VL27 10-1□□3□-□□□□**		1	1 unit	113	2.400
	160	64 ... 160	6/8/11 × I_n	**3VL27 16-1□□3□-□□□□**		1	1 unit	113	2.400
VL250/3VL3	200	80 ... 200	6/8/11 × I_n	**3VL37 20-1□□3□-□□□□**		1	1 unit	113	2.500
	250	100 ... 250	6/8/11 × I_n	**3VL37 25-1□□3□-□□□□**		1	1 unit	113	2.500

Connection type can be selected by assignment of the 12th position of the Order No.

• Connection with box terminal	**3**
• Connection with screw terminal	**6**

VL400/3VL4	315	125 ... 315	6/8/11 × I_n	**3VL47 31-1□□36-□□□□**		1	1 unit	113	5.900
VL630/3VL5	500	200 ... 500	6/8/12.5 × I_n	**3VL57 50-1□□36-□□□□**		1	1 unit	113	9.300

• Without communication preparation	**SS**
• With communication preparation	**MS**
• Marine engineering-certified LRS, DNV, GL and BV (not communication-ready)	**LS**

Communication:

- For accessories, see page 2/93.
- For more information see also chapters "Measuring Devices and Power Monitoring" and "Software".

* You can order this quantity or a multiple thereof.

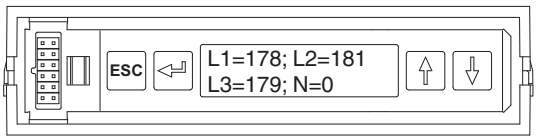
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DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)						DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)					
	Order No. / Order No. supplement required, see page 2/58	Price see page 2/34	PU (UNIT, SET,	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. / Order No. supplement required, see page 2/58	Price see page 2/34	PU (UNIT, SET,	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 06-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 06-3□□3□-□□□□**		1	1 unit	113	2.400
	3VL27 10-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 10-3□□3□-□□□□**		1	1 unit	113	2.400
	3VL27 16-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 16-3□□3□-□□□□**		1	1 unit	113	2.400
	3VL37 20-2□□3□-□□□□		1	1 unit	113	2.500		**3VL37 20-3□□3□-□□□□**		1	1 unit	113	2.500
	3VL37 25-2□□3□-□□□□		1	1 unit	113	2.500		**3VL37 25-3□□3□-□□□□**		1	1 unit	113	2.500
	3 6							**3 6**					
	3VL47 31-2□□36-□□□□		1	1 unit	113	5.900		**3VL47 31-3□□36-□□□□**		1	1 unit	113	5.900
	3VL57 50-2□□36-□□□□		1	1 unit	113	9.300		**3VL57 50-3□□36-□□□□**		1	1 unit	113	9.300
	SP MP							**SP MP**					

DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)						DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)					
	Order No. / Order No. supplement required, see page 2/58	Price see page 2/34	PU (UNIT, SET,	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. / Order No. supplement required, see page 2/58	Price see page 2/34	PU (UNIT, SET,	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 06-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 06-3□□3□-□□□□**		1	1 unit	113	2.400
	3VL27 10-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 10-3□□3□-□□□□**		1	1 unit	113	2.400
	3VL27 16-2□□3□-□□□□		1	1 unit	113	2.400		**3VL27 16-3□□3□-□□□□**		1	1 unit	113	2.400
	3VL37 20-2□□3□-□□□□		1	1 unit	113	2.500		**3VL37 20-3□□3□-□□□□**		1	1 unit	113	2.500
	3VL37 25-2□□3□-□□□□		1	1 unit	113	2.500		**3VL37 25-3□□3□-□□□□**		1	1 unit	113	2.500
	3 6							**3 6**					
	3VL47 31-2□□36-□□□□		1	1 unit	113	5.900		**3VL47 31-3□□36-□□□□**		1	1 unit	113	5.900
	3VL57 50-2□□36-□□□□		1	1 unit	113	9.300		**3VL57 50-3□□36-□□□□**		1	1 unit	113	9.300
	SS MS LS							**SS MS LS**					

* You can order this quantity or a multiple thereof.

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Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "L" I_R	Operating current of the instantaneous short-circuit releases "I" I_i	DT	I_{cu} up to 55 kA at 415 V, standard breaking capacity N See "Overview". Order No. / Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	A							kg
3-pole, fixed-mounted, for motor protection, 63 A to 500 A, Electronic Trip Units LI										
	 NSE0_01419	 NSE0_02129								
LCD-ETU40M, LI function With thermal image, with adjustable trip class t_C = 5, 10, 15, 20, 30, phase failure sensitivity adjustable in steps 5 ... 50 % I_R										
VL160/3VL2	63	25 ... 63	1.25 ... 11 × I_n		**3VL27 06-1UP3□-□□□□**		1	1 unit	113	2.400
	100	40 ... 100	1.25 ... 11 × I_n		**3VL27 10-1UP3□-□□□□**		1	1 unit	113	2.400
	160	64 ... 160	1.25 ... 11 × I_n		**3VL27 16-1UP3□-□□□□**		1	1 unit	113	2.400
VL250/3VL3	200	80 ... 200	1.25 ... 11 × I_n		**3VL37 20-1UP3□-□□□□**		1	1 unit	113	2.500
	250	100 ... 250	1.25 ... 11 × I_n		**3VL37 25-1UP3□-□□□□**		1	1 unit	113	2.500
					Connection type can be selected by assignment of the 12th position of the Order No.					
					• Connection with box terminal	**3**				
					• Connection with screw terminal	**6**				
VL400/3VL4	315	128 ... 315	1.25 ... 11 × I_n		**3VL47 31-1UP36-□□□□**		1	1 unit	113	5.900
VL630/3VL5	500	250 ... 500	1.25 ... 11 × I_n		**3VL57 50-1UP36-□□□□**		1	1 unit	113	9.300

* You can order this quantity or a multiple thereof.

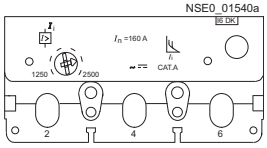
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DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)						DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)					
	Order No. Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET,	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET,	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 06-2UP3□-□□□□		1	1 unit	113	2.400		**3VL27 06-3UP3□-□□□□**		1	1 unit	113	2.400
	3VL27 10-2UP3□-□□□□		1	1 unit	113	2.400		**3VL27 10-3UP3□-□□□□**		1	1 unit	113	2.400
	3VL27 16-2UP3□-□□□□		1	1 unit	113	2.400		**3VL27 16-3UP3□-□□□□**		1	1 unit	113	2.400
	3VL37 20-2UP3□-□□□□		1	1 unit	113	2.500		**3VL37 20-3UP3□-□□□□**		1	1 unit	113	2.500
	3VL37 25-2UP3□-□□□□		1	1 unit	113	2.500		**3VL37 25-3UP3□-□□□□**		1	1 unit	113	2.500
	3 6							**3 6**					
	3VL47 31-2UP36-□□□□		1	1 unit	113	5.900		**3VL47 31-3UP36-□□□□**		1	1 unit	113	5.900
	3VL57 50-2UP36-□□□□		1	1 unit	113	9.300		**3VL57 50-3UP36-□□□□**		1	1 unit	113	9.300

* You can order this quantity or a multiple thereof.

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3-pole

Type	Rated current I_n	Operating current of the instantaneous short-circuit releases "I" I_i	DT	I_{cu} up to 55 kA at 415 V, standard breaking capacity N see "Overview". Order No. / Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A								kg
3-pole, fixed-mounted, for starter protection, 63 A to 500 A, magnetic trip unit I									
 NSE0_00707	 NSE0_01540a								
Starter protection, M, I function									
Without overcurrent release, with adjustable short-circuit release									
VL160/3VL2	63	450 ... 900		**3VL27 06-1DK3□-□□□□**		1	1 unit	113	2.200
	100	750 ... 1500		**3VL27 10-1DK3□-□□□□**		1	1 unit	113	2.200
	160	1250 ... 2500		**3VL27 16-1DK3□-□□□□**		1	1 unit	113	2.200
VL250/3VL3	250	1750 ... 3500		**3VL37 25-1DK3□-□□□□**		1	1 unit	113	2.300
Connection type can be selected by assignment of the 12th position of the Order No.									
• Connection with box terminal				**3**					
• Connection with screw terminal				**6**					
VL400/3VL4	200	1250 ... 2500		**3VL47 20-1DK36-□□□□**		1	1 unit	113	5.700
	250	2000 ... 4000		**3VL47 25-1DK36-□□□□**		1	1 unit	113	5.700
	315	2000 ... 4000		**3VL47 31-1DK36-□□□□**		1	1 unit	113	5.700
VL630/3VL5	315	2000 ... 4000		**3VL57 31-1DK36-□□□□**		1	1 unit	113	9.000
	500	3250 ... 6300		**3VL57 50-1DK36-□□□□**		1	1 unit	113	9.000
3-pole, fixed-mounted, for safe disconnection, 100 A to 1600 A, magnetic trip unit I									
 NSE0_00708									
***Non-automatic molded case circuit breakers*[1], I function**									
Without overcurrent release, with non-adjustable short-circuit release (for intrinsic protection only)									
VL160X/3VL1	100	1800		**3VL17 10-1DE3□-□□□□**		1	1 unit	113	2.000
	160	1800		**3VL17 16-1DE3□-□□□□**		1	1 unit	113	2.000
VL160/3VL2	100	2500		**3VL27 10-1DE3□-□□□□**		1	1 unit	113	2.200
	160	2500		**3VL27 16-1DE3□-□□□□**		1	1 unit	113	2.200
VL250/3VL3	250	3500		**3VL37 25-1DE3□-□□□□**		1	1 unit	113	2.300
Connection type can be selected by assignment of the 12th position of the Order No.									
• Connection with box terminal				**3**					
• Connection with screw terminal not in conjunction with RCD module at 3VL1				**6**					
VL400/3VL4	400	4000		**3VL47 40-1DE36-□□□□**		1	1 unit	113	5.700
VL630/3VL5	630	6300		**3VL57 63-1DE36-□□□□**		1	1 unit	113	9.000
VL800/3VL6	800	6500		**3VL67 80-1DE36-□□□□**		1	1 unit	113	15.700
VL1250/3VL7	1250	12000		**3VL77 12-1DE36-□□□□**		1	1 unit	113	23.500
VL1600/3VL8[2]	1600	14400		**3VL87 16-1DE30-□□□□**		1	1 unit	113	29.800

For further versions, including for short-circuit and ground fault protection, see pages 2/14 to 2/30.

1) See also chapter "Switch Disconnectors". 3K. switch disconnectors are also available with rear-mounting operating mechanism and leading contacts.

2) Front busbar connection pieces are included in the scope of supply and are to be fitted by the customer.

* You can order this quantity or a multiple thereof.

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DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)						DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)					
	Order No. Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET,	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET,	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 06-2DK3□-□□□□		1	1 unit	113	2.200		**3VL27 06-3DK3□-□□□□**		1	1 unit	113	2.200
	3VL27 10-2DK3□-□□□□		1	1 unit	113	2.200		**3VL27 10-3DK3□-□□□□**		1	1 unit	113	2.200
	3VL27 16-2DK3□-□□□□		1	1 unit	113	2.200		**3VL27 16-3DK3□-□□□□**		1	1 unit	113	2.200
	3VL37 25-2DK3□-□□□□		1	1 unit	113	2.300		**3VL37 25-3DK3□-□□□□**		1	1 unit	113	2.300
	3 6							**3 6**					
	3VL47 20-2DK36-□□□□		1	1 unit	113	5.700		**3VL47 20-3DK36-□□□□**		1	1 unit	113	5.700
	3VL47 25-2DK36-□□□□		1	1 unit	113	5.700		**3VL47 25-3DK36-□□□□**		1	1 unit	113	5.700
	3VL47 31-2DK36-□□□□		1	1 unit	113	5.700		**3VL47 31-3DK36-□□□□**		1	1 unit	113	5.700
	3VL57 31-2DK36-□□□□		1	1 unit	113	9.000		**3VL57 31-3DK36-□□□□**		1	1 unit	113	9.000
	3VL57 50-2DK36-□□□□		1	1 unit	113	9.000		**3VL57 50-3DK36-□□□□**		1	1 unit	113	9.000
	3VL17 10-2DE3□-□□□□		1	1 unit	113	2.000		**--**					
	3VL17 16-2DE3□-□□□□		1	1 unit	113	2.000		**--**					
	3VL27 10-2DE3□-□□□□		1	1 unit	113	2.200		**3VL27 10-3DE3□-□□□□**		1	1 unit	113	2.200
	3VL27 16-2DE3□-□□□□		1	1 unit	113	2.200		**3VL27 16-3DE3□-□□□□**		1	1 unit	113	2.200
	3VL37 25-2DE3□-□□□□		1	1 unit	113	2.300		**3VL37 25-3DE3□-□□□□**		1	1 unit	113	2.300
	3 6							**3 6**					
	3VL47 40-2DE36-□□□□		1	1 unit	113	5.700		**3VL47 40-3DE36-□□□□**		1	1 unit	113	5.700
	3VL57 63-2DE36-□□□□		1	1 unit	113	9.000		**3VL57 63-3DE36-□□□□**		1	1 unit	113	9.000
	3VL67 80-2DE36-□□□□		1	1 unit	113	15.700		**3VL67 80-3DE36-□□□□**		1	1 unit	113	15.700
	3VL77 12-2DE36-□□□□		1	1 unit	113	23.500		**3VL77 12-3DE36-□□□□**		1	1 unit	113	23.500
	3VL87 16-2DE30-□□□□		1	1 unit	113	29.800		**3VL87 16-3DE30-□□□□**		1	1 unit	113	29.800

* You can order this quantity or a multiple thereof.

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3VL Molded Case Circuit Breakers up to 1600 A, IEC

3-pole

Order No. supplement (for complete Order No., see pages 2/14 to 2/30) 3VL.7 ..-. □□3.-... Releases		Breaking capacity	Type VL160 3VL2			VL250 3VL3		VL400 3VL4		VL630 3VL5		VL800 3VL6	VL1250 3VL7		VL1600 3VL8
			Rated current I_n 63 A	100 A	160 A	200 A	250 A	315 A	400 A	500 A	630 A	800 A	1000 A	1250 A	1600 A
			Price												
ETU10	**SB**	N	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		H	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		L	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
ETU10	**MB**	N	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		H	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		L	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
ETU10	**LB**	N	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		H	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		L	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
ETU12	**SL**	N	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		H	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		L	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
ETU12	**ML**	N	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		H	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		L	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
ETU12	**SF**	N	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		H	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		L	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
ETU12	**MF**	N	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		H	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		L	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
ETU20	**SE**	N	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		H	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		L	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
ETU20	**ME**	N	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		H	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		L	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
ETU20	**LE**	N	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		H	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		L	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
ETU22	**SG**	N	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		H	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		L	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
ETU22	**MG**	N	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		H	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		L	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
ETU42	**UL**	N	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		H	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		L	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
ETU42	**UM**	N	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		H	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		L	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
ETU22	**SH**	N	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		H	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		L	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
ETU22	**MH**	N	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		H	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		L	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
ETU40	**UH**	N	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		H	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓
		L	✓	✓	✓	✓	✓	✓	✓	--	✓	✓	✓	✓	✓

✓ Available

-- Not available

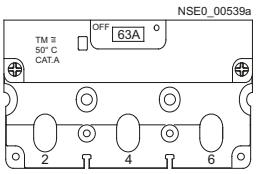
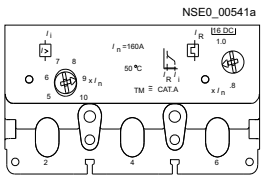
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Order No. supplement (for complete Order No. see pages 2/14 to 2/30) **3VL.7 .. - .□□3.-....** Releases		Breaking capacity	Type **VL160** 3VL2			**VL250** 3VL3		**VL400** 3VL4		**VL630** 3VL5		**VL800** 3VL6	**VL1250** 3VL7		**VL1600** 3VL8
			Rated current I_n												
			63 A	100 A	160 A	200 A	250 A	315 A	400 A	500 A	630 A	800 A	1000 A	1250 A	1600 A
			Price												
ETU10M	**SP**	N	✓	✓	✓	✓	✓	✓	--	✓	--	--	--	--	--
		H	✓	✓	✓	✓	✓	✓	--	✓	--	--	--	--	--
		L	✓	✓	✓	✓	✓	✓	--	✓	--	--	--	--	--
ETU10M	**MP**	N	✓	✓	✓	✓	✓	✓	--	✓	--	--	--	--	--
		H	✓	✓	✓	✓	✓	✓	--	✓	--	--	--	--	--
		L	✓	✓	✓	✓	✓	✓	--	✓	--	--	--	--	--
ETU30M	**SS**	N	✓	✓	✓	✓	✓	✓	--	✓	--	--	--	--	--
		H	✓	✓	✓	✓	✓	✓	--	✓	--	--	--	--	--
		L	✓	✓	✓	✓	✓	✓	--	✓	--	--	--	--	--
ETU30M	**MS**	N	✓	✓	✓	✓	✓	✓	--	✓	--	--	--	--	--
		H	✓	✓	✓	✓	✓	✓	--	✓	--	--	--	--	--
		L	✓	✓	✓	✓	✓	✓	--	✓	--	--	--	--	--
ETU30M	**LS**	N	✓	✓	✓	✓	✓	✓	--	✓	--	--	--	--	--
		H	✓	✓	✓	✓	✓	✓	--	✓	--	--	--	--	--
		L	✓	✓	✓	✓	✓	✓	--	✓	--	--	--	--	--
ETU40M	**UP**	N	✓	✓	✓	✓	✓	✓	--	✓	--	--	--	--	--
		H	✓	✓	✓	✓	✓	✓	--	✓	--	--	--	--	--
		L	✓	✓	✓	✓	✓	✓	--	✓	--	--	--	--	--

✓ Available
-- Not available

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Selection and ordering data

Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "L" I_R	Operating current of the instantaneous short-circuit releases "I" I_i	DT**	I_{cu} up to 55 kA at 415 V, standard breaking capacity N See "Overview". Order No. / Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	A							kg
4-pole, fixed-mounted, for system protection, 16 A to 630 A, thermal-magnetic releases LI										
 NSE0_00695  NSE0_00539a										
System protection, TM, LI function										
With non-adjustable thermal overcurrent releases, non-adjustable short-circuit releases, without overcurrent and short-circuit release in 4th pole (N)										
VL160X/3VL1	16	16	300		**3VL17 96-1EH4□-□□□□**		1	1 unit	113	2.300
	20	20	300		**3VL17 02-1EH4□-□□□□**		1	1 unit	113	2.300
	25	25	300		**3VL17 25-1EH4□-□□□□**		1	1 unit	113	2.500
	32	32	300		**3VL17 03-1EH4□-□□□□**		1	1 unit	113	2.500
	40	40	600		**3VL17 04-1EH4□-□□□□**		1	1 unit	113	2.500
	50	50	600		**3VL17 05-1EH4□-□□□□**		1	1 unit	113	2.500
	63	63	600		**3VL17 06-1EH4□-□□□□**		1	1 unit	113	2.500
	80	80	1000		**3VL17 08-1EH4□-□□□□**		1	1 unit	113	2.500
	100	100	1000		**3VL17 10-1EH4□-□□□□**		1	1 unit	113	2.500
	125	125	1000		**3VL17 12-1EH4□-□□□□**		1	1 unit	113	2.500
	160	160	1500		**3VL17 16-1EH4□-□□□□**		1	1 unit	113	2.500
Connection type can be selected by assignment of the 12th position of the Order No.										
• Connection with box terminal					**3**					
• Connection with screw terminal not in conjunction with RCD module					**6**					
 NSE0_00704  NSE0_00541a										
System protection, TM, LI function										
With adjustable thermal overcurrent releases, adjustable short-circuit releases, without overcurrent and short-circuit release in 4th pole (N)										
VL160/3VL2	50	40 ... 50	300 ... 600		**3VL27 05-1EJ4□-□□□□**		1	1 unit	113	3.000
	63	50 ... 63	300 ... 600		**3VL27 06-1EJ4□-□□□□**		1	1 unit	113	3.000
	80	63 ... 80	400 ... 800		**3VL27 08-1EJ4□-□□□□**		1	1 unit	113	3.000
	100	80 ... 100	500 ... 1000		**3VL27 10-1EJ4□-□□□□**		1	1 unit	113	3.000
	125	100 ... 125	625 ... 1250		**3VL27 12-1EJ4□-□□□□**		1	1 unit	113	3.000
	160	125 ... 160	800 ... 1600		**3VL27 16-1EJ4□-□□□□**		1	1 unit	113	3.000
VL250/3VL3	200	160 ... 200	1000 ... 2000		**3VL37 20-1EJ4□-□□□□**		1	1 unit	113	3.200
	250	200 ... 250	1250 ... 2500		**3VL37 25-1EJ4□-□□□□**		1	1 unit	113	3.200
Connection type can be selected by assignment of the 12th position of the Order No.										
• Connection with box terminal					**3**					
• Connection with screw terminal					**6**					
VL400/3VL4	200	160 ... 200	1000 ... 2000		**3VL47 20-1EJ46-□□□□**		1	1 unit	113	7.400
	250	200 ... 250	1250 ... 2500		**3VL47 25-1EJ46-□□□□**		1	1 unit	113	7.400
	315	250 ... 315	1575 ... 3150		**3VL47 31-1EJ46-□□□□**		1	1 unit	113	7.400
	400	320 ... 400	2000 ... 4000		**3VL47 40-1EJ46-□□□□**		1	1 unit	113	7.400
VL630/3VL5	315	250 ... 315	1575 ... 3150		**3VL57 31-1EJ46-□□□□**		1	1 unit	113	11.200
	400	320 ... 400	2000 ... 4000		**3VL57 40-1EJ46-□□□□**		1	1 unit	113	11.200
	500	400 ... 500	2500 ... 5000		**3VL57 50-1EJ46-□□□□**		1	1 unit	113	11.200
	630	500 ... 630	3150 ... 6300		**3VL57 63-1EJ46-□□□□**		1	1 unit	113	11.200

** Delivery time class A for Order No. supplement "0AA0", see page 2/58.

* You can order this quantity or a multiple thereof.

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DT **	I_{cu} up to 70 kA at 415 V, high breaking capacity H					(H)	DT**	I_{cu} up to 100 kA at 415 V, very high breaking capacity L					(L)
	Order No. Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL17 96-2EH4□-□□□□		1	1 unit	113	2.300		**--**					
	3VL17 02-2EH4□-□□□□		1	1 unit	113	2.300		**--**					
	3VL17 25-2EH4□-□□□□		1	1 unit	113	2.500		**--**					
	3VL17 03-2EH4□-□□□□		1	1 unit	113	2.500		**--**					
	3VL17 04-2EH4□-□□□□		1	1 unit	113	2.500		**--**					
	3VL17 05-2EH4□-□□□□		1	1 unit	113	2.500		**--**					
	3VL17 06-2EH4□-□□□□		1	1 unit	113	2.500		**--**					
	3VL17 08-2EH4□-□□□□		1	1 unit	113	2.500		**--**					
	3VL17 10-2EH4□-□□□□		1	1 unit	113	2.500		**--**					
	3VL17 12-2EH4□-□□□□		1	1 unit	113	2.500		**--**					
	3VL17 16-2EH4□-□□□□		1	1 unit	113	2.500		**--**					
	3 6												
	3VL27 05-2EJ4□-□□□□		1	1 unit	113	3.000		**3VL27 05-3EJ4□-□□□□**		1	1 unit	113	3.000
	3VL27 06-2EJ4□-□□□□		1	1 unit	113	3.000		**3VL27 06-3EJ4□-□□□□**		1	1 unit	113	3.000
	3VL27 08-2EJ4□-□□□□		1	1 unit	113	3.000		**3VL27 08-3EJ4□-□□□□**		1	1 unit	113	3.000
	3VL27 10-2EJ4□-□□□□		1	1 unit	113	3.000		**3VL27 10-3EJ4□-□□□□**		1	1 unit	113	3.000
	3VL27 12-2EJ4□-□□□□		1	1 unit	113	3.000		**3VL27 12-3EJ4□-□□□□**		1	1 unit	113	3.000
	3VL27 16-2EJ4□-□□□□		1	1 unit	113	3.000		**3VL27 16-3EJ4□-□□□□**		1	1 unit	113	3.000
	3VL37 20-2EJ4□-□□□□		1	1 unit	113	3.200		**3VL37 20-3EJ4□-□□□□**		1	1 unit	113	3.200
	3VL37 25-2EJ4□-□□□□		1	1 unit	113	3.200		**3VL37 25-3EJ4□-□□□□**		1	1 unit	113	3.200
	3 6							**3 6**					
	3VL47 20-2EJ46-□□□□		1	1 unit	113	7.400		**3VL47 20-3EJ46-□□□□**		1	1 unit	113	7.400
	3VL47 25-2EJ46-□□□□		1	1 unit	113	7.400		**3VL47 25-3EJ46-□□□□**		1	1 unit	113	7.400
	3VL47 31-2EJ46-□□□□		1	1 unit	113	7.400		**3VL47 31-3EJ46-□□□□**		1	1 unit	113	7.400
	3VL47 40-2EJ46-□□□□		1	1 unit	113	7.400		**3VL47 40-3EJ46-□□□□**		1	1 unit	113	7.400
	3VL57 31-2EJ46-□□□□		1	1 unit	113	11.200		**3VL57 31-3EJ46-□□□□**		1	1 unit	113	11.200
	3VL57 40-2EJ46-□□□□		1	1 unit	113	11.200		**3VL57 40-3EJ46-□□□□**		1	1 unit	113	11.200
	3VL57 50-2EJ46-□□□□		1	1 unit	113	11.200		**3VL57 50-3EJ46-□□□□**		1	1 unit	113	11.200
	3VL57 63-2EJ46-□□□□		1	1 unit	113	11.200		**3VL57 63-3EJ46-□□□□**		1	1 unit	113	11.200

****** Delivery time class A for Order No. supplement "0AA0", see page 2/58.

* You can order this quantity or a multiple thereof.

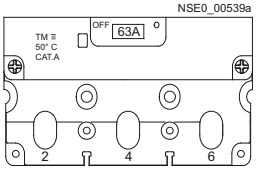
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4-pole

Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "L" I_R	Operating current of the instantaneous short-circuit releases "I" I_i	DT**	I_{cu} up to 55 kA at 415 V, standard breaking capacity N See "Overview". Order No. / Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	A							kg

4-pole, fixed-mounted, for system protection, 16 A to 160 A, thermal-magnetic releases LIN


NSE0_00695



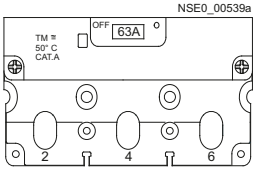
System protection, TM, LIN function

With non-adjustable thermal overcurrent releases, non-adjustable short-circuit releases, with "N" overcurrent and short-circuit release
N protection = 100 %

VL160X/3VL1	16	16	300	**3VL17 96-1EA4□-□□□□**	1	1 unit	113	2.300
	20	20	300	**3VL17 02-1EA4□-□□□□**	1	1 unit	113	2.300
	25	25	300	**3VL17 25-1EA4□-□□□□**	1	1 unit	113	2.500
	32	32	300	**3VL17 03-1EA4□-□□□□**	1	1 unit	113	2.500
	40	40	600	**3VL17 04-1EA4□-□□□□**	1	1 unit	113	2.500
	50	50	600	**3VL17 05-1EA4□-□□□□**	1	1 unit	113	2.500
	63	63	600	**3VL17 06-1EA4□-□□□□**	1	1 unit	113	2.500
	80	80	1000	**3VL17 08-1EA4□-□□□□**	1	1 unit	113	2.500
	100	100	1000	**3VL17 10-1EA4□-□□□□**	1	1 unit	113	2.500
	125	125	1000	**3VL17 12-1EL4□-□□□□**	1	1 unit	113	2.500
	160	160	1500	**3VL17 16-1EL4□-□□□□**	1	1 unit	113	2.500

Connection type can be selected by assignment of the 12th position of the Order No.
- Connection with box terminal **3**
- Connection with screw terminal not in conjunction with RCD module **6**


NSE0_00695



System protection, TM, LIN function

With non-adjustable thermal overcurrent releases, non-adjustable short-circuit releases, with "N" overcurrent and short-circuit release
N protection = 60 %

VL160X/3VL1	125	125	1000	**3VL17 12-1EA4□-□□□□**	1	1 unit	113	2.500
	160	160	1500	**3VL17 16-1EA4□-□□□□**	1	1 unit	113	2.500

Connection type can be selected by assignment of the 12th position of the Order No.
- Connection with box terminal **3**
- Connection with screw terminal not in conjunction with RCD module **6**

** Delivery time class A for Order No. supplement "0AA0", see page 2/58.

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DT**	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)						DT**	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)					
	Order No. / Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. / Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL17 96-2EA4□-□□□□		1	1 unit	113	2.300		--					
	3VL17 02-2EA4□-□□□□		1	1 unit	113	2.300		--					
	3VL17 25-2EA4□-□□□□		1	1 unit	113	2.500		--					
	3VL17 03-2EA4□-□□□□		1	1 unit	113	2.500		--					
	3VL17 04-2EA4□-□□□□		1	1 unit	113	2.500		--					
	3VL17 05-2EA4□-□□□□		1	1 unit	113	2.500		--					
	3VL17 06-2EA4□-□□□□		1	1 unit	113	2.500		--					
	3VL17 08-2EA4□-□□□□		1	1 unit	113	2.500		--					
	3VL17 10-2EA4□-□□□□		1	1 unit	113	2.500		--					
	3VL17 12-2EL4□-□□□□		1	1 unit	113	2.500		--					
	3VL17 16-2EL4□-□□□□		1	1 unit	113	2.500		--					

3
6

	3VL17 12-2EA4□-□□□□		1	1 unit	113	2.500		--					
	3VL17 16-2EA4□-□□□□		1	1 unit	113	2.500		--					

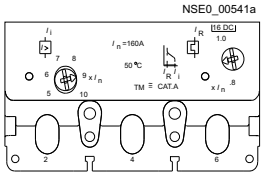
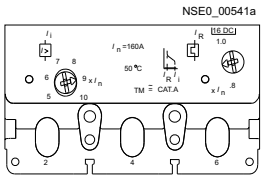
3
6

** Delivery time class A for Order No. supplement "0AA0", see page 2/58.

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4-pole

Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "L" I_R	Operating current of the instantaneous short-circuit releases "I" I_i	DT	I_{cu} up to 55 kA at 415 V, standard breaking capacity N See "Overview". Order No. / Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	(N) Weight per PU approx.
	A	A	A							kg
4-pole, fixed-mounted, for system protection, 16 A to 630 A, thermal-magnetic trip units LIN										
 NSE0_00691										
 NSE0_00541a										
System protection, TM, LIN function										
With adjustable thermal overcurrent releases, adjustable short-circuit releases, with "N" overcurrent and short-circuit release N protection = 100 %										
VL160/3VL2	50	40 ... 50	300 ... 600		**3VL27 05-1EM4□-□□□□**		1	1 unit	113	3.000
	63	50 ... 63	300 ... 600		**3VL27 06-1EM4□-□□□□**		1	1 unit	113	3.000
	80	63 ... 80	400 ... 800		**3VL27 08-1EM4□-□□□□**		1	1 unit	113	3.000
	100	80 ... 100	500 ... 1000		**3VL27 10-1EM4□-□□□□**		1	1 unit	113	3.000
	125	100 ... 125	625 ... 1250		**3VL27 12-1EM4□-□□□□**		1	1 unit	113	3.000
	160	125 ... 160	800 ... 1600		**3VL27 16-1EM4□-□□□□**		1	1 unit	113	3.000
VL250/3VL3	200	160 ... 200	1000 ... 2000		**3VL37 20-1EM4□-□□□□**		1	1 unit	113	3.200
	250	200 ... 250	1250 ... 2500		**3VL37 25-1EM4□-□□□□**		1	1 unit	113	3.200
Connection type can be selected by assignment of the 12th position of the Order No. • Connection with box terminal **3** • Connection with screw terminal **6**										
VL400/3VL4	200	160 ... 200	1000 ... 2000		**3VL47 20-1EM46-□□□□**		1	1 unit	113	7.400
	250	200 ... 250	1250 ... 2500		**3VL47 25-1EM46-□□□□**		1	1 unit	113	7.400
	315	250 ... 315	1575 ... 3150		**3VL47 31-1EM46-□□□□**		1	1 unit	113	7.400
	400	320 ... 400	2000 ... 4000		**3VL47 40-1EM46-□□□□**		1	1 unit	113	7.400
VL630/3VL5	315	250 ... 315	1575 ... 3150		**3VL57 31-1EM46-□□□□**		1	1 unit	113	11.200
	400	320 ... 400	2000 ... 4000		**3VL57 40-1EM46-□□□□**		1	1 unit	113	11.200
	500	400 ... 500	2500 ... 5000		**3VL57 50-1EM46-□□□□**		1	1 unit	113	11.200
	630	500 ... 630	3150 ... 6300		**3VL57 63-1EM46-□□□□**		1	1 unit	113	11.200
 NSE0_00691										
 NSE0_00541a										
System protection, TM, LIN function										
With adjustable thermal overcurrent releases, adjustable short-circuit releases, with "N" overcurrent and short-circuit release N protection = 60 %										
VL160/3VL2	125	100 ... 125	625 ... 1250		**3VL27 12-1EC4□-□□□□**		1	1 unit	113	3.000
	160	125 ... 160	800 ... 1600		**3VL27 16-1EC4□-□□□□**		1	1 unit	113	3.000
VL250/3VL3	200	160 ... 200	1000 ... 2000		**3VL37 20-1EC4□-□□□□**		1	1 unit	113	3.200
	250	200 ... 250	1250 ... 2500		**3VL37 25-1EC4□-□□□□**		1	1 unit	113	3.200
Connection type can be selected by assignment of the 12th position of the Order No. • Connection with box terminal **3** • Connection with screw terminal **6**										
VL400/3VL4	200	160 ... 200	1000 ... 2000		**3VL47 20-1EC46-□□□□**		1	1 unit	113	7.400
	250	200 ... 250	1250 ... 2500		**3VL47 25-1EC46-□□□□**		1	1 unit	113	7.400
	315	250 ... 315	1575 ... 3150		**3VL47 31-1EC46-□□□□**		1	1 unit	113	7.400
	400	320 ... 400	2000 ... 4000		**3VL47 40-1EC46-□□□□**		1	1 unit	113	7.400
VL630/3VL5	315	250 ... 315	1575 ... 3150		**3VL57 31-1EC46-□□□□**		1	1 unit	113	11.200
	400	320 ... 400	2000 ... 4000		**3VL57 40-1EC46-□□□□**		1	1 unit	113	11.200
	500	400 ... 500	2500 ... 5000		**3VL57 50-1EC46-□□□□**		1	1 unit	113	11.200
	630	500 ... 630	3150 ... 6300		**3VL57 63-1EC46-□□□□**		1	1 unit	113	11.200

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DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H					(H)	DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L					(L)
	Order No. Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 05-2EM4□-□□□□		1	1 unit	113	3.000		**3VL27 05-3EM4□-□□□□**		1	1 unit	113	3.000
	3VL27 06-2EM4□-□□□□		1	1 unit	113	3.000		**3VL27 06-3EM4□-□□□□**		1	1 unit	113	3.000
	3VL27 08-2EM4□-□□□□		1	1 unit	113	3.000		**3VL27 08-3EM4□-□□□□**		1	1 unit	113	3.000
	3VL27 10-2EM4□-□□□□		1	1 unit	113	3.000		**3VL27 10-3EM4□-□□□□**		1	1 unit	113	3.000
	3VL27 12-2EM4□-□□□□		1	1 unit	113	3.000		**3VL27 12-3EM4□-□□□□**		1	1 unit	113	3.000
	3VL27 16-2EM4□-□□□□		1	1 unit	113	3.000		**3VL27 16-3EM4□-□□□□**		1	1 unit	113	3.000
	3VL37 20-2EM4□-□□□□		1	1 unit	113	3.200		**3VL37 20-3EM4□-□□□□**		1	1 unit	113	3.200
	3VL37 25-2EM4□-□□□□		1	1 unit	113	3.200		**3VL37 25-3EM4□-□□□□**		1	1 unit	113	3.200
	3 6							**3 6**					
	3VL47 20-2EM46-□□□□		1	1 unit	113	7.400		**3VL47 20-3EM46-□□□□**		1	1 unit	113	7.400
	3VL47 25-2EM46-□□□□		1	1 unit	113	7.400		**3VL47 25-3EM46-□□□□**		1	1 unit	113	7.400
	3VL47 31-2EM46-□□□□		1	1 unit	113	7.400		**3VL47 31-3EM46-□□□□**		1	1 unit	113	7.400
	3VL47 40-2EM46-□□□□		1	1 unit	113	7.400		**3VL47 40-3EM46-□□□□**		1	1 unit	113	7.400
	3VL57 31-2EM46-□□□□		1	1 unit	113	11.200		**3VL57 31-3EM46-□□□□**		1	1 unit	113	11.200
	3VL57 40-2EM46-□□□□		1	1 unit	113	11.200		**3VL57 40-3EM46-□□□□**		1	1 unit	113	11.200
	3VL57 50-2EM46-□□□□		1	1 unit	113	11.200		**3VL57 50-3EM46-□□□□**		1	1 unit	113	11.200
	3VL57 63-2EM46-□□□□		1	1 unit	113	11.200		**3VL57 63-3EM46-□□□□**		1	1 unit	113	11.200
	3VL27 12-2EC4□-□□□□		1	1 unit	113	3.000		**3VL27 12-3EC4□-□□□□**		1	1 unit	113	3.000
	3VL27 16-2EC4□-□□□□		1	1 unit	113	3.000		**3VL27 16-3EC4□-□□□□**		1	1 unit	113	3.000
	3VL37 20-2EC4□-□□□□		1	1 unit	113	3.200		**3VL37 20-3EC4□-□□□□**		1	1 unit	113	3.200
	3VL37 25-2EC4□-□□□□		1	1 unit	113	3.200		**3VL37 25-3EC4□-□□□□**		1	1 unit	113	3.200
	3 6							**3 6**					
	3VL47 20-2EC46-□□□□		1	1 unit	113	7.400		**3VL47 20-3EC46-□□□□**		1	1 unit	113	7.400
	3VL47 25-2EC46-□□□□		1	1 unit	113	7.400		**3VL47 25-3EC46-□□□□**		1	1 unit	113	7.400
	3VL47 31-2EC46-□□□□		1	1 unit	113	7.400		**3VL47 31-3EC46-□□□□**		1	1 unit	113	7.400
	3VL47 40-2EC46-□□□□		1	1 unit	113	7.400		**3VL47 40-3EC46-□□□□**		1	1 unit	113	7.400
	3VL57 31-2EC46-□□□□		1	1 unit	113	11.200		**3VL57 31-3EC46-□□□□**		1	1 unit	113	11.200
	3VL57 40-2EC46-□□□□		1	1 unit	113	11.200		**3VL57 40-3EC46-□□□□**		1	1 unit	113	11.200
	3VL57 50-2EC46-□□□□		1	1 unit	113	11.200		**3VL57 50-3EC46-□□□□**		1	1 unit	113	11.200
	3VL57 63-2EC46-□□□□		1	1 unit	113	11.200		**3VL57 63-3EC46-□□□□**		1	1 unit	113	11.200

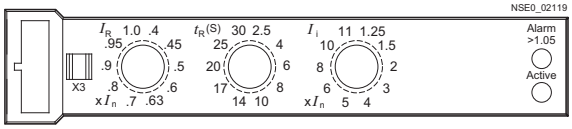
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Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "L" I_R	Operating current of the instantaneous short-circuit releases "I" I_i	DT	I_{cu} up to 55 kA at 415 V, standard breaking capacity N See "Overview". Order No. / Order No. supplement required, see page 2/58	Price see page 2/56	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	A							kg

4-pole, fixed-mounted, for system protection, 63 A to 1600 A, Electronic Trip Units LI





ETU10, LI function

With adjustable overcurrent releases, adjustable short-circuit releases

VL160/3VL2	63	25 ... 63	1.25 ... 11 × I_n	**3VL27 06-1□□4□-□□□□**	1	1 unit	113	3.100
	100	40 ... 100	1.25 ... 11 × I_n	**3VL27 10-1□□4□-□□□□**	1	1 unit	113	3.100
	160	64 ... 160	1.25 ... 11 × I_n	**3VL27 16-1□□4□-□□□□**	1	1 unit	113	3.100
VL250/3VL3	200	80 ... 200	1.25 ... 11 × I_n	**3VL37 20-1□□4□-□□□□**	1	1 unit	113	3.300
	250	100 ... 250	1.25 ... 11 × I_n	**3VL37 25-1□□4□-□□□□**	1	1 unit	113	3.300

Connection type can be selected by assignment of the 12th position of the Order No.

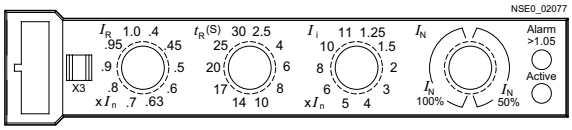
• Connection with box terminal	**3**
• Connection with screw terminal	**6**

VL400/3VL4	315	128 ... 315	1.25 ... 11 × I_n	**3VL47 31-1□□46-□□□□**	1	1 unit	113	7.600
	400	160 ... 400	1.25 ... 11 × I_n	**3VL47 40-1□□46-□□□□**	1	1 unit	113	7.600
VL630/3VL5	630	252 ... 630	1.25 ... 10 × I_n	**3VL57 63-1□□46-□□□□**	1	1 unit	113	11.700
VL800/3VL6	800	320 ... 800	1.25 ... 8 × I_n	**3VL67 80-1□□46-□□□□**	1	1 unit	113	20.500
VL1250/3VL7	1000	400 ... 1000	1.25 ... 11 × I_n	**3VL77 10-1□□46-□□□□**	1	1 unit	113	33.500
	1250	500 ... 1250	1.25 ... 11 × I_n	**3VL77 12-1□□46-□□□□**	1	1 unit	113	33.500
VL1600/3VL8[1)]	1600	640 ... 1600	1.25 ... 9 × I_n	**3VL87 16-1□□40-□□□□**	1	1 unit	113	40.800

• Without communication preparation	**TB**
• With communication preparation	**NB**

4-pole, fixed-mounted, for system protection, 63 A to 1600 A, Electronic Trip Units LIN





ETU10, LIN function

With adjustable overcurrent releases, adjustable short-circuit releases
with overcurrent and short-circuit release in 4th pole (N)
N protection = 50/100 %

VL160/3VL2	63	25 ... 63	1.25 ... 11 × I_n	**3VL27 06-1□□4□-□□□□**	1	1 unit	113	3.100
	100	40 ... 100	1.25 ... 11 × I_n	**3VL27 10-1□□4□-□□□□**	1	1 unit	113	3.100
	160	64 ... 160	1.25 ... 11 × I_n	**3VL27 16-1□□4□-□□□□**	1	1 unit	113	3.100
VL250/3VL3	200	80 ... 200	1.25 ... 11 × I_n	**3VL37 20-1□□4□-□□□□**	1	1 unit	113	3.300
	250	100 ... 250	1.25 ... 11 × I_n	**3VL37 25-1□□4□-□□□□**	1	1 unit	113	3.300

Connection type can be selected by assignment of the 12th position of the Order No.

• Connection with box terminal	**3**
• Connection with screw terminal	**6**

VL400/3VL4	315	128 ... 315	1.25 ... 11 × I_n	**3VL47 31-1□□46-□□□□**	1	1 unit	113	7.600
	400	160 ... 400	1.25 ... 11 × I_n	**3VL47 40-1□□46-□□□□**	1	1 unit	113	7.600
VL630/3VL5	630	252 ... 630	1.25 ... 10 × I_n	**3VL57 63-1□□46-□□□□**	1	1 unit	113	11.700
VL800/3VL6	800	320 ... 800	1.25 ... 8 × I_n	**3VL67 80-1□□46-□□□□**	1	1 unit	113	20.500
VL1250/3VL7	1000	400 ... 1000	1.25 ... 11 × I_n	**3VL77 10-1□□46-□□□□**	1	1 unit	113	33.500
	1250	500 ... 1250	1.25 ... 11 × I_n	**3VL77 12-1□□46-□□□□**	1	1 unit	113	33.500
VL1600/3VL8[1)]	1600	640 ... 1600	1.25 ... 9 × I_n	**3VL87 16-1□□40-□□□□**	1	1 unit	113	40.800

• Without communication preparation	**TA**
• With communication preparation	**NA**
• Marine engineering-certified LRS, DNV, GL and BV (not communication-ready)	**LA**

[1)] Front busbar connection pieces are included in the scope of supply and are to be fitted by the customer.

* You can order this quantity or a multiple thereof.

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DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)					DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)				
	Order No. / Order No. supplement required, see page 2/58	Price see page 2/56	PU (UNIT, SET,	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. / Order No. supplement required, see page 2/58	Price see page 2/56	PU (UNIT, SET,	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 06-2□□4□-□□□□		1	1 unit	113	3.100		**3VL27 06-3□□4□-□□□□**		1	1 unit	113	3.100
	3VL27 10-2□□4□-□□□□		1	1 unit	113	3.100		**3VL27 10-3□□4□-□□□□**		1	1 unit	113	3.100
	3VL27 16-2□□4□-□□□□		1	1 unit	113	3.100		**3VL27 16-3□□4□-□□□□**		1	1 unit	113	3.100
	3VL37 20-2□□4□-□□□□		1	1 unit	113	3.300		**3VL37 20-3□□4□-□□□□**		1	1 unit	113	3.300
	3VL37 25-2□□4□-□□□□		1	1 unit	113	3.300		**3VL37 25-3□□4□-□□□□**		1	1 unit	113	3.300
	3 6							**3 6**					
	3VL47 31-2□□46-□□□□		1	1 unit	113	7.600		**3VL47 31-3□□46-□□□□**		1	1 unit	113	7.600
	3VL47 40-2□□46-□□□□		1	1 unit	113	7.600		**3VL47 40-3□□46-□□□□**		1	1 unit	113	7.600
	3VL57 63-2□□46-□□□□		1	1 unit	113	11.700		**3VL57 63-3□□46-□□□□**		1	1 unit	113	11.700
	3VL67 80-2□□46-□□□□		1	1 unit	113	20.500		**3VL67 80-3□□46-□□□□**		1	1 unit	113	20.500
	3VL77 10-2□□46-□□□□		1	1 unit	113	33.500		**3VL77 10-3□□46-□□□□**		1	1 unit	113	33.500
	3VL77 12-2□□46-□□□□		1	1 unit	113	33.500		**3VL77 12-3□□46-□□□□**		1	1 unit	113	33.500
	3VL87 16-2□□40-□□□□		1	1 unit	113	40.800		**3VL87 16-3□□40-□□□□**		1	1 unit	113	40.800
	TB NB							**TB NB**					

DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)					DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)				
	Order No. / Order No. supplement required, see page 2/58	Price see page 2/56	PU (UNIT, SET,	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. / Order No. supplement required, see page 2/58	Price see page 2/56	PU (UNIT, SET,	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 06-2□□4□-□□□□		1	1 unit	113	3.100		**3VL27 06-3□□4□-□□□□**		1	1 unit	113	3.100
	3VL27 10-2□□4□-□□□□		1	1 unit	113	3.100		**3VL27 10-3□□4□-□□□□**		1	1 unit	113	3.100
	3VL27 16-2□□4□-□□□□		1	1 unit	113	3.100		**3VL27 16-3□□4□-□□□□**		1	1 unit	113	3.100
	3VL37 20-2□□4□-□□□□		1	1 unit	113	3.300		**3VL37 20-3□□4□-□□□□**		1	1 unit	113	3.300
	3VL37 25-2□□4□-□□□□		1	1 unit	113	3.300		**3VL37 25-3□□4□-□□□□**		1	1 unit	113	3.300
	3 6							**3 6**					
	3VL47 31-2□□46-□□□□		1	1 unit	113	7.600		**3VL47 31-3□□46-□□□□**		1	1 unit	113	7.600
	3VL47 40-2□□46-□□□□		1	1 unit	113	7.600		**3VL47 40-3□□46-□□□□**		1	1 unit	113	7.600
	3VL57 63-2□□46-□□□□		1	1 unit	113	11.700		**3VL57 63-3□□46-□□□□**		1	1 unit	113	11.700
	3VL67 80-2□□46-□□□□		1	1 unit	113	20.500		**3VL67 80-3□□46-□□□□**		1	1 unit	113	20.500
	3VL77 10-2□□46-□□□□		1	1 unit	113	33.500		**3VL77 10-3□□46-□□□□**		1	1 unit	113	33.500
	3VL77 12-2□□46-□□□□		1	1 unit	113	33.500		**3VL77 12-3□□46-□□□□**		1	1 unit	113	33.500
	3VL87 16-2□□40-□□□□		1	1 unit	113	40.800		**3VL87 16-3□□40-□□□□**		1	1 unit	113	40.800
	TA NA LA							**TA NA LA**					

Communication:

•For accessories, see page 2/93.

- For more information see also chapters "Measuring Devices and Power Monitoring" and "Software".

* You can order this quantity or a multiple thereof.

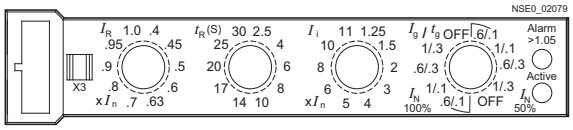
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Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "**L**" I_R	Operating current of the instantaneous short-circuit releases "**I**" I_i	Ground-fault protection "**G**" I_g	DT	**I_{cu} up to 55 kA at 415 V, standard breaking capacity N** See "Overview".					(N)
						Order No. / Order No. supplement required, see page 2/58	Price see page 2/56	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	A	A							kg

4-pole, fixed-mounted, for system protection, 63 A to 1600 A, Electronic Trip Units LING



NSE0_00693



ETU12, LING function for 4-wire three-phase systems

With adjustable overcurrent releases, adjustable short-circuit releases, vectorial summation current formation, ground-fault delay t_g = 0.1 ... 0.3 s, ground-fault protection (G) can be switched off with overcurrent and short-circuit release in 4th pole (N), N protection = 50/100 %

VL160/3VL2	63	25 ... 63	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL27 06-1□□4□-□□□□**	1	1 unit	113	3.100
	100	40 ... 100	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL27 10-1□□4□-□□□□**	1	1 unit	113	3.100
	160	64 ... 160	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL27 16-1□□4□-□□□□**	1	1 unit	113	3.100
VL250/3VL3	200	80 ... 200	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL37 20-1□□4□-□□□□**	1	1 unit	113	3.300
	250	100 ... 250	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL37 25-1□□4□-□□□□**	1	1 unit	113	3.300

Connection type can be selected by assignment of the 12th position of the Order No.

• Connection with box terminal	**3**
• Connection with screw terminal	**6**

VL400/3VL4	315	128 ... 315	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL47 31-1□□46-□□□□**	1	1 unit	113	7.600
	400	160 ... 400	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL47 40-1□□46-□□□□**	1	1 unit	113	7.600
VL630/3VL5	630	252 ... 630	1.25 ... 10 × I_n	0.6 ... 1 × I_n, OFF	**3VL57 63-1□□46-□□□□**	1	1 unit	113	11.700
VL800/3VL6	800	320 ... 800	1.25 ... 8 × I_n	0.6 ... 1 × I_n, OFF	**3VL67 80-1□□46-□□□□**	1	1 unit	113	20.500
VL1250/3VL7	1000	400 ... 1000	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL77 10-1□□46-□□□□**	1	1 unit	113	33.500
	1250	500 ... 1250	1.25 ... 11 × I_n	0.6 ... 1 × I_n, OFF	**3VL77 12-1□□46-□□□□**	1	1 unit	113	33.500
VL1600/3VL8[1)]	1600	640 ... 1600	1.25 ... 9 × I_n	0.6 ... 1 × I_n, OFF	**3VL87 16-1□□40-□□□□**	1	1 unit	113	40.800

• Without communication preparation	**TN**
• With communication preparation	**NN**

1) Front busbar connection pieces are included in the scope of supply and are to be fitted by the customer.

Communication:

- For accessories, see page 2/93.
- For more information see also chapters "Measuring Devices and Power Monitoring" and "Software".

* You can order this quantity or a multiple thereof.

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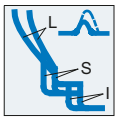
DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)						DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)					
	Order No. / Order No. supplement required, see page 2/58	Price see page 2/56	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. / Order No. supplement required, see page 2/58	Price see page 2/56	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 06-2□□4□-□□□□		1	1 unit	113	3.100		**3VL27 06-3□□4□-□□□□**		1	1 unit	113	3.100
	3VL27 10-2□□4□-□□□□		1	1 unit	113	3.100		**3VL27 10-3□□4□-□□□□**		1	1 unit	113	3.100
	3VL27 16-2□□4□-□□□□		1	1 unit	113	3.100		**3VL27 16-3□□4□-□□□□**		1	1 unit	113	3.100
	3VL37 20-2□□4□-□□□□		1	1 unit	113	3.300		**3VL37 20-3□□4□-□□□□**		1	1 unit	113	3.300
	3VL37 25-2□□4□-□□□□		1	1 unit	113	3.300		**3VL37 25-3□□4□-□□□□**		1	1 unit	113	3.300
	3 6							**3 6**					
	3VL47 31-2□□46-□□□□		1	1 unit	113	7.600		**3VL47 31-3□□46-□□□□**		1	1 unit	113	7.600
	3VL47 40-2□□46-□□□□		1	1 unit	113	7.600		**3VL47 40-3□□46-□□□□**		1	1 unit	113	7.600
	3VL57 63-2□□46-□□□□		1	1 unit	113	11.700		**3VL57 63-3□□46-□□□□**		1	1 unit	113	11.700
	3VL67 80-2□□46-□□□□		1	1 unit	113	20.500		**3VL67 80-3□□46-□□□□**		1	1 unit	113	20.500
	3VL77 10-2□□46-□□□□		1	1 unit	113	33.500		**3VL77 10-3□□46-□□□□**		1	1 unit	113	33.500
	3VL77 12-2□□46-□□□□		1	1 unit	113	33.500		**3VL77 12-3□□46-□□□□**		1	1 unit	113	33.500
	3VL87 16-2□□40-□□□□		1	1 unit	113	40.800		**3VL87 16-3□□40-□□□□**		1	1 unit	113	40.800
	TN NN							**TN NN**					

* You can order this quantity or a multiple thereof.

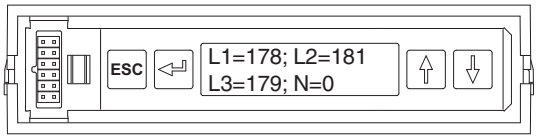
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Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "**L**" I_R	Operating current of the instantaneous short-circuit releases "**I**" I_i	S function short-circuit protection (short-time delayed) **S**	DT	I_{cu} **up to 55 kA at 415 V, standard breaking capacity N** See "Overview".					(N)
						Order No. / Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	A	A							kg

4-pole, fixed-mounted, for system protection - generator protection, 63 A to 1600 A, Electronic Trip Units LI, LSI, LIN, LSIN



NSE0_00696



NSE0_02129

LCD-ETU40, LI/LSI/LIN/LSIN function selectable

With adjustable overcurrent releases, adjustable short-circuit releases,
short-circuit delay t_{sd} = 0 ... 0.5 s
with overcurrent and short-circuit release in 4th pole (N), N protection = 50 ... 100 %, OFF

VL160/3VL2	63[2]	25 ... 63	1.25 ... 11 × I_n	1.5 ... 10 × I_R	**3VL27 06-1UJ4□-□□□□**	1	1 unit	113	3.100
	100[2]	40 ... 100	1.25 ... 11 × I_n	1.5 ... 10 × I_R	**3VL27 10-1UJ4□-□□□□**	1	1 unit	113	3.100
	160	64 ... 160	1.25 ... 11 × I_n	1.5 ... 10 × I_R	**3VL27 16-1UJ4□-□□□□**	1	1 unit	113	3.100
VL250/3VL3	200	80 ... 200	1.25 ... 11 × I_n	1.5 ... 10 × I_R	**3VL37 20-1UJ4□-□□□□**	1	1 unit	113	3.300
	250	100 ... 250	1.25 ... 11 × I_n	1.5 ... 10 × I_R	**3VL37 25-1UJ4□-□□□□**	1	1 unit	113	3.300

Connection type can be selected by assignment of the 12th position of the Order No.

• Connection with box terminal	**3**
• Connection with screw terminal	**6**

VL400/3VL4	315	128 ... 315	1.25 ... 11 × I_n	1.5 ... 10 × I_R	**3VL47 31-1UJ46-□□□□**	1	1 unit	113	7.600
	400	160 ... 400	1.25 ... 11 × I_n	1.5 ... 10 × I_R	**3VL47 40-1UJ46-□□□□**	1	1 unit	113	7.600
VL630/3VL5	630	252 ... 630	1.25 ... 10 × I_n	1.5 ... 9 × I_R	**3VL57 63-1UJ46-□□□□**	1	1 unit	113	11.700
VL800/3VL6	800	320 ... 800	1.25 ... 8 × I_n	1.5 ... 7 × I_R	**3VL67 80-1UJ46-□□□□**	1	1 unit	113	20.500
VL1250/3VL7	1000	400 ... 1000	1.25 ... 11 × I_n	1.5 ... 10 × I_R	**3VL77 10-1UJ46-□□□□**	1	1 unit	113	33.500
	1250	500 ... 1250	1.25 ... 11 × I_n	1.5 ... 10 × I_R	**3VL77 12-1UJ46-□□□□**	1	1 unit	113	33.500
VL1600/3VL8[1]	1600	640 ... 1600	1.25 ... 9 × I_n	1.5 ... 8 × I_R	**3VL87 16-1UJ40-□□□□**	1	1 unit	113	40.800

[1] Front busbar connection pieces are included in the scope of supply and are to be fitted by the customer.

[2] N = 100 % protection for $I_n \leq 100$ A.

* You can order this quantity or a multiple thereof.

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DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)						DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)					
	Order No. Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 06-2UJ4□-□□□□		1	1 unit	113	3.100		**3VL27 06-3UJ4□-□□□□**		1	1 unit	113	3.100
	3VL27 10-2UJ4□-□□□□		1	1 unit	113	3.100		**3VL27 10-3UJ4□-□□□□**		1	1 unit	113	3.100
	3VL27 16-2UJ4□-□□□□		1	1 unit	113	3.100		**3VL27 16-3UJ4□-□□□□**		1	1 unit	113	3.100
	3VL37 20-2UJ4□-□□□□		1	1 unit	113	3.300		**3VL37 20-3UJ4□-□□□□**		1	1 unit	113	3.300
	3VL37 25-2UJ4□-□□□□		1	1 unit	113	3.300		**3VL37 25-3UJ4□-□□□□**		1	1 unit	113	3.300
	3 6							**3 6**					
	3VL47 31-2UJ46-□□□□		1	1 unit	113	7.600		**3VL47 31-3UJ46-□□□□**		1	1 unit	113	7.600
	3VL47 40-2UJ46-□□□□		1	1 unit	113	7.600		**3VL47 40-3UJ46-□□□□**		1	1 unit	113	7.600
	3VL57 63-2UJ46-□□□□		1	1 unit	113	11.700		**3VL57 63-3UJ46-□□□□**		1	1 unit	113	11.700
	3VL67 80-2UJ46-□□□□		1	1 unit	113	20.500		**3VL67 80-3UJ46-□□□□**		1	1 unit	113	20.500
	3VL77 10-2UJ46-□□□□		1	1 unit	113	33.500		**3VL77 10-3UJ46-□□□□**		1	1 unit	113	33.500
	3VL77 12-2UJ46-□□□□		1	1 unit	113	33.500		**3VL77 12-3UJ46-□□□□**		1	1 unit	113	33.500
	3VL87 16-2UJ40-□□□□		1	1 unit	113	40.800		**3VL87 16-3UJ40-□□□□**		1	1 unit	113	40.800

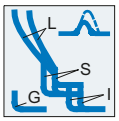
* You can order this quantity or a multiple thereof.

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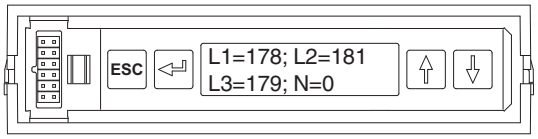
4-pole

Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "**L**" I_R	Operating current of the instantaneous short-circuit releases "**I**" I_i	S function short-circuit protection (short-time delayed) **S**	Ground-fault protection "**G**" I_g	DT	I_{cu} **up to 55 kA at 415 V, standard breaking capacity N** See "Overview". Order No. / Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	A	A	A							kg

4-pole, fixed-mounted, for system protection - generator protection, 63 A to 1600 A, Electronic Trip Units LSIG, LSING



NSE0_00697



NSE0_02129

LCD-ETU42, LSIG/LSING function for 4-wire three-phase systems and time-based discrimination

With adjustable overcurrent releases, adjustable short-circuit releases
Ground fault delay t_g = 0.1 ... 0.5 s, short-circuit delay t_{sd} = 0 ... 0.3 s
with overcurrent and short-circuit release in 4th pole (N), N protection = 50 ... 100 %, OFF

VL160/3VL2	63	25 ... 63	1.25 ... 11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n	**3VL27 06-1UN4□-□□□□**	1	1 unit	113	3.100
	100	40 ... 100	1.25 ... 11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n	**3VL27 10-1UN4□-□□□□**	1	1 unit	113	3.100
	160	64 ... 160	1.25 ... 11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n	**3VL27 16-1UN4□-□□□□**	1	1 unit	113	3.100
VL250/3VL3	200	80 ... 200	1.25 ... 11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n	**3VL37 20-1UN4□-□□□□**	1	1 unit	113	3.300
	250	100 ... 250	1.25 ... 11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n	**3VL37 25-1UN4□-□□□□**	1	1 unit	113	3.300

Connection type can be selected by assignment of the 12th position of the Order No.

• Connection with box terminal	**3**
• Connection with screw terminal	**6**

VL400/3VL4	315	128 ... 315	1.25 ... 11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n	**3VL47 31-1UN46-□□□□**	1	1 unit	113	7.600
	400	160 ... 400	1.25 ... 11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n	**3VL47 40-1UN46-□□□□**	1	1 unit	113	7.600
VL630/3VL5	630	252 ... 630	1.25 ... 10 × I_n	1.5 ... 9 × I_R	0.4 ... 1 × I_n	**3VL57 63-1UN46-□□□□**	1	1 unit	113	11.700
VL800/3VL6	800	320 ... 800	1.25 ... 8 × I_n	1.5 ... 7 × I_R	0.4 ... 1 × I_n	**3VL67 80-1UN46-□□□□**	1	1 unit	113	20.500
VL1250/3VL7	1000	400 ... 1000	1.25 ... 11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n	**3VL77 10-1UN46-□□□□**	1	1 unit	113	33.500
	1250	500 ... 1250	1.25 ... 11 × I_n	1.5 ... 10 × I_R	0.4 ... 1 × I_n	**3VL77 12-1UN46-□□□□**	1	1 unit	113	33.500
VL1600/3VL8[1)]	1600	640 ... 1600	1.25 ... 9 × I_n	1.5 ... 8 × I_R	0.4 ... 1 × I_n	**3VL87 16-1UN40-□□□□**	1	1 unit	113	40.800

1) Front busbar connection pieces are included in the scope of supply and are to be fitted by the customer.

* You can order this quantity or a multiple thereof.

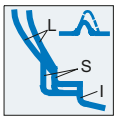
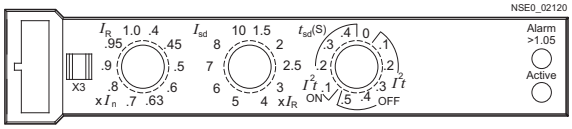
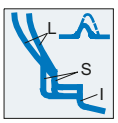
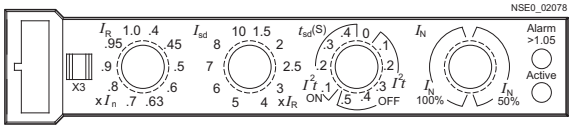
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DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)						DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)					
	Order No. Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 06-2UN4□-□□□□		1	1 unit	113	3.100		**3VL27 06-3UN4□-□□□□**		1	1 unit	113	3.100
	3VL27 10-2UN4□-□□□□		1	1 unit	113	3.100		**3VL27 10-3UN4□-□□□□**		1	1 unit	113	3.100
	3VL27 16-2UN4□-□□□□		1	1 unit	113	3.100		**3VL27 16-3UN4□-□□□□**		1	1 unit	113	3.100
	3VL37 20-2UN4□-□□□□		1	1 unit	113	3.300		**3VL37 20-3UN4□-□□□□**		1	1 unit	113	3.300
	3VL37 25-2UN4□-□□□□		1	1 unit	113	3.300		**3VL37 25-3UN4□-□□□□**		1	1 unit	113	3.300
	3 6							**3 6**					
	3VL47 31-2UN46-□□□□		1	1 unit	113	7.600		**3VL47 31-3UN46-□□□□**		1	1 unit	113	7.600
	3VL47 40-2UN46-□□□□		1	1 unit	113	7.600		**3VL47 40-3UN46-□□□□**		1	1 unit	113	7.600
	3VL57 63-2UN46-□□□□		1	1 unit	113	11.700		**3VL57 63-3UN46-□□□□**		1	1 unit	113	11.700
	3VL67 80-2UN46-□□□□		1	1 unit	113	20.500		**3VL67 80-3UN46-□□□□**		1	1 unit	113	20.500
	3VL77 10-2UN46-□□□□		1	1 unit	113	33.500		**3VL77 10-3UN46-□□□□**		1	1 unit	113	33.500
	3VL77 12-2UN46-□□□□		1	1 unit	113	33.500		**3VL77 12-3UN46-□□□□**		1	1 unit	113	33.500
	3VL87 16-2UN40-□□□□		1	1 unit	113	40.800		**3VL87 16-3UN40-□□□□**		1	1 unit	113	40.800

* You can order this quantity or a multiple thereof.

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4-pole

Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "L" I_R	Operating current of the instantaneous short-circuit releases "I" I_i	S function short-circuit protection (short-time delayed) S	DT	I_{cu} up to 55 kA at 415 V, standard breaking capacity N See "Overview". Order No. / Order No. supplement required, see page 2/58	Price see page 2/56	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A	A	A							kg
4-pole, fixed-mounted, for system protection - generator protection, 63 A to 1600 A, Electronic Trip Units LSI											
 											
ETU20, LSI function for time-based discrimination											
With adjustable overcurrent releases, non-adjustable short-circuit releases, short-circuit delay (t_{sd} = 0 ... 0.5 s)											
VL160/3VL2	63	25 ... 63	11 × I_n	1.5 ... 10 × I_R		**3VL27 06-1□□4□-□□□□**		1	1 unit	113	3.100
	100	40 ... 100	11 × I_n	1.5 ... 10 × I_R		**3VL27 10-1□□4□-□□□□**		1	1 unit	113	3.100
	160	64 ... 160	11 × I_n	1.5 ... 10 × I_R		**3VL27 16-1□□4□-□□□□**		1	1 unit	113	3.100
VL250/3VL3	200	80 ... 200	11 × I_n	1.5 ... 10 × I_R		**3VL37 20-1□□4□-□□□□**		1	1 unit	113	3.300
	250	100 ... 250	11 × I_n	1.5 ... 10 × I_R		**3VL37 25-1□□4□-□□□□**		1	1 unit	113	3.300
Connection type can be selected by assignment of the 12th position of the Order No.											
• Connection with box terminal						**3**					
• Connection with screw terminal						**6**					
VL400/3VL4	315	128 ... 315	11 × I_n	1.5 ... 10 × I_R		**3VL47 31-1□□46-□□□□**		1	1 unit	113	7.600
	400	160 ... 400	11 × I_n	1.5 ... 10 × I_R		**3VL47 40-1□□46-□□□□**		1	1 unit	113	7.600
VL630/3VL5	630	252 ... 630	10 × I_n	1.5 ... 9 × I_R		**3VL57 63-1□□46-□□□□**		1	1 unit	113	11.700
VL800/3VL6	800	320 ... 800	8 × I_n	1.5 ... 7 × I_R		**3VL67 80-1□□46-□□□□**		1	1 unit	113	20.500
VL1250/3VL7	1000	400 ... 1000	11 × I_n	1.5 ... 10 × I_R		**3VL77 10-1□□46-□□□□**		1	1 unit	113	33.500
	1250	500 ... 1250	11 × I_n	1.5 ... 10 × I_R		**3VL77 12-1□□46-□□□□**		1	1 unit	113	33.500
VL1600/3VL8[1]	1600	640 ... 1600	9 × I_n	1.5 ... 8 × I_R		**3VL87 16-1□□40-□□□□**		1	1 unit	113	40.800
• Without communication preparation						**TE**					
• With communication preparation						**NE**					
4-pole, fixed-mounted, for system protection - generator protection, 63 A to 1600 A, Electronic Trip Units LSIN											
 											
ETU20, LSIN function for time-based discrimination											
With adjustable overcurrent releases, non-adjustable short-circuit releases, short-circuit delay (t_{sd} = 0 ... 0.5 s) with overcurrent and short-circuit release in 4th pole (N), N protection = 50/100 %											
VL160/3VL2	63	0.4 ...1.0 × I_n	11 × I_n	1.5 ... 10 × I_R		**3VL27 06-1□□4□-□□□□**		1	1 unit	113	3.100
	100	0.4 ...1.0 × I_n	11 × I_n	1.5 ... 10 × I_R		**3VL27 10-1□□4□-□□□□**		1	1 unit	113	3.100
	160	0.4 ...1.0 × I_n	11 × I_n	1.5 ... 10 × I_R		**3VL27 16-1□□4□-□□□□**		1	1 unit	113	3.100
VL250/3VL3	200	0.4 ...1.0 × I_n	11 × I_n	1.5 ... 10 × I_R		**3VL37 20-1□□4□-□□□□**		1	1 unit	113	3.300
	250	0.4 ...1.0 × I_n	11 × I_n	1.5 ... 10 × I_R		**3VL37 25-1□□4□-□□□□**		1	1 unit	113	3.300
Connection type can be selected by assignment of the 12th position of the Order No.											
• Connection with box terminal						**3**					
• Connection with screw terminal						**6**					
VL400/3VL4	315	0.4 ...1.0 × I_n	11 × I_n	1.5 ... 10 × I_R		**3VL47 31-1□□46-□□□□**		1	1 unit	113	7.600
	400	0.4 ...1.0 × I_n	11 × I_n	1.5 ... 10 × I_R		**3VL47 40-1□□46-□□□□**		1	1 unit	113	7.600
VL630/3VL5	630	0.4 ...1.0 × I_n	10 × I_n	1.5 ... 9 × I_R		**3VL57 63-1□□46-□□□□**		1	1 unit	113	11.700
VL800/3VL6	800	0.4 ...1.0 × I_n	8 × I_n	1.5 ... 7 × I_R		**3VL67 80-1□□46-□□□□**		1	1 unit	113	20.500
VL1250/3VL7	1000	0.4 ...1.0 × I_n	11 × I_n	1.5 ... 10 × I_R		**3VL77 10-1□□46-□□□□**		1	1 unit	113	33.500
	1250	0.4 ...1.0 × I_n	11 × I_n	1.5 ... 10 × I_R		**3VL77 12-1□□46-□□□□**		1	1 unit	113	33.500
VL1600/3VL8[1]	1600	0.4 ...1.0 × I_n	9 × I_n	1.5 ... 8 × I_R		**3VL87 16-1□□40-□□□□**		1	1 unit	113	40.800
• Without communication preparation						**TF**					
• With communication preparation						**NF**					
• Marine engineering-certified LRS, DNV, GL and BV (not communication-ready)						**LF**					

[1] Front busbar connection pieces are included in the scope of supply and are to be fitted by the customer.

- For more information see also chapters "Measuring Devices and Power Monitoring" and "Software".

Communication:

- For accessories, see page 2/93.

* You can order this quantity or a multiple thereof.

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DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)						DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)					
	Order No. / Order No. supplement required, see page 2/58	Price see page 2/56	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. / Order No. supplement required, see page 2/58	Price see page 2/56	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 06-2□□4□-□□□□		1	1 unit	113	3.100		**3VL27 06-3□□4□-□□□□**		1	1 unit	113	3.100
	3VL27 10-2□□4□-□□□□		1	1 unit	113	3.100		**3VL27 10-3□□4□-□□□□**		1	1 unit	113	3.100
	3VL27 16-2□□4□-□□□□		1	1 unit	113	3.100		**3VL27 16-3□□4□-□□□□**		1	1 unit	113	3.100
	3VL37 20-2□□4□-□□□□		1	1 unit	113	3.300		**3VL37 20-3□□4□-□□□□**		1	1 unit	113	3.300
	3VL37 25-2□□4□-□□□□		1	1 unit	113	3.300		**3VL37 25-3□□4□-□□□□**		1	1 unit	113	3.300
	3 6							**3 6**					
	3VL47 31-2□□46-□□□□		1	1 unit	113	7.600		**3VL47 31-3□□46-□□□□**		1	1 unit	113	7.600
	3VL47 40-2□□46-□□□□		1	1 unit	113	7.600		**3VL47 40-3□□46-□□□□**		1	1 unit	113	7.600
	3VL57 63-2□□46-□□□□		1	1 unit	113	11.700		**3VL57 63-3□□46-□□□□**		1	1 unit	113	11.700
	3VL67 80-2□□46-□□□□		1	1 unit	113	20.500		**3VL67 80-3□□46-□□□□**		1	1 unit	113	20.500
	3VL77 10-2□□46-□□□□		1	1 unit	113	33.500		**3VL77 10-3□□46-□□□□**		1	1 unit	113	33.500
	3VL77 12-2□□46-□□□□		1	1 unit	113	33.500		**3VL77 12-3□□46-□□□□**		1	1 unit	113	33.500
	3VL87 16-2□□40-□□□□		1	1 unit	113	40.800		**3VL87 16-3□□40-□□□□**		1	1 unit	113	40.800
	TE NE							**TE NE**					

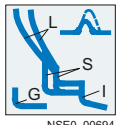
DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)						DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)					
	Order No. / Order No. supplement required, see page 2/58	Price see page 2/56	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. / Order No. supplement required, see page 2/58	Price see page 2/56	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 06-2□□4□-□□□□		1	1 unit	113	3.100		**3VL27 06-3□□4□-□□□□**		1	1 unit	113	3.100
	3VL27 10-2□□4□-□□□□		1	1 unit	113	3.100		**3VL27 10-3□□4□-□□□□**		1	1 unit	113	3.100
	3VL27 16-2□□4□-□□□□		1	1 unit	113	3.100		**3VL27 16-3□□4□-□□□□**		1	1 unit	113	3.100
	3VL37 20-2□□4□-□□□□		1	1 unit	113	3.300		**3VL37 20-3□□4□-□□□□**		1	1 unit	113	3.300
	3VL37 25-2□□4□-□□□□		1	1 unit	113	3.300		**3VL37 25-3□□4□-□□□□**		1	1 unit	113	3.300
	3 6							**3 6**					
	3VL47 31-2□□46-□□□□		1	1 unit	113	7.600		**3VL47 31-3□□46-□□□□**		1	1 unit	113	7.600
	3VL47 40-2□□46-□□□□		1	1 unit	113	7.600		**3VL47 40-3□□46-□□□□**		1	1 unit	113	7.600
	3VL57 63-2□□46-□□□□		1	1 unit	113	11.700		**3VL57 63-3□□46-□□□□**		1	1 unit	113	11.700
	3VL67 80-2□□46-□□□□		1	1 unit	113	20.500		**3VL67 80-3□□46-□□□□**		1	1 unit	113	20.500
	3VL77 10-2□□46-□□□□		1	1 unit	113	33.500		**3VL77 10-3□□46-□□□□**		1	1 unit	113	33.500
	3VL77 12-2□□46-□□□□		1	1 unit	113	33.500		**3VL77 12-3□□46-□□□□**		1	1 unit	113	33.500
	3VL87 16-2□□40-□□□□		1	1 unit	113	40.800		**3VL87 16-3□□40-□□□□**		1	1 unit	113	40.800
	TF NF LF							**TF NF LF**					

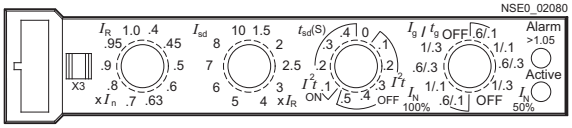
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Type	Rated current I_n	Current setting of the inverse-time delayed overcurrent releases "**L**" I_R	Operating current of the instantaneous short-circuit releases "**I**" I_i	S function short-circuit protection (short-time delayed) **S**	Ground-fault protection "**G**" I_g	DT	I_{cu} **up to 55 kA at 415 V, standard breaking capacity N** See "Overview".		PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
							Order No. / Order No. supplement required, see page 2/58	Price see page 2/56				
	A	A	A	A	A							kg

4-pole, fixed-mounted, for system protection - generator protection, 63 A to 1600 A, Electronic Trip Units LSING





ETU22, LSING function for 4-wire three-phase systems and time-based discrimination

With adjustable overcurrent releases, adjustable short-circuit releases,
ground fault delay t_g = 0.1 ... 0.3 s, ground-fault protection (G) can be switched off, short-circuit delay t_{sd} = 0 ... 0.5 s
with overcurrent and short-circuit release in 4th pole (N), N protection = 50/100 %

VL160/3VL2	63	25 ... 63	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF	**3VL27 06-1□□4□-□□□□**	1	1 unit	113	3.100
	100	40 ... 100	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF	**3VL27 10-1□□4□-□□□□**	1	1 unit	113	3.100
	160	64 ... 160	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF	**3VL27 16-1□□4□-□□□□**	1	1 unit	113	3.100
VL250/3VL3	200	80 ... 200	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF	**3VL37 20-1□□4□-□□□□**	1	1 unit	113	3.300
	250	100 ... 250	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF	**3VL37 25-1□□4□-□□□□**	1	1 unit	113	3.300

Connection type can be selected by assignment of the 12th position of the Order No.

• Connection with box terminal	**3**
• Connection with screw terminal	**6**

VL400/3VL4	315	128 ... 315	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF	**3VL47 31-1□□46-□□□□**	1	1 unit	113	7.600
	400	160 ... 400	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF	**3VL47 40-1□□46-□□□□**	1	1 unit	113	7.600
VL630/3VL5	630	252 ... 630	10 × I_n	1.5 ... 9 × I_R	0.6 ... 1 × I_n, OFF	**3VL57 63-1□□46-□□□□**	1	1 unit	113	11.700
VL800/3VL6	800	320 ... 800	8 × I_n	1.5 ... 7 × I_R	0.6 ... 1 × I_n, OFF	**3VL67 80-1□□46-□□□□**	1	1 unit	113	20.500
VL1250/3VL7	1000	400 ... 1000	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF	**3VL77 10-1□□46-□□□□**	1	1 unit	113	33.500
	1250	500 ... 1250	11 × I_n	1.5 ... 10 × I_R	0.6 ... 1 × I_n, OFF	**3VL77 12-1□□46-□□□□**	1	1 unit	113	33.500
VL1600/3VL8[1)]	1600	640 ... 1600	9 × I_n	1.5 ... 8 × I_R	0.6 ... 1 × I_n, OFF	**3VL87 16-1□□40-□□□□**	1	1 unit	113	40.800

• Without communication preparation	**TH**
• With communication preparation	**NH**

1) Front busbar connection pieces are included in the scope of supply and are to be fitted by the customer.

Communication:

- For accessories, see page 2/93.
- For more information see also chapters "Measuring Devices and Power Monitoring" and "Software".

* You can order this quantity or a multiple thereof.

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DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H						DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L					
	Order No. / Order No. supplement required, see page 2/58	Price see page 2/56	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. / Order No. supplement required, see page 2/58	Price see page 2/56	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL27 06-2□□4□-□□□□		1	1 unit	113	3.100		**3VL27 06-3□□4□-□□□□**		1	1 unit	113	3.100
	3VL27 10-2□□4□-□□□□		1	1 unit	113	3.100		**3VL27 10-3□□4□-□□□□**		1	1 unit	113	3.100
	3VL27 16-2□□4□-□□□□		1	1 unit	113	3.100		**3VL27 16-3□□4□-□□□□**		1	1 unit	113	3.100
	3VL37 20-2□□4□-□□□□		1	1 unit	113	3.300		**3VL37 20-3□□4□-□□□□**		1	1 unit	113	3.300
	3VL37 25-2□□4□-□□□□		1	1 unit	113	3.300		**3VL37 25-3□□4□-□□□□**		1	1 unit	113	3.300
	3 6							**3 6**					
	3VL47 31-2□□46-□□□□		1	1 unit	113	7.600		**3VL47 31-3□□46-□□□□**		1	1 unit	113	7.600
	3VL47 40-2□□46-□□□□		1	1 unit	113	7.600		**3VL47 40-3□□46-□□□□**		1	1 unit	113	7.600
	3VL57 63-2□□46-□□□□		1	1 unit	113	11.700		**3VL57 63-3□□46-□□□□**		1	1 unit	113	11.700
	3VL67 80-2□□46-□□□□		1	1 unit	113	20.500		**3VL67 80-3□□46-□□□□**		1	1 unit	113	20.500
	3VL77 10-2□□46-□□□□		1	1 unit	113	33.500		**3VL77 10-3□□46-□□□□**		1	1 unit	113	33.500
	3VL77 12-2□□46-□□□□		1	1 unit	113	33.500		**3VL77 12-3□□46-□□□□**		1	1 unit	113	33.500
	3VL87 16-2□□40-□□□□		1	1 unit	113	40.800		**3VL87 16-3□□40-□□□□**		1	1 unit	113	40.800
	TH NH							**TH NH**					

* You can order this quantity or a multiple thereof.

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4-pole

Type	Rated current I_n	Operating current of the instantaneous short-circuit releases "I" I_i	DT	I_{cu} up to 55 kA at 415 V, standard breaking capacity N (See "Overview".) Order No. / Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	A							kg
4-pole, fixed-mounted, for safe disconnection, 100 A to 1600 A, magnetic trip units I									
 NSE0_00708									
Non-automatic molded case circuit breakers*[1], *I function Without overcurrent releases, with non-adjustable short-circuit releases (for intrinsic protection only), without overcurrent and short-circuit release in 4th pole (N)									
VL160X/3VL1	100	1800		**3VL17 10-1EE4□-□□□□**		1	1 unit	113	2.500
	160	1800		**3VL17 16-1EE4□-□□□□**		1	1 unit	113	2.500
VL160/3VL2	100	2500		**3VL27 10-1EE4□-□□□□**		1	1 unit	113	3.000
	160	2500		**3VL27 16-1EE4□-□□□□**		1	1 unit	113	3.000
VL250/3VL3	250	3500		**3VL37 25-1EE4□-□□□□**		1	1 unit	113	3.200
Connection type can be selected through the 12th position of the Order No. • Connection with box terminal **3** • Connection with screw terminal not in conjunction with RCD module at 3VL1 **6**									
VL400/3VL4	400	4000		**3VL47 40-1EE46-□□□□**		1	1 unit	113	7.400
VL630/3VL5	630	6300		**3VL57 63-1EE46-□□□□**		1	1 unit	113	11.200
VL800/3VL6	800	6500		**3VL67 80-1EE46-□□□□**		1	1 unit	113	19.900
VL1250/3VL7	1250	12000		**3VL77 12-1EE46-□□□□**		1	1 unit	113	31.000
VL1600/3VL8[2]	1600	14400		**3VL87 16-1EE40-□□□□**		1	1 unit	113	38.300

[1] See also chapter "Switch Disconnectors". 3K. switch disconnectors are also available with rear-mounting operating mechanism and leading contacts.

[2] Front busbar connection pieces are included in the scope of supply and are to be fitted by the customer.

* You can order this quantity or a multiple thereof.

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DT	I_{cu} up to 70 kA at 415 V, high breaking capacity H (H)						DT	I_{cu} up to 100 kA at 415 V, very high breaking capacity L (L)					
	Order No. Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET,	PS*/ P. unit	PG	Weight per PU approx. kg		Order No. Order No. supplement required, see page 2/58	Basic price per PU	PU (UNIT, SET,	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL17 10-2EE4□-□□□□		1	1 unit	113	2.500		**--**					
	3VL17 16-2EE4□-□□□□		1	1 unit	113	2.500		**--**					
	3VL27 10-2EE4□-□□□□		1	1 unit	113	3.000		**3VL27 10-3EE4□-□□□□**		1	1 unit	113	3.000
	3VL27 16-2EE4□-□□□□		1	1 unit	113	3.000		**3VL27 16-3EE4□-□□□□**		1	1 unit	113	3.000
	3VL37 25-2EE4□-□□□□		1	1 unit	113	3.200		**3VL37 25-3EE4□-□□□□**		1	1 unit	113	3.200
	3 6							**3 6**					
	3VL47 40-2EE46-□□□□		1	1 unit	113	7.400		**3VL47 40-3EE46-□□□□**		1	1 unit	113	7.400
	3VL57 63-2EE46-□□□□		1	1 unit	113	11.200		**3VL57 63-3EE46-□□□□**		1	1 unit	113	11.200
	3VL67 80-2EE46-□□□□		1	1 unit	113	19.900		**3VL67 80-3EE46-□□□□**		1	1 unit	113	19.900
	3VL77 12-2EE46-□□□□		1	1 unit	113	31.000		**3VL77 12-3EE46-□□□□**		1	1 unit	113	31.000
	3VL87 16-2EE40-□□□□		1	1 unit	113	38.300		**3VL87 16-3EE40-□□□□**		1	1 unit	113	38.300

* You can order this quantity or a multiple thereof.

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3VL Molded Case Circuit Breakers up to 1600 A, IEC

4-pole

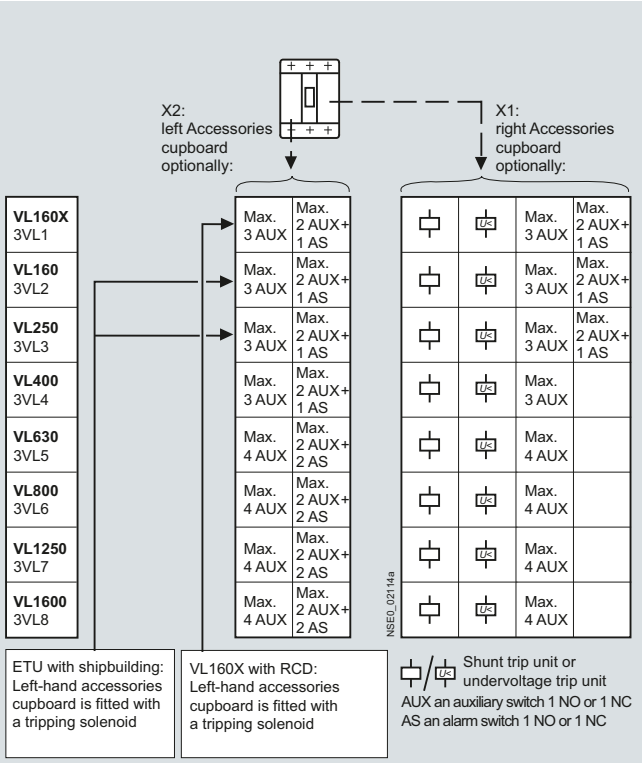
Order No. supplement (for complete Order No., see pages 2/42 to 2/52) 3VL.7.. - .□□4.-....		Breaking capacity	Type	VL160			VL250		VL400		VL630	VL800	VL1250		VL1600
				3VL2			3VL3		3VL4		3VL5	3VL6	3VL7		3VL8
			Rated current I_n	63 A	100 A	160 A	200 A	250 A	315 A	400 A	630 A	800 A	1000 A	1250 A	1600 A
Releases			Price												
ETU10	TB	N H L		✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
ETU10	NB	N H L		✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
ETU10	TA	N H L		✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
ETU10	NA	N H L		✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
ETU10	LA	N H L		✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
ETU12	TN	N H L		✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
ETU12	NN	N H L		✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
ETU40	UJ	N H L		✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
ETU42	UN	N H L		✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
ETU20	TE	N H L		✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
ETU20	NE	N H L		✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
ETU20	TF	N H L		✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
ETU20	NF	N H L		✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
ETU20	LF	N H L		✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
ETU22	TH	N H L		✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓
ETU22	NH	N H L		✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓	✓ ✓ ✓

✓ Available

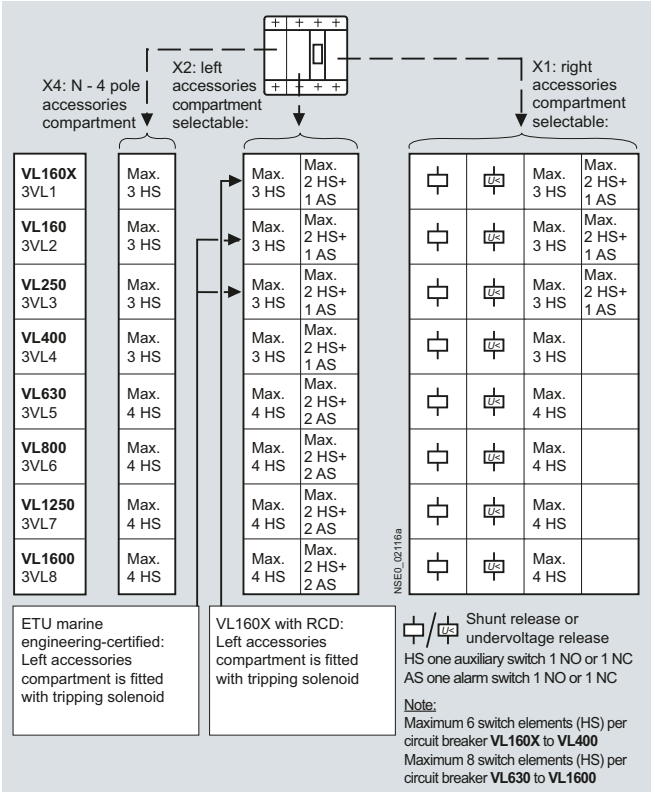
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Equipment options for the insulated accessory compartments in the 3VL molded case circuit breakers

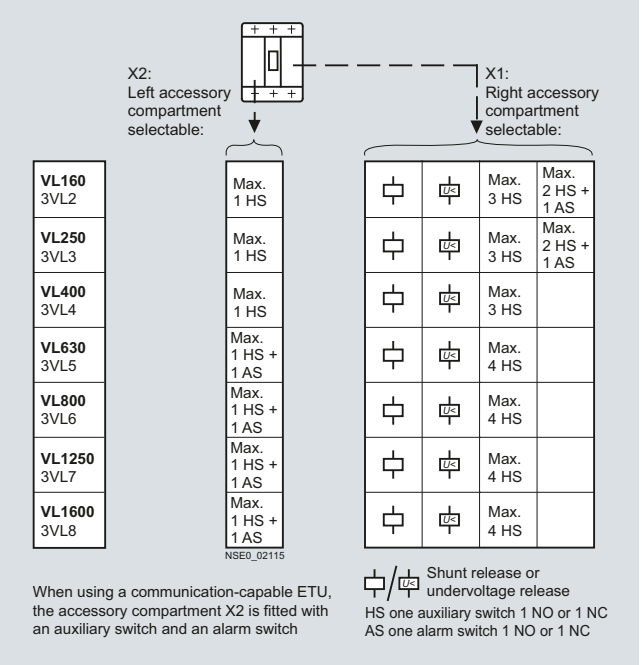
3-pole circuit breakers without communication preparation



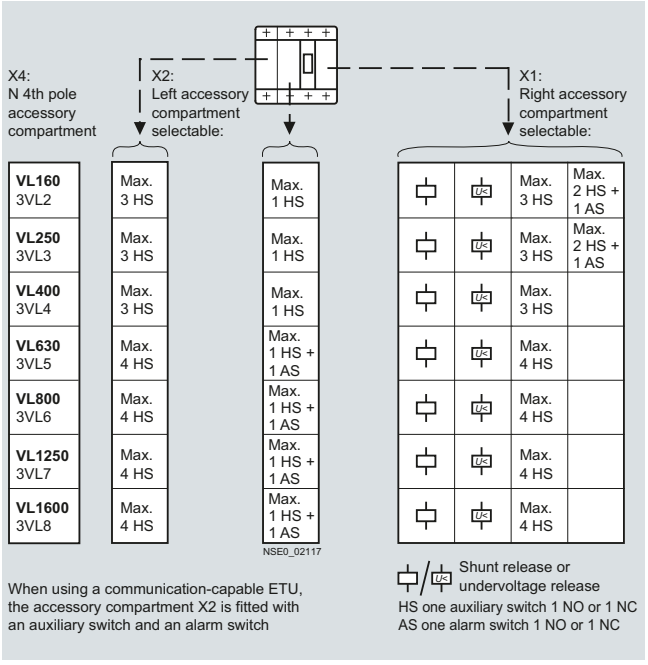
4-pole circuit breakers without communication preparation



3-pole circuit breakers with communication preparation



4-pole circuit breakers with communication preparation



Note:

Before ordering, use the tables above to check whether the required combination of shunt releases, undervoltage releases and auxiliary/alarm switches is feasible.

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Options

1st Order No. supplement:
Undervoltage or shunt release,
wiring directly to accessories

Rated control supply voltage U_s/frequency		Order No. supplement		Circuit breakers Type	
50/60 Hz AC DC		**3VL. . .-. . . . .- ☐☐ ..**		**VL160X to VL400/ 3VL1 to 3VL4** Additional price	**VL630 to VL1600/ 3VL5 to 3VL8** Additional price
3- or 4-pole					
Without auxiliary release		**0**	**A**	**None**	**None**
With undervoltage releases Only right pole					
V AC	V DC				
--	12	**2**	**N**	✓	✓
--	24	**2**	**P**	✓	✓
--	48	**2**	**U**	✓	✓
--	60	**2**	**V**	✓	✓
--	110 ... 127	**2**	**R**	✓	✓
--	220 ... 250	**2**	**S**	✓	✓
24	--	**2**	**D**	✓	✓
110 ... 127	--	**2**	**G**	✓	✓
220 ... 250	--	**2**	**H**	✓	✓
208	--	**2**	**M**	✓	✓
277	--	**2**	**Q**	✓	✓
380 ... 415	--	**2**	**J**	✓	✓
440 ... 480	--	**2**	**K**	✓	✓
500 ... 525	--	**2**	**L**	✓	✓
With shunt releases Only right pole					
V AC	V DC				
24	24	**8**	**C**	✓	✓
--	48 ... 60	**8**	**J**	✓	✓
--	110 ... 127	**8**	**K**	✓	✓
--	220 ... 250	**8**	**Q**	✓	✓
48 ... 60	--	**8**	**M**	✓	✓
110 ... 127	--	**8**	**R**	✓	✓
208 ... 277	--	**8**	**T**	✓	✓
380 ... 600	--	**8**	**V**	✓	✓

2nd Order No. supplement:
Auxiliary switches (HS) and alarm switches (AS),
left/right pole,
directly wired to accessories

Equipment	Order No. supplement		Circuit breakers Type	
HS = 1 NO or 1 NC contact block AS = 1 NO contact block	**3VL. . .-. . . . .- .. ☐☐**		**VL160X to VL400[1])/ 3VL1 to 3VL4** Additional price	**VL630 to VL1600/ 3VL5 to 3VL8** Additional price
Without auxiliary/alarm switches	**A**	**0**	**None**	**None**
2 HS (1 NO/1 NC)[2)]	**B**	**1**	✓ [1)4)]	--
4 HS (2 NO/2 NC)	**C**	**1**	--	✓
2 HS (1 NO/1 NC) + 1 AS (1 NO)	**D**	**1**	✓ [1)4)]	--
2 HS (1 NO/1 NC) + 1 AS (1 NO)[3)]	**E**	**1**	--	✓ [5)]

✓ Additional price

-- Not available

1) Except for installation in the left accessory compartment of the VL160X molded case circuit breakers with RCD module.

2) With mounting adapter up to 3 HS.

3) With mounting adapter up to 2 HS + 2 AS.

4) Not feasible for use of marine engineering ETU and additional use of shunt and undervoltage releases.
When using a communication-capable ETU, the accessory compartment X2 is fitted with an auxiliary switch and an alarm switch. The combination of 1st and 2nd Order No. supplement is only possible with restrictions. It is recommended to use the configurator in the Mall for selection purposes.

5) Not possible when using a communication-capable ETU.

Recommended retail prices, metal surcharges (MS) may be added

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Selection and ordering data

When ordering, add **"-Z"** to the complete Order No. and add the relevant order code(s).

Order No. with **"-Z"**
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
3VL . . . . - . . . . . - . . . . -Z
and additional order code(s)
□□□ + . . . + . . .

Code for further versions **-Z**

Additional price

For fixed-mounted circuit breakers (wired in factory)			
3- or 4-pole			
Prewired internal accessories Connecting cables (3 m long) brought out at the rear This option "L02" can be selected only in combination with internal accessories (page 2/58).	For VL160X to VL1600 (3VL1 to 3VL8)	**L 0 2**	✓
Prewired connecting cables for motorized operating mechanisms with stored energy mechanisms (SEO) Connecting cables on the circuit breaker for motorized operating mechanisms (3 m long). On VL160X to VL400 brought out at the top. On VL630 and VL800 brought out on the right. Option "L12" can only be selected in combination with motorized operating mechanisms (order codes "M24", "M42", "M60", "M11" and "M22").	For VL160X to VL800 (3VL1 to 3VL6)	**L 1 2**	✓
Motorized operating mechanisms with stored energy mechanisms for synchronization tasks (24 V DC) Motorized operating mechanism not prewired; if wiring for the motorized operating mechanism is wanted, please specify "L12" in addition. If internal accessories are provided, the prewiring option "L02" for internal accessories is already included. In this case "L02" must not be specified in addition.	Available with VL160X, VL160, VL250 (3VL1, 3VL2, 3VL3) VL400 (3VL4) VL630, VL800 (3VL5, 3VL6)	**M 2 4**	✓ ✓ ✓
Motorized operating mechanisms with stored energy mechanisms for synchronization tasks (42 ... 48 V AC/DC) Motorized operating mechanism not prewired; if wiring for the motorized operating mechanism is wanted, please specify "L12" in addition. If internal accessories are provided, the prewiring option "L02" for internal accessories is already included. In this case "L02" must not be specified in addition.	Available with VL160X, VL160, VL250 (3VL1, 3VL2, 3VL3) VL400 (3VL4) VL630, VL800 (3VL5, 3VL6)	**M 4 2**	✓ ✓ ✓
Motorized operating mechanisms with stored energy mechanisms for synchronization tasks (60 V AC/DC) Motorized operating mechanism not prewired; if wiring for the motorized operating mechanism is wanted, please specify "L12" in addition. If internal accessories are provided, the prewiring option "L02" for internal accessories is already included. In this case "L02" must not be specified in addition.	Available with VL160X, VL160, VL250 (3VL1, 3VL2, 3VL3) VL400 (3VL4) VL630, VL800 (3VL5, 3VL6)	**M 6 0**	✓ ✓ ✓
Motorized operating mechanisms with stored energy mechanisms for synchronization tasks (110 ... 127 V AC/DC) Motorized operating mechanism not prewired; if wiring for the motorized operating mechanism is wanted, please specify "L12" in addition. If internal accessories are provided, the prewiring option "L02" for internal accessories is already included. In this case "L02" must not be specified in addition.	Available with VL160X, VL160, VL250 (3VL1, 3VL2, 3VL3) VL400 (3VL4) VL630, VL800 (3VL5, 3VL6)	**M 1 1**	✓ ✓ ✓
Motorized operating mechanisms with stored energy mechanisms for synchronization tasks (220 ... 250 V AC/DC) Motorized operating mechanism not prewired; if wiring for the motorized operating mechanism is wanted, please specify "L12" in addition. If internal accessories are provided, the prewiring option "L02" for internal accessories is already included. In this case "L02" must not be specified in addition.	Available with VL160X, VL160, VL250 (3VL1, 3VL2, 3VL3) VL400 (3VL4) VL630, VL800 (3VL5, 3VL6)	**M 2 2**	✓ ✓ ✓

✓ Additional price

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Options

When ordering, add **"-Z"** to the complete Order No. and add the relevant order code(s).

Order No. with **"-Z"**
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
3VL . . . . - . . . . . - . . . . -Z
and additional order code(s)
□□□ + . . . + . . .
Code for further versions **-Z**

Additional price

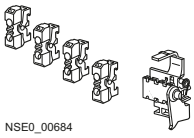
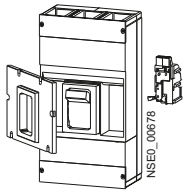
For fixed-mounted circuit breakers (wired in factory)			
3- or 4-pole			
Pre-mounted motorized operating mechanisms (24 V DC) on circuit breaker, not synchronizable If internal accessories are provided, the prewiring option "L02" for internal accessories is already included. In this case "L02" must not be specified in addition.	Available with VL160X (3VL1)	**M 2 5**	✓
	VL160, VL250 (3VL2, 3VL3)		✓
	VL400 (3VL4)		✓
	VL630, VL800 (3VL5, 3VL6)		✓
	VL1250, VL1600 (3VL7, 3VL8)		✓
Pre-mounted motorized operating mechanisms (42 ... 60 V AC/DC) on circuit breaker, not synchronizable If internal accessories are provided, the prewiring option "L02" for internal accessories is already included. In this case "L02" must not be specified in addition.	Available with VL160X (3VL1)	**M 4 3**	✓
	VL160, VL250 (3VL2, 3VL3)		✓
	VL400 (3VL4)		✓
	VL630, VL800 (3VL5, 3VL6)		✓
	VL1250, VL1600 (3VL7, 3VL8)		✓
Pre-mounted motorized operating mechanisms (110 ... 127 V AC/DC) on circuit breaker, not synchronizable If internal accessories are provided, the prewiring option "L02" for internal accessories is already included. In this case "L02" must not be specified in addition.	Available with VL160X (3VL1)	**M 1 2**	✓
	VL160, VL250 (3VL2, 3VL3)		✓
	VL400 (3VL4)		✓
	VL630, VL800 (3VL5, 3VL6)		✓
	VL1250, VL1600 (3VL7, 3VL8)		✓
Pre-mounted motorized operating mechanisms (220 ... 250 V AC/DC) on circuit breaker, not synchronizable If internal accessories are provided, the prewiring option "L02" for internal accessories is already included. In this case "L02" must not be specified in addition.	Available with VL160X (3VL1)	**M 2 3**	✓
	VL160, VL250 (3VL2, 3VL3)		✓
	VL400 (3VL4)		✓
	VL630, VL800 (3VL5, 3VL6)		✓
	VL1250, VL1600 (3VL7, 3VL8)		✓

✓ Additional price

Recommended retail prices, metal surcharges (MS) may be added

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Selection and ordering data

	Wiring directly to accessories	DT	For VL160X to VL400 (3VL1 to 3VL4) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Auxiliary switches and auxiliary releases								
	3- or 4-pole							
	For retrofitting (for possible complements see Technical Information at www.siemens.com/lowvoltage/support.)							
 NSE0_00684 3VL9 400-2A.00	**Auxiliary switches (HS) and alarm switches (AS)** For retrofitting							
	Assembly kits: 2 HS (1 NO + 1 NC); Mounting side: N, left[1], right		**3VL9 400-2AB00**		1	1 unit	113	0.056
	4 HS (2 NO + 2 NC); N, left[1], right		--					
	2 HS (1 NC + 1 NO); left[1], right[3]		**3VL9 400-2AD00**		1	1 unit	113	0.089
	+ 1 AS (1 NO) (assembly kit); left[1]		--					
	Additional auxiliary switch/alarm switch combinations		See page 2/63.					
 NSE0_00678 3VL9 400-1S.00, 3VL9 400-1U.00	**Shunt releases[2])** For retrofitting							
	V AC: 24; V DC: 24; Mounting side: Right pole only		**3VL9 400-1SC00**		1	1 unit	113	0.100
	V AC: --; V DC: 48 ... 60; Right pole only		**3VL9 400-1SJ00**		1	1 unit	113	0.103
	V AC: --; V DC: 110 ... 127; Right pole only		**3VL9 400-1SK00**		1	1 unit	113	0.099
	V AC: --; V DC: 220 ... 250; Right pole only		**3VL9 400-1SQ00**		1	1 unit	113	0.098
	V AC: 48 ... 60; V DC: --; Right pole only		**3VL9 400-1SM00**		1	1 unit	113	0.995
	V AC: 110 ... 127; V DC: --; Right pole only		**3VL9 400-1SR00**		1	1 unit	113	0.101
	V AC: 208 ... 277; V DC: --; Right pole only		**3VL9 400-1ST00**		1	1 unit	113	0.097
	V AC: 380 ... 600; V DC: --; Right pole only		**3VL9 400-1SV00**		1	1 unit	113	0.106
	Undervoltage releases For retrofitting							
	V AC: --; V DC: 12; Mounting side: Right pole only		**3VL9 400-1UN00**		1	1 unit	113	0.101
	V AC: --; V DC: 24; Right pole only		**3VL9 400-1UP00**		1	1 unit	113	0.099
	V AC: --; V DC: 48; Right pole only		**3VL9 400-1UU00**		1	1 unit	113	0.100
	V AC: --; V DC: 60; Right pole only		**3VL9 400-1UV00**		1	1 unit	113	0.098
	V AC: 24; V DC: --; Right pole only		**3VL9 400-1UD00**		1	1 unit	113	0.104
	V AC: 110 ... 127; V DC: --; Right pole only		**3VL9 400-1UG00**		1	1 unit	113	0.104
	V AC: --; V DC: 110 ... 127; Right pole only		**3VL9 400-1UR00**		1	1 unit	113	0.099
	V AC: 208; V DC: --; Right pole only		**3VL9 400-1UM00**		1	1 unit	113	0.103
	V AC: 220 ... 250; V DC: --; Right pole only		**3VL9 400-1UH00**		1	1 unit	113	0.105
	V AC: --; V DC: 220 ... 250; Right pole only		**3VL9 400-1US00**		1	1 unit	113	0.102
	V AC: 277; V DC: --; Right pole only		**3VL9 400-1UQ00**		1	1 unit	113	0.100
	V AC: 380 ... 415; V DC: --; Right pole only		**3VL9 400-1UJ00**		1	1 unit	113	0.103
	V AC: 440 ... 480; V DC: --; Right pole only		**3VL9 400-1UK00**		1	1 unit	113	0.103
	V AC: 500 ... 525; V DC: --; Right pole only		**3VL9 400-1UL00**		1	1 unit	113	0.103
	Time-delay devices for undervoltage releases (220 ... 250 V DC) Rated control supply voltage U_s 220 ... 250 V AC							
	Delay time > 200 ms		**3TX4 701-0AN1**		1	1 unit	41B	0.167
	Storage devices for shunt releases (208 ... 277 V AC/220 ... 250 V DC) Rated control supply voltage U_s 220 V ... 240 V AC/220 V ... 250 V DC							
	Storage time 5 min		**3WL9 111-0BA14-0AA0**		1	1 unit	103	0.520

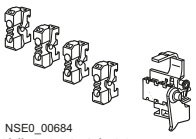
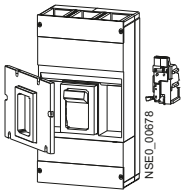
[1] Except for installation in the left accessory compartment of the VL160X (3VL1) molded case circuit breakers with RCD module.

[2] Shunt releases with disconnection contact (3SB3 for ON/OFF position) not floating (see Technical Information at www.siemens.com/lowvoltage/support).

[3] In the case of VL400 (3VL4): Unsuitable for mounting in the right-hand accessory compartment. The 3VL9 400-2AB00 assembly kit with auxiliary switches only is recommended.

* You can order this quantity or a multiple thereof.

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	Wiring directly to accessories	DT	For VL630 up to VL1600 (3VL5 to 3VL8) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Auxiliary switches and auxiliary releases								
	3- or 4-pole							
	For retrofitting (for possible complements see Technical Information at www.siemens.com/lowvoltage/support.)							
 NSE0_00684 3VL9 800-2A.00	**Auxiliary switches (HS) and alarm switches (AS)** For retrofitting							
	Assembly kits: 2 HS (1 NO + 1 NC)	Mounting side: N, left, right	--					
	4 HS (2 NO + 2 NC)	N, left, right	**3VL9 800-2AC00**		1	1 unit	113	0.091
	2 HS (1 NC + 1 NO)	Left, right	--					
	+ 1 AS (1 NO) (assembly kit)	Left	**3VL9 800-2AE00**		1	1 unit	113	0.085
	Additional auxiliary switch/alarm switch combinations		See page 2/63.					
 NSE0_00678 3VL9 800-1S.00, 3VL9 800-1U.00	**Shunt releases[1])** For retrofitting							
	V AC: 24	V DC: 24	Right pole only	**3VL9 800-1SC00**	1	1 unit	113	0.151
	--	48 ... 60	Right pole only	**3VL9 800-1SJ00**	1	1 unit	113	0.150
	--	110 ... 127	Right pole only	**3VL9 800-1SK00**	1	1 unit	113	0.153
	--	220 ... 250	Right pole only	**3VL9 800-1SQ00**	1	1 unit	113	0.150
	48 ... 60	--	Right pole only	**3VL9 800-1SM00**	1	1 unit	113	0.170
	110 ... 127	--	Right pole only	**3VL9 800-1SR00**	1	1 unit	113	0.155
	208 ... 277	--	Right pole only	**3VL9 800-1ST00**	1	1 unit	113	0.147
	380 ... 600	--	Right pole only	**3VL9 800-1SV00**	1	1 unit	113	0.150
	Undervoltage releases For retrofitting							
	V AC: --	V DC: 12	Right pole only	**3VL9 800-1UN00**	1	1 unit	113	0.114
	--	24	Right pole only	**3VL9 800-1UP00**	1	1 unit	113	0.119
	--	48	Right pole only	**3VL9 800-1UU00**	1	1 unit	113	0.114
	--	60	Right pole only	**3VL9 800-1UV00**	1	1 unit	113	0.115
	24	--	Right pole only	**3VL9 800-1UD00**	1	1 unit	113	0.118
	110 ... 127	--	Right pole only	**3VL9 800-1UG00**	1	1 unit	113	0.114
	--	110 ... 127	Right pole only	**3VL9 800-1UR00**	1	1 unit	113	0.115
	208	--	Right pole only	**3VL9 800-1UM00**	1	1 unit	113	0.114
	220 ... 250	--	Right pole only	**3VL9 800-1UH00**	1	1 unit	113	0.112
	--	220 ... 250	Right pole only	**3VL9 800-1US00**	1	1 unit	113	0.115
	277	--	Right pole only	**3VL9 800-1UQ00**	1	1 unit	113	0.138
	380 ... 415	--	Right pole only	**3VL9 800-1UJ00**	1	1 unit	113	0.115
	440 ... 480	--	Right pole only	**3VL9 800-1UK00**	1	1 unit	113	0.113
	500 ... 525	--	Right pole only	**3VL9 800-1UL00**	1	1 unit	113	0.116
	Time-delay devices for undervoltage releases (220 ... 250 V DC) Rated control supply voltage U_s 220 ... 250 V AC							
	Delay time > 200 ms		**3TX4 701-0AN1**		1	1 unit	41B	0.167
	Storage devices for shunt releases (208 ... 277 V AC/220 ... 250 V DC) Rated control supply voltage U_s 220 V ... 240 V AC/220 V ... 250 V DC							
	Storage time 5 min		**3WL9 111-0BA14-0AA0**		1	1 unit	103	0.520

[1]) Shunt releases with disconnection contact (3SB3 for ON/OFF position) not floating (see Technical Information at www.siemens.com/lowvoltage/support).

* You can order this quantity or a multiple thereof.

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For circuit breakers Type	Maximum combination of auxiliary switches (HS) and alarm switches (AS)	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
3SB adapters and 3SB contact blocks								
Mounting adapters for auxiliary and alarm switch combinations								
For installation in the N pole of the circuit breaker								
VL160X, VL160, VL250, VL400 (3VL1 to 3VL4)	Up to 3 HS[1]		**3VL9 400-2AH00**		1	1 unit	113	0.038
	2 HS + 1 AS[1][2]		--					
VL630, VL800, VL1250, VL1600 (3VL5 to 3VL8)	Up to 4 HS		**3VL9 816-2AL00**		1	1 unit	113	0.055
	2 HS + 2 AS		--					
For installation in the left pole of the circuit breaker								
VL160X, VL160, VL250, VL400 (3VL1 to 3VL4)	Up to 3 HS[1]		**3VL9 400-2AH00**		1	1 unit	113	0.038
	2 HS + 1 AS[1][2]		**3VL9 400-2AJ10**		1	1 unit	113	0.040
VL630, VL800, VL1250, VL1600 (3VL5 to 3VL8)	Up to 4 HS		**3VL9 816-2AL00**		1	1 unit	113	0.055
	2 HS + 2 AS		**3VL9 816-2AN10**		1	1 unit	113	0.058
For installation in the right pole of the circuit breaker								
VL160X, VL160, VL250, VL400 (3VL1 to 3VL4)[2]	Up to 3 HS[1]		**3VL9 400-2AH00**		1	1 unit	113	0.038
	2 HS + 1 AS[1][2]		**3VL9 400-2AJ20**		1	1 unit	113	0.039
VL630, VL800, VL1250, VL1600 (3VL5 to 3VL8)	Up to 4 HS		**3VL9 816-2AL00**		1	1 unit	113	0.055
	2 HS + 2 AS		--					

[1] Except for installing in the left pole for VL160X (3VL1) molded case circuit breakers with RCD module.

[2] In the case of VL400: 3VL9 400-2AJ20 unsuitable for mounting in the right-hand accessory compartment.

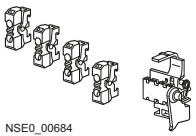
For auxiliary/alarm switches	DT	Circuit breakers Type **VL160X to VL1600 (3VL1 to 3VL8)** Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Contact blocks for auxiliary and alarm switch combinations							
1 NO		**3SB34 00-0J**		1	1 unit	41J	0.009
1 NC		**3SB34 00-0K**		1	1 unit	41J	0.009

For auxiliary switch or alarm switch combinations not included in the kits provided as standard, the mounting adapters specified can be ordered separately together with the required contact blocks:
1 HS or 1 AS with NO contact 3SB34 00-0J
1 HS or 1 AS with NC contact 3SB34 00-0K

Note:

A maximum of 6 contact blocks (HS) per circuit breaker (VL160X, VL160, VL250, VL400; 3VL1 to 3VL4) and a maximum of 8 contact blocks (HS) per circuit breaker (VL630, VL800, VL1250, VL1600; 3VL5 to 3VL8) are possible.

Four 3SB34 auxiliary contact blocks and one mounting adapter (right), suitable for VL630, VL800, VL1250, VL1600 (3VL5 to 3VL8) circuit breakers.

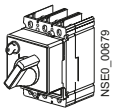
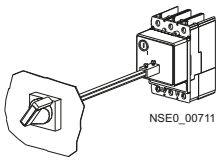
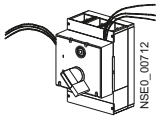


NSE0_00684

For retrofitting/possible complement see Technical Information at www.siemens.com/lowvoltage/support.

* You can order this quantity or a multiple thereof.

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	Version	DT	For VL160X to VL250 (3VL1 to 3VL3) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Operating mechanisms								
	3- or 4-pole							
 NSE0_00679 3VL9 .00-3H.00	**Front-operated rotary operating mechanisms**[1] For direct mounting on the circuit breaker, without leading auxiliary switch, degree of protection IP30[2], black, max. 3 padlocks		**3VL9 300-3HA00**		1	1 unit	113	0.534
	EMERGENCY-STOP version Red knob, yellow indicator plate		**3VL9 300-3HC00**		1	1 unit	113	0.500
	Safety locks for installation by the customer see pages 2/86 to 2/90.							
	Front-operated rotary operating mechanisms with shaft stub, without knob[1] Without leading auxiliary switch, for auxiliary switches see below.		**3VL9 300-3HE00**		1	1 unit	113	0.520
 NSE0_00711 3VL9 .00-3H.05	**Door-coupling rotary operating mechanisms, complete**[1] **Installation in doors and covers** Degree of protection IP65, including handle ti-grey, with masking plate, indicator plate, removable door coupling (die cast with reduced tolerance compensation), extension shaft (8 × 8 mm), length 300 mm and front-operated rotary operating mechanism for the respective circuit breaker, lockable with up to 3 padlocks, with door interlocking		**3VL9 300-3HF05**		1	1 unit	113	0.872
	EMERGENCY-STOP version Red knob, yellow indicator plate, without leading auxiliary switch		**3VL9 300-3HG05**		1	1 unit	113	0.850
	Safety locks for installation by the customer see pages 2/86 to 2/90.							
 NSE0_00712 3VL9 .00-3A.10	**Leading auxiliary switches for installation in a front-operated rotary operating mechanism, door-coupling rotary operating mechanism or side panel rotary operating mechanism** Standard or EMERGENCY-STOP version "OFF after ON" Leading auxiliary switches when switching on							
	1 changeover contact with 1.5 m long cables		**3VL9 300-3AS10**		1	1 unit	113	0.100
	2 changeover contacts with 1.5 m long cables		**3VL9 300-3AT10**		1	1 unit	113	0.136
	"ON after OFF" Leading auxiliary switches when switching off							
	1 changeover contact with 1.5 m long cables		**3VL9 300-3AU10**		1	1 unit	113	0.105
	2 changeover contacts with 1.5 m long cables		**3VL9 300-3AW10**		1	1 unit	113	0.155
	Side panel rotary operating mechanisms, complete[1] Degree of protection IP65, including black knob with masking plate, indicator plate, Bowden wire, lockable with up to 3 padlocks							
	- With 600 mm Bowden wire		**3VL9 300-3HR10**		1	1 unit	113	1.758
	- With 1000 mm Bowden wire		**3VL9 300-3HR20**		1	1 unit	113	2.100
	- With 1500 mm Bowden wire		**3VL9 300-3HR30**		1	1 unit	113	1.900
	Side panel rotary operating mechanisms, complete[1] EMERGENCY-STOP version Degree of protection IP65, including red knob with masking plate, yellow indicator plate, Bowden wire, lockable with up to 3 padlocks							
	- With 600 mm Bowden wire		**3VL9 300-3HR11**		1	1 unit	113	2.100
	- With 1000 mm Bowden wire		**3VL9 300-3HR21**		1	1 unit	113	2.100
	- With 1500 mm Bowden wire		**3VL9 300-3HR31**		1	1 unit	113	2.100
	Retaining brackets, suitable for matching door-coupling rotary operating mechanisms, complete Retaining bracket is mounted on the operating mechanism, recommended for extension shafts >250 mm		**3VL9 300-3HP02**		1	1 unit	113	0.409
	- for 6 mm shaft		**3VL9 300-3HP00**		1	1 unit	113	0.385

Additional accessories and components for door-coupling rotary operating mechanism, see 2/69 and 2/71.

1) Not possible on VL160X with RCD module.

2) IP40 with additional masking frame mounted on the door cutout.

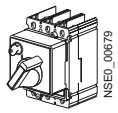
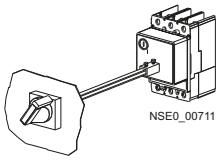
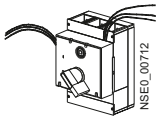
* You can order this quantity or a multiple thereof.

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DT	For VL400 (3VL4) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg	DT	For VL630 (3VL5) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL9 400-3HA00		1	1 unit	113	1.281		**3VL9 600-3HA00**		1	1 unit	113	1.373
	3VL9 400-3HC00		1	1 unit	113	1.291		**3VL9 600-3HC00**		1	1 unit	113	1.404
	3VL9 400-3HE00		1	1 unit	113	1.050		**3VL9 600-3HE00**		1	1 unit	113	1.310
	3VL9 400-3HF05		1	1 unit	113	1.510		**3VL9 600-3HF05**		1	1 unit	113	1.660
	3VL9 400-3HG05		1	1 unit	113	1.640		**3VL9 600-3HG05**		1	1 unit	113	1.640
	3VL9 400-3AS10		1	1 unit	113	0.096		**3VL9 600-3AS10**		1	1 unit	113	0.087
	3VL9 400-3AT10		1	1 unit	113	0.147		**3VL9 600-3AT10**		1	1 unit	113	0.151
	3VL9 400-3AU10		1	1 unit	113	0.101		**3VL9 600-3AU10**		1	1 unit	113	0.096
	3VL9 400-3AW10		1	1 unit	113	0.155		**3VL9 600-3AW10**		1	1 unit	113	0.150
	3VL9 400-3HR10		1	1 unit	113	2.640		**3VL9 500-3HR10**		1	1 unit	113	2.852
	3VL9 400-3HR20		1	1 unit	113	2.657		**3VL9 500-3HR20**		1	1 unit	113	2.852
	3VL9 400-3HR30		1	1 unit	113	2.690		**3VL9 500-3HR30**		1	1 unit	113	2.852
	3VL9 400-3HR11		1	1 unit	113	2.619		**3VL9 500-3HR11**		1	1 unit	113	2.870
	3VL9 400-3HR21		1	1 unit	113	2.660		**3VL9 500-3HR21**		1	1 unit	113	2.889
	3VL9 400-3HR31		1	1 unit	113	3.500		**3VL9 500-3HR31**		1	1 unit	113	2.940
	3VL9 400-3HP00		1	1 unit	113	0.516		**3VL9 600-3HP00**		1	1 unit	113	0.562
	--							**--**					

* You can order this quantity or a multiple thereof.

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	Version	DT	For VL800 (3VL6) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Operating mechanisms								
	3- or 4-pole							
 3VL9 .00-3H.00	**Front-operated rotary operating mechanisms** For direct mounting on the circuit breaker, without leading auxiliary switch, degree of protection IP30[1], black, max. 3 padlocks		**3VL9 600-3HA00**		1	1 unit	113	1.373
	EMERGENCY-STOP version Red knob, yellow indicator plate		**3VL9 600-3HC00**		1	1 unit	113	1.404
	Safety locks for installation by the customer see pages 2/86 to 2/90.							
	Front-operated rotary operating mechanisms with shaft stub, without knob Without leading auxiliary switch, for auxiliary switches see below.		**3VL9 600-3HE00**		1	1 unit	113	1.310
 3VL9 .00-3H.05	**Door-coupling rotary operating mechanisms, complete, installation in doors and covers** Degree of protection IP65, including handle, ti-grey, with masking plate, indicator plate, detachable door coupling (die cast, for VL800 (3VL6) with reduced tolerance compensation), extension shaft (8 × 8 mm for VL800 (3VL6), 12 × 12 mm for VL1250 (3VL7) and VL1600 (3VL8), length 300 mm and front-operated rotary operating mechanism for the respective circuit breaker, lockable with max. 3 padlocks, with door interlocking		**3VL9 600-3HF05**		1	1 unit	113	1.660
	EMERGENCY-STOP version, Red knob, yellow indicator plate, without leading auxiliary switch		**3VL9 600-3HG05**		1	1 unit	113	1.640
	Safety locks for installation by the customer see pages 2/86 to 2/90.							
 3VL9 .00-3A.10	**Leading auxiliary switches for installation in a front-operated rotary operating mechanism or door-coupling rotary operating mechanism** Standard or EMERGENCY-STOP version							
	"OFF after ON" Leading auxiliary switches when switching on							
	1 changeover contact with 1.5 m long cables		**3VL9 600-3AS10**		1	1 unit	113	0.087
	2 changeover contacts with 1.5 m long cables		**3VL9 600-3AT10**		1	1 unit	113	0.151
	"ON after OFF" Leading auxiliary switches when switching off							
	1 changeover contact with 1.5 m long cables		**3VL9 600-3AU10**		1	1 unit	113	0.096
	2 changeover contacts with 1.5 m long cables		**3VL9 600-3AW10**		1	1 unit	113	0.150
	Retaining brackets suitable for matching door-coupling rotary operating mechanisms, complete							
	Retaining bracket is mounted on the operating mechanism, recommended for extension shafts >250 mm		**3VL9 600-3HP00**		1	1 unit	113	0.562

Additional accessories and components for door-coupling rotary operating mechanism, see 2/69 and 2/71.

[1] IP40 with additional masking frame mounted on the door cutout.

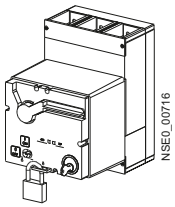
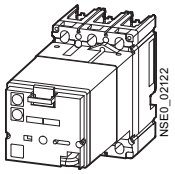
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DT	For VL1250 to VL1600 (3VL7 to 3VL8) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL9 800-3HA00		1	1 unit	113	3.562
	3VL9 800-3HC00		1	1 unit	113	3.580
	3VL9 800-3HE00		1	1 unit	113	2.859
	3VL9 800-3HF05		1	1 unit	113	3.940
	3VL9 800-3HG05		1	1 unit	113	3.980
	3VL9 800-3AS20		1	1 unit	113	0.132
	3VL9 800-3AT20		1	1 unit	113	0.184
	3VL9 800-3AU10		1	1 unit	113	0.095
	3VL9 800-3AW10		1	1 unit	113	0.146
	3VL9 800-3HP00		1	1 unit	113	0.630

* You can order this quantity or a multiple thereof.

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	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Motorized operating mechanisms								
	3- or 4-pole							
 3VL9 .00-3M.00	**Motorized operating mechanisms with stored energy mechanisms (SEO) for synchronization tasks[1)2)]** Degree of protection IP30, with locking device for 3 padlocks		**For VL160X to VL250 (3VL1 to 3VL3)**					
	50/60 Hz V AC / V DC							
	-- / 24		**3VL9 300-3MJ00**		1	1 unit	113	2.755
	42 ... 48 / 42 ... 48		**3VL9 300-3ML00**		1	1 unit	113	2.810
	60 / 60		**3VL9 300-3MS00**		1	1 unit	113	2.773
	110 ... 127 / 110 ... 127		**3VL9 300-3MN00**		1	1 unit	113	2.782
	220 ... 250 / 220 ... 250		**3VL9 300-3MQ00**		1	1 unit	113	2.802
			For VL400 (3VL4)					
	50/60 Hz V AC / V DC							
	-- / 24		**3VL9 400-3MJ00**		1	1 unit	113	4.610
	42 ... 48 / 42 ... 48		**3VL9 400-3ML00**		1	1 unit	113	4.594
	60 / 60		**3VL9 400-3MS00**		1	1 unit	113	4.596
	110 ... 127 / 110 ... 127		**3VL9 400-3MN00**		1	1 unit	113	4.602
	220 ... 250 / 220 ... 250		**3VL9 400-3MQ00**		1	1 unit	113	4.593
			For VL630 and VL800 (3VL5 and 3VL6)					
	50/60 Hz V AC / V DC							
	-- / 24		**3VL9 600-3MJ00**		1	1 unit	113	5.630
	42 ... 48 / 42 ... 48		**3VL9 600-3ML00**		1	1 unit	113	5.486
	60 / 60		**3VL9 600-3MS00**		1	1 unit	113	5.662
	110 ... 127 / 110 ... 127		**3VL9 600-3MN00**		1	1 unit	113	5.473
	220 ... 250 / 220 ... 250		**3VL9 600-3MQ00**		1	1 unit	113	5.639
 3VL9 .00-3M.10	**Motorized operating mechanisms (MO)[2)]** Degree of protection IP30, with locking device for 3 padlocks		**For VL160X (3VL1)**					
	50/60 Hz V AC / V DC							
	-- / 24		**3VL9 100-3MA10**		1	1 unit	113	1.807
	42 ... 60 / 42 ... 60		**3VL9 100-3MC10**		1	1 unit	113	1.790
	110 ... 127 / 110 ... 127		**3VL9 100-3MD10**		1	1 unit	113	1.770
	220 ... 250 / 220 ... 250		**3VL9 100-3ME10**		1	1 unit	113	1.802
			For VL160 and VL250 (3VL2 and 3VL3)					
	50/60 Hz V AC / V DC							
	-- / 24		**3VL9 300-3MA10**		1	1 unit	113	1.800
	42 ... 60 / 42 ... 60		**3VL9 300-3MC10**		1	1 unit	113	1.799
	110 ... 127 / 110 ... 127		**3VL9 300-3MD10**		1	1 unit	113	1.797
	220 ... 250 / 220 ... 250		**3VL9 300-3ME10**		1	1 unit	113	1.805
			For VL400 (3VL4)					
	50/60 Hz V AC / V DC							
	-- / 24		**3VL9 400-3MA10**		1	1 unit	113	2.298
	42 ... 60 / 42 ... 60		**3VL9 400-3MC10**		1	1 unit	113	2.330
	110 ... 127 / 110 ... 127		**3VL9 400-3MD10**		1	1 unit	113	2.320
	220 ... 250 / 220 ... 250		**3VL9 400-3ME10**		1	1 unit	113	2.325
			For VL630 and VL800 (3VL5 and 3VL6)					
	50/60 Hz V AC / V DC							
	-- / 24		**3VL9 600-3MA10**		1	1 unit	113	2.310
	42 ... 60 / 42 ... 60		**3VL9 600-3MC10**		1	1 unit	113	2.261
	110 ... 127 / 110 ... 127		**3VL9 600-3MD10**		1	1 unit	113	2.329
	220 ... 250 / 220 ... 250		**3VL9 600-3ME10**		1	1 unit	113	2.332
			For VL1,250 and VL1600 (3VL7 and 3VL8)					
	50/60 Hz V AC / V DC							
	-- / 24		**3VL9 800-3MJ00**		1	1 unit	113	7.910
	42 ... 48 / 42 ... 48		**3VL9 800-3ML00**		1	1 unit	113	7.945
	60 / 60		**3VL9 800-3MS00**		1	1 unit	113	7.945
	110 ... 127 / 110 ... 127		**3VL9 800-3MN00**		1	1 unit	113	7.861
	220 ... 250 / 220 ... 250		**3VL9 800-3MQ00**		1	1 unit	113	7.865
Toggle handle extensions								
	Toggle handle extensions		**For VL400 up to VL1600 (3VL4 to 3VL8)**					
	• for VL400 (3VL4)		**3VL9 400-3HN00**		1	1 unit	113	0.023
	• for VL630 and VL800 (3VL5 and 3VL6)		**3VL9 600-3HN00**		1	1 unit	113	0.026
	• for VL1,250 and VL1600 (3VL7 and 3VL8)		**3VL9 800-3HN00**		1	1 unit	113	0.251

1) Not possible on VL160X with RCD module.

2) For safety lock as an assembly kit for retrofitting see pages 2/86 to 2/90.

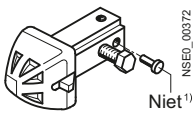
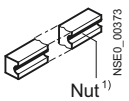
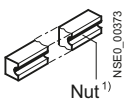
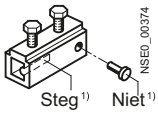
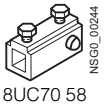
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	Switch-gear	Rotary operating mecha-nisms	Size	Cross-section of the actuating shaft	Version[1]	DT	**Individual parts for 8UC7 door-coupling rotary operating mechanisms** Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	Type	Type		mm × mm								kg
Individual parts for 8UC door-coupling rotary operating mechanisms[2]												
	Handles with masking plate (including flat gasket and fixing screws)											
 8UC71 10-1BB	3VL1, 3VL2, 3VL3	8UC71	1	6 × 6 or 8 × 8	Standard EMER-GENCY-STOP		**8UC71 10-6BD**		1	1 unit	103	0.185
							8UC71 20-8BD		1	1 unit	103	0.183
 8UC72 10-6BD	3VL4, 3VL5, 3VL6	8UC72	2	8 × 8	Standard EMER-GENCY-STOP		**8UC72 10-6BD**		1	1 unit	103	0.189
							8UC72 20-8BD		1	1 unit	103	0.217
 8UC73 10-1BB	3VL7, 3VL8	8UC73	3	12 × 12	Standard EMER-GENCY-STOP		**8UC73 10-6BD**		1	1 unit	103	0.507
							8UC73 20-8BD		1	1 unit	103	0.488

[1] Standard: Ti-grey handle, light-gray masking plate; EMERGENCY-STOP: Red handle, yellow masking plate.

[2] Cannot be used for side panel rotary operating mechanisms

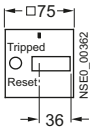
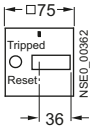
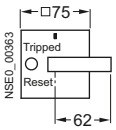
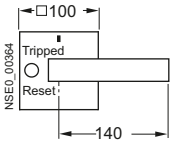
	Rotary operating mechanisms	Cross-section of the actuating shaft	DT	**Individual parts for 8UC6 door-coupling rotary operating mechanisms** Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	Type	mm × mm							kg
Individual parts for 8UC door-coupling rotary operating mechanisms									
 8UC60 14	**Coupling drivers for 3VL**								
	8UC71 (plastic)	6 × 6		**8UC70 11-2AA**		1	1 unit	103	0.051
	8UC71/8UC72[2] (die cast)	8 × 8		**8UC60 17-2AA**		1	1 unit	103	0.047
	8UC73/74 (die cast)	12 × 12		**8UC60 14**		1	1 unit	103	0.233
 8UC60 31	**Extension shafts 300 mm long**								
	8UC71	6 × 6		**8UC60 31**		1	1 unit	103	0.068
	8UC71/8UC72	8 × 8		**8UC60 32**		1	1 unit	103	0.135
	8UC73	10 × 10		**8UC60 33**		1	1 unit	103	0.215
	8UC73/74	12 × 12		**8UC60 34**		1	1 unit	103	0.316
 8UC60 81	**Extension shafts 600 mm long**								
	8UC71	6 × 6		**8UC60 81**		1	1 unit	103	0.136
	8UC71/8UC72	8 × 8		**8UC60 82**		1	1 unit	103	0.265
	8UC73	10 × 10		**8UC60 83**		1	1 unit	103	0.424
	8UC73/74	12 × 12		**8UC60 84**		1	1 unit	103	0.628
 8UC60 21 to 8UC60 24	**Shaft couplings**								
	8UC71	6 × 6		**8UC60 21**		1	1 unit	103	0.027
	8UC72	8 × 8		**8UC60 22**		1	1 unit	103	0.022
	8UC73	10 × 10		**8UC60 23**		1	1 unit	103	0.083
	8UC73/74	12 × 12		**8UC60 24**		1	1 unit	103	0.078
 8UC70 58	**Reducers**								
	8UC71	8 × 8 to 6 × 6		**8UC70 58**		1	1 unit	103	0.024
	8UC72	12 × 12 to 8 × 8		**8UC70 50**		1	1 unit	103	0.081

[1] Non-interchangeability features.

[2] Shortened coupling driver with reduced tolerance compensation.

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	Switchgear	Rated current	Cross-section of the actuating shaft	Torque	Rotary operating mechanisms	Illustrated: Handle, masking plate

	Type	A	mm	Nm	Size	
8UC door-coupling rotary operating mechanisms						
8UC71 - 3VL molded case circuit breakers						
	3VL1	16 ... 160	6 × 6	4	1	
	3VL2	50 ... 160	6 × 6	4		
	3VL3	200... 250	6 × 6	4		
	3VL1	16 ... 160	8 × 8	4	1	
	3VL2	50 ... 160	8 × 8	4		
	3VL3	200... 250	8 × 8	4		
	(Supplied with door-coupling rotary operating mechanism, complete 3VL9 300-3H.05)					
8UC72 - 3VL molded case circuit breakers						
	3VL4	200 ... 400	8 × 8	9	2	
	3VL5	315 ... 600	8 × 8	9		
	3VL6	320 ... 800	8 × 8	9		
8UC73 - 3VL molded case circuit breakers						
	3VL7	400 ... 1250	12 × 12	25	3	
	3VL8	640 ... 1600	12 × 12	25		

[1] Requires in addition a front-operated rotary operating mechanism with shaft stub for direct mounting to the circuit breaker. For ordering the complete operating mechanism see pages 2/64 to 2/67.

* You can order this quantity or a multiple thereof.

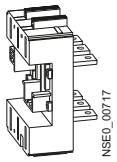
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Version	DT	Rotary operating mechanisms, complete[1]		PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.	Individual parts of the rotary operating mechanism			
Standard: Ti-grey handle, light-gray masking plate; EMERGENCY-STOP: Red handle, yellow masking plate		Order No.	Price per PU					Handle with masking plate	Coupling drivers	Extension shaft (length 300 mm)	Reducer/ shaft coupling
							kg	Order No.	Order No.	Order No.	Order No.
									☐ 6 mm	**☐ 6 mm**	**☐ 8 mm by 6 mm**
Standard		**8UC71 11-6BD15**		1	1 unit	103	0.374	8UC71 10-6BD	8UC70 11-2AA	8UC60 31	8UC70 58
EMERGENCY-STOP (coupling driver made of plastic)		**8UC71 21-8BD15**		1	1 unit	103	0.340	8UC71 20-8BD	8UC70 11-2AA	8UC60 31	8UC70 58
									☐ 8 mm	**☐ 8 mm**	**☐ 8 mm by 8 mm**
Standard		**8UC71 62-6BD22**		1	1 unit	103	0.425	8UC71 10-6BD	8UC60 17-2AA	8UC60 32	8UC60 22
EMERGENCY-STOP (Die cast coupling driver with reduced tolerance compensation)		**8UC71 72-8BD22**		1	1 unit	103	0.417	8UC71 20-8BD	8UC60 17-2AA	8UC60 32	8UC60 22
									☐ 8 mm	**☐ 8 mm**	**☐ 12 mm by 8 mm**
Standard		**8UC72 62-6BD26**		1	1 unit	103	0.486	8UC72 10-6BD	8UC60 17-2AA	8UC60 32	8UC70 50
EMERGENCY-STOP (Die cast coupling driver with reduced tolerance compensation)		**8UC72 62-8BD26**		1	1 unit	103	0.485	8UC72 20-8BD	8UC60 17-2AA	8UC60 32	8UC70 50
									☐ 12 mm	**☐ 12 mm**	**☐ 12 mm by 12 mm**
Standard		**8UC73 14-6BD44**		1	1 unit	103	1.179	8UC73 10-6BD	8UC60 14	8UC60 34	8UC60 24
EMERGENCY-STOP (Die cast coupling driver)		**8UC73 24-8BD44**		1	1 unit	103	1.124	8UC73 20-8BD	8UC60 14	8UC60 34	8UC60 24

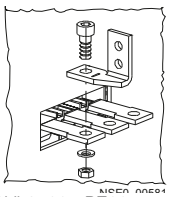
* You can order this quantity or a multiple thereof.

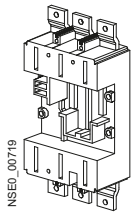
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Version	DT	For VL160X (3VL1) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Plug-in versions/withdrawable versions							
3- or 4-pole							
Plug-in base assembly kits Base, blade contacts for circuit breakers, terminal covers for degree of protection IP20, fixing screws, trip pin							
Rear terminals							
3-pole		**3VL9 100-4PA30**		1	1 unit	113	2.490
3-pole with RCD module		**3VL9 100-4PB30**		1	1 unit	113	2.839
4-pole		**3VL9 100-4PA40**		1	1 unit	113	3.272
4-pole with RCD module		**3VL9 100-4PB40**		1	1 unit	113	3.622
90° angle connecting adapters							
For rear connection, 3-pole		**3VL9 300-4PE30**		1	1 unit	113	0.452
For rear connection, 4-pole		**3VL9 300-4PE40**		1	1 unit	113	0.548
Front-accessible connections							
3-pole		**3VL9 100-4PC30**		1	1 unit	113	2.291
3-pole with RCD module		**3VL9 100-4PD30**		1	1 unit	113	2.624
4-pole		**3VL9 100-4PC40**		1	1 unit	113	2.942
4-pole with RCD module		**3VL9 100-4PD40**		1	1 unit	113	3.502
Withdrawable version assembly kits Upgrade of the plug-in base assembly kit to							
Withdrawable version including side panels and racking mechanism. 3-pole		--					
Withdrawable version including side panels and racking mechanism. 3-pole with RCD		--					
Withdrawable version including side panels and racking mechanism. 4-pole		--					
Withdrawable version including side panels and racking mechanism. 4-pole with RCD		--					
Withdrawable version Same as plug-in base assembly kit, with additional side panels and racking mechanism							
Rear terminals							
3-pole		--					
3-pole with RCD module		--					
4-pole		--					
4-pole with RCD module		--					
Front-accessible connections							
3-pole		--					
3-pole with RCD module		--					
4-pole		--					
4-pole with RCD module		--					
Blade contacts As replacement for converting fixed-mounted circuit breakers into plug-in/withdrawable circuit breakers, including trip pin							
1 set = 6 units 3-pole		**3VL9 100-4PS30**		1	1 unit	113	0.312
1 set = 8 units 4-pole		**3VL9 100-4PS40**		1	1 unit	113	0.396
Trip pins and springs							
As replacement for plug-in/withdrawable circuit breaker		**3VL9 100-4PF00**		1	1 unit	113	0.006
Auxiliary circuit plug connections for plug-in bases Accessory connections for plug-in circuit breakers (factory-wired connectors) and for plug-in bases or withdrawable version (coupling with screw terminal)		[1])					
8 terminals		**3VL9 300-4PJ00**		1	1 unit	113	0.212
Position signaling switches (connected/disconnected position) For plug-in/withdrawable base, 1 changeover contact, max. 2 signaling switches possible		**3VL9 000-4WL00**		1	1 unit	113	0.039

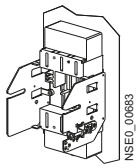


3VL9 .00-4PA30


3VL9 .00-4PE30



3VL9 .00-4WF30



3VL9 .00-4WA30

[1]) It is recommended to use a maximum of 2 auxiliary circuit plug-in systems per circuit breaker (16 terminals).

* You can order this quantity or a multiple thereof.

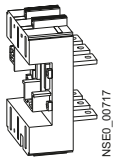
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DT	For VL160 (3VL2) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg	DT	For VL250 (3VL3) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL9 200-4PA30		1	1 unit	113	2.504		**3VL9 300-4PA30**		1	1 unit	113	2.606
	3VL9 200-4PB30		1	1 unit	113	2.991		**3VL9 300-4PB30**		1	1 unit	113	3.120
	3VL9 200-4PA40		1	1 unit	113	3.120		**3VL9 300-4PA40**		1	1 unit	113	3.409
	3VL9 200-4PB40		1	1 unit	113	3.614		**3VL9 300-4PB40**		1	1 unit	113	3.762
	3VL9 300-4PE30		1	1 unit	113	0.452		**3VL9 300-4PE30**		1	1 unit	113	0.452
	3VL9 300-4PE40		1	1 unit	113	0.548		**3VL9 300-4PE40**		1	1 unit	113	0.548
	3VL9 200-4PC30		1	1 unit	113	2.254		**3VL9 300-4PC30**		1	1 unit	113	2.400
	3VL9 200-4PD30		1	1 unit	113	2.368		**3VL9 300-4PD30**		1	1 unit	113	2.668
	3VL9 200-4PC40		1	1 unit	113	2.920		**3VL9 300-4PC40**		1	1 unit	113	3.010
	3VL9 200-4PD40		1	1 unit	113	3.595		**3VL9 300-4PD40**		1	1 unit	113	3.500
	3VL9 300-4WF30		1	1 unit	113	2.360		**3VL9 300-4WF30**		1	1 unit	113	2.360
	3VL9 300-4WG30		1	1 unit	113	3.176		**3VL9 300-4WG30**		1	1 unit	113	3.176
	3VL9 300-4WF40		1	1 unit	113	2.740		**3VL9 300-4WF40**		1	1 unit	113	2.740
	3VL9 300-4WG40		1	1 unit	113	3.106		**3VL9 300-4WG40**		1	1 unit	113	3.106
	3VL9 200-4WA30		1	1 unit	113	4.940		**3VL9 300-4WA30**		1	1 unit	113	5.192
	3VL9 200-4WB30		1	1 unit	113	6.301		**3VL9 300-4WB30**		1	1 unit	113	6.475
	3VL9 200-4WA40		1	1 unit	113	5.662		**3VL9 300-4WA40**		1	1 unit	113	5.932
	3VL9 200-4WB40		1	1 unit	113	6.919		**3VL9 300-4WB40**		1	1 unit	113	6.935
	3VL9 200-4WC30		1	1 unit	113	4.987		**3VL9 300-4WC30**		1	1 unit	113	5.100
	3VL9 200-4WD30		1	1 unit	113	6.045		**3VL9 300-4WD30**		1	1 unit	113	5.906
	3VL9 200-4WC40		1	1 unit	113	5.560		**3VL9 300-4WC40**		1	1 unit	113	5.560
	3VL9 200-4WD40		1	1 unit	113	6.732		**3VL9 300-4WD40**		1	1 unit	113	6.895
	3VL9 200-4PS30		1	1 unit	113	0.318		**3VL9 300-4PS30**		1	1 unit	113	0.424
	3VL9 200-4PS40		1	1 unit	113	0.397		**3VL9 300-4PS40**		1	1 unit	113	0.535
	3VL9 300-4PF00		1	1 unit	113	0.005		**3VL9 300-4PF00**		1	1 unit	113	0.005
	[1] **3VL9 300-4PJ00**		1	1 unit	113	0.212		[1] **3VL9 300-4PJ00**		1	1 unit	113	0.212
	3VL9 000-4WL00		1	1 unit	113	0.039		**3VL9 000-4WL00**		1	1 unit	113	0.039

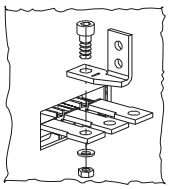
* You can order this quantity or a multiple thereof.

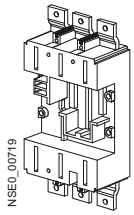
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Version	DT	For VL400 (3VL4) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Plug-in versions/withdrawable versions							
3- or 4-pole							
Plug-in base assembly kits Base, blade contacts for circuit breakers, terminal covers for degree of protection IP20, fixing screws, trip pin							
Rear terminals							
3-pole		**3VL9 400-4PA30**		1	1 unit	113	6.520
3-pole with RCD module		**--**[1]					
4-pole		**3VL9 400-4PA40**		1	1 unit	113	8.380
4-pole with RCD module		**3VL9 400-4PB40**		1	1 unit	113	9.857
90° angle connecting adapters							
For rear connection, 3-pole		**--**					
For rear connection, 4-pole		**--**					
Front-accessible connections							
3-pole		**3VL9 400-4PC30**		1	1 unit	113	6.190
3-pole with RCD module		**--**[1]					
4-pole		**3VL9 400-4PC40**		1	1 unit	113	8.297
4-pole with RCD module		**3VL9 400-4PD40**		1	1 unit	113	9.298
Withdrawable version assembly kits Upgrade of the plug-in base assembly kit to							
Withdrawable version including side panels and racking mechanism. 3-pole		**3VL9 400-4WF30**		1	1 unit	113	4.822
3-pole with RCD		**--**[1]					
4-pole		**3VL9 400-4WF40**		1	1 unit	113	4.880
4-pole with RCD		**3VL9 400-4WG40**		1	1 unit	113	6.070
Withdrawable version Same as plug-in base assembly kit, with additional side panels and racking mechanism							
Rear terminals[3]							
3-pole		**3VL9 400-4WA30**		1	1 unit	113	12.650
3-pole with RCD module		**--**[1]					
4-pole		**3VL9 400-4WA40**		1	1 unit	113	14.582
4-pole with RCD module		**3VL9 400-4WB40**		1	1 unit	113	16.200
Front-accessible connections							
3-pole		**3VL9 400-4WC30**		1	1 unit	113	12.240
3-pole with RCD module		**--**[1]					
4-pole		**3VL9 400-4WC40**		1	1 unit	113	14.240
4-pole with RCD module		**3VL9 400-4WD40**		1	1 unit	113	18.219
Blade contacts As replacement for converting fixed-mounted circuit breakers into plug-in/withdrawable circuit breakers, including trip pin							
1 set = 6 units 3-pole		**3VL9 400-4PS30**		1	1 unit	113	1.292
1 set = 8 units 4-pole		**3VL9 400-4PS40**		1	1 unit	113	1.623
Trip pins and springs							
As replacement for plug-in/withdrawable circuit breaker		**3VL9 400-4PF00**		1	1 unit	113	0.006
Auxiliary circuit plug connections for plug-in bases Accessory connections for plug-in circuit breakers (factory-wired connectors) and for plug-in bases or withdrawable version (coupling with screw terminal)		[2]					
8 terminals		**3VL9 400-4PJ00**		1	1 unit	113	0.229
Position signaling switches (connected/disconnected position) For plug-in/withdrawable base, 1 changeover contact, max. 2 signaling switches possible		**3VL9 000-4WL00**		1	1 unit	113	0.039

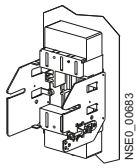


3VL9 .00-4PA30


3VL9 .00-4PE30



3VL9 .00-4WF30



3VL9 .00-4WA30

1) For 3-pole applications please use 4-pole withdrawable version with 4-pole RCD module and 4-pole circuit breaker.

2) It is recommended to use a maximum of 3 auxiliary circuit plug-in systems per circuit breaker (24 terminals).

3) With VL800 (3VL6) to VL1600 (3VL8) as vertical connection.

* You can order this quantity or a multiple thereof.

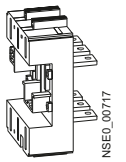
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DT	For VL630 (3VL5) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg	DT	For VL800 (3VL6) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL9 500-4PA30		1	1 unit	113	9.186		**--**					
	--							**--**					
	3VL9 500-4PA40		1	1 unit	113	12.424		**--**					
	--							**--**					
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	--							**--**					
	3VL9 500-4PC30		1	1 unit	113	8.025		**--**					
	--							**--**					
	3VL9 500-4PC40		1	1 unit	113	10.720		**--**					
	--							**--**					
	3VL9 500-4WF30		1	1 unit	113	5.200		**--**					
	--							**--**					
	3VL9 500-4WF40		1	1 unit	113	4.740		**--**					
	--							**--**					
	3VL9 500-4WA30		1	1 unit	113	15.360		**3VL9 600-4WA30**		1	1 unit	113	43.880
	--							**--**					
	3VL9 500-4WA40		1	1 unit	113	18.760		**3VL9 600-4WA40**		1	1 unit	113	43.800
	--							**--**					
	3VL9 500-4WC30		1	1 unit	113	14.180		**3VL9 600-4WC30**		1	1 unit	113	44.460
	--							**--**					
	3VL9 500-4WC40		1	1 unit	113	16.945		**3VL9 600-4WC40**		1	1 unit	113	43.213
	--							**--**					
	3VL9 500-4PS30		1	1 unit	113	1.365		**3VL9 600-4PS30**		1	1 unit	113	3.744
	3VL9 500-4PS40		1	1 unit	113	2.117		**3VL9 600-4PS40**		1	1 unit	113	4.965
	3VL9 500-4PF00		1	1 unit	113	0.015		**3VL9 600-4PF00**		1	1 unit	113	0.014
	[2])							[2])					
	3VL9 600-4PJ00		1	1 unit	113	0.250		**3VL9 600-4PJ00**		1	1 unit	113	0.250
	3VL9 000-4WL00		1	1 unit	113	0.039		**3VL9 000-4WL00**		1	1 unit	113	0.039

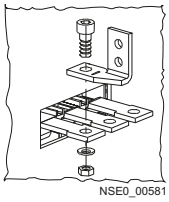
* You can order this quantity or a multiple thereof.

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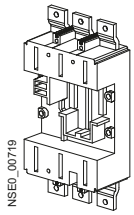
Version	DT	For VL1250 (3VL7) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Plug-in versions/withdrawable versions							
3- or 4-pole							
Plug-in base assembly kits Base, blade contacts for circuit breakers, terminal covers for degree of protection IP20, fixing screws, trip pin							
Rear terminals							
3-pole		--					
3-pole with RCD module		--					
4-pole		--					
4-pole with RCD module		--					
90° angle connecting adapters							
For rear connection, 3-pole		--					
For rear connection, 4-pole		--					
Front-accessible connections							
3-pole		--					
3-pole with RCD module		--					
4-pole		--					
4-pole with RCD module		--					
Withdrawable version assembly kits Upgrade of the plug-in base assembly kit to							
Withdrawable version including side panels and racking mechanism. 3-pole		--					
3-pole with RCD		--					
4-pole		--					
4-pole with RCD		--					
Withdrawable version Same as plug-in base assembly kit, with additional side panels and racking mechanism							
Rear terminals[1]							
3-pole		**3VL9 800-4WA30**		1	1 unit	113	43.420
3-pole with RCD module		--					
4-pole		**3VL9 800-4WA40**		1	1 unit	113	52.320
4-pole with RCD module		--					
Front-accessible connections							
3-pole		**3VL9 800-4WC30**		1	1 unit	113	45.000
3-pole with RCD module		--					
4-pole		**3VL9 800-4WC40**		1	1 unit	113	53.000
4-pole with RCD module		--					
Blade contacts As replacement for converting fixed-mounted circuit breakers into plug-in/withdrawable circuit breakers, including trip pin							
1 set = 6 units 3-pole		**3VL9 800-4PS30**		1	1 unit	113	3.573
1 set = 8 units 4-pole		**3VL9 800-4PS40**		1	1 unit	113	4.595
Trip pins and springs As replacement for plug-in/withdrawable circuit breaker		**3VL9 800-4PF00**		1	1 unit	113	0.023
Auxiliary circuit plug connections for plug-in bases Accessory connections for plug-in circuit breakers (factory-wired connectors) and for plug-in bases or withdrawable version (coupling with screw terminal)		[2]					
8 terminals		**3VL9 800-4PJ00**		1	1 unit	113	0.238
Position signaling switches (connected/disconnected position) For plug-in/withdrawable base, 1 changeover contact, max. 2 signaling switches possible		**3VL9 000-4WL00**		1	1 unit	113	0.039



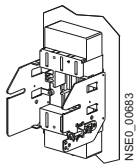
3VL9 .00-4PA30



3VL9 .00-4PE30



3VL9 .00-4WF30



3VL9 .00-4WA30

1) With VL800 (3VL6) to VL1600 (3VL8) as vertical connection.

2) It is recommended to use a maximum of 3 auxiliary circuit plug-in systems per circuit breaker (24 terminals).

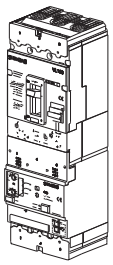
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DT	For VL1600 (3VL8) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	--					
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	--					
	3VL9 800-4WA30		1	1 unit	113	43.420
	--					
	3VL9 800-4WA40		1	1 unit	113	52.320
	--					
	3VL9 800-4WC30		1	1 unit	113	45.000
	--					
	3VL9 800-4WC40		1	1 unit	113	53.000
	--					
	3VL9 800-4PS30		1	1 unit	113	3.573
	3VL9 800-4PS40		1	1 unit	113	4.595
	3VL9 800-4PF00		1	1 unit	113	0.023
	[2])					
	3VL9 800-4PJ00		1	1 unit	113	0.238
	3VL9 000-4WL00		1	1 unit	113	0.039

* You can order this quantity or a multiple thereof.

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	Circuit breakers for system protection, **only for TM, starters, disconnectors**	Rated current I_n	Residual currents I adjustable	Delay time t_d adjustable	Rated operational voltage U_e	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	A	s	V AC							kg
RCD modules												
	***3-pole***											
	VL160X (3VL1)		0.03	Instanta-neous								
	Bottom mounting[1)2)]	160	0.10	0.06	127 ... 480		**3VL9 112-5GA30**		1	1 unit	113	1.500
	VL160 (3VL2)	160	0.30	0.10	127 ... 480		**3VL9 216-5GC30**		1	1 unit	113	1.438
			0.50	0.25	230 ... 690		**3VL9 216-5GD30**		1	1 unit	113	1.427
	VL250 (3VL3)	250	1.00	0.50	127 ... 480		**3VL9 325-5GE30**		1	1 unit	113	1.478
			3.00	1.00	230 ... 690		**3VL9 325-5GF30**		1	1 unit	113	1.487
	VL400 (3VL4)	400			127 ... 480		**--**					
					230 ... 690		**--**					
Molded case circuit breakers VL160X to VL400 with RCD module mounted below the circuit breaker	***4-pole***											
	VL160X (3VL1)		0.03	Instanta-neous								
	Bottom mounting[1)2)]	160	0.10	0.06	127 ... 480		**3VL9 112-5GA40**		1	1 unit	113	1.849
	VL160 (3VL2)	160	0.30	0.10	127 ... 480		**3VL9 216-5GC40**		1	1 unit	113	1.743
			0.50	0.25	230 ... 690		**3VL9 216-5GD40**		1	1 unit	113	1.700
	VL250 (3VL3)	250	1.00	0.50	127 ... 480		**3VL9 325-5GE40**		1	1 unit	113	1.806
			3.00	1.00	230 ... 690		**3VL9 325-5GF40**		1	1 unit	113	1.810
	VL400 (3VL4)	400			127 ... 480		**3VL9 440-5GG40**		1	1 unit	113	3.327
					230 ... 690		**3VL9 440-5GH40**		1	1 unit	113	3.325

	Circuit breakers for system protection, **only for TM, starters, disconnectors**	Rated current I_n	Residual currents I adjustable	Delay time t_d adjustable	Rated operational voltage U_e	**3-pole circuit breakers** Order No. with **"-Z"** **3VL....-.D...-....-Z** and additional order code ☐☐☐ Code for further versions **-Z**	Add. price	**4-pole circuit breakers** Order No. with **"-Z"** **3VL....-.E...-....-Z** and additional order code ☐☐☐ Code for further versions **-Z**	Add. price
		A	A	s	V AC				
Circuit breakers with RCD module									
	3 and 4-pole								
	VL160X (3VL1)		0.03	Instanta-neous					
	(Bottom mounting)	160	0.10	0.06	127 ... 480	**A 0 1** [1)2)]	✓	**A 0 1** [1)2)]	✓
			0.30	0.10					
			0.50	0.25					
	VL160 (3VL2)	160	1.00	0.50	127 ... 480	**A 0 1**	✓	**A 0 1**	✓
			3.00	1.00	230 ... 690	**A 0 2**	✓	**A 0 2**	✓
	VL250 (3VL3)	250			127 ... 480	**A 0 1**	✓	**A 0 1**	✓
					230 ... 690	**A 0 2**	✓	**A 0 2**	✓
	VL400 (3VL4)	400			127 ... 480	**--**		**A 0 1**	✓
					230 ... 690	**--**		**A 0 2**	✓

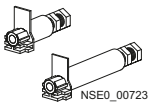
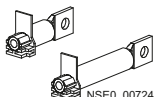
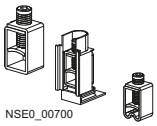
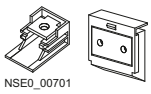
✓ Additional price

1) Only the right-hand accessory compartment and the N conductor (4-pole) accessory compartment can be used for the installation of accessories, see Technical Information at www.siemens.com/lowvoltage/support.

2) VL160X (3VL1) + RCD module cannot be combined with motorized operating mechanism, front operating mechanism, door-coupling rotary operating mechanism, locking device for toggle levers, screw terminal connections (3VL17..-....6-....) and Bowden wire interlocking.

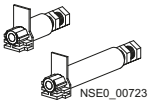
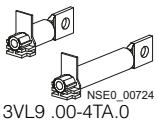
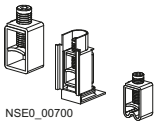
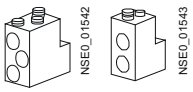
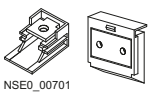
* You can order this quantity or a multiple thereof.

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	Version		DT	For VL160X (3VL1) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Connection parts for fixed-mounted circuit breakers									
	3- or 4-pole								
 NSE0_00702	**Front connecting bars**[1] Phase barriers included.								
3VL9 .00-4EC40	Standard								
	1 set = 3 units	3-pole		**3VL9 216-4EC30**		1	1 unit	113	0.212
	1 set = 4 units	4-pole		**3VL9 216-4EC40**		1	1 unit	113	0.287
 NSE0_00722	For increased pole spacing								
	1 set = 3 units	3-pole		**3VL9 216-4ED30**		1	1 unit	113	0.224
3VL9 .00-4ED40	1 set = 4 units	4-pole		**3VL9 216-4ED40**		1	1 unit	113	0.348
 NSE0_00723	**Rear terminals**								
	Short connection (1 unit)			**3VL9 100-4RA00**		1	1 unit	113	0.171
	Long connection (1 unit)			**3VL9 100-4RB00**		1	1 unit	113	0.260
3VL9 .00-4RA00, 3VL9 .00-4RB00	Terminal kit (2 short + 1 long) 3-pole			**3VL9 100-4RC30**		1	1 unit	113	0.556
	Terminal kit (2 short + 2 long) 4-pole			**3VL9 100-4RF40**		1	1 unit	113	0.805
 NSE0_00724	Short flat connection (1 unit)			**3VL9 100-4RK00**		1	1 unit	113	0.104
	Long flat connection (1 unit)			**3VL9 100-4RL00**		1	1 unit	113	0.222
3VL9 .00-4RK00, 3VL9 .00-4RL00	Flat connector kit (2 short + 1 long) 3-pole			**3VL9 100-4RM30**		1	1 unit	113	0.408
	Flat connector kit (2 short + 2 long) 4-pole			**3VL9 100-4RN40**		1	1 unit	113	0.652
 NSE0_00700	**Box terminals** For connection for flexible flat copper busbar or cable, see Technical Information at www.siemens.com/lowvoltage/support.								
3VL9 .00-4TC.0	1 set = 3 units			**3VL9 100-4TC30**		1	1 unit	113	0.103
	1 set = 4 units			**3VL9 100-4TC40**		1	1 unit	113	0.132
	Circular conductor terminals Only for cables (Al or Cu) Aluminum terminal (tinned)								
	1 set = 3 units			**3VL9 100-4TD30**		1	1 unit	113	0.095
	1 set = 4 units			**3VL9 100-4TD40**		1	1 unit	113	0.131
3VL9 .00-4TD.0	**Circular conductor terminal with terminal covers for cable (Al or Cu)**								
	1 set = 3 units			**3VL9 115-4TD30**		1	1 unit	113	0.337
	1 set = 4 units			**3VL9 115-4TD40**		1	1 unit	113	0.429
	Auxiliary conductor terminals For box terminals/circular conductor terminals 1 set = 10 units			**3VL9 200-3TN00**		1	1 unit	113	0.125
 NSE0_00701	**Terminals with screw connection - metric thread** With insulator (for rear) for use with busbars and cable lugs, see Technical Information at www.siemens.com/lowvoltage/support.								
3VL9 .00-4TA.0	1 set = 3 units			**3VL9 116-4TA30**		1	1 unit	113	0.068
	1 set = 4 units			**3VL9 116-4TA40**		1	1 unit	113	0.090
 NSE0_00730	**Connection covers (terminal covers) for circuit breakers** Degree of protection IP30 for main connections 1 set = 2 units								
3VL9 .00-3CB.0	Extended	3-pole		**3VL9 300-8CA30**		1	1 unit	113	0.308
	Standard	3-pole		**3VL9 300-8CB30**		1	1 unit	113	0.072
	Extended	4-pole		**3VL9 300-8CA40**		1	1 unit	113	0.364
	Standard	4-pole		**3VL9 300-8CB40**		1	1 unit	113	0.092
 NSE0_00731	**Phase barriers for circuit breakers, fixed-mounted, plug-in or withdrawable versions**								
	1 set = 2 units			**3VL9 300-8CE00**		1	1 unit	113	0.032
3VL9 .00-8CE00									

[1] Screw terminal connections are required for VL160X and VL160 molded case circuit breakers (3VL1 and 3VL2), see Technical Information at www.siemens.com/lowvoltage/support.

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	Version		DT	For VL160 (3VL2) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Connection parts for fixed-mounted circuit breakers									
 NSE0_00702 3VL9 .00-4EC40	***3- or 4-pole***								
	Front connecting bars[1] Phase barriers included.								
	Standard								
	1 set = 3 units	3-pole		**3VL9 216-4EC30**		1	1 unit	113	0.212
	1 set = 4 units	4-pole		**3VL9 216-4EC40**		1	1 unit	113	0.287
 NSE0_00722 3VL9 .00-4ED40	For increased pole spacing								
	1 set = 3 units	3-pole		**3VL9 216-4ED30**		1	1 unit	113	0.224
	1 set = 4 units	4-pole		**3VL9 216-4ED40**		1	1 unit	113	0.348
 NSE0_00723 3VL9 .00-4RA00, 3VL9 .00-4RB00	**Rear terminals**								
	Short connection (1 unit)			**3VL9 200-4RA00**		1	1 unit	113	0.161
	Long connection (1 unit)			**3VL9 200-4RB00**		1	1 unit	113	0.264
	Terminal kit (2 short + 1 long) 3-pole			**3VL9 200-4RC30**		1	1 unit	113	0.565
	Terminal kit (2 short + 2 long) 4-pole			**3VL9 200-4RF40**		1	1 unit	113	0.817
	Short flat connection (1 unit)			**3VL9 200-4RK00**		1	1 unit	113	0.124
	Long flat connection (1 unit)			**3VL9 200-4RL00**		1	1 unit	113	0.227
 NSE0_00724 3VL9 .00-4TA.0	Flat connector kit (2 short + 1 long) 3-pole			**3VL9 200-4RM30**		1	1 unit	113	0.455
	Flat connector kit (2 short + 2 long) 4-pole			**3VL9 200-4RN40**		1	1 unit	113	0.656
 NSE0_00700 3VL9 .00-4TC.0	**Box terminals** Connection for flexible flat copper busbar or cable, see Technical Information at www.siemens.com/lowvoltage/support.)								
	1 set = 3 units			**3VL9 200-4TC30**		1	1 unit	113	0.122
	1 set = 4 units			**3VL9 200-4TC40**		1	1 unit	113	0.166
3VL9 .00-4TD.0	**Circular conductor terminals** Only for cables (Al or Cu) Aluminum terminal (tinned)								
	1 set = 3 units			**3VL9 200-4TD30**		1	1 unit	113	0.121
	1 set = 4 units			**3VL9 200-4TD40**		1	1 unit	113	0.153
 NSE0_01542 NSE0_01543 3VL9 .00-4TF.0	**Circular conductor terminal with terminal covers for cable (Al or Cu)**								
	1 set = 3 units			**3VL9 215-4TD30**		1	1 unit	113	0.360
	1 set = 4 units			**3VL9 215-4TD40**		1	1 unit	113	0.455
	Multiple feed-in terminals								
	3 units			**--**					
	4 units			**--**					
	Multiple feed-in terminal with terminal covers								
	3 units (2 × 70 ... 300)			**--**					
	4 units (2 × 70 ... 300)			**--**					
	Auxiliary conductor terminals For box terminals/circular conductor terminals/multiple feed-in terminals 1 set = 10 units			**3VL9 200-3TN00**		1	1 unit	113	0.125
 NSE0_00701 3VL9 .00-4TA.0	**Terminals with screw connection - metric thread** With insulator (for rear) for use with busbars and cable lugs, see Technical Information at www.siemens.com/lowvoltage/support.								
	1 set = 3 units			**3VL9 216-4TA30**		1	1 unit	113	0.086
	1 set = 4 units			**3VL9 216-4TA40**		1	1 unit	113	0.108
 NSE0_00730 3VL9 .00-3CB.0	**Connection covers (terminal covers) for circuit breakers** Degree of protection IP30 for main connections 1 set = 2 units								
	Extended	3-pole		**3VL9 300-8CA30**		1	1 unit	113	0.308
	Standard	3-pole		**3VL9 300-8CB30**		1	1 unit	113	0.072
	Extended	4-pole		**3VL9 300-8CA40**		1	1 unit	113	0.364
	Standard	4-pole		**3VL9 300-8CB40**		1	1 unit	113	0.092
 NSE0_00731 3VL9 .00-3CB.0	**Phase barriers for circuit breakers, fixed-mounted, plug-in or withdrawable versions**								
	1 set = 2 units			**3VL9 300-8CE00**		1	1 unit	113	0.032

[1] Screw terminal connections are required for VL160X and VL160 molded case circuit breakers (3VL1 and 3VL2), see Technical Information at www.siemens.com/lowvoltage/support.

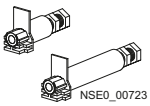
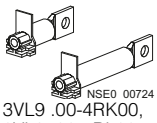
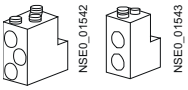
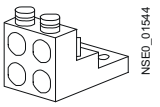
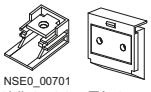
* You can order this quantity or a multiple thereof.

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DT	For VL250 (3VL3) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg	DT	For VL400 (3VL4) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL9 300-4EC30		1	1 unit	113	0.269		**3VL9 400-4EC30**		1	1 unit	113	0.918
	3VL9 300-4EC40		1	1 unit	113	0.353		**3VL9 400-4EC40**		1	1 unit	113	1.145
	3VL9 300-4ED30		1	1 unit	113	0.267		**3VL9 400-4ED30**		1	1 unit	113	0.896
	3VL9 300-4ED40		1	1 unit	113	0.491		**3VL9 400-4ED40**		1	1 unit	113	1.476
	3VL9 300-4RA00		1	1 unit	113	0.161		**3VL9 400-4RA00**		1	1 unit	113	0.268
	3VL9 300-4RB00		1	1 unit	113	0.265		**3VL9 400-4RB00**		1	1 unit	113	0.433
	3VL9 300-4RC30		1	1 unit	113	0.562		**3VL9 400-4RC30**		1	1 unit	113	0.930
	3VL9 300-4RF40		1	1 unit	113	0.850		**3VL9 400-4RF40**		1	1 unit	113	1.337
	3VL9 300-4RK00		1	1 unit	113	0.126		**3VL9 400-4RK00**		1	1 unit	113	0.380
	3VL9 300-4RL00		1	1 unit	113	0.228		**3VL9 400-4RL00**		1	1 unit	113	0.543
	3VL9 300-4RM30		1	1 unit	113	0.447		**3VL9 400-4RM30**		1	1 unit	113	1.305
	3VL9 300-4RN40		1	1 unit	113	0.660		**3VL9 400-4RN40**		1	1 unit	113	1.783
	3VL9 300-4TC30		1	1 unit	113	0.230		**3VL9 400-4TC30**		1	1 unit	113	0.458
	3VL9 300-4TC40		1	1 unit	113	0.278		**3VL9 400-4TC40**		1	1 unit	113	0.617
	3VL9 300-4TD30		1	1 unit	113	0.174		**3VL9 400-4TD30**		1	1 unit	113	0.293
	3VL9 300-4TD40		1	1 unit	113	0.230		**3VL9 400-4TD40**		1	1 unit	113	0.370
	3VL9 324-4TD30		1	1 unit	113	0.487		**--**					
	3VL9 324-4TD40		1	1 unit	113	0.676		**--**					
	--							**3VL9 400-4TF30**		1	1 unit	113	0.452
	--							**3VL9 400-4TF40**		1	1 unit	113	0.607
	--							**3VL9 460-4TF30**		1	1 unit	113	0.892
	--							**3VL9 460-4TF40**		1	1 unit	113	1.141
	3VL9 300-3TN00		1	1 unit	113	0.133		**3VL9 400-3TN00**		1	1 unit	113	0.140
	3VL9 300-4TA30		1	1 unit	113	0.124		**3VL9 400-4TA30**		1	1 unit	113	0.127
	3VL9 300-4TA40		1	1 unit	113	0.145		**3VL9 400-4TA40**		1	1 unit	113	0.161
	3VL9 300-8CA30		1	1 unit	113	0.308		**3VL9 400-8CA30**		1	1 unit	113	0.625
	3VL9 300-8CB30		1	1 unit	113	0.072		**3VL9 400-8CB30**		1	1 unit	113	0.141
	3VL9 300-8CA40		1	1 unit	113	0.364		**3VL9 400-8CA40**		1	1 unit	113	0.705
	3VL9 300-8CB40		1	1 unit	113	0.092		**3VL9 400-8CB40**		1	1 unit	113	0.176
	3VL9 300-8CE00		1	1 unit	113	0.032		**3VL9 600-8CE00**		1	1 unit	113	0.058

* You can order this quantity or a multiple thereof.

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	Version	DT	For VL630 (3VL5) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Connection parts for fixed-mounted circuit breakers								
	3- or 4-pole							
 NSE0_00702 3VL9 .00-4EC40	**Front connecting bars** Phase barriers included.							
	Standard							
	1 set = 3 units	3-pole	**3VL9 500-4EC30**		1	1 unit	113	1.160
	1 set = 4 units	4-pole	**3VL9 500-4EC40**		1	1 unit	113	1.522
 NSE0_00722 3VL9 .00-4ED40	For increased pole spacing							
	1 set = 3 units	3-pole	**3VL9 500-4ED30**		1	1 unit	113	1.172
	1 set = 4 units	4-pole	**3VL9 500-4ED40**		1	1 unit	113	1.545
 NSE0_00723 3VL9 .00-4RA00, 3VL9 .00-4RB00	**Rear terminals**							
	Short connection (1 unit)		--					
	Long connection (1 unit)		--					
	Terminal kit (2 short + 1 long) 3-pole		--					
	Terminal kit (2 short + 2 long) 4-pole		--					
 NSE0_00724 3VL9 .00-4RK00, 3VL9 .00-4RL00	Short flat connection (1 unit)		--					
	Long flat connection (1 unit)		--					
	Flat connector kit (2 short + 1 long) 3-pole		--					
	Flat connector kit (2 short + 2 long) 4-pole		--					
	Flat connecting bar (1 unit)		**3VL9 500-4RG00**		1	1 unit	113	0.459
 NSE0_00725 3VL9 .00-4RG00	Flat connecting bar Set = 3 units, 3-pole		**3VL9 500-4RH30**		1	1 unit	113	1.174
	Flat connecting bar Set = 4 units, 4-pole		**3VL9 500-4RH40**		1	1 unit	113	1.519
 NSE0_01542 NSE0_01543 3VL9 .00-4TF.0	**Multiple feed-in terminals** Only for cables (Al or Cu) Aluminum terminal (tinned)							
	1 set = 3 units		**3VL9 500-4TG30**		1	1 unit	113	0.587
 NSE0_01544 3VL9 .00-4TG.0	1 set = 4 units		**3VL9 500-4TG40**		1	1 unit	113	0.704
	Auxiliary conductor terminals For multiple feed-in terminals 1 set = 10 units		**3VL9 400-3TN00**		1	1 unit	113	0.140
 NSE0_01530 3VL9 .00-4TT.0	**Terminal plates[1]** Connection for flexible flat copper busbar with auxiliary conductor connection 0.5 – 4 mm^2 (extended terminal covers or phase barriers required)							
	1 set = 3 units		**3VL9 500-4TT30**		1	1 unit	113	1.432
	1 set = 4 units		**3VL9 500-4TT40**		1	1 unit	113	1.893
 NSE0_00701 3VL9 .00-4TA.0	**Terminals with screw connection - metric thread** With insulator (for rear) for use with busbars and cable lugs, see Technical Information at www.siemens.com/lowvoltage/support.							
	1 set = 3 units		**3VL9 500-4TA30**		1	1 unit	113	0.129
	1 set = 4 units		**3VL9 500-4TA40**		1	1 unit	113	0.163
 NSE0_00730 3VL9 .00-3CB.0	**Connection covers (terminal covers) for circuit breakers** Degree of protection IP30 for main connections 1 set = 2 units							
	Extended	3-pole	**3VL9 600-8CA30**		1	1 unit	113	0.930
	Standard	3-pole	**3VL9 600-8CB30**		1	1 unit	113	0.248
	Extended	4-pole	**3VL9 600-8CA40**		1	1 unit	113	1.062
	Standard	4-pole	**3VL9 600-8CB40**		1	1 unit	113	0.273
 NSE0_00731 3VL9 .00-8CE00	**Phase barriers for circuit breakers, fixed-mounted, plug-in or withdrawable versions[2]**							
	1 set = 2 units		**3VL9 600-8CE00**		1	1 unit	113	0.058

[1] Front connecting bars included in scope of supply; not for 690 V AC/600 V DC.

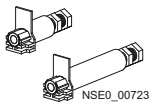
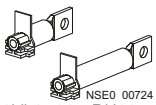
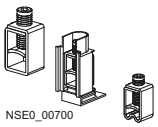
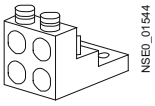
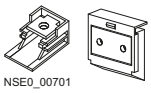
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DT	For VL800 (3VL6) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg	DT	For VL1250 (3VL7) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL9 600-4EC30		1	1 unit	113	1.725		**3VL9 800-4EC30**		1	1 unit	113	3.457
	3VL9 600-4EC40		1	1 unit	113	2.301		**3VL9 800-4EC40**		1	1 unit	113	4.634
	3VL9 600-4ED30		1	1 unit	113	1.733		**--**					
	3VL9 600-4ED40		1	1 unit	113	2.287		**--**					
	--							**--**					
	--							**--**					
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	--							**--**					
	--							**--**					
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	3VL9 600-4RG00		1	1 unit	113	1.629		**3VL9 700-4RG00**		1	1 unit	113	1.638
	3VL9 600-4RH30		1	1 unit	113	4.770		**3VL9 700-4RH30**		1	1 unit	113	4.960
	3VL9 600-4RH40		1	1 unit	113	6.510		**3VL9 700-4RH40**		1	1 unit	113	6.523
	3VL9 600-4TG30		1	1 unit	113	1.009		**3VL9 700-4TG30**		1	1 unit	113	2.207
	3VL9 600-4TG40		1	1 unit	113	1.286		**3VL9 700-4TG40**		1	1 unit	113	2.950
	3VL9 400-3TN00		1	1 unit	113	0.140		**3VL9 400-3TN00**		1	1 unit	113	0.140
	--							**--**					
	--							**--**					
	3VL9 600-4TA30		1	1 unit	113	0.236		**3VL9 800-4TA30**		1	1 unit	113	0.262
	3VL9 600-4TA40		1	1 unit	113	0.330		**3VL9 800-4TA40**		1	1 unit	113	0.340
	3VL9 600-8CA30		1	1 unit	113	0.930		**3VL9 800-8CA30**		1	1 unit	113	1.240
	3VL9 600-8CB30		1	1 unit	113	0.248		**3VL9 800-8CB30**		1	1 unit	113	0.363
	3VL9 600-8CA40		1	1 unit	113	1.062		**3VL9 800-8CA40**		1	1 unit	113	1.500
	3VL9 600-8CB40		1	1 unit	113	0.273		**3VL9 800-8CB40**		1	1 unit	113	0.528
	3VL9 600-8CE00		1	1 unit	113	0.058		**3VL9 800-8CE00**		1	1 unit	113	0.146

2) Plug-in version: Not for VL1250 (3VL7),
withdrawable version: Not for VL800 (3VL6) and VL1250 (3VL7).

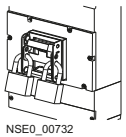
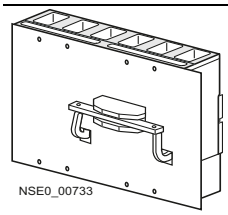
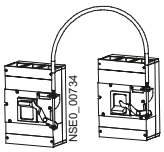
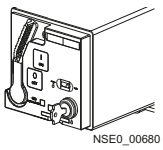
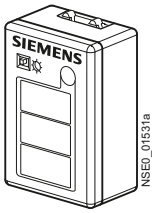
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	Version		DT	For VL1600 (3VL8) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Connection parts for fixed-mounted circuit breakers									
	3- or 4-pole								
 NSE0_00702 3VL9 .00-4EC40	**Front connecting bars** Phase barriers included. Standard[1]								
	1 set = 3 units	3-pole		**3VL9 800-4EC30**		1	1 unit	113	3.457
	1 set = 4 units	4-pole		**3VL9 800-4EC40**		1	1 unit	113	4.634
 NSE0_00722 3VL9 .00-4ED40	For increased pole spacing								
	1 set = 3 units	3-pole		--					
	1 set = 4 units	4-pole		--					
 NSE0_00723 3VL9 .00-4RA00, 3VL9 .00-4RB00	**Rear terminals**								
	Short connection (1 unit)			--					
	Long connection (1 unit)			--					
	Terminal kit (2 short + 1 long) 3-pole			--					
	Terminal kit (2 short + 2 long) 4-pole			--					
 NSE0_00724 3VL9 .00-4RK00, 3VL9 .00-4RL00	Short flat connection (1 unit)			--					
	Long flat connection (1 unit)			--					
	Flat connector kit (2 short + 1 long) 3-pole			--					
	Flat connector kit (2 short + 2 long) 4-pole			--					
 NSE0_00725 3VL9 .00-4RG00	Flat connecting bar (1 unit)			**3VL9 800-4RG00**		1	1 unit	113	1.597
	Flat connecting bar Set = 3 units, 3-pole			**3VL9 800-4RH30**		1	1 unit	113	4.965
	Flat connecting bar Set = 4 units, 4-pole			**3VL9 800-4RH40**		1	1 unit	113	6.105
 NSE0_00700 3VL9 .00-4TC.0	**Box terminals** For connection for flexible flat copper busbar or cable, see Technical Information at www.siemens.com/lowvoltage/support.								
	1 set = 3 units			--					
	1 set = 4 units			--					
 NSE0_01544 3VL9 .00-4TG.0	**Multiple feed-in terminals** Only for cables (Al or Cu) Aluminum terminal (tinned)								
	1 set = 3 units			--					
	1 set = 4 units			--					
	Auxiliary conductor terminals For box terminals/aluminum terminals			--					
 NSE0_00701 3VL9 .00-4TA.0	**Terminals with screw connection - metric thread** With insulator (for rear) for use with busbars and cable lugs, see Technical Information at www.siemens.com/lowvoltage/support.								
	1 set = 3 units			**3VL9 800-4TA30**		1	1 unit	113	0.262
	1 set = 4 units			**3VL9 800-4TA40**		1	1 unit	113	0.340
 NSE0_00730 3VL9 .00-3CB.0	**Connection covers (terminal covers) for circuit breakers** Degree of protection IP30 for main connections 1 set = 2 units								
	Extended	3-pole		**3VL9 800-8CA30**		1	1 unit	113	1.240
	Standard	3-pole		**3VL9 800-8CB30**		1	1 unit	113	0.363
	Extended	4-pole		**3VL9 800-8CA40**		1	1 unit	113	1.500
	Standard	4-pole		**3VL9 800-8CB40**		1	1 unit	113	0.528
 NSE0_00731 3VL9 .00-8CE00	**Phase barriers for fixed-mounted circuit breakers** 1 set = 2 units			**3VL9 800-8CE00**		1	1 unit	113	0.146

[1] In scope of supply of circuit breaker.

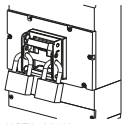
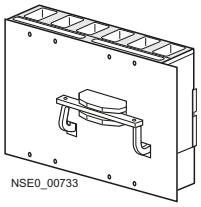
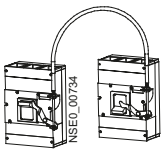
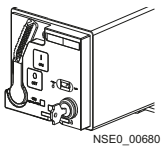
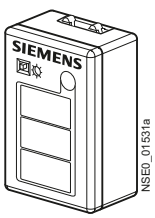
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	Version	DT	For VL160X (3VL1) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Interlocks								
	3- or 4-pole							
 NSE0_00732 3VL9 .00-3HL00	**Locking devices for toggle levers** For locking the circuit breaker in the "OFF" position. Up to 3 padlocks with Ø 5 – 8 mm can be used. Removable (padlocks not included)		**3VL9 300-3HL00**		1	1 unit	113	0.076
 NSE0_00733 3VL9 .00-8L.00	**Rear interlocking modules** For the mechanical interlocking of two adjacent circuit breakers. The circuit breakers must be of the same installation type and size. (Mounting plate not included in scope of supply)							
	Fixed-mounted circuit breakers		**3VL9 300-8LC00**		1	1 unit	113	0.331
	Plug-in/withdrawable circuit breakers		**3VL9 300-8LD00**		1	1 unit	113	0.410
 NSE0_00734 3VL9 .00-8LA00	**Interlocking modules for Bowden wire interlocking[1])** For the mechanical interlocking of two circuit breakers. Interlocking module for one circuit breaker		Combination with next size up possible (see Order No.) **3VL9 300-8LA00**		1	1 unit	113	0.189
	Bowden wires for Bowden wire interlocking[1])							
	Wire length 0.5 m		**3VL9 000-8LH10**		1	1 unit	113	0.303
	Wire length 1.0 m		**3VL9 000-8LH20**		1	1 unit	113	0.444
	Wire length 1.5 m		**3VL9 000-8LH30**		1	1 unit	113	0.646
 NSE0_00680 3VL9 ...-8HA00	**Safety lock assembly kits** Key can be removed with the circuit breaker in the "OFF" position For front-operated rotary operating mechanisms							
	Lock types							
	Ronis		**3VL9 715-8HA00**		1	1 unit	113	0.278
	For motorized operating mechanism with stored energy mechanism							
	Lock types							
	Ronis		--					
	Filli Giussani		**3VL9 321-8HA00**		1	1 unit	113	0,040
	Sets of fixing screws (metric thread) Including the screws, washers and nuts required to secure a 3- or 4-pole circuit breaker to a prepared surface							
	Set with 4 screws		**3VL9 300-8SA40**		1	1 unit	113	0,057
	Transparent covers for releases, sealable To prevent access by unqualified personnel and unauthorized changes to settings (seal not included)							
	Electronic Trip Units		--					
	Thermal-magnetic		**3VL9 300-8BM00**		1	1 unit	113	0,025
 NSE0_01531a 3VL9 000-8AP01	**Battery power supply for activating/ parameterizing the LCD ETUs, with test function for all IEC and UL ETUs.** (two 9 V blocks are required in addition)		--					

[1]) Two interlocking modules and one Bowden wire are required. Cannot be used in conjunction with motorized operating mechanism and withdrawable version.

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	Version	DT	For VL160 (3VL2) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Interlocks								
	3- or 4-pole							
 NSE0_00732 3VL9 .00-3HL00	**Locking devices for toggle levers** For locking the circuit breaker in the "OFF" position. Up to 3 padlocks with Ø 5 – 8 mm can be used. Removable (padlocks not included)		**3VL9 300-3HL00**		1	1 unit	113	0,076
 NSE0_00733 3VL9 .00-8L.00	**Rear interlocking modules** For the mechanical interlocking of two adjacent circuit breakers. The circuit breakers must be of the same installation type and size. (Mounting plate not included in scope of supply)							
	Fixed-mounted circuit breakers		**3VL9 300-8LC00**		1	1 unit	113	0.331
	Plug-in/withdrawable circuit breakers		**3VL9 300-8LD00**		1	1 unit	113	0.410
 NSE0_00734 3VL9 .00-8LA00	**Interlocking modules for Bowden wire interlocking[1])** For the mechanical interlocking of two circuit breakers. Interlocking module for one circuit breaker		Combinations with next size up/down possible (see Order No.) **3VL9 300-8LA00**		1	1 unit	113	0.189
	Bowden wires for Bowden wire interlocking[1])							
	Wire length 0.5 m		**3VL9 000-8LH10**		1	1 unit	113	0.303
	Wire length 1.0 m		**3VL9 000-8LH20**		1	1 unit	113	0.444
	Wire length 1.5 m		**3VL9 000-8LH30**		1	1 unit	113	0.646
 NSE0_00680 3VL9 ...-8HA00	**Safety lock assembly kits** Key can be removed with the circuit breaker in the "OFF" position							
	For front-operated rotary operating mechanisms							
	Lock types							
	Ronis		**3VL9 715-8HA00**		1	1 unit	113	0.278
	For motorized operating mechanism with stored energy mechanism							
	Lock types							
	Ronis		**--**					
	Filli Giussani		**3VL9 321-8HA00**		1	1 unit	113	0,040
	Sets of fixing screws (metric thread) Including the screws, washers and nuts required to secure a 3- or 4-pole circuit breaker to a prepared surface							
	Set with 4 screws		**3VL9 300-8SA40**		1	1 unit	113	0,057
 NSE0_01531a 3VL9 000-8AP01	**Transparent covers for releases, sealable** To prevent access by unqualified personnel and unauthorized changes to settings (seal not included)							
	Electronic Trip Units		**3VL9 700-8BL00**		1	1 unit	113	0,010
	Thermal-magnetic		**3VL9 300-8BM00**		1	1 unit	113	0,025
	Battery power supply for activating/ parameterizing the LCD ETUs, with test function for all IEC and UL ETUs. (two 9 V blocks are required in addition)		**3VL9 000-8AP01**		1	1 unit	113	0.212

[1]) Two interlocking modules and one Bowden wire are required. Cannot be used in conjunction with motorized operating mechanism and withdrawable version.

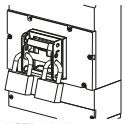
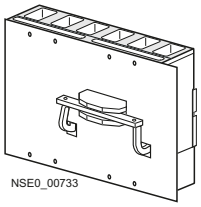
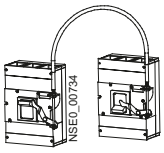
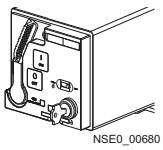
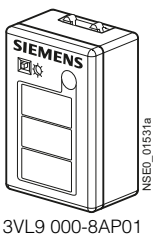
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DT	For VL250 (3VL3) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg	DT	For VL400 (3VL4) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL9 300-3HL00		1	1 unit	113	0,076		**3VL9 400-3HL00**		1	1 unit	113	0.148
	3VL9 300-8LC00		1	1 unit	113	0.331		**3VL9 400-8LC00**		1	1 unit	113	1.170
	3VL9 300-8LD00		1	1 unit	113	0.410		**3VL9 400-8LD00**		1	1 unit	113	1.280
	3VL9 300-8LA00		1	1 unit	113	0.189		**3VL9 400-8LA00**		1	1 unit	113	0.204
	3VL9 000-8LH10		1	1 unit	113	0.303		**--**					
	3VL9 000-8LH20		1	1 unit	113	0.444		**3VL9 000-8LH20**		1	1 unit	113	0.444
	3VL9 000-8LH30		1	1 unit	113	0.646		**3VL9 000-8LH30**		1	1 unit	113	0.646
	3VL9 715-8HA00		1	1 unit	113	0.278		**3VL9 715-8HA00**		1	1 unit	113	0.278
	--							**3VL9 715-8HA00**		1	1 unit	113	0.278
	3VL9 321-8HA00		1	1 unit	113	0,040		**--**					
	3VL9 300-8SA40		1	1 unit	113	0,057		**3VL9 500-8SA40**		1	1 unit	113	0.109
	3VL9 700-8BL00		1	1 unit	113	0,010		**3VL9 700-8BL00**		1	1 unit	113	0,010
	3VL9 300-8BM00		1	1 unit	113	0,025		**3VL9 400-8BM00**		1	1 unit	113	0,028
	3VL9 000-8AP01		1	1 unit	113	0.212		**3VL9 000-8AP01**		1	1 unit	113	0.212

* You can order this quantity or a multiple thereof.

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	Version	DT	For VL630 (3VL5) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Interlocks								
	3- or 4-pole							
 NSE0_00732 3VL9 .00-3HL00	**Locking devices for toggle levers** For locking the circuit breaker in the "OFF" position. Up to 3 padlocks with Ø 5 – 8 mm can be used. Removable (padlocks not included)		**3VL9 600-3HL00**		1	1 unit	113	0.163
 NSE0_00733 3VL9 .00-8L.00	**Rear interlocking modules** For the mechanical interlocking of two adjacent circuit breakers. The circuit breakers must be of the same installation type and size. (Mounting plate not included in scope of supply)							
	Fixed-mounted circuit breakers		**3VL9 600-8LC00**		1	1 unit	113	4.356
	Plug-in/withdrawable circuit breakers		**3VL9 600-8LD00**		1	1 unit	113	5.413
 NSE0_00734 3VL9 .00-8LA00	**Interlocking modules for Bowden wire interlocking[1])** For the mechanical interlocking of two circuit breakers. Interlocking module for one circuit breaker		Combinations with next size up/down possible (see Order No.) **3VL9 600-8LA00**		1	1 unit	113	0.256
	Bowden wires for Bowden wire interlocking[1])							
	Wire length 0.5 m		**--**					
	Wire length 1.0 m		**3VL9 000-8LH20**		1	1 unit	113	0.444
	Wire length 1.5 m		**3VL9 000-8LH30**		1	1 unit	113	0.646
 NSE0_00680 3VL9 ...-8HA00	**Safety lock assembly kits** Key can be removed with the circuit breaker in the "OFF" position For front-operated rotary operating mechanisms							
	Lock types							
	Ronis		**3VL9 715-8HA00**		1	1 unit	113	0.278
	For motorized operating mechanism with stored energy mechanism							
	Lock types							
	Ronis		**3VL9 715-8HA00**		1	1 unit	113	0.278
	Filli Giussani		**--**					
	Sets of fixing screws (metric thread) Including the screws, washers and nuts required to secure a 3- or 4-pole circuit breaker to a prepared surface							
	Set with 4 screws		**3VL9 500-8SA40**		1	1 unit	113	0.109
 NSE0_01531a 3VL9 000-8AP01	**Transparent covers for releases, sealable** To prevent access by unqualified personnel and unauthorized changes to settings (seal not included) Electronic Trip Units							
			3VL9 700-8BL00		1	1 unit	113	0,010
	Thermal-magnetic		**3VL9 600-8BM00**		1	1 unit	113	0,035
	Battery power supply for activating/ parameterizing the LCD ETUs, with test function for all IEC and UL ETUs. (two 9 V blocks are required in addition)		**3VL9 000-8AP01**		1	1 unit	113	0.212

[1]) Two interlocking modules and one Bowden wire are required. Cannot be used in conjunction with motorized operating mechanism and withdrawable version.

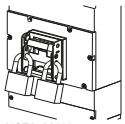
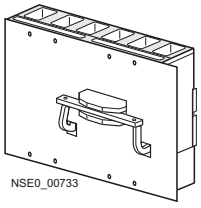
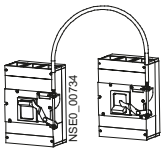
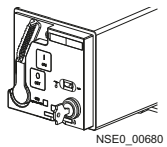
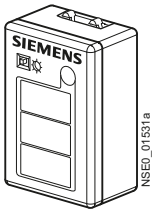
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DT	For VL800 (3VL6) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg	DT	For VL1250 (3VL7) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL9 600-3HL00		1	1 unit	113	0.163		**3VL9 800-3HL00**		1	1 unit	113	0.244
	3VL9 600-8LC00		1	1 unit	113	4.356		**3VL9 800-8LC00**		1	1 unit	113	2.738
	3VL9 600-8LD00		1	1 unit	113	5.413		**3VL9 800-8LD00**		1	1 unit	113	3.402
	3VL9 600-8LA00		1	1 unit	113	0.256		**3VL9 800-8LA00**		1	1 unit	113	0.305
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	3VL9 000-8LH20		1	1 unit	113	0.444		--					
	3VL9 000-8LH30		1	1 unit	113	0.646		**3VL9 000-8LH30**		1	1 unit	113	0.646
	3VL9 715-8HA00		1	1 unit	113	0.278		**3VL9 715-8HA00**		1	1 unit	113	0.278
	3VL9 715-8HA00		1	1 unit	113	0.278		**3VL9 715-8HA00**		1	1 unit	113	0.278
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	3VL9 600-8SA40		1	1 unit	113	0,099		**3VL9 800-8SA40**		1	1 unit	113	0.116
	3VL9 700-8BL00		1	1 unit	113	0,010		**3VL9 700-8BL00**		1	1 unit	113	0,010
	--							--					
	3VL9 000-8AP01		1	1 unit	113	0.212		**3VL9 000-8AP01**		1	1 unit	113	0.212

* You can order this quantity or a multiple thereof.

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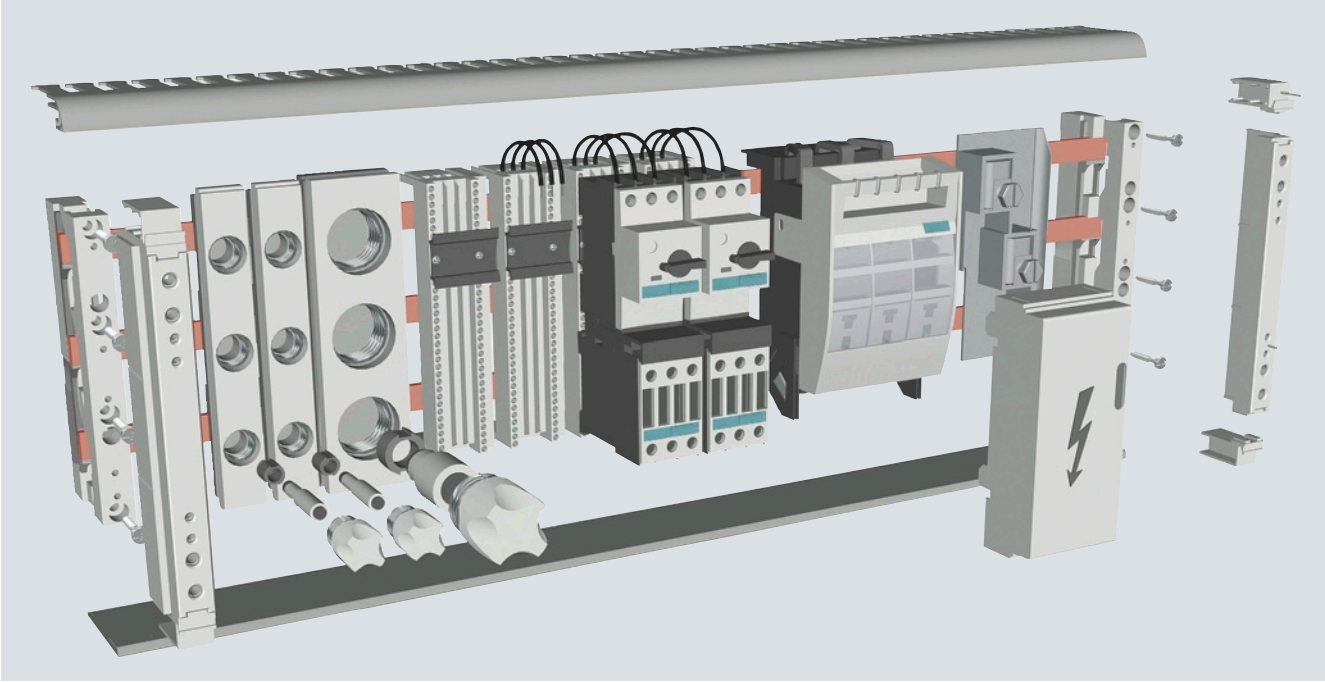
	Version	DT	For VL1600 (3VL8) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Interlocks								
	3- or 4-pole							
 NSE0_00732 3VL9 .00-3HL00	**Locking devices for toggle levers** For locking the circuit breaker in the "OFF" position. Up to 3 padlocks with Ø 5 – 8 mm can be used. Removable (padlocks not included)		**3VL9 800-3HL00**		1	1 unit	113	0.244
 NSE0_00733 3VL9 .00-8L.00	**Rear interlocking modules** For the mechanical interlocking of two adjacent circuit breakers. The circuit breakers must be of the same installation type and size.							
	Circuit breakers, fixed-mounted[1]		**3VL9 800-8LC00**		1	1 unit	113	2.738
	Plug-in/withdrawable circuit breakers		**3VL9 800-8LD00**		1	1 unit	113	3.402
 NSE0_00734 3VL9 .00-8LA00	**Interlocking modules for Bowden wire interlocking[2])** For the mechanical interlocking of two circuit breakers. Interlocking module for one circuit breaker		**3VL9 800-8LA00**		1	1 unit	113	0.305
	Bowden wires for Bowden wire interlocking[2]							
	Wire length 0.5 m		--					
	Wire length 1.0 m		--					
	Wire length 1.5 m		**3VL9 000-8LH30**		1	1 unit	113	0.646
 NSE0_00680 3VL9 ...-8HA00	**Safety lock assembly kits** Key can be removed with the circuit breaker in the "OFF" position							
	For front-operated rotary operating mechanisms							
	Lock types							
	Ronis		**3VL9 715-8HA00**		1	1 unit	113	0.278
	For motorized operating mechanisms							
	Lock types							
	Ronis		**3VL9 715-8HA00**		1	1 unit	113	0.278
	Filli Giussani		--					
	Sets of fixing screws (metric thread) Including the screws, washers and nuts required to secure a 3- or 4-pole circuit breaker to a prepared surface							
	Set with 4 screws		**3VL9 800-8SA40**		1	1 unit	113	0.116
 NSE0_01531a 3VL9 000-8AP01	**Transparent covers for releases, sealable** To prevent access by unqualified personnel and unauthorized changes to settings (seal not included)							
	Electronic Trip Units		**3VL9 700-8BL00**		1	1 unit	113	0,010
	Thermal-magnetic		--					
	Battery power supply for activating/ parameterizing the LCD ETUs, with test function for all IEC and UL ETUs. (two 9 V blocks are required in addition)		**3VL9 000-8AP01**		1	1 unit	113	0.212

1) Mounting plate not included in scope of supply.

2) Two interlocking modules and one Bowden wire are required. Cannot be used in conjunction with motorized operating mechanism and withdrawable version.

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Busbar adapter systems with 40 mm or 60 mm busbar center-to-center spacing with components for busbar runs, adapters and switching device holders for individual equipment possibilities, devices with an integrated adapter, as well as accessories and flat copper profiles. Observe the short-circuit strength of the busbar system. Short-circuit strength greater than 50 kA on request.

See also "Busbar Systems" chapter.

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
40 mm busbar adapter systems								
According to DIN 43870 Part 2 for copper busbars with sharp (DIN 1759) and with rounded (DIN 46433) edges, width 12 mm and 15 mm, thickness 5 mm and 10 mm.								
	Up to 160 A **Busbar adapters**, length 175 mm With plug connection tags at top, 3-pole With terminal cover (degree of protection IP10)[1] For one VL160X (3VL1) circuit breaker[2] 108 mm wide		**8US10 11-4SL01**		1	1 unit	143	0.565

[1] For degree of protection IP30, the terminal covers from page 2/79 to 2/84 should be ordered.

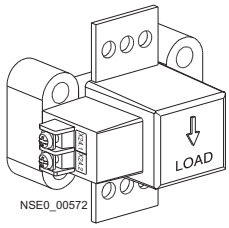
[2] Usable only for 3VL molded case circuit breakers with line-side box terminals.

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	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
60 mm busbar adapter systems								
For copper busbars with sharp (DIN 1759) and with rounded (DIN 46433) edges, width 12 mm to 30 mm, thickness 5 mm and 10 mm, also for T and double-T special profiles								
 8US12 11–4SL01	***Up to 160 A*** **Busbar adapters**, length 175 mm With plug connection tags at top, 3-pole With terminal cover (degree of protection IP10)[1]							
	For one VL160X/VL160 (3VL1, 3VL2) circuit breaker[2]	108 mm wide	**8US12 11-4SL01**		1	1 unit	143	0.579
	Up to 250 A **Busbar adapters**, length 175 mm With plug connection tags at top, 3-pole With terminal cover (degree of protection IP10)[1]							
	For one VL250 (3VL3) circuit breaker	108 mm wide	**8US12 11-4SL00**		1	1 unit	143	0.641
 8US12 10–4AF00	***Up to 400 A*** **Busbar adapters**, length 320 mm With threaded inserts M4, M6 and M8 For various types of switchgears, 3-pole Without connecting cables, with M10 terminal screws at top and bottom[1]							
	Adapter	185 mm wide	**8US12 10-4AF00**		1	1 unit	143	2.688
	Mounting plates for 8US12 10–4AF00							
	For VL400 (3VL4) circuit breakers (also for VL160X+RCD, VL160, VL250 circuit breakers (3VL1 + RCD, 3VL2, 3VL3))		**8US19 27-4AF01**		1	1 unit	143	0.526
	For VL630 (3VL5) circuit breakers ($I_{n\,max}$ = 580 V)		**8US12 13-4AF00**		1	1 unit	143	3.239
	The connecting cable between adapter and switching device should be manufactured in accordance with the rated current as a round cable, e. g. H07V-R, with a cable lug or as a flat conductor for bolt-type connection M10 (adapter).							

[1] For degree of protection IP30, the terminal covers from page 2/79 to 2/84 should be ordered.

[2] Usable only for 3VL molded case circuit breakers with line-side box terminals.

	Type	Rated current I_n A	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Further accessories									
Current transformers (-T6) for N conductor/grounded neutral point of the transformer for ground-fault protection in 4-wire three-phase systems[1]									
 NSE0_00572	VL160/3VL2	63, 80		**3VL9 280-8TC00**		1	1 unit	113	0.453
		100		**3VL9 210-8TC00**		1	1 unit	113	0.460
		160		**3VL9 216-8TC00**		1	1 unit	113	0.475
	VL250/3VL3	200		**3VL9 320-8TC00**		1	1 unit	113	0.452
		250		**3VL9 325-8TC00**		1	1 unit	113	0.455
	VL400/3VL4	315		**3VL9 440-8TC00**		1	1 unit	113	0.648
		400		**3VL9 440-8TC00**		1	1 unit	113	0.648
	VL630/3VL5	630		**3VL9 563-8TC00**		1	1 unit	113	0.771
	VL800/3VL6	800		**3VL9 680-8TC00**		1	1 unit	113	0.800
	VL1250/3VL7	1000		**3VL9 712-8TC00**		1	1 unit	113	2,042
		1250		**3VL9 712-8TC00**		1	1 unit	113	2,042
	VL1600/3VL8	1600		**3VL9 816-8TC00**		1	1 unit	113	2,061

[1] Please note the rated current of the circuit breaker.

* You can order this quantity or a multiple thereof.

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Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Accessories for communication							
3- or 4-pole							
Data transmission through COM20, COM21							
VL160 (3VL2) to VL1600 (3VL8)							
COM20 Release 2 (PROFIBUS module for 3VL molded case circuit breaker) for ETUs with communication function and LCD ETUs Module for connecting the 3VL molded case circuit breaker to the PROFIBUS DP, including switching function and Zone Selective Interlocking functionality, connection cable to ETU included in delivery of the ETU, length 1.5 m.		**3VL9 000-8AU00**		1	1 unit	113	0.300
COM21 Release 2 (MODBUS RTU module for 3VL molded case circuit breaker) for ETUs with communication function and LCD ETUs Module for connecting the 3VL molded case circuit breaker to the MODBUS RTU, including switching function and Zone Selective Interlocking functionality, connection cable to ETU included in delivery of the ETU, length 1.5 m.		**3VL9 000-8AV00**		1	1 unit	113	0.300
Connection cable ETU – COM20/COM21 For VL160 ... VL250, length 3 m For VL630 ... VL1600, length 3 m For VL400, length 3 m		**3VL9 000-8AQ81** **3VL9 000-8AQ71** **3VL9 000-8AQ61**		1 1 1	1 unit 1 unit 1 unit	113 113 113	0.150 0.148 0.149
Addressing plugs **For assigning the PROFIBUS module addresses without using a PC/PG** On COM20/COM21 through the system interface	►	**3UF7 910-0AA00-0**		1	1 unit	42J	0,015
powerconfig parameterization software Parameterization, operation, monitoring and diagnostics of 3VL molded case circuit breakers using powerconfig software see chapter 13 Software, "Configuring, Visualizing and Controlling with SENTRON". powerconfig is available free of charge at http://support.automation.siemens.com/WW/view/de/50241697							

Communication:

- For molded case circuit breakers with communication function see pages 2/14 to 2/30, 2/42 to 2/52.
- For more information see also chapters "Measuring Devices and Power Monitoring" and "Software".

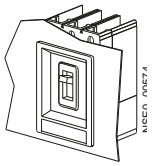
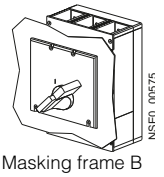
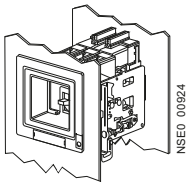
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Further accessories

3- or 4-pole

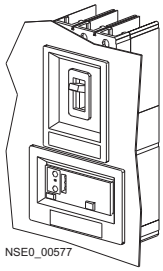
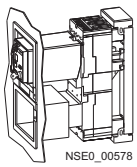
Masking frames (cover frames)
For door cutouts

	Version	DT	For VL160X (3VL1) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
 Masking frame A	**A** **IP40**	Fixed-mounted or plug-in circuit breaker	**3VL9 300-8BC00**		1	1 unit	113	0,056
	B[1]) IP40	Fixed-mounted, plug-in or withdrawable circuit breaker with front-operated rotary operating mechanism or motorized operating mechanism (with or without SEO/MO stored energy mechanisms)	**3VL9 300-8BG00**		1	1 unit	113	0.131
 Masking frame B	**C** **IP20**	Withdrawable circuit breaker with toggle lever actuation. Assembly kit contains masking frame and extended escutcheon (cannot be used together with a motorized operating mechanism/rotary operating mechanism)	--					
	D **IP40**	Fixed-mounted circuit breaker or plug-in circuit breaker RCD circuit breaker masking frame	**3VL9 300-8BD00**		1	1 unit	113	0,046
		RCD masking frame	**3VL9 300-8BD00**		1	1 unit	113	0,046
 Masking frame C	**E[1]) IP40**	Circuit breaker with RCD module and front-operated rotary operating mechanism. Assembly kit contains masking frame and extended escutcheon	--					
		Circuit breaker with RCD module and motorized operating mechanism. Assembly kit contains masking frame and extended escutcheon	--					

Further accessories

3- or 4-pole

Masking frames (cover frames)
For door cutouts

	Version	DT	For VL400 (3VL4) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
 Masking frame D	**A** **IP40**	Fixed-mounted or plug-in circuit breaker	**3VL9 400-8BC00**		1	1 unit	113	0,050
	B[1]) IP40	Fixed-mounted, plug-in or withdrawable circuit breaker with front-operated rotary operating mechanism or motorized operating mechanism (only with SEO stored energy mechanisms)	**3VL9 400-8BG00**		1	1 unit	113	0.196
	C **IP20**	Withdrawable circuit breaker with toggle lever actuation. Assembly kit contains masking frame and extended escutcheon (cannot be used together with a motorized operating mechanism/rotary operating mechanism)	**3VL9 400-8BH00**		1	1 unit	113	0.403
 Masking frame E	**D** **IP40**	Fixed-mounted circuit breaker or plug-in circuit breaker RCD circuit breaker masking frame	**3VL9 400-8BC00**		1	1 unit	113	0,050
		RCD masking frame	**3VL9 400-8BD00**		1	1 unit	113	0,044
	E[1]) IP40	Circuit breaker with RCD module and front-operated rotary operating mechanism. Assembly kit contains masking frame and extended escutcheon	**3VL9 400-8BH00**		1	1 unit	113	0.403
		Circuit breaker with RCD module and motorized operating mechanism. Assembly kit contains masking frame and extended escutcheon	**3VL9 400-8BJ00**		1	1 unit	113	0.516

[1] For withdrawable version IP20.

* You can order this quantity or a multiple thereof.

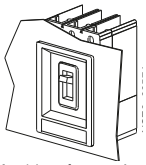
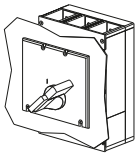
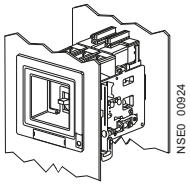
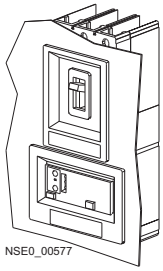
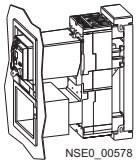
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DT	For VL160 (3VL2) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg	DT	For VL250 (3VL3) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL9 300-8BC00		1	1 unit	113	0,056		**3VL9 300-8BC00**		1	1 unit	113	0,056
	3VL9 300-8BG00		1	1 unit	113	0.131		**3VL9 300-8BG00**		1	1 unit	113	0.131
	3VL9 300-8BH00		1	1 unit	113	0.270		**3VL9 300-8BH00**		1	1 unit	113	0.270
	3VL9 300-8BD00		1	1 unit	113	0,046		**3VL9 300-8BD00**		1	1 unit	113	0,046
	3VL9 300-8BD00		1	1 unit	113	0,046		**3VL9 300-8BD00**		1	1 unit	113	0,046
	3VL9 300-8BH00		1	1 unit	113	0.270		**3VL9 300-8BH00**		1	1 unit	113	0.270
	3VL9 300-8BJ00		1	1 unit	113	0.314		**3VL9 300-8BJ00**		1	1 unit	113	0.314

DT	For VL630 (3VL5) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg	DT	For VL800 (3VL6) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL9 600-8BC00		1	1 unit	113	0,072		**3VL9 600-8BC00**		1	1 unit	113	0,072
	3VL9 600-8BG00		1	1 unit	113	0.179		**3VL9 600-8BG00**		1	1 unit	113	0.179
	3VL9 600-8BH00		1	1 unit	113	0.260		**3VL9 600-8BH00**		1	1 unit	113	0.260
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* You can order this quantity or a multiple thereof.

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	Version	DT	For VL1250 (3VL7) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Further accessories								
	3- or 4-pole							
	Masking frames (cover frames) For door cutouts							
 Masking frame A	**A** **IP40** Fixed-mounted or plug-in circuit breaker		**3VL9 800-8BC00**		1	1 unit	113	0,059
 Masking frame B	**B**[1] **IP40** Fixed-mounted, plug-in or withdrawable circuit breaker with front-operated rotary operating mechanism or motorized operating mechanism		**3VL9 800-8BG00**		1	1 unit	113	0.272
 Masking frame C	**C** **IP20** Withdrawable circuit breaker with toggle lever actuation. Assembly kit contains masking frame and extended escutcheon (cannot be used together with a motorized operating mechanism/rotary operating mechanism)		**3VL9 800-8BH00**		1	1 unit	113	0.418
 Masking frame D	**D** **IP40** Fixed-mounted circuit breaker or plug-in circuit breaker RCD circuit breaker masking frame		--					
	RCD masking frame		--					
 Masking frame E	**E**[1] **IP40** Circuit breaker with RCD module and front-operated rotary operating mechanism. Assembly kit contains masking frame and extended escutcheon		--					
	Circuit breaker with RCD module and motorized operating mechanism. Assembly kit contains masking frame and extended escutcheon		--					

[1] For withdrawable version IP20.

* You can order this quantity or a multiple thereof.

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DT	For VL1600 (3VL8) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	3VL9 800-8BC00		1	1 unit	113	0,059
	3VL9 800-8BG00		1	1 unit	113	0.272
	3VL9 800-8BH00		1	1 unit	113	0.418
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* You can order this quantity or a multiple thereof.

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General criteria for the selection of current transformers for measurement purposes



4NC53 current transformers

Standards	EN 60044-1
Window-type current transformers	The conductor to be measured (busbar or cable) is passed through the window opening and constitutes the primary circuit of the window-type current transformer. Pin-wound transformers: An economical solution especially for small primary currents of 5 ... 75 A are window-type current transformers when the conductor to be measured is pin-wound several times.
Rated primary current I_{pn}	Current transformers can be continuously loaded with 1.3 times the rated primary current (I_{pn}).
Rated secondary current I_{sn}	
1 A	Particularly suitable for longer measuring leads. Cable losses of only 4 % in contrast to 5 A current transformers.
5 A	5 A current transformers generate 25 times the power losses on measuring leads as compared with 1 A current transformers. These stray losses result in higher power in the case of long cables. Only recommended for use with short measuring leads.
Accuracy class	
Class 1	Operation measurement, internal metering Current error ±1 % at 1 x I_{pn} and 1.2 x I_{pn}
Class 3	Coarse measurement Current error ±3 % at 0.5 x I_{pn} and 1.2 x I_{pn}
Rated power P_n	The rated power of transformers is specified in VA. The actual load rating should be similar to the rated power; a lower actual load rating (underburden) increases the overcurrent factor and measuring devices are not sufficiently protected in case of a short-circuit, a higher actual load rating (overburden) has a negative effect on the accuracy. With a frequency of 60 Hz the rated power increases to 1.2 times. With $16^2/_3$ Hz the output power decreases to $^1/_3$ of the rated power.
Maximum voltage for equipment U_m	This is the rms value of the maximum voltage between the conductors of a system. For this voltage the insulation must be rated at normal operating conditions. 4NC5 current transformers are suitable for 720 V.
Overcurrent limiting factor FS	The overcurrent limiting factor is expressed using the characters FS and a factor, e. g. FS5 or FS10. When a short-circuit current flows through the primary winding of a current transformer, the stress on the measuring devices connected to the current transformer is the lower the smaller the overcurrent limiting factor is.
Rated short-time thermal current I_{th}	The rated short-time thermal current I_{th} is the rms value of the primary current with a duration of one second, whose heat effect the current transformer can resist without being damaged in the event of a short-circuited secondary winding.
Rated impulse current I_{dyn}	The rated impulse current I_{dyn} is the highest instantaneous value of the current after a short circuit whose force the current transformer can resist without being damaged. The rated impulse current is specified as peak value.

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4NC current transformers for measuring purposes

	Rated primary current I_{pn}	Rating P_n	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	VA							kg
Classes 1 and 3, from 50 to 1,500 A									
	Rated secondary current 1A								
	**Class 3**								
4NC51 12-0BC20	• For circular conductors with max. diameter 17.5 mm								
	• For busbars up to max. 12 mm × 10 mm								
	50	2.5		**4NC51 12-0BC20**		1	1 unit	103	0.428
	60	2.5		**4NC51 13-0BC20**		1	1 unit	103	0.427
	75	2.5		**4NC51 15-0BC20**		1	1 unit	103	0.434
	**Class 1**								
4NC51 17-0CC20	• For circular conductors with max. diameter 17.5 mm								
	• For 1 busbar up to max. 12 mm × 10 mm								
	100	2.5		**4NC51 17-0CC20**		1	1 unit	103	0.339
	150	2.5		**4NC51 21-0CC20**		1	1 unit	103	0.326
	200	5		**4NC51 22-0CE20**		1	1 unit	103	0.363
	250	5		**4NC51 23-0CE20**		1	1 unit	103	0.353
	• For circular conductors with max. diameter 28 mm								
	• For 1 busbar up to max. 30 mm × 10 mm								
	• For 2 busbars up to max. 25 mm × 5 mm								
4NC52 22-0CE20	200	5		**4NC52 22-0CE20**		1	1 unit	103	0.459
	250	5		**4NC52 23-0CE20**		1	1 unit	103	0.470
	300	5		**4NC52 24-0CE20**		1	1 unit	103	0.359
	400	5		**4NC52 25-0CE20**		1	1 unit	103	0.374
	• For circular conductors with max. diameter 36 mm								
	• For 1 busbar up to max. 50 mm × 10 mm								
	• For 2 busbars up to max. 40 mm × 5 mm								
4NC53 25-0CE20	400	5		**4NC53 25-0CE20**		1	1 unit	103	0.449
	500	5		**4NC53 26-0CE20**		1	1 unit	103	0.399
	600	5		**4NC53 27-0CE20**		1	1 unit	103	0.431
	750	5		**4NC53 28-0CE20**		1	1 unit	103	0.396
	• For circular conductors with max. diameter 45 mm								
	• For 1 busbar up to max. 60 mm × 10 mm								
	• For 2 busbars up to max. 60 mm × 10 mm								
	• For 3 busbars up to max. 60 mm × 5 mm								
4NC54 31-0CH20	1000	10		**4NC54 31-0CH20**		1	1 unit	103	0.650
	1250	10		**4NC54 33-0CH20**		1	1 unit	103	0.654
	1500	10		**4NC54 34-0CH20**		1	1 unit	103	0.724

4NC51 window-type current transformers, used as pin-wound transformers, Classes 1 and 3, from 5 A to 75 A

Pin-winding increases the primary current of the current transformer. Consequently, window-type current transformers can also be used for low primary currents.

	Basic type		**4NC51 12**	**4NC51 13**	**4NC51 15**	**4NC51 17**	**4NC51 21**	**4NC51 22**	**4NC51 23**
	Rated primary current	A	50	60	75	100	150	200	250
	Rating	VA	2.5	2.5	2.5	2.5	2.5	5	5
	Primary current to be measured		Number of required pin windings						
		A	**Class 3**			**Class 1**			
		5	10	--	--	--	--	--	--
		10	5	6	--	10	--	--	--
		15	--	4	5	--	10	--	--
		20	--	3	--	5	--	10	--
		25	2	--	3	4	6	8	10
		30	--	2	--	--	5	--	--
4NC51 used as pin-wound transformer		40	--	--	--	--	--	5	--
		50	--	--	--	2	3	4	5
		75	--	--	--	--	2	--	--

* You can order this quantity or a multiple thereof.

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Accessories and spare parts

	Rated primary current I_{pn}	Rating P_n	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	VA							kg
	Rated secondary current 5 A								
	Class 3								
	• For circular conductors with max. diameter 17.5 mm								
	• For 1 busbar up to max. 12 mm × 10 mm								
 4NC51 12-2BC20	50	2.5		**4NC51 12-2BC20**		1	1 unit	103	0.431
	60	2.5		**4NC51 13-2BC20**		1	1 unit	103	0.427
	75	2.5		**4NC51 15-2BC20**		1	1 unit	103	0.420
	Class 1								
	• For circular conductors with max. diameter 17.5 mm								
	• For 1 busbar up to max. 12 mm × 10 mm								
 4NC51 17-2CC20	100	2.5		**4NC51 17-2CC20**		1	1 unit	103	0.342
	150	2.5		**4NC51 21-2CC20**		1	1 unit	103	0.321
	200	5		**4NC51 22-2CE20**		1	1 unit	103	0.356
	250	5		**4NC51 23-2CE20**		1	1 unit	103	0.344
	• For circular conductors with max. diameter 28 mm								
	• For 1 busbar up to max. 30 mm × 10 mm								
	• For 2 busbars up to max. 25 mm × 5 mm								
 4NC52 22-2CE20	200	5		**4NC52 22-2CE20**		1	1 unit	103	0.468
	250	5		**4NC52 23-2CE20**		1	1 unit	103	0.474
	300	5		**4NC52 24-2CE20**		1	1 unit	103	0.363
	400	5		**4NC52 25-2CE20**		1	1 unit	103	0.374
	• For circular conductors with max. diameter 36 mm								
	• For 1 busbars up to max. 50 mm × 10 mm								
	• For 2 busbars up to max. 40 mm × 5 mm								
 4NC53 25-2CE20	400	5		**4NC53 25-2CE20**		1	1 unit	103	0.460
	500	5		**4NC53 26-2CE20**		1	1 unit	103	0.407
	600	5		**4NC53 27-2CE20**		1	1 unit	103	0.430
	750	5		**4NC53 28-2CE20**		1	1 unit	103	0.390
	• For circular conductors with max. diameter 45 mm								
	• For 1 busbar up to max. 60 mm × 10 mm								
	• For 2 busbars up to max. 60 mm × 10 mm								
	• For 3 busbars up to max. 60 mm × 5 mm								
 4NC54 31-2CH20	1000	10		**4NC54 31-2CH20**		1	1 unit	103	0.644
	1250	10		**4NC54 33-2CH20**		1	1 unit	103	0.631
	1500	10		**4NC54 34-2CH20**		1	1 unit	103	0.691

More information

Manual for the 3VL molded case circuit breaker

This manual contains additional technical information, covering a product description, mode of operation, electrical wiring system and retrofitting.

The manual and operating instructions are available in PDF format at:

www.siemens.com/lowvoltage/manuals

SENTRON manual for communication solutions

Free download from
www.siemens.com/lowvoltage/manuals

See also "Air Circuit Breakers", "3WL Air Circuit Breakers/ Non-Automatic Air Circuit Breakers for AC up to 6300 A, IEC", "Accessories and spare parts".

* You can order this quantity or a multiple thereof.

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Miniature Circuit Breakers

3



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3/70 **SHU 5SP3 main miniature circuit breakers**

For further technical product information:

Service&Support Portal:
www.siemens.com/lowvoltage/technical-support

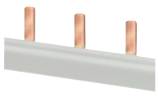
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Introduction

Overview

Devices		Page	Application	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
	**5SL miniature circuit breakers**	3/4	For all 0.3 to 63 A applications with B and C tripping characteristics with a rated breaking capacity of 4500 A and 6000 A acc. to EN 60898-1.	EN 60898-1	✓	✓	--
	**5SY and 5SP miniature circuit breakers**	3/10	For all applications from 0.3 to 125 A with a rated breaking capacity of 10000 A and 15000 A acc. to EN 60898-1. Applications for universal current from 0.3 to 63 A, Version 25 kA, acc. to EN 60947-2.	EN 60898-1/-2 EN 60947-2 UL 1077 CSA 22.2 GB 10963.1/.2	--	✓	✓
	**Miniature circuit breakers with plug-in terminals 5SJ6 . . . -. KS**	3/26	For socket outlet and lighting circuits in all building installations. The plug-in terminals offer easy front connection for manual insertion of conductors, which considerably reduces mounting times.	EN 60898-1	✓	✓	--
	**5SY miniature circuit breakers, 1+N in 1 MW**	3/29	For socket outlet and lighting circuits in all building installations where a switchable neutral conductor is required. The miniature circuit breaker 1+N saves space in the distribution board.	EN 60898-1	✓	✓	✓
	**Additional components**	3/33	Auxiliary switches, fault signal contacts, shunt trips, undervoltage releases for higher system availability, RC units for personal safety and remote controlled mechanisms for remote switching.		✓	--	✓
	**Busbars**	3/41	Busbars in 10 mm² and 16 mm² save space in the distribution board and time during mounting. Busbars in 18 mm² and 25 mm² acc. to UL 508 and CSA.	UL 508	✓	✓	✓
	**5SJ4 . . .-.HG miniature circuit breakers acc. to UL 489 and IEC, and accessories**	3/61	Miniature circuit breakers can be used as "branch circuit protection" and are approved for the connection type "same polarity" and "opposite polarity" in the characteristics B, C and D acc. to UL489, from 0.3 to 63 A.	UL 489	✓	✓	✓

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Devices		Page	Application	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
	**SHU 5SP3 main miniature circuit breakers**	3/70	Voltage-independent selective main miniature circuit breakers (SHU) in the precounter area support downstream miniature circuit breakers by providing better current limitation.	DIN VDE 0641-21	✓	✓	--

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Introduction

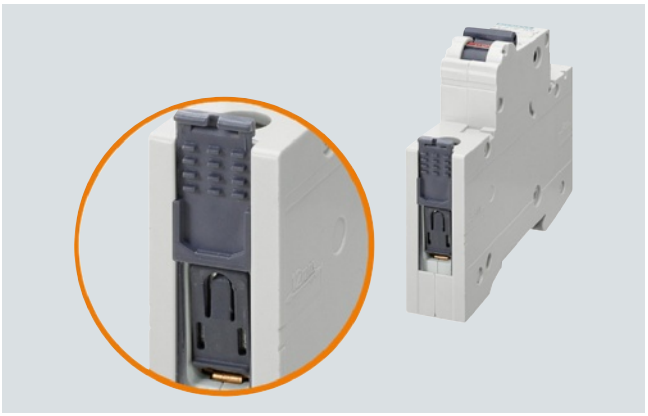
Overview

The new 5SL miniature circuit breaker is intended for use up to 6 kA. These devices have system features that are characteristic of all Siemens miniature circuit breakers.

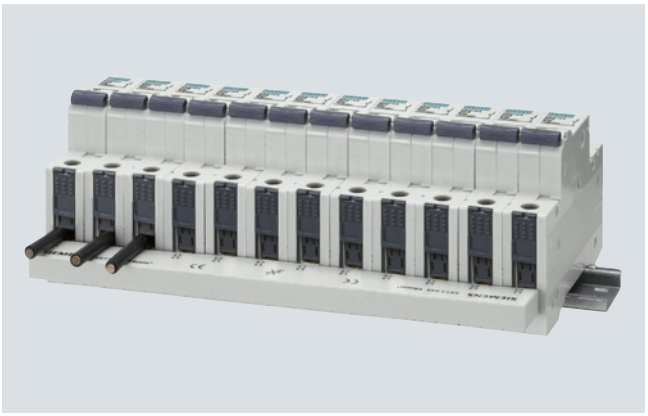
The 5SL miniature circuit breakers can be used as main switches for the disconnection or isolation of installations. They are also suitable for the quick and easy mounting of additional components, such as auxiliary switches and fault signal contacts.

To facilitate cable entry, the devices are equipped with rectangular terminals for the accommodation of pin busbars with cables up to 35 mm^2. The rated current range is between 0.3 and 63 A. The 5SL miniature circuit breakers are available in characteristics B and C.

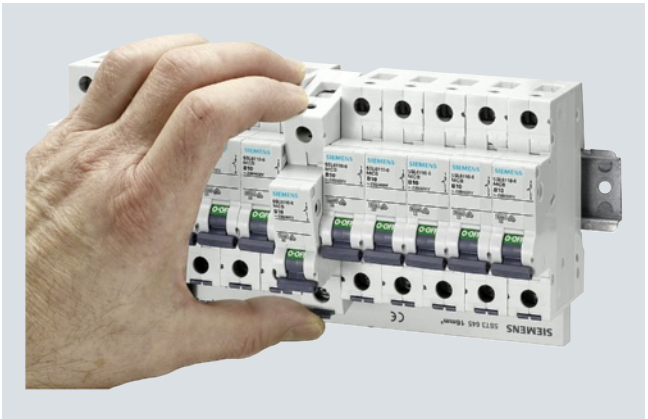
Benefits



- Effective touch protection when grasping and manually operating the latching slide with latch-down option.



- Easy-to-mount busbar assembly
- Consistent bus mounting concept throughout the Siemens miniature circuit breaker range.



- Individual devices can be removed from the bus-mounted assembly without the use of tools.



- The 5SL miniature circuit breakers are ideal for the quick and easy mounting of auxiliary switches and fault signal contacts.

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Technical specifications

			5SL3	5SL6
Standards			EN 60898-1	
Approvals			See appendix, chapter 20	
Tripping characteristic			B, C	
Rated voltage U_n		V AC	230/400	
Operational voltage				
• Min.		V AC/DC per pole	24	
• Max.		V AC V DC/pole	250/440 60[1]	
Rated making and breaking capacity I_{cn}	Acc. to EN 60898-1	kA AC	4.5	6
Insulation coordination				
• Rated insulation voltage		V AC	250/440	
• Pollution degree for overvoltage category			2/III	
Touch protection	Acc. to EN 50274		Yes	
Handle end position, sealable			Yes	
Degree of protection			IP20, with connected conductors	
CFC and silicone-free			Yes	
Conductor cross-sections				
• 1-wire				
- Solid (≤ 10 mm^2) / stranded (≥ 16 mm^2)		mm^2	0.75 ... 35	
- Finely stranded with non-insulated end sleeve		mm^2	0.75 ... 25	
- Finely stranded with insulated end sleeve		mm^2	0.75 ... 25	
- Solid and stranded				
• 2-wire, same cross-section				
- Solid (≤ 10 mm^2) / stranded (≥ 16 mm^2)		mm^2	0.75 ... 10	
- Finely stranded with non-insulated end sleeve		mm^2	0.75 ... 4	
- Finely stranded with insulated end sleeve		mm^2	0.75 ... 4	
• 1-wire + busbar (pin thickness 1.5 mm)				
- Solid (≤ 10 mm^2) / stranded (≥ 16 mm^2)		mm^2	10 ... 25	
- Finely stranded with non-insulated end sleeve		mm^2	6 ... 25	
Terminals	±screw (Pozidriv)		2	
• Terminal tightening torque		Nm	2.5 ... 3	
Mounting position			Any	
Service life, on average, with rated load			20000 actuations	
Storage temperature		°C	-40 ... +75	
Ambient temperature		°C	-25 ... +45, occasionally +55, max. 95 % humidity	
Resistance to climate	Acc. to IEC 60068-2-30		6 cycles	

[1] The operational voltage 60 V DC/pole takes into account a battery charging voltage with a peak value of 72 V.

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5SL3, 4 500 A

Overview

The 5SL miniature circuit breakers are particularly suitable for the demands of 4.5 kA and 6 kA applications in infrastructure, such as residential buildings and small commercial buildings.

Selection and ordering data

4 500 / 3	I_n	Mounting width	DT	Characteristic B Order No.	Price per PU	PG	DT	Characteristic C Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	MCBs 4500 A												
	1P, 230/400 V AC												
	0.3	1		--				**5SL3 114-7**		1	1 unit	019	0.165
	0.5			--				**5SL3 105-7**		1	1 unit	019	0.165
	1			--				**5SL3 101-7**		1	1 unit	019	0.165
	1.6			--				**5SL3 115-7**		1	1 unit	019	0.165
	2			--				**5SL3 102-7**		1	1 unit	019	0.165
	3			--				**5SL3 103-7**		1	1 unit	019	0.165
	4			--				**5SL3 104-7**		1	1 unit	019	0.165
	6			**5SL3 106-6**		019		**5SL3 106-7**		1	1 unit	019	0.165
	8			--				**5SL3 108-7**		1	1 unit	019	0.165
	10			**5SL3 110-6**		019		**5SL3 110-7**		1	1 unit	019	0.165
	13			**5SL3 113-6**		019		**5SL3 113-7**		1	1 unit	019	0.165
	16			**5SL3 116-6**		019		**5SL3 116-7**		1	1 unit	019	0.165
	20			**5SL3 120-6**		019		**5SL3 120-7**		1	1 unit	019	0.165
	25			**5SL3 125-6**		019		**5SL3 125-7**		1	1 unit	019	0.165
	32			**5SL3 132-6**		019		**5SL3 132-7**		1	1 unit	019	0.165
	40			**5SL3 140-6**		019		**5SL3 140-7**		1	1 unit	019	0.165
	50			**5SL3 150-6**		019		**5SL3 150-7**		1	1 unit	019	0.165
	63			**5SL3 163-6**		019		**5SL3 163-7**		1	1 unit	019	0.165
	1P+N, 230 V AC												
	0.3	2		--				**5SL3 514-7**		1	1 unit	019	0.330
	0.5			--				**5SL3 505-7**		1	1 unit	019	0.330
	1			--				**5SL3 501-7**		1	1 unit	019	0.330
	1.6			--				**5SL3 515-7**		1	1 unit	019	0.330
	2			--				**5SL3 502-7**		1	1 unit	019	0.330
	3			--				**5SL3 503-7**		1	1 unit	019	0.330
	4			--				**5SL3 504-7**		1	1 unit	019	0.330
	6			**5SL3 506-6**		019		**5SL3 506-7**		1	1 unit	019	0.330
	8			--				**5SL3 508-7**		1	1 unit	019	0.330
	10			**5SL3 510-6**		019		**5SL3 510-7**		1	1/6 units	019	0.330
	13			**5SL3 513-6**		019		**5SL3 513-7**		1	1 unit	019	0.330
	16			**5SL3 516-6**		019		**5SL3 516-7**		1	1/6 units	019	0.330
	20			**5SL3 520-6**		019		**5SL3 520-7**		1	1 unit	019	0.330
	25			**5SL3 525-6**		019		**5SL3 525-7**		1	1 unit	019	0.330
	32			**5SL3 532-6**		019		**5SL3 532-7**		1	1 unit	019	0.330
	40			**5SL3 540-6**		019		**5SL3 540-7**		1	1 unit	019	0.330
	50			**5SL3 550-6**		019		**5SL3 550-7**		1	1 unit	019	0.330
	63			**5SL3 563-6**		019		**5SL3 563-7**		1	1 unit	019	0.330
	2P, 400 V AC												
	0.3	2		--				**5SL3 214-7**		1	1 unit	019	0.330
	0.5			--				**5SL3 205-7**		1	1 unit	019	0.330
	1			--				**5SL3 201-7**		1	1 unit	019	0.330
	1.6			--				**5SL3 215-7**		1	1 unit	019	0.330
	2			--				**5SL3 202-7**		1	1 unit	019	0.330
	3			--				**5SL3 203-7**		1	1 unit	019	0.330
	4			--				**5SL3 204-7**		1	1 unit	019	0.330
	6			**5SL3 206-6**		019		**5SL3 206-7**		1	1 unit	019	0.330
	8			--				**5SL3 208-7**		1	1 unit	019	0.330
	10			**5SL3 210-6**		019		**5SL3 210-7**		1	1 unit	019	0.330
	13			**5SL3 213-6**		019		**5SL3 213-7**		1	1 unit	019	0.330
	16			**5SL3 216-6**		019		**5SL3 216-7**		1	1 unit	019	0.330
	20			**5SL3 220-6**		019		**5SL3 220-7**		1	1 unit	019	0.330
	25			**5SL3 225-6**		019		**5SL3 225-7**		1	1 unit	019	0.330
	32			**5SL3 232-6**		019		**5SL3 232-7**		1	1 unit	019	0.330
	40			**5SL3 240-6**		019		**5SL3 240-7**		1	1 unit	019	0.330
	50			**5SL3 250-6**		019		**5SL3 250-7**		1	1 unit	019	0.330
	63			**5SL3 263-6**		019		**5SL3 263-7**		1	1 unit	019	0.330

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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4 500 / 3	I_n	Mounting width	DT	Characteristic B Order No.	Price per PU	PG	DT	Characteristic C Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	MCBs 4500 A												
	3P, 400 V AC												
	1			--				**5SL3 301-7**		1	1 unit	019	0.465
	2			--				**5SL3 302-7**		1	1 unit	019	0.465
	3			--				**5SL3 303-7**		1	1 unit	019	0.465
	4			--				**5SL3 304-7**		1	1 unit	019	0.465
	6			**5SL3 306-6**		019		**5SL3 306-7**		1	1 unit	019	0.465
	10			**5SL3 310-6**		019		**5SL3 310-7**		1	1 unit	019	0.465
	16			**5SL3 316-6**		019		**5SL3 316-7**		1	1 unit	019	0.465
	20			**5SL3 320-6**		019		**5SL3 320-7**		1	1 unit	019	0.465
	25			**5SL3 325-6**		019		**5SL3 325-7**		1	1 unit	019	0.465
	32			**5SL3 332-6**		019		**5SL3 332-7**		1	1 unit	019	0.465
	40			**5SL3 340-6**		019		**5SL3 340-7**		1	1 unit	019	0.465
	50			**5SL3 350-6**		019		**5SL3 350-7**		1	1 unit	019	0.465
	63			**5SL3 363-6**		019		**5SL3 363-7**		1	1 unit	019	0.465
	3P+N, 400 V AC												
	1			--				**5SL3 601-7**		1	1 unit	019	0.660
	2			--				**5SL3 602-7**		1	1 unit	019	0.660
	3			--				**5SL3 603-7**		1	1 unit	019	0.660
	4			--				**5SL3 604-7**		1	1 unit	019	0.660
	6			**5SL3 606-6**		019		**5SL3 606-7**		1	1 unit	019	0.660
	8			--				**5SL3 608-7**		1	1 unit	019	0.660
	10			**5SL3 610-6**		019		**5SL3 610-7**		1	1 unit	019	0.660
	13			**5SL3 613-6**		019		**5SL3 613-7**			1 unit	019	0.660
	16			**5SL3 616-6**		019		**5SL3 616-7**		1	1 unit	019	0.660
	20			**5SL3 620-6**		019		**5SL3 620-7**		1	1 unit	019	0.660
	25			**5SL3 625-6**		019		**5SL3 625-7**		1	1 unit	019	0.660
	32			**5SL3 632-6**		019		**5SL3 632-7**		1	1 unit	019	0.660
	40			**5SL3 640-6**		019		**5SL3 640-7**		1	1 unit	019	0.660
	50			**5SL3 650-6**		019		**5SL3 650-7**		1	1 unit	019	0.660
	63			**5SL3 663-6**		019		**5SL3 663-7**		1	1 unit	019	0.660
	4P, 400 V AC												
	1			--				**5SL3 401-7**		1	1 unit	019	0.660
	2			--				**5SL3 402-7**		1	1 unit	019	0.660
	3			--				**5SL3 403-7**		1	1 unit	019	0.660
	4			--				**5SL3 404-7**		1	1 unit	019	0.660
	6			--				**5SL3 406-7**		1	1 unit	019	0.660
	10			--				**5SL3 410-7**		1	1 unit	019	0.660
	13			--				**5SL3 413-7**		1	1 unit	019	0.660
	16			--				**5SL3 416-7**		1	1 unit	019	0.660
	20			--				**5SL3 420-7**		1	1 unit	019	0.660
	25			--				**5SL3 425-7**		1	1 unit	019	0.660
	32			--				**5SL3 432-7**		1	1 unit	019	0.660
	40			--				**5SL3 440-7**		1	1 unit	019	0.660
	50			--				**5SL3 450-7**		1	1 unit	019	0.660
	63			--				**5SL3 463-7**		1	1 unit	019	0.660

1) 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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5SL6, 6 000 A

Selection and ordering data

6 000 / 3	I_n	Mounting width	DT	Characteristic B Order No.	Price per PU	PG	DT	Characteristic C Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	MCBs 6000 A												
	1P, 230/400 V AC												
	0.3	1		--				**5SL6 114-7**		1	1 unit	001	0.165
	0.5			--				**5SL6 105-7**		1	1/12 units	001	0.165
	1			--				**5SL6 101-7**		1	1/12 units	001	0.165
	1.6			--				**5SL6 115-7**		1	1 unit	001	0.165
	2			--				**5SL6 102-7**		1	1/12 units	001	0.165
	3			--				**5SL6 103-7**		1	1/12 units	001	0.165
	4			--				**5SL6 104-7**		1	1/12 units	001	0.165
	6			**5SL6 106-6**		001		**5SL6 106-7**		1	1/12 units	001	0.165
	8			--				**5SL6 108-7**		1	1/12 units	001	0.165
	10			**5SL6 110-6**		001		**5SL6 110-7**		1	1/12 units	001	0.165
	13			**5SL6 113-6**		001		**5SL6 113-7**		1	1/12 units	001	0.165
	16			**5SL6 116-6**		001		**5SL6 116-7**		1	1/12 units	001	0.165
	20			**5SL6 120-6**		001		**5SL6 120-7**		1	1/12 units	001	0.165
	25			**5SL6 125-6**		001		**5SL6 125-7**		1	1/12 units	001	0.120
	32			**5SL6 132-6**		001		**5SL6 132-7**		1	1/12 units	001	0.165
	40			**5SL6 140-6**		001		**5SL6 140-7**		1	1/12 units	001	0.165
	50			**5SL6 150-6**		001		**5SL6 150-7**		1	1/12 units	001	0.165
	63			**5SL6 163-6**		001		**5SL6 163-7**		1	1/12 units	001	0.165
	1P+N, 230 V AC												
	0.3	2		--				**5SL6 514-7**		1	1 unit	001	0.330
	0.5			--				**5SL6 505-7**		1	1 unit	001	0.330
	1			--				**5SL6 501-7**		1	1 unit	001	0.330
	1.6			--				**5SL6 515-7**		1	1 unit	001	0.330
	2			--				**5SL6 502-7**		1	1 unit	001	0.330
	3			--				**5SL6 503-7**		1	1 unit	001	0.330
	4			--				**5SL6 504-7**		1	1 unit	001	0.330
	6			**5SL6 506-6**		001		**5SL6 506-7**		1	1/6 units	001	0.330
	8			--				**5SL6 508-7**		1	1 unit	001	0.330
	10			**5SL6 510-6**		001		**5SL6 510-7**		1	1/6 units	001	0.330
	13			**5SL6 513-6**		001		**5SL6 513-7**		1	1/6 units	001	0.330
	16			**5SL6 516-6**		001		**5SL6 516-7**		1	1/6 units	001	0.330
	20			**5SL6 520-6**		001		**5SL6 520-7**		1	1 unit	001	0.330
	25			**5SL6 525-6**		001		**5SL6 525-7**		1	1 unit	001	0.330
	32			**5SL6 532-6**		001		**5SL6 532-7**		1	1 unit	001	0.330
	40			**5SL6 540-6**		001		**5SL6 540-7**		1	1 unit	001	0.330
	50			**5SL6 550-6**		001		**5SL6 550-7**		1	1 unit	001	0.330
	63			**5SL6 563-6**		001		**5SL6 563-7**		1	1 unit	001	0.330
	2P, 400 V AC												
	0.3	2		--				**5SL6 214-7**		1	1 unit	001	0.330
	0.5			--				**5SL6 205-7**		1	1 unit	001	0.330
	1			--				**5SL6 201-7**		1	1/6 units	001	0.330
	1.6			--				**5SL6 215-7**		1	1 unit	001	0.330
	2			--				**5SL6 202-7**		1	1/6 units	001	0.330
	3			--				**5SL6 203-7**		1	1/6 units	001	0.330
	4			--				**5SL6 204-7**		1	1/6 units	001	0.330
	6			**5SL6 206-6**		001		**5SL6 206-7**		1	1/6 units	001	0.330
	8			--				**5SL6 208-7**		1	1 unit	001	0.330
	10			**5SL6 210-6**		001		**5SL6 210-7**		1	1/6 units	001	0.330
	13			**5SL6 213-6**		001		**5SL6 213-7**		1	1 unit	001	0.330
	16			**5SL6 216-6**		001		**5SL6 216-7**		1	1/6 units	001	0.330
	20			**5SL6 220-6**		001		**5SL6 220-7**		1	1/6 units	001	0.330
	25			**5SL6 225-6**		001		**5SL6 225-7**		1	1/6 units	001	0.240
	32			**5SL6 232-6**		001		**5SL6 232-7**		1	1/6 units	001	0.330
	40			**5SL6 240-6**		001		**5SL6 240-7**		1	1/6 units	001	0.330
	50			**5SL6 250-6**		001		**5SL6 250-7**		1	1/6 units	001	0.330
	63			**5SL6 263-6**		001		**5SL6 263-7**		1	1/6 units	001	0.330

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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6 000 / 3	I_n	Mounting width	DT	Characteristic B Order No.	Price per PU	PG	DT	Characteristic C Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	MCBs 6000 A												
	3P, 400 V AC												
	0.3	3		--				**5SL6 314-7**		1	1 unit	001	0.465
	0.5			--				**5SL6 305-7**		1	1 unit	001	0.465
	1			--				**5SL6 301-7**		1	1 unit	001	0.465
	1.6			--				**5SL6 315-7**		1	1 unit	001	0.465
	2			--				**5SL6 302-7**		1	1/4 units	001	0.465
	3			--				**5SL6 303-7**		1	1 unit	001	0.465
	4			--				**5SL6 304-7**		1	1/4 units	001	0.465
	6			**5SL6 306-6**		001		**5SL6 306-7**		1	1/4 units	001	0.465
	8			--				**5SL6 308-7**		1	1 unit	001	0.465
	10			**5SL6 310-6**		001		**5SL6 310-7**		1	1/4 units	001	0.465
	13			**5SL6 313-6**		001		**5SL6 313-7**		1	1 unit	001	0.465
	16			**5SL6 316-6**		001		**5SL6 316-7**		1	1/4 units	001	0.360
	20			**5SL6 320-6**		001		**5SL6 320-7**		1	1/4 units	001	0.465
	25			**5SL6 325-6**		001		**5SL6 325-7**		1	1/4 units	001	0.465
	32			**5SL6 332-6**		001		**5SL6 332-7**		1	1/4 units	001	0.465
	40			**5SL6 340-6**		001		**5SL6 340-7**		1	1/4 units	001	0.465
	50			**5SL6 350-6**		001		**5SL6 350-7**		1	1/4 units	001	0.465
	63			**5SL6 363-6**		001		**5SL6 363-7**		1	1/4 units	001	0.465
	3P+N, 400 V AC												
	0.3	4		--				**5SL6 614-7**		1	1 unit	001	0.660
	0.5			--				**5SL6 605-7**		1	1 unit	001	0.660
	1			--				**5SL6 601-7**		1	1 unit	001	0.660
	1.6			--				**5SL6 615-7**		1	1 unit	001	0.660
	2			--				**5SL6 602-7**		1	1 unit	001	0.660
	3			--				**5SL6 603-7**		1	1 unit	001	0.660
	4			--				**5SL6 604-7**		1	1 unit	001	0.660
	6			**5SL6 606-6**		001		**5SL6 606-7**		1	1 unit	001	0.660
	8			--				**5SL6 608-7**		1	1 unit	001	0.660
	10			**5SL6 610-6**		001		**5SL6 610-7**		1	1 unit	001	0.660
	13			**5SL6 613-6**		001		**5SL6 613-7**		1	1/3 units	001	0.660
	16			**5SL6 616-6**		001		**5SL6 616-7**		1	1/3 units	001	0.660
	20			**5SL6 620-6**		001		**5SL6 620-7**		1	1 unit	001	0.660
	25			**5SL6 625-6**		001		**5SL6 625-7**		1	1 unit	001	0.660
	32			**5SL6 632-6**		001		**5SL6 632-7**		1	1 unit	001	0.660
	40			**5SL6 640-6**		001		**5SL6 640-7**		1	1 unit	001	0.660
	50			**5SL6 650-6**		001		**5SL6 650-7**		1	1 unit	001	0.660
	63			**5SL6 663-6**		001		**5SL6 663-7**		1	1 unit	001	0.660
	4P, 400 V AC												
	0.3	4		--				**5SL6 414-7**		1	1 unit	001	0.660
	0.5			--				**5SL6 405-7**		1	1 unit	001	0.660
	1			--				**5SL6 401-7**		1	1 unit	001	0.660
	1.6			--				**5SL6 415-7**		1	1 unit	001	0.660
	2			--				**5SL6 402-7**		1	1 unit	001	0.660
	3			--				**5SL6 403-7**		1	1 unit	001	0.660
	4			--				**5SL6 404-7**		1	1 unit	001	0.660
	6			**5SL6 406-6**		001		**5SL6 406-7**		1	1 unit	001	0.660
	8			--				**5SL6 408-7**		1	1 unit	001	0.660
	10			**5SL6 410-6**		001		**5SL6 410-7**		1	1/3 units	001	0.660
	13			**5SL6 413-6**		001		**5SL6 413-7**		1	1 unit	001	0.660
	16			**5SL6 416-6**		001		**5SL6 416-7**		1	1/3 units	001	0.660
	20			**5SL6 420-6**		001		**5SL6 420-7**		1	1/3 units	001	0.660
	25			**5SL6 425-6**		001		**5SL6 425-7**		1	1/3 units	001	0.660
	32			**5SL6 432-6**		001		**5SL6 432-7**		1	1/3 units	001	0.660
	40			**5SL6 440-6**		001		**5SL6 440-7**		1	1/3 units	001	0.660
	50			**5SL6 450-6**		001		**5SL6 450-7**		1	1 unit	001	0.660
	63			**5SL6 463-6**		001		**5SL6 463-7**		1	1/3 units	001	0.660

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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Introduction

Overview

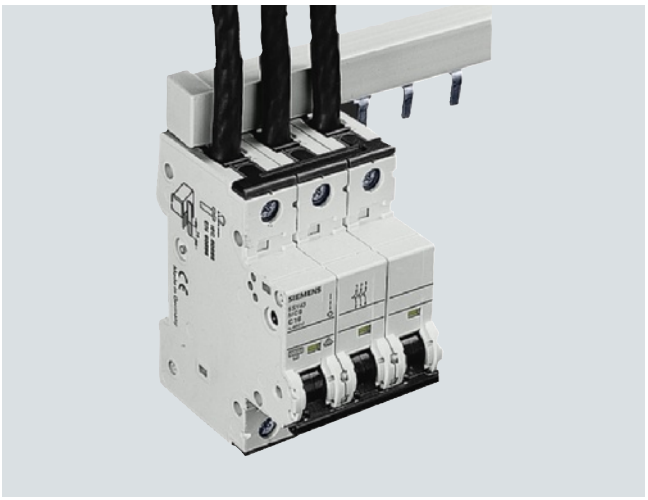
MCBs are used to protect systems and installations in buildings and for industrial applications. The devices can be used as main control switches for the disconnection or isolation of installations.

Used in industrial applications and plant engineering, miniature circuit breakers can be supplemented with additional components, such as auxiliary switches, fault signal contacts, shunt trips, undervoltage releases, remote controlled mechanisms and RC units.

The devices are approved for worldwide use according to IEC standards for power supply systems up to 250/440 V AC. 72 V DC per pole is permitted in DC systems.

For North America, there is an additional approval according to UL 1077 for use as "supplementary protectors" in systems up to 480Y/277 V AC. For use in ship building, the devices also have numerous certifications according to shipping classifications; BV, DNV, GL and LRS. References to this can be found in the appendix, chapter 20.

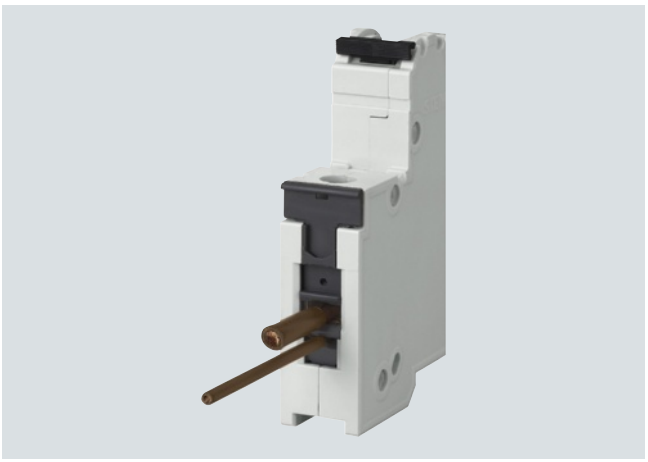
Benefits



- Optional top or bottom infeed as the terminals are identical
- Clear and visible conductor connection in front of the rear busbar facilitates controls
- The conductor is easily inserted into the terminal thanks to the large and easily accessible wiring space.



- Quick and easy manual removal of MCBs from the busbar assembly, for example if connections need to be changed
- Time-saving replacement of parts as busbars no longer need to be freed from adjacent devices.



- Duplicate terminal clamps allow 2 conductors with different cross-sections (cross-section combinations upon request) to be fitted.



- The 5SY miniature circuit breakers are ideal for the quick and easy mounting of auxiliary switches and fault signal contacts. Captive metal brackets on the additional components ensure the quick and easy mounting of devices on the miniature circuit breakers without the need for tools.

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Technical specifications

				5SY6	5SY4	5SY5	5SY7	5SY8	5SP4
Standards				EN 60898-1; EN 60947-2	EN 60898-1; EN 60947-2	EN 60898-2	EN 60898-1; EN 60947-2	EN 60947-2	EN 60898-1; EN 60947-2
Approvals				See appendix, chapter 20					
Rated voltage U_n			V AC V DC	230/400 --	230/400 --	230/400 220/440/ 880[5]	230/400 --	230/400 --	230/400 --
Operational voltage									
		Min.	V AC/DC/pole	24	24	24	24	24	24
Acc. to EN 60898-1/-2 and EN 60947-2		Max. Max.	V DC/pole V AC	72 250/440	72[4] 250/440	250 250/440	72[4] 250/440	72[4] 250/440	72 250/440
Acc. to UL 1077 and CSA C22.2 No.235		Max.	V AC	480Y/277	480Y/277	--	480Y/277	480Y/277	480Y/277
Breaking capacity[1]									
• I_{cn} acc. to IEC/EN 60898-1			kA AC	6	10	10	15	--	10
• I_{cn} acc. to IEC/EN 60898-2			kA DC	10	10	10	15	--	10
• I_{cu} acc. to IEC/EN 60947-2			kA AC kA DC	30 ... 10[1] 15	35 ... 10[1] 15	35 ... 10[1] 15	50 ... 15[1] 15	70 ... 20[1] 15	10 15
• Acc. to UL1077 and CSA C22.2 No.235			kA AC	5	5	--	5	5	5
Insulation coordination									
• Rated insulation voltage			V AC V DC/pole	250/440 --	--	250	--	--	--
Pollution degree for overvoltage category				3/III[3]					
Touch protection	Acc. to EN 50274			Yes					
Main switch characteristics	Acc. to EN 60204			Yes					
Handle end position, sealable				Yes					
Degree of protection	Acc. to EN 60529			IP20 with connected conductors, IP40 in the handle range with distribution cover					
CFC and silicone-free				Yes					
Mounting									
• Snap-on fixing system				Yes					--
• Standard mounting rail and screw fixing				--					Yes
Terminals		±screw (Pozidriv)		2					
• Tunnel terminals at both ends				--					Yes
• Combined terminals at both ends				Yes					--
• Terminal tightening torque			Nm lb.in	2.5 ... 3 22 ... 26					2.5 ... 3.5 22 ... 31
Conductor cross-sections									
• Solid and stranded			mm^2	0.75 ... 35					4 ... 50
• Finely stranded, with end sleeve			mm^2	0.75 ... 25					1.5 ... 35
• AWG conductors (Cu 60/75 °C $I_n \leq 40$ A; 60 °C $I_n > 40$ A)			AWG	14 ... 4					14 ... 2
Mains connection									
• AC				Any					
• DC				Any		[2]	Any		
Mounting position				Any					
Service life On average, with rated load			Actuations Actuations	20000 10000 for 5SY5 at 40 A, 50 A and 63 A					
Ambient temperature			°C	-25 ... +55, max. 95 % humidity					
Storage temperature			°C	-40 ... +75					
Resistance to climate	Acc. to IEC 60068-2-30			6 cycles					
Shock	Acc. to IEC 60068-2-27		m/s^2	150 at 11 ms half-sine					
Resistance to vibrations	Acc. to IEC 60068-2-6		m/s^2	50 at 25 ... 150 Hz and 60 at 35 Hz (4 sec)					

1) For further information see Configuration Manual 10/2011 "Miniature circuit breakers" at: www.siemens.com/lowvoltage/manual.

2) Ensure compliance with the specified polarity when connecting DC.

3) 5SY5 4.. 4-pole, degree of pollution 2 at overvoltage category III.

4) Not characteristic D 0.3 A

5) 5SY5 4.. 4-pole 880 V is not a standardized voltage acc. to EN 60898-1, suitable for max. 1000 V DC, if the four poles are connected in series.

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5SY6, 6 000 A, discontinued range

3

Selection and ordering data

6 000 / 3	I_n	Mounting width	DT	Characteristic B Order No.	Price per PU	PG	DT	Characteristic C Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	MCBs 6000 A												
	1P, 230/400 V AC												
	0.3	1		--				**5SY6 114-7**		1	1 unit	001	0.167
	0.5			--				**5SY6 105-7**		1	1/12 units	001	0.165
	1			--				**5SY6 101-7**		1	1/12 units	001	0.164
	1.6			--				**5SY6 115-7**		1	1 unit	001	0.162
	2			**5SY6 102-6**		001	▶	**5SY6 102-7**		1	1/12 units	001	0.153
	3			--				**5SY6 103-7**		1	1/12 units	001	0.145
	4			**5SY6 104-6**		001	▶	**5SY6 104-7**		1	1/12 units	001	0.160
	6		▶	**5SY6 106-6**		001	▶	**5SY6 106-7**		1	1/12 units	001	0.160
	8			--				**5SY6 108-7**		1	1/12 units	001	0.158
	10		▶	**5SY6 110-6**		001	▶	**5SY6 110-7**		1	1/12 units	001	0.158
	13			**5SY6 113-6**		001		**5SY6 113-7**		1	1/12 units	001	0.148
	16		▶	**5SY6 116-6**		001	▶	**5SY6 116-7**		1	1/12 units	001	0.158
	20			**5SY6 120-6**		001		**5SY6 120-7**		1	1/12 units	001	0.162
	25			**5SY6 125-6**		001		**5SY6 125-7**		1	1/12 units	001	0.163
	32			**5SY6 132-6**		001		**5SY6 132-7**		1	1/12 units	001	0.149
	40			**5SY6 140-6**		001		**5SY6 140-7**		1	1/12 units	001	0.150
	50			**5SY6 150-6**		001		**5SY6 150-7**		1	1/12 units	001	0.168
	63			**5SY6 163-6**		001		**5SY6 163-7**		1	1/12 units	001	0.172
	1P+N, 230 V AC												
	0.3	2		--				**5SY6 514-7**		1	1 unit	001	0.328
	0.5			--				**5SY6 505-7**		1	1 unit	001	0.325
	1			--				**5SY6 501-7**		1	1 unit	001	0.321
	1.6			--				**5SY6 515-7**		1	1 unit	001	0.318
	2			**5SY6 506-6**		001		**5SY6 502-7**		1	1 unit	001	0.324
	3			--				**5SY6 503-7**		1	1 unit	001	0.314
	4			**5SY6 510-6**		001		**5SY6 504-7**		1	1 unit	001	0.314
	6			**5SY6 513-6**		001		**5SY6 506-7**		1	1/6 units	001	0.310
	8			--				**5SY6 508-7**		1	1 unit	001	0.310
	10			**5SY6 510-6**		001		**5SY6 510-7**		1	1/6 units	001	0.301
	13			**5SY6 513-6**		001		**5SY6 513-7**		1	1/6 units	001	0.320
	16			**5SY6 516-6**		001		**5SY6 516-7**		1	1/6 units	001	0.302
	20			**5SY6 520-6**		001		**5SY6 520-7**		1	1 unit	001	0.316
	25			**5SY6 525-6**		001		**5SY6 525-7**		1	1 unit	001	0.318
	32			**5SY6 532-6**		001		**5SY6 532-7**		1	1 unit	001	0.319
	40			**5SY6 540-6**		001		**5SY6 540-7**		1	1 unit	001	0.318
	50			**5SY6 550-6**		001		**5SY6 550-7**		1	1 unit	001	0.323
	63			**5SY6 563-6**		001		**5SY6 563-7**		1	1 unit	001	0.343
	2P, 400 V AC												
	0.3	2		--				**5SY6 214-7**		1	1 unit	001	0.328
	0.5			--				**5SY6 205-7**		1	1 unit	001	0.324
	1			--				**5SY6 201-7**		1	1/6 units	001	0.302
	1.6			--				**5SY6 215-7**		1	1 unit	001	0.317
	2			--			▶	**5SY6 202-7**		1	1/6 units	001	0.324
	3			--				**5SY6 203-7**		1	1/6 units	001	0.320
	4			--			▶	**5SY6 204-7**		1	1/6 units	001	0.300
	6			**5SY6 206-6**		001	▶	**5SY6 206-7**		1	1/6 units	001	0.292
	8			--				**5SY6 208-7**		1	1 unit	001	0.309
	10			**5SY6 210-6**		001	▶	**5SY6 210-7**		1	1/6 units	001	0.310
	13			**5SY6 213-6**		001		**5SY6 213-7**		1	1 unit	001	0.318
	16			**5SY6 216-6**		001	▶	**5SY6 216-7**		1	1/6 units	001	0.291
	20			**5SY6 220-6**		001		**5SY6 220-7**		1	1/6 units	001	0.300
	25			**5SY6 225-6**		001		**5SY6 225-7**		1	1/6 units	001	0.308
	32			**5SY6 232-6**		001		**5SY6 232-7**		1	1/6 units	001	0.318
	40			**5SY6 240-6**		001		**5SY6 240-7**		1	1 unit	001	0.318
	50			**5SY6 250-6**		001		**5SY6 250-7**		1	1 unit	001	0.330
	63			**5SY6 263-6**		001		**5SY6 263-7**		1	1 unit	001	0.340

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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6 000 / 3	I_n	Mounting width	DT	Characteristic B Order No.	Price per PU	PG	DT	Characteristic C Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	MCBs 6000 A												
	3P, 400 V AC												
	0.3	3		--				**5SY6 314-7**		1	1 unit	001	0.489
	0.5			--				**5SY6 305-7**		1	1 unit	001	0.481
	1			--				**5SY6 301-7**		1	1 unit	001	0.473
	1.6			--				**5SY6 315-7**		1	1 unit	001	0.471
	2			--				**5SY6 302-7**		1	1/4 units	001	0.480
	3			--				**5SY6 303-7**		1	1 unit	001	0.465
	4			--				**5SY6 304-7**		1	1/4 units	001	0.458
	6			**5SY6 306-6**		001	▶	**5SY6 306-7**		1	1/4 units	001	0.435
	8			--				**5SY6 308-7**		1	1 unit	001	0.461
	10			**5SY6 310-6**		001	▶	**5SY6 310-7**		1	1/4 units	001	0.443
	13			**5SY6 313-6**		001		**5SY6 313-7**		1	1 unit	001	0.471
	16		▶	**5SY6 316-6**		001	▶	**5SY6 316-7**		1	1/4 units	001	0.437
	20			**5SY6 320-6**		001		**5SY6 320-7**		1	1/4 units	001	0.455
	25			**5SY6 325-6**		001		**5SY6 325-7**		1	1/4 units	001	0.464
	32			**5SY6 332-6**		001	▶	**5SY6 332-7**		1	1/4 units	001	0.459
	40			**5SY6 340-6**		001		**5SY6 340-7**		1	1/4 units	001	0.472
	50			**5SY6 350-6**		001		**5SY6 350-7**		1	1/4 units	001	0.489
	63			**5SY6 363-6**		001		**5SY6 363-7**		1	1/4 units	001	0.488
	3P+N, 400 V AC												
	0.3	4		--				**5SY6 614-7**		1	1 unit	001	0.631
	0.5			--				**5SY6 605-7**		1	1 unit	001	0.643
	1			--				**5SY6 601-7**		1	1 unit	001	0.623
	1.6			--				**5SY6 615-7**		1	1 unit	001	0.631
	2			--				**5SY6 602-7**		1	1 unit	001	0.632
	3			--				**5SY6 603-7**		1	1 unit	001	0.590
	4			--				**5SY6 604-7**		1	1 unit	001	0.620
	6			**5SY6 606-6**		001		**5SY6 606-7**		1	1 unit	001	0.609
	8			--				**5SY6 608-7**		1	1 unit	001	0.607
	10			**5SY6 610-6**		001		**5SY6 610-7**		1	1 unit	001	0.611
	13			**5SY6 613-6**		001		**5SY6 613-7**		1	1/3 units	001	0.630
	16			**5SY6 616-6**		001		**5SY6 616-7**		1	1/3 units	001	0.613
	20			**5SY6 620-6**		001		**5SY6 620-7**		1	1 unit	001	0.623
	25			**5SY6 625-6**		001		**5SY6 625-7**		1	1 unit	001	0.622
	32			**5SY6 632-6**		001		**5SY6 632-7**		1	1 unit	001	0.628
	40			**5SY6 640-6**		001		**5SY6 640-7**		1	1 unit	001	0.629
	50			**5SY6 650-6**		001		**5SY6 650-7**		1	1 unit	001	0.655
	63			**5SY6 663-6**		001		**5SY6 663-7**		1	1 unit	001	0.671
	4P, 400 V AC												
	0.3	4		--				**5SY6 414-7**		1	1 unit	001	0.640
	0.5			--				**5SY6 405-7**		1	1 unit	001	0.641
	1			--				**5SY6 401-7**		1	1 unit	001	0.634
	1.6			--				**5SY6 415-7**		1	1 unit	001	0.620
	2			--				**5SY6 402-7**		1	1 unit	001	0.642
	3			--				**5SY6 403-7**		1	1 unit	001	0.625
	4			--				**5SY6 404-7**		1	1 unit	001	0.615
	6			**5SY6 406-6**		001		**5SY6 406-7**		1	1 unit	001	0.612
	8			--				**5SY6 408-7**		1	1 unit	001	0.605
	10			**5SY6 410-6**		001		**5SY6 410-7**		1	1/3 units	001	0.603
	13			**5SY6 413-6**		001		**5SY6 413-7**		1	1 unit	001	0.628
	16			**5SY6 416-6**		001		**5SY6 416-7**		1	1/3 units	001	0.620
	20			**5SY6 420-6**		001		**5SY6 420-7**		1	1/3 units	001	0.598
	25			**5SY6 425-6**		001		**5SY6 425-7**		1	1/3 units	001	0.625
	32			**5SY6 432-6**		001		**5SY6 432-7**		1	1/3 units	001	0.627
	40			**5SY6 440-6**		001		**5SY6 440-7**		1	1/3 units	001	0.628
	50			**5SY6 450-6**		001		**5SY6 450-7**		1	1 unit	001	0.651
	63			**5SY6 463-6**		001		**5SY6 463-7**		1	1/3 units	001	0.673

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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5SY4, 10 000 A

Selection and ordering data

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I_n A	Mounting width MW[1]	DT	Characteristic A Order No.	Price per PU	PG	DT	Characteristic B Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
MCBs 10000 A												
1P, 230/400 V AC												
0.5	1		**5SY4 105-5**		002		--		1	1 unit		0.165
1			**5SY4 101-5**		002		--		1	1 unit		0.167
1.6			**5SY4 115-5**		002		--		1	1 unit		0.165
2			**5SY4 102-5**		002		**5SY4 102-6**		1	1 unit	002	0.166
3			**5SY4 103-5**		002		--		1	1 unit		0.168
4			**5SY4 104-5**		002		**5SY4 104-6**		1	1/12 units	002	0.152
6			**5SY4 106-5**		002	▶	**5SY4 106-6**		1	1/12 units	002	0.147
8			**5SY4 108-5**		002		--		1	1 unit		0.162
10			**5SY4 110-5**		002	▶	**5SY4 110-6**		1	1/12 units	002	0.146
13			**5SY4 113-5**		002		**5SY4 113-6**		1	1 unit	002	0.161
16			**5SY4 116-5**		002	▶	**5SY4 116-6**		1	1/12 units	002	0.154
20			**5SY4 120-5**		002		**5SY4 120-6**		1	1 unit	002	0.160
25			**5SY4 125-5**		002		**5SY4 125-6**		1	1 unit	002	0.163
32			**5SY4 132-5**		002		**5SY4 132-6**		1	1 unit	002	0.165
40			**5SY4 140-5**		002		**5SY4 140-6**		1	1 unit	002	0.164
50			**5SY4 150-5**		002		**5SY4 150-6**		1	1 unit	002	0.168
63			**5SY4 163-5**		002		**5SY4 163-6**		1	1 unit	002	0.173
80			--				**5SY4 180-6**		1	1 unit	002	0.159
1P+N, 230 V AC												
1	2		**5SY4 501-5**		002		--		1	1 unit		0.330
1.6			**5SY4 515-5**		002		--		1	1 unit		0.325
2			**5SY4 502-5**		002		--		1	1 unit		0.325
3			**5SY4 503-5**		002		--		1	1 unit		0.330
4			**5SY4 504-5**		002		--		1	1 unit		0.319
6			**5SY4 506-5**		002		**5SY4 506-6**		1	1 unit	002	0.315
8			**5SY4 508-5**		002		--		1	1 unit		0.316
10			**5SY4 510-5**		002		**5SY4 510-6**		1	1 unit	002	0.312
13			**5SY4 513-5**		002		**5SY4 513-6**		1	1/6 units	002	0.315
16			**5SY4 516-5**		002		**5SY4 516-6**		1	1/6 units	002	0.311
20			**5SY4 520-5**		002		**5SY4 520-6**		1	1 unit	002	0.316
25			**5SY4 525-5**		002		**5SY4 525-6**		1	1 unit	002	0.317
32			**5SY4 532-5**		002		**5SY4 532-6**		1	1 unit	002	0.325
40			**5SY4 540-5**		002		**5SY4 540-6**		1	1 unit	002	0.307
50			**5SY4 550-5**		002		**5SY4 550-6**		1	1 unit	002	0.319
63			**5SY4 563-5**		002		**5SY4 563-6**		1	1 unit	002	0.346
2P, 400 V AC												
0.5	2		**5SY4 205-5**		002		--		1	1 unit		0.330
1			**5SY4 201-5**		002		--		1	1 unit		0.327
1.6			**5SY4 215-5**		002		--		1	1 unit		0.324
2			**5SY4 202-5**		002		--		1	1 unit		0.325
3			**5SY4 203-5**		002		--		1	1 unit		0.324
4			**5SY4 204-5**		002		--		1	1 unit		0.322
6			**5SY4 206-5**		002		**5SY4 206-6**		1	1 unit	002	0.314
8			**5SY4 208-5**		002		--		1	1 unit		0.300
10			**5SY4 210-5**		002		**5SY4 210-6**		1	1/6 units	002	0.306
13			**5SY4 213-5**		002		**5SY4 213-6**		1	1 unit	002	0.315
16			**5SY4 216-5**		002		**5SY4 216-6**		1	1/6 units	002	0.295
20			**5SY4 220-5**		002		**5SY4 220-6**		1	1 unit	002	0.313
25			**5SY4 225-5**		002		**5SY4 225-6**		1	1 unit	002	0.318
32			**5SY4 232-5**		002		**5SY4 232-6**		1	1 unit	002	0.323
40			**5SY4 240-5**		002		**5SY4 240-6**		1	1 unit	002	0.323
50			**5SY4 250-5**		002		**5SY4 250-6**		1	1 unit	002	0.330
63			**5SY4 263-5**		002		**5SY4 263-6**		1	1 unit	002	0.342
80			--				**5SY4 280-6**		1	1 unit	002	0.328

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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10 000 / 3	I_n	Mounting width	DT	Characteristic A Order No.	Price per PU	PG	DT	Characteristic B Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	MCBs 10000 A												
	3P, 400 V AC												
	0.5	3		**5SY4 305-5**		002		**--**		1	1 unit		0.495
	1			**5SY4 301-5**		002		**--**		1	1 unit		0.482
	1.6			**5SY4 315-5**		002		**--**		1	1 unit		0.477
	2			**5SY4 302-5**		002		**--**		1	1 unit		0.485
	3			**5SY4 303-5**		002		**--**		1	1 unit		0.490
	4			**5SY4 304-5**		002		**--**		1	1 unit		0.456
	6			**5SY4 306-5**		002		**5SY4 306-6**		1	1 unit	002	0.467
	8			**5SY4 308-5**		002		**--**		1	1 unit		0.478
	10			**5SY4 310-5**		002		**5SY4 310-6**		1	1 unit	002	0.463
	13			**5SY4 313-5**		002		**5SY4 313-6**		1	1 unit	002	0.469
	16			**5SY4 316-5**		002	►	**5SY4 316-6**		1	1/4 units	002	0.439
	20			**5SY4 320-5**		002		**5SY4 320-6**		1	1 unit	002	0.465
	25			**5SY4 325-5**		002		**5SY4 325-6**		1	1 unit	002	0.472
	32			**5SY4 332-5**		002		**5SY4 332-6**		1	1/4 units	002	0.475
	40			**5SY4 340-5**		002		**5SY4 340-6**		1	1 unit	002	0.478
	50			**5SY4 350-5**		002		**5SY4 350-6**		1	1 unit	002	0.490
	63			**5SY4 363-5**		002		**5SY4 363-6**		1	1 unit	002	0.499
	80			**--**				**5SY4 380-6**		1	1 unit	002	0.481
	3P+N, 400 V AC												
	1	4		**5SY4 601-5**		002		**--**		1	1 unit		0.648
	1.6			**5SY4 615-5**		002		**--**		1	1 unit		0.641
	2			**5SY4 602-5**		002		**--**		1	1 unit		0.641
	3			**5SY4 603-5**		002		**--**		1	1 unit		0.650
	4			**5SY4 604-5**		002		**--**		1	1 unit		0.660
	6			**5SY4 606-5**		002		**5SY4 606-6**		1	1 unit	002	0.615
	8			**5SY4 608-5**		002		**--**		1	1 unit		0.660
	10			**5SY4 610-5**		002		**5SY4 610-6**		1	1 unit	002	0.616
	13			**5SY4 613-5**		002		**5SY4 613-6**		1	1 unit	002	0.625
	16			**5SY4 616-5**		002		**5SY4 616-6**		1	1 unit	002	0.616
	20			**5SY4 620-5**		002		**5SY4 620-6**		1	1 unit	002	0.611
	25			**5SY4 625-5**		002		**5SY4 625-6**		1	1 unit	002	0.632
	32			**5SY4 632-5**		002		**5SY4 632-6**		1	1 unit	002	0.636
	40			**5SY4 640-5**		002		**5SY4 640-6**		1	1 unit	002	0.608
	50			**5SY4 650-5**		002		**5SY4 650-6**		1	1 unit	002	0.631
	63			**5SY4 663-5**		002		**5SY4 663-6**		1	1 unit	002	0.665
	4P, 400 V AC												
	1	4		**5SY4 401-5**		002		**--**		1	1 unit		0.649
	1.6			**5SY4 415-5**		002		**--**		1	1 unit		0.649
	2			**5SY4 402-5**		002		**--**		1	1 unit		0.642
	3			**5SY4 403-5**		002		**--**		1	1 unit		0.660
	4			**5SY4 404-5**		002		**--**		1	1 unit		0.642
	6			**5SY4 406-5**		002		**5SY4 406-6**		1	1 unit	002	0.621
	8			**5SY4 408-5**		002		**--**		1	1 unit		0.601
	10			**5SY4 410-5**		002		**5SY4 410-6**		1	1 unit	002	0.609
	13			**5SY4 413-5**		002		**5SY4 413-6**		1	1 unit	002	0.650
	16			**5SY4 416-5**		002		**5SY4 416-6**		1	1 unit	002	0.612
	20			**5SY4 420-5**		002		**5SY4 420-6**		1	1 unit	002	0.619
	25			**5SY4 425-5**		002		**5SY4 425-6**		1	1 unit	002	0.617
	32			**5SY4 432-5**		002		**5SY4 432-6**		1	1 unit	002	0.636
	40			**5SY4 440-5**		002		**5SY4 440-6**		1	1 unit	002	0.634
	50			**5SY4 450-5**		002		**5SY4 450-6**		1	1 unit	002	0.645
	63			**5SY4 463-5**		002		**5SY4 463-6**		1	1 unit	002	0.669
	80			**--**				**5SY4 480-6**		1	1 unit	002	0.651

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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5SY4, 10 000 A

10 000 / 3	I_n	Mounting width	DT	Characteristic C Order No.	Price per PU	PG	DT	Characteristic D Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	MCBs 10000 A												
	1P, 230/400 V AC												
	0.3	1		**5SY4 114-7**		002		**5SY4 114-8**		1	1 unit	002	0.167
	0.5			**5SY4 105-7**		002		**5SY4 105-8**		1	1 unit	002	0.166
	1			**5SY4 101-7**		002		**5SY4 101-8**		1	1 unit	002	0.165
	1.6			**5SY4 115-7**		002		**5SY4 115-8**		1	1 unit	002	0.163
	2		▶	**5SY4 102-7**		002		**5SY4 102-8**		1	1/12 units	002	0.155
	3			**5SY4 103-7**		002		**5SY4 103-8**		1	1 unit	002	0.160
	4		▶	**5SY4 104-7**		002		**5SY4 104-8**		1	1/12 units	002	0.158
	5			**5SY4 111-7**		002		--		1	1 unit		0.149
	6		▶	**5SY4 106-7**		002		**5SY4 106-8**		1	1 unit	002	0.159
	8			**5SY4 108-7**		002		**5SY4 108-8**		1	1 unit	002	0.156
	10		▶	**5SY4 110-7**		002		**5SY4 110-8**		1	1/12 units	002	0.155
	13			**5SY4 113-7**		002		**5SY4 113-8**		1	1 unit	002	0.156
	15			**5SY4 118-7**		002		--		1	1 unit		0.151
	16		▶	**5SY4 116-7**		002		**5SY4 116-8**		1	1 unit	002	0.156
	20			**5SY4 120-7**		002		**5SY4 120-8**		1	1 unit	002	0.162
	25			**5SY4 125-7**		002		**5SY4 125-8**		1	1 unit	002	0.161
	30			**5SY4 130-7**		002		--		1	1 unit		0.148
	32			**5SY4 132-7**		002		**5SY4 132-8**		1	1 unit	002	0.165
	35			**5SY4 135-7**		002		--		1	1 unit		0.180
	40			**5SY4 140-7**		002		**5SY4 140-8**		1	1 unit	002	0.166
	45			**5SY4 145-7**		002		--		1	1 unit		0.160
	50			**5SY4 150-7**		002		**5SY4 150-8**		1	1 unit	002	0.164
	60			**5SY4 160-7**		002		--		1	1 unit		0.160
	63			**5SY4 163-7**		002		**5SY4 163-8**		1	1 unit	002	0.166
	80			**5SY4 180-7**		002		--		1	1 unit		0.160
	1P+N, 230 V AC												
	0.3	2		**5SY4 514-7**		002		**5SY4 514-8**		1	1 unit	002	0.323
	0.5			**5SY4 505-7**		002		**5SY4 505-8**		1	1 unit	002	0.316
	1			**5SY4 501-7**		002		**5SY4 501-8**		1	1 unit	002	0.303
	1.6			**5SY4 515-7**		002		**5SY4 515-8**		1	1 unit	002	0.319
	2			**5SY4 502-7**		002		**5SY4 502-8**		1	1 unit	002	0.320
	3			**5SY4 503-7**		002		**5SY4 503-8**		1	1 unit	002	0.314
	4			**5SY4 504-7**		002		**5SY4 504-8**		1	1 unit	002	0.310
	6			**5SY4 506-7**		002		**5SY4 506-8**		1	1 unit	002	0.311
	8			**5SY4 508-7**		002		**5SY4 508-8**		1	1 unit	002	0.305
	10			**5SY4 510-7**		002		**5SY4 510-8**		1	1 unit	002	0.305
	13			**5SY4 513-7**		002		**5SY4 513-8**		1	1 unit	002	0.304
	16			**5SY4 516-7**		002		**5SY4 516-8**		1	1 unit	002	0.306
	20			**5SY4 520-7**		002		**5SY4 520-8**		1	1 unit	002	0.309
	25			**5SY4 525-7**		002		**5SY4 525-8**		1	1 unit	002	0.309
	32			**5SY4 532-7**		002		**5SY4 532-8**		1	1 unit	002	0.320
	40			**5SY4 540-7**		002		**5SY4 540-8**		1	1 unit	002	0.312
	50			**5SY4 550-7**		002		**5SY4 550-8**		1	1 unit	002	0.322
	63			**5SY4 563-7**		002		**5SY4 563-8**		1	1 unit	002	0.332
	80			**5SY4 580-7**		002		--		1	1 unit		0.321
	2P, 400 V AC												
	0.3	2		**5SY4 214-7**		002		**5SY4 214-8**		1	1 unit	002	0.325
	0.5			**5SY4 205-7**		002		**5SY4 205-8**		1	1 unit	002	0.325
	1			**5SY4 201-7**		002		**5SY4 201-8**		1	1 unit	002	0.320
	1.6			**5SY4 215-7**		002		**5SY4 215-8**		1	1 unit	002	0.319
	2		▶	**5SY4 202-7**		002		**5SY4 202-8**		1	1 unit	002	0.318
	3			**5SY4 203-7**		002		**5SY4 203-8**		1	1 unit	002	0.313
	4			**5SY4 204-7**		002		**5SY4 204-8**		1	1 unit	002	0.309
	5			**5SY4 211-7**		002		--		1	1 unit		0.297
	6		▶	**5SY4 206-7**		002		**5SY4 206-8**		1	1 unit	002	0.312
	8			**5SY4 208-7**		002		**5SY4 208-8**		1	1 unit	002	0.305
	10		▶	**5SY4 210-7**		002		**5SY4 210-8**		1	1 unit	002	0.303
	13			**5SY4 213-7**		002		**5SY4 213-8**		1	1 unit	002	0.304
	15			**5SY4 218-7**		002		--		1	1 unit		0.294
	16		▶	**5SY4 216-7**		002		**5SY4 216-8**		1	1 unit	002	0.305
	20			**5SY4 220-7**		002		**5SY4 220-8**		1	1 unit	002	0.317
	25			**5SY4 225-7**		002		**5SY4 225-8**		1	1 unit	002	0.318
	30			**5SY4 230-7**		002		--		1	1 unit		0.300
	32			**5SY4 232-7**		002		**5SY4 232-8**		1	1 unit	002	0.324
	35			**5SY4 235-7**		002		--		1	1 unit		0.298
	40			**5SY4 240-7**		002		**5SY4 240-8**		1	1 unit	002	0.326
	45			**5SY4 245-7**		002		--		1	1 unit		0.312
	50			**5SY4 250-7**		002		**5SY4 250-8**		1	1 unit	002	0.324
	60			**5SY4 260-7**		002		--		1	1 unit		0.322
	63			**5SY4 263-7**		002		**5SY4 263-8**		1	1 unit	002	0.325
	80			**5SY4 280-7**		002		--		1	1/6 units		0.313

* You can order this quantity or a multiple thereof.

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10 000 / 3	I_n	Mounting width	DT	Characteristic C Order No.	Price per PU	PG	DT	Characteristic D Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	MCBs 10000 A												
	3P, 400 V AC												
	0.3	3		**5SY4 314-7**		002		**5SY4 314-8**		1	1 unit	002	0.481
	0.5			**5SY4 305-7**		002		**5SY4 305-8**		1	1 unit	002	0.474
	1			**5SY4 301-7**		002		**5SY4 301-8**		1	1 unit	002	0.478
	1.6			**5SY4 315-7**		002		**5SY4 315-8**		1	1 unit	002	0.474
	2			**5SY4 302-7**		002		**5SY4 302-8**		1	1 unit	002	0.476
	3			**5SY4 303-7**		002		**5SY4 303-8**		1	1 unit	002	0.466
	4			**5SY4 304-7**		002		**5SY4 304-8**		1	1 unit	002	0.460
	5			**5SY4 311-7**		002		**--**		1	1 unit		0.455
	6			**5SY4 306-7**		002		**5SY4 306-8**		1	1 unit	002	0.461
	8			**5SY4 308-7**		002		**5SY4 308-8**		1	1 unit	002	0.451
	10		▶	**5SY4 310-7**		002		**5SY4 310-8**		1	1 unit	002	0.447
	13			**5SY4 313-7**		002		**5SY4 313-8**		1	1 unit	002	0.455
	15			**5SY4 318-7**		002		**--**		1	1 unit		0.461
	16		▶	**5SY4 316-7**		002		**5SY4 316-8**		1	1/4 units	002	0.431
	20			**5SY4 320-7**		002		**5SY4 320-8**		1	1 unit	002	0.472
	25			**5SY4 325-7**		002		**5SY4 325-8**		1	1 unit	002	0.470
	30			**5SY4 330-7**		002		**--**		1	1 unit		0.451
	32		▶	**5SY4 332-7**		002		**5SY4 332-8**		1	1 unit	002	0.481
	35			**5SY4 335-7**		002		**--**		1	1 unit		0.450
	40			**5SY4 340-7**		002		**5SY4 340-8**		1	1 unit	002	0.481
	45			**5SY4 345-7**		002		**--**		1	1 unit		0.469
	50			**5SY4 350-7**		002		**5SY4 350-8**		1	1 unit	002	0.482
	60			**5SY4 360-7**		002		**--**		1	1 unit		0.490
	63			**5SY4 363-7**		002		**5SY4 363-8**		1	1 unit	002	0.486
	80			**5SY4 380-7**		002		**--**		1	1 unit		0.480
	3P+N, 400 V AC												
	0.3	4		**5SY4 614-7**		002		**5SY4 614-8**		1	1 unit	002	0.660
	0.5			**5SY4 605-7**		002		**5SY4 605-8**		1	1 unit	002	0.660
	1			**5SY4 601-7**		002		**5SY4 601-8**		1	1 unit	002	0.636
	1.6			**5SY4 615-7**		002		**5SY4 615-8**		1	1 unit	002	0.621
	2			**5SY4 602-7**		002		**5SY4 602-8**		1	1 unit	002	0.608
	3			**5SY4 603-7**		002		**5SY4 603-8**		1	1 unit	002	0.660
	4			**5SY4 604-7**		002		**5SY4 604-8**		1	1 unit	002	0.587
	6			**5SY4 606-7**		002		**5SY4 606-8**		1	1 unit	002	0.615
	8			**5SY4 608-7**		002		**5SY4 608-8**		1	1 unit	002	0.595
	10			**5SY4 610-7**		002		**5SY4 610-8**		1	1 unit	002	0.597
	13			**5SY4 613-7**		002		**5SY4 613-8**		1	1 unit	002	0.594
	16			**5SY4 616-7**		002		**5SY4 616-8**		1	1 unit	002	0.602
	20			**5SY4 620-7**		002		**5SY4 620-8**		1	1 unit	002	0.627
	25			**5SY4 625-7**		002		**5SY4 625-8**		1	1 unit	002	0.625
	32			**5SY4 632-7**		002		**5SY4 632-8**		1	1 unit	002	0.631
	40			**5SY4 640-7**		002		**5SY4 640-8**		1	1 unit	002	0.633
	50			**5SY4 650-7**		002		**5SY4 650-8**		1	1 unit	002	0.641
	63			**5SY4 663-7**		002		**5SY4 663-8**		1	1 unit	002	0.639
	80			**5SY4 680-7**		002		**--**		1	1 unit		0.640
	4P, 400 V AC												
	0.3	4		**5SY4 414-7**		002		**5SY4 414-8**		1	1 unit	002	0.639
	0.5			**5SY4 405-7**		002		**5SY4 405-8**		1	1 unit	002	0.633
	1			**5SY4 401-7**		002		**5SY4 401-8**		1	1 unit	002	0.636
	1.6			**5SY4 415-7**		002		**5SY4 415-8**		1	1 unit	002	0.623
	2			**5SY4 402-7**		002		**5SY4 402-8**		1	1 unit	002	0.630
	3			**5SY4 403-7**		002		**5SY4 403-8**		1	1 unit	002	0.660
	4			**5SY4 404-7**		002		**5SY4 404-8**		1	1 unit	002	0.610
	6			**5SY4 406-7**		002		**5SY4 406-8**		1	1 unit	002	0.610
	8			**5SY4 408-7**		002		**5SY4 408-8**		1	1 unit	002	0.571
	10			**5SY4 410-7**		002		**5SY4 410-8**		1	1 unit	002	0.597
	13			**5SY4 413-7**		002		**5SY4 413-8**		1	1 unit	002	0.571
	16			**5SY4 416-7**		002		**5SY4 416-8**		1	1 unit	002	0.600
	20			**5SY4 420-7**		002		**5SY4 420-8**		1	1 unit	002	0.626
	25			**5SY4 425-7**		002		**5SY4 425-8**		1	1 unit	002	0.617
	32			**5SY4 432-7**		002		**5SY4 432-8**		1	1 unit	002	0.640
	40			**5SY4 440-7**		002		**5SY4 440-8**		1	1 unit	002	0.638
	50			**5SY4 450-7**		002		**5SY4 450-8**		1	1 unit	002	0.636
	63			**5SY4 463-7**		002		**5SY4 463-8**		1	1 unit	002	0.644
	80			**5SY4 480-7**		002		**--**		1	1 unit		0.640

[1] 1 MW (modular width) = 18 mm.

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5SP4, high-current, 10 000 A

Selection and ordering data

10 000 I_n A	Mounting width MW[1]	DT	Characteristic B Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
MCBs 10000 A, high current								
1P, 230/400 V AC								
80	1.5		**5SP4 180-6**		1	1 unit	002	0.263
100			**5SP4 191-6**		1	1 unit	002	0.265
125			**5SP4 192-6**		1	1 unit	002	0.269
2P, 400 V AC								
80	3		**5SP4 280-6**		1	1 unit	002	0.532
100			**5SP4 291-6**		1	1 unit	002	0.527
125			**5SP4 292-6**		1	1 unit	002	0.534
3P, 400 V AC								
80	4.5		**5SP4 380-6**		1	1 unit	002	0.800
100			**5SP4 391-6**		1	1 unit	002	0.787
125			**5SP4 392-6**		1	1 unit	002	0.793
4P, 400 V AC								
80	6		**5SP4 480-6**		1	1 unit	002	1.046
100			**5SP4 491-6**		1	1 unit	002	1.038
125			**5SP4 492-6**		1	1 unit	002	1.062

10 000 I_n A	Mounting width MW[1]	DT	Characteristic C Order No.	Price per PU	PG	DT	Characteristic D Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
MCBs 10000 A, high current												
1P, 230/400 V AC												
80	1.5		**5SP4 180-7**		002		**5SP4 180-8**		1	1 unit	002	0.257
100			**5SP4 191-7**		002		**5SP4 191-8**		1	1 unit	002	0.254
125			**5SP4 192-7**		002		--		1	1 unit		0.248
2P, 400 V AC												
80	3		**5SP4 280-7**		002		**5SP4 280-8**		1	1 unit	002	0.505
100			**5SP4 291-7**		002		**5SP4 291-8**		1	1 unit	002	0.515
125			**5SP4 292-7**		002		--		1	1 unit		0.521
3P, 400 V AC												
80	4.5	▶	**5SP4 380-7**		002		**5SP4 380-8**		1	1 unit	002	0.762
100		▶	**5SP4 391-7**		002		**5SP4 391-8**		1	1 unit	002	0.783
125			**5SP4 392-7**		002		--		1	1 unit		0.787
4P, 400 V AC												
80	6		**5SP4 480-7**		002		**5SP4 480-8**		1	1 unit	002	1.031
100			**5SP4 491-7**		002		**5SP4 491-8**		1	1 unit	002	1.033
125			**5SP4 492-7**		002		--		1	1 unit		1.031

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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Selection and ordering data

10 000 / 3	I_n	Mounting width	DT	Characteristic B Order No.	Price per PU	PG	DT	Characteristic C Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	MCBs 10000 A, UC												
	1P, 230/400 V AC, 220 V DC												
	0.3	1		--				**5SY5 114-7**		1	1 unit	002	0.169
	0.5			--				**5SY5 105-7**		1	1 unit	002	0.168
	1			--				**5SY5 101-7**		1	1 unit	002	0.166
	1.6			--				**5SY5 115-7**		1	1 unit	002	0.164
	2			**5SY5 102-6**		002		**5SY5 102-7**		1	1 unit	002	0.167
	3			--				**5SY5 103-7**		1	1 unit	002	0.162
	4			**5SY5 104-6**		002		**5SY5 104-7**		1	1 unit	002	0.163
	6			**5SY5 106-6**		002		**5SY5 106-7**		1	1 unit	002	0.163
	8			--				**5SY5 108-7**		1	1 unit	002	0.162
	10			**5SY5 110-6**		002		**5SY5 110-7**		1	1 unit	002	0.160
	13			**5SY5 113-6**		002		**5SY5 113-7**		1	1 unit	002	0.164
	16			**5SY5 116-6**		002		**5SY5 116-7**		1	1 unit	002	0.161
	20			**5SY5 120-6**		002		**5SY5 120-7**		1	1 unit	002	0.163
	25			**5SY5 125-6**		002		**5SY5 125-7**		1	1 unit	002	0.165
	32			**5SY5 132-6**		002		**5SY5 132-7**		1	1 unit	002	0.164
	40			**5SY5 140-6**		002		**5SY5 140-7**		1	1 unit	002	0.164
	50			**5SY5 150-6**		002		**5SY5 150-7**		1	1 unit	002	0.171
	63			**5SY5 163-6**		002		**5SY5 163-7**		1	1 unit	002	0.169
	2P, 400 V AC, 440 V DC												
	0.3	2		--				**5SY5 214-7**		1	1 unit	002	0.333
	0.5			--				**5SY5 205-7**		1	1 unit	002	0.328
	1			--				**5SY5 201-7**		1	1 unit	002	0.324
	1.6			--				**5SY5 215-7**		1	1 unit	002	0.321
	2			--				**5SY5 202-7**		1	1 unit	002	0.329
	3			--				**5SY5 203-7**		1	1 unit	002	0.317
	4			--				**5SY5 204-7**		1	1 unit	002	0.319
	6			**5SY5 206-6**		002	►	**5SY5 206-7**		1	1/6 units	002	0.300
	8			--				**5SY5 208-7**		1	1 unit	002	0.313
	10			**5SY5 210-6**		002		**5SY5 210-7**		1	1 unit	002	0.314
	13			**5SY5 213-6**		002		**5SY5 213-7**		1	1 unit	002	0.322
	16			**5SY5 216-6**		002		**5SY5 216-7**		1	1 unit	002	0.314
	20			**5SY5 220-6**		002		**5SY5 220-7**		1	1 unit	002	0.319
	25			**5SY5 225-6**		002		**5SY5 225-7**		1	1 unit	002	0.321
	32			**5SY5 232-6**		002		**5SY5 232-7**		1	1 unit	002	0.322
	40			**5SY5 240-6**		002		**5SY5 240-7**		1	1 unit	002	0.323
	50			**5SY5 250-6**		002		**5SY5 250-7**		1	1 unit	002	0.333
	63			**5SY5 263-6**		002		**5SY5 263-7**		1	1 unit	002	0.342

For application examples, see engineering manual at: www.siemens.com/lowvoltage/manual.

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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5SY5, universal current, 10 000 A

10 000 / 3	I_n	Mounting width	DT	Characteristic B Order No.	Price per PU	PG	DT	Characteristic C Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	MCBs 10000 A, UC												
	4P, 400 V AC, 880 V DC (max. 1000 V DC)												
	0.3	1		--				**5SY5 414-7**		1	1 unit	002	0.660
	0.5			--				**5SY5 405-7**		1	1 unit	002	0.660
	1			--				**5SY5 401-7**		1	1 unit	002	0.660
	1.6			--				**5SY5 415-7**		1	1 unit	002	0.660
	2			--				**5SY5 402-7**		1	1 unit	002	0.660
	3			--				**5SY5 403-7**		1	1 unit	002	0.660
	4			--				**5SY5 404-7**		1	1 unit	002	0.660
	6			**5SY5 406-6**		002		**5SY5 406-7**		1	1 unit	002	0.660
	8			--				**5SY5 408-7**		1	1 unit	002	0.660
	10			**5SY5 410-6**		002		**5SY5 410-7**		1	1 unit	002	0.660
	13			**5SY5 413-6**		002		**5SY5 413-7**		1	1 unit	002	0.660
	16			**5SY5 416-6**		002		**5SY5 416-7**		1	1 unit	002	0.660
	20			**5SY5 420-6**		002		**5SY5 420-7**		1	1 unit	002	0.660
	25			**5SY5 425-6**		002		**5SY5 425-7**		1	1 unit	002	0.660
	32			**5SY5 432-6**		002		**5SY5 432-7**		1	1 unit	002	0.660
	40			**5SY5 440-6**		002		**5SY5 440-7**		1	1 unit	002	0.660
	50			**5SY5 450-6**		002		**5SY5 450-7**		1	1 unit	002	0.660
	63			**5SY5 463-6**		002		**5SY5 463-7**		1	1 unit	002	0.660

[1] 1 MW (modular width) = 18 mm.

Note:

The 5ST3 600 or 5ST3 630 busbars enable simple wiring of 4-pole miniature circuit breakers, see page 3/43.

For application examples, see engineering manual at: www.siemens.com/lowvoltage/manual.

* You can order this quantity or a multiple thereof.

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Selection and ordering data

15 000

	I_n	Mounting width	DT	Characteristic B Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]							kg
	MCBs 15000 A								
	1P, 230/400 V AC								
	6	1		**5SY7 106-6**		1	1 unit	003	0.161
	10			**5SY7 110-6**		1	1 unit	003	0.160
	13			**5SY7 113-6**		1	1 unit	003	0.159
	16			**5SY7 116-6**		1	1 unit	003	0.159
	20			**5SY7 120-6**		1	1 unit	003	0.161
	25			**5SY7 125-6**		1	1 unit	003	0.162
	32			**5SY7 132-6**		1	1 unit	003	0.164
	40			**5SY7 140-6**		1	1 unit	003	0.212
	50			**5SY7 150-6**		1	1 unit	003	0.168
	63			**5SY7 163-6**		1	1 unit	003	0.176
	1P+N, 230 V AC								
	6	2		**5SY7 506-6**		1	1 unit	003	0.314
	10			**5SY7 510-6**		1	1 unit	003	0.294
	13			**5SY7 513-6**		1	1 unit	003	0.330
	16			**5SY7 516-6**		1	1 unit	003	0.311
	20			**5SY7 520-6**		1	1 unit	003	0.314
	25			**5SY7 525-6**		1	1 unit	003	0.321
	32			**5SY7 532-6**		1	1 unit	003	0.321
	40			**5SY7 540-6**		1	1 unit	003	0.336
	50			**5SY7 550-6**		1	1 unit	003	0.330
	63			**5SY7 563-6**		1	1 unit	003	0.330
	2P, 400 V AC								
	6	2		**5SY7 206-6**		1	1 unit	003	0.312
	10			**5SY7 210-6**		1	1 unit	003	0.313
	13			**5SY7 213-6**		1	1 unit	003	0.296
	16			**5SY7 216-6**		1	1 unit	003	0.302
	20			**5SY7 220-6**		1	1 unit	003	0.313
	25			**5SY7 225-6**		1	1 unit	003	0.316
	32			**5SY7 232-6**		1	1 unit	003	0.325
	40			**5SY7 240-6**		1	1 unit	003	0.324
	50			**5SY7 250-6**		1	1 unit	003	0.321
	63			**5SY7 263-6**		1	1 unit	003	0.336
	3P, 400 V AC								
	6	3		**5SY7 306-6**		1	1 unit	003	0.468
	10			**5SY7 310-6**		1	1 unit	003	0.466
	13			**5SY7 313-6**		1	1 unit	003	0.449
	16			**5SY7 316-6**		1	1 unit	003	0.462
	20			**5SY7 320-6**		1	1 unit	003	0.465
	25			**5SY7 325-6**		1	1 unit	003	0.472
	32			**5SY7 332-6**		1	1 unit	003	0.488
	40			**5SY7 340-6**		1	1 unit	003	0.481
	50			**5SY7 350-6**		1	1 unit	003	0.490
	63			**5SY7 363-6**		1	1 unit	003	0.485
	3P+N, 400 V AC								
	6	4		**5SY7 606-6**		1	1 unit	003	0.614
	10			**5SY7 610-6**		1	1 unit	003	0.617
	13			**5SY7 613-6**		1	1 unit	003	0.622
	16			**5SY7 616-6**		1	1 unit	003	0.606
	20			**5SY7 620-6**		1	1 unit	003	0.622
	25			**5SY7 625-6**		1	1 unit	003	0.634
	32			**5SY7 632-6**		1	1 unit	003	0.638
	40			**5SY7 640-6**		1	1 unit	003	0.635
	50			**5SY7 650-6**		1	1 unit	003	0.649
	63			**5SY7 663-6**		1	1 unit	003	0.665
	4P, 400 V AC								
	6	4		**5SY7 406-6**		1	1 unit	003	0.621
	10			**5SY7 410-6**		1	1 unit	003	0.614
	13			**5SY7 413-6**		1	1 unit	003	0.633
	16			**5SY7 416-6**		1	1 unit	003	0.617
	20			**5SY7 420-6**		1	1 unit	003	0.587
	25			**5SY7 425-6**		1	1 unit	003	0.629
	32			**5SY7 432-6**		1	1 unit	003	0.615
	40			**5SY7 440-6**		1	1 unit	003	0.611
	50			**5SY7 450-6**		1	1 unit	003	0.647
	63			**5SY7 463-6**		1	1 unit	003	0.666

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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5SY7, 15 000 A

15 000

I_n	Mounting width	DT	Characteristic C Order No.	Price per PU	PG	DT	Characteristic D Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
A	MW[1]											kg
MCBs 15000 A												
1P, 230/400 V AC												
0.3	1		**5SY7 114-7**		003		**5SY7 114-8**		1	1 unit	003	0.160
0.5			**5SY7 105-7**		003		**5SY7 105-8**		1	1 unit	003	0.153
1			**5SY7 101-7**		003		**5SY7 101-8**		1	1 unit	003	0.180
1.6			**5SY7 115-7**		003		**5SY7 115-8**		1	1 unit	003	0.165
2			**5SY7 102-7**		003		**5SY7 102-8**		1	1 unit	003	0.162
3			**5SY7 103-7**		003		**5SY7 103-8**		1	1 unit	003	0.161
4			**5SY7 104-7**		003		**5SY7 104-8**		1	1 unit	003	0.158
6			**5SY7 106-7**		003		**5SY7 106-8**		1	1 unit	003	0.160
8			**5SY7 108-7**		003		**5SY7 108-8**		1	1 unit	003	0.154
10			**5SY7 110-7**		003		**5SY7 110-8**		1	1 unit	003	0.156
13			**5SY7 113-7**		003		**5SY7 113-8**		1	1 unit	003	0.156
16			**5SY7 116-7**		003		**5SY7 116-8**		1	1 unit	003	0.156
20			**5SY7 120-7**		003		**5SY7 120-8**		1	1 unit	003	0.141
25			**5SY7 125-7**		003		**5SY7 125-8**		1	1 unit	003	0.162
32			**5SY7 132-7**		003		**5SY7 132-8**		1	1 unit	003	0.166
40			**5SY7 140-7**		003		**5SY7 140-8**		1	1 unit	003	0.166
50			**5SY7 150-7**		003		**5SY7 150-8**		1	1 unit	003	0.167
63			**5SY7 163-7**		003		**5SY7 163-8**		1	1 unit	003	0.165
1P+N, 230 V AC												
0.3	2		**5SY7 514-7**		003		**5SY7 514-8**		1	1 unit	003	0.323
0.5			**5SY7 505-7**		003		**5SY7 505-8**		1	1 unit	003	0.312
1			**5SY7 501-7**		003		**5SY7 501-8**		1	1 unit	003	0.320
1.6			**5SY7 515-7**		003		**5SY7 515-8**		1	1 unit	003	0.319
2			**5SY7 502-7**		003		**5SY7 502-8**		1	1 unit	003	0.319
3			**5SY7 503-7**		003		**5SY7 503-8**		1	1 unit	003	0.298
4			**5SY7 504-7**		003		**5SY7 504-8**		1	1 unit	003	0.310
6			**5SY7 506-7**		003		**5SY7 506-8**		1	1 unit	003	0.326
8			**5SY7 508-7**		003		**5SY7 508-8**		1	1 unit	003	0.286
10			**5SY7 510-7**		003		**5SY7 510-8**		1	1 unit	003	0.305
13			**5SY7 513-7**		003		**5SY7 513-8**		1	1 unit	003	0.304
16			**5SY7 516-7**		003		**5SY7 516-8**		1	1 unit	003	0.293
20			**5SY7 520-7**		003		**5SY7 520-8**		1	1 unit	003	0.317
25			**5SY7 525-7**		003		**5SY7 525-8**		1	1 unit	003	0.313
32			**5SY7 532-7**		003		**5SY7 532-8**		1	1 unit	003	0.325
40			**5SY7 540-7**		003		**5SY7 540-8**		1	1 unit	003	0.308
50			**5SY7 550-7**		003		**5SY7 550-8**		1	1 unit	003	0.330
63			**5SY7 563-7**		003		**5SY7 563-8**		1	1 unit	003	0.308
2P, 400 V AC												
0.3	2		**5SY7 214-7**		003		**5SY7 214-8**		1	1 unit	003	0.322
0.5			**5SY7 205-7**		003		**5SY7 205-8**		1	1 unit	003	0.325
1			**5SY7 201-7**		003		**5SY7 201-8**		1	1 unit	003	0.313
1.6			**5SY7 215-7**		003		**5SY7 215-8**		1	1 unit	003	0.359
2			**5SY7 202-7**		003		**5SY7 202-8**		1	1 unit	003	0.318
3			**5SY7 203-7**		003		**5SY7 203-8**		1	1 unit	003	0.314
4			**5SY7 204-7**		003		**5SY7 204-8**		1	1 unit	003	0.310
6			**5SY7 206-7**		003		**5SY7 206-8**		1	1 unit	003	0.312
8			**5SY7 208-7**		003		**5SY7 208-8**		1	1 unit	003	0.302
10			**5SY7 210-7**		003		**5SY7 210-8**		1	1 unit	003	0.306
13			**5SY7 213-7**		003		**5SY7 213-8**		1	1 unit	003	0.287
16			**5SY7 216-7**		003		**5SY7 216-8**		1	1 unit	003	0.304
20			**5SY7 220-7**		003		**5SY7 220-8**		1	1 unit	003	0.314
25			**5SY7 225-7**		003		**5SY7 225-8**		1	1 unit	003	0.313
32			**5SY7 232-7**		003		**5SY7 232-8**		1	1 unit	003	0.328
40			**5SY7 240-7**		003		**5SY7 240-8**		1	1 unit	003	0.325
50			**5SY7 250-7**		003		**5SY7 250-8**		1	1 unit	003	0.308
63			**5SY7 263-7**		003		**5SY7 263-8**		1	1 unit	003	0.326

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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	I_n	Mounting width	DT	Characteristic C Order No.	Price per PU	PG	DT	Characteristic D Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	MCBs 15000 A												
	3P, 400 V AC												
	0.3	3		**5SY7 314-7**		003		**5SY7 314-8**		1	1 unit	003	0.473
	0.5			**5SY7 305-7**		003		**5SY7 305-8**		1	1 unit	003	0.495
	1			**5SY7 301-7**		003		**5SY7 301-8**		1	1 unit	003	0.458
	1.6			**5SY7 315-7**		003		**5SY7 315-8**		1	1 unit	003	0.495
	2			**5SY7 302-7**		003		**5SY7 302-8**		1	1 unit	003	0.451
	3			**5SY7 303-7**		003		**5SY7 303-8**		1	1 unit	003	0.458
	4			**5SY7 304-7**		003		**5SY7 304-8**		1	1 unit	003	0.441
	6			**5SY7 306-7**		003		**5SY7 306-8**		1	1 unit	003	0.457
	8			**5SY7 308-7**		003		**5SY7 308-8**		1	1 unit	003	0.442
	10			**5SY7 310-7**		003		**5SY7 310-8**		1	1 unit	003	0.453
	13			**5SY7 313-7**		003		**5SY7 313-8**		1	1 unit	003	0.445
	16			**5SY7 316-7**		003		**5SY7 316-8**		1	1 unit	003	0.445
	20			**5SY7 320-7**		003		**5SY7 320-8**		1	1 unit	003	0.463
	25			**5SY7 325-7**		003		**5SY7 325-8**		1	1 unit	003	0.464
	32			**5SY7 332-7**		003		**5SY7 332-8**		1	1 unit	003	0.482
	40			**5SY7 340-7**		003		**5SY7 340-8**		1	1 unit	003	0.484
	50			**5SY7 350-7**		003		**5SY7 350-8**		1	1 unit	003	0.480
	63			**5SY7 363-7**		003		**5SY7 363-8**		1	1 unit	003	0.479
	3P+N, 400 V AC												
	0.3	4		**5SY7 614-7**		003		**5SY7 614-8**		1	1 unit	003	0.660
	0.5			**5SY7 605-7**		003		**5SY7 605-8**		1	1 unit	003	0.660
	1			**5SY7 601-7**		003		**5SY7 601-8**		1	1 unit	003	0.660
	1.6			**5SY7 615-7**		003		**5SY7 615-8**		1	1 unit	003	0.660
	2			**5SY7 602-7**		003		**5SY7 602-8**		1	1 unit	003	0.632
	3			**5SY7 603-7**		003		**5SY7 603-8**		1	1 unit	003	0.660
	4			**5SY7 604-7**		003		**5SY7 604-8**		1	1 unit	003	0.660
	6			**5SY7 606-7**		003		**5SY7 606-8**		1	1 unit	003	0.590
	8			**5SY7 608-7**		003		**5SY7 608-8**		1	1 unit	003	0.600
	10			**5SY7 610-7**		003		**5SY7 610-8**		1	1 unit	003	0.593
	13			**5SY7 613-7**		003		**5SY7 613-8**		1	1 unit	003	0.610
	16			**5SY7 616-7**		003		**5SY7 616-8**		1	1 unit	003	0.585
	20			**5SY7 620-7**		003		**5SY7 620-8**		1	1 unit	003	0.618
	25			**5SY7 625-7**		003		**5SY7 625-8**		1	1 unit	003	0.628
	32			**5SY7 632-7**		003		**5SY7 632-8**		1	1 unit	003	0.644
	40			**5SY7 640-7**		003		**5SY7 640-8**		1	1 unit	003	0.645
	50			**5SY7 650-7**		003		**5SY7 650-8**		1	1 unit	003	0.678
	63			**5SY7 663-7**		003		**5SY7 663-8**		1	1 unit	003	0.643
	4P, 400 V AC												
	0.3	4		**5SY7 414-7**		003		**5SY7 414-8**		1	1 unit	003	0.642
	0.5			**5SY7 405-7**		003		**5SY7 405-8**		1	1 unit	003	0.660
	1			**5SY7 401-7**		003		**5SY7 401-8**		1	1 unit	003	0.660
	1.6			**5SY7 415-7**		003		**5SY7 415-8**		1	1 unit	003	0.660
	2			**5SY7 402-7**		003		**5SY7 402-8**		1	1 unit	003	0.630
	3			**5SY7 403-7**		003		**5SY7 403-8**		1	1 unit	003	0.660
	4			**5SY7 404-7**		003		**5SY7 404-8**		1	1 unit	003	0.624
	6			**5SY7 406-7**		003		**5SY7 406-8**		1	1 unit	003	0.615
	8			**5SY7 408-7**		003		**5SY7 408-8**		1	1 unit	003	0.603
	10			**5SY7 410-7**		003		**5SY7 410-8**		1	1 unit	003	0.608
	13			**5SY7 413-7**		003		**5SY7 413-8**		1	1 unit	003	0.608
	16			**5SY7 416-7**		003		**5SY7 416-8**		1	1 unit	003	0.592
	20			**5SY7 420-7**		003		**5SY7 420-8**		1	1 unit	003	0.615
	25			**5SY7 425-7**		003		**5SY7 425-8**		1	1 unit	003	0.628
	32			**5SY7 432-7**		003		**5SY7 432-8**		1	1 unit	003	0.639
	40			**5SY7 440-7**		003		**5SY7 440-8**		1	1 unit	003	0.642
	50			**5SY7 450-7**		003		**5SY7 450-8**		1	1 unit	003	0.603
	63			**5SY7 463-7**		003		**5SY7 463-8**		1	1 unit	003	0.642

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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5SY8, 25 000 A

Selection and ordering data

I_n A	Mounting width MW[1]	DT	Characteristic C Order No.	Price per PU	PG	DT	Characteristic D Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
MCBs 25 000 A												
1P, 230/400 V AC												
0.3	1		**5SY8 114-7**		003		**5SY8 114-8**		1	1 unit	003	0.167
0.5			**5SY8 105-7**		003		**5SY8 105-8**		1	1 unit	003	0.165
1			**5SY8 101-7**		003		**5SY8 101-8**		1	1 unit	003	0.152
1.6			**5SY8 115-7**		003		**5SY8 115-8**		1	1 unit	003	0.165
2			**5SY8 102-7**		003		**5SY8 102-8**		1	1 unit	003	0.163
3			**5SY8 103-7**		003		**5SY8 103-8**		1	1 unit	003	0.161
4			**5SY8 104-7**		003		**5SY8 104-8**		1	1 unit	003	0.158
6			**5SY8 106-7**		003		**5SY8 106-8**		1	1 unit	003	0.159
8			**5SY8 108-7**		003		**5SY8 108-8**		1	1 unit	003	0.156
10			**5SY8 110-7**		003		**5SY8 110-8**		1	1 unit	003	0.157
13			**5SY8 113-7**		003		**5SY8 113-8**		1	1 unit	003	0.142
16			**5SY8 116-7**		003		**5SY8 116-8**		1	1 unit	003	0.155
20			**5SY8 120-7**		003		**5SY8 120-8**		1	1 unit	003	0.165
25			**5SY8 125-7**		003		**5SY8 125-8**		1	1 unit	003	0.162
32			**5SY8 132-7**		003		**5SY8 132-8**		1	1 unit	003	0.166
40			**5SY8 140-7**		003		**5SY8 140-8**		1	1 unit	003	0.155
50			**5SY8 150-7**		003		**5SY8 150-8**		1	1 unit	003	0.158
63			**5SY8 163-7**		003		**5SY8 163-8**		1	1 unit	003	0.160
1P+N, 230 V AC												
0.3	2		**5SY8 514-7**		003		**5SY8 514-8**		1	1 unit	003	0.330
0.5			**5SY8 505-7**		003		**5SY8 505-8**		1	1 unit	003	0.323
1			**5SY8 501-7**		003		**5SY8 501-8**		1	1 unit	003	0.337
1.6			**5SY8 515-7**		003		**5SY8 515-8**		1	1 unit	003	0.324
2			**5SY8 502-7**		003		**5SY8 502-8**		1	1 unit	003	0.318
3			**5SY8 503-7**		003		**5SY8 503-8**		1	1 unit	003	0.318
4			**5SY8 504-7**		003		**5SY8 504-8**		1	1 unit	003	0.311
6			**5SY8 506-7**		003		**5SY8 506-8**		1	1 unit	003	0.326
8			**5SY8 508-7**		003		**5SY8 508-8**		1	1 unit	003	0.313
10			**5SY8 510-7**		003		**5SY8 510-8**		1	1 unit	003	0.282
13			**5SY8 513-7**		003		**5SY8 513-8**		1	1 unit	003	0.305
16			**5SY8 516-7**		003		**5SY8 516-8**		1	1 unit	003	0.297
20			**5SY8 520-7**		003		**5SY8 520-8**		1	1 unit	003	0.318
25			**5SY8 525-7**		003		**5SY8 525-8**		1	1 unit	003	0.312
32			**5SY8 532-7**		003		**5SY8 532-8**		1	1 unit	003	0.366
40			**5SY8 540-7**		003		**5SY8 540-8**		1	1 unit	003	0.325
50			**5SY8 550-7**		003		**5SY8 550-8**		1	1 unit	003	0.326
63			**5SY8 563-7**		003		**5SY8 563-8**		1	1 unit	003	0.330
2P, 400 V AC												
0.3	2		**5SY8 214-7**		003		**5SY8 214-8**		1	1 unit	003	0.337
0.5			**5SY8 205-7**		003		**5SY8 205-8**		1	1 unit	003	0.325
1			**5SY8 201-7**		003		**5SY8 201-8**		1	1 unit	003	0.313
1.6			**5SY8 215-7**		003		**5SY8 215-8**		1	1 unit	003	0.316
2			**5SY8 202-7**		003		**5SY8 202-8**		1	1 unit	003	0.322
3			**5SY8 203-7**		003		**5SY8 203-8**		1	1 unit	003	0.346
4			**5SY8 204-7**		003		**5SY8 204-8**		1	1 unit	003	0.314
6			**5SY8 206-7**		003		**5SY8 206-8**		1	1 unit	003	0.311
8			**5SY8 208-7**		003		**5SY8 208-8**		1	1 unit	003	0.306
10			**5SY8 210-7**		003		**5SY8 210-8**		1	1 unit	003	0.305
13			**5SY8 213-7**		003		**5SY8 213-8**		1	1 unit	003	0.305
16			**5SY8 216-7**		003		**5SY8 216-8**		1	1 unit	003	0.304
20			**5SY8 220-7**		003		**5SY8 220-8**		1	1 unit	003	0.305
25			**5SY8 225-7**		003		**5SY8 225-8**		1	1 unit	003	0.318
32			**5SY8 232-7**		003		**5SY8 232-8**		1	1 unit	003	0.324
40			**5SY8 240-7**		003		**5SY8 240-8**		1	1 unit	003	0.308
50			**5SY8 250-7**		003		**5SY8 250-8**		1	1 unit	003	0.331
63			**5SY8 263-7**		003		**5SY8 263-8**		1	1 unit	003	0.327

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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	I_n	Mounting width	DT	Characteristic C Order No.	Price per PU	PG	DT	Characteristic D Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	MCBs 25 000 A												
	3P, 400 V AC												
	0.3	3		**5SY8 314-7**		003		**5SY8 314-8**		1	1 unit	003	0.495
	0.5			**5SY8 305-7**		003		**5SY8 305-8**		1	1 unit	003	0.482
	1			**5SY8 301-7**		003		**5SY8 301-8**		1	1 unit	003	0.478
	1.6			**5SY8 315-7**		003		**5SY8 315-8**		1	1 unit	003	0.495
	2			**5SY8 302-7**		003		**5SY8 302-8**		1	1 unit	003	0.471
	3			**5SY8 303-7**		003		**5SY8 303-8**		1	1 unit	003	0.467
	4			**5SY8 304-7**		003		**5SY8 304-8**		1	1 unit	003	0.460
	6			**5SY8 306-7**		003		**5SY8 306-8**		1	1 unit	003	0.442
	8			**5SY8 308-7**		003		**5SY8 308-8**		1	1 unit	003	0.495
	10			**5SY8 310-7**		003		**5SY8 310-8**		1	1 unit	003	0.455
	13			**5SY8 313-7**		003		**5SY8 313-8**		1	1 unit	003	0.487
	16			**5SY8 316-7**		003		**5SY8 316-8**		1	1 unit	003	0.449
	20			**5SY8 320-7**		003		**5SY8 320-8**		1	1 unit	003	0.452
	25			**5SY8 325-7**		003		**5SY8 325-8**		1	1 unit	003	0.472
	32			**5SY8 332-7**		003		**5SY8 332-8**		1	1 unit	003	0.482
	40			**5SY8 340-7**		003		**5SY8 340-8**		1	1 unit	003	0.464
	50			**5SY8 350-7**		003		**5SY8 350-8**		1	1 unit	003	0.465
	63			**5SY8 363-7**		003		**5SY8 363-8**		1	1 unit	003	0.467
	3P+N, 400 V AC												
	0.3	4		**5SY8 614-7**		003		**5SY8 614-8**		1	1 unit	003	0.660
	0.5			**5SY8 605-7**		003		**5SY8 605-8**		1	1 unit	003	0.660
	1			**5SY8 601-7**		003		**5SY8 601-8**		1	1 unit	003	0.660
	1.6			**5SY8 615-7**		003		**5SY8 615-8**		1	1 unit	003	0.660
	2			**5SY8 602-7**		003		**5SY8 602-8**		1	1 unit	003	0.631
	3			**5SY8 603-7**		003		**5SY8 603-8**		1	1 unit	003	0.621
	4			**5SY8 604-7**		003		**5SY8 604-8**		1	1 unit	003	0.660
	6			**5SY8 606-7**		003		**5SY8 606-8**		1	1 unit	003	0.660
	8			**5SY8 608-7**		003		**5SY8 608-8**		1	1 unit	003	0.660
	10			**5SY8 610-7**		003		**5SY8 610-8**		1	1 unit	003	0.571
	13			**5SY8 613-7**		003		**5SY8 613-8**		1	1 unit	003	0.609
	16			**5SY8 616-7**		003		**5SY8 616-8**		1	1 unit	003	0.602
	20			**5SY8 620-7**		003		**5SY8 620-8**		1	1 unit	003	0.596
	25			**5SY8 625-7**		003		**5SY8 625-8**		1	1 unit	003	0.601
	32			**5SY8 632-7**		003		**5SY8 632-8**		1	1 unit	003	0.611
	40			**5SY8 640-7**		003		**5SY8 640-8**		1	1 unit	003	0.617
	50			**5SY8 650-7**		003		**5SY8 650-8**		1	1 unit	003	0.650
	63			**5SY8 663-7**		003		**5SY8 663-8**		1	1 unit	003	0.625
	4P, 400 V AC												
	0.3	4		**5SY8 414-7**		003		**5SY8 414-8**		1	1 unit	003	0.660
	0.5			**5SY8 405-7**		003		**5SY8 405-8**		1	1 unit	003	0.660
	1			**5SY8 401-7**		003		**5SY8 401-8**		1	1 unit	003	0.636
	1.6			**5SY8 415-7**		003		**5SY8 415-8**		1	1 unit	003	0.660
	2			**5SY8 402-7**		003		**5SY8 402-8**		1	1 unit	003	0.681
	3			**5SY8 403-7**		003		**5SY8 403-8**		1	1 unit	003	0.660
	4			**5SY8 404-7**		003		**5SY8 404-8**		1	1 unit	003	0.660
	6			**5SY8 406-7**		003		**5SY8 406-8**		1	1 unit	003	0.660
	8			**5SY8 408-7**		003		**5SY8 408-8**		1	1 unit	003	0.598
	10			**5SY8 410-7**		003		**5SY8 410-8**		1	1 unit	003	0.597
	13			**5SY8 413-7**		003		**5SY8 413-8**		1	1 unit	003	0.660
	16			**5SY8 416-7**		003		**5SY8 416-8**		1	1 unit	003	0.601
	20			**5SY8 420-7**		003		**5SY8 420-8**		1	1 unit	003	0.627
	25			**5SY8 425-7**		003		**5SY8 425-8**		1	1 unit	003	0.627
	32			**5SY8 432-7**		003		**5SY8 432-8**		1	1 unit	003	0.641
	40			**5SY8 440-7**		003		**5SY8 440-8**		1	1 unit	003	0.647
	50			**5SY8 450-7**		003		**5SY8 450-8**		1	1 unit	003	0.646
	63			**5SY8 463-7**		003		**5SY8 463-8**		1	1 unit	003	0.644

1) 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

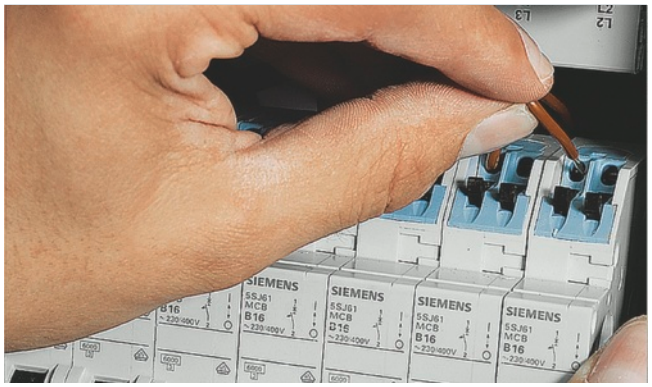
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5SJ6 ...-.KS miniature circuit breakers with plug-in terminals

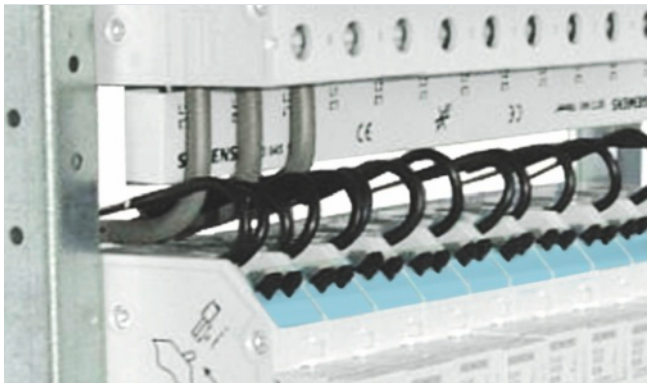
Overview

Miniature circuit breakers with plug-in terminals are used for the protection of socket outlets and lighting circuits with the most common rated currents of 10 to 20 A.

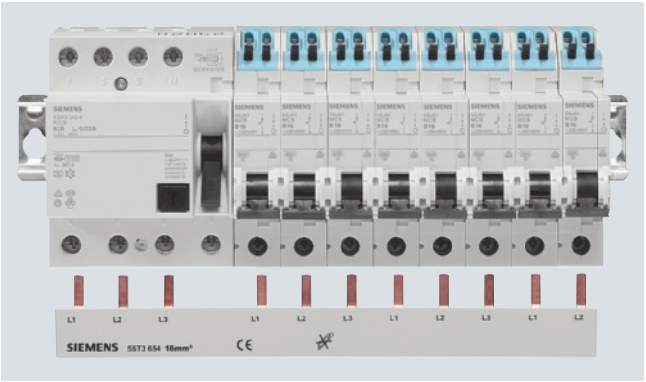
Benefits



- Double, self-contained, screwless outgoing terminals for fast connection of conductors.



- Removal of individual conductors requires no tools and ensures high operating reliability
- No end sleeves required for finely stranded conductors. This saves mounting time.



- Conventional pin busbars are used for the incoming terminal. This ensures clear, manageable and convenient access to all terminals as part of the uniform Siemens connection concept.

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Technical specifications

			5SJ6 ...-.KS
Standards			EN 60898-1
Approvals			See appendix, chapter 20
Rated voltage U_n		V AC	230/400
Operational voltage			
• Min.		V AC/DC/pole	24
• Max.		V AC V DC/pole	250/440 60[1]
Rated making and breaking capacity	Acc. to EN 60898-1	kA AC	6
Insulation coordination			
• Rated insulation voltage • Pollution degree for overvoltage category		V AC	250/440 2/III
Touch protection	Acc. to EN 50274		Yes
Handle end position, sealable			Yes
Degree of protection	Acc. to EN 60529		IP20 with connected conductors, IP40 in the handle range with distribution cover
CFC and silicone-free			Yes
Terminals			Screwless terminals on the outgoing terminals for 1.5 ... 4 mm^2
Conductor cross-sections			
• Top, plug-in terminals - Solid, stranded and finely stranded, without end sleeve - Finely stranded, with end sleeve		 mm^2 mm^2	 1.5 ... 4 1.5 ... 2.5
• Bottom, tunnel terminal - Solid, stranded or finely stranded, with end sleeve	±screw (Pozidriv)	 mm^2	2 0.75 ... 25
Mounting position			Any
Service life, on average, with rated load			20000 actuations
Ambient temperature		°C	-25 ... +45, occasionally +55, max. 95 % humidity
Storage temperature		°C	-40 ... +75
Resistance to climate	Acc. to IEC 60068-2-30		6 cycles

[1] The operational voltage 60 V DC/pole takes into account a battery charging voltage with a peak value of 72 V.

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5SJ6 ...-.KS miniature circuit breakers with plug-in terminals

Selection and ordering data

6 000 / 3	I_n	Mounting width	DT	Characteristic B Order No.	Price per PU	PG	DT	Characteristic C Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	Miniature circuit breakers with plug-in terminal												
	1P												
	10	1		**5SJ6 110-6KS**		001		**5SJ6 110-7KS**		1	1 unit	001	0.117
	13			**5SJ6 113-6KS**		001		**5SJ6 113-7KS**		1	1 unit	001	0.098
	16			**5SJ6 116-6KS**		001		**5SJ6 116-7KS**		1	1/12 units	001	0.123
	20			**5SJ6 120-6KS**		001		**5SJ6 120-7KS**		1	1 unit	001	0.103
	1P+N												
	10	2		**5SJ6 510-6KS**		001		**5SJ6 510-7KS**		1	1 unit	001	0.209
	13			**5SJ6 513-6KS**		001		**5SJ6 513-7KS**		1	1 unit	001	0.210
	16			**5SJ6 516-6KS**		001		**5SJ6 516-7KS**		1	1 unit	001	0.208
	20			**5SJ6 520-6KS**		001		**5SJ6 520-7KS**		1	1 unit	001	0.209
	2P												
	10	2		**5SJ6 210-6KS**		001		**5SJ6 210-7KS**		1	1 unit	001	0.229
	13			**5SJ6 213-6KS**		001		**5SJ6 213-7KS**		1	1 unit	001	0.228
	16			**5SJ6 216-6KS**		001		**5SJ6 216-7KS**		1	1 unit	001	0.226
	20			**5SJ6 220-6KS**		001		**5SJ6 220-7KS**		1	1 unit	001	0.226
	3P												
	10	3		**5SJ6 310-6KS**		001		**5SJ6 310-7KS**		1	1/4 units	001	0.353
	13			**5SJ6 313-6KS**		001		**5SJ6 313-7KS**		1	1/4 units	001	0.357
	16			**5SJ6 316-6KS**		001		**5SJ6 316-7KS**		1	1/4 units	001	0.358
	20			**5SJ6 320-6KS**		001		**5SJ6 320-7KS**		1	1/4 units	001	0.354

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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Overview

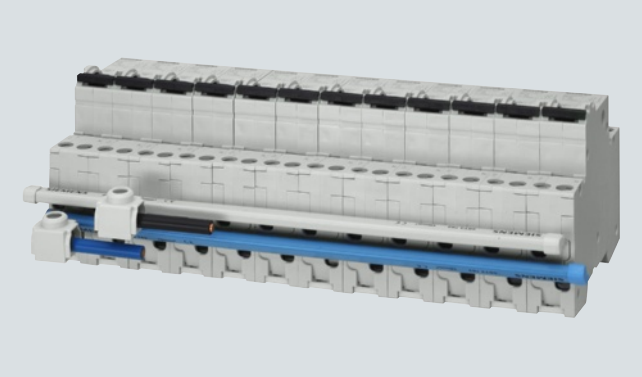
These miniature circuit breakers are used for the protection of systems and installations with switched neutral conductors in distribution boards with little space. They are just a single modular width.

Compact busbars facilitate installation in space-saving distribution boards.

Benefits



- Auxiliary switches and fault signal contacts from the high-capacity range can be freely mounted on these miniature circuit breakers. This increases availability and cuts down on logistics.



- The infeed can be implemented either from the top or the bottom. Additional terminals with lateral cable entry facilitate mounting when using large conductor cross-sections.

Technical specifications

			5SY3 0..	5SY6 0..
Standards			EN 60898-1	
Approvals			See appendix, chapter 20	
Rated voltage U_n		V AC	230	
Operational voltage				
• Min.		V AC/DC	24	
• Max.		V AC	250	
• Max.		V DC/pole	72	
Rated making and breaking capacity I_{cn}		kA AC	4.5	6
Insulation coordination				
• Rated insulation voltage		V AC	250	
• Pollution degree for overvoltage category			2/III	
Touch protection	Acc. to EN 50274		Yes	
Handle end position, sealable			Yes	
Degree of protection	Acc. to EN 60259		IP20 with connected conductors, IP40 in the handle range with distribution cover	
CFC and silicone-free			Yes	
Terminals	±screw (Pozidriv)		2	
• Solid and stranded, top and bottom terminal		mm^2	0.75 ... 16	
• Finely stranded, with end sleeve, top and bottom terminal		mm^2	0.75 ... 10	
• Terminal tightening torque		Nm	2.0 ... 2.5	
Mounting position			Any	
Service life On average, with rated load			20000 actuations at 2 A/4 A and 40 A: 8000 actuations	
Ambient temperature		°C	-25 ... +45, occasionally +55, max. 95 % humidity	
Storage temperature		°C	-40 ... +75	
Resistance to climate	Acc. to IEC 60068-2-30		6 cycles	
Resistance to vibrations	Acc. to IEC 60068-2-6	m/s^2	50 at 25 ... 150 Hz and 60 at 35 Hz (4 sec)	

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5SY3 0, 4 500 A

Selection and ordering data

4 500 / 3	I_n	Mounting width	DT	Characteristic B Order No.	Price per PU	PG	DT	Characteristic C Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	MCBs 4500 A												
	1P+N, 230 V AC												
	N connection, right												
	2			--				**5SY3 002-7**		1	1 unit	019	0.107
	4			--				**5SY3 004-7**		1	1 unit	019	0.106
	6			**5SY3 006-6**		019		**5SY3 006-7**		1	1 unit	019	0.100
	8			--				**5SY3 008-7**		1	1 unit	019	0.107
	10			**5SY3 010-6**		019		**5SY3 010-7**		1	1 unit	019	0.100
	13			**5SY3 013-6**		019		**5SY3 013-7**		1	1 unit	019	0.107
	16			**5SY3 016-6**		019		**5SY3 016-7**		1	1 unit	019	0.100
	20			**5SY3 020-6**		019		**5SY3 020-7**		1	1 unit	019	0.100
	25			**5SY3 025-6**		019		**5SY3 025-7**		1	1 unit	019	0.100
	32			**5SY3 032-6**		019		**5SY3 032-7**		1	1 unit	019	0.111
	40			**5SY3 040-6**		019		**5SY3 040-7**		1	1 unit	019	0.100
	N connection, left												
	2			--				**5SY3 002-7KL**		1	1 unit	019	0.106
	4			--				**5SY3 004-7KL**		1	1 unit	019	0.100
	6			**5SY3 006-6KL**		019		**5SY3 006-7KL**		1	1 unit	019	0.100
	8			--				**5SY3 008-7KL**		1	1 unit	019	0.107
	10			**5SY3 010-6KL**		019		**5SY3 010-7KL**		1	1 unit	019	0.100
	13			**5SY3 013-6KL**		019		**5SY3 013-7KL**		1	1 unit	019	0.107
	16			**5SY3 016-6KL**		019		**5SY3 016-7KL**		1	1 unit	019	0.100
	20			**5SY3 020-6KL**		019		**5SY3 020-7KL**		1	1 unit	019	0.100
	25			**5SY3 025-6KL**		019		**5SY3 025-7KL**		1	1 unit	019	0.100
	32			**5SY3 032-6KL**		019		**5SY3 032-7KL**		1	1 unit	019	0.112
	40			**5SY3 040-6KL**		019		**5SY3 040-7KL**		1	1 unit	019	0.100

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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Selection and ordering data

6 000 / 3	I_n	Mounting width	DT	Characteristic B Order No.	Price per PU	PG	DT	Characteristic C Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1)]											kg
Miniature circuit breakers, compact, 1+N (1P+N), 230 V AC													
N pole, right													
	2	1		--				5SY6 002-7		1	1 unit	001	0.107
	4			--				5SY6 004-7		1	1 unit	001	0.106
	6			5SY6 006-6		001		5SY6 006-7		1	1 unit	001	0.100
	8			--				5SY6 008-7		1	1 unit	001	0.107
	10			5SY6 010-6		001		5SY6 010-7		1	1 unit	001	0.100
	13			5SY6 013-6		001		5SY6 013-7		1	1 unit	001	0.107
	16			5SY6 016-6		001		5SY6 016-7		1	1 unit	001	0.100
	20			5SY6 020-6		001		5SY6 020-7		1	1 unit	001	0.100
	25			5SY6 025-6		001		5SY6 025-7		1	1 unit	001	0.100
	32			5SY6 032-6		001		5SY6 032-7		1	1 unit	001	0.111
	40			5SY6 040-6		001		5SY6 040-7		1	1 unit	001	0.100
N pole, left													
	2	1		--				5SY6 002-7KL		1	1 unit	001	0.106
	4			--				5SY6 004-7KL		1	1 unit	001	0.100
	6			5SY6 006-6KL		001		5SY6 006-7KL		1	1 unit	001	0.100
	8			--				5SY6 008-7KL		1	1 unit	001	0.107
	10			5SY6 010-6KL		001		5SY6 010-7KL		1	1 unit	001	0.100
	13			5SY6 013-6KL		001		5SY6 013-7KL		1	1 unit	001	0.107
	16			5SY6 016-6KL		001		5SY6 016-7KL		1	1 unit	001	0.100
	20			5SY6 020-6KL		001		5SY6 020-7KL		1	1 unit	001	0.100
	25			5SY6 025-6KL		001		5SY6 025-7KL		1	1 unit	001	0.100
	32			5SY6 032-6KL		001		5SY6 032-7KL		1	1 unit	001	0.112
	40			5SY6 040-6KL		001		5SY6 040-7KL		1	1 unit	001	0.100

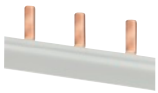
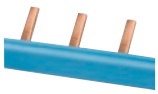
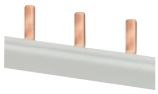
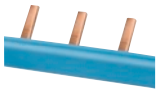
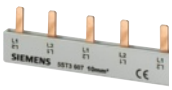
* You can order this quantity or a multiple thereof.

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Accessories

3

Selection and ordering data

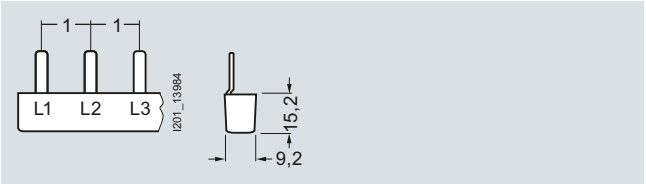
		Pin spacing	Length	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		MW[1]	mm							kg
	**5ST3 7 busbar system, 10 mm², 12 MW, for MCB 1+N in 1 MW of the compact range, can be cut, with end caps**									
	Single-phase									
	For 12 MCBs 1+N, gray	1	216		**5ST3 762**		1	10 units	020	0.022
	For 12 MCBs 1+N, blue		216		**5ST3 763**		1	10 units	020	0.033
	**5ST3 7 busbar system, 10 mm², for MCB 1+N in 1 MW of the compact range, can be cut, without end caps**									
	Single-phase									
	For MCBs 1+N, gray	1	1016		**5ST3 764**		1	10 units	020	0.134
	For MCBs 1+N, blue		1016		**5ST3 765**		1	10 units	020	0.134
	**End caps for 5ST3 76 busbars**									
	1 set comprises a right and a left cap									
	Gray				**5ST3 766**		1	10 sets	020	0.001
	Blue				**5ST3 767**		1	10 sets	020	0.001
	**5ST3 6 busbar systems, 10 mm², for MCBs, fixed lengths, cannot be cut, fully insulated**									
	Three-phase									
	For 6 MCBs 1+N	1	102		**5ST3 613**		1	10 units	020	0.030
	For 9 MCBs 1+N		257.5		**5ST3 614**		1	10 units	020	0.056
	For 12 MCBs 1+N		210	►	**5ST3 615**		1	10 units	020	0.075
	**Terminals for 5ST3 76**									
	Side terminal version For conductors up to 25 mm²			►	**5ST3 768**		1	25 units	020	0.018

[1] 1 MW (modular width) = 18 mm.

Dimensional drawings

5ST3 6
Pin spacing in MW

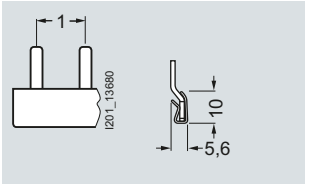
Dimensions of side view in mm (approx.).



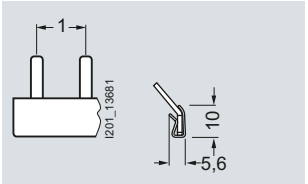
5ST3 613
5ST3 614
5ST3 615

5ST3 7
Pin spacing in MW

Dimensions of side view in mm (approx.).



5ST3 762
5ST3 764



5ST3 763
5ST3 765

* You can order this quantity or a multiple thereof.

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Overview

The Siemens mounting concept supports the combination of all 5ST3 additional components with Siemens 5SY and 5SP miniature circuit breakers and with 5SU1 RCBOs.

5SL and 5SY6 0.. miniature circuit breakers are suitable for mounting auxiliary switches and fault signal contacts. Auxiliary switches can also be mounted on 5TE8 control switches and 5SG7 1 MINIZED switch disconnectors.

Auxiliary switches (AS)

The auxiliary switch (AS) always signals the contact position of the miniature circuit breaker, regardless of whether the miniature circuit breaker was tripped manually or as the result of a fault. An additional version is also available for the switching of small currents and voltages for the control of programmable control systems (PLCs) acc. to EN 61131-2. The auxiliary switch with test button enables the testing of control circuits without the need to switch the miniature circuit breaker.

Fault signal contacts (FC)

The fault signal contact (FC) signals the automatic tripping of the miniature circuit breaker in the event of a fault, such as an overload or a short circuit. If the fault signal contact is activated, the contact position does not change if the miniature circuit breaker is tripped manually. Fault signal contacts with TEST and RESET buttons enable the testing of control circuits without the need to trip the miniature circuit breaker. The red RESET button integrated in the handle also indicates the automatic tripping of the MCB. The signal can be acknowledged manually using the RESET button.

Shunt trips (units)

Shunt trips are used for the remote tripping of miniature circuit breakers.

Undervoltage releases (UR)

Undervoltage releases are integrated (e.g. in EMERGENCY-OFF loops), thus ensuring that the MCB trips in the event of an emergency, which, in turn, ensures disconnection of the control circuit according to EN 60204. In the event that the voltage is interrupted or too low, it also trips, i.e.
prevents activation of the MCB.

Remote controlled mechanisms (RC)

Remote controlled mechanisms are used for the remote ON/OFF switching of miniature circuit breakers and the remote ON switching of RC units, as well as the local manual switching of these devices. A blocking function permits maintenance work. In the event that a miniature circuit breaker or RC unit is tripped, an acknowledgment must be carried out prior to switching back on. The remote controlled mechanism has an operating mode selector switch with the functions: "Locked", "Manual" and "Remote Switching".

Position of selector switch:
OFF: The remote controlled mechanism is switched off, blocked mechanically and can be sealed and/or locked.
RC OFF: Only manual operation is possible.
RC ON: Both manual and remote operation are possible.

In the event that a device is tripped by a fault (RC units, miniature circuit breakers), the handle of the basic device and remote controlled mechanism switches to the OFF position. The operator must then acknowledge the tripping by resetting the remote controlled mechanism (OFF command) before it can be reactivated. This serves the safety of the installation or to protect personnel during maintenance work.

In an RC unit/miniature circuit breaker combination, the RC unit is switched on asynchronously, i.e. prior to the miniature circuit breaker. The RC units for 5SY and 5SP4 can be switched ON via the MCB handle jumper using the supplied actuator attachment. There is no need to switch off the RC unit via the remote controlled mechanism as the MCB contacts ensure disconnection of the electrical circuit.

The switching frequency is max. 2 actuations per minute. If this actuation frequency is exceeded it may cause internal tripping of the remote controlled mechanism as a protection against possible overload. In this case, the remote controlled mechanism must be switched OFF at the function selector switch and not switched back on again for at least 5 minutes. More additional 5ST3 ... components, such as AS, FC, units and UR, can be added to the right-hand side of the remote controlled mechanism in line with the Siemens mounting concept.

RC units

RC units can be combined with miniature circuit breakers of characteristic A, B, C and D. They then form a combination of RCCB and MCB for personnel, fire and line protection. The combinations can be tailored to meet individual requirements.

For information on RC units, please see chapter "Residual current protective devices".

Benefits

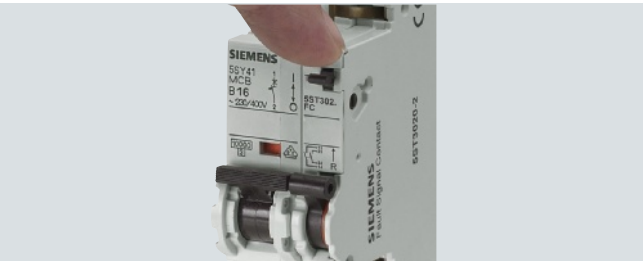
Can be universally retrofitted with all additional components



- The 5SL, 5SY and 5SP miniature circuit breakers are ideal for the quick and easy mounting of auxiliary switches and fault signal contacts.
  Captive metal brackets on the additional components ensure the quick and easy mounting of devices on the miniature circuit breakers without the need for tools.



- Fault signal contacts with TEST and RESET button enable the simple testing of auxiliary circuits and, in the event of a fault, acknowledgement of the fault over the RESET button, without the need to switch the miniature circuit breakers.



- The auxiliary switches with TEST button enable the simple manual testing of control circuits during operation of the entire installation without the need to switch the miniature circuit breakers.

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Technical specifications

			Auxiliary switches (AS)		Fault signal contacts (FC)
			5ST3 010, 5ST3 010-2 5ST3 011, 5ST3 011-2 5ST3 012, 5ST3 012-2	5ST3 013, 5ST3 013-2 5ST3 014, 5ST3 014-2 5ST3 015, 5ST3 015-2	5ST3 020, 5ST3 020-2 5ST3 021, 5ST3 021-2 5ST3 022, 5ST3 022-2
Standards			EN 62019; IEC/EN 60947-5-1; UL 1077; CSA C22.2 No. 235		
Approvals			See appendix, chapter 20		
Short-circuit protection			Miniature circuit breaker or gG 6 A fuse		
Contact load					
• Min. • Max.			50 mA, 24 V --	1 mA/5 V DC 50 mA/30 V DC	50 mA, 24 V --
• 400 V AC, AC-14, NO • 230 V AC, AC-14, NO • 400 V AC, AC-13, NC • 230 V AC, AC-13, NC		A A A A	2 6 2 6	-- -- -- --	2 6 2 6
• 220 V DC, DC-13, NO+NC • 110 V DC, DC-13, NO+NC • 60 V DC, DC-13, NO+NC • 24 V DC, DC-13, NO+NC		A A A A	1 1 3 6	-- -- -- --	1 1 3 6
Service life, on average, with rated load			20000 actuations	20000 actuations	20000 actuations
Conductor cross-sections		mm^2 AWG	0.5 ... 2.5 22 ... 14	0.5 ... 2.5 22 ... 14	0.5 ... 2.5 22 ... 14
Terminals					
• Terminal tightening torque		Nm lb/in	0.5 4.5	0.5 4.5	0.5 4.5
Mounting position			Any	Any	Any
Ambient temperature		°C	-25 ... +55	-25 ... +55	-25 ... +55
Storage temperature			-40 ... +75	-40 ... +75	-40 ... +75
Resistance to climate	Acc. to IEC 60068-2-30	Cycles	28		
Shock	Acc. to IEC 60068-2-27	m/s	50 at 11 ms half-sine		
Resistance to vibrations	Acc. to IEC 60068-2-6	m/s^2	50 at 10 ... 150 Hz		

			Undervoltage releases (UR)	Shunt trips (units)		Remote controlled mechanisms (RC)
			5ST3 04.	5ST3 030	5ST3 031	5ST3 050
Standards			EN 60947-1			
Rated voltages U_n		V AC	230	110 ... 415	24 ... 60	230
		V DC	24, 110	110	24 ... 60	--
• Operating range U_n			0.85 ... 1.1 xU_n	0.7 ... 1.1 xU_n		0.9 ... 1.15 xU_n
• Rated frequency f_n		Hz	--	50 ... 60		50 ... 60
Response limits						
• Tripping			< 0.35 ... 0.7 × U_n	--		--
Short-circuit protection			Miniature circuit breakers B/C 6 A or fuse gG 6 A			
Minimum contact load			50 mA, 24 V	50 mA, 24 V		--
Tripping operations			max. 2000	max. 2000		--
Service life, on average, with rated load			20000 actuations	20000 actuations		20000 actuations 5000 at RC unit
Conductor cross-sections		mm^2 AWG	0.5 ... 2.5 22 ... 14	0.5 ... 2.5 22 ... 14		0.5 ... 2.5 22 ... 14
Terminals						
• Terminal tightening torque		Nm lb/in	0.8 6.8	0.8 6.8		0.4 ... 0.5 4.5
Mounting position			Any	Any		Any
Ambient temperature		°C	-25 ... +55	-25 ... +55		-20 ... +55
Storage temperature		°C	-40 ... +75	-40 ... +75		-40 ... +75
Resistance to climate	Acc. to IEC 60068-2-30	Cycles	28			
Shock	Acc. to IEC 60068-2-27	m/s	50 at 11 ms half-sine			
Resistance to vibrations	Acc. to IEC 60068-2-6	m/s^2	50 at 10 ... 150 Hz			
Switching frequency			--			2 actuations per minute
Switching duration		s	--			< 2
Minimum command duration		s	--			0.2 continuous command possible
Rated power dissipation		VA	--			No power consumption, in switching operation 26
Behavior in the event of control voltage failure			--			No change

For technical information on RC units, please see chapter "Residual current protective devices".

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Selection and ordering data

	Rated voltage U_n V	Mounting width MW[1]	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	**Auxiliary switches (AS)**								
	For 5SL, 5SY, 5SP miniature circuit breakers, 5SU1 RCBOs and 5TE8 switches								
	1 NO + 1 NC	0.5	▶	**5ST3 010**		1	1 unit	020	0.066
	For low power		▶	**5ST3 013**		1	1 unit	020	0.055
	2 NO			**5ST3 011**		1	1 unit	020	0.055
	For low power			**5ST3 014**		1	1 unit	020	0.054
	2 NC			**5ST3 012**		1	1 unit	020	0.055
	For low power			**5ST3 015**		1	1 unit	020	0.060
	**Auxiliary switches (AS) with TEST button**								
	For 5SL, 5SY, 5SP miniature circuit breakers, 5SU1 RCBOs and 5TE8 switches								
	1 NO + 1 NC	0.5		**5ST3 010-2**		1	1 unit	020	0.045
	For low power			**5ST3 013-2**		1	1 unit	020	0.045
	2 NO			**5ST3 011-2**		1	1 unit	020	0.045
	For low power			**5ST3 014-2**		1	1 unit	020	0.045
	2 NC			**5ST3 012-2**		1	1 unit	020	0.045
	For low power			**5ST3 015-2**		1	1 unit	020	0.045
	**Fault signal contacts (FC)**								
	For 5SL, 5SY, 5SP miniature circuit breakers and 5SU1 RCBOs								
	1 NO + 1 NC	0.5	▶	**5ST3 020**		1	1 unit	020	0.056
	2 NO			**5ST3 021**		1	1 unit	020	0.056
	2 NC			**5ST3 022**		1	1 unit	020	0.057
	**Fault signal contacts (FC) with TEST and ACKNOWLEDGE button**								
	For 5SL, 5SY, 5SP miniature circuit breakers and 5SU1 RCBOs								
	1 NO + 1 NC	0.5	▶	**5ST3 020-2**		1	1 unit	020	0.050
	2 NO			**5ST3 021-2**		1	1 unit	020	0.050
	2 NC			**5ST3 022-2**		1	1 unit	020	0.050
	**Undervoltage releases (UR)**								
	For 5SY, 5SP MCBs and 5SU1 RCBOs but not suitable for use with 5SY6 0.. and 5SL miniature circuit breakers								
	With integrated auxiliary switch								
	230 AC	1	▶	**5ST3 040**		1	1 unit	020	0.107
	110 DC			**5ST3 041**		1	1 unit	020	0.105
	24 DC			**5ST3 042**		1	1 unit	020	0.101
	Without integrated auxiliary switch								
	230 AC	1	▶	**5ST3 043**		1	1 unit	020	0.092
	110 DC			**5ST3 044**		1	1 unit	020	0.091
	24 DC			**5ST3 045**		1	1 unit	020	0.088
	**Shunt trips (units)**								
	For 5SY, 5SP MCBs and 5SU1 RCBOs but not suitable for use with 5SY6 0.. and 5SL miniature circuit breakers								
	110 ... 415 V AC	1	▶	**5ST3 030**		1	1 unit	020	0.090
	24 ... 60 V AC/DC	1	▶	**5ST3 031**		1	1 unit	020	0.090
	**Remote controlled mechanisms (RC)**								
	For 5SY and 5SP MCBs and 5SU1 RCBOs, but not suitable for use with 5SL3, 5SL6, 5TE8 ...CC miniature circuit breakers								
	230 AC	3.5	▶	**5ST3 050**		1	1 unit	020	0.461

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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Electrical components

	Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	Mounting width MW[1]	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	RC units, type A, instantaneous tripping									
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY8, 5SY6 0.. and 5SL miniature circuit breakers, 2P, 230 ... 400 V AC, 50 ... 60 Hz									
	10	0.3 ... 16	2		**5SM2 121-6**		1	1 unit	011	0.207
	30	0.3 ... 40		►	**5SM2 322-6**		1	1 unit	011	0.209
	300				**5SM2 622-6**		1	1 unit	011	0.199
	30	0.3 ... 63			**5SM2 325-6**		1	1 unit	011	0.215
	100				**5SM2 425-6**		1	1 unit	011	0.211
	300				**5SM2 625-6**		1	1 unit	011	0.203
	500				**5SM2 725-6**		1	1 unit	011	0.198
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY8, 5SY6 0.. and 5SL miniature circuit breakers, 3P, 230 ... 400 V AC, 50 ... 60 Hz									
	30	0.3 ... 40	3		**5SM2 332-6**		1	1 unit	011	0.314
	300				**5SM2 632-6**		1	1 unit	011	0.295
	30	0.3 ... 63			**5SM2 335-6**		1	1 unit	011	0.359
	100				**5SM2 435-6**		1	1 unit	011	0.327
	300				**5SM2 635-6**		1	1 unit	011	0.298
	500				**5SM2 735-6**		1	1 unit	011	0.322
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY8, 5SY6 0.. and 5SL miniature circuit breakers, 4P, 230 ... 400 V AC, 50 ... 60 Hz									
	30	0.3 ... 40	3	►	**5SM2 342-6**		1	1 unit	011	0.337
	300			►	**5SM2 642-6**		1	1 unit	011	0.326
	30	0.3 ... 63			**5SM2 345-6**		1	1 unit	011	0.397
	100				**5SM2 445-6**		1	1 unit	011	0.357
	300				**5SM2 645-6**		1	1 unit	011	0.328
	500				**5SM2 745-6**		1	1 unit	011	0.326
	For 5SP4 miniature circuit breakers (characteristics B and C) 2P, 125 ... 230 V AC, 50 ... 60 Hz									
	30	80 ... 100	3.5		**5SM2 327-6**		1	1 unit	011	0.529
	300				**5SM2 627-6**		1	1 unit	011	0.458
	For 5SP4 miniature circuit breakers (characteristics B and C) 4P, 230 ... 400 V AC, 50 ... 60 Hz									
	30	80 ... 100	5		**5SM2 347-6**		1	1 unit	011	0.934
	300				**5SM2 647-6**		1	1 unit	011	0.682

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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	Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	Mounting width MW[1]	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	RC units, type A, super resistant K									
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY8, 5SY6 0.. and 5SL miniature circuit breakers, 2P, 230 ... 400 V AC, 50 ... 60 Hz									
	30	0.3 ... 40	2		**5SM2 322-6KK01**		1	1 unit	011	0.215
	30	0.3 ... 63			**5SM2 325-6KK01**		1	1 unit	011	0.214
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY8, 5SY6 0.. and 5SL miniature circuit breakers, 3P, 230 ... 400 V AC, 50 ... 60 Hz									
	30	0.3 ... 40	3		**5SM2 332-6KK01**		1	1 unit	011	0.365
	30	0.3 ... 63			**5SM2 335-6KK01**		1	1 unit	011	0.365
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY8, 5SY6 0.. and 5SL miniature circuit breakers, 4P, 230 ... 400 V AC, 50 ... 60 Hz									
	30	0.3 ... 40	3		**5SM2 342-6KK01**		1	1 unit	011	0.390
	30	0.3 ... 63			**5SM2 345-6KK01**		1	1 unit	011	0.388
	RC units, type A, selective S									
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY8, 5SY6 0.. and 5SL miniature circuit breakers, 2P, 230 ... 400 V AC, 50 ... 60 Hz									
	300	0.3 ... 40	2		**5SM2 622-8**		1	1 unit	011	0.210
	300	0.3 ... 63			**5SM2 625-8**		1	1 unit	011	0.210
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY8, 5SY6 0.. and 5SL miniature circuit breakers, 3P, 230 ... 400 V AC, 50 ... 60 Hz									
	300	0.3 ... 63	3		**5SM2 635-8**		1	1 unit	011	0.341
	500				**5SM2 735-8**		1	1 unit	011	0.323
	1000				**5SM2 835-8**		1	1 unit	011	0.304
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY8, 5SY6 0.. and 5SL miniature circuit breakers, 4P, 230 ... 400 V AC, 50 ... 60 Hz									
	300	0.3 ... 63	3		**5SM2 645-8**		1	1 unit	011	0.373
	500				**5SM2 745-8**		1	1 unit	011	0.333
	1000				**5SM2 845-8**		1	1 unit	011	0.333
	For 5SP4 miniature circuit breakers (characteristics B and C) 2P, 125 ... 230 V AC, 50 ... 60 Hz									
	300	80 ... 100	3.5		**5SM2 627-8**		1	1 unit	011	0.519
	For 5SP4 miniature circuit breakers (characteristics B and C) 4P, 230 ... 400 V AC, 50 ... 60 Hz									
	300	80 ... 100	5		**5SM2 647-8**		1	1 unit	011	0.838
	1000				**5SM2 847-8**		1	1 unit	011	0.706

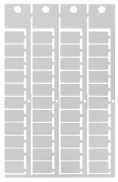
[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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Mechanical components

Selection and ordering data

	Version	Mounting width MW[1)]	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	**Terminal covers** For miniature circuit breakers, not suitable for use with 5SY6 0. . , For additional covering of the screw openings per pole, sealable. In the case of 5SY, also prevents removal of device from the standard mounting rail.		►	**5ST3 800**		1	10 units	020	0.002
	**Handle locking devices** Sealable to prevent undesired mechanical ON/OFF switching For 5SP and 5SY miniature circuit breakers For padlock with max. 3 mm shackle			**5ST3 801**		1	1 unit	020	0.012
	For 5SL miniature circuit breakers For padlock with 3 ... 6 mm shackle			**5ST3 806**		1	5 units	020	0.007
	**Padlocks** For 5ST3 801 and 5ST3 806 handle locking devices			**5ST3 802**		1	1 unit	020	0.031
	Locking devices For 5SP and 5SY miniature circuit breakers comprising 5ST3 801 handle locking device and 5ST3 802 padlock			**5ST3 803**		1	1 set	020	0.041
	Locking devices For 5SL miniature circuit breakers, comprising 5ST3 806 handle locking device and 5ST3 802 padlock			**5ST3 807**		1	1 set	020	0.034
	**Spacers** Can be placed on either side of the standard mounting rail. Two spacers allow for convenient cable routing	0.5		**5TG8 240**		1	2 units	026	0.010
	**Fixing parts** Made of plastic, for use on a mounting plate			**5ST2 201**		1	1 unit	020	0.013
	**Inscription labels** 15 mm x 9 mm, 3 frames à 44 labels, can be mounted on casing collar, white, self-adhesive			**5ST2 173**		1	1 set	020	0.049

Labeling system

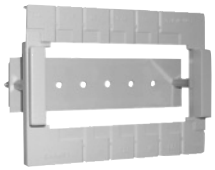
Inscription on self-adhesive labels for a uniform and tidy appearance in electrical power distribution.
The labeling program can be downloaded to your PC free of charge at:
www.siemens.com/labeling-tool

Recommended ELAT-3-747 labels for printing on normal printers can be ordered at:

Brady GmbH
Otto-Hahn-Str. 5-7
D-63222 Langen
Tel.: +49 (6103) 7598-660

* You can order this quantity or a multiple thereof.

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	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	**Terminal covers, gray** For surface mounting, degree of protection IP40, sealable, with 35 mm standard mounting rail							
	• Up to 2.5 MW		**5SW3 004**		1	1 unit	015	0.091
	• Up to 4.5 MW		**5SW3 005**		1	1 unit	015	0.171
	**Wall enclosures, gray** For flush mounting, degree of protection IP40 with 35 mm standard mounting rail							
	• Up to 2.5 MW		**5SW3 006**		1	1/4 units	015	0.133
	• Up to 4.5 MW		**5SW3 007**		1	1 unit	015	0.162
	**Molded-plastic enclosures, gray** For surface mounting, degree of protection IP54, with 35 mm standard mounting rail, sealable with transparent hinged lid							
	For 4.5 MW		**5SW1 200**		1	1 unit	015	0.447
	**Covers** Can be assembled as mini distribution board, suitable for all devices, cover parts prepared for rail mounting of conventional label caps, comprising:							
	• End plates (for snapping onto standard mounting rail)	►	**5ST2 134**		1	10 units	020	0.021
	• Angled profile (approx. 1 m long)		**5ST2 135**		1	5 units	020	0.288
	• Alternative flat profiles (as a cover between the rows of devices length approx. 1 m)		**5ST2 136**		1	5 units	020	0.239
	**Holders for front panel installation** Universal use for devices from 1 to 6 MW Cutout dimensions: Height $45^{+0.5}$ mm Width: 23, 41, 59, 77, 95 or 113 mm		**7LF9 006**		1	1 unit	025	0.070
 8GB4 563	**Intermediate frames for 70 mm devices in 55 mm ALPHA SIMBOX distribution boards** Versions							
	• 1-tier		**8GB4 561**		1	1 unit	032	0.900
	• 2-tier		**8GB4 562**		1	1 unit	032	1.100
	• 3-tier		**8GB4 563**		1	1 unit	032	1.300
	• 4-tier		**8GB4 564**		1	1 unit	032	1.500

For further information on ALPHA distribution boards, ALPHA SIMBOX small distribution boards and intermediate frames, see Catalog LV 10.2, chapter, "Distribution boards".

* You can order this quantity or a multiple thereof.

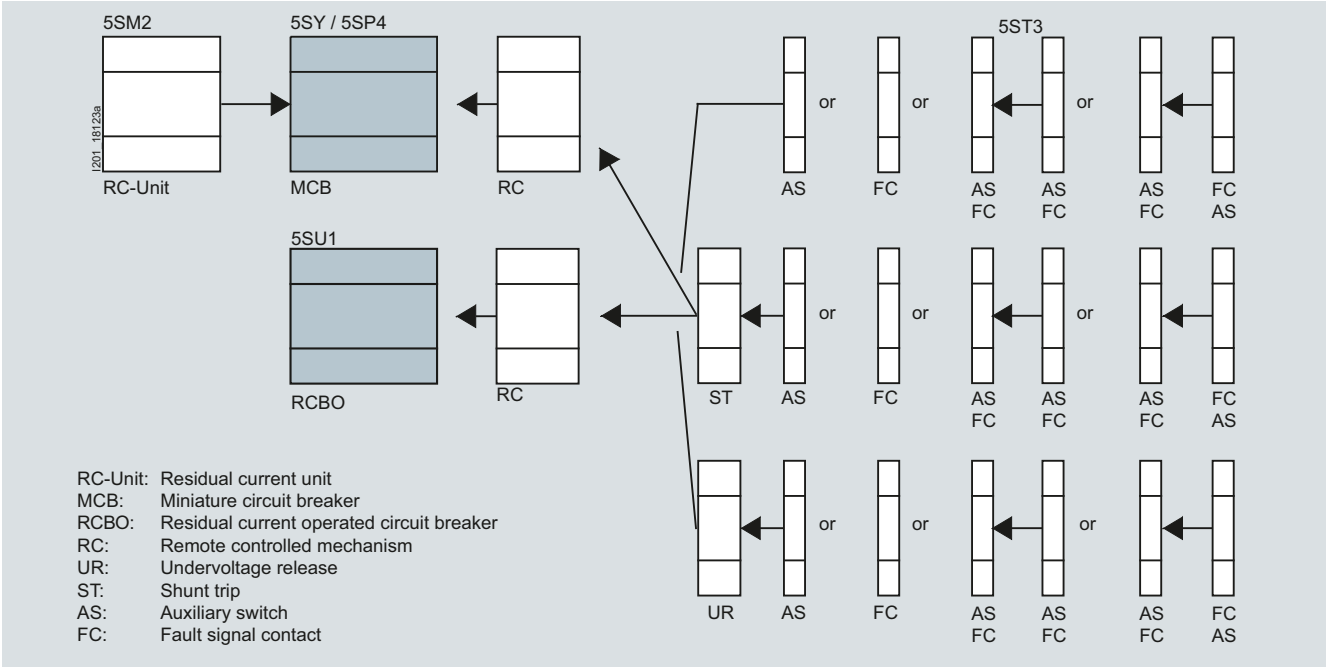
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More information

The Siemens mounting concept supports the combination of all 5ST3 additional components with miniature circuit breakers of the 5SY and 5SP series and RCBOs of the 5SU1 series.

5SL and 5SY6 0.. miniature circuit breakers are suitable for mounting auxiliary switches and fault signal contacts. Auxiliary switches can also be mounted on 5TE8 control switches and 5SG7 1 MINIZED switch disconnectors.

The diagram shows which additional components can be mounted on either the right or the left.



For further information on the mounting concept for RCBOs, see chapter, "Residual Current Protective Devices".

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Overview

The busbar system with pin-type connections can be used for all 5SL6 and 5SJ6 miniature circuit breakers . . .-.KS and 5SY miniature circuit breakers with or without mounted auxiliary switch (AS) or fault signal contact (FC).

Busbars in 10 mm^2 and 16 mm^2 versions are available.

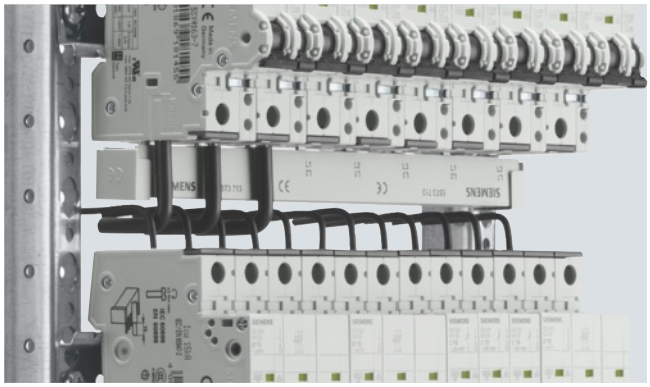
The 5ST3 7 busbar system with bars that can be cut to length can be tailored to any requirements.

The extremely flexible 5ST3 6 busbar system with fixed lengths also enables installation in any length as the busbars can be overlapped.
No further need for time-consuming tasks, such as cutting, cutting to length, deburring, cleaning of cut surfaces and mounting of end caps.

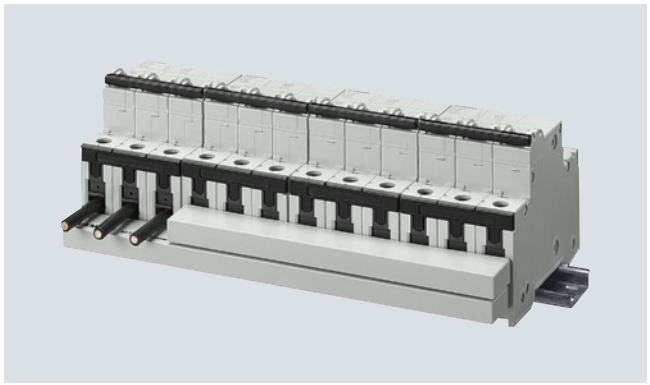
Any free pins on the busbars can be made safe by covering with touch protection.

For further information on the bus-mounting of miniature circuit breakers with residual current operated circuit breakers, please refer to the chapter "Residual Current Protective Devices".

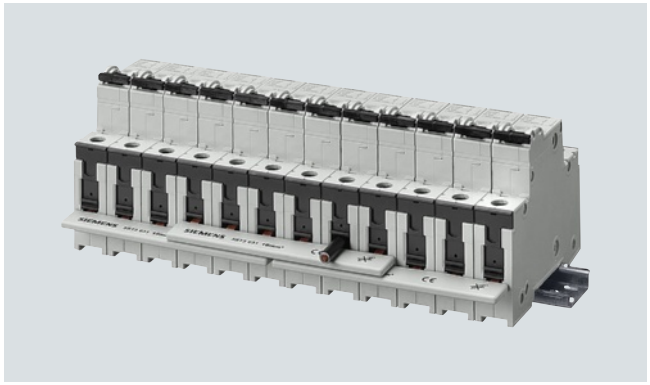
Benefits



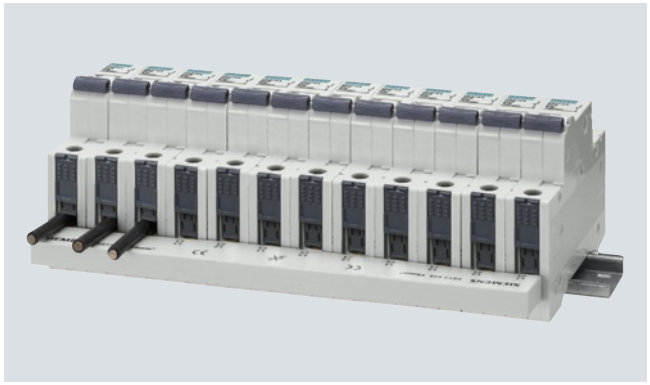
- Between the rows of devices, the busbar, that is located at the bottom and behind the conductor, provides an optimum wiring space with easy view of the inserted conductor. This enables easy control of connections.



- The ability to overlap when mounting the busbars enables a cross-section enlargement of up to 32 mm^2 using the respective components, 10 mm^2 and 16 mm^2.



- By overlapping the busbars with fixed lengths, it is possible to achieve device combinations with any number of devices.



- The fact that the connection of the conductor is always clearly visible facilitates cable entry of all pole types and considerably reduces mounting times.

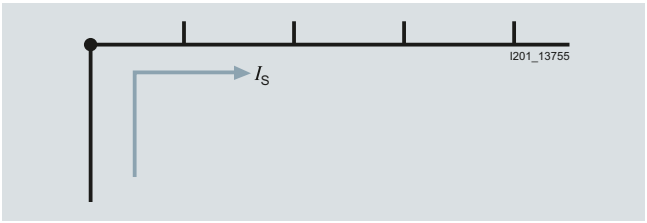
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5ST standard busbars

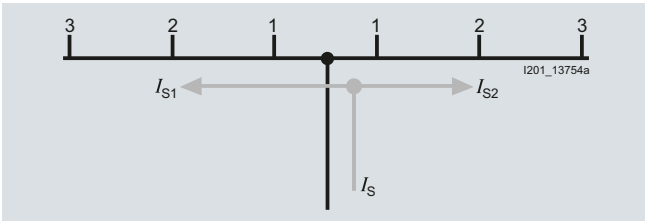
Technical specifications

			5ST3
Standards			EN 60439-1 (VDE 0660-500): 2005-01
Busbar material			SF-Cu F 24
Partition material			Plastic, Cycoloy 3600 heat-resistant over 90 °C flame-retardant and self-extinguishing, dioxin and halogen-free
Rated operational voltage U_c		V AC	400
Rated current I_n			
• Cross-section 10 mm^2		A	63
• Cross-section 16 mm^2		A	80
Rated impulse withstand voltage U_{imp}		kV	4
Test pulse voltage (1.2/50)		kV	6.2
Rated conditional short-circuit current I_{cc}		kA	25
Resistance to climate			
• Constant atmosphere	Acc. to DIN 50015		23/83; 40/92; 55/20
• Humid heat	Acc. to IEC 60068-2-30		28 cycles
Insulation coordination			
• Overvoltage category			III
• Pollution degree			2
Maximum busbar current I_S/phase			
• Infeed at the start of the busbar			
- Cross-section 10 mm^2		A	63
- Cross-section 16 mm^2		A	80
• Infeed at the center of the busbar			
- Cross-section 10 mm^2		A	100
- Cross-section 16 mm^2		A	130

Infeed at the start or end of the busbar



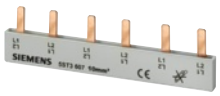
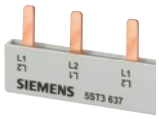
Infeed along the busbar or midpoint infeed



The sum of the outgoing current per branch (1, 2, 3 ... n) must not be greater than the max. busbar current I_S/phase.

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Selection and ordering data

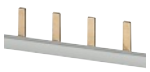
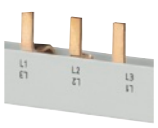
		Pin spacing	Length	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		MW[1]	mm							kg
	5ST3 6 busbar systems, 10 mm², for MCBs, fixed lengths, cannot be cut, fully insulated									
	Single-phase									
	For 2 MCBs 1P	1	33		**5ST3 600**		1	10 units	020	0.009
	For 6 MCBs 1P		105		**5ST3 601**		1	10 units	020	0.019
	For 12 MCBs 1P		210		**5ST3 602**		1	10 units	020	0.047
	Single-phase, for MCBs with AS or FC									
	For 2 MCBs 1P	1.5	40		**5ST3 603**		1	10 units	020	0.010
	For 6 MCBs 1P		156.5		**5ST3 604**		1	10 units	020	0.030
	For 9 MCBs 1P		237		**5ST3 605**		1	10 units	020	0.044
	Two-phase									
	For 2 MCBs 2P	1	75.5		**5ST3 606**		1	10 units	020	0.018
	For 3 MCBs 2P		105		**5ST3 607**		1	10 units	020	0.027
	For 6 MCBs 2P		210		**5ST3 608**		1	10 units	020	0.063
	Three-phase									
	For 2 MCBs 3P	1	102		**5ST3 613**		1	10 units	020	0.030
	For 3 MCBs 3P		157.5		**5ST3 614**		1	10 units	020	0.056
	For 4 MCBs 3P		210	▶	**5ST3 615**		1	10 units	020	0.075
	Three-phase, for MCBs with AS or FC									
	For 2 MCBs 3P	1+1+1.5	115		**5ST3 616**		1	10 units	020	0.038
	For 4 MCBs 3P		237		**5ST3 617**		1	10 units	020	0.090
	For 6 MCBs 1P	1.5	125		**5ST3 618**		1	10 units	020	0.046
	For 9 MCBs 1P		229		**5ST3 620**		1	10 units	020	0.075
	Three-phase									
	For 1 RCCB 4P N right and 8 MCBs 1P	1	210		**5ST3 624**		1	10 units	020	0.077
	For 1 RCCB 4P N left and 8 MCBs 1P	1	192		**5ST3 667**		1	10 units	020	0.061
	Four-phase									
	For 2 MCBs 4P or 3P+N	1	145		**5ST3 621**		1	10 units	020	0.055
	For 3 MCBs 4P or 3P+N		215		**5ST3 622**		1	10 units	020	0.093
	For 6 MCBs 2P or 1P+N		215		**5ST3 623**		1	10 units	020	0.087
	5ST3 6 busbars, 16 mm², for MCBs, fixed lengths, cannot be cut, fully insulated									
	Single-phase									
	For 2 MCBs 1P	1	33		**5ST3 630**		1	10 units	020	0.007
	For 6 MCBs 1P		105		**5ST3 631**		1	10 units	020	0.025
	For 12 MCBs 1P		210		**5ST3 632**		1	10 units	020	0.048
	Single-phase, for MCBs with AS or FC									
	For 2 MCBs 1P	1.5	40		**5ST3 633**		1	10 units	020	0.010
	For 6 MCBs 1P		156.5		**5ST3 634**		1	10 units	020	0.029
	For 9 MCBs 1P		237		**5ST3 635**		1	10 units	020	0.052
	Two-phase									
	For 2 MCBs 2P	1	75.5		**5ST3 636**		1	10 units	020	0.012
	For 3 MCBs 2P		105		**5ST3 637**		1	10 units	020	0.037
	For 6 MCBs 2P		210		**5ST3 638**		1	10 units	020	0.089
	Two-phase For MCBs with AS or FC									
	For 2 MCBs 2P	1 + 1.5	75.5		**5ST3 640**		1	10 units	020	0.024
	For 3 MCBs 2P		120.5		**5ST3 641**		1	10 units	020	0.048
	For 5 MCBs 2P		210		**5ST3 642**		1	10 units	020	0.081

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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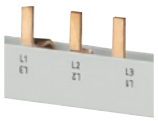
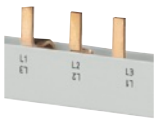
5ST standard busbars

		Pin spacing	Length	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		MW[1]	mm							kg
	5ST3 6 busbars, 16 mm², for MCBs, fixed lengths, cannot be cut, fully insulated									
	Three-phase									
	For 2 MCBs 3P	1	102.5		**5ST3 643**		1	10 units	020	0.047
	For 3 MCBs 3P		157.5		**5ST3 644**		1	10 units	020	0.085
	For 4 MCBs 3P		210	▶	**5ST3 645**		1	10 units	020	0.119
	Three-phase, for MCBs with AS or FC									
	For 2 MCBs 3P	1+1+1.5	115		**5ST3 646**		1	10 units	020	0.052
	For 4 MCBs 3P		237		**5ST3 647**		1	10 units	020	0.126
	For 6 MCBs 1P	1.5	156		**5ST3 648**		1	10 units	020	0.067
	For 9 MCBs 1P		245		**5ST3 650**		1	10 units	020	0.110
	Three-phase,									
	For 1 RCCB 4P N right and 8 MCBs 1P	1	210		**5ST3 654**		1	10 units	020	0.108
	For 1 RCCB 4P N left and 8 MCBs 1P	1	210		**5ST3 668**		1	10 units	020	0.099
	Four-phase									
	For 2 MCBs 4P or 3P+N	1			**5ST3 651**		1	10 units	020	0.071
	For 3 MCBs 4P or 3P+N				**5ST3 652**		1	10 units	020	0.130
	For 6 MCBs 2P or 1P+N				**5ST3 653**		1	10 units	020	0.118
	**Touch protection**									
	For free connections, yellow (RAL 1004) 5 x 1 pin			▶	**5ST3 655**		1	10 units	020	0.003
	Assortment									
	10 mm²									
	20 × 5ST3 613 + 10 × 5ST3 614 + 50 × 5ST3 615 + 50 × 5ST3 655				**5ST3 656**		1	1 set	020	5.460
	16 mm²									
	20 × 5ST3 643 + 10 × 5ST3 644 + 50 × 5ST3 645 + 50 × 5ST3 655				**5ST3 657**		1	1 set	020	7.650
	5ST3 7 busbar system, 10 mm², 12 MW, for MCBs, can be cut, with end caps									
	Single-phase, angled									
	For 12 MCBs 1P	1	214		**5ST3 730**		1	1 unit	020	0.032
	For 9 MCBs 1P with AS or FC	1.5			**5ST3 732**		1	1 unit	020	0.034
	Two-phase									
	For 6 MCBs 2P	1			**5ST3 734**		1	1 unit	020	0.070
	For 4 MCBs 2P with AS or FC	1+1.5			**5ST3 736**		1	1 unit	020	0.072
	Three-phase									
	For 4 MCBs 3P	1		▶	**5ST3 738**		1	1 unit	020	0.084
	for 3 MCBs 3P with AS or FC	1+1+1.5			**5ST3 741**		1	1 unit	020	0.078
	For 3 MCBs 1P with AS or FC	1.5			**5ST3 743**		1	1 unit	020	0.075
	Four-phase									
	For 3 MCBs 4P or 3P+N	1			**5ST3 745**		1	1 unit	020	0.119
	5ST3 7 busbar system, 10 mm², 56 MW, for MCBs, can be cut, without end caps									
	Single-phase, angled									
	For MCBs 1P	1	1016		**5ST3 731**		1	1 unit	020	0.153
	For MCBs 1P with AS or FC	1.5			**5ST3 733**		1	1 unit	020	0.157
	Two-phase									
	For MCBs 2P	1			**5ST3 735**		1	1 unit	020	0.343
	For MCBs 2P with AS or FC	1+1.5			**5ST3 737**		1	1 unit	020	0.327
	Three-phase									
	For MCBs 3P	1		▶	**5ST3 740**		1	1 unit	020	0.440
	For MCBs 3P with AS or FC	1+1+1.5			**5ST3 742**		1	1 unit	020	0.421
	For MCBs 1P with AS or FC	1.5			**5ST3 744**		1	1 unit	020	0.420
	Four-phase									
	For MCBs 4P or 3P+N	1			**5ST3 746**		1	1 unit	020	0.600

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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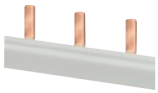
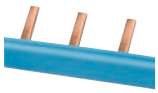
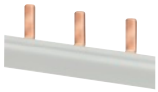
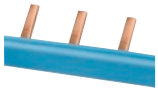
		Pin spacing	Length	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		MW[1]	mm							kg
	**5ST3 7 busbar system, 16 mm², 12 MW, for MCBs, can be cut, with end caps**									
	Single-phase, angled									
	For MCBs 1P	1	214	▶	**5ST3 700**		1	1 unit	020	0.039
	For MCBs 1P with AS or FC	1.5			**5ST3 702**		1	1 unit	020	0.040
	Two-phase									
	For MCBs 2P	1		▶	**5ST3 704**		1	1 unit	020	0.092
	For MCBs 2P with AS or FC	1+1.5			**5ST3 706**		1	1 unit	020	0.090
	Three-phase									
	For MCBs 3P	1		▶	**5ST3 708**		1	1 unit	020	0.116
	For MCBs 3P with AS or FC	1+1+1.5			**5ST3 711**		1	1 unit	020	0.098
	For MCBs 1P with AS or FC	1.5			**5ST3 713**		1	1 unit	020	0.098
	Four-phase									
	For MCBs 4P or 3P+N	1			**5ST3 715**		1	1 unit	020	0.142
	**5ST3 7 busbar system, 16 mm², 56 MW, for MCBs, can be cut, without end caps**									
	Single-phase, angled									
	For MCBs 1P	1	1016	▶	**5ST3 701**		1	1 unit	020	0.196
	For MCBs 1P with AS or FC	1.5		▶	**5ST3 703**		1	1 unit	020	0.185
	Two-phase									
	For MCBs 2P	1		▶	**5ST3 705**		1	1 unit	020	0.452
	For MCBs 2P with AS or FC	1+1.5			**5ST3 707**		1	1 unit	020	0.446
	Three-phase									
	For MCBs 3P	1		▶	**5ST3 710**		1	1 unit	020	0.610
	For MCBs 3P with AS or FC	1+1+1.5		▶	**5ST3 712**		1	1 unit	020	0.580
	For MCBs 1P with AS or FC	1.5			**5ST3 714**		1	1 unit	020	0.540
	Four-phase									
	For MCBs 4P or 3P+N	1			**5ST3 716**		1	1 unit	020	0.798
	5ST3 7 busbar system, 10 mm², 56 MW can be cut, with end caps, with touch protection									
	Four-phase									
	For MCBs 2P and RCBOs 1P+N	1	1008		**5ST3 770-2**		1	10 units	020	0.400
	5ST3 7 busbar system, 16 mm², 56 MW can be cut, with end caps, with touch protection									
	Four-phase									
	For MCBs 2P and RCBOs 1P+N	1	1008		**5ST3 770-3**		1	10 units	020	0.550
	5ST3 7 busbar system, 10 mm², 16 MW can be cut, with end caps, with touch protection									
	Four-phase									
	For RCCBs 4P, N right and 6 MCBs 1P+N	1	288		**5ST3 770-4**		1	10 units	020	0.100
	5ST3 7 busbar system, 16 mm², 16 MW can be cut, with end caps, with touch protection									
	Four-phase									
	For RCCBs 4P, N right and 6 MCBs 1P+N	1	288		**5ST3 770-5**		1	10 units	020	0.160
	**End caps for 5ST3 7, can be cut**									
	For single-phase busbars			▶	**5ST3 748**		1	10 units	020	0.001
	For two-phase and three-phase busbars			▶	**5ST3 750**		1	10 units	020	0.001
	For four-phase busbars			▶	**5ST3 718**		1	10 units	020	0.002

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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5ST standard busbars

		Pin spacing	Length	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		MW[1]	mm							kg
	**5ST3 7 busbar system, 10 mm², 12 MW, for MCBs 1+N in 1 MW of the compact range, can be cut, with end caps**									
	Single-phase									
	For 12 MCBs 1+N, gray	1	216		**5ST3 762**		1	10 units	020	0.022
	For 12 MCBs 1+N, blue	1			**5ST3 763**		1	10 units	020	0.033
	**5ST3 7 busbar system, 10 mm², 56 MW, for MCBs 1+N in 1 MW of the compact range, can be cut, without end caps**									
	Single-phase									
	For MCBs 1+N, gray	1	1016		**5ST3 764**		1	10 units	020	0.134
	For MCBs 1+N, blue	1			**5ST3 765**		1	10 units	020	0.134
	**End caps for 5ST3 76**									
	1 set comprises a right and a left cap									
	Gray				**5ST3 766**		1	10 sets	020	0.001
	Blue				**5ST3 767**		1	10 sets	020	0.001
	**Terminals for 5ST3 76**									
	Terminal version S For conductors up to 25 mm²			►	**5ST3 768**		1	25 units	020	0.018

1) 1 MW (modular width) = 18 mm.

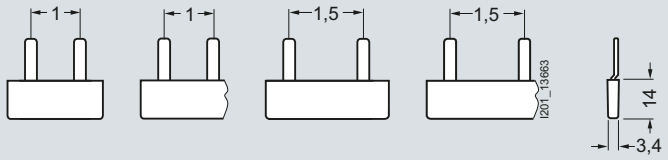
* You can order this quantity or a multiple thereof.

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Dimensional drawings

5ST3 6
Pin spacings in MW (modular width 1 MW = 18 mm)

Dimensions of side view in mm (approx.)

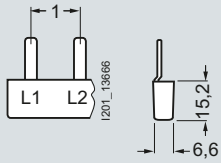


5ST3 600
5ST3 630

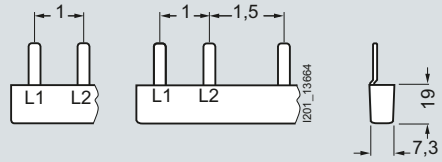
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5ST3 603
5ST3 633

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5ST3 635

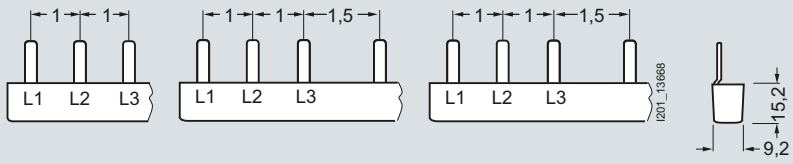


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5ST3 608



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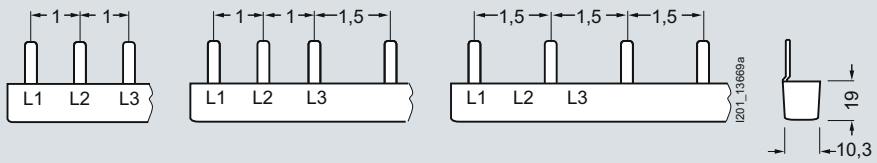
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5ST3 642



5ST3 613
5ST3 614
5ST3 615
5ST3 667

5ST3 616
5ST3 617

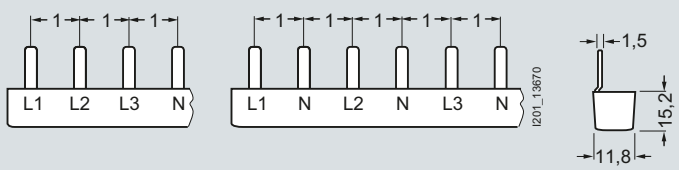
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5ST3 644
5ST3 645
5ST3 668

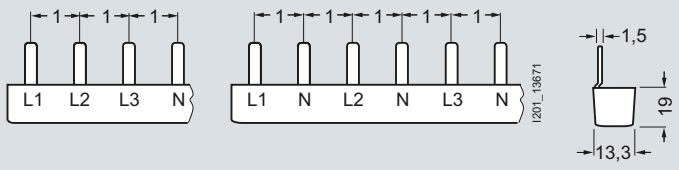
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5ST3 647

5ST3 648
5ST3 650



5ST3 621
5ST3 622

5ST3 623



5ST3 651
5ST3 652

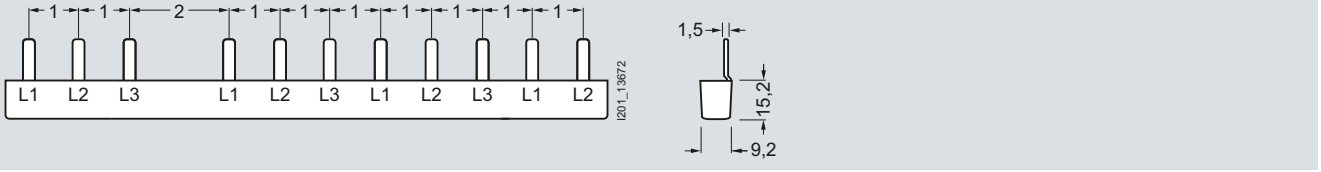
5ST3 653

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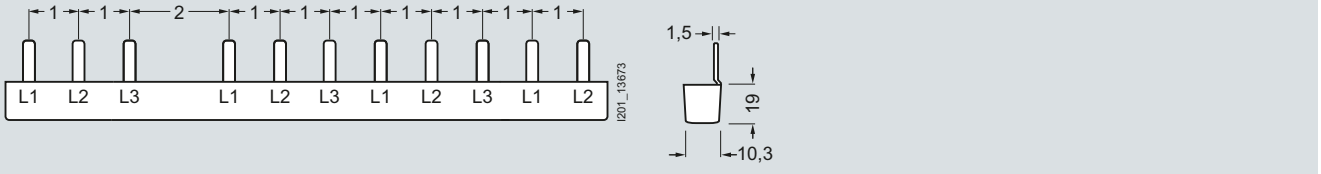
5ST standard busbars

5ST3 6
Pin spacings in MW (modular width 1 MW = 18 mm)

Dimensions of side view in mm (approx.)



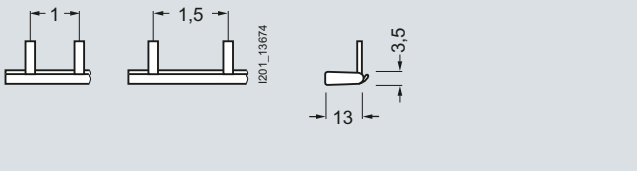
5ST3 624



5ST3 654

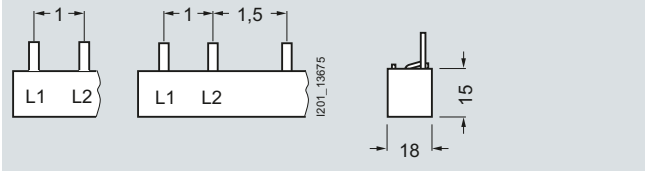
5ST3 7
Pin spacings in MW (modular width 1 MW = 18 mm)

Dimensions of side view in mm (approx.)



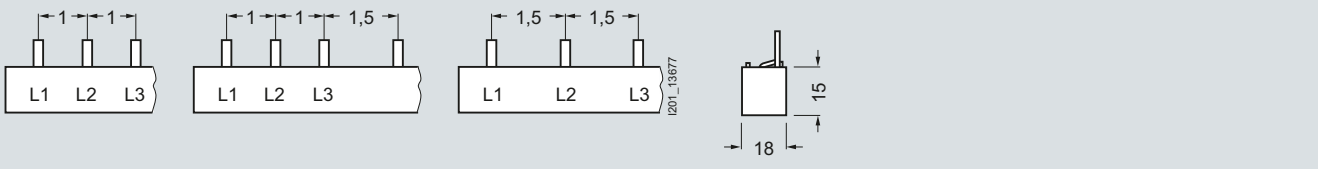
5ST3 700
5ST3 701
5ST3 730
5ST3 731
Single-phase

5ST3 702
5ST3 703
5ST3 732
5ST3 733
Single-phase



5ST3 704
5ST3 705
5ST3 734
5ST3 735
Two-phase

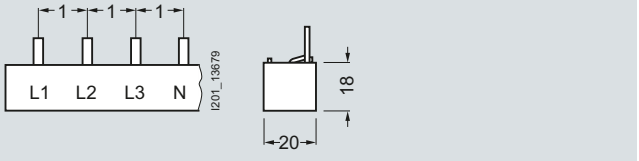
5ST3 706
5ST3 707
5ST3 736
5ST3 737
Two-phase



5ST3 708
5ST3 710
5ST3 738
5ST3 740

5ST3 711
5ST3 712
5ST3 741
5ST3 742

5ST3 713
5ST3 714
5ST3 743
5ST3 744

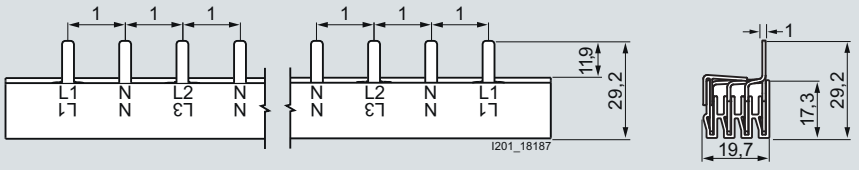


5ST3 715
5ST3 716
5ST3 745
5ST3 746

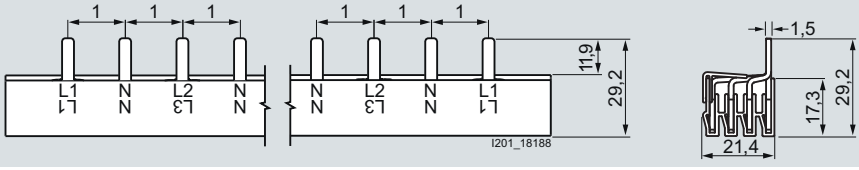
© Siemens AG 2013

5ST3 7
Pin spacings in MW (modular width 1 MW = 18 mm)

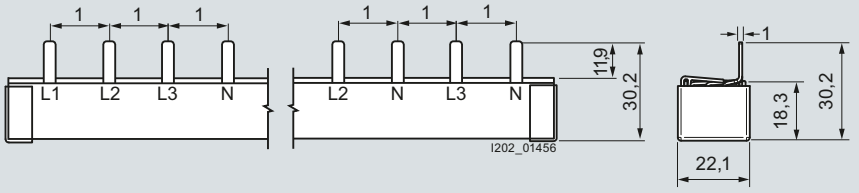
Dimensions of side view in mm (approx.)



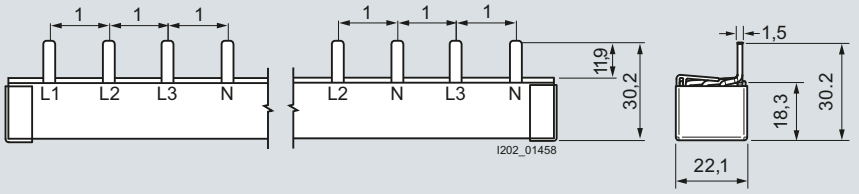
5ST3 770-2



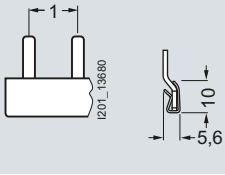
5ST3 770-3



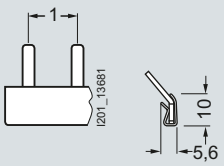
5ST3 770-4



5ST3 770-5



5ST3 762
5ST3 764



5ST3 763
5ST3 765

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5ST3 busbars acc. to UL 508

Overview

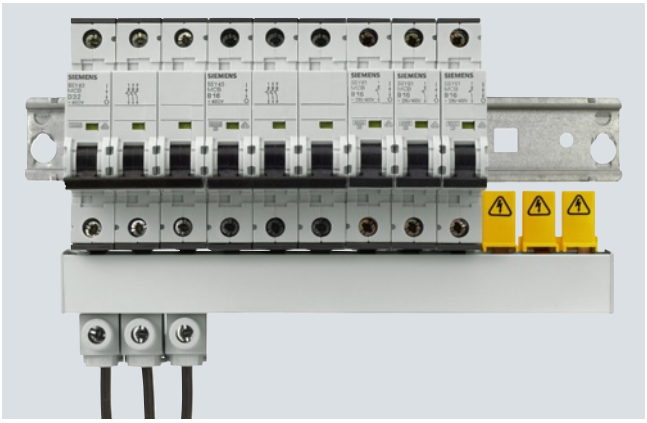
Products according to UL standards are used in North America, but also in several other countries. This is important in particular for exporting machines or electrical switchgear assemblies and equipment to the USA. Acceptance and delivery are possible only if the relevant UL standards are satisfied.

The 5ST3 7 busbar system according to UL 508 and CSA is suitable for both universal use worldwide with all 5SY and 5SP miniature circuit breakers for "Supplementary Protection" certified according to UL 1077 and for 3NW and 3NC fuse holders certified according to UL 512. Not approved for use in feeder circuits.

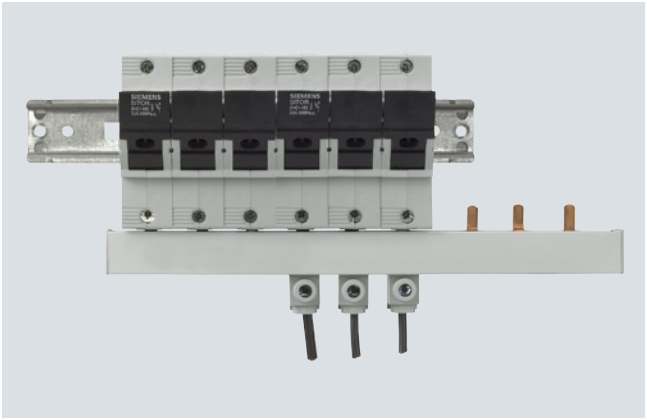
The busbars are available in single-, two- and three-phase versions with different pin spacings and with two cross-sections 18 mm² and 25 mm². Infeed can be directly into the terminals of the miniature circuit breaker or through connection terminals.

The connection terminals are available in two versions – for direct infeed at the busbar or for infeed directly at the miniature circuit breaker/fuse holder. Pins that are not required can be covered with touch protection covers.

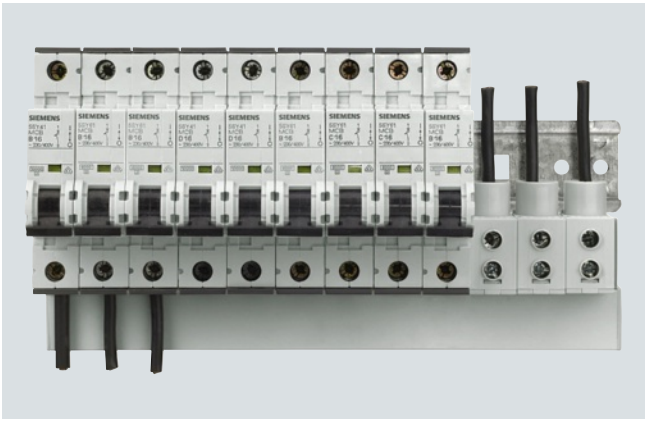
Benefits



- Busbar with infeed through a connection terminal directly on the miniature circuit breaker up to a conductor cross-section of 35 mm²



- Bus mounting with infeed at the fuse holder for conductor cross-sections up to 35 mm²



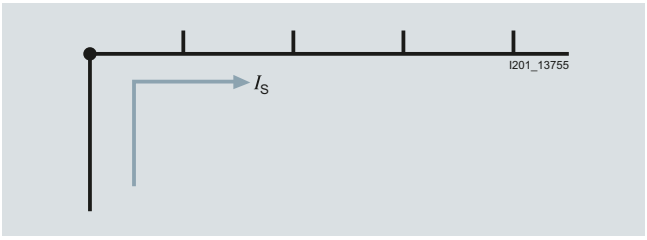
- Infeed directly on the miniature circuit breaker up to a cross-section of 35 mm² and connection terminal for connection directly on the busbar up to a conductor cross-section of 50 mm²
- Suitable for universal use according to both IEC and UL standards
- Can be used for 5SY, 5SP miniature circuit breakers and for Class CC, cylindrical and SITOR fuse holders
- UL-tested combination – device and busbar
- Different cross-sections 18 mm² and 25 mm².

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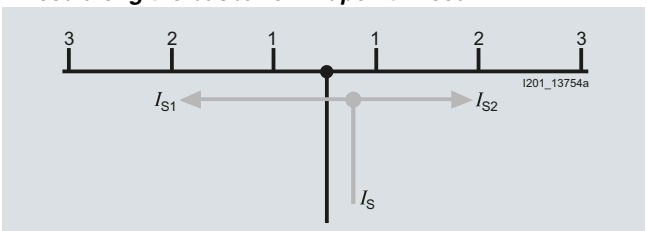
Technical specifications

			5ST3 7..-0HG	5ST3 7..-2HG	5ST3 770-0HG	5ST3 770-1HG
Standards			UL 508, CSA C22.2 No. 14-M 95			
Approvals			UL 508 File No. E328403 CSA			
Operational voltage						
• Acc. to IEC		V AC	690			
• Acc. to UL 508		V AC	600			
Rated conditional short-circuit current		kA	10			
• Dielectric strength		kV/mm	25			
• Surge strength		kV	> 9.5			
Rated current		A	--	--	115	
Maximum busbar current I_S/phase						
• Infeed at the start of the busbar		A	80	100	--	--
• Infeed at the center of the busbar		A	160	200	--	--
Insulation coordination						
• Overvoltage category			III			
• Pollution degree			2			
Short-circuit current load capability			10000 A RMS sym. 600 V for three connections			
	18 mm^2		100 000 A RMS sym. for protection with Class J 175 A			
	25 mm^2		100 000 A RMS sym. for protection with Class J 200 A			
Busbar cross-section		mm^2 Cu	18	25	--	--
Infeed			Any			
Conductor cross-sections		AWG	--	--	10 ... 1/0	14 ... 1
		mm^2	--	--	6 ... 35 (Cu 60 °C)	6 ... 50 (Cu 75 °C)
Terminals	±screw (Pozidriv)		--	--	2	2
• Terminal tightening torque		Nm	--	--	5	3.5
		lbs/in	--	--	50	35

Infeed at the start or end of the busbar



Infeed along the busbar or midpoint infeed

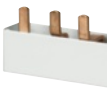
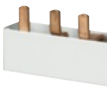
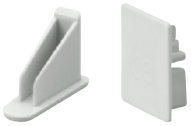


The sum of the outgoing current per branch (1, 2, 3 ... n) must not be greater than the max. busbar current I_S/phase.

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5ST3 busbars acc. to UL 508

Selection and ordering data

		Pin spacing	Length	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		MW[1]	mm							kg
	5ST3 7..-.HG busbars according to UL 508, 18 mm², can be cut, without end caps									
	Single-phase									
	• For MCBs 1P (5SY) or fuse holder 10 x 38 mm/class CC (3NC1 091, 3NW7 513-0HG)	1	1000		**5ST3 701-0HG**		1	1 unit	005	0.330
	• For MCBs 1P (5SY, 5SP) with AS or FC or fuse holders 14 x 51 mm (3NC1 491, 3NW7 111)	1.5	1000		**5ST3 703-0HG**		1	1 unit	005	0.330
	Two-phase									
	• For MCBs 2P (5SY) or fuse holders 10 x 38 mm/class CC (3NC1 092, 3NW7 523-0HG)	1	1000		**5ST3 705-0HG**		1	1 unit	005	0.700
	• For MCBs 2P (5SY) with AS or FC	1+1.5	1000		**5ST3 707-0HG**		1	1 unit	005	0.690
	Three-phase									
	• For MCBs 3P (5SY) or fuse holders 10 x 38 mm/class CC (3NC1 093, 3NW7 533-0HG)	1	1000		**5ST3 710-0HG**		1	1 unit	005	0.850
	• For MCBs 3P (5SY) with AS or FC	1+1+1.5	1000		**5ST3 712-0HG**		1	1 unit	005	0.850
	• For MCBs 1P (5SY, 5SP) with AS or FC or fuse holders 14 x 51 mm (3NC1 493, 3NW7 131)	1.5	1000		**5ST3 714-0HG**		1	1 unit	005	0.850
	5ST3 7..-.HG busbars according to UL 508, 25 mm², can be cut, without end caps									
	Single-phase									
	• For MCBs 1P (5SP) or fuse holder 14 x 51 mm (3NC1 491, 3NW7 111)	1.5	1000		**5ST3 701-2HG**		1	1 unit	005	0.340
	Two-phase									
	• For MCBs 2P (5SP) or fuse holders 14 x 51 mm (3NC1 492, 3NW7 121)	1.5	1000		**5ST3 705-2HG**		1	1 unit	005	0.800
	Three-phase									
	• For MCBs 3P (5SP) or fuse holders 14 x 51 mm (3NC1 493, 3NW7 131)	1.5	1000		**5ST3 710-2HG**		1	1 unit	005	1.090
	**End caps for 5ST3 7..-.HG**									
	• For single-phase busbars				**5ST3 748-0HG**		1	10 units	005	0.001
	• For two- and three-phase busbars				**5ST3 750-0HG**		1	10 units	005	0.002
	**Terminals according to UL 508**									
	Infeed to device									
	• 35 mm²				**5ST3 770-0HG**		1	10 units	005	0.035
	Infeed to busbar									
	• 50 mm²				**5ST3 770-1HG**		1	10 units	005	0.035
	**Touch protection cover for busbars according to UL 508**									
	• 5 x 1 pin				**5ST3 655-0HG**		1	10 units	005	0.005

[1] 1 MW (modular width) = 18 mm.

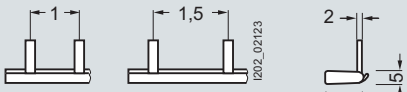
* You can order this quantity or a multiple thereof.

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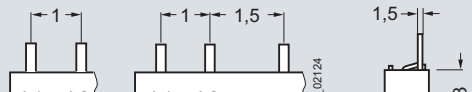
Dimensional drawings

5ST3 7 busbars
Pin spacings in MW (modular width 1 MW = 18 mm)

Dimensions of side view in mm (approx.)



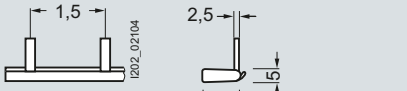
5ST3 701-0HG 5ST3 703-0HG



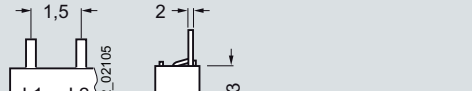
5ST3 705-0HG 5ST3 707-0HG



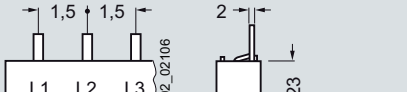
5ST3 710-0HG 5ST3 712-0HG 5ST3 714-0HG



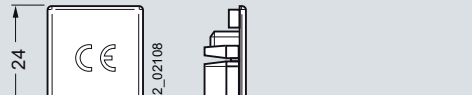
5ST3 701-2HG



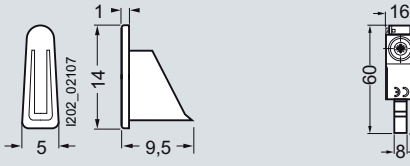
5ST3 705-2HG



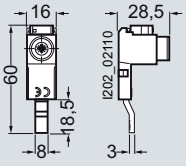
5ST3 710-2HG



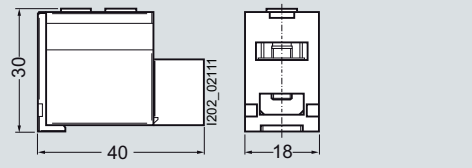
5ST3 750-0HG



5ST3 748-0HG



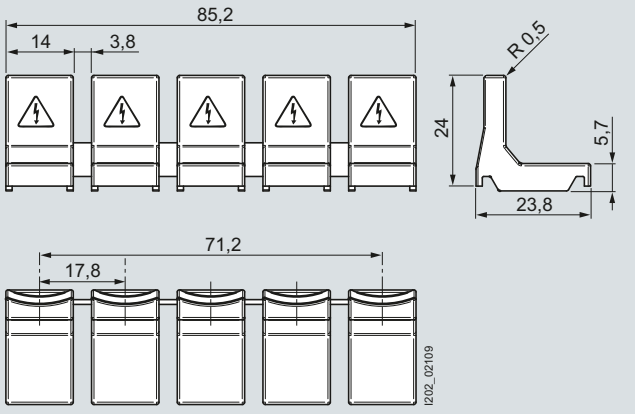
5ST3 770-0HG



5ST3 770-1HG

5ST3 6 touch protection covers
Pin spacings in MW (modular width 1 MW = 18 mm)

Dimensions of side view in mm (approx.)



5ST3 655-0HG

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5ST2 5 distribution blocks

Overview

Distribution blocks for standard rail mounting

Using distribution blocks it is possible to implement one, two, three and four-phase systems with a rated current of up to 400 A. This allows supply terminals to be divided into several load circuits with different cable cross-sections.

The distribution blocks are made of thermoplastic with electrical and mechanical components, which enables their use under high thermal and mechanical load acc. to IEC 60947-7-1.

Technical specifications

				5ST2 501	5ST2 502	5ST2 503
Standards, certifications				IEC 60947-7-1		
Degree of protection				IP 20		
Poles				4		
Approved cable				Copper		
Conductor cross-section						
• Inputs per pole						
- Solid/stranded conductor acc. to IEC			mm^2	1 x 1.5 … 16/2.5 … 16	1 x 6 … 25/6 … 35	1 x 10 … 35/10 … 50
	Neutral conductor		mm^2	--	1 x 6 … 25/6 … 35	--
• Outputs per pole						
- Solid/stranded conductor acc. to IEC		Large	mm^2	8 x 1.5 … 10/2.5 … 10	2 x 1.5 … 10/1.5 … 16	3 x 6 … 25/10 … 35
		Small	mm^2	--	5 x 1.5 … 6/1.5 … 6	8 x 1.5 … 16/2.5 … 16
	Neutral conductor	Large	mm^2	--	6 x 1.5 … 10/1.5 … 16	--
		Small	mm^2	--	4 x 1.5 … 6/1.5 … 6	--
Tightening torque						
• Inputs			lb/inch	13.5	13.5	17.5
			Nm	1.5	1.5	2
	Plug-in connection			PZ2	PZ2	Allen key (5 mm)
• Outputs	Large		lb/inch	7.2	13.5	13.5
			Nm	0.8	1.5	1.5
	Plug-in connection			PZ1	PZ2	PZ2
	Small		lb/inch	--	7.2	13.5
			Nm	--	0.8	1.5
	Plug-in connection			--	PZ1	PZ2
Operational voltage						
• IEC, max.			V	500	690	500
Overcurrent protection						
• Max. rated current			A	80	125	160
• Rated impulse withstand voltage (Ipk)			kA	21.6	24	20
• Rated short-time withstand current	(Icw 1 s)		kA	3	4.2	6.2
Block dimensions (D x H x W)			mm	88 x 49 x 86	75 x 49 x 45	160.5 x 90 x 50

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UL types

			5ST2 504	5ST2 505	5ST2 507	5ST2 508	5ST2 511
Standards, certifications			UL 1059 / UL 486E / IEC 60947-7-1 UL File No. E80027 / XCFR2 C22.2 No. 158 -1987 / XCFR8			UL 486E / IEC 60947-7-1 UL File No. E80027 / XCFR2	
Degree of protection			IP 20				
Poles			1				
Approved cable			Copper				
Wiring type **• Front/back**			Factory and field wiring Pressure wire connector				
Conductor cross-section							
• Inputs							
- Solid and stranded conductor acc. to UL	Large	AWG	1 x 8 … 4	1 x 8 … 2	1 x 8 … 2 / 0	1 x 2 … 4 / 0 [1]	1 x 3 / 0 … 350 MCM
- Solid and stranded acc. to IEC		mm^2	2.5 … 16	10 … 35	10 … 70	35 … 120 [1]	95 … 185
- Solid and stranded conductor acc. to UL	Small	AWG	--	1 x 14 ... 4	--		
- Solid and stranded acc. to IEC		mm^2	--	2.5 ... 25	--		
• Outputs							
- Solid and stranded conductor acc. to UL	Top	AWG	4 x 14 … 10	6 x 14 … 4	6 x 14 … 4[1]	4 x 14 … 6	4 x 10 … 14
- Solid and stranded acc. to IEC		mm^2	2.5 … 6	2.5 … 16	2.5 … 25[1]	1.5 … 16	2.5 … 6
- Solid and stranded conductor acc. to UL	Medium	AWG	--			4 x 14 … 8	
- Solid and stranded acc. to IEC		mm^2	--			1.5 … 10	
- Solid and stranded conductor acc. to UL	Bottom	AWG	3 x 8 … 4	--		2 x 14 … 2 / 1 x 14 … 6	
- Solid and stranded acc. to IEC		mm^2	2.5 … 16	--		2 x 6 … 35 / 1.5 … 16	
Tightening torque							
• Inputs		lb/inch	13.5	31	35.7	170	230
		Nm	3	3.5	5	19	25
	Plug-in connection			Allen key (4 mm)	Allen key (5 mm)	Allen key (6 mm)	Allen key (8 mm)
• Outputs	Large	lb/inch	13.5	17.5		31	
		Nm	3	2		3.5	
	Plug-in connection		PZ2			Standard screwdriver	
	Small	lb/inch	7.2	--		31	
		Nm	0.8	--		3.5	
	Plug-in connection		PZ1	--		Standard screwdriver	
Ampere per pole, max.		A	80	115	160	230	310
Operational voltage							
• UL, max.		V	600				
• IEC, max.		V	690				
Overcurrent protection							
• Required Class			J				
• Max. rated current		A	80	125	160	250	350
• SCCR RMS Sym A		kA	100				
• Rated impulse withstand voltage (Ipk)		kA	2.7	30		51	
• Rated short-time withstand current	(Icw 1 s)	kA	1.9	4.4	11	21	
Clearance							
• Air		inches (mm)	3 / 8 (9.5)				
• Creepage distance		inches (mm)	1 / 2 (12.7)				
Fire class			UL94V-0				
Block dimensions (D x H x W)		mm	66 x 49 x 27	74 x 49 x 27	92 x 35 x 49	96 x 49 x 45	96 x 49 x 45
Connections			With cable up to 16 mm^2	With connector or cable up to 16 mm^2 [2]	Lateral incoming feeder for parallel connection with copper bar (max. 16 x 5 mm)	--	--

[1] Only stranded conductors
[2] Copper jumper is tested for a rated current of 100 A

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5ST2 5 distribution blocks

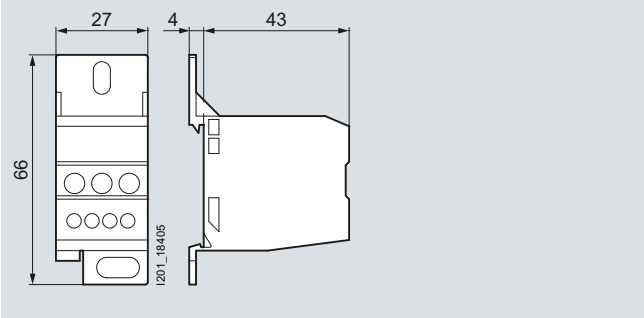
Selection and ordering data

	Version	Standard	*I*	*U*	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
			A	V	MW							kg
 5ST2 504	**1-pole**	UL 1059 / UL 486E / IEC 60947-7-1	80	600	1.5		**5ST2 504**		1	1 unit	020	0.072
			125	600	1.5		**5ST2 505**		1	1 unit	020	0.146
		UL File No. E80027 / XCFR2 C22.2 No158 -1987 / XCFR8	160	600	2	▶	**5ST2 507**		1	1 unit	020	0.252
		UL 486E / IEC 60947-7-1	250	600	2.5	▶	**5ST2 508**		1	1 unit	020	0.440
		UL File No. E80027 / XCFR2	350	600	2.5	▶	**5ST2 511**		1	1 unit	020	0.418
 5ST2 501	**4-pole**	IEC 60947-7-1	80	500	5		**5ST2 501**		1	1 unit	020	0.246
 5ST2 502		IEC 60947-7-1	125	690	5.5		**5ST2 502**		1	1 unit	020	0.352
 5ST2 503		IEC 60947-7-1	160	500	9		**5ST2 503**		1	1 unit	020	0.690
Accessories												
 5ST2 506	**Copper jumper 32 mm** Single-phase, for 5ST2 505		--	--	--		**5ST2 506**		1	10 units	020	0.012

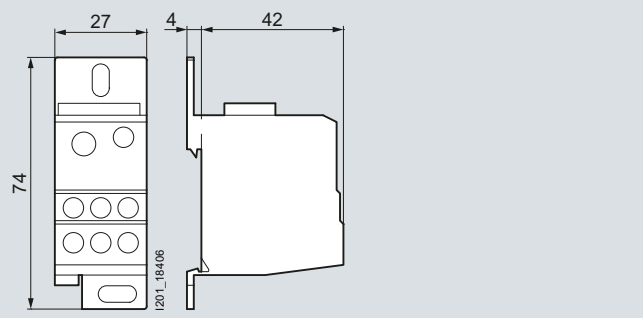
* You can order this quantity or a multiple thereof.

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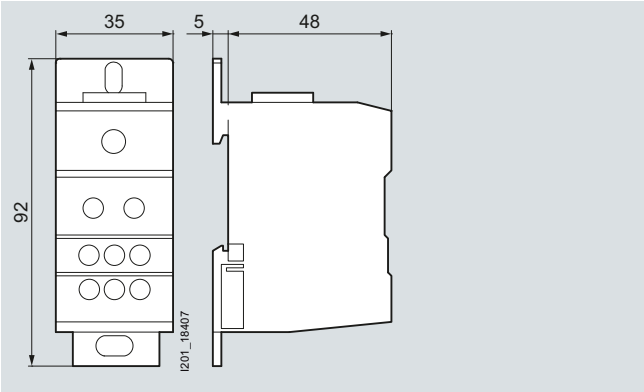
Dimensional drawings



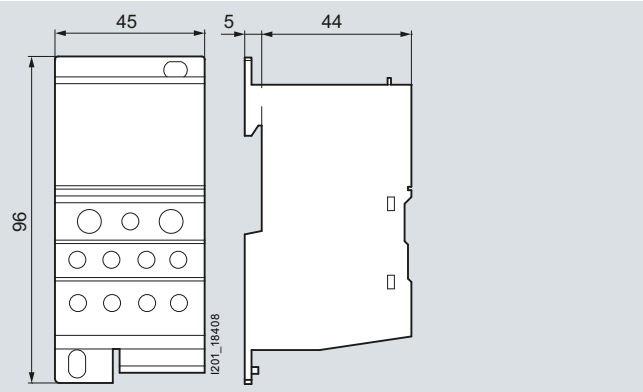
5ST2 504



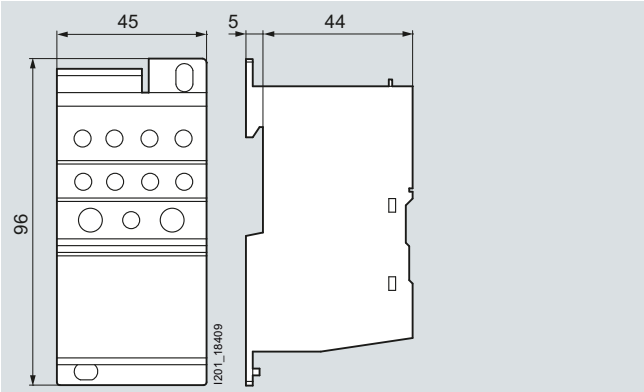
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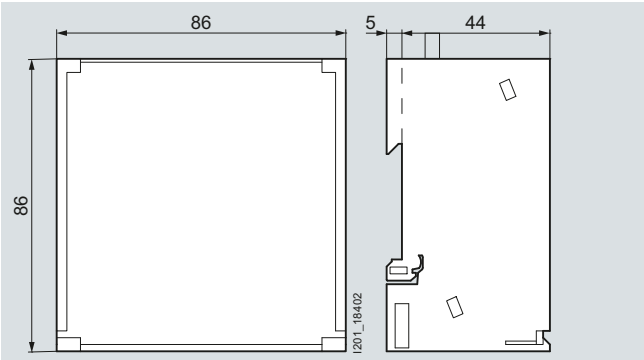
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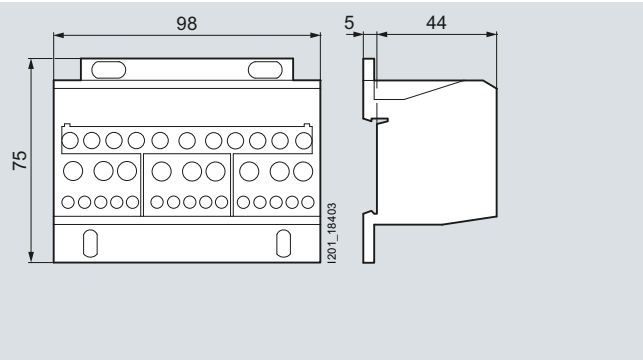
5ST2 508



5ST2 511



5ST2 501

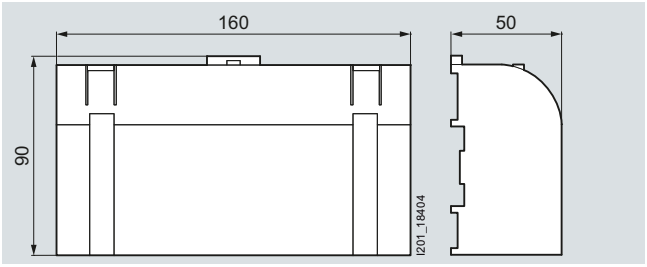


5ST2 502

* You can order this quantity or a multiple thereof.

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5ST2 5 distribution blocks



5ST2 503

* You can order this quantity or a multiple thereof.

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Overview

SIKclip is a fast wiring system that simplifies the connection of control switches:

- For mounting directly on the rear vertical CU busbar system
- Mounting using brackets on the rear of the DIN rail.

The 4-pole busbar can handle loads of up to 250 A, each individual contact up to 63 A.

High degree of protection because each contact is locked individually.

SIKclip is made of thermoplastic acc. to IEC 60439-3 and is suitable for high thermal loads.

Technical specifications

		5ST2 5..
Compliance to standards		EN 60947-1, EN 60439-3
Degree of protection		IP20
Max. rated current I_n	A	250 at 40 °C ambient temperature
Max. rated output current I_n	A	63 A at 40 °C ambient temperature
Rated operational voltage U_n	V AC	400
Rated insulation voltage	V AC	660
Test voltage	kV	2.5, 50 Hz
Connecting cables		40 A (6 mm²), 63 A (10 mm²)
Connecting cable type		H07VK
Ambient temperature	°C	-5 ... +60

Selection and ordering data

	Length	Conductor cross-section	Color of insulation	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	mm	mm²								kg
	**SIKclip busbar**									
	12 MW				**5ST2 520**		1	1 unit	020	0.772
	24 MW			►	**5ST2 521**		1	1 unit	020	1.400
	36 MW			►	**5ST2 522**		1	1 unit	020	2.041
	**Connecting cables with plug**									
	120	6	Black	►	**5ST2 523**		1	10 units	020	0.011
			Blue	►	**5ST2 524**		1	10 units	020	0.012
		10	Black		**5ST2 525**		1	10 units	020	0.013
			Blue		**5ST2 526**		1	10 units	020	0.017
	220	6	Black		**5ST2 527**		1	10 units	020	0.019
			Blue		**5ST2 528**		1	10 units	020	0.019
		10	Black		**5ST2 530**		1	10 units	020	0.028
			Blue		**5ST2 531**		1	10 units	020	0.027
	**Crimp connectors**				**5ST2 532**		1	20 units	020	0.006
	For connection to cables 4/6 mm²									
	**Fixing brackets**			►	**5ST2 533**		1	2 units	020	0.032
	For mounting on the rear of the standard mounting rail (pair)									

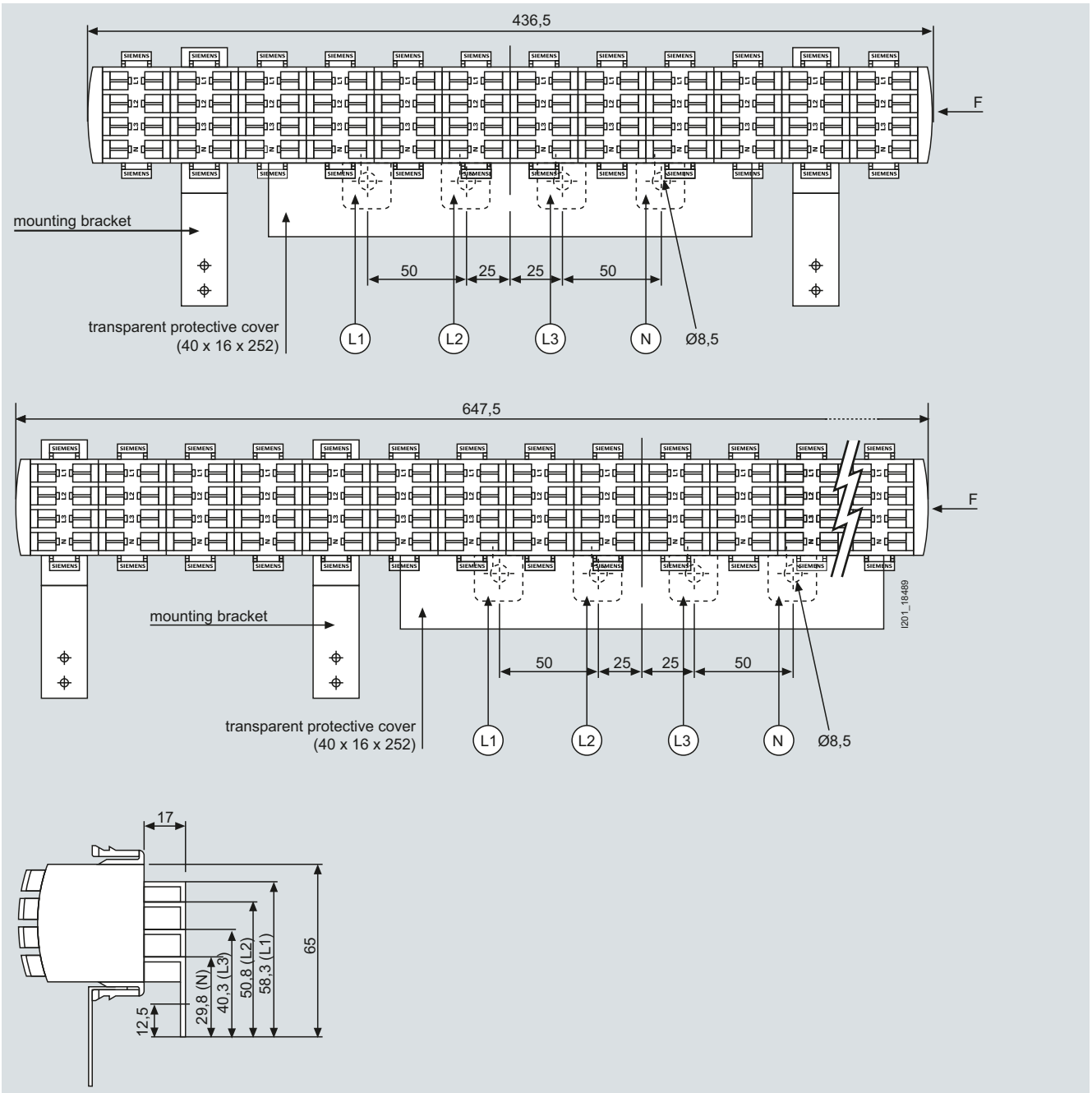
Note:

To install the SIKclip wiring system in the ALPHA AS, the busbars must be installed in a vertical rear position, but not recessed. If the busbars are in a recessed position the cables will not reach the circuit breakers.

* You can order this quantity or a multiple thereof.

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Dimensional drawings



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5SJ4 . . . - . HG miniature circuit breakers acc. to UL 489 and IEC, and accessories

Overview

UL standards are used in North America as well as in several other countries. This is of particular importance to European exporters of electrical switchgear assemblies and equipment for machines who export to the USA, as their products will only be accepted if they meet the relevant UL standards.

A wide range of low-voltage circuit protection devices from Siemens comply with UL standards and are therefore suitable for implementation worldwide in both IEC/EN and UL applications within the framework of their specified use.

Miniature circuit breakers certified to UL 489 permit use as an all-round solution for protection tasks in distribution boards, control cabinets and control systems to UL 508A as "branch protectors". In particular, they are also approved for the protection of electrical circuits in heating, ventilating and cooling systems (HVAC), as well as for DC applications up to 60 V/125 V.

This covers a wide range of protection tasks, in residential and non-residential buildings, as well as in industry. The tripping characteristics B, C and D to EN/IEC 60898-1 have been adapted so that they fall in the permissible tripping range according to UL 489, as well as for applications at 25 °C and 40 °C.

This means that the devices are approved for use according to both standards. The enclosure dimensions of the devices correspond to DIN format. This means that the device series are suitable for universal use worldwide according to IEC or UL standards.

The key difference between the three device series is their application in different power supply systems.

- 5SJ4 …-.HG40: 240/120 V AC, 1-pole, "same polarity only",
- 5SJ4 …-.HG41: 240 V AC, 1-, 2- and 3-pole,
- 5SJ4 …-.HG42: 480Y/277 V AC, 1-, 2- and 3-pole.

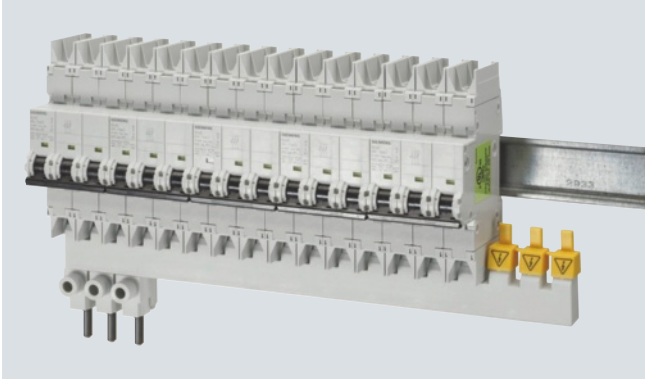
The terminals are suitable for "field wiring". This means that the devices can be installed not only in factory-built distribution boards and control cabinets, but also on-site in a customer system.

Using this mounting concept, all additional 5ST3 . . .-.HG components can be combined with miniature circuit breakers of the 5SJ4 …-.HG range. The auxiliary switch (AS) signals the contact position. In the event of a fault, the fault signal contact (FC) signals the automatic tripping of the MCB as well as the contact position. Shunt trips (units) are used for the remote tripping of miniature circuit breakers. Captive metal brackets on the additional components ensure fast mounting on the devices.

Single, two and three-phase busbars in 3 lengths with 6, 12 or 18 pins are available as accessories for all device series for "field wiring". The infeed is via connection terminals, which are available in two versions, for direct infeed at either the busbar or the miniature circuit breakers. Pins that are not required can be covered with touch protection covers.

Benefits

- Can be used globally for all applications in residential, non-residential and industrial buildings. This facilitates the planning of installations and enhances export opportunities
- The devices can be used according to IEC/EN 60898-1 and UL 489, which means these devices can be installed anywhere in the world
- Miniature circuit breakers with 480Y/277 V up to 40 A, with 240/120 V and 240 V up to 63 A
- Can be used for both AC voltage and DC voltage up to 125 V
- Rated making and breaking capacity up to 14 kA in acc. with UL 489 and up to 15 kA in acc. with IEC 60947-2
- Fast mounting with busbars up to 115 A and feeder terminals up to 50 mm^2.



- Infeed direct at miniature circuit breaker for conductor cross-sections up to 35 mm^2



- Bus mounting with central infeed directly on the busbar up to conductor cross-section of 50 mm^2



- Accessories: Auxiliary switches, fault signal contacts and shunt trips up to 480 V can be easily mounted onto the miniature circuit breaker.

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5SJ4 . . . - . HG miniature circuit breakers acc. to UL 489 and IEC, and accessories

Technical specifications

			5SJ4 . . .-.HG40	5SJ4 . . .-.HG41	5SJ4 . . .-.HG42
Standards			EN 60898-1; EN 60947-2; UL 489 (UL-File E243414); UL 489A (UL-File E332105); CSA C22.2 No. 5-02		
Approvals			See appendix, chapter 20		
Tripping characteristic			B, C, D	C, D	
Rated voltage					
• Acc. to EN 60947-1		V AC	230/400	230/400	230/400
• Acc. to UL 489 and CSA C22.2 No.5-02		V AC DC V/1P DC V/2P	240/120 60 --	240 60 125	480Y/277 60 125
Operational voltage	Min.	V AC/DC per pole	24		
• Acc. to IEC 60898-1	Max. Max.	V DC/pole V AC	60 250/440		
Rated breaking capacity					
• I_{cn} acc. to IEC 60898-1		kA AC	10		
• I_{cu} acc. to IEC 60947-2		kA AC	15		
• Acc. to UL 489/UL 489A and CSA C22.2 No. 5-02		kA AC	14/10[1)]	14/10[1)]	10[1)]
Insulation coordination					
• Rated insulation voltage		V AC	250	250/440	
• Pollution degree for overvoltage category			3/III		
Touch protection according to EN 50274			Yes		
Handle end position, sealable			Yes		
Degree of protection according to EN 60529			IP20 with connected conductors, IP40 in the handle range		
CFC and silicone-free			Yes		
Mounting			On standard mounting rail		
Terminals	±screw (Pozidriv)		2		
• Combined terminals at both ends			Yes		
• Terminal tightening torque, only for Cu, 60/75 °C		Nm lb.in	3.5 31		
Conductor cross-sections					
• Solid and stranded, acc. to UL489 and CSA C22.2 No.5-02		AWG	14 ... 4		
• Solid and stranded, according to IEC 60898-1		mm^2	0.75 ... 35		
• Finely stranded, with end sleeve		mm2	0.75 ... 25		
Mains connection			Any		
Mounting position			Any		
Service life, on average, with rated load			20000 actuations		
EMC environment					
• Acc. to EN 60947-2			Suitable for environment "B" (immunity to interference not applicable)		
Ambient temperature		°C	-25 ... +55, max. 95 % humidity		
Storage temperature		°C	-40 ... +75		
Resistance to climate acc. to IEC 60068-2-30			6 cycles		
Resistance to vibrations acc. to IEC 60068-2-6		m/s^2	50 at 25 ... 150 Hz and 60 at 35 Hz (4 sec)		

[1)] For detailed information on the rated making and breaking capacity, see engineering manual at: www.siemens.com/lowvoltage/manual.

Additional components			**Auxiliary switches (AS)**			**Fault signal contacts (FC)**		**Shunt trips (units)**	
			5ST3 010-0HG 5ST3 011-0HG 5ST3 012-0HG			**5ST3 020-0HG 5ST3 021-0HG 5ST3 022-0HG**		**5ST3 030-0HG**	**5ST3 031-0HG**
Standards			UL 489, UL-File E321559; CSA 22.2 No. 5-02 IEC/EN 62019, IEC/EN 60947-5-1					IEC/EN 60947-1	
Operational voltage/operational current (load)									
• Acc. to IEC		V AC	400	230				110 ... 415	24 ... 60
		A AC	2	6 (NC: 13 AC, S: AC14)				--	--
		V DC	220	110	60	24		--	24 ... 60
		A DC	1	1	3	6 (DC13)		--	--
• Acc. to UL		V AC	480	277	240	120		110 ... 480	24 ... 60
		A AC	1.5	3	4	6		--	--
		V DC	125	60				--	24 ... 60
		A DC	1	3				--	--
Short-circuit protection			Miniature circuit breaker or 6 A fuse						
Minimum contact load			50 mA, 24 V						
Tripping operations			--			--		max. 2000	
Service life, on average, with rated load			12000 actuations						
Primary operating range		x U_n	--					0.7 ... 1.1	
Conductor cross-sections		AWG	22 ... 14					22 ... 14	
		mm^2	0.5 ... 2.5					0.5 ... 2.5	
Terminals	±screw (Pozidriv)		1			1		1	
• Terminal tightening torque		Nm	0.5					0.8	
		lb/in	4.5					6.8	

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5SJ4 . . . - . HG miniature circuit breakers acc. to UL 489 and IEC, and accessories

Version		Busbars	Terminals	
Type		**5ST3 663-.HG 5ST3 664-.HG 5ST3 665-.HG**	**5ST3 666-0HG**	**5ST3 666-2HG**
Standards		UL 489; UL File No. E321559		
Operational voltage • Acc. to IEC • Acc. to UL 489	 V AC V AC	 690 480 V (60z)		
Rated conditional short-circuit current • Dielectric strength • Surge strength	kA kV/mm kV	15 (with NH3 355A gL/gG 500 V) 30 > 9.5		
Rated current at 40 °C ambient temperature	A	115	115 (Cu 75 °C) 95 (Cu 60 °C)	115 (Cu 75 °C) 110 (Cu 60 °C)
Insulation coordination • Pollution degree • Overvoltage category		 2 III		
Busbar cross-section (Cu)	mm^2	16		
Infeed		Any		
Conductor cross-sections				
• AWG cables • Solid and stranded	AWG mm^2	-- --	14 ... 2 1.5 ... 35	14 ... 1 1.5 ... 50
Terminals		--	6 mm Allen key	±screw (Pozidriv) 2
• Terminal tightening torque	Nm lb.in	-- --	3.3 30	3.3 30
Temperature resistance	°C	200 – UL 94-V0/0.4 mm		
Interrupting rating		10 kA at 240 V AC or 480 V AC		

Note:

The busbars and terminals are suitable for applications up to 80 A if installed in distribution boards with min. dimensions of 18 x 18 x 6.25", or up to 115 A if installed in distribution boards with min. dimensions of 30 x 30 x 10".

Selection and ordering data

	I_n	Mounting width	DT	Characteristic B Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]							kg
	MCBs "same polarity only" 1P, 240 V AC								
	6	1		**5SJ4 106-6HG40**		1	1 unit	005	0.153
	10			**5SJ4 110-6HG40**		1	1 unit	005	0.157
	13			**5SJ4 113-6HG40**		1	1 unit	005	0.152
	15			**5SJ4 118-6HG40**		1	1 unit	005	0.153
	16			**5SJ4 116-6HG40**		1	1 unit	005	0.149
	20			**5SJ4 120-6HG40**		1	1 unit	005	0.147
	25			**5SJ4 125-6HG40**		1	1 unit	005	0.154
	30			**5SJ4 130-6HG40**		1	1 unit	005	0.154
	32			**5SJ4 132-6HG40**		1	1 unit	005	0.154
	35			**5SJ4 135-6HG40**		1	1 unit	005	0.156
	40			**5SJ4 140-6HG40**		1	1 unit	005	0.156
	45			**5SJ4 145-6HG40**		1	1 unit	005	0.120
	50			**5SJ4 150-6HG40**		1	1 unit	005	0.159
	60			**5SJ4 160-6HG40**		1	1 unit	005	0.120
	63			**5SJ4 163-6HG40**		1	1 unit	005	0.162

1) 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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5SJ4 . . . - . HG miniature circuit breakers acc. to UL 489 and IEC, and accessories

	I_n	Mounting width	DT	Characteristic C Order No.	Price per PU	PG	DT	Characteristic D Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	MCBs "same polarity only" 1P, 240 V AC												
	0.3	1		**5SJ4 114-7HG40**		005		**5SJ4 114-8HG40**		1	1 unit	005	0.152
	0.5			**5SJ4 105-7HG40**		005		**5SJ4 105-8HG40**		1	1 unit	005	0.152
	1			**5SJ4 101-7HG40**		005		**5SJ4 101-8HG40**		1	1 unit	005	0.156
	1.6			**5SJ4 115-7HG40**		005		**5SJ4 115-8HG40**		1	1 unit	005	0.151
	2			**5SJ4 102-7HG40**		005		**5SJ4 102-8HG40**		1	1 unit	005	0.151
	3			**5SJ4 103-7HG40**		005		**5SJ4 103-8HG40**		1	1 unit	005	0.139
	4			**5SJ4 104-7HG40**		005		**5SJ4 104-8HG40**		1	1 unit	005	0.153
	5			**5SJ4 111-7HG40**		005		**5SJ4 111-8HG40**		1	1 unit	005	0.150
	6			**5SJ4 106-7HG40**		005		**5SJ4 106-8HG40**		1	1 unit	005	0.150
	8			**5SJ4 108-7HG40**		005		**5SJ4 108-8HG40**		1	1 unit	005	0.152
	10			**5SJ4 110-7HG40**		005		**5SJ4 110-8HG40**		1	1 unit	005	0.151
	13			**5SJ4 113-7HG40**		005		**5SJ4 113-8HG40**		1	1 unit	005	0.147
	15			**5SJ4 118-7HG40**		005		**5SJ4 118-8HG40**		1	1 unit	005	0.153
	16			**5SJ4 116-7HG40**		005		**5SJ4 116-8HG40**		1	1 unit	005	0.152
	20			**5SJ4 120-7HG40**		005		**5SJ4 120-8HG40**		1	1 unit	005	0.152
	25			**5SJ4 125-7HG40**		005		**5SJ4 125-8HG40**		1	1 unit	005	0.152
	30			**5SJ4 130-7HG40**		005		**5SJ4 130-8HG40**		1	1 unit	005	0.158
	32			**5SJ4 132-7HG40**		005		**5SJ4 132-8HG40**		1	1 unit	005	0.156
	35			**5SJ4 135-7HG40**		005		**5SJ4 135-8HG40**		1	1 unit	005	0.161
	40			**5SJ4 140-7HG40**		005		**5SJ4 140-8HG40**		1	1 unit	005	0.156
	45			**5SJ4 145-7HG40**		005		**5SJ4 145-8HG40**		1	1 unit	005	0.159
	50			**5SJ4 150-7HG40**		005		**5SJ4 150-8HG40**		1	1 unit	005	0.159
	60			**5SJ4 160-7HG40**		005		**5SJ4 160-8HG40**		1	1 unit	005	0.157
	63			**5SJ4 163-7HG40**		005		**5SJ4 163-8HG40**		1	1 unit	005	0.157
	MCBs 1P, 240 V AC												
	0.3	1		**5SJ4 114-7HG41**		005		**5SJ4 114-8HG41**		1	1 unit	005	0.155
	0.5			**5SJ4 105-7HG41**		005		**5SJ4 105-8HG41**		1	1 unit	005	0.155
	1			**5SJ4 101-7HG41**		005		**5SJ4 101-8HG41**		1	1 unit	005	0.175
	1.6			**5SJ4 115-7HG41**		005		**5SJ4 115-8HG41**		1	1 unit	005	0.155
	2			**5SJ4 102-7HG41**		005		**5SJ4 102-8HG41**		1	1 unit	005	0.168
	3			**5SJ4 103-7HG41**		005		**5SJ4 103-8HG41**		1	1 unit	005	0.171
	4			**5SJ4 104-7HG41**		005		**5SJ4 104-8HG41**		1	1 unit	005	0.170
	5			**5SJ4 111-7HG41**		005		**5SJ4 111-8HG41**		1	1 unit	005	0.155
	6			**5SJ4 106-7HG41**		005		**5SJ4 106-8HG41**		1	1 unit	005	0.169
	8			**5SJ4 108-7HG41**		005		**5SJ4 108-8HG41**		1	1 unit	005	0.172
	10			**5SJ4 110-7HG41**		005		**5SJ4 110-8HG41**		1	1 unit	005	0.173
	13			**5SJ4 113-7HG41**		005		**5SJ4 113-8HG41**		1	1 unit	005	0.172
	15			**5SJ4 118-7HG41**		005		**5SJ4 118-8HG41**		1	1 unit	005	0.155
	16			**5SJ4 116-7HG41**		005		**5SJ4 116-8HG41**		1	1 unit	005	0.172
	20			**5SJ4 120-7HG41**		005		**5SJ4 120-8HG41**		1	1 unit	005	0.171
	25			**5SJ4 125-7HG41**		005		**5SJ4 125-8HG41**		1	1 unit	005	0.172
	30			**5SJ4 130-7HG41**		005		**5SJ4 130-8HG41**		1	1 unit	005	0.155
	32			**5SJ4 132-7HG41**		005		**5SJ4 132-8HG41**		1	1 unit	005	0.155
	35			**5SJ4 135-7HG41**		005		**5SJ4 135-8HG41**		1	1 unit	005	0.155
	40			**5SJ4 140-7HG41**		005		**5SJ4 140-8HG41**		1	1 unit	005	0.175
	45			**5SJ4 145-7HG41**		005		**5SJ4 145-8HG41**		1	1 unit	005	0.155
	50			**5SJ4 150-7HG41**		005		**5SJ4 150-8HG41**		1	1 unit	005	0.155
	60			**5SJ4 160-7HG41**		005		**5SJ4 160-8HG41**		1	1 unit	005	0.155
	63			**5SJ4 163-7HG41**		005		**5SJ4 163-8HG41**		1	1 unit	005	0.155

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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5SJ4 . . . - . HG miniature circuit breakers acc. to UL 489 and IEC, and accessories

	I_n	Mounting width	DT	Characteristic C Order No.	Price per PU	PG	DT	Characteristic D Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	MCBs 2P, 240 V AC												
	0.3	2		**5SJ4 214-7HG41**		005		**5SJ4 214-8HG41**		1	1 unit	005	0.310
	0.5			**5SJ4 205-7HG41**		005		**5SJ4 205-8HG41**		1	1 unit	005	0.341
	1			**5SJ4 201-7HG41**		005		**5SJ4 201-8HG41**		1	1 unit	005	0.337
	1.6			**5SJ4 215-7HG41**		005		**5SJ4 215-8HG41**		1	1 unit	005	0.332
	2			**5SJ4 202-7HG41**		005		**5SJ4 202-8HG41**		1	1 unit	005	0.332
	3			**5SJ4 203-7HG41**		005		**5SJ4 203-8HG41**		1	1 unit	005	0.329
	4			**5SJ4 204-7HG41**		005		**5SJ4 204-8HG41**		1	1 unit	005	0.329
	5			**5SJ4 211-7HG41**		005		**5SJ4 211-8HG41**		1	1 unit	005	0.310
	6			**5SJ4 206-7HG41**		005		**5SJ4 206-8HG41**		1	1 unit	005	0.335
	8			**5SJ4 208-7HG41**		005		**5SJ4 208-8HG41**		1	1 unit	005	0.337
	10			**5SJ4 210-7HG41**		005		**5SJ4 210-8HG41**		1	1 unit	005	0.332
	13			**5SJ4 213-7HG41**		005		**5SJ4 213-8HG41**		1	1 unit	005	0.332
	15			**5SJ4 218-7HG41**		005		**5SJ4 218-8HG41**		1	1 unit	005	0.310
	16			**5SJ4 216-7HG41**		005		**5SJ4 216-8HG41**		1	1 unit	005	0.335
	20			**5SJ4 220-7HG41**		005		**5SJ4 220-8HG41**		1	1 unit	005	0.334
	25			**5SJ4 225-7HG41**		005		**5SJ4 225-8HG41**		1	1 unit	005	0.333
	30			**5SJ4 230-7HG41**		005		**5SJ4 230-8HG41**		1	1 unit	005	0.336
	32			**5SJ4 232-7HG41**		005		**5SJ4 232-8HG41**		1	1 unit	005	0.342
	35			**5SJ4 235-7HG41**		005		**5SJ4 235-8HG41**		1	1 unit	005	0.310
	40			**5SJ4 240-7HG41**		005		**5SJ4 240-8HG41**		1	1 unit	005	0.343
	45			**5SJ4 245-7HG41**		005		**5SJ4 245-8HG41**		1	1 unit	005	0.310
	50			**5SJ4 250-7HG41**		005		**5SJ4 250-8HG41**		1	1 unit	005	0.343
	60			**5SJ4 260-7HG41**		005		**5SJ4 260-8HG41**		1	1 unit	005	0.310
	63			**5SJ4 263-7HG41**		005		**5SJ4 263-8HG41**		1	1 unit	005	0.310
	MCBs 3P, 240 V AC												
	0.3	3		**5SJ4 314-7HG41**		005		**5SJ4 314-8HG41**		1	1 unit	005	0.465
	0.5			**5SJ4 305-7HG41**		005		**5SJ4 305-8HG41**		1	1 unit	005	0.465
	1			**5SJ4 301-7HG41**		005		**5SJ4 301-8HG41**		1	1 unit	005	0.465
	1.6			**5SJ4 315-7HG41**		005		**5SJ4 315-8HG41**		1	1 unit	005	0.465
	2			**5SJ4 302-7HG41**		005		**5SJ4 302-8HG41**		1	1 unit	005	0.488
	3			**5SJ4 303-7HG41**		005		**5SJ4 303-8HG41**		1	1 unit	005	0.486
	4			**5SJ4 304-7HG41**		005		**5SJ4 304-8HG41**		1	1 unit	005	0.484
	5			**5SJ4 311-7HG41**		005		**5SJ4 311-8HG41**		1	1 unit	005	0.465
	6			**5SJ4 306-7HG41**		005		**5SJ4 306-8HG41**		1	1 unit	005	0.489
	8			**5SJ4 308-7HG41**		005		**5SJ4 308-8HG41**		1	1 unit	005	0.498
	10			**5SJ4 310-7HG41**		005		**5SJ4 310-8HG41**		1	1 unit	005	0.492
	13			**5SJ4 313-7HG41**		005		**5SJ4 313-8HG41**		1	1 unit	005	0.494
	15			**5SJ4 318-7HG41**		005		**5SJ4 318-8HG41**		1	1 unit	005	0.499
	16			**5SJ4 316-7HG41**		005		**5SJ4 316-8HG41**		1	1 unit	005	0.506
	20			**5SJ4 320-7HG41**		005		**5SJ4 320-8HG41**		1	1 unit	005	0.495
	25			**5SJ4 325-7HG41**		005		**5SJ4 325-8HG41**		1	1 unit	005	0.494
	30			**5SJ4 330-7HG41**		005		**5SJ4 330-8HG41**		1	1 unit	005	0.504
	32			**5SJ4 332-7HG41**		005		**5SJ4 332-8HG41**		1	1 unit	005	0.504
	35			**5SJ4 335-7HG41**		005		**5SJ4 335-8HG41**		1	1 unit	005	0.465
	40			**5SJ4 340-7HG41**		005		**5SJ4 340-8HG41**		1	1 unit	005	0.505
	45			**5SJ4 345-7HG41**		005		**5SJ4 345-8HG41**		1	1 unit	005	0.465
	50			**5SJ4 350-7HG41**		005		**5SJ4 350-8HG41**		1	1 unit	005	0.499
	60			**5SJ4 360-7HG41**		005		**5SJ4 360-8HG41**		1	1 unit	005	0.465
	63			**5SJ4 363-7HG41**		005		**5SJ4 363-8HG41**		1	1 unit	005	0.465

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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5SJ4 . . . - . HG miniature circuit breakers acc. to UL 489 and IEC, and accessories

	I_n	Mounting width	DT	Characteristic C Order No.	Price per PU	PG	DT	Characteristic D Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	MCBs 1P, 480Y/277 V AC												
	0.3	1		**5SJ4 114-7HG42**		005		**5SJ4 114-8HG42**		1	1 unit	005	0.155
	0.5			**5SJ4 105-7HG42**		005		**5SJ4 105-8HG42**		1	1 unit	005	0.155
	1			**5SJ4 101-7HG42**		005		**5SJ4 101-8HG42**		1	1 unit	005	0.155
	1.6			**5SJ4 115-7HG42**		005		**5SJ4 115-8HG42**		1	1 unit	005	0.155
	2			**5SJ4 102-7HG42**		005		**5SJ4 102-8HG42**		1	1 unit	005	0.155
	3			**5SJ4 103-7HG42**		005		**5SJ4 103-8HG42**		1	1 unit	005	0.155
	4			**5SJ4 104-7HG42**		005		**5SJ4 104-8HG42**		1	1 unit	005	0.155
	5			**5SJ4 111-7HG42**		005		**5SJ4 111-8HG42**		1	1 unit	005	0.155
	6			**5SJ4 106-7HG42**		005		**5SJ4 106-8HG42**		1	1 unit	005	0.155
	8			**5SJ4 108-7HG42**		005		**5SJ4 108-8HG42**		1	1 unit	005	0.155
	10			**5SJ4 110-7HG42**		005		**5SJ4 110-8HG42**		1	1 unit	005	0.155
	13			**5SJ4 113-7HG42**		005		**5SJ4 113-8HG42**		1	1 unit	005	0.155
	15			**5SJ4 118-7HG42**		005		**5SJ4 118-8HG42**		1	1 unit	005	0.155
	16			**5SJ4 116-7HG42**		005		**5SJ4 116-8HG42**		1	1 unit	005	0.155
	20			**5SJ4 120-7HG42**		005		**5SJ4 120-8HG42**		1	1 unit	005	0.155
	25			**5SJ4 125-7HG42**		005		**5SJ4 125-8HG42**		1	1 unit	005	0.155
	30			**5SJ4 130-7HG42**		005		**5SJ4 130-8HG42**		1	1 unit	005	0.155
	32			**5SJ4 132-7HG42**		005		**5SJ4 132-8HG42**		1	1 unit	005	0.155
	35			**5SJ4 135-7HG42**		005		**--**		1	1 unit		0.155
	40			**5SJ4 140-7HG42**		005		**--**		1	1 unit		0.155
	MCBs 2P, 480Y/277 V AC												
	0.3	2		**5SJ4 214-7HG42**		005		**5SJ4 214-8HG42**		1	1 unit	005	0.310
	0.5			**5SJ4 205-7HG42**		005		**5SJ4 205-8HG42**		1	1 unit	005	0.310
	1			**5SJ4 201-7HG42**		005		**5SJ4 201-8HG42**		1	1 unit	005	0.310
	1.6			**5SJ4 215-7HG42**		005		**5SJ4 215-8HG42**		1	1 unit	005	0.310
	2			**5SJ4 202-7HG42**		005		**5SJ4 202-8HG42**		1	1 unit	005	0.310
	3			**5SJ4 203-7HG42**		005		**5SJ4 203-8HG42**		1	1 unit	005	0.310
	4			**5SJ4 204-7HG42**		005		**5SJ4 204-8HG42**		1	1 unit	005	0.310
	5			**5SJ4 211-7HG42**		005		**5SJ4 211-8HG42**		1	1 unit	005	0.310
	6			**5SJ4 206-7HG42**		005		**5SJ4 206-8HG42**		1	1 unit	005	0.310
	8			**5SJ4 208-7HG42**		005		**5SJ4 208-8HG42**		1	1 unit	005	0.310
	10			**5SJ4 210-7HG42**		005		**5SJ4 210-8HG42**		1	1 unit	005	0.310
	13			**5SJ4 213-7HG42**		005		**5SJ4 213-8HG42**		1	1 unit	005	0.310
	15			**5SJ4 218-7HG42**		005		**5SJ4 218-8HG42**		1	1 unit	005	0.310
	16			**5SJ4 216-7HG42**		005		**5SJ4 216-8HG42**		1	1 unit	005	0.310
	20			**5SJ4 220-7HG42**		005		**5SJ4 220-8HG42**		1	1 unit	005	0.310
	25			**5SJ4 225-7HG42**		005		**5SJ4 225-8HG42**		1	1 unit	005	0.310
	30			**5SJ4 230-7HG42**		005		**5SJ4 230-8HG42**		1	1 unit	005	0.310
	32			**5SJ4 232-7HG42**		005		**5SJ4 232-8HG42**		1	1 unit	005	0.310
	35			**5SJ4 235-7HG42**		005		**--**		1	1 unit		0.310
	40			**5SJ4 240-7HG42**		005		**--**		1	1 unit		0.310

[1] 1 MW (modular width) = 18 mm.

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5SJ4 . . . - . HG miniature circuit breakers acc. to UL 489 and IEC, and accessories

	I_n	Mounting width	DT	Characteristic C Order No.	Price per PU	PG	DT	Characteristic D Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]											kg
	MCBs 3P, 480Y/277 V AC												
	0.3	3		**5SJ4 314-7HG42**		005		**5SJ4 314-8HG42**		1	1 unit	005	0.465
	0.5			**5SJ4 305-7HG42**		005		**5SJ4 305-8HG42**		1	1 unit	005	0.465
	1			**5SJ4 301-7HG42**		005		**5SJ4 301-8HG42**		1	1 unit	005	0.465
	1.6			**5SJ4 315-7HG42**		005		**5SJ4 315-8HG42**		1	1 unit	005	0.465
	2			**5SJ4 302-7HG42**		005		**5SJ4 302-8HG42**		1	1 unit	005	0.465
	3			**5SJ4 303-7HG42**		005		**5SJ4 303-8HG42**		1	1 unit	005	0.465
	4			**5SJ4 304-7HG42**		005		**5SJ4 304-8HG42**		1	1 unit	005	0.465
	5			**5SJ4 311-7HG42**		005		**5SJ4 311-8HG42**		1	1 unit	005	0.465
	6			**5SJ4 306-7HG42**		005		**5SJ4 306-8HG42**		1	1 unit	005	0.465
	8			**5SJ4 308-7HG42**		005		**5SJ4 308-8HG42**		1	1 unit	005	0.465
	10			**5SJ4 310-7HG42**		005		**5SJ4 310-8HG42**		1	1 unit	005	0.465
	13			**5SJ4 313-7HG42**		005		**5SJ4 313-8HG42**		1	1 unit	005	0.465
	15			**5SJ4 318-7HG42**		005		**5SJ4 318-8HG42**		1	1 unit	005	0.465
	16			**5SJ4 316-7HG42**		005		**5SJ4 316-8HG42**		1	1 unit	005	0.465
	20			**5SJ4 320-7HG42**		005		**5SJ4 320-8HG42**		1	1 unit	005	0.465
	25			**5SJ4 325-7HG42**		005		**5SJ4 325-8HG42**		1	1 unit	005	0.465
	30			**5SJ4 330-7HG42**		005		**5SJ4 330-8HG42**		1	1 unit	005	0.465
	32			**5SJ4 332-7HG42**		005		**5SJ4 332-8HG42**		1	1 unit	005	0.465
	35			**5SJ4 335-7HG42**		005		**--**		1	1 unit		0.465
	40			**5SJ4 340-7HG42**		005		**--**		1	1 unit		0.465

		Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		MW[1]							kg
	**Auxiliary switches (AS) acc. to UL 489**								
	1 NO + 1 NC	0.5		**5ST3 010-0HG**		1	1 unit	005	0.071
	2 NO			**5ST3 011-0HG**		1	1 unit	005	0.050
	2 NC			**5ST3 012-0HG**		1	1 unit	005	0.050
	**Fault signal contacts (FC) acc. to UL 489**								
	1 NO + 1 NC	0.5		**5ST3 020-0HG**		1	1 unit	005	0.050
	2 NO			**5ST3 021-0HG**		1	1 unit	005	0.050
	2 NC			**5ST3 022-0HG**		1	1 unit	005	0.050
	**Shunt trips (units) acc. to UL 489**								
	110 ... 480 V AC	1		**5ST3 030-0HG**		1	1 unit	005	0.098
	24 ... 60 V AC/DC		►	**5ST3 031-0HG**		1	1 unit	005	0.098

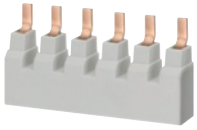
[1] 1 MW (modular width) = 18 mm.

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5SJ4 . . . - . HG miniature circuit breakers acc. to UL 489 and IEC, and accessories

Accessories

		Pin spacing	Length	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		MW[1]	mm							kg
	**Busbars according to UL 489 specially for 5SJ4 ... -.HG.. miniature circuit breakers -.HG.. fixed lengths, cannot be cut[2] UL-File E321559**									
	Single-phase									
	For 6 MCBs 1P	1	100		**5ST3 663-0HG**		1	10 units	005	0.056
	For 12 MCBs 1P		205		**5ST3 663-1HG**		1	10 units	005	0.112
	For 18 MCBs 1P		310		**5ST3 663-2HG**		1	10 units	005	0.170
	Two-phase									
	For 3 MCBs 2P	1	100		**5ST3 664-0HG**		1	10 units	005	0.065
	For 6 MCBs 2P		205		**5ST3 664-1HG**		1	10 units	005	0.137
	For 9 MCBs 2P		310		**5ST3 664-2HG**		1	10 units	005	0.211
	Three-phase									
	For 2 MCBs 3P	1	100		**5ST3 665-0HG**		1	10 units	005	0.067
	For 4 MCBs 3P		205		**5ST3 665-1HG**		1	10 units	005	0.155
	For 6 MCBs 3P		310		**5ST3 665-2HG**		1	10 units	005	0.243
	**Terminals according to UL 489 specially for 5SJ4 ... -.HG.. MCBs** Infeed at the miniature circuit breaker Max. 35 mm²				**5ST3 666-0HG**		1	10 units	005	0.033
	Infeed at the busbar Max. 50 mm²				**5ST3 666-2HG**		1	10 units	005	0.034
	**Touch protection covers for busbars acc. to UL 489** 3 × 1 pin				**5ST3 666-1HG**		1	10 units	005	0.003
	**Handle locking devices according to UL, UL-File E321559** Can be sealed against undesired manual ON/OFF switching, padlock with max. 3 mm shackle				**5ST3 801**		1	1 unit	020	0.012
	**Padlocks** For 5ST3 801 handle locking device				**5ST3 802**		1	1 unit	020	0.031

[1] 1 MW (modular width) = 18 mm.

[2] All unassigned pins of the busbar must be covered with 5ST3 666-1HG touch protection covers.

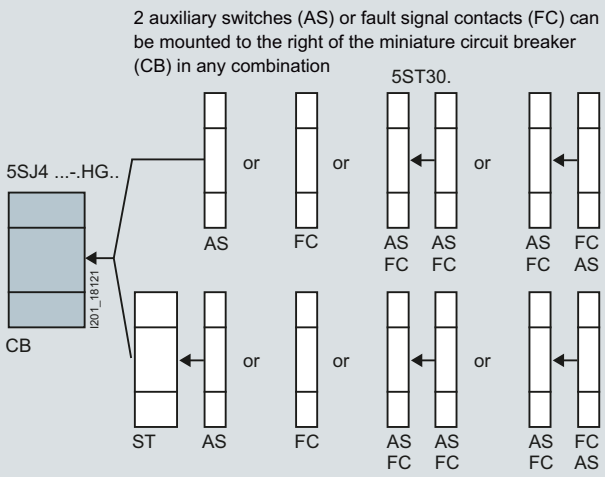
* You can order this quantity or a multiple thereof.

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More information

Mounting concept for mounting 5ST3 0. .-0HG accessories on 5SJ4 . . .-.HG miniature circuit breakers

The diagram shows which additional components can be mounted on the right.



CB: Circuit breaker
ST: Shunt trip
AS: Auxiliary switch
FC: Fault signal contact

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SHU 5SP3 main miniature circuit breakers

Overview

Selective main miniature circuit breakers are used as circuit breakers at meter panels and provide an optimum solution.

Characteristic E is adapted to the special application requirements for cascade circuits between melting fuses and miniature circuit breakers in distributor circuits.

An integrated adapter enables quick and easy mounting of the devices on 40 mm busbars. The reduced width of 1.5 MW creates lots of additional space in the meter cabinet.
The screwless outgoing terminal provides optimum user-friendliness.

Used in conjunction with the downstream miniature circuit breaker, selective main miniature circuit breakers ensure effective protection and optimum availability of the system.

Benefits

- Quick and easy installation as can be snapped directly onto busbar
- Space-saving field installation due to reduced mounting width
- Tool-free connection of meter cable
- Reliable and high selectivity
- Optimum availability of customer system
- Voltage-independent operation of selective main miniature circuit breakers
- Practical locking options
- The selective main miniature circuit breakers support downstream miniature circuit breakers by providing excellent current limitation, thus enhancing system protection
- High and safe selectivity between sub-distribution and meter panel ensures the continued supply of the unaffected circuits in the event of a fault, thus improving system availability
- The selective main miniature circuit breaker prevents the affected circuit from being reconnected until the fault is eliminated. Greater safety during operation
- No previous knowledge required for operation of the selective main miniature circuit breakers. This ensures fast and safe disconnection and reconnection of loads.
- Complies with all the requirements of TAB 2007.

Technical specifications

			5SP3 7.., 5SP3 7..-1	5SP3 7..-2, 5SP3 7..-2KK0.	5SP3 8..-2
Standards			DIN VDE 0645	E DIN VDE 0641-21	
Rated voltage U_n					
• 1-pole		V AC	230/400		--
• 3 x 1-pole		V AC	400	--	400
Operational voltage	Min.	V AC	110		
	Max.	V AC	440		
Rated frequency		Hz	50 ... 60		
Rated current I_n		A	16 ... 100	16 ... 63	
Rated insulation voltage U_i		V AC	690		
Rated making and breaking capacity I_{cn}		A	25000		
Insulation coordination					
• Overvoltage category			IV		
• Pollution degree			3		
Surge strength U_{imp}		kV	6		
Impact resistance			30 g, at least 3 impacts, impact duration 11 ms		
Resistance to vibrations			2 g, 20 frequency cycles 5 ... 150 ... 15 Hz		
Switching position indication			OFF = green, ON = red		
Main switch characteristics	Acc. to EN 60204-1		Yes		
Handle end position, sealable			Yes		
Cutoff		ON/OFF	--	Locking slide with lock, additional wire seal, cable ties and Antilux	
Device depth		mm	92		
Degree of protection			IP20, with connected conductors		
Mains connection			Any		
Mounting position			Any		
Mounting			On standard mounting rail or interface adapter	Direct tool-free mounting on the busbar system	
Service life, on average, with rated load		Actuations	20000		
Wire connections			Saddle terminals at both ends		
• Top				Screwless spring terminal for flexible cables, in particular for meter connecting cables acc. to DIN 43870-3	
• Bottom				Box terminal, also for infeed to the busbar system, up to 100 A infeed current	

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		5SP3 7..., 5SP3 7..-1	5SP3 7..-2, 5SP3 7..-2KK0.	5SP3 8..-2
Conductor cross-sections				
• Top and bottom, solid and stranded	mm^2	2.5 ... 70	--	
• Top and bottom, finely stranded	mm^2	2.5 ... 50	--	
• Top, finely stranded	mm^2	--	2.5 ... 16	
• Bottom, solid, stranded and finely stranded, with end sleeve	mm^2	--	2.5 ... 50	
Storage temperature	°C	-40 ... +70		
Ambient temperature	°C	-25 ... +55		

Selection and ordering data

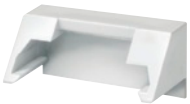
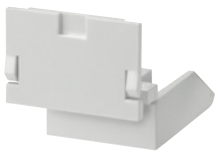
	I_n	Mounting width DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	MW[1]						kg
	**Main miniature circuit breakers, 1P, L1**							
	For direct busbar mounting (spacing: 40 mm), no further accessories required							
	16	1.5	**5SP3 716-2KK01**		1	1 unit	019	0.400
	20		**5SP3 720-2KK01**		1	1 unit	019	0.400
	25		**5SP3 725-2KK01**		1	1 unit	019	0.400
	35		**5SP3 735-2KK01**		1	1 unit	019	0.400
	40		**5SP3 740-2KK01**		1	1 unit	019	0.400
	50		**5SP3 750-2KK01**		1	1 unit	019	0.400
	63		**5SP3 763-2KK01**		1	1 unit	019	0.400
	**Main miniature circuit breakers, 1P, L2**							
	For direct busbar mounting (spacing: 40 mm), no further accessories required							
	16	1.5	**5SP3 716-2KK02**		1	1 unit	019	0.400
	20		**5SP3 720-2KK02**		1	1 unit	019	0.400
	25		**5SP3 725-2KK02**		1	1 unit	019	0.400
	35		**5SP3 735-2KK02**		1	1 unit	019	0.400
	40		**5SP3 740-2KK02**		1	1 unit	019	0.400
	50		**5SP3 750-2KK02**		1	1 unit	019	0.400
	63		**5SP3 763-2KK02**		1	1 unit	019	0.400
	**Main miniature circuit breakers, 1P, L3**							
	For direct busbar mounting (spacing: 40 mm), no further accessories required							
	16	1.5	**5SP3 716-2KK03**		1	1 unit	019	0.400
	20		**5SP3 720-2KK03**		1	1 unit	019	0.400
	25		**5SP3 725-2KK03**		1	1 unit	019	0.400
	35		**5SP3 735-2KK03**		1	1 unit	019	0.400
	40		**5SP3 740-2KK03**		1	1 unit	019	0.400
	50		**5SP3 750-2KK03**		1	1 unit	019	0.400
	63		**5SP3 763-2KK03**		1	1 unit	019	0.400
	**Main miniature circuit breakers, 1P each 1 x L1, L2, L3, packaged as a set**							
	For direct busbar mounting (spacing: 40 mm), no further accessories required							
	16	3 x 1.5	**5SP3 716-2**		1	1 set	019	1.275
	20		**5SP3 720-2**		1	1 set	019	1.275
	25		**5SP3 725-2**		1	1 set	019	1.275
	35		**5SP3 735-2**		1	1 set	019	1.275
	40		**5SP3 740-2**		1	1 set	019	1.275
	50		**5SP3 750-2**		1	1 set	019	1.275
	63		**5SP3 763-2**		1	1 set	019	1.275
	**Main miniature circuit breakers, 3 x 1P single-pole switching**							
	For direct busbar mounting (spacing: 40 mm), no further accessories required							
	16	4.5	**5SP3 816-2**		1	1 unit	019	1.275
	20		**5SP3 820-2**		1	1 unit	019	1.275
	25		**5SP3 825-2**		1	1 unit	019	1.275
	35		**5SP3 835-2**		1	1 unit	019	1.275
	40		**5SP3 840-2**		1	1 unit	019	1.275
	50		**5SP3 850-2**		1	1 unit	019	1.275
	63		**5SP3 863-2**		1	1 unit	019	1.275

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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SHU 5SP3 main miniature circuit breakers

	I_n A	Mounting width MW[1]	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	**Main miniature circuit breakers, 1P** For mounting on TH 35 standard mounting rail, busbar (spacing: 40 mm, with 5ST1 busbar adapter), or for screw fixing								
	16	2		**5SP3 716**		1	1 unit	019	0.474
	20			**5SP3 720**		1	1 unit	019	0.461
	25			**5SP3 725**		1	1 unit	019	0.497
	32			**5SP3 732**		1	1 unit	019	0.465
	35			**5SP3 735**		1	1 unit	019	0.497
	40			**5SP3 740**		1	1 unit	019	0.461
	50			**5SP3 750**		1	1 unit	019	0.501
	63			**5SP3 763**		1	1 unit	019	0.517
	80			**5SP3 780**		1	1 unit	019	0.512
	100			**5SP3 791**		1	1 unit	019	0.487
	**Main miniature circuit breakers, 3 x 1P** Premounted on 5ST1 324 busbar adapter; can be clipped onto busbars (spacing: 40 mm); including three 5ST1 323 transparent operating protective covers								
	80	6		**5SP3 780-1**		1	1 set	019	1.827
	100			**5SP3 791-1**		1	1 set	019	1.855
	**Mounting plates** For mounting on TH 35 standard mounting rails according to IEC 60715								
	For 1 or 2 standard mounting rails, universal application, tier spacing 125 mm		►	**5ST1 322**		1	10 units	019	0.025
	**Busbar adapters for 5SP3 7.. and 5SP3 7..-1** Suitable for busbar spacing 40 mm can be equipped with 3 selective main miniature circuit breakers			**5ST1 328**		1	1 unit	019	0.256
	**Breaker blocking covers for 5SP3 7.. and 5SP3 7..-1** To prevent manual switching OFF			**5ST1 318**		1	10 units	019	0.003
	**Operating protective covers, transparent, for 5SP3 7.. and 5SP3 7..-1** Multiple locking options against accidental and intentional operation • Padlocks • Phillips screwdrivers • Special wrenches (Antilux) • These can be installed by the operator or the power utility			**5ST1 323**		1	3 units	019	0.011
	**Terminal covers for 5SP3 7.. and 5SP3 7..-1** 2 units required per device Terminal covers in compliance with cladding dimensions acc. to DIN 43880			**5ST1 316**		1	6 units	019	0.004

[1] 1 MW (modular width) = 18 mm.

* You can order this quantity or a multiple thereof.

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Residual Current Protective Devices / AFD units



4/2	**Introduction**
4/4	**5SM3 RCCBs**
4/11	**SIQUENCE 5SM3 and 5SU1 universal current-sensitive RCCBs, type B and type B+**
4/15	**Additional components**
4/17	**5SM2 RC units**
4/22	**5SU1 RCBOs**
4/30	**Busbars**
4/33	**5SM1 and 5SZ9 RCCB socket outlets**
4/34	**Accessories**
4/35	**Configuration**
4/36	**5SM6 AFD units** NEW

For further technical product information:

Service&Support Portal:
www.siemens.com/lowvoltage/technical-support

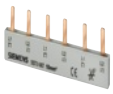
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Technical specifications

→ Entry List:
Updates / Downloads / FAQs / Manuals / Operating instructions / Characteristic curves / Certificates

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Introduction

Overview

Devices		Page	Application	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
	**5SM3 RCCBs**	4/4	Personnel, material and fire protection, as well as protection against direct contact. SIGRES with active condensation protection for use in harsh environments. Super resistant and selective versions	IEC/EN 61008 IEC/EN 62423	✓	✓	✓
	**SIQUENCE 5SM3 and 5SU1 universal current-sensitive RCCBs, type B and type B+**	4/11	SIQUENCE, the technology of universal current-sensitive residual current protective devices	VDE 0664-100 VDE 0664-200 VDE V 0664-110	✓	--	✓
	**Additional components**	4/15	Remote controlled mechanisms, auxiliary switches for all residual current operated circuit breakers. Leakage current measurement device for fault locating and the optimum selection of RCCBs	IEC/EN 62019	✓	--	✓
	**5SM2 RC units**	4/17	The freely selectable combination of RC units with miniature circuit breakers permits the flexible configuration of RCBO combinations	IEC/EN 61009	✓	--	✓
	**5SU1 RCBOs**	4/22	The ideal protection combination for all electrical circuits due to the compact device versions of RCCBs and miniature circuit breakers in a single device	IEC/EN 61009	✓	✓	✓
	**Busbars**	4/30	Busbars in 10 mm^2 and 16 mm^2 save space in the distribution board and time during mounting.	--	✓	✓	✓
	**5SM1 and 5SZ9 RCCB socket outlets**	4/33	For retrofitting in existing installations	VDE 0664	✓	✓	✓
	**Accessories**	4/34	Locking devices, covers - everything you need for mounting	--	✓	✓	✓
	**5SM6 AFD units** NEW	4/36	Enhanced fire protection through the detection and isolation of arcing faults	Future standard - IEC/EN 62606	✓	✓	--
	**5SV8 residual current monitors**	Ch. 12	Monitoring of residual currents in electrical plants with indication if a specified limit value is exceeded. see chapter: "Monitoring devices —> Monitoring devices for electrical values —> Residual current monitors"	IEC 62020 EN 62020	✓	--	✓

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SIGRES

SIGRES RCCBs were developed for use in harsh ambient conditions, such as swimming baths as protection against chlorine and ozone, in the agricultural sector (ammonia), on building sites and in the chemical industry (nitrogen oxide, sulfur dioxide, solvents), in the food processing industry (hydrogen sulfide) and in unheated rooms (dampness). The patented active condensation protection requires a continuous power supply and bottom infeed if the RCCB is switched off.

When used in ambient conditions as defined in product standard EN 61008-1, the operation interval for pressing the test button can be extended to 1x a year.

Super resistant K

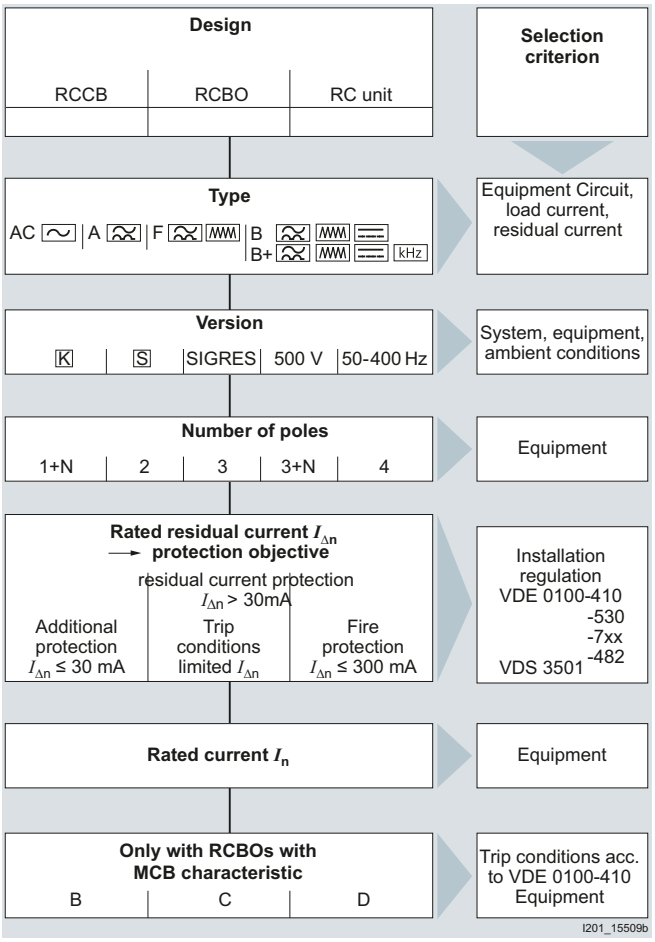
Super resistant (short-time delayed) RCCBs meet the maximum permissible break times for instantaneous devices. However, by implementing a short-time delay they prevent unnecessary tripping operations, and thus plant faults, when pulse-shaped leakage currents occur - as is the case when capacitors are switched on.

Selective S

Can be used as upstream group switch for selective tripping contrary to downstream, instantaneous or short-time delayed RCCBs.

Note:

You will find further information on the subject of residual current protective devices in the technology primer "Residual Current Protective Devices", Order No.: E10003-E38-2B-G0090-7600 and in the Engineering Manual at: www.siemens.com/lowvoltage/manuals.



Selection aid for finding the appropriate residual current protective device

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5SM3 RCCBs

Overview

RCCBs are used in all systems up to 240/415 V AC. Devices of type AC trip in the event of sinusoidal AC residual currents, type A also trips in the event of pulsating DC residual currents.

In addition, RCCBs type F also detect residual currents with mixed frequencies up to 1 kHz.

RCCBs with a rated residual current of maximum 30 mA are used for personnel, material and fire protection, as well as for protection against direct contact. RCCBs with a rated residual current of 10 mA are primarily used in areas that represent an increased risk for personnel.

Since the introduction of DIN VDE 0100-410, all socket outlet current circuits up to 20 A must also be fitted with residual current protective devices with a rated residual current of max. 30 mA. This also applies to outdoor electrical circuits up to 32 A for the connection of portable equipment.

Devices with a rated residual current of maximum 300 mA are used as preventive fire protection in case of insulation faults. RCCBs with a rated residual current of 100 mA are primarily used outside Europe.

Benefits

- Instantaneous RCCBs with the N connection on the left-hand side enable simple bus mounting with standard pin busbars with miniature circuit breakers installed on the right-hand side
- Instantaneous RCCBs with the N connection on the right-hand side can be bus-mounted with miniature circuit breakers using a special pin busbar
- Instantaneous type A devices have a surge current withstand capability with current waveform 8/20 µs of more than 1 kA, super resistant of more than 3 kA and selective of more than 5 kA. This ensures safe operation
- SIGRES has an extremely long service life due to a patented active condensation protection and identical dimensions enable the quick and easy replacement of existing instantaneous RCCBs
- Super resistant devices increase system availability, as unnecessary tripping is prevented in power supply systems with short-time glitches
- Selective RCCBs increase system availability as a staggered tripping time enables the selective tripping of RCCBs connected in series in the event of a fault
- Auxiliary switches or remote controlled mechanisms are also available as additional components
- The operating handle and the test button can be locked by means of a handle locking device.

Technical specifications

			Instantaneous	SIGRES	Super resistant	Selective
Standards			IEC/EN 61008-1 (VDE 0664-10); IEC/EN 61008-2-1 (VDE 0664-11); IEC/EN 61543 (VDE 0664-30); IEC/EN 62423 (VDE 0664-40)			
Surge current withstand capability						
• Type A with current waveform 8/20 µs	Acc. to DIN VDE 0432-2	kA	> 1		> 3	> 5
• Type F with current waveform 8/20 µs	Acc. to DIN VDE 0432-2	kA	--	--	> 3	--
Minimum operational voltage for test function operation		V AC	100			
Insulation coordination						
• Overvoltage category			III			
Pollution degree			2			
Terminal conductor cross-sections						
• For 2 MW	At I_n = 16 A, 25 A, 40 A At I_n = 100 A, 125 A	mm^2 mm^2	1.0 ... 16 1.5 ... 50			
• For 2.5 MW	At I_n = 63 A, 80 A	mm^2	1.5 ... 25			
• For 4 MW	At I_n = 25 A, 40 A, 63 A, 80 A At I_n = 125 A	mm^2 mm^2	1.5 ... 25 2.5 ... 50			
Terminal tightening torque						
• Up to I_n 80 A		Nm	2.5 ... 3.0			
• at I_n = 100 A, 125 A		Nm	3.0 ... 3.5			
Mains connection			Top or bottom	Bottom	Top or bottom	
Mounting position			Any			
Degree of protection	Acc. to EN 60529 (VDE 0470-1)		IP20, if the distribution board is installed, with connected conductors			
Touch protection	Acc. to EN 50274 (VDE 0660-514)		Finger and back-of-hand safe			
Service life	Test cycle acc. to IEC/EN 61008	Switching cycles	> 10000			
Storage temperature		°C	-40 ... +75			
Ambient temperature		°C	-25 ... +45, marked with -25			
Resistance to climate	Acc. to IEC 60068-2-30		28 cycles (55 °C; 95 % rel. air humidity)			
CFC and silicone-free			Yes			

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Selection and ordering data

(Type AC)

	Rated residual current	Rated current	Max. permissible short-circuit back-up fuse	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	$I_{\Delta n}$	I_n	10 000								
	mA	A	A	MW							kg
RCCBs, type AC, instantaneous											
	**1P+N, 125 ... 230 V AC, 50 ... 60 Hz**										
	N connection, right										
	10	16	63	2		**5SM3 111-0**		1	1 unit	012	0.240
	30	25	63	2	▶	**5SM3 312-0**		1	1 unit	012	0.243
		40			▶	**5SM3 314-0**		1	1 unit	012	0.244
		63	100	2.5		**5SM3 316-0**		1	1 unit	012	0.317
		80				**5SM3 317-0**		1	1 unit	012	0.317
		100	125	2		**5SM3 318-0KK**		1	1 unit	012	0.272
		125				**5SM3 315-0KK**		1	1 unit	012	0.280
	100	25	63	2		**5SM3 412-0**		1	1 unit	012	0.234
		40				**5SM3 414-0**		1	1 unit	012	0.236
		63	100	2.5		**5SM3 416-0**		1	1 unit	012	0.312
		80				**5SM3 417-0**		1	1 unit	012	0.320
		100	125	2		**5SM3 418-0KK**		1	1 unit	012	0.263
		125				**5SM3 415-0KK**		1	1 unit	012	0.254
	300	25	63	2	▶	**5SM3 612-0**		1	1 unit	012	0.227
		40			▶	**5SM3 614-0**		1	1 unit	012	0.227
		63	100	2.5		**5SM3 616-0**		1	1 unit	012	0.293
		80				**5SM3 617-0**		1	1 unit	012	0.313
		100	125	2		**5SM3 618-0KK**		1	1 unit	012	0.255
		125				**5SM3 615-0KK**		1	1 unit	012	0.255
	**3P+N; 230 ... 400 V AC; 50 ... 60 Hz**										
	N connection, right										
	30	25	100	4	▶	**5SM3 342-0**		1	1 unit	012	0.469
		40			▶	**5SM3 344-0**		1	1 unit	012	0.485
		63				**5SM3 346-0**		1	1 unit	012	0.500
		80				**5SM3 347-0**		1	1 unit	012	0.502
		100				**5SM3 348-0**		1	1 unit	012	0.538
		125	125			**5SM3 345-0**		1	1 unit	012	0.566
	100	25	100			**5SM3 442-0**		1	1 unit	012	0.466
		40				**5SM3 444-0**		1	1 unit	012	0.467
		63				**5SM3 446-0**		1	1 unit	012	0.479
		100			▶	**5SM3 448-0**		1	1 unit	012	0.538
		125	125			**5SM3 445-0**		1	1 unit	012	0.541
	300	25	100		▶	**5SM3 642-0**		1	1 unit	012	0.454
		40			▶	**5SM3 644-0**		1	1 unit	012	0.456
		63				**5SM3 646-0**		1	1 unit	012	0.457
		80				**5SM3 647-0**		1	1 unit	012	0.456
		100				**5SM3 648-0**		1	1 unit	012	0.546
		125	125			**5SM3 645-0**		1	1 unit	012	0.548
100 A and 125 A	500	25	100			**5SM3 742-0**		1	1 unit	012	0.449
		40				**5SM3 744-0**		1	1 unit	012	0.457
		63				**5SM3 746-0**		1	1 unit	012	0.456
		100			▶	**5SM3 748-0**		1	1 unit	012	0.538
		125	125			**5SM3 745-0**		1	1 unit	012	0.525
	**1P+N, 125 ... 230 V AC, 50 ... 60 Hz**										
	N connection, left										
	10	16	63	2		**5SM3 111-0KL**		1	1 unit	012	0.240
	30	16	63	2		**5SM3 311-0KL**		1	1 unit	012	0.280
		25				**5SM3 312-0KL**		1	1 unit	012	0.244
		40				**5SM3 314-0KL**		1	1 unit	012	0.246
		63	100	2.5		**5SM3 316-0KL**		1	1 unit	012	0.317
		80				**5SM3 317-0KL**		1	1 unit	012	0.320
	100	40	63	2		**5SM3 414-0KL**		1	1 unit	012	0.280
		63	100	2.5		**5SM3 416-0KL**		1	1 unit	012	0.310
	300	25	63	2		**5SM3 612-0KL**		1	1 unit	012	0.227
		40				**5SM3 614-0KL**		1	1 unit	012	0.229
		63	100	2.5		**5SM3 616-0KL**		1	1 unit	012	0.299
		80				**5SM3 617-0KL**		1	1 unit	012	0.302

* You can order this quantity or a multiple thereof.

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5SM3 RCCBs

	Rated residual current	Rated current	Max. permissible short-circuit back-up fuse	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	$I_{\Delta n}$	I_n	10 000								
	mA	A	A	MW							kg
	**3P+N; 230 ... 400 V AC; 50 ... 60 Hz**										
	N connection, left										
	30	25	100	4		**5SM3 342-0KL**		1	1 unit	012	0.485
		40				**5SM3 344-0KL**		1	1 unit	012	0.481
		63				**5SM3 346-0KL**		1	1 unit	012	0.504
		80				**5SM3 347-0KL**		1	1 unit	012	0.522
	300	25	63	4		**5SM3 642-0KL**		1	1 unit	012	0.452
		40				**5SM3 644-0KL**		1	1 unit	012	0.456
		63				**5SM3 646-0KL**		1	1 unit	012	0.453
		80	100			**5SM3 647-0KL**		1	1 unit	012	0.460
RCCBs, type AC, instantaneous, surge current withstand capability > 1 kA											
	**1P+N; 125 V ... 230 V AC, 50 ... 60 Hz**										
	N connection, right										
	30	25	63	2		**5SM3 312-0LB**		1	1 unit	012	0.246
		40				**5SM3 314-0LB**		1	1 unit	012	0.250
	100	25				**5SM3 412-0LB**		1	1 unit	012	0.239
		40				**5SM3 414-0LB**		1	1 unit	012	0.242
	**3P+N; 230 ... 400 V AC, 50 ... 60 Hz**										
	N connection, right										
	30	25	63	4		**5SM3 342-0LB**		1	1 unit	012	0.494
		40				**5SM3 344-0LB**		1	1 unit	012	0.494
		63				**5SM3 346-0LB**		1	1 unit	012	0.501
	100	25				**5SM3 442-0LB**		1	1 unit	012	0.475
		40				**5SM3 444-0LB**		1	1 unit	012	0.474
		63				**5SM3 446-0LB**		1	1 unit	012	0.488
	300	25				**5SM3 642-0LB**		1	1 unit	012	0.459
		40				**5SM3 644-0LB**		1	1 unit	012	0.466
		63				**5SM3 646-0LB**		1	1 unit	012	0.465
RCCBs, type AC, selective											
	**3P+N, 230 ... 400 V AC; 50 ... 60 Hz**										
	N connection, right										
	300	100	100	4		**5SM3 648-2**		1	1 unit	012	0.547

* You can order this quantity or a multiple thereof.

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Selection and ordering data

(Type A)

	Rated residual current	Rated current	Max. permissible short-circuit back-up fuse	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	$I_{\Delta n}$	I_n	10 000								
	mA	A	A	MW							kg
RCCBs, type A, instantaneous											
	**1P+N; 125 ... 230 V AC; 50 ... 60 Hz**										
	N connection, right										
	10	16	63	2		**5SM3 111-6**		1	1 unit	011	0.251
	30	16	63	2		**5SM3 311-6**		1	1 unit	011	0.248
		25				**5SM3 312-6**		1	1 unit	011	0.248
		40			▶	**5SM3 314-6**		1	1 unit	011	0.247
		63	100	2.5		**5SM3 316-6**		1	1 unit	011	0.328
		80				**5SM3 317-6**		1	1 unit	011	0.330
		100		2		**5SM3 318-6KK**		1	1 unit	011	0.272
		125				**5SM3 315-6KK**		1	1 unit	011	0.269
	100	25	63	2		**5SM3 412-6**		1	1 unit	011	0.240
		40				**5SM3 414-6**		1	1 unit	011	0.240
		63	100	2.5		**5SM3 416-6**		1	1 unit	011	0.315
		80				**5SM3 417-6**		1	1 unit	011	0.324
		100	125	2		**5SM3 418-6KK**		1	1 unit	011	0.272
		125				**5SM3 415-6KK**		1	1 unit	011	0.273
	300	25	63	2	▶	**5SM3 612-6**		1	1 unit	011	0.231
		40			▶	**5SM3 614-6**		1	1 unit	011	0.233
		63	100	2.5		**5SM3 616-6**		1	1 unit	011	0.299
		80				**5SM3 617-6**		1	1 unit	011	0.320
100 A and 125 A		100	125	2		**5SM3 618-6KK**		1	1 unit	011	0.256
		125				**5SM3 615-6KK**		1	1 unit	011	0.255
	**3P+N; 230 ... 400 V AC; 50 ... 60 Hz**										
	N connection, right										
	30	25	100	4	▶	**5SM3 342-6**		1	1 unit	011	0.494
		40			▶	**5SM3 344-6**		1	1 unit	011	0.495
		63			▶	**5SM3 346-6**		1	1 unit	011	0.530
		80				**5SM3 347-6**		1	1 unit	011	0.535
		100			▶	**5SM3 348-6**		1	1 unit	011	0.538
		125	125			**5SM3 345-6**		1	1 unit	011	0.564
	100	40	100	4		**5SM3 444-6**		1	1 unit	011	0.474
		63				**5SM3 446-6**		1	1 unit	011	0.488
		100			▶	**5SM3 448-6**		1	1 unit	011	0.538
		125	125			**5SM3 445-6**		1	1 unit	011	0.538
	300	25	100	4	▶	**5SM3 642-6**		1	1 unit	011	0.457
		40			▶	**5SM3 644-6**		1	1 unit	011	0.460
		63			▶	**5SM3 646-6**		1	1 unit	011	0.460
		80				**5SM3 647-6**		1	1 unit	011	0.462
		100			▶	**5SM3 648-6**		1	1 unit	011	0.538
		125	125			**5SM3 645-6**		1	1 unit	011	0.540
100 A and 125 A	500	25	100	4		**5SM3 742-6**		1	1 unit	011	0.462
		40				**5SM3 744-6**		1	1 unit	011	0.463
		63				**5SM3 746-6**		1	1 unit	011	0.460
		100			▶	**5SM3 748-6**		1	1 unit	011	0.538
		125	125			**5SM3 745-6**		1	1 unit	011	0.527
	**1P+N; 125 ... 230 V AC; 50 ... 60 Hz**										
	N connection, left										
	10	16	63	2		**5SM3 111-6KL**		1	1 unit	011	0.280
	30	16	63	2		**5SM3 311-6KL**		1	1 unit	011	0.280
		25				**5SM3 312-6KL**		1	1 unit	011	0.251
		40				**5SM3 314-6KL**		1	1 unit	011	0.249
		63	100	2.5		**5SM3 316-6KL**		1	1 unit	011	0.327
	100	40	63	2		**5SM3 414-6KL**		1	1 unit	011	0.280
		63	100	2.5		**5SM3 416-6KL**		1	1 unit	011	0.310
	300	25	63	2		**5SM3 612-6KL**		1	1 unit	011	0.234
		40				**5SM3 614-6KL**		1	1 unit	011	0.235
		63	100	2.5		**5SM3 616-6KL**		1	1 unit	011	0.313

* You can order this quantity or a multiple thereof.

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5SM3 RCCBs

	Rated residual current	Rated current	Max. permissible short-circuit back-up fuse	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	$I_{\Delta n}$	I_n	10 000								
	mA	A	A	MW							kg
	**3P+N; 230 ... 400 V AC; 50 ... 60 Hz**										
	N connection, left										
	30	25	100	4		**5SM3 342-6KL**		1	1 unit	011	0.494
		40				**5SM3 344-6KL**		1	1 unit	011	0.495
		63				**5SM3 346-6KL**		1	1 unit	011	0.527
		80				**5SM3 347-6KL**		1	1 unit	011	0.532
	300	25	100	4		**5SM3 642-6KL**		1	1 unit	011	0.458
		40				**5SM3 644-6KL**		1	1 unit	011	0.463
		63				**5SM3 646-6KL**		1	1 unit	011	0.464
		80				**5SM3 647-6KL**		1	1 unit	011	0.454
	500	63	100	4		**5SM3 746-6KL**		1	1 unit	011	0.460
RCCBs, type A, super resistant K											
	**1P+N; 125 ... 230 V AC; 50 ... 60 Hz**										
	N connection, right										
	30	25	63	2		**5SM3 312-6KK01**		1	1 unit	011	0.250
		40				**5SM3 314-6KK01**		1	1 unit	011	0.247
		63	100	2.5		**5SM3 316-6KK01**		1	1 unit	011	0.329
	300	63	100	2.5		**5SM3 616-6KK01**		1	1 unit	011	0.314
	**3P+N; 230 ... 400 V AC; 50 ... 60 Hz**										
	N connection, right										
	30	25	100	4		**5SM3 342-6KK01**		1	1 unit	011	0.515
		40				**5SM3 344-6KK01**		1	1 unit	011	0.520
		63				**5SM3 346-6KK01**		1	1 unit	011	0.519
	100	63	100	4		**5SM3 446-6KK01**		1	1 unit	011	0.501
	300	40	100	4		**5SM3 644-6KK01**		1	1 unit	011	0.492
		63				**5SM3 646-6KK01**		1	1 unit	011	0.490
		80				**5SM3 647-6KK01**		1	1 unit	011	0.498
	**1P+N; 125 ... 230 V AC; 50 ... 60 Hz**										
	N connection, left										
	30	25	100	2		**5SM3 312-6KL01**		1	1 unit	011	0.256
		40				**5SM3 314-6KL01**		1	1 unit	011	0.259
		63		2.5		**5SM3 316-6KL01**		1	1 unit	011	0.334
	300	63	100	2.5		**5SM3 616-6KL01**		1	1 unit	011	0.313

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	Rated residual current	Rated current	Max. permissible short-circuit back-up fuse	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	$I_{\Delta n}$	I_n	10 000								
	mA	A	A	MW							kg
RCCBs, type A, selective S											
	**1P+N; 125 ... 230 V AC; 50 ... 60 Hz**										
	N connection, right										
	100	63	100	2.5		**5SM3 416-8**		1	1 unit	011	0.325
	300	40	63	2		**5SM3 614-8**		1	1 unit	011	0.248
		63	100	2.5		**5SM3 616-8**		1	1 unit	011	0.314
		80	100			**5SM3 617-8**		1	1 unit	011	0.314
	**3P+N; 230 ... 400 V AC; 50 ... 60 Hz**										
	N connection, right										
	100	40	100	4		**5SM3 444-8**		1	1 unit	011	0.513
		63				**5SM3 446-8**		1	1 unit	011	0.531
	300	40	100	4		**5SM3 644-8**		1	1 unit	011	0.507
		63				**5SM3 646-8**		1	1 unit	011	0.505
		80				**5SM3 647-8**		1	1 unit	011	0.510
		100				**5SM3 648-8**		1	1 unit	011	0.538
		125	125			**5SM3 645-8**		1	1 unit	011	0.546
	500	125	125	4		**5SM3 745-8**		1	1 unit	011	0.531
	1000	63	100	4		**5SM3 846-8**		1	1 unit	011	0.470
	1P+N; 125 ... 230 V AC; 50 ... 60 Hz										
	N connection, left										
	300	40		2		**5SM3 614-8KL**		1	1 unit	011	0.247
		63		2.5		**5SM3 616-8KL**		1	1 unit	011	0.314
	3P+N; 230 ... 400 V AC; 50 ... 60 Hz										
	N connection, left										
	300	63	100	4		**5SM3 646-8KL**		1	1 unit	011	0.513
RCCBs, type A, SIGRES, instantaneous											
	**1P+N; 125 ... 230 V AC; 50 ... 60 Hz**										
	N connection, right										
	30	25	63	2		**5SM3 312-6KK12**		1	1 unit	011	0.248
		40				**5SM3 314-6KK12**		1	1 unit	011	0.251
		63	100	2.5		**5SM3 316-6KK12**		1	1 unit	011	0.330
		80				**5SM3 317-6KK12**		1	1 unit	011	0.331
	**3P+N; 230 ... 400 V AC; 50 ... 60 Hz**										
	N connection, right										
	30	25	100	4		**5SM3 342-6KK12**		1	1 unit	011	0.495
		40				**5SM3 344-6KK12**		1	1 unit	011	0.499
		63				**5SM3 346-6KK12**		1	1 unit	011	0.529
		80				**5SM3 347-6KK12**		1	1 unit	011	0.530
	300	40	100	4		**5SM3 644-6KK12**		1	1 unit	011	0.457
		63				**5SM3 646-6KK12**		1	1 unit	011	0.458
	**1P+N; 125 ... 230 V AC; 50 ... 60 Hz**										
	N connection, left										
	30	25	63	2		**5SM3 312-6KL12**		1	1 unit	011	0.280
		40				**5SM3 314-6KL12**		1	1 unit	011	0.280

* You can order this quantity or a multiple thereof.

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5SM3 RCCBs

	Rated residual current	Rated current	Max. permissible short-circuit back-up fuse	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	$I_{\Delta n}$	I_n	10 000								
	mA	A	A	MW							kg
RCCBs, type A, SIGRES, selective S											
	**3P+N; 230 ... 400 V AC; 50 ... 60 Hz**										
	N connection, right										
	300	63	100	4		**5SM3 646-8KK12**		1	1 unit	011	0.506
RCCBs, type A, instantaneous, special versions											
	**1P+N; 24 ... 125 V AC; 50 ... 60 Hz**										
	N connection, right										
	30	16	63	2		**5SM3 311-6KK13**		1	1 unit	011	0.248
		25		2		**5SM3 312-6KK04**		1	1 unit	011	0.263
	**3P+N; 500 V AC; 50 ... 60 Hz**										
	N connection, right										
	30	25	63	4		**5SM3 352-6**		1	1 unit	011	0.493
		40				**5SM3 354-6**		1	1 unit	011	0.497
		63				**5SM3 356-6**		1	1 unit	011	0.531
	300	25	63	4		**5SM3 652-6**		1	1 unit	011	0.459
		40				**5SM3 654-6**		1	1 unit	011	0.461
		63				**5SM3 656-6**		1	1 unit	011	0.464
	**3P+N; 230 ... 400 V AC; 50 ... 400 Hz**										
	N connection, right										
	30	25	80	4		**5SM3 342-6KK03**		1	1 unit	011	0.515
		40				**5SM3 344-6KK03**		1	1 unit	011	0.510
RCCBs, type F, super resistant											
	**1P + N; 230 V AC, 50 Hz** NEW										
	N connection, right										
	30	25	63	2		**5SM3 312-3**		1	1 unit	011	0.250
		40				**5SM3 314-3**		1	1 unit	011	0.247
		63	100	2.5		**5SM3 316-3**		1	1 unit	011	0.329
	**3P + N; 400 V AC, 50 Hz** NEW										
	N connection, right										
	30	25	100	4		**5SM3 342-3**		1	1 unit	011	0.515
		40				**5SM3 344-3**		1	1 unit	011	0.520
		63				**5SM3 346-3**		1	1 unit	011	0.519

* You can order this quantity or a multiple thereof.

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SIQUENCE 5SM3 and 5SU1 universal current-sensitive RCCBs, type B and type B+

All universal current-sensitive RCCBs, type B or B+ are now also available in a SIGRES version, meaning they are also ideal for use in harsh ambient conditions.

Overview

Frequency converters, medical devices and UPS systems are seeing increasing use in industry. Smooth DC residual currents or currents with low residual ripple may occur in the event of faults on these devices.

Type A residual current protective devices are unable to detect these smooth DC residual currents. Furthermore, such smooth DC residual currents make type A devices increasingly insensitive to AC residual currents and pulsating DC residual currents. If a fault occurs, there is therefore no tripping and the desired protective function is no longer assured.

UC-sensitive residual current protective devices of types B and B+ have an additional transformer which is supplied with a control signal. This enables an evaluation of the change of the transformer's operating range caused by smooth DC residual currents, thus ensuring the desired protective function.

The residual current protective devices of type B are suitable for use in three-phase current systems before input circuits with rectifiers. They are not intended for use in DC systems and in networks with operating frequencies other than 50 Hz or 60 Hz.

The devices in this series are designed as residual current operated circuit breakers (RCCBs) up to 80 A and as residual current circuit breakers with integral overcurrent protection (RCBOs) for 100 A or 125 A in Characteristics C or D.

Type B+ residual current protective devices also offer enhanced, preventative fire protection. In these versions, the tripping value is limited to a maximum of 420 mA up to 20 kHz.

Benefits

- Universal current-sensitive residual current protective devices detect not only AC residual currents and pulsating DC residual currents, but also smooth DC residual currents, thus ensuring the desired protective function with all types of residual current.
- With type B, the tripping characteristic is adapted to suit the increase of leakage currents at higher frequencies in systems with capacitive impedances, thus ensuring greater operating safety
- Type B+ versions offer enhanced preventative fire protection and correspond to the prestandards DIN V VDE V 0664-110 and/or DIN V VDE V 0664-210 and VdS Directive 3501
- The RCBO is a compact device for up to 125 A. It provides not only personnel, material and fire protection but also overload and short-circuit protection for cables. This reduces wiring and mounting outlay
- The RCBOs offer external remote tripping over terminals Y1/Y2. This supports implementation of central OFF circuits.

Technical specifications

		SIQUENCE, RCCBs type B and type B+ 5SM3		SIQUENCE RCBOs type B and type B+ 5SU1
Standards		IEC/EN 61008-1 (VDE 0664-10); VDE 0664-100; IEC/EN 61543 (VDE 0664-30); IEC 62423 and additionally applicable for type B+: DIN V VDE V 0664-110		IEC/EN 61009-1 (VDE 0664-20); VDE 0664-200; IEC/EN 61543 (VDE 0664-30); IEC 62423
Versions		1P+N	3P+N	4P
Tripping characteristic		--	--	C, D
Surge current withstand capability with current waveform 8/20 µs Acc. to DIN VDE 0432-2				
• Super resistant	kA	> 3	> 3	> 3
• Selective	kA	--	> 5	> 5
Minimum operational voltage for test function operation	V AC	195	195	195
Rated voltages U_n	V AC	230	400	400, 480
Rated frequency f_n	Hz	50 ... 60		
Rated currents I_n	A	16, 25, 40, 63	25, 40, 63, 80	100, 125
Rated residual currents $I_{\Delta n}$	mA	30, 300	30, 300, 500	30, 300
Rated making and breaking capacity				
• I_m	A	800		--
• I_{cn}	kA	--		10
Insulation coordination				
• Overvoltage category		III		
Conductor cross-sections				
• Solid and stranded	mm^2	1.5 ... 25		6 ... 50
• Finely stranded, with end sleeve	mm^2	1.5 ... 16		6 ... 35
Terminal tightening torque for all devices	Nm	2.5 ... 3.0		3.0 ... 3.5
Mains connection		Either top or bottom		
Mounting position		Any		
Degree of protection according to EN 60529 (VDE 0470-1)		IP20, if the distribution board is installed, with connected conductors		
Touch protection Acc. to EN 50274 (VDE 0660-514)		Finger and back-of-hand safe		
Service life electrical and mechanical; (test cycle according to regulations)		> 10 000 switching cycles		
Storage temperature	°C	-40 ... +75		
Ambient temperature	°C	-25 ... +45, marked with		
Resistance to climate acc. to IEC 60068-2-30		28 cycles (55 °C; 95 % rel. air humidity)		
CFC and silicone-free		Yes		

I^2t characteristic curves, see Engineering Manual at: www.siemens.com/lowvoltage/manuals

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SIQUENCE 5SM3 and 5SU1 universal current-sensitive RCCBs, type B and type B+

Selection and ordering data

(Type B/type B+) kHz

Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	Max. permissible short-circuit back-up fuse 10 000 A	Mounting width MW	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
SIQUENCE RCCBs, type B, super resistant K										
1P+N; 230 V AC; 50 ... 60 Hz										
30	16	100	4		**5SM3 321-4**		1	1 unit	013	0.590
	25				**5SM3 322-4**		1	1 unit	013	0.590
	40				**5SM3 324-4**		1	1 unit	013	0.588
	63				**5SM3 326-4**		1	1 unit	013	0.591
300	16	100	4		**5SM3 621-4**		1	1 unit	013	0.600
	25				**5SM3 622-4**		1	1 unit	013	0.600
	40				**5SM3 624-4**		1	1 unit	013	0.591
	63				**5SM3 626-4**		1	1 unit	013	0.586
3P+N; 230 ... 400 V AC; 50 ... 60 Hz										
30	25	100	4		**5SM3 342-4**		1	1 unit	013	0.582
	40				**5SM3 344-4**		1	1 unit	013	0.578
	63				**5SM3 346-4**		1	1 unit	013	0.581
	80				**5SM3 347-4**		1	1 unit	013	0.587
300	25	100	4		**5SM3 642-4**		1	1 unit	013	0.592
	40				**5SM3 644-4**		1	1 unit	013	0.581
	63				**5SM3 646-4**		1	1 unit	013	0.576
	80				**5SM3 647-4**		1	1 unit	013	0.585
500	63	100	4		**5SM3 746-4**		1	1 unit	013	0.575
	80				**5SM3 747-4**		1	1 unit	013	0.575
SIQUENCE RCCBs, type B, selective S										
3P+N; 230 ... 400 V AC; 50 ... 60 Hz										
300	63	100	4		**5SM3 646-5**		1	1 unit	013	0.578
	80				**5SM3 647-5**		1	1 unit	013	0.587
500	63	100	4		**5SM3 746-5**		1	1 unit	013	0.520
	80				**5SM3 747-5**		1	1 unit	013	0.520
SIQUENCE RCCBs, type B+, super resistant K										
1P+N; 230 V AC; 50 ... 60 Hz										
30	16	100	4		**5SM3 321-4KK14**		1	1 unit	013	0.587
	25				**5SM3 322-4KK14**		1	1 unit	013	0.600
	40				**5SM3 324-4KK14**		1	1 unit	013	0.600
	63				**5SM3 326-4KK14**		1	1 unit	013	0.600
300	16	100	4		**5SM3 621-4KK14**		1	1 unit	013	0.600
	25				**5SM3 622-4KK14**		1	1 unit	013	0.600
	40				**5SM3 624-4KK14**		1	1 unit	013	0.600
	63				**5SM3 626-4KK14**		1	1 unit	013	0.600
3P+N; 230 ... 400 V AC; 50 ... 60 Hz										
30	25	100	4		**5SM3 342-4KK14**		1	1 unit	013	0.600
	40				**5SM3 344-4KK14**		1	1 unit	013	0.600
	63				**5SM3 346-4KK14**		1	1 unit	013	0.600
	80				**5SM3 347-4KK14**		1	1 unit	013	0.600
300	25	100	4		**5SM3 642-4KK14**		1	1 unit	013	0.600
	40				**5SM3 644-4KK14**		1	1 unit	013	0.600
	63				**5SM3 646-4KK14**		1	1 unit	013	0.600
	80				**5SM3 647-4KK14**		1	1 unit	013	0.600
SIQUENCE RCCBs, type B+, selective S										
3P+N; 230 ... 400 V AC; 50 ... 60 Hz										
300	63	100	4		**5SM3 646-5KK14**		1	1 unit	013	0.600
	80				**5SM3 647-5KK14**		1	1 unit	013	0.600

* You can order this quantity or a multiple thereof.

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SIQUENCE 5SM3 and 5SU1 universal current-sensitive RCCBs, type B and type B+

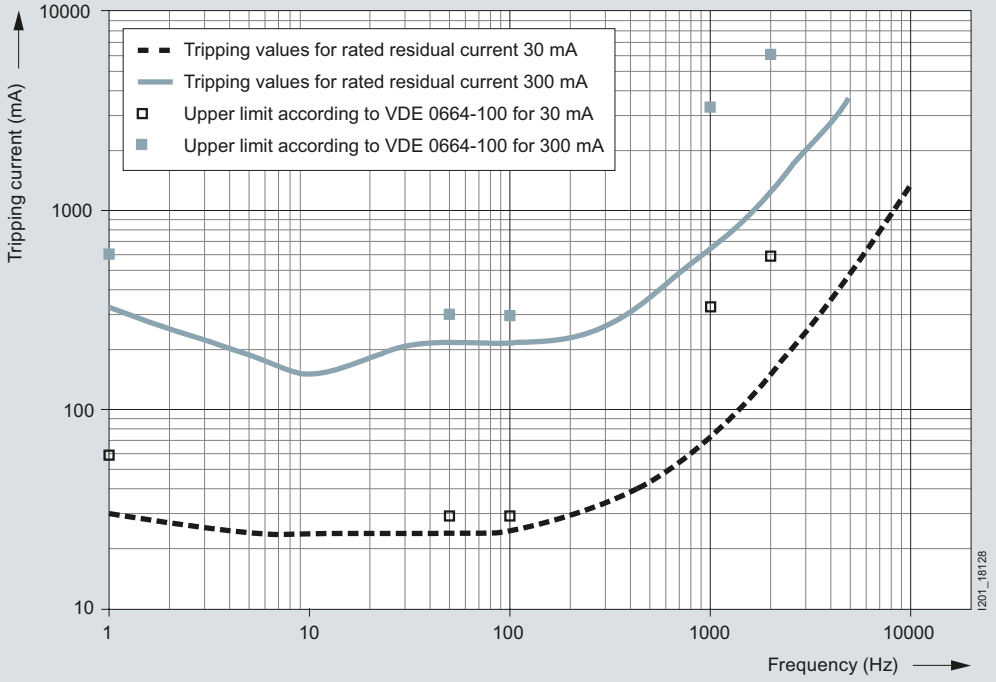
	Rated residual current	Rated current	Max. permissible short-circuit back-up fuse	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	$I_{\Delta n}$	I_n	10 000								
	mA	A	A	MW							kg
SIQUENCE RCBOs, type B, super resistant K, rated breaking capacity 10 kA											
	**4P; 400 V AC; 50 ... 60 Hz**										
	Characteristic C										
	30	100		11		**5SU1 374-7AK81**		1	1 unit	010	2.067
		125				**5SU1 374-7AK82**		1	1 unit	010	2.053
	300	100		11		**5SU1 674-7AK81**		1	1 unit	010	2.069
		125				**5SU1 674-7AK82**		1	1 unit	010	2.088
	Characteristic D										
	30	100		11		**5SU1 374-8AK81**		1	1 unit	010	2.084
	300	100		11		**5SU1 674-8AK81**		1	1 unit	010	2.082
	4P; 480 V AC; 50 ... 60 Hz										
	Characteristic C										
	300	100		11		**5SU1 674-7CK81**		1	1 unit	010	2.050
		125				**5SU1 674-7CK82**		1	1 unit	010	2.050
SIQUENCE RCBOs, type B, selective S, rated breaking capacity 10 kA											
	**4P; 400 V AC; 50 ... 60 Hz**										
	Characteristic C										
	300	125		11		**5SU1 674-7BK82**		1	1 unit	010	2.082
	Characteristic D										
	300	100		11		**5SU1 674-8BK81**		1	1 unit	010	2.078
SIQUENCE RCBOs, type B+, super resistant K, rated breaking capacity 10 kA											
	**4P; 400 V AC; 50 ... 60 Hz**										
	Characteristic C										
	30	100		11		**5SU1 374-7DK81**		1	1 unit	010	2.067
		125				**5SU1 374-7DK82**		1	1 unit	010	2.053
	300	100		11		**5SU1 674-7DK81**		1	1 unit	010	2.069
		125				**5SU1 674-7DK82**		1	1 unit	010	2.088
	Characteristic D										
	30	100		11		**5SU1 374-8DK81**		1	1 unit	010	2.084
	300	100		11		**5SU1 674-8DK81**		1	1 unit	010	2.082
	4P; 480 V AC; 50 ... 60 Hz										
	Characteristic C										
	300	100		11		**5SU1 674-7FK81**		1	1 unit	010	2.050
		125				**5SU1 674-7FK82**		1	1 unit	010	2.050
SIQUENCE RCBOs, type B+, selective S, rated breaking capacity 10 kA											
	**4P; 400 V AC; 50 ... 60 Hz**										
	Characteristic C										
	300	125		11		**5SU1 674-7EK82**		1	1 unit	010	2.082
	Characteristic D										
	300	100		11		**5SU1 674-8EK81**		1	1 unit	010	2.078

* You can order this quantity or a multiple thereof.

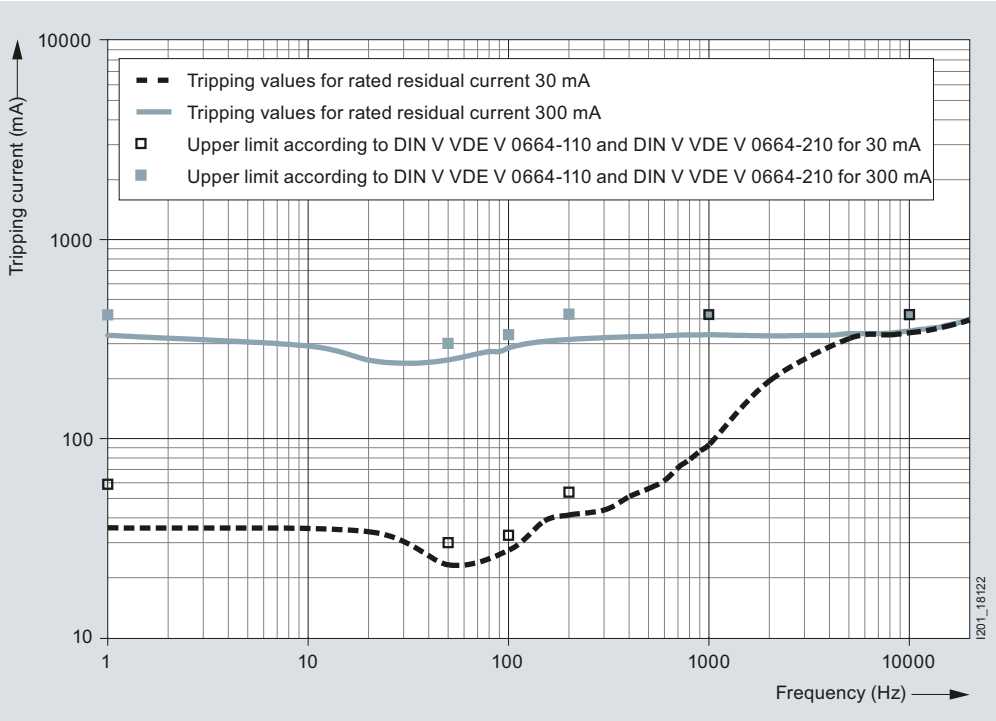
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SIQUENCE 5SM3 and 5SU1 universal current-sensitive RCCBs, type B and type B+

Characteristic curves



Tripping current as a function of frequency for type B



Tripping current as a function of frequency for type B+

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Overview

Auxiliary switches (AS) signal the contact position of the RCCB.

Remote controlled mechanisms are used for the remote ON/OFF switching of RCCBs. They also enable local manual switching. A blocking function permits maintenance work. A tripped RCCB must be acknowledged prior to switching back on.

The leakage current measurement device detects the leakage currents - like the circuit breaker - thus providing a direct statement as to the current loading of the RCCB. It is used to measure leakage currents up to 300 mA. This requires a voltmeter with an internal resistance over 1 MΩ/V and a measuring range for AC voltages of U_{rms} = 1 mV to 2 V. For the fault-free operation of an RCCB, the measured leakage current should be no greater than 1/3 of the rated residual current.

Benefits

- Using captive brackets, the remote controlled mechanism can be attached (or retroffitted) to the right-hand side of the basic device without the need for tools
- Bus systems, such as *instabus* KNX, AS-Interface bus or PROFIBUS, can be integrated in the communication over binary inputs
- The leakage current measurement device enables the systematic selection of the rated residual current, thus preventing the inadvertent tripping of RCCBs.

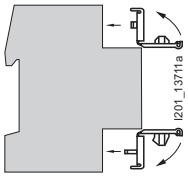
Technical specifications

		Auxiliary switches (AS) 5SW3 30.	Auxiliary switches (AS) 5SW3 330
Standards		EN 62019	IEC/EN 60947-5-1
Approvals			DIN VDE 0660-200
Terminals			
• Conductor cross-section	mm^2	0.75 ... 2.5	
• Tightening torques	Nm	0.6 ... 0.8	
Short-circuit protection		B6 or C6 or gL/gG 6 A fuse	
Min. contact load		50 mA/24 V	
Max. contact load			
• 230 V AC, AC-12	A	6	5
• 230 V AC, AC-14	A	3.6	--
• 220 V DC, DC-12	A	1	0.5

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Additional components

Selection and ordering data

	Version	Mounting width MW	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	**Auxiliary switches (AS) for 5SM3 residual current protective devices up to 80 A**								
	1 NO + 1 NC	0.5	▶	**5SW3 300**		1	1/10 units	015	0.050
	2 NC	0.5		**5SW3 301**		1	1/10 units	015	0.049
	2 NO	0.5		**5SW3 302**		1	1/10 units	015	0.050
	**Auxiliary switches (AS) for 5SM3 residual current protective devices up to 100 ... 125 A, 3P+N**								
	1 NO + 1 NC	0.5		**5SW3 330**		1	1 unit	015	0.041
	**Remote controlled mechanisms (RC) For 5SM3 RCCBs up to 80 A**								
	Rated voltage U_n = 230 V AC	3.5	▶	**5ST3 051**		1	1 unit	020	0.449
	**Leakage current measurement devices**								
	Rated voltage U_n = 500 V AC; 50 ... 60 Hz; 4P Rated residual current $I_{\Delta n}$ = 0 ... 300 mA Rated current I_n = 63 A.	4		**5SM1 930-0**		1	1 unit	015	0.489
	**Covers for connection terminals**								
	For residual current operated circuit breakers up to 80 A, sealable (2 units in plastic bag)								
		2		**5SW3 010**		1	1/50 units	015	0.008
		2.5		**5SW3 011**		1	1/50 units	015	0.008
		4		**5SW3 008**		1	1/50 units	015	0.008
	**Locking devices**								
	For RCCBs up to 80 A, sealable and lockable 4.5 mm lock hasp diameter			**5SW3 303**		1	10 units	015	0.009
	**Padlocks**								
	For 5SW3 303 locking device			**5ST3 802**		1	1 unit	020	0.031
	Locking devices with padlock								
	Comprising 5SW3 303 locking device and 5ST3 802 padlock			**5SW3 312**		1	1 set	015	0.028
	**Gland for N conductor**								
	For easier wiring in various circuit versions and bus mountings or as a support terminal for N conductors from 2.5 mm² to 50 mm² with blue color marking 1P Rated operational current I_e 125 A Rated operational voltage U_e 230 V AC Conductor cross-sections up to 50 mm²	1		**5TE9 113**		1	1 unit	029	0.114

* You can order this quantity or a multiple thereof.

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Overview

RC units are used in all supply systems up to 240/415 V AC. Devices of type AC trip in the event of sinusoidal AC residual currents, type A also trips in the event of pulsating DC residual currents.

In addition, RC units, type F also detect residual currents with mixed frequencies up to 1 kHz.

RCCBs with a rated residual current of maximum 30 mA are used for personnel, material and fire protection, as well as for protection against direct contact.

Devices with a rated residual current of maximum 300 mA are used as preventative fire protection in case of insulation faults.

RC units are combined with miniature circuit breakers with characteristics A, B, C and D, provided that these are available in the MCB range. The two components are simply plugged together without the need for any tools.

They then form a combination of RCCB and MCB for personnel, fire and line protection.

The dimensioning of the rated residual current depends on the size of the plant.

Benefits

- Our wide variety of RC unit types and comprehensive range of miniature circuit breakers offer a huge spectrum of combinations for all applications
- Instantaneous type A devices have a surge current withstand capability with current waveform 8/20 µs of more than 1 kA, super resistant of more than 3 kA and selective of more than 5 kA. This ensures safe operation
- All additional components for miniature circuit breakers can be retrofitted on the right-hand side
- All 100 A and 125 A RC units offer external remote tripping over terminals Y1/Y2. This supports implementation of central OFF circuits.
- Both components can be simply plugged into each other and secured with captive metal brackets - no tools required. This saves considerable time when mounting.



Technical specifications

			5SM2
Standards			IEC/EN 61009-1 (VDE 0664-20), IEC/EN 61009-2-1 (VDE 0664-21), IEC/EN 61543 (VDE 0664-30), IEC/EN 62423 (VDE 0664-40)
Surge current withstand capability			
• Type A with current waveform 8/20 µs	Acc. to DIN VDE 0432-2		
- Instantaneous		kA	> 1
- Super resistant		kA	> 3
- Selective		kA	> 5
• Type F with current waveform 8/20 µs	Acc. to DIN VDE 0432-2	kA	> 3
Minimum operational voltage for test function operation			
• Up to I_n = 63 A, 2 and 3-pole		V AC	195
• Up to I_n = 63 A, 4-pole		V AC	100
• At I_n = 80 ... 100 A		V AC	100
Rated voltage U_n		V AC	230 ... 400
Rated frequency f_n		Hz	50 ... 60
Rated currents I_n		A	0.3 ... 16; 0.3 ... 40; 0.3 ... 63; 80 ... 100
Rated residual currents $I_{\Delta n}$		mA	10, 30, 100, 300, 500, 1000
Insulation coordination			
• Overvoltage category			III
Pollution degree			2
Terminal conductor cross-sections			
• Up to I_n 63 A		mm^2	1.5 ... 25
• At I_n = 80 ... 100 A		mm^2	6.0 ... 50
Terminal tightening torque		Nm	2.5 ... 3.0
Mains connection			Either top or bottom
Mounting position			Any
Degree of protection	Acc. to EN 60529 (VDE 0470-1)		IP20, if the distribution board is installed, with connected conductors
Touch protection	Acc. to EN 50274 (VDE 0660-514)		Finger and back-of-hand safe
Service life	Test cycle acc. to DIN/EN 61009		> 10 000 switching cycles
Storage temperature		°C	-40 ... +75
Ambient temperature		°C	-25 ... +45, marked with -25
Resistance to climate	Acc. to IEC 60068-2-30		28 cycles (55 °C; 95 % rel. air humidity)
CFC and silicone-free			Yes

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5SM2 RC units

Selection and ordering data

(Type AC)

	Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	Mounting width MW	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
RC units, type AC, instantaneous										
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY3 0 and 5SY6 0									
	**2P, 230 ... 400 V AC, 50 ... 60 Hz**									
	10[1]	0.3 ... 40	2		**5SM2 121-0**		1	1 unit	012	0.198
	30				**5SM2 322-0**		1	1 unit	012	0.205
	300				**5SM2 622-0**		1	1 unit	012	0.193
	30	0.3 ... 63			**5SM2 325-0**		1	1 unit	012	0.215
	300				**5SM2 625-0**		1	1 unit	012	0.195
	500				**5SM2 725-0**		1	1 unit	012	0.195
	1000				**5SM2 825-0**		1	1 unit	012	0.218
	**3P; 230 ... 400 V AC; 50 ... 60 Hz**									
	30	0.3 ... 40	3		**5SM2 332-0**		1	1 unit	012	0.304
	300				**5SM2 632-0**		1	1 unit	012	0.290
	30	0.3 ... 63			**5SM2 335-0**		1	1 unit	012	0.358
	300				**5SM2 635-0**		1	1 unit	012	0.290
	500				**5SM2 735-0**		1	1 unit	012	0.290
	**4P, 230 ... 400 V AC, 50 ... 60 Hz**									
	30	0.3 ... 40	3	▶	**5SM2 342-0**		1	1 unit	012	0.328
	300			▶	**5SM2 642-0**		1	1 unit	012	0.321
	30	0.3 ... 63			**5SM2 345-0**		1	1 unit	012	0.395
	300				**5SM2 645-0**		1	1 unit	012	0.320
	500				**5SM2 745-0**		1	1 unit	012	0.321
RC units, type AC, selective S										
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY3 0 and 5SY6 0									
	**2P, 230 ... 400 V AC, 50 ... 60 Hz**									
	300	0.3 ... 40	2		**5SM2 622-2**		1	1 unit	012	0.210
	300	0.3 ... 63			**5SM2 625-2**		1	1 unit	012	0.213
	**4P, 230 ... 400 V AC, 50 ... 60 Hz**									
	300	0.3 ... 63	3		**5SM2 645-2**		1	1 unit	012	0.373
	1000				**5SM2 845-2**		1	1 unit	012	0.330
RC units, type AC, instantaneous										
	For 5SP4 miniature circuit breakers (characteristics B and C)									
	**2P, 230 ... 400 V AC, 50 ... 60 Hz**									
	30	80 ... 100	3.5		**5SM2 327-0**		1	1 unit	012	0.532
	300				**5SM2 627-0**		1	1 unit	012	0.446
	**4P, 230 ... 400 V AC, 50 ... 60 Hz**									
	30	80 ... 100	5		**5SM2 347-0**		1	1 unit	012	0.935
	300				**5SM2 647-0**		1	1 unit	012	0.678

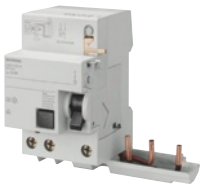
[1] 2SM2 RC units with $I_{\Delta n}$ = 10 mA can be combined with switches I_n = 16 A

* You can order this quantity or a multiple thereof.

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5SM2 RC units

(Type A)

	Rated residual current	Rated current	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	$I_{\Delta n}$	I_n								
	mA	A	MW							kg
RC units, type A, instantaneous										
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY8 and 5SY6 0. . ,									
	**2P, 230 ... 400 V AC, 50 ... 60 Hz**									
	10	0.3 ... 16	2		**5SM2 121-6**		1	1 unit	011	0.207
	30	0.3 ... 40		►	**5SM2 322-6**		1	1 unit	011	0.209
	300				**5SM2 622-6**		1	1 unit	011	0.199
	30	0.3 ... 63			**5SM2 325-6**		1	1 unit	011	0.215
	100				**5SM2 425-6**		1	1 unit	011	0.211
	300				**5SM2 625-6**		1	1 unit	011	0.203
	500				**5SM2 725-6**		1	1 unit	011	0.198
	**3P; 230 ... 400 V AC; 50 ... 60 Hz**									
	30	0.3 ... 40	3		**5SM2 332-6**		1	1 unit	011	0.314
	300				**5SM2 632-6**		1	1 unit	011	0.295
	30	0.3 ... 63			**5SM2 335-6**		1	1 unit	011	0.359
	100				**5SM2 435-6**		1	1 unit	011	0.327
	300				**5SM2 635-6**		1	1 unit	011	0.298
	500				**5SM2 735-6**		1	1 unit	011	0.322
	**4P, 230 ... 400 V AC, 50 ... 60 Hz**									
	30	0.3 ... 40	3	►	**5SM2 342-6**		1	1 unit	011	0.337
	300			►	**5SM2 642-6**		1	1 unit	011	0.326
	30	0.3 ... 63			**5SM2 345-6**		1	1 unit	011	0.397
	100				**5SM2 445-6**		1	1 unit	011	0.357
	300				**5SM2 645-6**		1	1 unit	011	0.328
	500				**5SM2 745-6**		1	1 unit	011	0.326
	For 5SP4 miniature circuit breakers (characteristics B and C)									
	**2P, 125 ... 230 V AC, 50 ... 60 Hz**									
	30	80 ... 100	3.5		**5SM2 327-6**		1	1 unit	011	0.529
	300				**5SM2 627-6**		1	1 unit	011	0.458
	**4P, 230 ... 400 V AC, 50 ... 60 Hz**									
	30	80 ... 100	5		**5SM2 347-6**		1	1 unit	011	0.934
	300				**5SM2 647-6**		1	1 unit	011	0.682

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5SM2 RC units

	Rated residual current	Rated current	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	$I_{\Delta n}$	I_n								
	mA	A	MW							kg
RC units, type A, super resistant K										
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY8 and 5SY6 0. .,									
	**2P, 230 ... 400 V AC, 50 ... 60 Hz**									
	30	0.3 ... 40	2		**5SM2 322-6KK01**		1	1 unit	011	0.215
	30	0.3 ... 63			**5SM2 325-6KK01**		1	1 unit	011	0.214
	**3P; 230 ... 400 V AC; 50 ... 60 Hz**									
	30	0.3 ... 40	3		**5SM2 332-6KK01**		1	1 unit	011	0.365
	30	0.3 ... 63			**5SM2 335-6KK01**		1	1 unit	011	0.365
	**4P, 230 ... 400 V AC, 50 ... 60 Hz**									
	30	0.3 ... 40	3		**5SM2 342-6KK01**		1	1 unit	011	0.390
	30	0.3 ... 63			**5SM2 345-6KK01**		1	1 unit	011	0.388
RC units, type A, selective S										
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY8 and 5SY6 0. .,									
	**2P, 230 ... 400 V AC, 50 ... 60 Hz**									
	300	0.3 ... 40	2		**5SM2 622-8**		1	1 unit	011	0.210
	1000				**5SM2 822-8**		1	1 unit	011	0.204
	300	0.3 ... 63			**5SM2 625-8**		1	1 unit	011	0.210
	1000				**5SM2 825-8**		1	1 unit	011	0.202
	**3P; 230 ... 400 V AC; 50 ... 60 Hz**									
	1000	0.3 ... 40	3		**5SM2 832-8**		1	1 unit	011	0.301
	300	0.3 ... 63	3		**5SM2 635-8**		1	1 unit	011	0.341
	500				**5SM2 735-8**		1	1 unit	011	0.323
	1000				**5SM2 835-8**		1	1 unit	011	0.304
	**4P, 230 ... 400 V AC, 50 ... 60 Hz**									
	1000	0.3 ... 40	3		**5SM2 842-8**		1	1 unit	011	0.343
	300	0.3 ... 63			**5SM2 645-8**		1	1 unit	011	0.373
	500				**5SM2 745-8**		1	1 unit	011	0.333
	1000				**5SM2 845-8**		1	1 unit	011	0.333

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5SM2 RC units

	Rated residual current	Rated current	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	$I_{\Delta n}$	I_n								
	mA	A	MW							kg
	For 5SP4 miniature circuit breakers (characteristics B and C)									
	2P, 125 ... 230 V AC, 50 ... 60 Hz									
	300	80 ... 100	3.5		**5SM2 627-8**		1	1 unit	011	0.519
	1000	80 ... 100	3.5		**5SM2 827-8**		1	1 unit	011	0.464
	4P, 230 ... 400 V AC, 50 ... 60 Hz									
	300	80 ... 100	5		**5SM2 647-8**		1	1 unit	011	0.838
	1000				**5SM2 847-8**		1	1 unit	011	0.706
RC units, type F, super resistant										
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY8 and 5SY6 0.., NEW									
	2P, 230 ... 400 V AC, 50 ... 60 Hz									
	30	0.3 ... 40	2		**5SM2 322-3**		1	1 unit	011	0.215
	30	0.3 ... 63	2		**5SM2 325-3**		1	1 unit	011	0.214

* You can order this quantity or a multiple thereof.

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5SU1 RCBOs

Overview

RCBOs are a combination of an RCCB and a miniature circuit breaker in a compact design for personnel, fire and line protection. For personnel protection and fire protection, the residual current part of the type AC trips in the event of sinusoidal AC residual currents, type A also trips in the event of pulsating DC residual currents.

In addition, RCBOs type F also detect residual currents with mixed frequencies up to 1 kHz.

RCBOs with a rated residual current of maximum 30 mA are used for personnel, material and fire protection, as well as for protection against direct contact. RCBOs with a rated residual current of 10 mA are primarily used in areas that represent an increased risk for personnel and in the outdoor installations of residential buildings.

Devices with a rated residual current of maximum 300 mA are used as preventative fire protection in case of insulation faults.

The MCB part of the RCBO protects lines against overload and short circuits and is available in characteristics B and C.

Since DIN VDE 0100-410 came into effect in June 2007, all socket outlet current circuits up to 20 A must now also be fitted with residual current protective devices with a rated residual current of max. 30 mA. This also applies to outdoor electrical circuits up to 32 A for the connection of portable equipment.

In order to implement this protection, we recommend the national use of RCBOs with 30 mA.

Assignment to each individual branch circuit helps prevent the undesired tripping of fault-free circuits induced by the accumulation of operation-related leakage currents or by transient current pulses during switching operations.

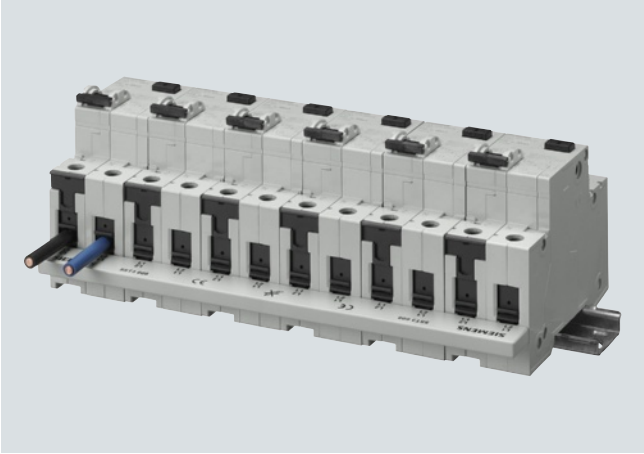
Additional components of the 5SY miniature circuit breakers can be mounted at the side and carry out additional functions.

For further details on additional components, please refer to the chapter "Miniature circuit breakers".

RCBOs comprise one part for fault-current detection and one part for overcurrent detection. They are equipped with a delayed overload/time-dependent thermal release (thermal bimetal) for low overcurrents and with an instantaneous electromagnetic release for higher overload and short-circuit currents.

The special contact materials used guarantee a long service life and offer a high degree of protection against contact welding.

Benefits





For all versions

- Clear and visible conductor connection in front of the rear busbar facilitates controls
- Large and easily accessible wiring space enables easy insertion of conductor in the terminals.
- The surge current withstand capability of over 1 kA ensures safe and reliable operation.
- All additional components for miniature circuit breakers can be retrofitted on the right-hand side.

For all 10 kA versions up to 40 A

- Integrated movable terminal covers located at the cable entries ensure the terminals are fully insulated when the screws are tightened. The effective touch protection when grasping the device considerably exceeds the requirements of BGV A3.
- The RCBOs can be quickly and easily removed from the assembly by hand if connections need to be changed. This saves time if parts need to be replaced because the busbars no longer need to be freed from the adjacent miniature circuit breakers.

For all 125 A versions

- The RCBOs offer external remote tripping over terminals Y1/Y2. This supports implementation of central OFF circuits.

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Technical specifications

			Up to 40 A	125 A
Standards			IEC/EN 61009-1 (VDE 0664-20); IEC/EN 61009-2-1 (VDE 0664-21) IEC/EN 61543 (VDE 0664-30); IEC/EN 62423 (VDE 0664-40)	
Rated voltages U_n		V AC	125 ... 230	400
Rated frequency f_n		Hz	50 ... 60	
Rated currents I_n		A	6, 8, 10, 13, 16, 20, 25, 32, 40	125
Rated residual currents $I_{\Delta n}$		mA	10, 30, 100, 300	30, 300, 1000
Rated breaking capacity		kA	6 / 10	10
Energy limitation class			3	--
Surge current withstand capability, type A				
• with current waveform 8/20 µs	acc. to DIN VDE 0432-2			
- Instantaneous		kA	> 1	
- Super resistant		kA	> 3	--
- Selective		kA	> 5	
• Type F with current waveform 8/20 µs		kA	> 3	--
Minimum voltage for operation of the test equipment		V AC	100	
Insulation coordination				
• Overvoltage category			III	
Pollution degree			2	
Terminal conductor cross-sections				
• Solid and stranded		mm^2	0.75 ... 35	6 ... 50
• Finely stranded with end sleeve		mm^2	0.75 ... 25	6 ... 35
Terminal tightening torque		Nm	2.5 ... 3.0	3.0 ... 3.5
Mains connection			Top or bottom	
Mounting position			Any	
Degree of protection	Acc. to EN 60529 (VDE 0470-1)		IP20, if the distribution board is installed, with connected conductors	
Touch protection	Acc. to EN 50274 (VDE 0660-514)		Finger and back-of-hand safe	
Service life	Test cycle acc. to IEC/EN 61009	Switching cycles	> 10000	
Storage temperature		°C	-40 ... +75	
Ambient temperature		°C	-25 ... +45, marked with -25	
Resistance to climate	Acc. to IEC 60068-2-30		28 cycles (55 °C; 95 % rel. air humidity)	
CFC and silicone-free			Yes	

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5SU1 RCBOs

Selection and ordering data

(Type AC)

	Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	Mounting width MW	DT	Tripping characteristic B Order No.	Price per PU	PG	DT	Tripping characteristic C Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
RCBOs, type AC, instantaneous														
1P + N, 230 V AC, 50 ... 60 Hz														
4 500 / 3														
N connection, right														
	30	6	2		--				**5SU1 353-1KK06**		1	1 unit	004	0.284
		8			--				**5SU1 353-1KK08**		1	1 unit	004	0.292
		10			--				**5SU1 353-1KK10**		1	1 unit	004	0.284
		13			--				**5SU1 353-1KK13**		1	1 unit	004	0.309
		16			--				**5SU1 353-1KK16**		1	1 unit	004	0.284
		20			--				**5SU1 353-1KK20**		1	1 unit	004	0.294
		25			--				**5SU1 353-1KK25**		1	1 unit	004	0.293
		32			--				**5SU1 353-1KK32**		1	1 unit	004	0.298
		40			--				**5SU1 353-1KK40**		1	1 unit	004	0.295
	300	6	2		--				**5SU1 653-1KK06**		1	1 unit	004	0.285
		10			--				**5SU1 653-1KK10**		1	1 unit	004	0.277
		13			--				**5SU1 653-1KK13**		1	1 unit	004	0.288
		16			--				**5SU1 653-1KK16**		1	1 unit	004	0.276
		20			--				**5SU1 653-1KK20**		1	1 unit	004	0.287
		25			--				**5SU1 653-1KK25**		1	1 unit	004	0.286
		32			--				**5SU1 653-1KK32**		1	1 unit	004	0.289
		40			--				**5SU1 653-1KK40**		1	1 unit	004	0.288
N connection, left														
	30	6	2		--				**5SU1 353-1KL06**		1	1 unit	004	0.292
		10			--				**5SU1 353-1KL10**		1	1 unit	004	0.292
		13			--				**5SU1 353-1KL13**		1	1 unit	004	0.296
		16			--				**5SU1 353-1KL16**		1	1 unit	004	0.294
		20			--				**5SU1 353-1KL20**		1	1 unit	004	0.303
		25			--				**5SU1 353-1KL25**		1	1 unit	004	0.302
		32			--				**5SU1 353-1KL32**		1	1 unit	004	0.304
		40			--				**5SU1 353-1KL40**		1	1 unit	004	0.305
	300	6			--				**5SU1 653-1KL06**		1	1 unit	004	0.285
		10			--				**5SU1 653-1KL10**		1	1 unit	004	0.277
		16			--				**5SU1 653-1KL16**		1	1 unit	004	0.276
		20			--				**5SU1 653-1KL20**		1	1 unit	004	0.287
		25			--				**5SU1 653-1KL25**		1	1 unit	004	0.286
		32			--				**5SU1 653-1KL32**		1	1 unit	004	0.289
		40			--				**5SU1 653-1KL40**		1	1 unit	004	0.288
6 000 / 3														
N connection, right														
	30	6	2		**5SU1 356-0KK06**		004		**5SU1 356-1KK06**		1	1 unit	004	0.284
		8			--				**5SU1 356-1KK08**		1	1 unit	004	0.289
		10			**5SU1 356-0KK10**		004		**5SU1 356-1KK10**		1	1 unit	004	0.285
		13			**5SU1 356-0KK13**		004		**5SU1 356-1KK13**		1	1 unit	004	0.289
		16			**5SU1 356-0KK16**		004		**5SU1 356-1KK16**		1	1 unit	004	0.281
		20			**5SU1 356-0KK20**		004		**5SU1 356-1KK20**		1	1 unit	004	0.294
		25			**5SU1 356-0KK25**		004		**5SU1 356-1KK25**		1	1 unit	004	0.295
		32			**5SU1 356-0KK32**		004		**5SU1 356-1KK32**		1	1 unit	004	0.300
		40			**5SU1 356-0KK40**		004		**5SU1 356-1KK40**		1	1 unit	004	0.302
	300	6	2		**5SU1 656-0KK06**		004		**5SU1 656-1KK06**		1	1 unit	004	0.280
		10			**5SU1 656-0KK10**		004		**5SU1 656-1KK10**		1	1 unit	004	0.278
		13			**5SU1 656-0KK13**		004		**5SU1 656-1KK13**		1	1 unit	004	0.280
		16			**5SU1 656-0KK16**		004		**5SU1 656-1KK16**		1	1 unit	004	0.276
		20			**5SU1 656-0KK20**		004		**5SU1 656-1KK20**		1	1 unit	004	0.293
		25			**5SU1 656-0KK25**		004		**5SU1 656-1KK25**		1	1 unit	004	0.292
		32			**5SU1 656-0KK32**		004		**5SU1 656-1KK32**		1	1 unit	004	0.288
		40			**5SU1 656-0KK40**		004		**5SU1 656-1KK40**		1	1 unit	004	0.284

* You can order this quantity or a multiple thereof.

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	Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	Mounting width MW	DT	Tripping characteristic B Order No.	Price per PU	PG	DT	Tripping characteristic C Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
RCBOs, type AC, instantaneous														
	**1P + N, 230 V AC, 50 ... 60 Hz**													
	10 000													
	3													
	30	6	2		**5SU1 354-0KK06**		004		**5SU1 354-1KK06**		1	1 unit	004	0.288
		8			**--**				**5SU1 354-1KK08**		1	1 unit	004	0.260
		10			**5SU1 354-0KK10**		004		**5SU1 354-1KK10**		1	1 unit	004	0.288
		13			**5SU1 354-0KK13**		004		**5SU1 354-1KK13**		1	1 unit	004	0.292
		16			**5SU1 354-0KK16**		004		**5SU1 354-1KK16**		1	1 unit	004	0.288
		20			**5SU1 354-0KK20**		004		**5SU1 354-1KK20**		1	1 unit	004	0.292
		25			**5SU1 354-0KK25**		004		**5SU1 354-1KK25**		1	1 unit	004	0.293
		32			**5SU1 354-0KK32**		004		**5SU1 354-1KK32**		1	1 unit	004	0.297
		40			**5SU1 354-0KK40**		004		**5SU1 354-1KK40**		1	1 unit	004	0.296
	100	6	2		**--**				**5SU1 454-1KK06**		1	1 unit	004	0.283
		10			**--**				**5SU1 454-1KK10**		1	1 unit	004	0.284
		13			**--**				**5SU1 454-1KK13**		1	1 unit	004	0.290
		16			**--**				**5SU1 454-1KK16**		1	1 unit	004	0.286
		20			**--**				**5SU1 454-1KK20**		1	1 unit	004	0.289
		25			**--**				**5SU1 454-1KK25**		1	1 unit	004	0.289
		32			**--**				**5SU1 454-1KK32**		1	1 unit	004	0.288
		40			**--**				**5SU1 454-1KK40**		1	1 unit	004	0.293
	300	6	2		**5SU1 654-0KK06**		004		**5SU1 654-1KK06**		1	1 unit	004	0.280
		10			**5SU1 654-0KK10**		004		**5SU1 654-1KK10**		1	1 unit	004	0.282
		13			**5SU1 654-0KK13**		004		**5SU1 654-1KK13**		1	1 unit	004	0.280
		16			**5SU1 654-0KK16**		004		**5SU1 654-1KK16**		1	1 unit	004	0.282
		20			**5SU1 654-0KK20**		004		**5SU1 654-1KK20**		1	1 unit	004	0.287
		25			**5SU1 654-0KK25**		004		**5SU1 654-1KK25**		1	1 unit	004	0.284
		32			**5SU1 654-0KK32**		004		**5SU1 654-1KK32**		1	1 unit	004	0.287
		40			**5SU1 654-0KK40**		004		**5SU1 654-1KK40**		1	1 unit	004	0.286
RCBOs, type AC, instantaneous														
	**2P, 400 V AC, 50 ... 60 Hz**													
	10 000													
	30	125	6.5		**5SU1 324-0KK82**		004		**5SU1 324-1KK82**		1	1 unit	004	1.224
	300	125			**5SU1 624-0KK82**		004		**5SU1 624-1KK82**		1	1 unit	004	0.930
	**4P, 400 V AC, 50 ... 60 Hz**													
	10 000													
	30	125	11		**5SU1 344-0KK82**		004		**5SU1 344-1KK82**		1	1 unit	004	2.017
	300	125			**5SU1 644-0KK82**		004		**5SU1 644-1KK82**		1	1 unit	004	2.026

* You can order this quantity or a multiple thereof.

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5SU1 RCBOs

(Type A)

Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	Mounting width MW	DT	Tripping characteristic B Order No.	Price per PU	PG	DT	Tripping characteristic C Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
RCBOs, type A, instantaneous													
1P+N, 230 V AC, 50 ... 60 Hz													
4 500 / 3													
N connection, right													
30	6	2		--				5SU1 353-7KK06		1	1 unit	008	0.275
	8			--				5SU1 353-7KK08		1	1 unit	008	0.293
	10			--				5SU1 353-7KK10		1	1 unit	008	0.280
	13			--				5SU1 353-7KK13		1	1 unit	008	0.278
	16			--				5SU1 353-7KK16		1	1 unit	008	0.280
	20			--				5SU1 353-7KK20		1	1 unit	008	0.291
	25			--				5SU1 353-7KK25		1	1 unit	008	0.292
	32			--				5SU1 353-7KK32		1	1 unit	008	0.296
	40			--				5SU1 353-7KK40		1	1 unit	008	0.295
300	6	2		--				5SU1 653-7KK06		1	1 unit	008	0.279
	10			--				5SU1 653-7KK10		1	1 unit	008	0.282
	13			--				5SU1 653-7KK13		1	1 unit	008	0.284
	16			--				5SU1 653-7KK16		1	1 unit	008	0.278
	20			--				5SU1 653-7KK20		1	1 unit	008	0.292
	25			--				5SU1 653-7KK25		1	1 unit	008	0.292
	32			--				5SU1 653-7KK32		1	1 unit	008	0.294
	40			--				5SU1 653-7KK40		1	1 unit	008	0.292
N connection, left													
30	6	2		--				5SU1 353-7KL06		1	1 unit	008	0.292
	10			--				5SU1 353-7KL10		1	1 unit	008	0.292
	16			--				5SU1 353-7KL16		1	1 unit	008	0.294
	20			--				5SU1 353-7KL20		1	1 unit	008	0.303
	25			--				5SU1 353-7KL25		1	1 unit	008	0.303
	32			--				5SU1 353-7KL32		1	1 unit	008	0.304
	40			--				5SU1 353-7KL40		1	1 unit	008	0.305
6 000 / 3													
N connection, right													
30	6	2		5SU1 356-6KK06		008		5SU1 356-7KK06		1	1 unit	008	0.279
	8			--				5SU1 356-7KK08		1	1 unit	008	0.278
	10			5SU1 356-6KK10		008	►	5SU1 356-7KK10		1	1 unit	008	0.279
	13			5SU1 356-6KK13		008		5SU1 356-7KK13		1	1 unit	008	0.283
	16		►	5SU1 356-6KK16		008	►	5SU1 356-7KK16		1	1 unit	008	0.279
	20			5SU1 356-6KK20		008		5SU1 356-7KK20		1	1 unit	008	0.289
	25			5SU1 356-6KK25		008		5SU1 356-7KK25		1	1 unit	008	0.293
	32			5SU1 356-6KK32		008		5SU1 356-7KK32		1	1 unit	008	0.296
	40			5SU1 356-6KK40		008		5SU1 356-7KK40		1	1 unit	008	0.295
300	6	2		5SU1 656-6KK06		008		5SU1 656-7KK06		1	1 unit	008	0.279
	10			5SU1 656-6KK10		008		5SU1 656-7KK10		1	1 unit	008	0.278
	13			5SU1 656-6KK13		008		5SU1 656-7KK13		1	1 unit	008	0.283
	16			5SU1 656-6KK16		008		5SU1 656-7KK16		1	1 unit	008	0.280
	20			5SU1 656-6KK20		008		5SU1 656-7KK20		1	1 unit	008	0.293
	25			5SU1 656-6KK25		008		5SU1 656-7KK25		1	1 unit	008	0.294
	32			5SU1 656-6KK32		008		5SU1 656-7KK32		1	1 unit	008	0.292
	40			5SU1 656-6KK40		008		5SU1 656-7KK40		1	1 unit	008	0.290

* You can order this quantity or a multiple thereof.

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RCBOs, type A, instantaneous

1P+N; 230 V AC; 50 ... 60 Hz

10 000

3

Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	Mounting width MW	DT	Tripping characteristic B Order No.	Price per PU	PG	DT	Tripping characteristic C Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
10	6	2		**5SU1 154-6KK06**		008		**5SU1 154-7KK06**		1	1 unit	008	0.288
	10			**5SU1 154-6KK10**		008		**5SU1 154-7KK10**		1	1 unit	008	0.287
	13			**5SU1 154-6KK13**		008		**5SU1 154-7KK13**		1	1 unit	008	0.290
	16			**5SU1 154-6KK16**		008	►	**5SU1 154-7KK16**		1	1 unit	008	0.284
30	6	2		**5SU1 354-6KK06**		008	►	**5SU1 354-7KK06**		1	1 unit	008	0.283
	8			**--**				**5SU1 354-7KK08**		1	1 unit	008	0.260
	10			**5SU1 354-6KK10**		008	►	**5SU1 354-7KK10**		1	1 unit	008	0.283
	13			**5SU1 354-6KK13**		008		**5SU1 354-7KK13**		1	1 unit	008	0.288
	16		►	**5SU1 354-6KK16**		008	►	**5SU1 354-7KK16**		1	1 unit	008	0.282
	20			**5SU1 354-6KK20**		008		**5SU1 354-7KK20**		1	1 unit	008	0.289
	25			**5SU1 354-6KK25**		008		**5SU1 354-7KK25**		1	1 unit	008	0.288
	32			**5SU1 354-6KK32**		008		**5SU1 354-7KK32**		1	1 unit	008	0.292
	40			**5SU1 354-6KK40**		008		**5SU1 354-7KK40**		1	1 unit	008	0.286
300	6	2		**5SU1 654-6KK06**		008		**5SU1 654-7KK06**		1	1 unit	008	0.284
	10			**5SU1 654-6KK10**		008		**5SU1 654-7KK10**		1	1 unit	008	0.282
	13			**5SU1 654-6KK13**		008		**5SU1 654-7KK13**		1	1 unit	008	0.288
	16			**5SU1 654-6KK16**		008		**5SU1 654-7KK16**		1	1 unit	008	0.281
	20			**5SU1 654-6KK20**		008		**5SU1 654-7KK20**		1	1 unit	008	0.285
	25			**5SU1 654-6KK25**		008		**5SU1 654-7KK25**		1	1 unit	008	0.285
	32			**5SU1 654-6KK32**		008		**5SU1 654-7KK32**		1	1 unit	008	0.287
	40			**5SU1 654-6KK40**		008		**5SU1 654-7KK40**		1	1 unit	008	0.289

* You can order this quantity or a multiple thereof.

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5SU1 RCBOs

	Rated residual current	Rated current	Mounting width	DT	Tripping characteristic B Order No.	Price per PU	PG	DT	Tripping characteristic C Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	$I_{\Delta n}$	I_n												
	mA	A	MW											kg
	2P; 230 V AC; 50 ... 60 Hz													
	10 000													
	3													
	30	6	3		**5SU1 324-6FA06**		008		**5SU1 324-7FA06**		1	1 unit	008	0.421
		10		▶	**5SU1 324-6FA10**		008	▶	**5SU1 324-7FA10**		1	1 unit	008	0.414
		13			**5SU1 324-6FA13**		008		**5SU1 324-7FA13**		1	1 unit	008	0.423
		16		▶	**5SU1 324-6FA16**		008	▶	**5SU1 324-7FA16**		1	1 unit	008	0.414
		20			**5SU1 324-6FA20**		008		**5SU1 324-7FA20**		1	1 unit	008	0.427
		25			**5SU1 324-6FA25**		008		**5SU1 324-7FA25**		1	1 unit	008	0.432
		32			**5SU1 324-6FA32**		008		**5SU1 324-7FA32**		1	1 unit	008	0.427
		40			**5SU1 324-6FA40**		008		**5SU1 324-7FA40**		1	1 unit	008	0.427
	2P; 400 V AC; 50 ... 60 Hz													
	10 000													
	30	125	6.5		**5SU1 324-6KK82**		008		**5SU1 324-7KK82**		1	1 unit	008	1.212
	300	125			**5SU1 624-6KK82**		008		**5SU1 624-7KK82**		1	1 unit	008	0.930
	4P; 400 V AC; 50 ... 60 Hz													
	10 000													
	30	125	11		**5SU1 344-6KK82**		008		**5SU1 344-7KK82**		1	1 unit	008	2.024
	300	125			**5SU1 644-6KK82**		008		**5SU1 644-7KK82**		1	1 unit	008	2.025
	RCBOs, type A, super resistant K													
	1P+N; 230 V AC; 50 ... 60 Hz													
	10 000													
	3													
	30	10	2		--				**5SU1 354-7VK10**		1	1 unit	008	0.293
		16			--				**5SU1 354-7VK16**		1	1 unit	008	0.292
		20			--				**5SU1 354-7VK20**		1	1 unit	008	0.296
		25			--				**5SU1 354-7VK25**		1	1 unit	008	0.296
		32			--				**5SU1 354-7VK32**		1	1 unit	008	0.297
		40			--				**5SU1 354-7VK40**		1	1 unit	008	0.296
	RCBOs, type A, selective S													
	2P; 400 V AC; 50 ... 60 Hz													
	10 000													
	300	125	6.5		**5SU1 624-6WK82**		008		**5SU1 624-7WK82**		1	1 unit	008	0.930
	4P; 400 V AC; 50 ... 60 Hz													
	10 000													
	300	125	11		**5SU1 644-6WK82**		008		**5SU1 644-7WK82**		1	1 unit	008	2.018
	1000	125			**5SU1 844-6WK82**		008		**5SU1 844-7WK82**		1	1 unit	008	0.999
	**RCBO, type F** NEW													
	1P+N, 230 V AC, 50 ... 60 Hz													
	30	6	2		**5SU1 354-3KK06**		008		**5SU1 354-4KK06**		1	1 unit	008	0.290
		10			**5SU1 354-3KK10**		008		**5SU1 354-4KK10**		1	1 unit	008	0.291
		13			**5SU1 354-3KK13**		008		**5SU1 354-4KK13**		1	1 unit	008	0.296
		16			**5SU1 354-3KK16**		008		**5SU1 354-4KK16**		1	1 unit	008	0.294
		20			**5SU1 354-3KK20**		008		**5SU1 354-4KK20**		1	1 unit	008	0.296
		25			**5SU1 354-3KK25**		008		**5SU1 354-4KK25**		1	1 unit	008	0.291
		32			**5SU1 354-3KK32**		008		**5SU1 354-4KK32**		1	1 unit	008	0.296
		40			**5SU1 354-3KK40**		008		**5SU1 354-4KK40**		1	1 unit	008	0.293

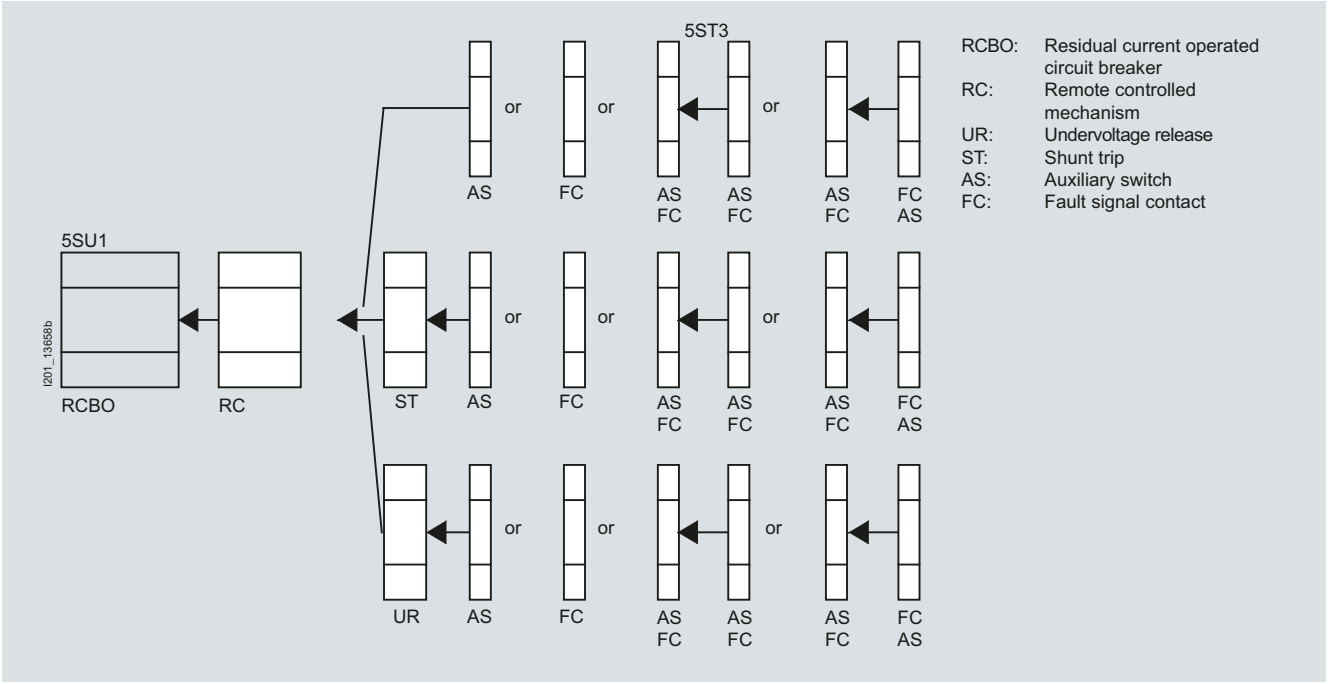
* You can order this quantity or a multiple thereof.

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	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	**Handle couplers for additional components** For mounting the additional components auxiliary switches, fault signal contacts, shunt trips and undervoltage releases onto 5SU1 RCBOs, you require a handle coupler (1 set - 5 units).	►	**5ST3 805-1**		1	1 set	020	0.006
	**Locking devices** For RCBOs, sealable and lockable		**5ST3 801-1**		1	1 unit	020	0.013

Note:

The same additional components are used for RCBOs as for miniature circuit breakers. See chapter "Miniature circuit breakers".



* You can order this quantity or a multiple thereof.

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Busbars

Overview

4-pole 5SM3 RCCBs are bus-mounted either together or in combination with miniature circuit breakers. RCCBs with an N wire connection on the left-hand side facilitate installation because standard busbars are used, as those used for bus mounting miniature circuit breakers.

Busbars in 10 mm^2 and 16 mm^2 versions are available.

The extremely flexible 5ST3 6 busbar system with fixed lengths enables installation in any length as the busbars can be overlapped.

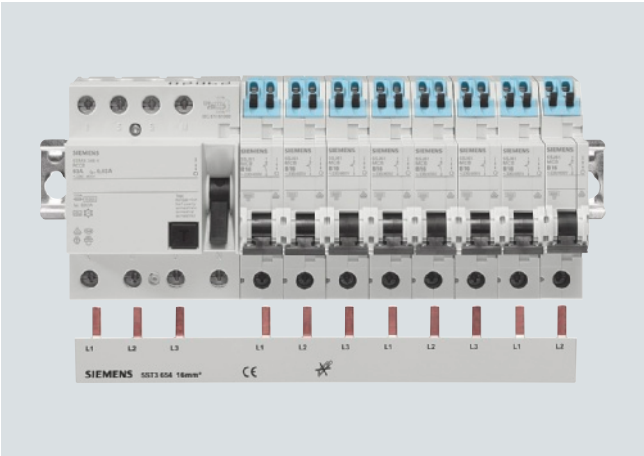
No further need for time-consuming tasks, such as cutting, cutting to length, deburring, cleaning of cut surfaces and mounting of end caps.

Any free pins on the busbars can be made safe by covering with touch protection.

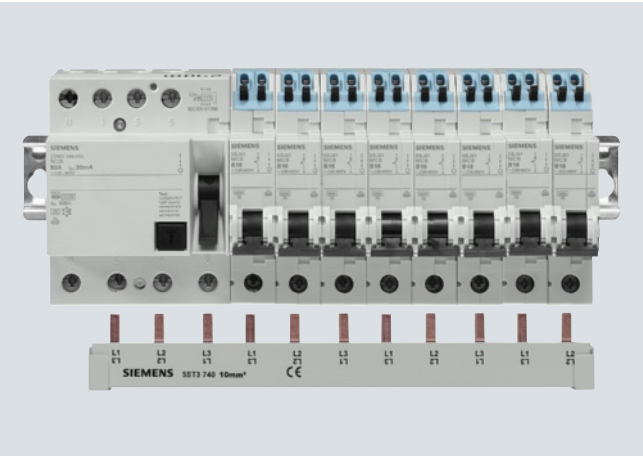
If several RCBOs are bus-mounted together, this is implemented with two-phase busbars, which are used as 1+N busbars.

Benefits

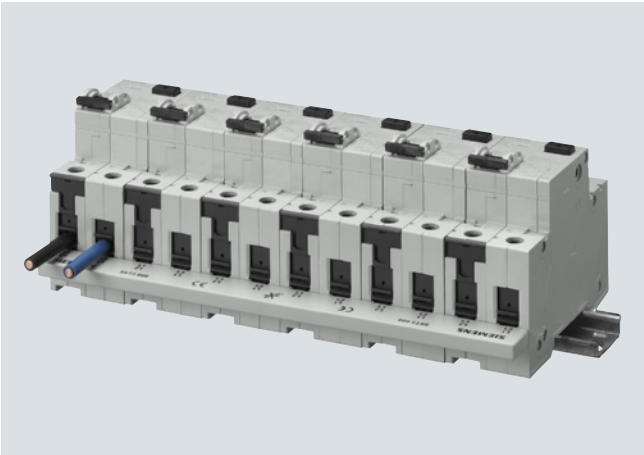
- Connection of miniature circuit breakers to 4-pole RCCBs with N connection right and three-phase busbar, using busbar specially designed for this application. No cutting or end caps required.



- Connection of miniature circuit breakers to 4-pole RCCBs with N connection left, with three-phase busbar that can be cut. No additional items to be stored and busbars that are always available.



- Connection of 1P+N RCBOs with two-phase busbar. No cutting or end caps required.



- Bus-mounting of RCCBs on busbar (3-phase +N) that can be cut. A proven and frequently used application.

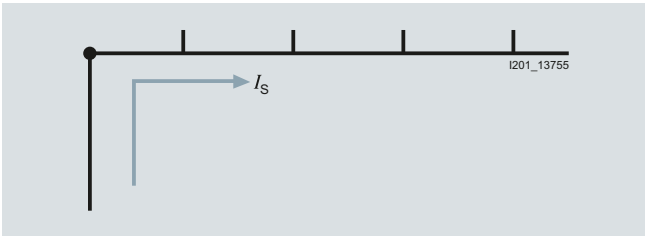


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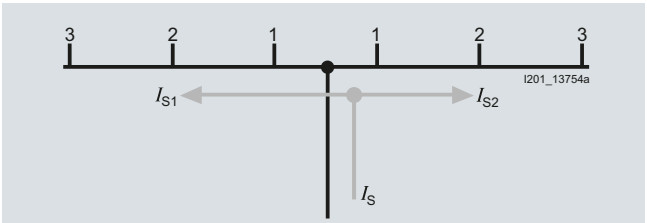
Technical specifications

			5ST3, 5ST2
Standards			EN 60439-1 (VDE 0660-500): 2005-01
Busbar material			SF-Cu F 24
Partition material			Plastic, Cycoloy 3600 Heat-resistant over 90 °C flame-retardant and self-extinguishing, dioxin and halogen-free
Rated operational voltage U_e		V AC	400
Rated current I_n			
• Cross-section 10 mm²		A	63
• Cross-section 16 mm²		A	80
Rated impulse withstand voltage U_{imp}		kV	4
Test pulse voltage (1.2/50)		kV	6.2
Rated conditional short-circuit current I_{cc}		kA	25
Resistance to climate			
• Constant atmosphere	Acc. to DIN 50015		23/83; 40/92; 55/20
• Humid heat	Acc. to IEC 68-2-30		28 cycles
Insulation coordination	Acc. to IEC 664 (VDE 0110-1)		
• Overvoltage category			III
• Pollution degree			2
Maximum busbar current I_S/phase			
• Infeed at the start of the busbar			
- Cross-section 10 mm²		A	63
- Cross-section 16 mm²		A	80
• Infeed at the center of the busbar			
- Cross-section 10 mm²		A	100
- Cross-section 16 mm²		A	130

Infeed at the start or end of the busbar

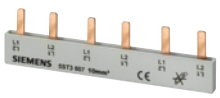
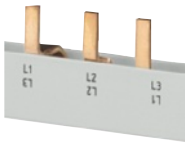


Infeed along the busbar or midpoint infeed



The sum of the outgoing current per branch (1, 2, 3 ... n) must not be greater than the max. busbar current I_S/phase.

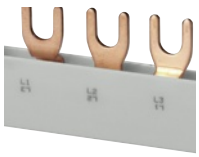
Selection and ordering data

	Version	Pin spacing	Length	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		MW	mm							kg
	**5ST3 6 busbar systems, fixed lengths, cannot be cut, fully insulated**									
	For 1 FI 4P, N connection right, and 8 MCB 1P									
	• 3-phase 10 mm²	1	210		**5ST3 624**		1	10 units	020	0.077
	• 3-phase 16 mm²	1	210		**5ST3 654**		1	10 units	020	0.108
	For 6 RCBOs 1P+N together									
	• 2-phase 10 mm²	1	210		**5ST3 608**		1	10 units	020	0.063
	• 2-phase 16 mm²	1	210		**5ST3 638**		1	10 units	020	0.089
	**5ST3 7 busbar systems, 12 MW, can be cut to length, with end caps**									
	For 1 FI 4P, N connection right, and 8 MCB 1P									
	• 3-phase 16 mm²	1	214		**5ST3 717**		1	25 units	020	0.115
	for 6 RCBOs 1P+N									
	• 2-phase 10 mm²	1	216		**5ST3 734**		1	1 unit	020	0.070
	• 2-phase 16 mm²	1	216	▶	**5ST3 704**		1	1 unit	020	0.092

* You can order this quantity or a multiple thereof.

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Busbars

	Version	Pin spacing	Length	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		MW	mm							kg
	5ST3 6 busbar systems, 10 mm², for MCBs, fixed lengths, cannot be cut, fully insulated									
	for 6 RCBOs 1P+N	1	215		**5ST3 623**		1	10 units	020	0.087
	5ST3 6 busbars, 16 mm², for MCBs, fixed lengths, cannot be cut, fully insulated									
	for 6 RCBOs 1P+N	1	215		**5ST3 653**		1	10 units	020	0.118
	5ST3 7 busbar systems, with end caps, can be cut to length, with touch protection									
	For RCBO 1P+N and MCB 2P									
	• 4-phase 10 mm²	1	1008		**5ST3 770-2**		1	10 units	020	0.400
	• 4-phase 16 mm²	1	1008		**5ST3 770-3**		1	10 units	020	0.550
	For RCCBs 4P, N right and 6 MCBs 1P+N									
	• 4-phase 10 mm²	1	288		**5ST3 770-4**		1	10 units	020	0.100
	• 4-phase 16 mm²	1	288		**5ST3 770-5**		1	10 units	020	0.160
	End caps for 5ST3 7, can be cut									
	• For two-phase and three-phase busbars			▶	**5ST3 750**		1	10 units	020	0.001
	• For four-phase busbars			▶	**5ST3 718**		1	10 units	020	0.002
	**Touch protection**									
	For free connections, yellow (RAL 1004) 5 x 1 pin			▶	**5ST3 655**		1	10 units	020	0.003
	**Busbar, 12 MW, with fork-type connections, can be cut to length, with end caps**									
	For bus mounting RCCBs together Three-phase + N, 16 mm²	1	216		**5ST2 145**		1	1 unit	020	0.145
	**End caps for 5ST2 145 busbars, can be cut to length**									
	For three-phase busbars			▶	**5ST2 156**		1	10 units	020	0.002
	**Terminals up to 35 mm² (stranded), for direct infeed of 5ST2 145 busbar**									
	Side-by-side mounting possible				**5ST2 157**		1	5 units	020	0.028

* You can order this quantity or a multiple thereof.

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Overview

	Number of poles	Rated current I_n A	Rated residual current $I_{\Delta n}$ mA	~ (Type A)
RCCB protective socket outlets				
• For mounting onto device box, equipped with RCCB and 2 SCHUKO® socket outlets	2	16	10, 30	✓
• Molded-plastic enclosures, equipped with RCCB and SCHUKO® socket outlet	2	16	10	✓

~ = type A for AC and pulsating DC residual currents

Application

RCCB protective socket outlets

- Molded-plastic enclosure equipped with RCCB and flush-mounted SCHUKO® socket outlet or flush-mounted SCHUKO® double socket outlet
- For electrical devices where there is a risk of accidental contact with live parts in the event of damage
- Rated voltage: 230 V AC, 50 Hz to 60 Hz
- For outdoor connection of gardening equipment and socket outlets in workshops or for agricultural purposes
- Degree of protection IP21 (5SM1 920-.), Degree of protection IP54 (5SZ9 2.6).

Selection and ordering data

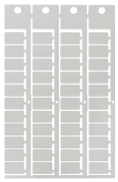
	Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
RCCB protective socket outlets									
 • RCCB protective socket outlets according to VDE 0664, for mounting on device boxes, equipped with residual current operated circuit breaker and 2 childproof SCHUKO® socket outlets, degree of protection IP21									
	10	16		**5SM1 920-5**		1	1 unit	015	0.513
	30			**5SM1 920-8**		1	1 unit	015	0.533
 • RCCB protective socket outlet according to VDE 0664 in molded-plastic enclosure, equipped with residual current operated circuit breaker and flush-mounted SCHUKO® socket outlet, degree of protection IP54									
	10	16		**5SZ9 206**		1	1 unit	015	0.761
	30			**5SZ9 216**		1	1 unit	015	0.763

* You can order this quantity or a multiple thereof.

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Accessories

Accessories

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	**Terminal covers, gray** For surface mounting, degree of protection IP40, sealable, with 35 mm standard mounting rail							
	• Up to 2.5 MW		**5SW3 004**		1	1 unit	015	0.091
	• Up to 4.5 MW		**5SW3 005**		1	1 unit	015	0.171
	**Wall enclosures, gray** For flush mounting, degree of protection IP40 with 35 mm standard mounting rail							
	• Up to 2.5 MW		**5SW3 006**		1	1/4 units	015	0.133
	• Up to 4.5 MW		**5SW3 007**		1	1 unit	015	0.162
	**Molded-plastic enclosures, gray** for surface mounting, degree of protection IP54, sealable, with 35 mm standard mounting rail, with transparent hinged lid for 4.5 MW		**5SW1 200**		1	1 unit	015	0.447
	**Covers** can be assembled as mini distribution board, suitable for all devices, cover parts prepared for rail mounting of conventional label caps, comprising:							
	• End plates (for snapping onto standard mounting rail) ►		**5ST2 134**		1	10 units	020	0.021
	• Angled profile (approx. 1 m long)		**5ST2 135**		1	5 units	020	0.288
	• Alternative flat profiles (as a cover between the rows of devices length approx. 1 m)		**5ST2 136**		1	5 units	020	0.239
	**Touch protection** For RCCBs up to 80 A 1 set contains 12 units		**5SW3 313**		1	1 set	015	0.012
	**Fixing parts** Plastic 4 MW		**5ST2 201**		1	1 unit	020	0.013
	**Inscription labels (white)** 15 × 9 mm, 3 frames with 44 labels each any attachment and inscription, self-adhesive		**5ST2 173**		1	1 set	020	0.049

Labeling system

Inscription on self-adhesive labels for a uniform and tidy appearance in electrical power distribution. The labeling program can be downloaded to your PC free of charge at:

www.siemens.com/beta

Recommended ELAT-3-747 labels for printing on normal printers can be ordered at:

Brady GmbH
Otto-Hahn-Str. 5-7
D-63222 Langen
Tel.: +49 (6103) 7598-660

* You can order this quantity or a multiple thereof.

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Application

Standards	Application	Required $I_{\Delta n}$ [mA]	Recommended Siemens residual current protective devices			
			Type A	Type F	SIQUENCE type B/type B+	SIGRES
DIN VDE 0100-410	Protection against electric shock	30 ... 500	✓	✓	✓	✓
	Socket outlets up to 20 A, outdoor plants	10 ... 30	✓	✓	--	--
DIN VDE 0100-482	Fire protection for particular risks or safety hazards	30, 300	✓	✓	✓	--
DIN VDE 0100-701	Rooms with baths or showers, socket outlets in zone 3	10 ... 30	✓	✓	--	--
DIN VDE 0100-702	Basins for swimming pools and other basins	10 ... 30	✓	--	--	✓
DIN VDE 0100-703	Rooms and cabins with sauna heating	10 ... 30	✓	--	--	✓
DIN VDE 0100-704 BGI 608	Building sites, socket outlet current circuits up to 32 A and for handheld equipment, plug-and-socket devices I_n > 32 A	≤ 30	✓	✓	✓	✓
		≤ 500	✓	✓	✓	✓
DIN VDE 0100-705	Agricultural and general horticultural premises, socket outlet current circuits	≤ 500	✓	✓	--	✓
		≤ 30	✓	✓	--	✓
DIN VDE 0100-706	Conductive areas with limited freedom of movement, permanently mounted equipment	10 ... 30	✓	--	--	--
DIN VDE 0100-708	Electrical installations on camping sites, fixed feeding points for every socket outlet and every final circuit	10 ... 30	✓	--	--	✓
DIN VDE 0100-710	Medical premises in TN-S system, depending on application group 1 or 2 and equipment	10 ... 30	✓	--	✓	--
		≤ 300	✓	--	✓	--
DIN VDE 0100-712	Solar PV power supply systems (without simple separation)	≤ 300	--	--	✓	--
DIN VDE 0100-723	Classrooms with experiment equipment	10 ... 30	--	--	✓	--
DIN VDE 0100-739	Additional protection against direct contact in homes	10 ... 30	✓	--	--	--
EN 50178 (VDE 0160)	Fitting of power installations with electronic equipment	General requirements for correct selection when using res. current protection	✓	✓	✓	--
DIN VDE 0832-100	Traffic signal systems • Class T1 • Class U1	 ≤ 300 ≤ 30	 ✓ ✓	 -- --	 -- --	 ✓ ✓
	Food processing and chemical industry	≤ 30 (recommended)	✓	--	--	✓

Note:

For reasons of basic fire protection, we recommend the use of residual current protective devices with maximum 300 mA rated residual current.

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5SM6 AFD units

Overview





Characteristics

The Siemens portfolio of protective devices has been proving itself in the field for many years. This range of fuses, circuit breakers and residual current protective devices has now been expanded to include AFDDs (arc fault detection devices). These AFDDs are able to detect arcing faults caused by serial faults or loose contacts or as a result of insulation faults that enable contact between phase conductors or between phase and protective conductors. They therefore offer extremely effective protection against fires started by electrical faults.

Generally speaking, arcing faults can result from damage to cables and other insulations, such as that caused by vibrations, thermal expansion and shrinkage, mechanical loads and aging, which, either alone, or in connection with soiling can cause electric arcs in the circuit.

A distinction is made between 3 types of arcing faults:

Serial arcing faults:

These are caused by breaks in the conductor or when a loose contact is in the circuit in series with the load. As the current flow in such cases is always lower than the operational load current, miniature circuit breakers and residual current protective devices are unable to detect such faults and initiate tripping.

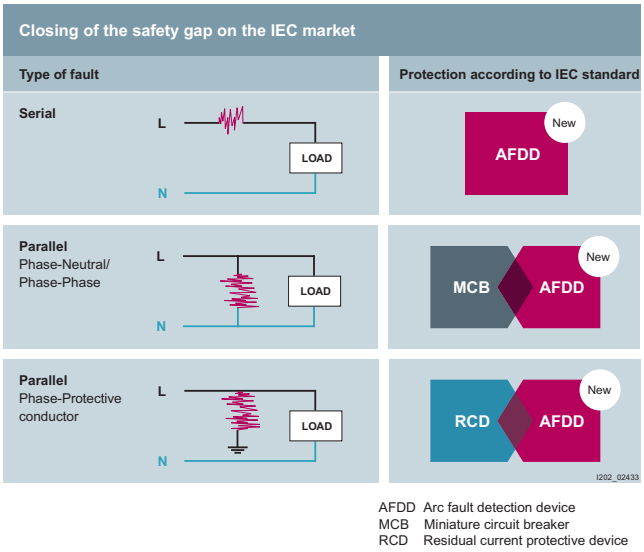
The AFDD is specially designed to detect the specific characteristics of these arcing faults and reliably disconnects the affected circuit as soon as the limit values are exceeded.

Parallel arcing faults between phase conductor/neutral conductor or phase conductor/phase conductor:

These are caused by electric arcs resulting from damage to the insulation that permits contact between the two conductors. In this case, the level of current is determined by the impedances in the circuit. Depending on the rated current of the overcurrent protection device (for instance a miniature circuit breaker), this can be disconnected. However, if the impedance in the circuit is too high to reach the trip current of the overcurrent protection device, no tripping takes place. AFDDs disconnect the currents of arcing faults upwards of 2.5 A, thus providing reliable protection in the case of such faults.

Parallel arcing faults between phase conductor/protective conductor:

Arcing faults against the protective conductor are reliably detected and shut downd by residual current protective devices. Residual current protective device with rated residual currents up to max. 300 mA have already been providing effective fire protection in such cases for many years. AFDDs also detect these arcing faults and provide fire protection where no residual current protective device is implemented.



AFDD Arc fault detection device
MCB Miniature circuit breaker
RCD Residual current protective device

Preventing undesired tripping operations

Electric arcs and high-frequency signals occur during normal operation in networks with multiple electrical loads (e.g. electric motors, light switches, dimmers). However, this should not cause the AFDD to trip.

Thanks to the sophisticated detection logic of our AFDDs, they are able to clearly distinguish between normal operational interference signals and hazardous arcing faults.

Product versions and application

Siemens offers two product versions, which can be used in various combinations with a range of 1MW/2MW wide miniature circuit breakers and/or RCBOs up to max. 16 A rated current.

This simplifies product selection and reduces inventory, while enabling coverage of every conceivable application. It also means that our tried and tested circuit protection devices (MCBs, RCBOs) can be combined with the new functionality provided by arc fault protection. In particular, the version with RCBOs offers a circuit protection device that provides comprehensive personnel, short-circuit, overload and fire protection in a single device.

The version combined with a compact miniature circuit breaker in 1 MW is a space-saving alternative that is ideal for retrofitting.

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5SM6 AFD units

Whether auxiliary switch or fault signal contact – the AFDD can be combined at random with the versatile range of additional components from the renowned portfolio of 5SY miniature circuit breakers and 5SU1 RCBOs.

This also enables connection to a higher-level I&C system.

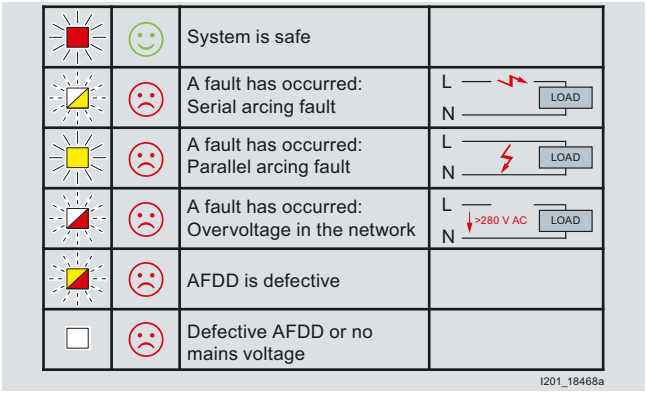
The AFDDs can be connected easily and quickly. The MCBs / RCBOs can be mounted quickly and simply by just snapping them onto the mounting rail without the need for tools. For a fast and reliable power supply, the infeed can be implemented via a busbar assembly.

The AFDDs are primarily intended for protection of final circuits in cases where

- there is an increased risk of fire due to flammable materials being stored or processed (e.g. wood processing)
- flammable building materials are in use (e.g. wood paneling)
- valuable goods need to be protected (e.g. museums)
- there are rooms in which a fire might not be noticed immediately (e.g. bedrooms, children's bedrooms).

Status displays and self tests

In order to facilitate fault locating in the event of tripping, AFDDs have a display with 5 LEDs that provides information on the cause of tripping (serial/parallel arcing faults, overvoltage). The sophisticated detection electronics system also automatically checks the functionality of the AFDD. If the self-monitoring process detects a fault, the AFDD switches off and displays the corresponding indication.



Integrated overvoltage protection

Depending on the load distribution in the three-phase current system, an interruption on the infeed side of the neutral conductor may cause a shift of the neutral point and thus an increase in voltage between the phase conductor and the neutral conductor. This increase in voltage can damage the loads or present a fire risk due to overloaded components.

In order to ensure all-round protection, the AFDDs are fitted with an overvoltage release that disconnects when the voltage between phase conductor and neutral conductor exceeds 275 V, thus isolating downstream loads from the hazardous line voltage.

Technical specifications

Standards			Future standard - IEC/EN 62606
Versions			2-pole
Rated voltage U_n		V	230
Rated current I_n		A	Up to 16
Rated frequency		Hz	50
Mains connection			Bottom
Tripping in the event of overvoltage		V	> 275
Degree of protection	Acc. to EN 60529 (VDE 0470-1)		IP20, with connected conductors
Surge current withstand capability			
with current waveform 8/20 µs		kA	3
Touch protection	Acc. to EN 50274 (VDE 0660-514)		Finger and back-of-hand safe
Terminal tightening torque		Nm	2.5 ... 3.0
Terminal/conductor cross-sections			
• Solid and stranded		mm^2	0.75 ... 16
• Finely stranded with end sleeve		mm^2	0.75 ... 10
Overvoltage category			III
Mounting position			Any
Service life	Switching cycles		> 10000
Ambient temperature		°C	-25 ... +45, marked with -25
Storage temperature		°C	-40 ... +75
Resistance to climate	Acc. to IEC 60068-2-30		28 cycles (55 °C; 95 % rel. air humidity)
Pollution degree			2
CFC and silicone-free			Yes

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5SM6 AFD units

Selection and ordering data

	Version	Rated current I_n	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	MW							kg
	Arc fault detection units, AFD units									
	For 5SY6 0 miniature circuit breakers (1 MW) 2-pole, 230 V AC; 50 Hz	Up to 16	2		**5SM6 011-1**		1	1 unit	007	0.113
	For 5SU1 .5 RCBOs (2 MW) and 5SY MCBs (2 MW), however not suitable for 5SY5, 5SY8, 5SY6 0 2-pole; 230 V AC; 50 Hz	Up to 16	3		**5SM6 021-1**		1	1 unit	007	0.113

	Version	Length	Pin spacing	Isolation	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		MW	MW								kg
	5ST3 7 pin busbars, can be cut to length										
	For 5SM6 011-1 AFD units										
	• 1-phase 10 mm^2	54	2	grey		**5ST3 764-1**		1	10 units	020	0.145
	• 1-phase 10 mm^2	54	2	blue		**5ST3 765-1**		1	10 units	020	0.145
	• 3-phase 10 mm^2	58	2	grey		**5ST3 740-1**		1	1 unit	020	0.440
	For 5SM6 021-1 AFD units										
	• 2-phase 10 mm^2	56	1/2	grey		**5ST3 735-1**		1	1 unit	020	0.350
	• 4-phase 10 mm^2	52	1/2	grey		**5ST3 746-1**		1	1 unit	020	0.505

* You can order this quantity or a multiple thereof.

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Fuse Systems

5



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Cylindrical fuse systems
5/18 Cylindrical fuse links and cylindrical fuse holders
5/22 Fuse holders in size 10 x 38 mm and Class CC

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SITOR semiconductor fuses
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For further technical product information:

Service&Support Portal:
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→ Product List:
Technical specifications

→ Entry List:
Updates / Downloads / FAQs / Manuals / Operating instructions / Characteristic curves / Certificates

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Introduction

Overview

Devices		Page	Application	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
	**NEOZED fuse systems**	5/4	MINIZED switch disconnectors, bases, fuse links from 2 A to 63 A of operational class gG and accessories. Everything you need for a complete system.	Fuse system: IEC 60269-3 Safety switching devices: IEC/EN 60947-3 DIN VDE 0638	✓	✓	✓
	**DIAZED fuse systems**	5/12	Fuse links from 2 A to 100 A in various operational classes, base versions with classic screw base connections. A widely used fuse system.	IEC 60269-3; DIN VDE 0635; CEE 16	✓	✓	✓
Cylindrical fuse systems							
	**Cylindrical fuse links and cylindrical fuse holders**	5/18	Line protection or protection of switching devices. The fuse holders with touch protection ensure the safe "no-voltage" replacement of fuse links. Auxiliary switches can be retrofitted	IEC 60269-1, -2, -3; NF C 60-200; NF C 63-210, -211; NBN C 63269-2, CEI 32-4, -12	✓	✓	✓
	**Compact fuse holders in size 10 x 38 mm and Class CC**	5/22	For installing fused loaded motor starter combinations.	IEC 60269-1,-2; IEC 60947-4; UL 512; CSA	✓	--	✓
	**Class CC fuse systems**	5/26	These comply with American standard and have UL and CSA approval, for customers exporting OEM products and mechanical engineers. Modern design with touch protection according to BGV A3 for use in "branch circuit protection".	Fuse holders: UL 512; CSA 22.2 Fuse links: UL 248-4; CSA 22.2	✓	✓	✓
	**Busbar systems**	5/28	Busbars for NEOZED fuse bases, NEOZED fuse disconnectors, MINIZED switch disconnectors, DIAZED fuse systems and cylindrical fuse systems.	EN 60439-1	✓	✓	✓

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Devices		Page	Application	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
LV HRC fuse systems							
	**LV HRC fuse links**	5/34	Fuse links from 2 A to 1250 A for selective line protection and system protection in non-residential buildings, industry and power utilities.	IEC 60269-1, -2; EN 60269-1	✓	✓	✓
	**LV HRC signal detectors**	5/43	Signal detectors for when a fuse is tripped on all LV HRC fuse links with combination or front indicators with non-insulated grip lugs. Plus the comprehensive accessory range required for LV HRC fuse systems.	--	✓	✓	✓
	**LV HRC sockets and accessories**	5/45	Fuse bases for screw or snap-on mounting onto standard mounting rails, available as 1-pole or 3-pole version	IEC 60269-1, -2; EN 60269-1	✓	✓	✓
SITOR semiconductor fuses							
	**SITOR LV HRC design**	5/53	Fuse links in LV HRC design and a huge variety of models support a wide range of applications from 500 V to 1500 V and 150 A to 1600 A. Fuses with slotted blade contacts, bolt-on links or female thread and special designs.	--	--	--	✓
	**SITOR, cylindrical fuse design**	5/61	Fuse links, fuse holders – usable as fuse switch disconnectors and fuse bases up to 600/690 V AC and 400/700 V DC from 1 A to 100 A in the sizes 10 × 38 mm, 14 × 51 mm and 22 × 58 mm.	--	--	--	✓
	**NEOZED and DIAZED, SILIZED design**	5/64	NEOZED fuse links for 400 V AC and 250 V DC and DIAZED for 500 V AC and 500 V DC.	--	--	--	✓
Photovoltaic fuses							
	**PV cylindrical fuses**	5/67	Fuses with a rated voltage of 1000 V DC and gPV operational class for the protection of photovoltaic modules, their connecting cables and other components.	IEC 60269-6	✓	✓	✓
	**PV cumulative fuses**	5/68	Fuses with a rated voltage of 1000 V and 1500 V DC, a rated current of 63 A to 400 A and gPV operational class for the protection of connecting cables and other components.	IEC60269-6	3	3	✓

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Introduction

Overview

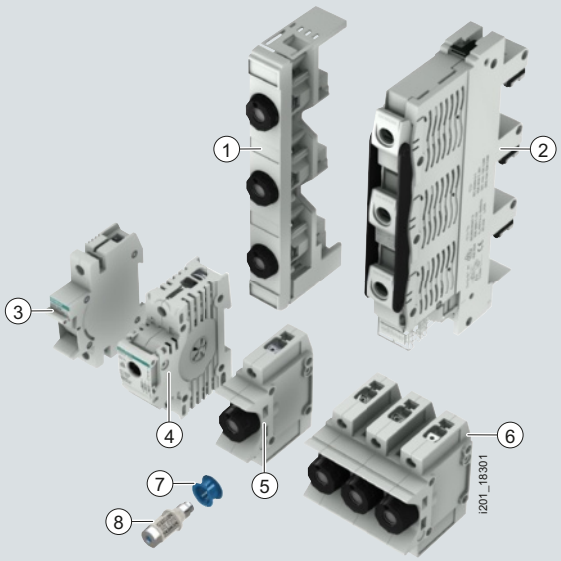
The NEOZED fuse system is primarily used in distribution technology and industrial switchgear assemblies. The system is easy to use and is also approved for domestic installation.

The MINIZED switch disconnectors are primarily used in switchgear assemblies and control engineering. They are approved for switching loads as well as for safe switching in the event of short circuits. The MINIZED D02 is also suitable for use in the pre-counter area in household applications in compliance with the recommendations of the VDEW according to TAB 2007.

Due to its small footprint, the MINIZED D01 fuse switch disconnector is primarily used in control engineering.

The NEOZED fuse bases are the most cost-effective solution for the application of NEOZED fuses. All NEOZED bases must be fed from the bottom to ensure that the threaded ring is insulated during removal of the fuse link. The terminals of the NEOZED bases are available in different versions and designs to support the various installation methods.

Benefits



1. NEOZED bus-mounting base D02 for 60 mm busbar system, with NEOZED screw cap
2. NEOZED bus-mounting switch disconnector D02 for 60mm busbar system
3. MINIZED fuse switch disconnector D01
4. MINIZED switch disconnector D02
5. NEOZED comfort base, 1-pole (fuse base with touch protection BGV A3), with NEOZED screw cap
6. NEOZED comfort base, 3-pole (fuse base with touch protection BGV A3), with NEOZED screw cap
7. NEOZED adapter sleeve
8. NEOZED fuse link

Compared to the older DIAZED fuse system, the NEOZED fuse system is significantly more modern:

- Much more compact which saves space in the distribution board
- Modern devices like the MINIZED switching devices, which combine the functions of a switch disconnector and a fuse base
- Wide range of accessories, such as busbars for one, two, or three-phase wiring
- Modern terminals for MINIZED D02 and NEOZED comfort bases: Visible, clear and controllable connection simplifies cable entry

Double terminal chambers permit connection of two wires of different cross-sections

- Lower power loss of the fuse links

Even when compared to the internationally prevalent cylindrical fuse system, the NEOZED fuse system has considerable advantages:

- Non-interchangeability - thanks to use of adapter sleeves (i.e. it is not possible to insert a fuse for larger currents). This is a requirement of numerous wiring regulations in Germany and other European countries
- Switching devices with load switching characteristics allow the safe switching of load currents up to 63 A

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Technical specifications

		NEOZED fuse links 5SE2
Standards		IEC 60269-3
Operational class		gG
Rated voltage U_n	V AC	400
	V DC	250
Rated current I_n	A	2 ... 100
Rated breaking capacity	kA AC	50
	kA DC	8
Non-interchangeability		Using adapter sleeves
Resistance to climate	°C	Up to 45 at 95 % rel. humidity
Ambient temperature	°C	-5 ... +40, humidity 90 % at 20

		MINIZED switch dis-connectors	MINIZED fuse switch discon-nectors	Fuse bases, made of ceramic			Comfort bases	Fuse bases
		D02	D01	D01	D02	D03	D01/02	
		5SG7 1	5SG7 6	5SG1 5 5SG5 5	5SG1 6 5SG5 6	5SG1 8	5SG1 .01 5SG5 .01	5SG1 .30 5SG1 .31 5SG5 .30
Standards		DIN VDE 0638 IEC/EN 60947-3		IEC 60269-3				
Main switch characteristic EN 60204-1		Yes	--	--				
Insulation characteristic EN 60664-1		Yes	--	--				
Rated voltage U_n	V AC	230/400, 240/415		400				
• 1P	V DC	65	48	250				
• 2P in series	V DC	130	110	250				
Rated current I_n	A	63	16	16	63	100	16/63	16/63
Rated insulation voltage	V AC	500	400	--				
Rated impulse withstand voltage	kV AC	6	2.5	--				
Overvoltage category		4	--	--				
Utilization category acc. to VDE 0638								
• AC-22	A	63	16	--				
Utilization category acc. to EN 60947-3								
• AC-22 B	A	63	16	--				
• AC-23 B	A	35	--	--				
• -22 DC B	A	63	--	--				
Sealable when switched on		Yes		Yes, with sealable screw caps				
Mounting position		Any, but preferably vertical						
Reduction factor of I_n with 18 pole								
• Side-by-side mounting		0.9	--					
• On top of one another, with vertical standard mounting rail		0.87	--					
Degree of protection acc. to IEC 60529		IP20, with connected conductors						
Terminals with touch protection acc. to BGV A3		Yes		No			Yes	
Ambient temperature	°C	-5 ... +40, humidity 90 % at 20						
Terminal versions		--	--	B	K, S	K/S	--	--
Conductor cross-sections								
• Solid and stranded	mm^2	1.5 ... 35	1.5 ... 16	1.5 ... 4	1.5 ... 25	10 ... 50	0.75 ... 35	1.5 ... 35
• Flexible, with end sleeve	mm^2	1.5 ... 35	1.5	1.5	1.5	10	--	--
• Finely stranded, with end sleeve	mm^2	--	--	0.75 ... 25	--	--	--	--
Tightening torques	Nm	2.5 ... 3	1.2	1.2	2	3.5/2.5	3.5	3

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Introduction

More information



Fuse bases D01 with terminal version BB

- Incoming feeders, clamp-type terminal B
- Outgoing feeders, clamp-type terminal B



Fuse bases D02, with terminal version KS

- Incoming feeders, screw head contact K
- Outgoing feeders, saddle terminal S



Fuse bases D02, with terminal version SS

- Incoming feeders, saddle terminal S
- Outgoing feeders, saddle terminal S

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Selection and ordering data

	Sizes	I_n	Identification color	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A		MW							kg
	NEOZED fuse links, rated voltage 400 V AC/250 V DC, gG operational class										
	D01	2	Pink		▶	**5SE2 302**		1	10 units	017	0.005
		4	Brown		▶	**5SE2 304**		1	10 units	017	0.013
		6	Green		▶	**5SE2 306**		1	10/500 units	017	0.009
		10	Red		▶	**5SE2 310**		1	10/500 units	017	0.007
		13	Black			**5SE2 013-2A**		1	10 units	017	0.006
		16	Gray		▶	**5SE2 316**		1	10/500 units	017	0.005
	D02	20	Blue		▶	**5SE2 320**		1	10 units	017	0.011
		25	Yellow		▶	**5SE2 325**		1	10 units	017	0.010
		32	Black			**5SE2 332**		1	10 units	017	0.013
		35	Black		▶	**5SE2 335**		1	10 units	017	0.011
		40	Black			**5SE2 340**		1	10 units	017	0.015
		50	White		▶	**5SE2 350**		1	10 units	017	0.013
		63	Copper		▶	**5SE2 363**		1	10 units	017	0.015
	D03	80	Blue		▶	**5SE2 280**		1	10 units	017	0.035
		100	Red		▶	**5SE2 300**		1	10 units	017	0.042

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* You can order this quantity or a multiple thereof.

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Selection and ordering data

	Sizes	Number of poles	I_n A	Mounting width MW	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	**MINIZED switch disconnectors with fuses** using draw-out technology with touch protection according to BGV A3 (adapter sleeves not included in the scope of delivery)										
	D02	1P	63	1.5	▶	**5SG7 113**		1	1 unit	017	0.141
		1P+N	63	3		**5SG7 153**		1	1 unit	017	0.259
		2P	63	3		**5SG7 123**		1	1 unit	017	0.276
		3P	63	4.5	▶	**5SG7 133**		1	1 unit	017	0.411
		3P+N	63	6		**5SG7 163**		1	1 unit	017	0.524
	Versions for Austria only, with permanently fitted adapter sleeves, incl. fuse link										
	D02	3P	25	4.5		**5SG7 133-8BA25**		1	1 unit	017	0.450
			35			**5SG7 133-8BA35**		1	1 unit	017	0.448
			50			**5SG7 133-8BA50**		1	1 unit	017	0.455
	**Reducers**										
	For fuse links D01 in MINIZED switch disconnectors D02					**5SH5 527**		1	10/100 units	031	0.001
	**Auxiliary switches (AS)**										
	For MINIZED switch disconnectors D02										
	1 NO + 1 NC			0.5	▶	**5ST3 010**		1	1 unit	020	0.066
	2 NO					**5ST3 011**		1	1 unit	020	0.055
	2 NC					**5ST3 012**		1	1 unit	020	0.055
	For technical specifications, see chapter "Miniature circuit breakers –> Additional components"										
	**Auxiliary switches (AS) with TEST button**										
	For MINIZED switch disconnectors D02										
	1 NO + 1 NC			0.5		**5ST3 010-2**		1	1 unit	020	0.045
	2 NO					**5ST3 011-2**		1	1 unit	020	0.045
	2 NC					**5ST3 012-2**		1	1 unit	020	0.045
	For technical specifications, see chapter "Miniature circuit breakers –> Additional components"										
	**MINIZED fuse switch disconnectors** For industrial applications With draw-out technology and touch protection acc. to BGV A3 (not compatible with NEOZED adapter sleeves)										
	D01	1P	16	1		**5SG7 610**		1	1 unit	017	0.082
		1P+N	16	2		**5SG7 650**		1	1 unit	017	0.169
		2P	16	2		**5SG7 620**		1	1 unit	017	0.165
		3P	16	3		**5SG7 630**		1	1 unit	017	0.241
		3P+N	16	4		**5SG7 660**		1	1 unit	017	0.323

For busbars, see page 5/30 ff.

* You can order this quantity or a multiple thereof.

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Selection and ordering data

	Sizes	Number of poles	I_n	Matching cover [1]	Terminals [2]	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
			A			MW							kg
	NEOZED comfort bases made of molded plastic With touch protection according to BGV A3												
	D01	1P	16	--		1.5	▶	**5SG1 301**		1	3 units	017	0.114
	D02		63	--			▶	**5SG1 701**		1	3 units	017	0.116
	D01	3P	16	--		4.5	▶	**5SG5 301**		1	1 unit	017	0.382
	D02		63	--			▶	**5SG5 701**		1	1 unit	017	0.380
	NEOZED fuse bases made of molded plastic												
	For snap-on mounting on standard mounting rails, with cover												
	D01	1P	16	(A1)		1.5		**5SG1 330**		1	6 units	017	0.077
	D02		63	(A1)		1.5		**5SG1 730**		1	6 units	017	0.085
	For snap-on mounting on standard mounting rails, w/o cover												
	D01	1P	16	A1		1.5		**5SG1 331**		1	6 units	017	0.069
	D02		63	A1		1.5		**5SG1 731**		1	6 units	017	0.081
	For snap-on mounting on standard mounting rails, with cover												
	D01	3P	16			4.5		**5SG5 330**		1	2 units	017	0.227
	D02		63			4.5		**5SG5 730**		1	2 units	017	0.270
	NEOZED fuse bases made of ceramic												
	For snap-on mounting on standard mounting rails, with cover												
	D01	1P	16	(A4)	BB	1.5	▶	**5SG1 553**		1	6 units	017	0.065
	D02		63	(A10)	SS	1.5		**5SG1 653**		1	6 units	017	0.091
	D02		63	(A10)	KS	1.5	▶	**5SG1 693**		1	6 units	017	0.080
	For snap-on mounting on standard mounting rails, w/o cover												
	D01	1P	16	A4, A8	BB	1.5		**5SG1 595**		1	6 units	017	0.059
	D02		63	A10, A8	SS	1.5		**5SG1 655**		1	6 units	017	0.082
	D02		63	A10, A8	KS	1.5		**5SG1 695**		1	6 units	017	0.078
	D03		100	A6, A9	KS	2.5		**5SG1 812**		1	10 units	017	0.190
	For snap-on mounting on standard mounting rails, with cover												
	D01	3P	16		BB	4.5	▶	**5SG5 553**		1	2 units	017	0.203
	D02		63		SS	4.5	▶	**5SG5 653**		1	2 units	017	0.272
	D02		63		KS	4.5		**5SG5 693**		1	2 units	017	0.256

[1] Covers with brackets are part of the scope of delivery.
Covers without brackets are not part of the scope of delivery.

[2] For terminal versions, see page 5/6.

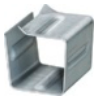
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NEOZED fuse bases and accessories

	Sizes	I_n	Matching cover	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A		MW							kg
	NEOZED covers										
	Made of molded plastic, plug-in, for fuse bases made of molded plastic										
	D01, D02		A1	1.5		**5SH5 244**		1	15 units	017	0.002
	For fuse bases made of ceramic										
	D01		A4	1.5		**5SH5 251**		1	15 units	017	0.008
	D02		A10	1.5		**5SH5 253**		1	15 units	017	0.006
	Screw-on										
	D03		A6	2.5		**5SH5 233**		1	20 units	017	0.019
	NEOZED caps										
	Made of molded plastic, plug-in										
	D01, D02		A8			**5SH5 235**		1	5 units	017	0.021
	Screw-on										
	D03		A9			**5SH5 234**		1	10 units	017	0.065

* You can order this quantity or a multiple thereof.

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	Sizes	For fuse links A	Identification color	Mounting width MW	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	NEOZED screw caps										
	Molded plastic, with inspection hole										
	D01				▶	**5SH4 116**		1	10/1000 units	017	0.007
	D02				▶	**5SH4 163**		1	10/200 units	017	0.009
	Ceramic										
	D01, sealable					**5SH4 316**		1	10 units	017	0.017
	D02, sealable					**5SH4 363**		1	10 units	017	0.022
	D03					**5SH4 100**		1	3 units	017	0.074
	Ceramic, with inspection hole										
	D01				▶	**5SH4 317**		1	20 units	017	0.017
	D02				▶	**5SH4 362**		1	20 units	017	0.019
	NEOZED adapter sleeves										
	D01	2	Pink		▶	**5SH5 002**		1	10 units	017	0.002
		4	Brown			**5SH5 004**		1	10 units	017	0.002
		6	Green		▶	**5SH5 006**		1	10 units	017	0.002
		10/13	Red		▶	**5SH5 010**		1	10 units	017	0.002
	D02	20	Blue		▶	**5SH5 020**		1	10 units	017	0.002
		25	Yellow		▶	**5SH5 025**		1	10 units	017	0.002
		32/35/40	Black		▶	**5SH5 035**		1	10 units	017	0.003
		50	White			**5SH5 050**		1	10 units	017	0.002
	D03	80	Silver			**5SH5 080**		1	25 units	017	0.002
	For fuse links D01 in base D02 and MINIZED switch disconnectors D02										
	D02	2	Pink			**5SH5 402**		1	10 units	017	0.003
		4	Brown			**5SH5 404**		1	10 units	017	0.005
		6	Green			**5SH5 406**		1	10 units	017	0.002
		10/13	Red			**5SH5 410**		1	10 units	017	0.014
		16	Gray			**5SH5 416**		1	10 units	017	0.002
	NEOZED adapter sleeve fitters										
						**5SH5 100**		1	1/10 units	017	0.023
	NEOZED retaining springs										
	For fuse links D01 in screw caps										
	D02	2 ... 16				**5SH5 400**		1	25 units	017	0.002

* You can order this quantity or a multiple thereof.

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DIAZED fuse systems

Overview

The DIAZED fuse system is one of the oldest fuse systems in the world. It was developed by Siemens as far back as 1906. It is still the standard fuse system in many countries to this day. It is particularly widely used in the harsh environments of industrial applications.

The series is available with rated voltages from 500 V to 750 V.

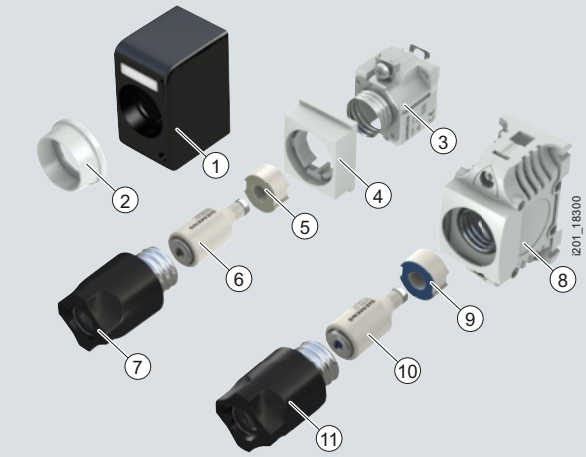
All DIAZED bases must be fed from the bottom to ensure an insulated threaded ring when the fuse link is being removed. Reliable contact of the fuse links is only ensured when used together with DIAZED screw adapters.

The terminals of the DIAZED bases are available in different versions and designs to support the various installation methods.

The high-performing EZR bus-mounting system for screw fixing is an outstanding feature. The busbars, which are particularly suited for bus-mounting bases, have a load capacity of up to 150 A with lateral infeed.

DIAZED stands for **Dia**metral gestuftes **z**weiteiliges Sicherungssystem mit **Ed**isongewinde (diametral two-step fuse system with Edison screw).

Benefits



1 DIAZED cap for fuse bases
2 DIAZED collar for fuse bases
3 DIAZED fuse bases
4 DIAZED cover for fuse bases
5 9 DIAZED screw adapter
6 10 DIAZED fuse link
7 11 DIAZED screw cap
8 DIAZED fuse base (with touch protection BGV A3)

Technical specifications

			5SA, 5SB, 5SC, 5SD
Standards			IEC 60269-3; DIN VDE 0635; CEE 16
Operational class	Acc. to IEC 60269		gG
Characteristic	Acc. to DIN VDE 0635		Slow and quick
Rated voltage U_n		V AC V DC	500, 690, 750 500, 600, 750
Rated current I_n		A	2 ... 100
Rated breaking capacity		kA AC kA DC	50, 40 at E16 8, 1.6 at E16
Mounting position			Any, but preferably vertical
Non-interchangeability			Using screw adapter or adapter sleeves
Degree of protection	Acc. to IEC 60529		IP20, with connected conductors
Resistance to climate		°C	Up to 45, at 95 % rel. humidity
Ambient temperature		°C	-5 ... +40, humidity 90 % at 20

		Terminal version								
		B		K			S		R	
Size		DII	DIII	NDz	DII	DIII	DIII	DIV	DII	DIII
Conductor cross-sections										
• Rigid, min.	mm^2	1.5	2.5	1.0	1.5	2.5	2.5	10	1.5	1.5
• Rigid, max.	mm^2	10	25	6	10	25	25	50	35	35
• Flexible, with end sleeve	mm^2	10	25	6	10	25	25	50	35	35
Tightening torques										
• Screw M4	Nm	1.2							--	
• Screw M5	Nm	2.0							--	
• Screw M6	Nm	2.5							3.0	
• Screw M8	Nm	3.5							--	

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Selection and ordering data

	Sizes	U_n	I_n	Identification color	Thread	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC/V DC	A									kg
	DIAZED fuse links											
	Operational class gG											
	DII	500/500	2	Pink	E27	▶	**5SB2 11**		1	25 units	017	0.019
			4	Brown		▶	**5SB2 21**		1	25 units	017	0.024
			6	Green		▶	**5SB2 31**		1	25 units	017	0.023
			10	Red		▶	**5SB2 51**		1	25 units	017	0.022
			16	Gray		▶	**5SB2 61**		1	25 units	017	0.028
			20	Blue		▶	**5SB2 71**		1	25 units	017	0.035
			25	Yellow		▶	**5SB2 81**		1	25 units	017	0.030
	DIII	500/500	32	Black	E33		**5SB4 010**		1	25 units	017	0.046
			35	Black			**5SB4 11**		1	25 units	017	0.051
			50	White			**5SB4 21**		1	25 units	017	0.048
			63	Copper			**5SB4 31**		1	25 units	017	0.054
	DIV	500/400	80	Silver	R1¼"		**5SC2 11**		1	3 units	017	0.129
			100	Red			**5SC2 21**		1	3 units	017	0.119
	Characteristic: slow											
	TNDz	500/500	2	Pink	E16		**5SA2 11**		1	10 units	017	0.011
			4	Brown			**5SA2 21**		1	10 units	017	0.020
			6	Green			**5SA2 31**		1	10 units	017	0.015
			10	Red			**5SA2 51**		1	10 units	017	0.012
			16	Gray			**5SA2 61**		1	10 units	017	0.013
			20	Blue			**5SA2 71**		1	10 units	017	0.014
			25	Yellow			**5SA2 81**		1	10 units	017	0.030
	Operational class gG, use 5SF1 and 5SF5 fuse base made of ceramic for 2 A ... 25 A screw adapter DII											
	DIII	690/600	2	Pink	E33		**5SD8 002**		1	5 units	017	0.068
			4	Brown			**5SD8 004**		1	5 units	017	0.071
			6	Green			**5SD8 006**		1	5 units	017	0.067
			10	Red			**5SD8 010**		1	5 units	017	0.067
			16	Gray			**5SD8 016**		1	5 units	017	0.072
			20	Blue			**5SD8 020**		1	5 units	017	0.069
			25	Yellow			**5SD8 025**		1	5 units	017	0.072
			35	Black			**5SD8 035**		1	5 units	017	0.072
			50	White			**5SD8 050**		1	5 units	017	0.075
			63	Copper			**5SD8 063**		1	5 units	017	0.078

* You can order this quantity or a multiple thereof.

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DIAZED fuse systems

	Sizes	U_n	I_n	Identification color	Thread	Terminals	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC/V DC	A										kg
	DIAZED fuse links												
	Characteristic: quick, also for direct current railway facilities for 2 A ... 25 A screw adapter DII												
	DIII	750/750	2	Pink	E33			**5SD6 01**		1	5 units	017	0.066
			4	Brown				**5SD6 02**		1	5 units	017	0.072
			6	Green				**5SD6 03**		1	5 units	017	0.068
			10	Red				**5SD6 04**		1	5 units	017	0.072
			16	Gray				**5SD6 05**		1	5 units	017	0.042
			20	Blue				**5SD6 06**		1	5 units	017	0.074
			25	Yellow				**5SD6 07**		1	5 units	017	0.072
			35	Black				**5SD6 08**		1	5 units	017	0.072
			50	White				**5SD6 10**		1	5 units	017	0.077
			63	Copper				**5SD6 11**		1	5 units	017	0.078
	DIAZED fuse bases made of ceramic												
	1P, for standard mounting rail												
	NDz	500/500	25		E16	KK[2]		**5SF1 012**		1	5 units	017	0.062
	DII		25		E27	BB[2]	▶	**5SF1 005**		1	5 units	017	0.093
	DIII[1]		63		E33	BS[2]		**5SF1 205**		1	1 unit		0.142
	DIII[1]		63		E33	SS[2]		**5SF1 215**		1	5 units		0.141
	1P, for screw fixing												
	NDz	500/500	25		E16	KK[2]		**5SF1 01**		1	5 units	017	0.057
	DII		25		E27	BB[2]		**5SF1 024**		1	5 units	017	0.100
	DIII[1]		63		E33	BS[2]		**5SF1 224**		1	5 units		0.143
	1P, with flat terminal												
	DIV		100		R1¼"			**5SF1 401**		1	1 unit		0.604
	DIAZED fuse bases made of molded plastic With touch protection according to BGV A3												
	1P, for standard mounting rail or screw fixing												
	DII	500/500	25		E27	RR		**5SF1 060**		1	3/108 units		0.146
	DIII		63		E33	RR		**5SF1 260**		1	3/132 units		0.200
	3P, for standard mounting rail or screw fixing												
	DII	500/500	25		E27	RR		**5SF5 068**		1	1/36 units		0.475
	DIII		63		E33	RR	▶	**5SF5 268**		1	1/44 units	017	0.595
	DIAZED EZR bus-mounting bases												
	1P, to snap onto EZR busbars for screw fixing												
	DII	500/500	25	E27		B[2]		**5SF6 005**		1	5 units	017	0.080
	DIII	500/500	63	E33		B[2]		**5SF6 205**		1	5 units	017	0.114

[1] Also for 690 V AC/600 V DC.

[2] For terminal versions, see page 5/17.

* You can order this quantity or a multiple thereof.

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	Sizes	U_n	I_n	Thread	Terminals	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC/V DC	A									kg
	DIAZED components 750 V											
	DIAZED fuse bases 1P, for screw fixing, with fine thread and cap											
	DIII	750/750	63	E33S	KK[1)]		**5SF4 230**		1	1 unit	017	0.504
	DIAZED screw caps made of ceramic, with fine thread											
	DIII	750/750	63	E33S			**5SH1 161**		1	5 units	017	0.134
	DIAZED screw caps											
	Molded plastic, with inspection hole, black, not for SILIZED fuse links											
	NDz	500/500	25	E16			**5SH1 112**		1	20 units	017	0.013
	DII		25	E27		►	**5SH1 221**		1	5/200 units	017	0.024
	DIII		63	E33		►	**5SH1 231**		1	5/5000 units	017	0.038
	Ceramic											
	DII	500/500	25	E27		►	**5SH1 12**		1	50/30000 units	017	0.037
	DIII		63	E33		►	**5SH1 13**		1	30 units	017	0.063
	Ceramic, with inspection hole, sealable											
	DII	500/500	25	E27			**5SH1 22**		1	50/5000 units	017	0.046
	DIII		63	E33			**5SH1 23**		1	30/5000 units	017	0.068
	Ceramic											
	DIV	500/500	100	R1¼"			**5SH1 141**		1	1 unit	017	0.223
	Ceramic, extended version											
	DIII	690/600	63	E33			**5SH1 170**		1	5 units	017	0.095

1) For terminal versions, see page 5/17.

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DIAZED fuse systems

	Sizes	Thread	For fuse links A	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	DIAZED screw adapters									
	NDz	E16	2		**5SH3 28**		1	20 units	017	0.003
			4		**5SH3 31**		1	20 units	017	0.002
			6		**5SH3 05**		1	20 units	017	0.004
			10		**5SH3 06**		1	20 units	017	0.003
			16		**5SH3 07**		1	20 units	017	0.002
	Also for 5SF2 30 to 750 V									
	DII	E27	2	▶	**5SH3 10**		1	25/1500 units	017	0.014
			4	▶	**5SH3 11**		1	25/1500 units	017	0.009
			6	▶	**5SH3 12**		1	25/1500 units	017	0.015
			10	▶	**5SH3 13**		1	25/1500 units	017	0.021
			16	▶	**5SH3 14**		1	25/1500 units	017	0.008
			20	▶	**5SH3 15**		1	25/1500 units	017	0.013
			25	▶	**5SH3 16**		1	25/1500 units	017	0.012
	Also for 5SF2 30 to 750 V									
	DIII	E33	35	▶	**5SH3 17**		1	25/850 units	017	0.025
			50	▶	**5SH3 18**		1	25/850 units	017	0.018
			63	▶	**5SH3 20**		1	25/850 units	017	0.019
	DIAZED adapter sleeves									
	DIV	R1¼"	80		**5SH3 21**		1	10/1000 units	017	0.006
			100		**5SH3 22**		1	10/1000 units	017	0.004
	DIAZED adapter sleeves for screw caps									
	For NDz/TNDz fuse links in base DII				**5SH3 01**		1	10 units	017	0.011
	For DII fuse links in DIII base				**5SH3 02**		1	10 units	017	0.012
	DIAZED adapter sleeve fitters									
	DII/DIII				**5SH3 703**		1	1 unit	017	0.046
	DIAZED caps made of molded plastic									
	NDz	E16			**5SH2 01**		1	5 units	017	0.044
	DII	E27			**5SH2 02**		1	5 units	017	0.249
	DIII	E33			**5SH2 22**		1	5 units	017	0.049

* You can order this quantity or a multiple thereof.

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	Sizes	Thread	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	DIAZED cover rings								
	Ceramic DII and DIII, also for EZR bus-mounting base								
	DII	E27		**5SH3 32**		1	10 units	017	0.024
	DIII	E33		**5SH3 34**		1	10 units	017	0.031
	Made of molded plastic, also for EZR bus-mounting base								
	DII	E27		**5SH3 401**		1	5/60 units	017	0.014
	DIII	E33		**5SH3 411**		1	5/60 units	017	0.020

More information



DIII fuse bases with terminal version BS
- Outgoing feeders (top), saddle terminal S
- Incoming feeders (bottom), clamp-type terminal B



NDZ fuse bases with terminal version KK
- Outgoing feeders (top), screw head contact K
- Incoming feeders (bottom), screw head contact K



DIII fuse bases with terminal version BB
- Outgoing feeders (top), clamp-type terminal B
- Incoming feeders (bottom), clamp-type terminal B



DIII fuse bases with terminal version SS
- Outgoing feeders (top), saddle terminal S
- Incoming feeders (bottom), saddle terminal S

* You can order this quantity or a multiple thereof.

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Cylindrical fuse links and cylindrical fuse holders

Overview

Cylindrical fuses are standard in Europe. There are a range of different cylindrical fuse links and holders that comply with the standards IEC 60269-1, -2 and -3, and which are suitable for use in industrial applications.
In South West Europe they are also approved for use in residential buildings.

The cylindrical fuse holders are also approved according to UL 512. The cylindrical fuse holders are tested and approved as fuse disconnectors according to the switching device standard IEC 60947-3. They are not suitable for switching loads.

Cylindrical fuse holders can be supplied with or without signal detectors. In the case of devices with signal detector, a small electronic device with LED is located behind an inspection window in the plug-in module. If the inserted fuse link is tripped, this is indicated by the LED flashing.

The switching state of the fuse holder can be signaled over a laterally retrofitted auxiliary switch, which enables the integration of the fuses in the automation process.

Benefits

- Devices with pole number 1P+N are available in a single modular width. This reduces the footprint by 50 %.
- The sliding catch for type ranges 8 x 32 mm and 10 x 38 mm enables the removal of individual devices from the assembly.
- Space for a spare fuse in the plug-in module enables the fast replacement of fuses. This saves time and money and increases system availability.
- A flashing LED signals that a fuse link has been tripped. This enables fast detection during runtime

Technical specifications

			Cylindrical fuse links						
			3NW6 3..	3NW6 0..	3NW6 1..	3NW6 2..	3NW8 0..	3NW8 1..	3NW8 2..
Sizes		mm × mm	8 × 32	10 × 38	14 × 51	22 × 58	10 × 38	14 × 51	22 × 58
Standards			IEC 60269-1, -2, -3; NF C 60-200; NF C 63-210, -211; NBN C 63269-2, CEI 32-4, -12						
Operational class			gG				aM		
Rated voltages U_n		V AC	400	400 or 500					
Rated current I_n		A	2 ... 20	0.5 ... 32	4 ... 50	8 ... 100	0.5 ... 32	2 ... 50	10 ... 100
Rated breaking capacity									
• 500 V version		kA AC	--	120	100		120	100	
• 400 V version		kA AC	20	120	20		120	20	
Mounting position			Any, but preferably vertical						

			Cylindrical fuse holders			
			3NW7 3..	3NW7 0..	3NW7 1..	3NW7 2..
Sizes		mm × mm	8 × 32	10 × 38	14 × 51	22 × 58
Standards			IEC 60269-1, -2, -3; NF C 60-200; NF C 63-210, -211; NBN C 63269-2-1, CEI 32-4, -12			
Approvals	Acc. to UL		--	cULus	cULus	--
	Acc. to CSA		--	CSA	CSA	--
Rated voltage U_n		V AC	400	690		
	Acc. to UL/CSA	V AC	400	600		
Rated current I_n		A AC	20	32	50	100
Rated breaking capacity		kA	20	100		
Switching capacity						
• Utilization category			AC-20B (switching without load), DC-20B			
No-voltage changing of fuse links			Yes			
Sealable when installed			Yes			
Mounting position			Any, but preferably vertical			
Degree of protection	Acc. to IEC 60529		IP20, with connected conductors			
Terminals with touch protection according to BGV A3 at incoming and outgoing feeder			Yes			
Ambient temperature		°C	-5 ... +40, humidity 90 % at +20			
Conductor cross-sections						
• Rigid		mm^2	0.5 ... 10		2.5 ... 10	4 ... 10
• Stranded		mm^2	0.5 ... 10		2.5 ... 25	4 ... 50
• Finely stranded, with end sleeve		mm^2	0.5 ... 10[1]		2.5 ... 16	4 ... 35
• AWG (American Wire Gauge)			--	10 ... 20	6 ... 10	--
Tightening torques		Nm	1.2		2.0	2.5

[1] Max. cross-section 10 mm^2 with K28 crimper from Klauke.

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Selection and ordering data

	Sizes	I_n	U_n	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	mm × mm	A	V AC							kg
	Cylindrical fuse links, operational class gG									
	8 × 32	2	400		**3NW6 302-1**		1	10 units	017	0.004
		4			**3NW6 304-1**		1	10 units	017	0.004
		6			**3NW6 301-1**		1	10 units	017	0.011
		10			**3NW6 303-1**		1	10 units	017	0.004
		16			**3NW6 305-1**		1	10 units	017	0.004
		20			**3NW6 307-1**		1	10 units	017	0.004
	10 × 38	0.5	500		**3NW6 000-1**		1	10 units	017	0.008
		1			**3NW6 011-1**		1	10 units	017	0.008
		2		►	**3NW6 002-1**		1	10 units	017	0.009
		4		►	**3NW6 004-1**		1	10 units	017	0.008
		6		►	**3NW6 001-1**		1	10 units	017	0.008
		8			**3NW6 008-1**		1	10 units	017	0.008
		10		►	**3NW6 003-1**		1	10 units	017	0.008
		12			**3NW6 006-1**		1	10/100 units	017	0.008
		16		►	**3NW6 005-1**		1	10 units	017	0.008
		20			**3NW6 007-1**		1	10 units	017	0.009
		25			**3NW6 010-1**		1	10 units	017	0.008
		32	400		**3NW6 012-1**		1	10 units	017	0.008
	14 × 51	4	500		**3NW6 104-1**		1	10 units	017	0.019
		6			**3NW6 101-1**		1	10 units	017	0.012
		8			**3NW6 108-1**		1	10/100 units	017	0.019
		10			**3NW6 103-1**		1	10 units	017	0.022
		12			**3NW6 106-1**		1	10/100 units	017	0.017
		16			**3NW6 105-1**		1	10 units	017	0.023
		20			**3NW6 107-1**		1	10 units	017	0.021
		25			**3NW6 110-1**		1	10 units	017	0.221
		32			**3NW6 112-1**		1	10 units	017	0.023
		40			**3NW6 117-1**		1	10 units	017	0.018
		50	400		**3NW6 120-1**		1	10 units	017	0.021
	22 × 58	8	500		**3NW6 208-1**		1	10/100 units	017	0.051
		10			**3NW6 203-1**		1	10/100 units	017	0.052
		12			**3NW6 206-1**		1	10/100 units	017	0.056
		16			**3NW6 205-1**		1	10 units	017	0.052
		20			**3NW6 207-1**		1	10 units	017	0.055
		25			**3NW6 210-1**		1	10 units	017	0.054
		32			**3NW6 212-1**		1	10 units	017	0.052
		40			**3NW6 217-1**		1	10 units	017	0.048
		50			**3NW6 220-1**		1	10 units	017	0.054
		63			**3NW6 222-1**		1	10 units	017	0.068
		80			**3NW6 224-1**		1	10 units	017	0.051
		100	400		**3NW6 230-1**		1	10 units	017	0.053
	Cylindrical fuse links, operational class aM									
	10 × 38	0.5	500		**3NW8 000-1**		1	10 units	017	0.007
		1			**3NW8 011-1**		1	10 units	017	0.008
		2			**3NW8 002-1**		1	10 units	017	0.007
		4			**3NW8 004-1**		1	10 units	017	0.007
		6			**3NW8 001-1**		1	10 units	017	0.006
		8			**3NW8 008-1**		1	10 units	017	0.011
		10			**3NW8 003-1**		1	10 units	017	0.005
		12			**3NW8 006-1**		1	10/100 units	017	0.007
		16			**3NW8 005-1**		1	10 units	017	0.008
		20			**3NW8 007-1**		1	10 units	017	0.006
		25	400		**3NW8 010-1**		1	10 units	017	0.008
		32			**3NW8 012-1**		1	10 units	017	0.008
	14 × 51	2	500		**3NW8 102-1**		1	10/50 units	017	0.018
		4			**3NW8 104-1**		1	10 units	017	0.018
		6			**3NW8 101-1**		1	10/50 units	017	0.018
		8			**3NW8 108-1**		1	10/50 units	017	0.018
		10			**3NW8 103-1**		1	10 units	017	0.016
		12			**3NW8 106-1**		1	10/50 units	017	0.018
		16			**3NW8 105-1**		1	10 units	017	0.017
		20			**3NW8 107-1**		1	10 units	017	0.016
		25			**3NW8 110-1**		1	10 units	017	0.186
		32			**3NW8 112-1**		1	10 units	017	0.019
		40			**3NW8 117-1**		1	10 units	017	0.018
		50	400		**3NW8 120-1**		1	10 units	017	0.019

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* You can order this quantity or a multiple thereof.

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Cylindrical fuse links and cylindrical fuse holders



Sizes	I_n	U_n	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
mm × mm	A	V AC							kg
22 × 58	10	500		**3NW8 203-1**		1	10/50 units	017	0.048
	12			**3NW8 206-1**		1	10/50 units	017	0.048
	16			**3NW8 205-1**		1	10/50 units	017	0.048
	20			**3NW8 207-1**		1	10 units	017	0.046
	25			**3NW8 210-1**		1	10 units	017	0.040
	32			**3NW8 212-1**		1	10 units	017	0.052
	40			**3NW8 217-1**		1	10 units	017	0.047
	50			**3NW8 220-1**		1	10 units	017	0.049
	63			**3NW8 222-1**		1	10 units	017	0.046
	80			**3NW8 224-1**		1	10 units	017	0.054
	100	400		**3NW8 230-1**		1	10 units	017	0.050







Number of poles	I_n	For fuse links of size	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	mm × mm	MW							kg
Cylindrical fuse holders with signal detector										
1P										
	20	8 × 32	1		**3NW7 314**		1	1 unit	017	0.067
	32	10 × 38	1		**3NW7 014**		1	1 unit	017	0.066
	50	14 × 51	1.5		**3NW7 112**		1	1 unit	017	0.100
	100	22 × 58	2		**3NW7 212**		1	1 unit	017	0.150
1P+N										
	20	8 × 32	1		**3NW7 354**		1	1 unit	017	0.082
	32	10 × 38	1		**3NW7 054**		1	1 unit	017	0.080
	50	14 × 51	3		**3NW7 152**		1	1 unit	017	0.224
	100	22 × 58	4		**3NW7 252**		1	1 unit	017	0.359
2P										
	20	8 × 32	2		**3NW7 324**		1	1 unit	017	0.135
	32	10 × 38	2		**3NW7 024**		1	1 unit	017	0.134
	50	14 × 51	3		**3NW7 122**		1	1 unit	017	0.217
	100	22 × 58	4		**3NW7 222**		1	1 unit	017	0.328
3P										
	20	8 × 32	3		**3NW7 334**		1	1 unit	017	0.198
	32	10 × 38	3		**3NW7 034**		1	1 unit	017	0.199
	50	14 × 51	4.5		**3NW7 132**		1	1 unit	017	0.327
	100	22 × 58	6		**3NW7 232**		1	1 unit	017	0.495
3P+N										
	20	8 × 32	3		**3NW7 364**		1	1 unit	017	0.216
	32	10 × 38	3		**3NW7 064**		1	1 unit	017	0.215
	50	14 × 51	6		**3NW7 162**		1	1 unit	017	0.444
	100	22 × 58	8		**3NW7 262**		1	1 unit	017	0.681
Cylindrical fuse holders without signal detector										
1P										
	20	8 × 32	1		**3NW7 313**		1	1 unit	017	0.066
	32	10 × 38	1	▶	**3NW7 013**		1	1/12 units	017	0.076
	50	14 × 51	1.5	▶	**3NW7 111**		1	1 unit	017	0.108
	100	22 × 58	2	▶	**3NW7 211**		1	1 unit	017	0.165
1P+N										
	20	8 × 32	1		**3NW7 353**		1	1 unit	017	0.080
	32	10 × 38	1	▶	**3NW7 053**		1	1 unit	017	0.078
	50	14 × 51	3		**3NW7 151**		1	1 unit	017	0.237
	100	22 × 58	4		**3NW7 251**		1	1 unit	017	0.362
2P										
	20	8 × 32	2		**3NW7 323**		1	1 unit	017	0.133
	32	10 × 38	2	▶	**3NW7 023**		1	1/6 units	017	0.132
	50	14 × 51	3	▶	**3NW7 121**		1	1 unit	017	0.217
	100	22 × 58	4	▶	**3NW7 221**		1	1 unit	017	0.326

* You can order this quantity or a multiple thereof.

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	Number of poles	I_n	For fuse links of size	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	mm × mm	MW							kg
	Cylindrical fuse holders without signal detector										
	3P										
		20	8 × 32	3		**3NW7 333**		1	1 unit	017	0.194
		32	10 × 38	3	▶	**3NW7 033**		1	1/4 units	017	0.194
		50	14 × 51	4.5	▶	**3NW7 131**		1	1 unit	017	0.324
		100	22 × 58	6	▶	**3NW7 231**		1	1 unit	017	0.488
	3P+N										
		20	8 × 32	3		**3NW7 363**		1	1 unit	017	0.208
		32	10 × 38	3	▶	**3NW7 063**		1	1 unit	017	0.205
		50	14 × 51	6		**3NW7 161**		1	1 unit	017	0.452
		100	22 × 58	8		**3NW7 261**		1	1 unit	017	0.685
	Auxiliary switches										
	For indicating disconnection of the fuse link, solely for application of striker fuse links. For retrofitting using the factory-fitted brackets. Contact: 250 V AC, 5 A, Minimum contact load: 12 V, 25 mA										
	For fuse bases		14 × 51	0.5		**3NW7 901**		1	1 unit	017	0.048
	For fuse bases		22 × 58			**3NW7 902**		1	1 unit	017	0.048
	For indicating the switching state of the fuse holder. For retrofitting using the factory-fitted brackets. Contact: 230 V AC, 6 A/110 V DC, 1 A Minimum contact load: 12 V, 25 mA Terminals 1.5 mm² - 0.5 Nm										
	For fuse holders		10 × 38	0.5		**3NW7 903**		1	1 unit	017	0.034

More information

Mounting

Fuse holders, sizes 8 × 32 mm und 10 × 38 mm, have a sliding catch that enables the removal of individual devices from the assembly.

The infeed can be from the top or the bottom. Because the cylindrical fuse holders are fitted with the same anti-slip terminals at the top and the bottom, the devices can also be bus-mounted at the top or the bottom.

Auxiliary switches

Auxiliary switches are available for the cylindrical fuse holders. These are simply clipped onto the base using the factory-fitted brackets.

Sizes 8 × 32 mm und 10 × 38 mm:
The auxiliary switches support the remote display of the switching state ON or OFF of the fuse holder.

Sizes 14 × 51 mm und 22 × 58 mm:
The auxiliary switches support the remote display of fuse failure. However, fuse links with strikers are required for this function. When the fuse is tripped, a small striking pin - the striker - shoots out of the front of the fuse. Over an armature link in the auxiliary switch, the kinetic energy of this striker is used to switch a mini switch, which then initializes this signal over a floating contact.

* You can order this quantity or a multiple thereof.

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Compact cylindrical fuse holders in size 10 x 38 mm and Class CC

Overview

A key feature of our three-pole fuse holders is their ultra compact design. With a width of only 45 mm, they are ideal for use with fused motor starter combinations. Because the contactor and the fuse holder have the same 45 mm width, they are easy to mount on top of one another. The strong current-limiting fuses ensure a type 2 protection level (coordination according to IEC 60947-4, no damage protection) for the contactor.

The UL version has an SCCR value of 200 kA. The accessories are generally UL-certified.

Customers can mount an auxiliary switch which signals the switching state or prevents the fuse holder from switching off under load by interrupting the contactor control, thus increasing safety for the operator and process. Busbars and a matching three-phase feeder terminal complete the product range.

Benefits

- Compact design, especially for motor starter combinations
- For IEC fuses of size 10 x 38 mm up to 32 A and Class CC UL fuses up to 30 A
- Meets the requirements of UL 508 with regard to clearances
- UL-approved microswitches, busbars and adapters for 60mm busbar systems
- Optical signal detector for fast fault locating



Compact cylindrical fuse holder Class CC with signal detector and mounted auxiliary switch



Installation configuration of a cylindrical fuse holder and a SIRIUS contactor on busbar device adapter for the 60 mm busbar system

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Technical specifications

		Cylindrical fuse holders 3NW7 0..-1	Fuse holders 3NW7 5..-1HG
Sizes	mm × mm	10 × 38	Class CC
Standards		IEC 60269; UL 512; CSA	UL 512; CSA
Approvals • Acc. to UL • Acc. to CSA		 , UL File Number E171267 	 , UL File Number E171267
Rated voltage U_n	V AC	690	600
Rated current I_n	A AC	32	30
Rated short-circuit strength	kA	120 (at 500 V) 80 (at 690 V)	200
Switching capacity • Utilization category		 AC-20B (switching without load)	 --
Rated impulse withstand voltage	kV	6	
Overvoltage category		III	
Pollution degree		2	
Max. power dissipation of the fuse link	W	3	
No-voltage changing of fuse links	°C	-5 ... +40, humidity 90 % at +20	
Sealable when installed		Yes	
Lockable with padlock		Yes	
Mounting position		Any, but preferably vertical	
Current direction		Any	
Degree of protection Acc. to IEC 60529		IP20, with connected conductors	
Terminals with touch protection according to BGV A3 at incoming and outgoing feeder		Yes	
Ambient temperature	°C	-5 ... +40, humidity 90 % at +20	
Conductor cross-sections • Finely stranded, with end sleeve • AWG cables (American Wire Gauge)	 mm^2 AWG	 1 ... 4 18 ... 10	
Tightening torques • Terminal screws	Nm lb.in	1.5 13 PZ2	

		Auxiliary switches 3NW7 903-1							
Standards		IEC 60947							
Approvals		, , UL 508, UL File Number E334003							
Utilization category		AC-12	DC-13			AC-15			Acc. to UL
Rated voltage U_n	V AC V DC	250 --	-- 24	-- 120	-- 240	24 --	120 --	240 --	240 --
Rated current I_n	A		2	0.5	0.25	4	3	1.5	5

		Busbars 5ST2 60.	
For cylindrical fuse holders		3NW7 0..-1	3NW7 5..-1HG
Pin spacing	mm	15	
Standards		EN 60974-1, VDE 0660 part 100, IEC 60947-1:2004, UL 508, CSA 22.2	
Approvals		, UL 4248-1, UL File Number E337131	
Busbar material		E-Cu 58 F25	
Partition material		PA66-V0	
Lamp wire resistance /1.5 mm^2	°C	960	
Insulation coordination		Overvoltage category III, degree of pollution 2	
Rated voltage U_n • Acc. to UL • Acc. to IEC	 V AC V AC	 -- 690	 600 --
Maximum busbar current I_n • Acc. to UL • Acc. to IEC	 A A	 -- 80	 65 --

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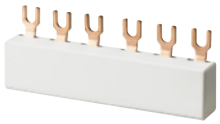
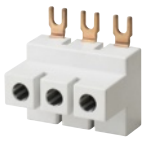
Compact cylindrical fuse holders in size 10 x 38 mm and Class CC

		Terminals 5ST2 600	
For cylindrical fuse holders		3NW7 0..-1	3NW7 5..-1HG
Pin spacing	mm	15	
Standards		IEC 60999:2000, UL 508	
Approvals		UL, UL 4248-1, UL File Number E337131	
Enclosure/cover material		PA66-V0	
Lamp wire resistance /1 mm²	°C	960	
Temperature resistance PA66-V0, HDT B ISO 179, UL 94-V0/1.5	°C	200	
Insulation coordination		Overvoltage category III, degree of pollution 2	
Max. operational voltage U_{max}			
• Acc. to UL	V AC	--	600
• Acc. to IEC	V AC	690	--
Maximum electrical load I_{max}			
• Acc. to UL	A	--	65
• Acc. to IEC	A	80	--
Rated current I_n	A	63	
Conductor cross-sections			
• Solid/stranded	mm²	2.5 ... 35	
• Finely stranded, with end sleeve	mm²	2.5 ... 25	
Tightening torque of clamping screw	Nm	2.5 ... 3.5	

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Selection and ordering data

	Number of poles	I_n	For fuse links of size	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	mm x mm	MW							kg
3NW7 cylindrical fuse holders											
	**Cylindrical fuse holders**										
	3P	32	10 x 38	2.5							
	Without signal detector					**3NW7 033-1**		1	1 unit	017	0.190
	With signal detector					**3NW7 034-1**		1	1 unit	017	0.195
	Fuse holders class CC										
	3P	30	Class CC	2.5							
	Without signal detector					**3NW7 533-1HG**		1	1 unit	018	0.192
	With signal detector					**3NW7 534-1HG**		1	1 unit	018	0.195
Accessories											
	Auxiliary switches										
	AC-12, 5 A, max. 250 V, 1 NO, 1 NC			2.5		**3NW7 903-1**		1	1 unit	017	0.018

	Version	I_n	Pin spacing	Length	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	mm	mm							kg
Busbar system 5ST2 60.											
	**Busbars**										
	2 x 3P	63	15	45		**5ST2 601**		1	10 units	020	0.450
	3 x 3P			90		**5ST2 602**		1	10 units	020	0.705
	4 x 3P			135		**5ST2 603**		1	10 units	020	0.950
	5 x 3P			180		**5ST2 604**		1	10 units	020	1.230
Accessories											
	**Terminals**										
	for conductor cross-section 2.5 mm^2 ... 35 mm^2					**5ST2 600**		1	10 units	020	0.500

		Length of adapter	Width of adapter	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	mm							kg
Device adapters										
	**Busbar device adapters[1] with connecting cables (above)**									
	Size S00, rated voltage 690 V AC, rated current 25 A, 1 support rail (35 mm), connection cable AWG 12									
		200	45	▶	**8US12 51-5DS10**		1	1 unit	143	0.310
		260		▶	**8US12 51-5DT10**		1	1 unit	143	0.324
Accessories										
	**Mounting rails for busbar device adapter**									
	For assembly of additional devices		45		**8US19 98-7CB45**		1	10 units	143	0.014

[1] For further device adapters and accessories, see chapter "Busbar systems".

* You can order this quantity or a multiple thereof.

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Class CC fuse systems

Overview

Class CC fuses are used for "branch circuit protection".

The enclosed fuse holders are designed and tested to comply with the US National Electrical Code NEC 210.20(A). This means that when subject to continuous operation, only 80 % of the rated current is permissible as operational current.

An operational current of 100 % of the rated current (30 A) is only permissible short-time.

The devices are prepared for the inscription labels of the ALPHA FIX terminal blocks 8WH8 120-7AA15 and 8WH8 120-7XA05.

There are three different series:

- Characteristic: slow 3NW1 ...-0HG
  For the protection of control transformers, reactors, inductances. Significantly slower than the minimum requirements specified by UL for class CC fuses of 12 s at 2 × I_n.
- Characteristic: quick 3NW2 ...-0HG
  For a wide range of applications, for the protection of lighting installations, heating, control systems.
- Characteristic: slow, current-limiting, 3NW3 ...-0HG
  Slow for overloads and quick for short circuits. High current limitation for the protection of motor circuits

Note:

For class CC compact fuse holders for motor starter combinations, see page 5/25.

Benefits

- For switchgear assemblies and machine manufacturers who export their systems to the USA or Canada.
- Easier export due to UL and CSA approvals for typical applications
- Modern design with touch protection according to BGV A3 ensures safe installation.

Technical specifications

		Class CC fuse holders 3NW7 5.3-0HG
Standards **Approvals**		UL 512; CSA C22.2 UL512; UL File No. E171267; CSA C22.2
Rated voltage U_n	V AC	600
Rated current I_n	A	30
Rated conditional short-circuit current	kA	200
Switching capacity • Utilization category		 AC-20B (switching without load)
Max. power dissipation of fuse links • With cable, 6 mm² • With cable, 10 mm²	 W W	 3 4.3
Rated impulse withstand voltage	kV	6
Overvoltage category		II
Pollution degree		2
No-voltage changing of fuse links		Yes
Sealable when installed		Yes
Mounting position		Any
Current direction		Any
Degree of protection acc. to IEC 60529		IP20
Terminals are touch-protected according to BGVA3 at the incoming and outgoing feeder		Yes
Ambient temperature	°C	45
Conductor cross-sections • Solid and stranded • AWG conductor cross-section, solid and stranded	 mm² AWG	 1.5 ... 25 16 ... 4
Tightening torques	Nm	2.5 (22 lb.in)

		Class CC fuse links		
		3NW1 ...-0HG	3NW2 ...-0HG	3NW3 ...-0HG
Standards **Approvals**		UL 248-4; CSA C22.2 UL 248-4; UL File Number E258218; CSA C22.2		
Characteristic		Slow	Quick	Slow, current limiting
Rated voltage	V AC	600	600	600
	V DC	--	--	150 (3 .... 15 A) 300 (< 3 A, > 15 A)
Rated breaking capacity	kA AC	200		

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Selection and ordering data

	Number of poles	U_n	I_n	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V	A	MW							kg
	Class CC fuse holders										
	1P	600	30	1		**3NW7 513-0HG**		1	12 units	018	0.069
	2P	600	30	2		**3NW7 523-0HG**		1	6 units	018	0.139
	3P	600	30	3		**3NW7 533-0HG**		1	4 units	018	0.208

	I_n [1]	DT	Characteristic: slow Order No.	Price per PU	PG	DT	Characteristic: quick Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A											kg
	Class CC fuse links											
	0.6 (6/10)		**3NW1 006-0HG**		018		**--**					
	0.8 (8/10)		**3NW1 008-0HG**		018		**--**					
	1		**3NW1 010-0HG**		018		**3NW2 010-0HG**		1	10 units	018	0.008
	1.5 (1 ½)		**3NW1 015-0HG**		018		**--**					
	2		**3NW1 020-0HG**		018		**3NW2 020-0HG**		1	10 units	018	0.008
	2.5		**3NW1 025-0HG**		018		**--**					
	3		**3NW1 030-0HG**		018		**3NW2 030-0HG**		1	10 units	018	0.008
	4		**3NW1 040-0HG**		018		**3NW2 040-0HG**		1	10 units	018	0.008
	5		**3NW1 050-0HG**		018		**3NW2 050-0HG**		1	10 units	018	0.008
	6		**3NW1 060-0HG**		018		**3NW2 060-0HG**		1	10 units	018	0.008
	7.5		**3NW1 075-0HG**		018		**--**					
	8		**3NW1 080-0HG**		018		**3NW2 080-0HG**		1	10 units	018	0.008
	10		**3NW1 100-0HG**		018		**3NW2 100-0HG**		1	10 units	018	0.008
	12		**--**				**3NW2 120-0HG**		1	10 units	018	0.008
	15		**3NW1 150-0HG**		018		**3NW2 150-0HG**		1	10 units	018	0.008
	20		**3NW1 200-0HG**		018		**3NW2 200-0HG**		1	10 units	018	0.008
	25		**3NW1 250-0HG**		018		**3NW2 250-0HG**		1	10 units	018	0.008
	30		**3NW1 300-0HG**		018		**3NW2 300-0HG**		1	10 units	018	0.008

[1] Values in brackets, American English Wording

	I_n	DT	Characteristic: slow, current limiting Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A							kg
	Class CC fuse links							
	1		**3NW3 010-0HG**		1	10 units	018	0.008
	2		**3NW3 020-0HG**		1	10 units	018	0.008
	3		**3NW3 030-0HG**		1	10 units	018	0.008
	4		**3NW3 040-0HG**		1	10 units	018	0.008
	5		**3NW3 050-0HG**		1	10 units	018	0.008
	6		**3NW3 060-0HG**		1	10 units	018	0.008
	8		**3NW3 080-0HG**		1	10 units	018	0.008
	10		**3NW3 100-0HG**		1	10 units	018	0.008
	12		**3NW3 120-0HG**		1	10 units	018	0.008
	15		**3NW3 150-0HG**		1	10 units	018	0.008
	20		**3NW3 200-0HG**		1	10 units	018	0.008
	25		**3NW3 250-0HG**		1	10 units	018	0.008
	30		**3NW3 300-0HG**		1	10 units	018	0.008

* You can order this quantity or a multiple thereof.

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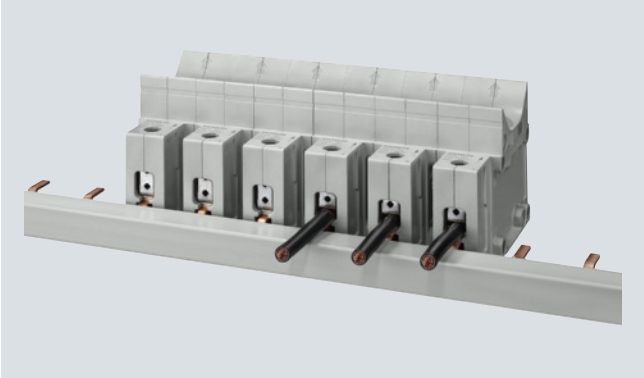
Busbar systems

Overview

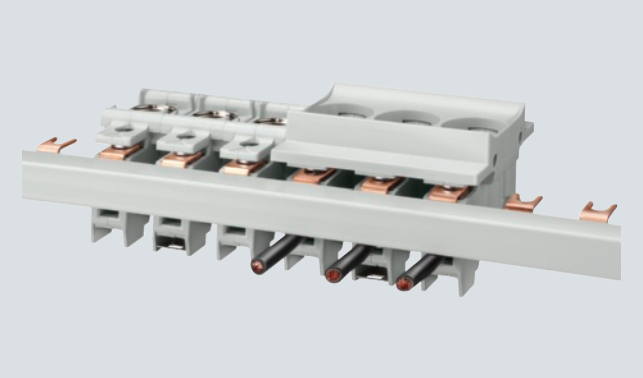
Busbars with pin-type connections can be used for NEOZED safety switching devices and fuse bases. Busbars in 10 mm^2 and 16 mm^2 versions are available.

Busbars with fork plugs are used for the most frequently used NEOZED fuse bases made of ceramic.

Benefits



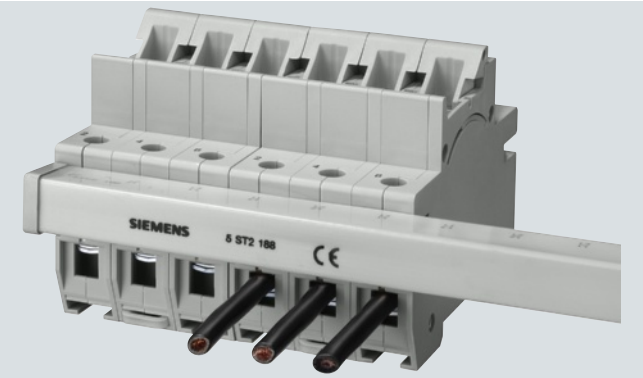
- Clear and visible conductor connection that can be easily checked when using NEOZED comfort base D02 and which facilitates cable entry



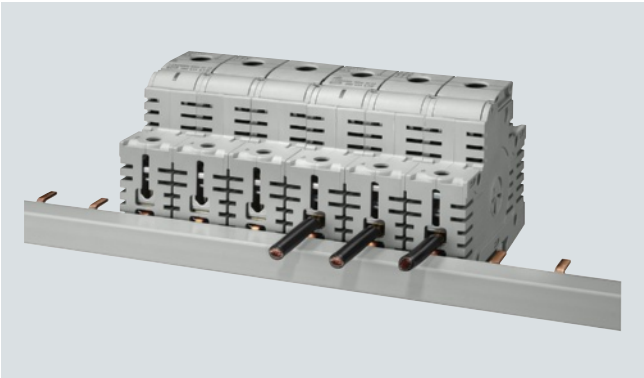
- Bus-mounting of NEOZED fuse bases made of molded plastic on three-phase busbar with fork plug, which can be cut to length



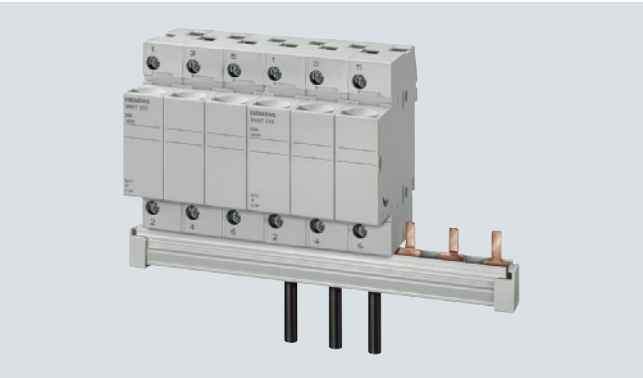
- Bus-mounting of NEOZED fuse bases made of ceramic on three-phase busbar with fork plug, which can be cut to length



- Bus mounting of MINIZED fuse switch disconnectors D01 with three-phase pin busbar, which can be cut to length with fork plug

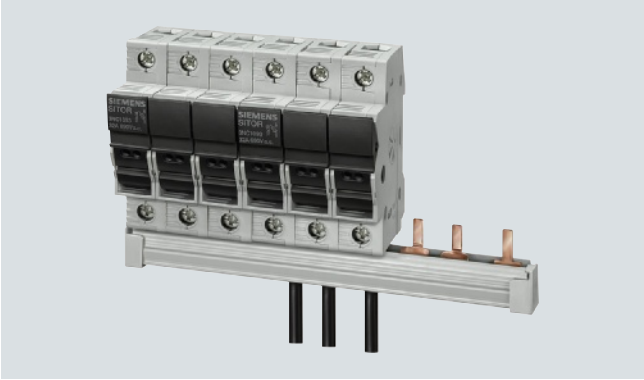


- Clear and visible conductor connection that can be easily checked when using MINIZED switch disconnectors D02. This facilitates cable entry and saves time

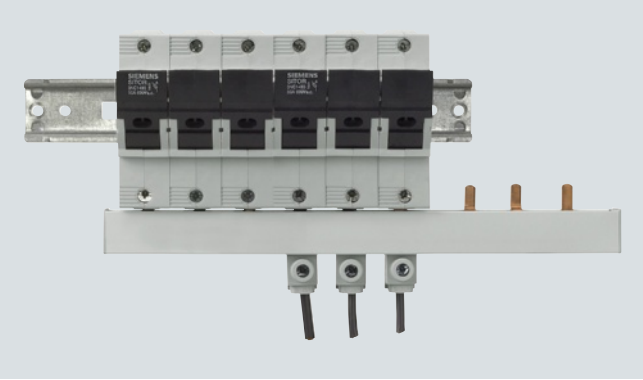


- Bus-mounting of cylindrical fuse holders 8 × 32 mm and 10 × 38 mm with three-phase pin busbar which can be cut to length

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- Bus-mounting of SITOR cylindrical fuse holders 10 mm x 38 mm with the same terminal connection as Class CC fuse holders with three-phase pin busbar which can be cut to length



- Bus mounting with infeed through a connection terminal directly on the fuse holder up to a conductor cross-section of 25 mm^2

Technical specifications

			5ST, 5SH
Standards			EN 60439-1: 2005-01
Busbar material			SF-Cu F 24
Partition material			Plastic, Cycoloy 3600, Heat-resistant over 90 °C, flame-retardant, self-extinguishing, dioxin and halogen-free
Rated operational voltage U_c		V AC	400
Rated current I_n			
• Cross-section 10 mm^2		A	63
• Cross-section 16 mm^2		A	80
Rated impulse withstand voltage U_{imp}		kV	4
Test pulse voltage (1.2/50)		kV	6.2
Rated conditional short-circuit current I_{cc}		kA	25
Resistance to climate			
• Constant atmosphere	Acc. to DIN 50015		23/83; 40/92; 55/20
• Humid heat	Acc. to IEC 60068-2-30		28 cycles
Insulation coordination			
• Overvoltage category			III
• Pollution degree			2
Maximum busbar current I_S/phase			
• Infeed at the start of the busbar			
- Cross-section 10 mm^2		A	63
- Cross-section 16 mm^2		A	80
• Infeed at the center of the busbar			
- Cross-section 10 mm^2		A	100
- Cross-section 16 mm^2		A	130

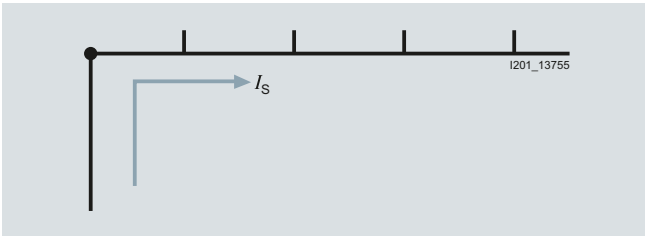
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Busbar systems

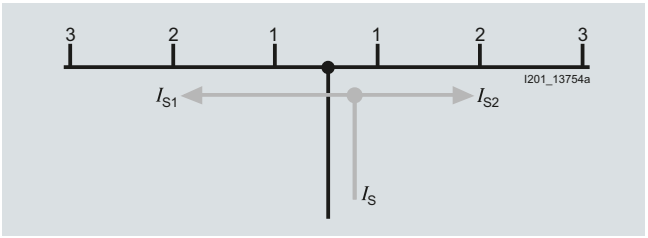
5ST3 7 . . - . HG busbars acc. to UL 508

		5ST3 7..-0HG	5ST3 7..-2HG	5ST3 770-0HG	5ST3 770-1HG
Standards		UL 508, CSA C22.2 No. 14-M 95			
Approvals		UL 508 File No. E328403 CSA			
Operational voltage					
• Acc. to IEC	V AC	690			
• Acc. to UL 489	V AC	600			
Rated conditional short-circuit current	kA	10 (RMS symmetrical 600 V for three cycles)			
• Dielectric strength	kV/mm	25			
• Surge strength	kV	> 9.5			
Rated current	A	--	--	115	
Maximum busbar current I_S/phase					
• Infeed at the start of the busbar	A	80	100	--	--
• Infeed at the center of the busbar	A	160	200	--	--
Insulation coordination					
• Overvoltage category		III			
• Pollution degree		2			
Busbar cross-section	mm^2 Cu	18	25	--	--
Infeed		Any			
Conductor cross-sections	AWG	--	--	10 ... 1/0	14 ... 1
	mm^2	--	--	6 ... 35	1.5 ... 50
Terminals					
• Terminal tightening torque	Nm	--	--	5	3.5
	lb.in	--	--	50	35

Infeed at the start of the busbar

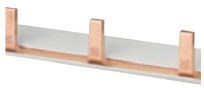


Infeed along the busbar or midpoint infeed



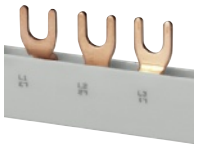
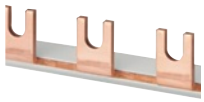
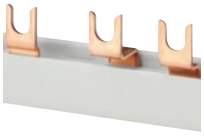
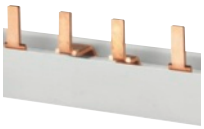
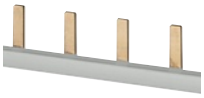
The sum of the output current per branch must not be greater than the busbar current $I_{S1.2}$ / phase.

Selection and ordering data

	Phases	Conductor cross-section	Load capacity up to	Pin spacing	Length	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm^2	A	MW	mm							kg
	Busbars											
	For MINIZED switch disconnectors D02 **For NEOZED comfort bases D01/D02** made of molded plastic 5SG1 301, 5SG1 701, 5SG5 301, 5SG5 701											
	For NEOZED fuse bases D01/D02 made of ceramic terminal version S (saddle terminal) **For cylindrical fuse holder 14 × 51 mm** **For cylindrical fuse holder SITOR 14 × 51 mm**											
	Can be cut to length, without end caps											
	Single-phase	16	130	1.5	1016	►	**5ST3 703**		1	1 unit	020	0.185
	Three-phase	16	120	1.5	1016		**5ST3 714**		1	1 unit	020	0.540

* You can order this quantity or a multiple thereof.

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	Phases	Conductor cross-section	Load capacity up to	Pin spacing	Length	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm^2	A	MW	mm							kg
	For MINIZED fuse switch disconnectors D01											
	Can be cut to length, without end caps											
	Single-phase	16	120	1	1000		**5ST2 190**		1	1 unit	020	0.222
	Two-phase						**5ST2 191**		1	1 unit	020	0.448
	Three-phase						**5ST2 192**		1	1 unit	020	0.582
	Can be cut to length, with 2 end caps											
	Single-phase	16	120	1	220		**5ST2 186**		1	1 unit	020	0.048
	Two-phase						**5ST2 187**		1	1 unit	020	0.092
	Three-phase						**5ST2 188**		1	1 unit	020	0.110
	For NEOZED fuse bases D01/D02											
	• Made of molded plastic 5SG1 .30, 5SG1 .31, 5SG5 .30 • Made of ceramic, terminal version B and K (clamp-type terminal, screw head contact)											
	Non-insulated											
	Single-phase	20	116	1.5	1000		**5SH5 321**		1	1 unit	017	0.169
		36	168	1.5			**5SH5 322**		1	1 unit	017	0.260
	Can be cut to length, without end caps											
	Single-phase	24	160	1.5	1000		**5SH5 517**		1	1 unit	017	0.342
	Three-phase	16	120	1.5	1000	▶	**5SH5 320**		1	1 unit	017	0.562
	For cylindrical fuse holder 8 × 32 mm and 10 × 38 mm **For cylindrical fuse holder SITOR 10 × 38 mm** **For class CC fuse holder** [1]											
	Can be cut to length, without end caps											
	Single-phase	16	120	1	1016	▶	**5ST3 701**		1	1 unit	020	0.196
	Two-phase		120	1		▶	**5ST3 705**		1	1 unit	020	0.452
	Three-phase	16	120	1	1016	▶	**5ST3 710**		1	1 unit	020	0.610
	Cannot be cut to length, fully insulated											
	Single-phase	16		1	214	▶	**5ST3 700**		1	1 unit	020	0.039
	Two-phase			1		▶	**5ST3 704**		1	1 unit	020	0.092
	Three-phase			1		▶	**5ST3 708**		1	1 unit	020	0.116
	End caps for busbars											
	For single-phase busbars 5ST2 190						**5ST2 196**		1	10 units	020	0.001
	For 2-phase busbar 5ST2 191 and For three-phase busbar 5ST2 192						**5ST2 197**		1	10 units	020	0.001
	For single-phase busbars 5ST3 7, 5SH5 5					▶	**5ST3 748**		1	10 units	020	0.001
	For two-phase and three-phase 5ST3 7 and for 5SH5 320 busbars					▶	**5ST3 750**		1	10 units	020	0.001

[1] For UL-approved busbars, see page5/33.

* You can order this quantity or a multiple thereof.

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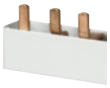
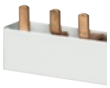
Busbar systems

	Phases	Conductor cross-section	Load capacity up to	Length	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm^2	A	mm							kg
	**Touch protection for free connection of pin busbars**										
	Yellow, (RAL1004) 5 x 1 pin				►	**5ST3 655**		1	10 units	020	0.003
	Terminals										
	For NEOZED fuse bases D01/D02 made of ceramic For DIAZED fuse bases DII/DIII made of ceramic										
	Terminal version S For con-ductors	2 ... 25				**5SH5 327**		1	10/300 units	017	0.011
	Terminal versions B and K For con-ductors	6 ... 25				**5SH5 328**		1	10/300 units	017	0.016
	For the infeed of fork-type or pin busbars For con-ductors	6 ... 35				**5ST2 157**		1	5 units	020	0.028
	Busbars **For 1-pole DIAZED fuse bases made of ceramic with terminal versions BB and BS**										
	Size DII, for 19 bases Single-phase	24	80	1000		**5SH3 500**		1	1/25 units	017	0.120
	Size DIII, for 25 bases Single-phase	39	120	1000		**5SH3 501**		1	1/25 units	017	0.200
	Busbars **For DIAZED bus-mounting bases/EZR with thread for screw adapters**										
	For size DII, 42 5SF6 005 bases Single-phase	48	150	2000		**5SH3 54**		1	5 units	017	0.700
	For size DIII, 34 5SF6 205 bases Single-phase	48	150	2000		**5SH3 55**		1	5 units	017	0.750
	Bus-mounting terminals For DIAZED EZR bus-mounting bases										
	Non-insulated										
	For con-ductors	1.5 ... 16				**8JH4 122**		1	10 units	046	0.009
	For con-ductors	10 ... 35				**8JH4 124**		1	10 units	046	0.023

* You can order this quantity or a multiple thereof.

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5ST3 7 . . - . HG busbars acc. to UL 508

		Pin spacing	Length	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		MW	mm							kg
	5ST3 7..-.HG busbars according to UL 508, 18 mm², can be cut, without end caps									
	Single-phase									
	• For fuse holders 10 x 38 mm class CC (3NC1 091, 3NW7 513-0HG) or MCB 1P (5SY)	1	1000		**5ST3 701-0HG**		1	1 unit	005	0.330
	• For fuse holders 14 x 51 mm (3NC1 491, 3NW7 111) or MCB 1P (5SY, 5SP) with AS or FC	1.5	1000		**5ST3 703-0HG**		1	1 unit	005	0.330
	Two-phase									
	• For fuse holders 10 x 38mm/class CC (3NC1 092, 3NW7 523-0HG) or MCB 2P (5SY)	1	1000		**5ST3 705-0HG**		1	1 unit	005	0.700
	Three-phase									
	• For fuse holders 10 x 38 mm/class CC (3NC1 093, 3NW7 533-0HG) or MCB 3P (5SY)	1	1000		**5ST3 710-0HG**		1	1 unit	005	0.850
	• For fuse holders 14 x 51 mm (3NC1 493, 3NW7 131) or MCB 1P (5SY, 5SP) with AS or FC	1.5	1000		**5ST3 714-0HG**		1	1 unit	005	0.850
	5ST3 7..-.HG busbars according to UL 508, 25 mm², can be cut, without end caps									
	Single-phase									
	• For fuse holders 14 x 51 mm (3NC1 491, 3NW7 111) or MCB 1P (5SP)	1.5	1000		**5ST3 701-2HG**		1	1 unit	005	0.340
	Two-phase									
	• For fuse holders 14 x 51 mm (3NC1 492, 3NW7 121) or MCB 2P (5SP)	1.5	1000		**5ST3 705-2HG**		1	1 unit	005	0.800
	Three-phase									
	• For fuse holders 14 x 51 mm (3NC1 493, 3NW7 131) or MCB 3P (5SP)	1.5	1000		**5ST3 710-2HG**		1	1 unit	005	1.090
 	**End caps for 5ST3 7..-.HG**									
	• For single-phase busbars				**5ST3 748-0HG**		1	10 units	005	0.001
	• For two- and three-phase busbars				**5ST3 750-0HG**		1	10 units	005	0.002
	Terminals according to UL 508									
	Infeed to device									
	• 35 mm²				**5ST3 770-0HG**		1	10 units	005	0.035
	Infeed to busbar									
	• 50 mm²				**5ST3 770-1HG**		1	10 units	005	0.035
	Touch protection cover for busbars according to UL 508									
	• 5 x 1 pin				**5ST3 655-0HG**		1	10 units	005	0.005

5

* You can order this quantity or a multiple thereof.

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LV HRC fuse links

Overview

LV HRC fuse systems (NH type) are used for installation systems in non-residential, commercial and industrial buildings as well as in switchgear assemblies of power utilities. They therefore protect essential building parts and systems.

LV HRC fuse systems (NH type) are fuse systems designed for operation by experts. There are no constructional requirements for non-interchangeability of rated current and touch protection.

The components and auxiliary equipment are designed in such a way as to ensure the safe replacement of LV HRC fuse systems or isolation of systems.

LV HRC fuse links are available in the sizes 000, 00, 0, 1, 2, 3, 4 and 4a.

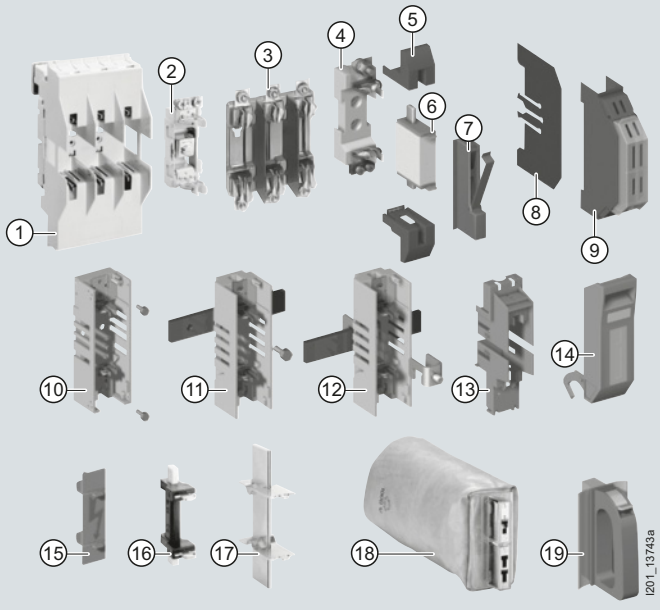
LV HRC fuse links are available in the following operational classes:

- gG for cable and line protection
- aM for short-circuit protection of switching devices in motor circuits
- gR or aR for protection of power semiconductors
- gS: The new gS operational class combines cable and line protection with semiconductor protection

LV HRC fuse links of size 000 can also be used in LV HRC fuse bases, LV HRC fuse switch disconnectors, LV HRC fuse strips as well as LV HRC in-line fuse switch disconnectors of size 00.

The fuse links 300 A, 355 A and 425 A comply with the standard but do not have the VDE mark.

LV HRC components:



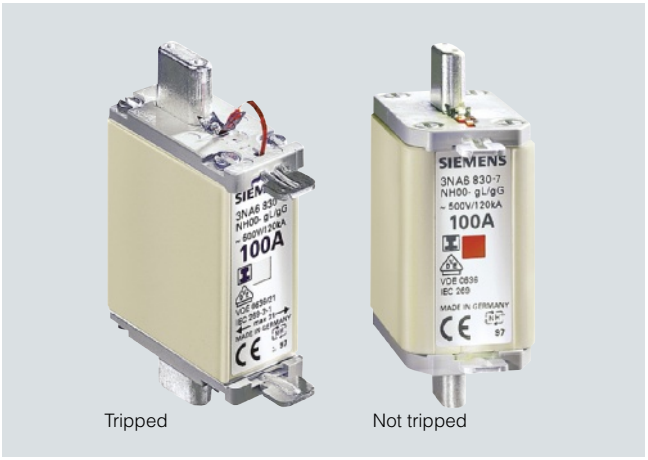
1. LV HRC fuse bases from the SR60 busbar system
2. LV HRC fuse bases for busbar mounting
3. LV HRC fuse base, 3-pole
4. LV HRC fuse base, 1-pole
5. LV HRC contact covers
6. LV HRC fuse link
7. LV HRC signal detectors
8. LV HRC partitions
9. LV HRC protective covers

LV HRC fuse bases with swivel mechanisms,

10. - For screw mounting on mounting plate
11. - For screw fixing on busbar systems
12. - For claw fixing on busbars
13. LV HRC protective cover for LV HRC fuse bases with swivel mechanism
14. LV HRC swivel mechanisms
15. LV HRC fuse base covers
16. LV HRC isolating links with insulated grip lugs
17. LV HRC isolating links with live grip lugs
18. LV HRC fuse pullers with sleeve
19. LV HRC fuse pullers

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Benefits





- LV HRC fuse links with combination alarm signal the tripping of a fuse by a clear color change from red to white. This enables fast identification and replacement of the tripped fuse links. This increases system availability
- The insulated grip lugs made of metal are integrated in the top and bottom covers of the fuse link in molded plastic and provide greater safety during replacement. The mark shown below indicates that the grip lugs are insulated
- In the standard series with front indicator, the front-mounted red indicator signals the tripping of a fuse
- LV HRC fuse links are always equipped with silver-plated contact pins. This means that they are non-corroding and have less contact resistance. This ensures the long-term operational safety of the plant

Technical specifications

		LV HRC fuse links					
		Operational class gG					Operational class aM
		3NA6 ...-4 3NA6 ...-4KK 3NA3 83.-8	3NA6 ... 3NA6 ...-7 3NA7 ... 3NA7 ...-7	3NA3 ... 3NA3 ...-7	3NA6 ...-6 3NA7 ...-6	3NA3 ...-6	3ND1 3ND2
Standards **Approvals**		IEC 60269-1, -2; EN 60269-1 CSA 22.2 No.106, File Number 016325_0_00 (CSA approval of fuses 500 V for 600 V)					
Rated voltage U_n							
• Sizes 000 and 00	V AC V DC	400 --	500 250	500 250	690 250	690 250	500 --
• Sizesn 1 and 2	V AC V DC	400 --	500 440	500 440	690 440	690 440	690 --
• Size 3	V AC V DC	-- --	-- --	500 440	-- --	690 440	690 --
• Sizes 4 and 4a (IEC design)	V AC V DC	-- --	-- --	500 440	-- --	-- --	-- --
Rated current I_n	A	10 ... 400	2 ... 400	2 ... 1250	2 ... 315	2 ... 500	6 ... 630
Rated breaking capacity	kA AC	120					
	kA DC	--	25				--
Contact pins		Non-corroding, silver-plated					
Resistance to climate	°C	-20 ... +50 at 95 % relative humidity					

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LV HRC fuse links

Selection and ordering data

	Sizes	Mounting width	I_n	U_n	DT	Insulated grip lugs Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	A	V AC/V DC							kg
	LV HRC fuse links with combination alarm, operational class gG										
	000	21	10	400/--		**3NA6 803-4**		1	3 units	017	0.127
			16			**3NA6 805-4**		1	3 units	017	0.128
			20			**3NA6 807-4**		1	3 units	017	0.128
			25			**3NA6 810-4**		1	3 units	017	0.128
			32			**3NA6 812-4**		1	3 units	017	0.128
			35			**3NA6 814-4**		1	3 units	017	0.123
			40			**3NA6 817-4**		1	3 units	017	0.113
			50			**3NA6 820-4**		1	3 units	017	0.125
			63			**3NA6 822-4**		1	3 units	017	0.126
			80			**3NA6 824-4**		1	3 units	017	0.124
			100			**3NA6 830-4**		1	3 units	017	0.120
	00	30	80	400/--		**3NA6 824-4KK**		1	3 units	017	0.201
			100			**3NA6 830-4KK**		1	3 units	017	0.204
			125			**3NA6 832-4**		1	3 units	017	0.193
			160			**3NA6 836-4**		1	3 units	017	0.206
	1	30	35	400/--		**3NA6 114-4**		1	3 units	017	0.293
			40			**3NA6 117-4**		1	3 units	017	0.290
			50			**3NA6 120-4**		1	3 units	017	0.287
			63			**3NA6 122-4**		1	3 units	017	0.294
			80			**3NA6 124-4**		1	3 units	017	0.288
			100			**3NA6 130-4**		1	3 units	017	0.278
			125			**3NA6 132-4**		1	3 units	017	0.276
			160			**3NA6 136-4**		1	3 units	017	0.295
		47.2	200			**3NA6 140-4**		1	3 units	017	0.421
			224			**3NA6 142-4**		1	3 units	017	0.442
			250			**3NA6 144-4**		1	3 units	017	0.420
	2	47.2	50	400/--		**3NA6 220-4**		1	3 units	017	0.460
			63			**3NA6 222-4**		1	3 units	017	0.461
			80			**3NA6 224-4**		1	3 units	017	0.460
			100			**3NA6 230-4**		1	3 units	017	0.461
			125			**3NA6 232-4**		1	3 units	017	0.457
			160			**3NA6 236-4**		1	3 units	017	0.463
			200			**3NA6 240-4**		1	3 units	017	0.462
			224			**3NA6 242-4**		1	3 units	017	0.441
			250			**3NA6 244-4**		1	3 units	017	0.464
		57.8	300			**3NA6 250-4**		1	3 units	017	0.666
			315			**3NA6 252-4**		1	3 units	017	0.619
			355			**3NA6 254-4**		1	3 units	017	0.660
			400			**3NA6 260-4**		1	3 units	017	0.662

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	Sizes	Mounting width	I_n	U_n	DT	Non-insulated grip lugs Order No.	Price per PU	PG	DT	Insulated grip lugs Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	A	V AC/ V DC											kg
	LV HRC fuse links with combination alarm, operational class gG														
	000	21	2	500/		**3NA7 802**		017		**3NA6 802**		1	3 units	017	0.130
			4	250		**3NA7 804**		017		**3NA6 804**		1	3 units	017	0.126
			6			**3NA7 801**		017		**3NA6 801**		1	3 units	017	0.116
			10			**3NA7 803**		017		**3NA6 803**		1	3 units	017	0.128
			16		▶	**3NA7 805**		017	▶	**3NA6 805**		1	3 units	017	0.129
			20		▶	**3NA7 807**		017	▶	**3NA6 807**		1	3 units	017	0.128
			25		▶	**3NA7 810**		017	▶	**3NA6 810**		1	3 units	017	0.121
			32			**3NA7 812**		017		**3NA6 812**		1	3 units	017	0.129
			35		▶	**3NA7 814**		017	▶	**3NA6 814**		1	3 units	017	0.129
			40			**3NA7 817**		017		**3NA6 817**		1	3 units	017	0.123
			50		▶	**3NA7 820**		017	▶	**3NA6 820**		1	3 units	017	0.124
			63		▶	**3NA7 822**		017	▶	**3NA6 822**		1	3 units	017	0.125
			80		▶	**3NA7 824**		017	▶	**3NA6 824**		1	3 units	017	0.128
			100		▶	**3NA7 830**		017	▶	**3NA6 830**		1	3 units	017	0.124
	00	30	80	500/		**3NA7 824-7**		017		**3NA6 824-7**		1	3 units	017	0.182
			100	250		**3NA7 830-7**		017		**3NA6 830-7**		1	3 units	017	0.202
			125		▶	**3NA7 832**		017	▶	**3NA6 832**		1	3 units	017	0.206
			160		▶	**3NA7 836**		017		**3NA6 836**		1	3 units	017	0.194
	1	30	16	500/		**3NA7 105**		017		**3NA6 105**		1	3 units	017	0.305
			20	440		**3NA7 107**		017		**3NA6 107**		1	3 units	017	0.286
			25			**3NA7 110**		017		**3NA6 110**		1	3 units	017	0.290
			35			**3NA7 114**		017		**3NA6 114**		1	3 units	017	0.284
			40			**3NA7 117**		017		**3NA6 117**		1	3 units	017	0.295
			50			**3NA7 120**		017		**3NA6 120**		1	3 units	017	0.288
			63			**3NA7 122**		017		**3NA6 122**		1	3 units	017	0.281
			80			**3NA7 124**		017	▶	**3NA6 124**		1	3 units	017	0.289
			100			**3NA7 130**		017	▶	**3NA6 130**		1	3 units	017	0.290
			125		▶	**3NA7 132**		017	▶	**3NA6 132**		1	3 units	017	0.292
			160		▶	**3NA7 136**		017	▶	**3NA6 136**		1	3 units	017	0.283
		47.2	200		▶	**3NA7 140**		017	▶	**3NA6 140**		1	3 units	017	0.442
			224			**3NA7 142**		017		**3NA6 142**		1	3 units	017	0.439
			250		▶	**3NA7 144**		017	▶	**3NA6 144**		1	3 units	017	0.419
	2	47.2	35	500/		**3NA7 214**		017		**3NA6 214**		1	3 units	017	0.435
			50	440		**3NA7 220**		017		**3NA6 220**		1	3 units	017	0.435
			63			**3NA7 222**		017		**3NA6 222**		1	3 units	017	0.460
			80			**3NA7 224**		017		**3NA6 224**		1	3 units	017	0.459
			100			**3NA7 230**		017		**3NA6 230**		1	3 units	017	0.434
			125			**3NA7 232**		017		**3NA6 232**		1	3 units	017	0.463
			160		▶	**3NA7 236**		017	▶	**3NA6 236**		1	3 units	017	0.462
			200		▶	**3NA7 240**		017	▶	**3NA6 240**		1	3 units	017	0.437
			224			**3NA7 242**		017		**3NA6 242**		1	3 units	017	0.462
			250		▶	**3NA7 244**		017	▶	**3NA6 244**		1	3 units	017	0.463
		57.8	300			**--**				**3NA6 250**		1	3 units	017	0.656
			315		▶	**3NA7 252**		017	▶	**3NA6 252**		1	3 units	017	0.627
			355			**--**				**3NA6 254**		1	3 units	017	0.657
			400		▶	**3NA7 260**		017	▶	**3NA6 260**		1	3 units	017	0.659

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LV HRC fuse links

	Sizes	Mounting width	I_n	U_n	DT	Non-insulated grip lugs Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	A	V AC/V DC							kg
	LV HRC fuse links with front indicator, operational class gG										
	000	21	2	500/250	▶	**3NA3 802**		1	3 units	017	0.122
			4		▶	**3NA3 804**		1	3 units	017	0.125
			6		▶	**3NA3 801**		1	3 units	017	0.121
			10		▶	**3NA3 803**		1	3 units	017	0.130
			16		▶	**3NA3 805**		1	3 units	017	0.123
			20		▶	**3NA3 807**		1	3 units	017	0.120
			25		▶	**3NA3 810**		1	3 units	017	0.123
			32		▶	**3NA3 812**		1	3 units	017	0.124
			35		▶	**3NA3 814**		1	3/90 units	017	0.129
			40		▶	**3NA3 817**		1	3 units	017	0.127
			50		▶	**3NA3 820**		1	3/90 units	017	0.122
			63		▶	**3NA3 822**		1	3/90 units	017	0.124
			80		▶	**3NA3 824**		1	3/90 units	017	0.128
			100		▶	**3NA3 830**		1	3/90 units	017	0.124
			125	400/250	▶	**3NA3 832-8**		1	3/60 units	017	0.120
			160		▶	**3NA3 836-8**		1	3/60 units	017	0.160
	00	30	35	500/250		**3NA3 814-7**		1	3 units	017	0.190
			50			**3NA3 820-7**		1	3 units	017	0.189
			63			**3NA3 822-7**		1	3 units	017	0.190
			80			**3NA3 824-7**		1	3 units	017	0.198
			100			**3NA3 830-7**		1	3 units	017	0.191
			125		▶	**3NA3 832**		1	3 units	017	0.192
			160		▶	**3NA3 836**		1	3 units	017	0.189
	0	30	6	500/440		**3NA3 001**		1	3 units	017	0.266
			10			**3NA3 003**		1	3 units	017	0.244
			16			**3NA3 005**		1	3 units	017	0.255
			20			**3NA3 007**		1	3 units	017	0.253
			25			**3NA3 010**		1	3 units	017	0.258
			32			**3NA3 012**		1	3 units	017	0.270
			35			**3NA3 014**		1	3 units	017	0.271
			40			**3NA3 017**		1	3 units	017	0.253
			50			**3NA3 020**		1	3 units	017	0.266
			63			**3NA3 022**		1	3 units	017	0.271
			80			**3NA3 024**		1	3 units	017	0.256
			100			**3NA3 030**		1	3 units	017	0.260
			125			**3NA3 032**		1	3 units	017	0.259
			160			**3NA3 036**		1	3 units	017	0.272
	1	30	16	500/440		**3NA3 105**		1	3 units	017	0.283
			20			**3NA3 107**		1	3 units	017	0.285
			25			**3NA3 110**		1	3 units	017	0.275
			35			**3NA3 114**		1	3 units	017	0.283
			40			**3NA3 117**		1	3 units	017	0.275
			50			**3NA3 120**		1	3 units	017	0.280
			63		▶	**3NA3 122**		1	3 units	017	0.284
			80		▶	**3NA3 124**		1	3 units	017	0.269
			100		▶	**3NA3 130**		1	3 units	017	0.270
			125		▶	**3NA3 132**		1	3 units	017	0.271
			160		▶	**3NA3 136**		1	3 units	017	0.290
		47.2	200		▶	**3NA3 140**		1	3 units	017	0.412
			224			**3NA3 142**		1	3 units	017	0.411
			250		▶	**3NA3 144**		1	3 units	017	0.447

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	Sizes	Mounting width	I_n	U_n	DT	Non-insulated grip lugs Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	A	V AC/V DC							kg
	LV HRC fuse links with front indicator, operational class gG										
	2	47.2	35	500/440		**3NA3 214**		1	3 units	017	0.454
			50			**3NA3 220**		1	3 units	017	0.420
			63			**3NA3 222**		1	3 units	017	0.433
			80			**3NA3 224**		1	3 units	017	0.431
			100			**3NA3 230**		1	3 units	017	0.430
			125			**3NA3 232**		1	3 units	017	0.429
			160		▶	**3NA3 236**		1	3 units	017	0.432
			200		▶	**3NA3 240**		1	3 units	017	0.427
			224		▶	**3NA3 242**		1	3 units	017	0.432
			250		▶	**3NA3 244**		1	3 units	017	0.440
		57.8	300			**3NA3 250**		1	3 units	017	0.626
			315		▶	**3NA3 252**		1	3 units	017	0.625
			355		▶	**3NA3 254**		1	3 units	017	0.617
			400		▶	**3NA3 260**		1	3 units	017	0.624
	3	57.8	200	500/440		**3NA3 340**		1	3 units	017	0.629
			224			**3NA3 342**		1	3 units	017	0.625
			250			**3NA3 344**		1	3 units	017	0.632
			300			**3NA3 350**		1	3 units	017	0.626
			315		▶	**3NA3 352**		1	3 units	017	0.632
			355			**3NA3 354**		1	3 units	017	0.666
			400		▶	**3NA3 360**		1	3 units	017	0.677
		71.2	425			**3NA3 362**		1	3 units	017	0.892
			500		▶	**3NA3 365**		1	3 units	017	0.880
			630		▶	**3NA3 372**		1	3 units	017	0.885
	Can only be used for 3NH3 530 LV HRC fuse base										
	4 (IEC design)	101.8	630	500/440		**3NA3 472**		1	1 unit	017	2.577
			800			**3NA3 475**		1	1 unit	017	2.580
			1000			**3NA3 480**		1	1 unit	017	2.584
			1250			**3NA3 482**		1	1 unit	017	2.608
	Only for base LV HRC 3NH7 520 or usable for fuse switch disconnector with in-line design 3NJ56 43-0BB00										
	4a	101.8	500	500/440		**3NA3 665**		1	1 unit	017	2.692
			630			**3NA3 672**		1	1 unit	017	2.694
			800			**3NA3 675**		1	1 unit	017	2.707
			1000			**3NA3 680**		1	1 unit	017	2.708
			1250			**3NA3 682**		1	1 unit	017	2.748

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LV HRC fuse links

	Sizes	Mounting width	I_n	U_n	DT	Non-insulated grip lugs Order No.	Price per PU	PG	DT	Insulated grip lugs Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	A	V AC/ V DC											kg
	LV HRC fuse links with combination alarm, operational class gG														
	000	21	2	690/ 250		**3NA7 802-6**		017		**3NA6 802-6**		1	3 units	017	0.122
			4			**3NA7 804-6**		017		**3NA6 804-6**		1	3 units	017	0.130
			6			**3NA7 801-6**		017		**3NA6 801-6**		1	3 units	017	0.122
			10			**3NA7 803-6**		017		**3NA6 803-6**		1	3 units	017	0.124
			16			**3NA7 805-6**		017		**3NA6 805-6**		1	3 units	017	0.123
			20			**3NA7 807-6**		017		**3NA6 807-6**		1	3 units	017	0.128
			25			**3NA7 810-6**		017		**3NA6 810-6**		1	3 units	017	0.120
			32			**3NA7 812-6**		017		**3NA6 812-6**		1	3 units	017	0.128
			35			**3NA7 814-6**		017		**3NA6 814-6**		1	3 units	017	0.129
	00	30	40	690/ 250		**3NA7 817-6**		017		**3NA6 817-6**		1	3 units	017	0.203
			50			**3NA7 820-6**		017		**3NA6 820-6**		1	3 units	017	0.196
			63			**3NA7 822-6**		017		**3NA6 822-6**		1	3 units	017	0.202
			80			**3NA7 824-6**		017		**3NA6 824-6**		1	3 units	017	0.187
			100			**3NA7 830-6**		017		**3NA6 830-6**		1	3 units	017	0.202
	1	30	50	690/ 440		**3NA7 120-6**		017		**3NA6 120-6**		1	3 units	017	0.271
			63			**3NA7 122-6**		017		**3NA6 122-6**		1	3 units	017	0.280
			80			**3NA7 124-6**		017		**3NA6 124-6**		1	3 units	017	0.284
			100			**3NA7 130-6**		017		**3NA6 130-6**		1	3 units	017	0.291
			125			**3NA7 132-6**		017		**3NA6 132-6**		1	3 units	017	0.282
			160			**3NA7 136-6**		017		**3NA6 136-6**		1	3 units	017	0.293
		47.2	200			**3NA7 140-6**		017		**3NA6 140-6**		1	3 units	017	0.439
	2	47.2	80	690/ 440		**3NA7 224-6**		017		**3NA6 224-6**		1	3 units	017	0.460
			100			**3NA7 230-6**		017		**3NA6 230-6**		1	3 units	017	0.462
			125			**3NA7 232-6**		017		**3NA6 232-6**		1	3 units	017	0.436
			160			**3NA7 236-6**		017		**3NA6 236-6**		1	3 units	017	0.439
			200			**3NA7 240-6**		017		**3NA6 240-6**		1	3 units	017	0.455
		57.8	224			**3NA7 242-6**		017		**3NA6 242-6**		1	3 units	017	0.656
			250			**3NA7 244-6**		017		**3NA6 244-6**		1	3 units	017	0.658
			300			**3NA7 250-6**		017		**3NA6 250-6**		1	3 units	017	0.661
			315			**3NA7 252-6**		017		**3NA6 252-6**		1	3 units	017	0.627

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	Sizes	Mounting width	I_n	U_n	DT	Non-insulated grip lugs Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	A	V AC/V DC							kg
	LV HRC fuse links with front indicator, operational class gG										
	000	21	2	690/250	▶	**3NA3 802-6**		1 3 units		017	0.127
			4		▶	**3NA3 804-6**		1 3 units		017	0.128
			6		▶	**3NA3 801-6**		1 3 units		017	0.123
			10		▶	**3NA3 803-6**		1 3 units		017	0.123
			16		▶	**3NA3 805-6**		1 3 units		017	0.126
			20		▶	**3NA3 807-6**		1 3 units		017	0.133
			25		▶	**3NA3 810-6**		1 3 units		017	0.126
			32			**3NA3 812-6**		1 3 units		017	0.121
			35		▶	**3NA3 814-6**		1 3 units		017	0.128
	00	30	40	690/250		**3NA3 817-6**		1 3 units		017	0.190
			50		▶	**3NA3 820-6**		1 3 units		017	0.191
			63		▶	**3NA3 822-6**		1 3 units		017	0.191
			80		▶	**3NA3 824-6**		1 3 units		017	0.195
			100		▶	**3NA3 830-6**		1 3 units		017	0.200
	1	30	50	690/440		**3NA3 120-6**		1 3 units		017	0.285
			63			**3NA3 122-6**		1 3 units		017	0.276
			80			**3NA3 124-6**		1 3 units		017	0.277
			100		▶	**3NA3 130-6**		1 3 units		017	0.274
			125		▶	**3NA3 132-6**		1 3 units		017	0.288
			160		▶	**3NA3 136-6**		1 3 units		017	0.286
		47.2	200		▶	**3NA3 140-6**		1 3 units		017	0.439
	2	47.2	80	690/440		**3NA3 224-6**		1 3 units		017	0.455
			100			**3NA3 230-6**		1 3 units		017	0.448
			125			**3NA3 232-6**		1 3 units		017	0.452
			160		▶	**3NA3 236-6**		1 3 units		017	0.424
			200		▶	**3NA3 240-6**		1 3 units		017	0.451
		57.8	224			**3NA3 242-6**		1 3 units		017	0.657
			250		▶	**3NA3 244-6**		1 3 units		017	0.652
			300			**3NA3 250-6**		1 3 units		017	0.631
			315		▶	**3NA3 252-6**		1 3 units		017	0.666
	3	57.8	250	690/440		**3NA3 344-6**		1 3 units		017	0.659
			315			**3NA3 352-6**		1 3 units		017	0.634
		71.2	355			**3NA3 354-6**		1 3 units		017	0.982
			400		▶	**3NA3 360-6**		1 3 units		017	1.026
			425			**3NA3 362-6**		1 3 units		017	1.025
			500		▶	**3NA3 365-6**		1 3 units		017	0.982

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LV HRC fuse links

	Sizes	Mounting width	I_n	U_n	DT	Non-insulated grip lugs Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	A	V AC/V DC							kg
	LV HRC fuse links with front indicator, operational class aM										
	000	21	6	500/--		**3ND1 801**		1	3 units	017	0.114
			10			**3ND1 803**		1	3 units	017	0.127
			16			**3ND1 805**		1	3 units	017	0.129
			20			**3ND1 807**		1	3 units	017	0.128
			25			**3ND1 810**		1	3 units	017	0.122
			32			**3ND1 812**		1	3 units	017	0.130
			35			**3ND1 814**		1	3 units	017	0.123
			40			**3ND1 817**		1	3 units	017	0.123
			50			**3ND1 820**		1	3 units	017	0.134
			63			**3ND1 822**		1	3 units	017	0.122
			80			**3ND1 824**		1	3 units	017	0.129
	00	30	100	500/--		**3ND1 830**		1	3 units	017	0.177
			125			**3ND1 832**		1	3 units	017	0.189
			160			**3ND1 836**		1	3 units	017	0.199
	1	30	63	690/--		**3ND2 122**		1	3 units	017	0.284
			80			**3ND2 124**		1	3 units	017	0.281
			100			**3ND2 130**		1	3 units	017	0.276
		47.2	125			**3ND2 132**		1	3 units	017	0.405
			160			**3ND2 136**		1	3 units	017	0.440
			200			**3ND2 140**		1	3 units	017	0.441
			250			**3ND2 144**		1	3 units	017	0.420
	2	47.2	125	690/--		**3ND2 232**		1	3 units	017	0.428
			160			**3ND2 236**		1	3 units	017	0.435
			200			**3ND2 240**		1	3 units	017	0.453
			250			**3ND2 244**		1	3 units	017	0.450
		57.8	315			**3ND2 252**		1	3 units	017	0.634
			355			**3ND2 254**		1	3 units	017	0.654
			400			**3ND2 260**		1	3 units	017	0.629
	3	57.8	315	690/--		**3ND2 352**		1	3 units	017	0.638
			355			**3ND2 354**		1	3 units	017	0.664
			400			**3ND2 360**		1	3 units	017	0.633
		71.2	500			**3ND1 365**		1	3 units	017	0.980
			630			**3ND1 372**		1	3 units	017	0.980

* You can order this quantity or a multiple thereof.

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Overview

LV HRC signal detectors are used for remotely indicating that the LV HRC fuse links have been tripped. Three different solutions are available:

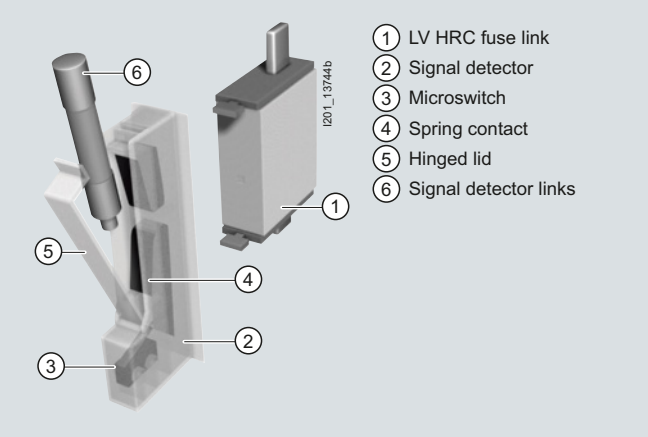
- 3NX1 021 signal detectors with signal detector link
  The LV HRC signal detectors with signal detector link support monitoring of LV HRC fuse links with non-insulated grip lugs of sizes 000 to 4 at 10 A or more. The signal detector link is connected in parallel to the LV HRC fuse link. In the event of a fault, the LV HRC fuse links are released simultaneously with the fuse detector link A tripping pin switches a floating microswitch
- 3NX1 024 signal detector top
  The signal detector top can be used with LV HRC fuse links, sizes 000, 00, 1 and 2, which are equipped with non-insulated grip lugs and have a front indicator or combination alarm. It is simply plugged into the grip lugs
- 5TT3 170 fuse monitor
  If a fuse is tripped, the front indicator springs open and switches a floating microswitch. This solution should not be used for safety-relevant systems. For this purpose, we recommend our electronic fuse monitors

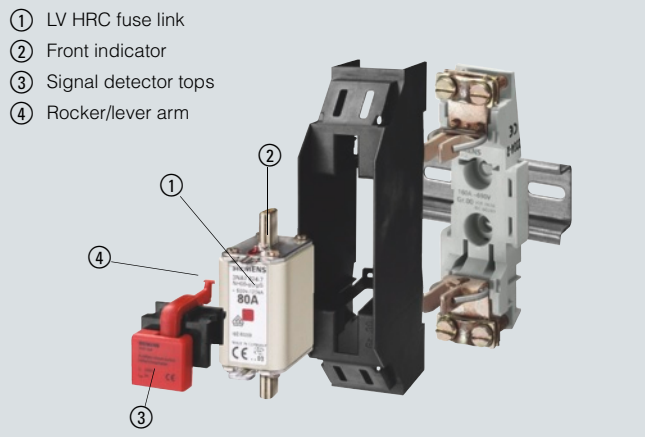
Benefits

Uniform solution for all sizes

LV HRC signal detectors reliably indicate when a fuse has tripped. Tripped fuses are quickly located. This saves time and increases system availability.

The LV HRC signal detector top is a cost-effective solution for the monitoring of Siemens LV HRC fuse links of sizes 000, 00, 1 and 2.





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LV HRC signal detectors

Selection and ordering data

		Sizes	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
									kg
	**LV HRC signal detectors** Only for SIEMENS 3NA3, 3NA7 and 3ND LV HRC fuse links with non-insulated grip lugs • Rated voltage up to 690 V AC/600 V DC • Contact: microswitches 250 V AC, 6 A • Connection: flat termination 2.3 mm	000 ... 4		**3NX1 021**		1	1 unit	017	0.039
	**Signal detector links** • Rated voltage up to 690 V AC/600 V DC								
	Response value > 9 V; 2.5 A; for standard applications	000 ... 4		**3NX1 022**		1	3 units	017	0.014
	Response value > 2 V; 7 A; only for meshed networks			**3NX1 023**		1	3 units	017	0.023
	**Signal detector tops** Only for SIEMENS 3NA3, 3NA7 and 3ND LV HRC fuse links with non-insulated grip lugs • Rated voltage up to 690 V AC/600 V DC • Contact: microswitch 230 V AC, 5 A, 1 CO • Connection: flat termination 2.3 mm	000, 00, 1, 2 ►		**3NX1 024**		1	1 unit	017	0.021

	U_e	I_n	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V AC	A	V	MW							kg
	**Fuse monitors** For all low-voltage fuse systems. Can be used in asymmetric systems afflicted with harmonics and regenerative feedback motors. Signal also for disconnected loads.										
	230	4	3 AC 380 ... 415	2		**5TT3 170**		1	1 unit		0.153

For more information on fuse monitors, see chapter "Monitoring devices —> Monitoring of electrical values".

* You can order this quantity or a multiple thereof.

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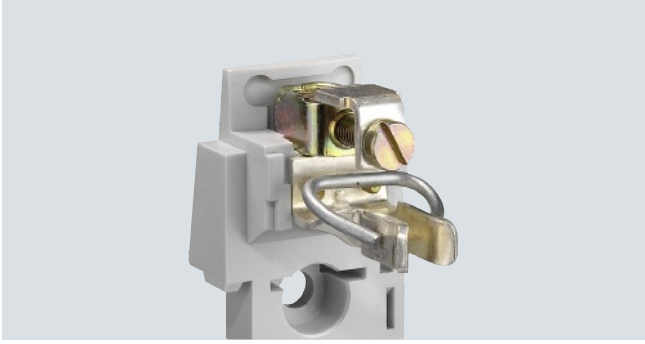
Overview

Terminals for all applications



Flat terminals with screws are suitable for connecting busbars or cable lugs. They have a torsion-proof screw connection with shim, spring washer and nut. When tightening the nut, always ensure compliance with the specified torque due to the considerable leverage effect.

The double busbar terminal differs from the flat terminal in that it supports connection of two busbars, one on the top and one at the bottom of the flat terminal.



The modern box terminal ensures efficient and reliable connection to the conductors. They support connection of conductors with or without end sleeves.



With the flat terminal with nut, terminal lug of the nut is torsion-proof. When tightening the nut, the torque must be observed because of the considerable leverage effect.



Up to three conductors can be clamped to the terminal strip.



The plug-in terminal is equipped for connecting two conductors.

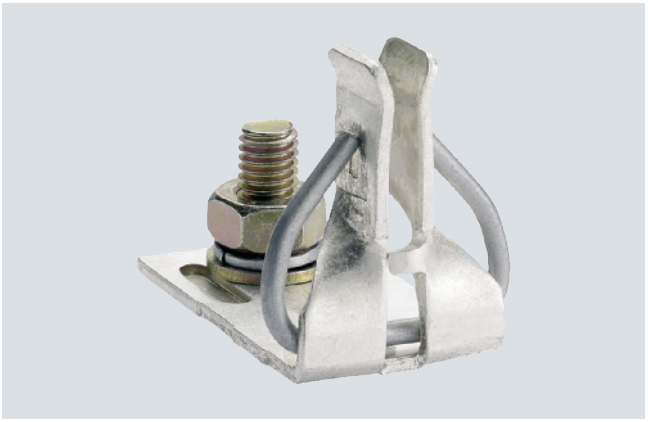


One conductor can be clamped to the saddle-type terminal.

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LV HRC sockets and accessories

Benefits



- The silver-plated Lyra contact provides a large contact area for the pin of the LV HRC fuse link. This improves heat transmission and lowers the temperature. It also minimizes the aging of the fuse link in the maximum load range, in particular when using SITOR fuses
- The large contact area also facilitates replacement of LV HRC fuse links
- The spring washer tensioning the contact is mechanically galvanized. This will prevent hydrogen embrittlement. The contact is resistant to aging and there will be no dreaded annealing of contacts, which considerably improves operating safety

Technical specifications

		LV HRC fuse bases, LV HRC bus-mounting bases					
Size		**000/00**	**0**	**1**	**2**	**3**	**4**
Standards		IEC 60269-1, -2; EN 60269-1					
Rated current I_n	A	160	160	250	400	630	1250
Rated voltage U_n	V AC	690[1)]	690[1)]				690
	V DC	250	440				440
Rated short-circuit strength	kA AC	120					
	kA DC	25					
Max. power dissipation of fuse links	W	12	25	32	45	60	90
Flat terminal							
Screw		M8		M10		M12	
Nut		M8	--				
Max. tightening torque	Nm	14		38			65
Plug-in terminal							
Conductor cross-section	mm^2	2.5 ... 50		--			
Saddle-type terminal							
Conductor cross-section	mm^2	6 ... 70	--				
Box terminals							
Conductor cross-section	mm^2	2.5 ... 50					
Terminal strips							
Conductor cross-section, 3-wire	mm^2	1.5 ... 16	--				
Max. torque for attachment of LV HRC fuse base	Nm	2		2.5			--

[1)] Extended rated voltage up to 1000 V (except LV HRC bus-mounting bases).

		LV HRC fuse bases with swivel mechanism			
Size		**000/00**	**1**	**3**	**4a**
Rated voltage U_n	V AC	690			
	V DC	440			
Max. power dissipation of fuse links	W	12	32	48	110
Flat terminal					
Screw		M8	M10	M12	M16
Nut		M8	--		
Max. tightening torque	Nm	14	38		65

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Selection and ordering data

	Sizes	I_n A	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	LV HRC fuse bases									
	Made of molded plastic, for standard rail mounting or screw fixing									
	**000/00**		1P							
		160	With flat terminals, screw	▶	**3NH3 051**		1	1/10 units	017	0.149
			With saddle-type terminals	▶	**3NH3 052**		1	1/10 units	017	0.010
		125	With box terminals, up to 50 mm^2	▶	**3NH3 053**		1	1/10 units	017	0.118
	Made of ceramic for screw fixing									
	000/00	160	1P							
			With flat terminals, screw	▶	**3NH3 030**		1	3 units	017	0.217
			With plug-in terminals		**3NH3 031**		1	3 units	017	0.260
			With saddle-type terminals	▶	**3NH3 032**		1	3 units	017	0.204
			With flat terminals and terminal strip		**3NH3 035**		1	3 units	017	0.229
			With flat terminals, nut		**3NH3 038**		1	3 units	017	0.177
			With flat and saddle-type terminals		**3NH3 050**		1	3 units	017	0.217
			3P (incl. two partitions)							
			With flat terminals	▶	**3NH4 030**		1	1 unit	017	0.715
			With plug-in terminals		**3NH4 031**		1	1 unit	017	0.883
			With saddle-type terminals		**3NH4 032**		1	1 unit	017	0.717
			With flat terminals and terminal strip		**3NH4 035**		1	1 unit	017	0.743
	Made of ceramic for screw fixing									
	0	160	1P							
			With flat terminals		**3NH3 120**		1	3 units	017	0.411
			With plug-in terminals		**3NH3 122**		1	3 units	017	0.473
	Made of ceramic for screw fixing									
	1	250	1P							
			With flat terminals	▶	**3NH3 230**		1	3 units	017	0.738
			With double busbar terminals		**3NH3 220**		1	3 units	017	0.737
	Ceramic supports on base plate for screw fixing									
	1	250	3P (incl. two partitions)							
			With flat terminals		**3NH4 230**		1	1 unit	017	2.086
	Made of ceramic for screw fixing									
	2	400	1P							
			With flat terminals	▶	**3NH3 330**		1	1 unit	017	0.817
			With double busbar terminals		**3NH3 320**		1	1 unit	017	0.819
	Made of ceramic for screw fixing									
	3	630	1P							
			With flat terminals	▶	**3NH3 430**		1	1 unit	017	1.077
			With double busbar terminals		**3NH3 420**		1	1 unit	017	1.080

* You can order this quantity or a multiple thereof.

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LV HRC sockets and accessories

	Sizes	I_n A	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	LV HRC fuse bases									
	Ceramic supports on base plate for screw fixing (IEC design)									
	4	1250	1P With flat terminals		**3NH3 530**		1	1 unit	017	3.116
	LV HRC bus-mounting bases made of molded plastic For busbars 12 × 5 mm to 12 × 10 mm, busbar spacing 40 mm									
	**000/00**	160	1P With top saddle-type terminal With bottom saddle-type terminal		**3NH3 036** **3NH3 037**		1 1	1 unit 1 unit	017 017	0.235 0.243
	**000/00**	80	3P, in tandem design 3 outgoing feeders, top and bottom with saddle-type terminal							
			With 4 partitions With 2 non-interrupted partitions		**3NH4 037** **3NH4 045**		1 1	1 unit 1 unit	017 017	1.023 0.997
	LV HRC fuse bases with swivel mechanism With flat terminals and additional saddle-type terminals (included)									
	**000/00**	160	1P							
			With screw fixing for mounting plate With claw fixing for non-perforated busbar With screw fixing for perforated busbar		**3NH7 030** **3NH7 031** **3NH7 032**		1 1 1	1 unit 1 unit 1 unit	017 017 017	0.416 0.421 0.393
	**1**	250	1P							
			With screw fixing for mounting plate With claw fixing for non-perforated busbar With screw fixing for perforated busbar		**3NH7 230** **3NH7 231** **3NH7 232**		1 1 1	1 unit 1 unit 1 unit	017 017 017	1.086 1.501 1.212
	Can also be used for fuse links of size 2									
	**3**	630	1P							
			With screw fixing for mounting plate With claw fixing for non-perforated busbar With screw fixing for perforated busbar, can be used as disconnector		**3NH7 330** **3NH7 331** **3NH7 332**		1 1 1	1 unit 1 unit 1 unit	017 017 017	2.157 2.523 2.450

* You can order this quantity or a multiple thereof.

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	Sizes	I_n	Version		Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A								kg
	LV HRC fuse bases with swivel mechanism									
	**4a**	1250	1P With screw fixing for mounting plate		**3NH7 520**		1	1 unit	017	5.428
	**LV HRC protective covers for LV HRC fuse bases**									
	As touch protection for contact pieces									
	000/00			▶	**3NX3 105**		1	2/20 units	017	0.009
	0				**3NX3 114**		1	2/40 units	017	0.010
	1			▶	**3NX3 106**		1	2/20 units	017	0.010
	2			▶	**3NX3 107**		1	2/12 units	017	0.024
	3			▶	**3NX3 108**		1	2/10 units	017	0.030
	**LV HRC partitions for LV HRC fuse bases**									
	As intermediate phase and end barrier									
			Type							
	000/00		3NH3 0/3NH4 0	▶	**3NX2 023**		1	2 units	017	0.027
	0		3NH3 1		**3NX2 030**		1	2 units	017	0.033
	1		3NH3 2	▶	**3NX2 024**		1	2 units	017	0.048
	2		3NH3 3	▶	**3NX2 025**		1	2 units	017	0.063
	3		3NH3 4	▶	**3NX2 026**		1	2 units	017	0.076
	**LV HRC protective covers IP2X for LV HRC fuse bases**									
	LV HRC protective covers									
	000/00		1P and 3P		**3NX3 115**		1	10 units	017	0.039
	**LV HRC protective hoods**									
	000/00		When using fuse links with non-insulated grip lugs		**3NX3 116**		1	10 units	017	0.014
	**LV HRC protective covers for LV HRC bus-mounting bases**									
	000/00		As touch protection for contact pieces							
			Outgoing terminal	▶	**3NX3 105**		1	2/20 units	017	0.009
			Incoming terminal		**3NX3 113**		1	2/50 units	017	0.006
	**LV HRC partitions for 3NH3 0 LV HRC bus-mounting bases**									
	000/00		As phase barrier		**3NX2 027**		1	2 units	017	0.018
	**000/00**		As end barrier		**3NX2 028**		1	2/50 units	017	0.040

* You can order this quantity or a multiple thereof.

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LV HRC sockets and accessories

	Sizes	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	**Non-interrupted partitions**								
	000/00	For 3NH4 0 LV HRC bus-mounting bases		**3NX2 031**		1	2/30 units	017	0.067
	**Fuse base covers**								
	For LV HRC fuse bases, red, with inscription "Isolating point"								
	000/00			**3NX1 003**		1	3 units	017	0.013
	1, 2, 3			**3NX1 004**		1	3 units	017	0.087
	**Fuse pullers**								
	000 ... 4	For LV HRC fuse links							
		Without sleeve	►	**3NX1 013**		1	1 unit	017	0.301
		With sleeve	►	**3NX1 014**		1	1 unit	017	0.558
	**Isolating blades For LV HRC fuse bases and fuse switch disconnectors**								
	With insulated grip lugs								
	000/00	Silver-plated	►	**3NG1 002**		1	3/30 units	017	0.066
	0			**3NG1 102**		1	1/10 units	017	0.116
	1		►	**3NG1 202**		1	1/10 units	017	0.159
	2		►	**3NG1 302**		1	1/5 units	017	0.228
	3		►	**3NG1 402**		1	1/5 units	017	0.281
	With non-insulated grip lugs								
	4	Tinned		**3NG1 503**		1	3 units	017	0.679
	4a	Nickel-plated		**3NG1 505**		1	1/5 units	017	0.701

* You can order this quantity or a multiple thereof.

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SITOR fuses for 3NH bases: Assignment table

3NH bases are generally suitable for all LV HRC type fuses. LV HRC type fuses for SITOR semiconductor protection can also be used, although it must be noted that, compared to cable and line protection fuses, these get much hotter during operation. The following table contains the permissible load currents of the SITOR fuses for installation in 3NH.

For installation in a base, it may therefore be necessary to operate the fuse under I_n (derating)

The values were determined using the conductor cross-sections specified in the table. If using smaller cross-sections, a considerably higher derating is required due to the lower heat dissipation.

SITOR fuse data						**Permissible load currents of fuse when installed in: 3 NH**		
Type	Rated current I_n	Rated voltage	Operational class	Size	Required conductor cross-section Cu	Type	Size	Permissible load current[1]
--	A	V AC	--	--	mm² Cu	--	--	A
3NC2 423. .	150	500	gR	3	70	3NH3 430/20	3	150
3NC2 425. .	200	500	gR	3	95	3NH3 430/20	3	190
3NC2 427. .	250	500	gR	3	120	3NH3 430/20	3	240
3NC2 428. .	300	500	gR	3	185	3NH3 430/20	3	285
3NC2 431. .	350	500	gR	3	240	3NH3 430/20	3	330
3NC2 432. .	400	500	aR	3	240	3NH3 430/20	3	400
3NC3 336-1	630	1000	aR	3	2 x (40 x 5)	3NH3 430/20	3	560
3NC3 337-1	710	1000	aR	3	2 x (50 x 5)	3NH3 430/20	3	600
3NC3 338-1	800	1000	aR	3	2 x (40 x 8)	3NH3 430/20	3	660
3NC3 340-1	900	1000	aR	3	2 x (40 x 8)	3NH3 430/20	3	750
3NC3 341-1	1000	1000	aR	3	2 x (50 x 8)	3NH3 430/20	3	850
3NC3 342-1	1100	800	aR	3	2 x (50 x 8)	3NH3 430/20	3	900
3NC3 343-1	1250	800	aR	3	2 x (50 x 8)	3NH3 430/20	3	950
3NC3 430-1	315	1250	aR	3	2 x 95	3NH3 430/20	3	310
3NC3 432-1	400	1250	aR	3	2 x 120	3NH3 430/20	3	390
3NC3 434-1	500	1250	aR	3	2 x 150	3NH3 430/20	3	460
3NC3 436-1	630	1250	aR	3	2 x (40 x 5)	3NH3 430/20	3	560
3NC3 438-1	800	1100	aR	3	2 x (40 x 8)	3NH3 430/20	3	690
3NC8 423..	150	660	gR	3	70	3NH3 430/20	3	135
3NC8 425..	200	660	gR	3	95	3NH3 430/20	3	180
3NC8 427..	250	660	gR	3	120	3NH3 430/20	3	250
3NC8 431..	350	660	gR	3	240	3NH3 430/20	3	315
3NC8 434..	500	660	gR	3	2 x 150	3NH3 430/20	3	450
3NC8 444..	1000	600	aR	3	2 x (60 x 6)	3NH3 430/20	3	800
3NE1 020-2	80	690	gR	00	25	3NH3 030/4 030	00	80
3NE1 021-0	100	690	gS	00	35	3NH3 030/4 030	00	100
3NE1 021-2	100	690	gR	00	35	3NH3 030/4 030	00	100
3NE1 022-0	125	690	gS	00	50	3NH3 030/4 030	00	125
3NE1 022-0	125	690	gR	00	50	3NH3 030/4 030	00	125
3NE1 224-0	160	690	gS	1	70	3NH3 230/4 230	1	160
3NE1 224-2/-3	160	690	gR	1	70	3NH3 230/4 230	1	160
3NE1 225-0	200	690	gS	1	95	3NH3 230/4 230	1	200
3NE1 225-2/-3	200	690	gR	1	95	3NH3 230/4 230	1	200
3NE1 227-0	250	690	gS	1	120	3NH3 230/4 230	1	250
3NE1 227-2/-3	250	690	gR	1	120	3NH3 230/4 230	1	250
3NE1 230-0	315	690	gS	1	2 x 70	3NH3 330/20	2	315
3NE1 230-2/-3	315	690	gR	1	2 x 70	3NH3 330/20	2	315
3NE1 331-0	350	690	gS	2	2 x 95	3NH3 330/20	2	350
3NE1 331-2/-3	350	690	gR	2	2 x 95	3NH3 330/20	2	350
3NE1 332-0	400	690	gS	2	2 x 95	3NH3 330/20	2	400
3NE1 332-2/-3	400	690	gR	2	2 x 95	3NH3 330/20	2	400
3NE1 333-0	450	690	gS	2	2 x 120	3NH3 430/20	3	450
3NE1 333-2/-3	450	690	gR	2	2 x 120	3NH3 430/20	3	450
3NE1 334-0	500	690	gS	2	2 x 120	3NH3 430/20	3	500
3NE1 334-2/-3	500	690	gR	2	2 x 120	3NH3 430/20	3	500
3NE1 435-0	560	690	gS	3	2 x 150	3NH3 430/20	3	560
3NE1 435-2/-3	560	690	gR	3	2 x 150	3NH3 430/20	3	560
3NE1 436-0	630	690	gS	3	2 x 185	3NH3 430/20	3	630
3NE1 436-2/-3	630	690	gR	3	2 x 185	3NH3 430/20	3	630
3NE1 437-0	710	690	gS	3	2 x (40 x 5)	3NH3 430/20	3	710
3NE1 437-1	710	600	gR	3	2 x (40 x 5)	3NH3 430/20	3	690
3NE1 437-2/-3	710	690	gR	3	2 x (40 x 5)	3NH3 430/20	3	710
3NE1 438-0	800	690	gS	3	2 x (50 x 5)	3NH3 430/20	3	800
3NE1 438-1	800	600	gR	3	2 x (50 x 5)	3NH3 430/20	3	750
3NE1 438-2/-3	800	690	gR	3	2 x (50 x 5)	3NH3 430/20	3	800
3NE1 447-2/-3	670	690	gR	3	2 x (40 x 5)	3NH3 430/20	3	670
3NE1 448-2/-3	850	690	gR	3	2 x (40 x 8)	3NH3 430/20	3	850
3NE1 802-0	40	690	gS	000	10	3NH3 030/4 030	00	40

[1] In the case of cyclic loads, the currents may have to be further reduced (precise values on request).

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LV HRC sockets and accessories

SITOR fuse data						Permissible load currents of fuse when installed in: 3 NH		
Type	Rated current I_n	Rated voltage	Operational class	Size	Required conductor cross-section Cu	Type	Size	Permissible load current[1]
--	A	V AC	--	--	mm² Cu	--	--	A
3NE1 803-0	35	690	gS	000	6	3NH3 030/4 030	00	35
3NE1 813-0	16	690	gS	000	1.5	3NH3 030/4 030	00	16
3NE1 814-0	20	690	gS	000	2.5	3NH3 030/4 030	00	20
3NE1 815-0	25	690	gS	000	4	3NH3 030/4 030	00	25
3NE1 817-0	50	690	gS	000	10	3NH3 030/4 030	00	50
3NE1 818-0	63	690	gS	000	16	3NH3 030/4 030	00	63
3NE1 820-0	80	690	gS	000	25	3NH3 030/4 030	00	80
3NE3 221	100	1000	aR	1	35	3NH3 230/4 230	1	100
3NE3 222	125	1000	aR	1	50	3NH3 230/4 230	1	125
3NE3 224	160	1000	aR	1	70	3NH3 230/4 230	1	160
3NE3 225	200	1000	aR	1	95	3NH3 230/4 230	1	200
3NE3 227	250	1000	aR	1	120	3NH3 230/4 230	1	250
3NE3 230-0B	315	1000	aR	1	185	3NH3 330/20	2	305
3NE3 231	350	1000	aR	1	240	3NH3 330/20	2	335
3NE3 232-0B	400	1000	aR	1	230	3NH3 330/20	2	380
3NE3 233	450	1000	aR	1	2 x 150	3NH3 330/20	2	425
3NE3 332-0B	400	1000	aR	2	240	3NH3 430/20	3	400
3NE3 333	450	1000	aR	2	2 x 150	3NH3 430/20	3	450
3NE3 334-0B	500	1000	aR	2	2 x 150	3NH3 430/20	3	500
3NE3 335	560	1000	aR	2	2 x 185	3NH3 430/20	3	560
3NE3 336	630	1000	aR	2	2 x 185	3NH3 430/20	3	630
3NE3 337-8	710	900	aR	2	2 x (40 x 5)	3NH3 430/20	3	680
3NE3 338-8	800	800	aR	2	2 x 240	3NH3 430/20	3	700
3NE3 340-8	900	690	aR	2	2 x (40 x 8)	3NH3 430/20	3	750
3NE4 101	32	1000	gR	0	6	3NH3 120/4 230	0/1	32
3NE4 102	40	1000	gR	0	10	3NH3 120/4 230	0/1	40
3NE4 117	50	1000	gR	0	10	3NH3 120/4 230	0/1	50
3NE4 118	63	1000	aR	0	16	3NH3 120/4 230	0/1	63
3NE4 120	80	1000	aR	0	25	3NH3 120/4 230	0/1	80
3NE4 121	100	1000	aR	0	35	3NH3 120/4 230	0/1	100
3NE4 122	125	1000	aR	0	50	3NH3 120/4 230	0/1	125
3NE4 124	160	1000	aR	0	70	3NH3 120/4 230	0/1	160
3NE4 327-0B	250	800	aR	2	150	3NH3 330/20	2	240
3NE4 330-0B	315	800	aR	2	240	3NH3 330/20	2	300
3NE4 333-0B	450	800	aR	2	2 x (30 x 5)	3NH3 430/20	3	425
3NE4 334-0B	500	800	aR	2	2 x (30 x 5)	3NH3 430/20	3	475
3NE4 337	710	800	aR	2	2 x (50 x 5)	3NH3 430/20	3	630
3NE8 015-1	25	690	gR	00	4	3NH3 030/4 030	00	25
3NE8 003-1	35	690	gR	00	6	3NH3 030/4 030	00	35
3NE8 017-1	50	690	gR	00	10	3NH3 030/4 030	00	50
3NE8 018-1	63	690	gR	00	16	3NH3 030/4 030	00	63
3NE8 020-1	80	690	aR	00	25	3NH3 030/4 030	00	80
3NE8 021-1	100	690	aR	00	35	3NH3 030/4 030	00	100
3NE8 022-1	125	690	aR	00	50	3NH3 030/4 030	00	125
3NE8 024-1	160	690	aR	00	70	3NH3 030/4 030	00	160

[1] In the case of cyclic loads, the currents may have to be further reduced (precise values on request).

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Overview

SITOR fuses protect power semiconductors from the effects of short-circuits because the quick-acting tripping characteristic is much quicker than with conventional LV HRC fuse systems. They protect high-quality devices and system components, such as converters with fuses in the input and the DC link, UPS systems and soft starters for motors.

Panel mounting requirements have given rise to various connection versions and designs.

The fuses with blade contacts comply with IEC 60269-2 and are suitable for installation in LV HRC fuse bases, in LV HRC fuse switch disconnectors and switch disconnectors with fuses. They also include fuses with slotted blade contacts for screw fixing with 110 mm mounting dimension, whose sizes are according to IEC 60269-4.

Fuses with slotted blade contacts for screw fixing with 80 mm or 110 mm mounting dimension are often screwed directly onto busbars for optimum heat dissipation. Even better heat transmission is provided by the compact fuses with M10 or M12 female thread, which are also mounted directly onto busbars.

Bolt-on links with 80 mm mounting dimension are another panel-mounting version for direct busbar mounting.

The fuses for SITOR thyristor sets, railway rectifiers or electrolysis systems were developed specially for these applications.

LV HRC bases suitable for use with SITOR fuses and safety switching devices can be found on page 5/45ff.

Fuse characteristics, configuration notes and the assignments of SITOR fuses to the fuse bases and 3NP and 3KL fuse switching devices can be found in the Configuration Manual, "Fuse Systems" at:
www.siemens.com/lowvoltage/manual

The new size 3 type ranges have a round ceramic body instead of a square one. These series are characterized by small I^2t values with low power dissipation and high capability under alternating load. The dimensions and functional values correspond to the current standards IEC 60269-4/ EN 60269-4.

Note:

The ordering data of the fuses are listed in ascending order of the rated voltage in the selection tables.

Benefits

- SITOR fuses have a high varying load factor, which ensures a high level of operating safety and system availability - even when subject to constant load change.
- The use of SITOR fuses in LV HRC bases or Siemens switch disconnectors has been tested with regard to heat dissipation and maximum current loading. This makes planning and dimensioning easier and prevents consequential damage.
- Our high standard of quality ensures good compliance with the characteristic curve and accuracy. This ensures long-term protection of devices

Operational classes

Fuses are categorized according to function and operational classes. SITOR semiconductor fuses, in LV HRC (NH) design, are available in the following operational classes:

- aR: for the short-circuit protection of power semiconductors (partial range protection)
- gR: for the protection of power semiconductors (full range protection)
- gS: The gS operational class combines cable and line protection with semiconductor protection (full range protection).

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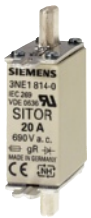
SITOR LV HRC design

Selection and ordering data

Sizes	I_e	U_e	Operational class	Breaking I^2t value	Power loss	Varying load factor	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	V AC		A^2s	W	WL							kg
SITOR LV HRC design													
With slotted blade contacts with 2 oblong slots for M10 screw fixing, mounting dimension: 110 mm, or for installation in LV HRC fuse bases or switch disconnectors													
3	150	500	gR	33 000	35	0.85		**3NC2 423-0C**		1	3 units	016	1.210
	200			64 000	40	0.85		**3NC2 425-0C**		1	3 units	016	1.210
	250			99 000	50	0.85		**3NC2 427-0C**		1	3 units	016	1.210
	300			132 000	65	0.85		**3NC2 428-0C**		1	3 units	016	1.210
	350			249 000	60	0.85		**3NC2 431-0C**		1	3 units	016	1.210
	400		aR	390 000	50	0.85		**3NC2 432-0C**		1	3 units	016	1.210
With slotted blade contacts for M10 screw fixing, mounting dimension: 110 mm, or for installation in LV HRC fuse bases or switch disconnectors													
3	150	500	gR	33 000	35	0.85		**3NC2 423-3C**		1	3 units	016	1.210
	200			64 000	40	0.85		**3NC2 425-3C**		1	3 units	016	1.210
	250			99 000	50	0.85		**3NC2 427-3C**		1	3 units	016	1.210
	300			132 000	65	0.85		**3NC2 428-3C**		1	3 units	016	1.210
	350			249 000	60	0.85		**3NC2 431-3C**		1	3 units	016	1.210
	400		aR	390 000	50	0.85		**3NC2 432-3C**		1	3 units	016	1.210
1	160	690	gR	18 600	30	1.0		**3NE1 224-3**		1	3 units	016	0.640
	200			51 800	28	1.0		**3NE1 225-3**		1	3 units	016	0.640
	250			80 900	35	1.0		**3NE1 227-3**		1	3 units	016	0.640
	315			168 000	42	1.0		**3NE1 230-3**		1	3 units	016	0.640
2	350	690	gR	177 000	44	1.0		**3NE1 331-3**		1	3 units	016	0.680
	400			224 000	54	1.0		**3NE1 332-3**		1	3 units	016	0.680
	450			276 500	62	1.0		**3NE1 333-3**		1	3 units	016	0.680
	500			398 000	65	1.0		**3NE1 334-3**		1	3 units	016	0.680
3	150	690	gR	17 600	40	0.85		**3NC8 423-3C**		1	3 units	016	1.220
	200			38 400	55	0.85		**3NC8 425-3C**		1	3 units	016	1.220
	250			70 400	72	0.85		**3NC8 427-3C**		1	3 units	016	1.220
	350			176 000	95	0.85		**3NC8 431-3C**		1	3 units	016	1.220
	500			448 000	130	0.85		**3NC8 434-3C**		1	3 units	016	1.220
	1 000	600	aR	2 480 000	140	0.95		**3NC8 444-3C**		1	3 units	016	1.220
With slotted blade contacts for M12 screw fixing, mounting dimension: 110 mm, or for installation in LV HRC fuse bases or switch disconnectors													
3	560	690	gR	890 000	60	1.0		**3NE1 435-3**		1	3 units	016	0.690
	630			1 390 000	62	1.0		**3NE1 436-3**		1	3 units	016	0.690
	670			1 640 000	65	1.0		**3NE1 447-3**		1	3 units	016	0.690
	710			1 818 000	72	1.0		**3NE1 437-3**		1	3 units	016	0.690
	800			2 475 000	82	1.0		**3NE1 438-3**		1	3 units	016	0.690
	850			3 640 000	76	1.0		**3NE1 448-3**		1	3 units	016	0.690

* You can order this quantity or a multiple thereof.

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	Sizes	I_e	U_e	Operational class	Breaking I^2t value	Power loss	Varying load factor	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V AC		A^2s	W	WL							kg
	SITOR LV HRC design													
	With slotted blade contacts for M12 screw fixing, mounting dimension: 80 mm													
	3	630	690	aR	244 000	120	0.85		**3NC3 236-1**		1	3 units	016	1.198
		710			346 000	130	0.85		**3NC3 237-1**		1	3 units	016	1.200
		800			498 000	135	0.9		**3NC3 238-1**		1	3 units	016	1.200
		900			677 000	145	0.9		**3NC3 240-1**		1	3 units	016	1.200
		1 000			975 000	155	0.95		**3NC3 241-1**		1	3 units	016	1.200
		1 100			1 382 000	165	0.95		**3NC3 242-1**		1	3 units	016	1.200
		1 250			1 990 000	175	0.95		**3NC3 243-1**		1	3 units	016	1.200
		1 400	500		2 100 000	200	0.95		**3NC3 244-1**		1	3 units	016	1.200
		1 600			2 860 000	240	0.9		**3NC3 245-1**		1	3 units	016	1.200
	With slotted blade contacts with 2 oblong slots for M10 screw fixing, mounting dimension: 110 mm, or for installation in LV HRC fuse bases or switch disconnectors													
	3	150	690	gR	17 600	40	0.85		**3NC8 423-0C**		1	3 units	016	1.220
		200			38 400	55	0.85		**3NC8 425-0C**		1	3 units	016	1.220
		250			70 400	72	0.85		**3NC8 427-0C**		1	3 units	016	1.220
		350			176 000	95	0.85		**3NC8 431-0C**		1	3 units	016	1.220
		500			448 000	130	0.85		**3NC8 434-0C**		1	3 units	016	1.220
	With blade contacts for mounting in LV HRC fuse bases or switch disconnectors													
	3	710	600	gR	2 460 000	65	1.0		**3NE1 437-1**		1	3 units	016	1.210
		800			3 350 000	72	1.0		**3NE1 438-1**		1	3 units	016	1.210
	000	16	690	gS	200	3.0	1.0	▶	**3NE1 813-0**		1	3 units	016	0.133
		20			430	3.5	1.0	▶	**3NE1 814-0**		1	3 units	016	0.124
		25			780	4.0	1.0	▶	**3NE1 815-0**		1	3 units	016	0.127
		35			1 700	5.0	1.0	▶	**3NE1 803-0**		1	3 units	016	0.128
		40			3 000	5.0	1.0	▶	**3NE1 802-0**		1	3 units	016	0.126
		50			4 400	6.0	1.0	▶	**3NE1 817-0**		1	3 units	016	0.129
		63			9 000	7.0	1.0	▶	**3NE1 818-0**		1	3 units	016	0.126
		80			18 000	8.0	1.0	▶	**3NE1 820-0**		1	3 units	016	0.124
	00	100	690	gS	33 000	10	1.0	▶	**3NE1 021-0**		1	3 units	016	0.204
		125			63 000	11	1.0	▶	**3NE1 022-0**		1	3 units	016	0.195
	1	160	690	gS	60 000	24	1.0	▶	**3NE1 224-0**		1	3 units	016	0.620
		200			100 000	27	1.0	▶	**3NE1 225-0**		1	3 units	016	0.630
		250			200 000	30	1.0	▶	**3NE1 227-0**		1	3 units	016	0.620
		315			310 000	38	1.0		**3NE1 230-0**		1	3 units	016	0.630
	2	350	690	gS	430 000	42	1.0	▶	**3NE1 331-0**		1	3 units	016	0.830
		400			590 000	45	1.0	▶	**3NE1 332-0**		1	3 units	016	0.830
		450			750 000	53	1.0		**3NE1 333-0**		1	3 units	016	0.850
		500			950 000	56	1.0		**3NE1 334-0**		1	3 units	016	0.840
	3	560	690	gS	1 700 000	50	1.0		**3NE1 435-0**		1	3 units	016	1.205
		630			2 350 000	55	1.0		**3NE1 436-0**		1	3 units	016	1.210
		710			3 400 000	60	1.0		**3NE1 437-0**		1	3 units	016	1.220
		800			5 000 000	59	1.0		**3NE1 438-0**		1	3 units	016	1.220

* You can order this quantity or a multiple thereof.

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SITOR LV HRC design

Sizes	I_e	U_e	Operational class	Breaking I^2t value	Power loss	Varying load factor	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	V AC		A^2s	W	WL							kg
SITOR LV HRC design													
With blade contacts for installatin in LV HRC fuse bases or switch disconnectors													
00	25	690	gR	180	7	0.95	►	**3NE8 015-1**		1	3 units	016	0.193
	35			400	9	0.95	►	**3NE8 003-1**		1	3 units	016	0.195
	50			700	14	0.90	►	**3NE8 017-1**		1	3 units	016	0.614
	63			1 400	16	0.95	►	**3NE8 018-1**		1	3 units	016	0.196
	80			5 800	10.5	1.0		**3NE1 020-2**		1	3 units	016	0.200
	100			11 000	11.5	1.0		**3NE1 021-2**		1	3 units	016	0.197
	125			23 000	13.5	1.0		**3NE1 022-2**		1	3 units	016	0.195
	80		aR	2 400	19	0.95	►	**3NE8 020-1**		1	3 units	016	0.206
	100			4 200	22	0.95	►	**3NE8 021-1**		1	3 units	016	0.207
	125			6 500	28	0.95	►	**3NE8 022-1**		1	3 units	016	0.195
	160			13 000	38	0.95	►	**3NE8 024-1**		1	3 units	016	0.195
1	160	690	gR	18 600	30	1.0		**3NE1 224-2**		1	3 units	016	0.660
	200			51 800	28	1.0		**3NE1 225-2**		1	3 units	016	0.620
	250			80 900	35	1.0		**3NE1 227-2**		1	3 units	016	0.670
	315			168 000	42	1.0		**3NE1 230-2**		1	3 units	016	0.640
2	350	690	gR	177 000	44	1.0		**3NE1 331-2**		1	3 units	016	0.840
	400			224 000	54	1.0		**3NE1 332-2**		1	3 units	016	0.680
	450			276 500	62	1.0		**3NE1 333-2**		1	3 units	016	0.850
	500			398 000	65	1.0		**3NE1 334-2**		1	3 units	016	0.840
3	560	690	gR	890 000	60	1.0		**3NE1 435-2**		1	3 units	016	1.190
	630			1 390 000	62	1.0		**3NE1 436-2**		1	3 units	016	1.210
	670			1 640 000	65	1.0		**3NE1 447-2**		1	3 units	016	1.210
	710			1 818 000	72	1.0		**3NE1 437-2**		1	3 units	016	1.200
	800			2 475 000	82	1.0		**3NE1 438-2**		1	3 units	016	1.210
	850			3 640 000	76	1.0		**3NE1 448-2**		1	3 units	016	1.210
0	32	1 000	gR	280	12	0.9	►	**3NE4 101**		1	3 units	016	0.824
	40			500	13	0.9	►	**3NE4 102**		1	3 units	016	0.258
	50			800	16	0.9	►	**3NE4 117**		1	3 units	016	0.274
	63		aR	1 500	20	0.9	►	**3NE4 118**		1	3 units	016	0.257
	80			3 000	22	0.9	►	**3NE4 120**		1	3 units	016	0.261
	100			6 000	24	0.9	►	**3NE4 121**		1	3 units	016	0.260
	125			14 000	30	0.9	►	**3NE4 122**		1	3 units	016	0.265
	160			29 000	35	0.9	►	**3NE4 124**		1	3 units	016	0.274

Size	I_e	U_e	Operational classes	Breaking I^2t value	Power loss	Varying load factor	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	V AC/ V DC		A^2s	W	WL							kg
SITOR LV HRC design													
With M8 bolt-on links, mounting dimension: 80 mm, for screwing onto busbars													
000	20	690/ 700[1)]	gR	83	7	0.9		**3NE8 714-1**		1	10 units	016	0.128
	25			140	9	0.9		**3NE8 715-1**		1	10 units	016	0.130
	32			285	10	0.9		**3NE8 701-1**		1	10 units	016	0.110
	40			490	12	0.9		**3NE8 702-1**		1	10 units	016	0.122
	50			815	15	0.9		**3NE8 717-1**		1	10 units	016	0.131
	63		aR	1 550	16	0.95		**3NE8 718-1**		1	10 units	016	0.130
	80			2 700	18	0.9	►	**3NE8 720-1**		1	10 units	016	0.132
	100			4 950	19	0.95	►	**3NE8 721-1**		1	10 units	016	0.123
	125			9 100	23	0.95	►	**3NE8 722-1**		1	10 units	016	0.130
	160			17 000	31	0.9	►	**3NE8 724-1**		1	10 units	016	0.122
	200			30 000	36	0.9	►	**3NE8 725-1**		1	10 units	016	0.117
	250			55 000	42	0.9	►	**3NE8 727-1**		1	10 units	016	0.132
	315			85 500	54	0.85	►	**3NE8 731-1**		1	10 units	016	0.127

[1)] DC voltage acc. to UL.

* You can order this quantity or a multiple thereof.

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	Sizes	I_e	U_e	Operational class	Breaking I^2t value	Power loss	Varying load factor	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V AC		A^2s	W	WL							kg
	SITOR LV HRC design													
	With slotted blade contacts for M10 screw fixing, mounting dimension: 110 mm, or for installation in LV HRC fuse bases or switch disconnectors													
	2	250	800	aR	29 700	105	0.85	▶	**3NE4 327-0B**		1	3 units	016	0.840
		315			60 700	120	0.85	▶	**3NE4 330-0B**		1	3 units	016	0.830
		450			191 000	140	0.85	▶	**3NE4 333-0B**		1	3 units	016	0.820
		500			276 000	155	0.85	▶	**3NE4 334-0B**		1	3 units	016	0.840
		710			923 000	155	0.95	▶	**3NE4 337**		1	3 units	016	0.850
	1	100	1 000	aR	4 800	28	0.95		**3NE3 221**		1	3 units	016	0.620
		125			7 200	36	0.95		**3NE3 222**		1	3 units	016	0.610
		160			13 000	42	1.0	▶	**3NE3 224**		1	3 units	016	0.630
		200			30 000	42	1.0	▶	**3NE3 225**		1	3 units	016	0.620
		250			48 000	50	1.0	▶	**3NE3 227**		1	3 units	016	0.620
		315			80 000	65	0.95	▶	**3NE3 230-0B**		1	3 units	016	0.630
		350			100 000	75	0.95		**3NE3 231**		1	3 units	016	0.620
		400			135 000	85	0.9		**3NE3 232-0B**		1	3 units	016	0.620
		450			175 000	95	0.9	▶	**3NE3 233**		1	3 units	016	0.630
	2	400	1 000	aR	135 000	85	1.0		**3NE3 332-0B**		1	3 units	016	0.840
		450			175 000	90	1.0		**3NE3 333**		1	3 units	016	0.830
		500			260 000	90	1.0	▶	**3NE3 334-0B**		1	3 units	016	0.840
		560			360 000	95	1.0	▶	**3NE3 335**		1	3 units	016	0.840
		630			600 000	100	1.0	▶	**3NE3 336**		1	3 units	016	0.840
		710	900	aR	800 000	105	1.0	▶	**3NE3 337-8**		1	3 units	016	0.850
		800	800		850 000	130	0.95	▶	**3NE3 338-8**		1	3 units	016	0.840
		900	690		920 000	165	0.95	▶	**3NE3 340-8**		1	3 units	016	0.850
	With slotted blade contacts for M10 screw fixing, mounting dimension: 130 mm													
	3	100	1 000	aR	13 500	25	1.0		**3NE3 421-0C**		1	3 units	016	1.120
		224			54 000	85	1.0		**3NE3 626-0C**		1	3 units	016	1.120
		315			218 000	80	1.0		**3NE3 430-0C**		1	3 units	016	1.120
		400			364 000	110	1.0		**3NE3 432-0C**		1	3 units	016	1.120
		450			488 000	110	1.0		**3NE3 635-0C**		1	3 units	016	1.120
		500			870 000	95	1.0		**3NE3 434-0C**		1	3 units	016	1.120
		630			1 280 000	132	1.0		**3NE3 636-0C**		1	3 units	016	1.120
		710			1 950 000	145	1.0		**3NE3 637-0C**		1	3 units	016	1.120
	With slotted blade contacts for M12 screw fixing, mounting dimension: 140 mm													
	3	710	1 000	aR	1 950 000	145	1.0		**3NE3 637-1C**		1	3 units	016	1.120
	With slotted blade contacts for M12 screw fixing, mounting dimension: 110 mm, or for installation in LV HRC fuse bases or switch disconnectors													
	3	630	1 000	aR	418 000	145	0.85		**3NC3 336-1**		1	3 units	016	1.220
		710			569 000	150	0.85		**3NC3 337-1**		1	3 units	016	1.220
		800			819 000	155	0.85		**3NC3 338-1**		1	3 units	016	1.220
		900			1 160 000	165	0.9		**3NC3 340-1**		1	3 units	016	1.200
		1 000			1 670 000	170	0.9		**3NC3 341-1**		1	3 units	016	1.220
		1 100	800		1 910 000	185	0.9		**3NC3 342-1**		1	3 units	016	1.220
		1 250			2 600 000	210	0.9		**3NC3 343-1**		1	3 units	016	1.220
	3	315	1 250	aR	72 500	80	0.95		**3NC3 430-1**		1	3 units	016	1.220
		400			163 000	95	0.95		**3NC3 432-1**		1	3 units	016	1.010
		500			290 000	115	0.90		**3NC3 434-1**		1	3 units	016	1.220
		630			650 000	120	0.95		**3NC3 436-1**		1	3 units	016	1.220
		800	1 100		985 000	145	0.90		**3NC3 438-1**		1	3 units	016	1.220

* You can order this quantity or a multiple thereof.

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SITOR LV HRC design

Sizes	I_e	U_e	Operational class	Breaking I^2t value	Power loss	Varying load factor	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	V AC		A^2s	W	WL							kg
SITOR LV HRC design													
With slotted blade contacts for M10 screw fixing, mounting dimension: 210 mm													
3	160	1 500	aR	54 000	56	1.0		**3NE5 424-0C**		1	2 units	016	1.260
	224			138 000	80	1.0		**3NE5 426-0C**		1	2 units	016	1.220
	315			311 000	115	1.0		**3NE5 430-0C**		1	2 units	016	1.260
	350			428 000	135	1.0		**3NE5 431-0C**		1	2 units	016	1.260
	450			870 000	145	0.95		**3NE5 433-0C**		1	2 units	016	1.260
With slotted blade contacts for M12 screw fixing, mounting dimension: 210 mm													
	450	1 500	aR	870 000	145	0.95		**3NE5 433-1C**		1	2 units	016	1.260
With slotted blade contacts for M10 screw fixing, mounting dimension: 170 mm													
3	250	1 500	aR	84 000	130	1.0		**3NE5 627-0C**		1	3 units	016	1.240
	450			590 000	160	1.0		**3NE5 633-0C**		1	3 units	016	1.240
	600			1 950 000	145	1.0		**3NE5 643-0C**		1	3 units	016	1.240
With slotted blade contacts for M10 screw fixing, mounting dimension: 210 mm													
3	200	2 000	aR	138 000	75	1.0		**3NE7 425-0C**		1	2 units	016	1.260
	250			218 000	110	1.0		**3NE7 427-0C**		1	2 units	016	1.220
	350			555 000	120	1.0		**3NE7 431-0C**		1	2 units	016	1.220
	400			870 000	150	1.0		**3NE7 432-0C**		1	2 units	016	1.260
	450			960 000	160	1.0		**3NE7 633-0C**		1	2 units	016	1.260
	630			1 950 000	220	1.0		**3NE7 636-0C**		1	2 units	016	1.220
With slotted blade contacts for M12 screw fixing, mounting dimension: 210 mm													
3	450	2 000	aR	960 000	160	1.0		**3NE7 633-1C**		1	2 units	016	1.260
	525			1 120 000	210	1.0		**3NE7 648-1C**		1	2 units	016	1.220
	630			1 950 000	220	1.0		**3NE7 636-1C**		1	1 unit	016	1.260
	710			3 110 000	275	1.0		**3NE7 637-1C**		1	2 units	016	1.220
With slotted blade contacts for M12 screw fixing, mounting dimension: 260 mm													
3	125	2 500	aR	34 500	78	1.0		**3NE9 622-1C**		1	1 unit	016	2.500
	400			620 000	205	1.0		**3NE9 632-1C**		1	1 unit	016	2.350
	500			1 270 000	235	1.0		**3NE9 634-1C**		1	1 unit	016	2.350
	630			2 800 000	275	1.0		**3NE9 636-1C**		1	1 unit	016	2.350

* You can order this quantity or a multiple thereof.

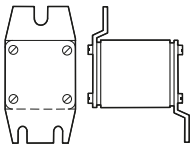
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	Sizes	I_e	U_e	Operational class	Breaking I^2t value	Power loss	Varying load factor	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V AC		A^2s	W	WL							kg
	SITOR LV HRC design													
	With M12 female thread at both ends for direct busbar mounting, flange dimensions 52 mm													
	3	630	690	aR	244 000	125	0.9		**3NC3 236-6**		1	3 units	016	1.160
		710			346 000	130	0.9		**3NC3 237-6**		1	3 units	016	1.160
		800			498 000	135	0.95		**3NC3 238-6**		1	3 units	016	1.160
		900			677 000	140	0.95		**3NC3 240-6**		1	3 units	016	1.160
		1 000			975 000	145	1.0		**3NC3 241-6**		1	3 units	016	1.160
		1 100			1 382 000	150	1.0		**3NC3 242-6**		1	3 units	016	1.160
		1 250			1 990 000	155	1.0		**3NC3 243-6**		1	3 units	016	1.160
		1 400	500		2 100 000	175	1.0		**3NC3 244-6**		1	3 units	016	1.160
		1 600			2 860 000	195	0.95		**3NC3 245-6**		1	3 units	016	1.160
	With M10 female thread at both ends for direct busbar mounting, flange dimensions 109 mm													
	3	450	1 000	aR	488 000	110	1.0		**3NE3 635-6**		1	3 units	016	1.184
	With M12 female thread at both ends for direct busbar mounting, flange dimensions 73 mm													
	3	630	1 000	aR	418 000	130	0.90		**3NC3 336-6**		1	3 units	016	1.160
		710			569 000	140	0.90		**3NC3 337-6**		1	3 units	016	1.160
		800			819 000	150	0.90		**3NC3 338-6**		1	3 units	016	1.160
		900			1 160 000	160	0.95		**3NC3 340-6**		1	3 units	016	1.160
		1 000			1 670 000	165	0.95		**3NC3 341-6**		1	3 units	016	1.160
		1 100	800		1 910 000	175	0.95		**3NC3 342-6**		1	3 units	016	1.160
		1 250			2 600 000	185	0.95		**3NC3 343-6**		1	3 units	016	1.160
	3	315	1 250	aR	72 500	80	0.95		**3NC3 430-6**		1	3 units	016	1.160
		400			163 000	95	0.95		**3NC3 432-6**		1	3 units	016	1.160
		500			290 000	115	0.90		**3NC3 434-6**		1	3 units	016	1.160
		630			650 000	120	0.95		**3NC3 436-6**		1	3 units	016	1.160
		800	1 100		985 000	145	0.95		**3NC3 438-6**		1	3 units	016	1.160

* You can order this quantity or a multiple thereof.

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SITOR LV HRC design

	Sizes	I_e	U_e	Operational classes	Breaking I^2t value	Power loss	Varying load factor	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V AC		A^2s	W	WL							kg
	Fuses for special applications													
	For screwing onto water-cooled busbars, for rectifiers in electrolysis systems													
	--[1]	350	800	aR	260 000	80	0.9		**3NC5 531**		1	3 units	016	0.671
		600	1 000		888 000	150	0.9		**3NC5 840**		1	3 units	016	1.485
		630	800		888 000	145	0.9		**3NC5 841**		1	3 units	016	1.177
		800	1 000		1 728 000	170	0.9		**3NC5 838**		1	3 units	016	3.569
		710	900		620 000	150	0.9		**3NE6 437-7**		1	3 units	016	1.062
		1 250	600		2 480 000	210	0.9		**3NE9 450-7**		1	3 units	016	1.072
	With M10 female thread at both ends for direct busbar mounting, flange dimensions 89 (99)[2] mm, for air-cooled rectifiers in electrolysis systems													
	--[1]	710	900	aR	620 000	150	0.9		**3NE6 437**		1	3 units	016	1.030
		850	600	gR	2 480 000	85	1.0		**3NE9 440-6**		1	3 units	016	0.960
		900	900	aR	1 920 000	170	0.9		**3NE6 444**		1	3 units	016	1.105
		1 250	600	aR	2 480 000	210	0.9		**3NE9 450**		1	3 units	016	1.011
	Fuses with installation holder for SITOR 6QG10 thyristor sets													
	--[1]	200	1 000	aR	44 000	50	0.85		**3NE3 525-5**		1	2 units	016	0.744
		450			395 000	90	0.85		**3NE3 535-5**		1	2 units	016	0.735
	Fuses with installation holder for SITOR 6QG11 thyristor sets													
	--[1]	50	1 000	gR	1 100	20	0.85		**3NE4 117-5**		1	2 units	016	0.300
		100		aR	7 400	35	0.85		**3NE4 121-5**		1	2 units	016	0.299
		170		aR	60 500	43	0.85		**3NE4 146-5**		1	2 units	016	0.287
	Fuses for special applications													
	With female thread at both ends for SITOR 6QG12 thyristor sets, flange dimensions 77 mm													
	--[1]	250	800	aR	29 700	105	0.85	▶	**3NE4 327-6B**		1	3 units	016	0.780
		315			60 700	120	0.85	▶	**3NE4 330-6B**		1	3 units	016	0.770
		450			191 000	140	0.85	▶	**3NE4 333-6B**		1	3 units	016	0.780
		500			276 000	155	0.85	▶	**3NE4 334-6B**		1	3 units	016	0.770
		710			923 000	155	0.95	▶	**3NE4 337-6**		1	3 units	016	0.770
	Special design for mounting directly in the railway supply rectifier													
	--[1]	250	680	aR	635 000	25	0.9		**3NC7 327-2**		1	3 units	016	0.670
		350			1 430 000	32	0.9		**3NC7 331-2**		1	3 units	016	0.740

[1] Special design

[2] Flange dimensions 99 mm only for 3NE6 444.

* You can order this quantity or a multiple thereof.

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Overview

SITOR cylindrical fuses protect power semiconductors from the effects of short-circuits because the quick-acting tripping characteristic is much quicker than that of conventional fuses. They protect high-quality devices and system components such as semiconductor contactors, electronic relays (solid state), converters with fuses in the input and in the DC link, UPS systems and soft starters for motors up to 100 A.

The cylindrical design is approved for industrial applications. The cylindrical fuse links comply with IEC 60269.

Cylindrical fuse holders also comply with IEC 60269 and UL 512. The cylindrical fuse holders for 10 x 38 mm and 14 x 51 mm have been tested and approved as fuse switch disconnectors and the cylindrical fuse holders for 22 x 58 mm as fuse disconnectors according to the switching device standard IEC 60947-3. The utilization category and the tested current and voltage values are specified in the Table "Technical Specifications".

The cylindrical fuse holders have been specially developed for the application of SITOR fuse links with regard to heat tolerance and heat dissipation and are therefore not recommended for standard applications.

Cylindrical fuse bases do not offer the same comprehensive touch protection as the fuse holders, but have better heat dissipation. The single-pole cylindrical fuse bases for 14 × 51 mm and 22 × 58 mm allow modular expansion to multi-pole bases.

Benefits

- Cylindrical fuses have an extremely compact design and a correspondingly small footprint
- The cylindrical fuses have IEC and UL approval and are suitable for universal use worldwide.
- The use of SITOR cylindrical fuses in the cylindrical fuse holders and bases has been tested with regard to heat dissipation and maximum current loading. This makes planning and dimensioning easier and prevents consequential damage.
- The use of fuse holders as switch disconnectors expands the area of application of these devices and increases operating safety

Technical specifications

		Cylindrical fuse holders		
		3NC1 0	**3NC1 4**	**3NC2 2**
Sizes	mm × mm	10 × 38	14 × 51	22 × 58
Standards		UL 512; CSA C22.2; IEC 60269-2, IEC 60947-3		
Approvals		UL 512; UL File No. E171267; CSA C22.2 No. 39-M		
Rated voltage U_n	V AC	690; 600 acc. to UL/CSA		
Rated current I_n	A AC	32 30 acc. to UL/CSA	50 50 acc. to UL 40 acc. to CSA	100 80 acc. to UL/CSA
Rated conditional short-circuit current	kA	50	50 (100 at 400 V)	50 (100 at 500 V)
Switching capacity • Utilization category		AC-22B (400 V)	AC-22B (400 V)	AC-20B (690 V)
Max. power dissipation of fuse links (conductor cross-section used)	W	3 (6 mm^2) 4.3 (10 mm^2)	5 (10 mm^2) 6.5 (25 mm^2)	9.5 (35 mm^2) 11 (50 mm^2)
Rated impulse withstand voltage	kV	6		
Overvoltage category		II		
Pollution degree		2		
No-voltage changing of fuse links		Yes		
Sealable when installed		Yes		
Mounting position		Any		
Current direction		Any		
Degree of protection acc. to IEC 60529		IP20		
Terminals are touch-protected according to BGVA3 at the incoming and outgoing feeder		Yes		
Ambient temperature	°C	45		
Conductor cross-sections • Finely stranded, with end sleeve • AWG (American Wire Gauge)	mm^2	 1.5 ... 16 15 ... 5	 1.5 ... 35 14 ... 2	 4 ... 50 10 ... 1/0
Tightening torques	Nm lb.in	2.5 22	2.5 ... 3 22 ... 26	3.5 ... 4 31 ... 35

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SITOR, cylindrical fuse design

Selection and ordering data





Sizes	I_e	U_e	Breaking I^2t value	Power loss	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
mm × mm	A	V AC/ V DC	A^2s	W							kg
Cylindrical fuse links, operational class aR[1]											
10 × 38	3	600/700	8	1.2		**3NC1 003**		1	10 units	016	0.008
	6		20	1.5	▶	**3NC1 006**		1	10 units	016	0.008
	8		30	2		**3NC1 008**		1	10 units	016	0.006
	10		60	2.5	▶	**3NC1 010**		1	10 units	016	0.007
	12		110	3		**3NC1 012**		1	10 units	016	0.006
	16		150	3.5	▶	**3NC1 016**		1	10 units	016	0.009
	20		200	4.8	▶	**3NC1 020**		1	10 units	016	0.016
	25		250	6	▶	**3NC1 025**		1	10 units	016	0.008
	32	600/--	500	7.5	▶	**3NC1 032**		1	10 units	016	0.010
14 × 51	1	660/700	1.2	5		**3NC1 401**		1	10 units	016	0.018
	2		10	3	▶	**3NC1 402**		1	10 units	016	0.020
	3		15	2.5		**3NC1 403**		1	10 units	016	0.018
	4		25	3	▶	**3NC1 404**		1	10 units	016	0.018
	5	690/700	9	1.5		**3NC1 405**		1	10 units	016	0.021
	6		12	1.5	▶	**3NC1 406**		1	10 units	016	0.022
	10		20	4	▶	**3NC1 410**		1	10 units	016	0.019
	15		75	5.5	▶	**3NC1 415**		1	10 units	016	0.020
	20		120	6	▶	**3NC1 420**		1	10 units	016	0.020
	25		250	7	▶	**3NC1 425**		1	10 units	016	0.020
	30		300	9		**3NC1 430**		1	10 units	016	0.020
	32		700	7.6	▶	**3NC1 432**		1	10 units	016	0.028
	40		900	8	▶	**3NC1 440**		1	10 units	016	0.020
	50		1 800	9	▶	**3NC1 450**		1	10 units	016	0.021
22 × 58	20	690/700	220	4.6		**3NC2 220**		1	5 units	016	0.056
	25		300	5.6		**3NC2 225**		1	5 units	016	0.053
	32		450	7		**3NC2 232**		1	5 units	016	0.055
	40		700	8.5		**3NC2 240**		1	5 units	016	0.055
	50		1 350	9.5	▶	**3NC2 250**		1	5 units	016	0.056
	63		2 600	11	▶	**3NC2 263**		1	5 units	016	0.051
	80		5 500	13.5	▶	**3NC2 280**		1	5 units	016	0.055
	100	600/700	8 000	16	▶	**3NC2 200**		1	5 units	016	0.052
Cylindrical fuse links with striking pin, operational class aR[1]											
14 × 51	10	690/700	90	4		**3NC1 410-5**		1	10 units	016	0.024
	15		100	5.5		**3NC1 415-5**		1	10 units	016	0.024
	20		500	6		**3NC1 420-5**		1	10 units	016	0.020
	25		400	7		**3NC1 425-5**		1	10 units	016	0.024
	30		500	9		**3NC1 430-5**		1	10 units	016	0.020
	32		600	7.6		**3NC1 432-5**		1	10 units	016	0.022
	40		900	8		**3NC1 440-5**		1	10 units	016	0.020
	50		2 000	9		**3NC1 450-5**		1	10 units	016	0.020
22 × 58	20	690/700	240	5		**3NC2 220-5**		1	10 units	016	0.039
	25		350	6		**3NC2 225-5**		1	5 units	016	0.041
	32		500	8		**3NC2 232-5**		1	5 units	016	0.057
	40		800	9		**3NC2 240-5**		1	5 units	016	0.039
	50		1 500	9.5		**3NC2 250-5**		1	5 units	016	0.058
	63		3 000	11		**3NC2 263-5**		1	5 units	016	0.040
	80		6 000	13.5		**3NC2 280-5**		1	5 units	016	0.057
22 × 58	100	600/700	8 500	16		**3NC2 200-5**		1	5 units	016	0.042

[1] DC voltage acc. to UL.

* You can order this quantity or a multiple thereof.

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SITOR, cylindrical fuse design

	Sizes	Version	Rated voltage	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	mm × mm		V AC							kg
	Cylindrical fuse holders Can be used as fuse switch disconnectors[1)]									
	10 × 38	1P	690	►	**3NC1 091**		1	12 units	016	0.067
		2P		►	**3NC1 092**		1	6 units	016	0.126
		3P		►	**3NC1 093**		1	4 units	016	0.200
	14 × 51	1P		►	**3NC1 491**		1	6 units	016	0.102
		2P		►	**3NC1 492**		1	3 units	016	0.203
		3P			**3NC1 493**		1	2 units	016	0.279
	22 × 58	1P		►	**3NC2 291**		1	1 unit	016	0.204
		2P		►	**3NC2 292**		1	3 units	016	0.358
		3P			**3NC2 293**		1	2 units	016	0.512
	Cylindrical fuse holders Can be used as fuse switch disconnectors, with signaling switches for fuse links with striking pin[1)]									
	14 × 51	1P	690		**3NC1 491-5**		1	6 units	016	0.130
	22 × 58	1P			**3NC2 291-5**		1	6 units	016	0.181
	Cylindrical fuse bases									
	10 × 38	1P	600		**3NC1 038-1**		1	10 units	016	0.045
		2P			**3NC1 038-2**		1	8 units	016	0.074
		3P			**3NC1 038-3**		1	6 units	016	0.113
	Fuse tongs									
	10 × 38, 14 × 51, 22 × 58				**3NC1 000**		1	1 unit	016	0.069

[1)] Please note the utilization category and current/voltage values, see "Technical specifications"

* You can order this quantity or a multiple thereof.

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NEOZED and DIAZED design, SILIZED

Overview

SILIZED is the brand name of the NEOZED fuses (D0 fuses) and the DIAZED fuses (D fuses) with quick-acting characteristic for semiconductor protection.
The fuses are used in combination with fuse bases, fuse screw caps and accessory parts of the standard fuse system.

SILIZED fuses protect power semiconductors from the effects of short-circuits because the quick-acting tripping characteristic is much quicker than that of conventional fuses. They protect high-quality devices and system components, such as semiconductor contactors, static relays, converters with fuses in the input and in the DC link,
UPS systems and soft starters for motors up to 100 A.

When using fuse bases and fuse screw caps made of molded plastic, always heed the maximum permissible power loss values due to the higher power loss (power dissipation) of the SILIZED fuses.
When using these components, the following maximum permissible power loss applies:
- NEOZED D02: 5.5 W
- DIAZED DII: 4.5 W
- DIAZED DIII: 7.0 W

This enables a partial thermal permanent load of only 50 %.

The DIAZED screw adapter DII for 25 A is used for the 30 A fuse link.

Benefits

- SILIZED fuses have an extremely compact design. This means they have a very small footprint – particularly the NEOZED version.
- The rugged and well-known DIAZED design complies with IEC 60269-3. It is globally renowned and can be used in many countries.
- A huge range of fuse bases and accessories are available for the NEOZED and DIAZED versions of the SILIZED fuses. This increases the application options in many areas

Technical specifications

		SILIZED fuse links, NEOZED design 5SE1 3	SILIZED fuse links, DIAZED design 5SD4
Standards		IEC 60269-3; IEC 60269-4, EN 60269-4	
Operational class		gR	
Characteristic		Quick-acting	
Rated voltage U_n	V AC V DC	400 250	500 500
Rated current I_n	A	10 ... 63	16 ... 100
Rated breaking capacity	kA AC kA DC	50 8	
Mounting position		Any, but preferably vertical	
Non-interchangeability		Using adapter sleeves	Using screw adapter or adapter sleeves
Resistance to climate	°C	Up to 45 at 95 % rel. humidity	
Ambient temperature	°C	-5 ... +40, humidity 90 % at 20	

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Selection and ordering data

	Sizes	I_e	U_e	Breaking I^2t value	Power loss	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V AC/ V DC	A^2s	W							kg
	Fuse links, NEOZED design, SILIZED operational class gR											
	D01	10	400/250	73	6.9		**5SE1 310**		1	10 units	016	0.007
		16		120	6.2		**5SE1 316**		1	10 units	016	0.007
	D02	20		190	8.1		**5SE1 320**		1	10 units	016	0.012
		25		215	8.2		**5SE1 325**		1	10 units	016	0.013
		35		470	16.7		**5SE1 335**		1	10 units	016	0.013
		50		1 960	12.0		**5SE1 350**		1	10 units	016	0.017
		63		4 230	15.5		**5SE1 363**		1	10 units	016	0.016
	Fuse links, DIAZED design, SILIZED operational class gR											
	DII	16	500/500	60	12.1		**5SD4 20**		1	5 units	016	0.028
		20		139	12.3		**5SD4 30**		1	5 units	016	0.029
		25		205	12.5		**5SD4 40**		1	5 units	016	0.029
		30		310	13.5		**5SD4 80**		1	5 units	016	0.031
	DIII	35		539	14.8		**5SD4 50**		1	5 units	016	0.047
		50		1 250	18.5		**5SD4 60**		1	5 units	016	0.048
		63		1 890	28		**5SD4 70**		1	5 units	016	0.049
	DIV	80		4 200	34.3		**5SD5 10**		1	3 units	016	0.131
		100		8 450	41.5		**5SD5 20**		1	3 units	016	0.115

* You can order this quantity or a multiple thereof.

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Introduction

Overview

Special demands are made on fuses for application in photovoltaic systems. These fuses have a high DC rated voltage and a tripping characteristic specially designed to protect PV modules and their connecting cables (the newly defined operational class gPV). It is also crucial that the PV fuses do not age in spite of strongly alternating load currents, in order to ensure high plant availability throughout the service life of the PV system. The fuses must also be able to withstand high temperature fluctuations without damage. These requirements were only incorporated into an international standard in recent years and have now been published as IEC 60269-6.
All Siemens photovoltaic fuse systems comply with this new standard. Furthermore, they also already comply with the recently agreed corrections to the characteristic curves, which will be incorporated in the next standard update.

The IEC cylindrical fuses used as string fuses also correspond to the characteristic curves specified in UL standard UL 2579. The non-fusing current I_{nf} and fusing current I_f test currents are crucial to the shape of the characteristic curves.

Standard	I_{nf}	I_f
Current IEC standard	1.13 x I_n	1.45 x I_n
UL standard	1.0 x I_n	1.35 x I_n
Future IEC standard	1.05 x I_n	1.35 x I_n
Siemens fuses	1.13 x I_n	1.35 x I_n

These test currents of gPV string fuses to 32 A apply for a conventional test duration of one hour; at I_{nf}, the fuse must not trip within an hour, at I_f, it must trip within an hour.

The PV cylindrical fuses of size 10 mm x 38 mm offer an especially space-saving solution for the protection of the strings.

The PV fuses in LV HRC design are usually used as cumulative fuses upstream of the inverter. In addition, they can also be used for protecting groups (PV subarrays). For the PV cumulative fuses of size 1, standard LV HRC fuse bases are available. For PV cumulative fuses of size 1L, 1XL, 2L, 2XL and 3L, we have developed a special 3NH7...-4 fuse base with a swiveling mechanism which combines maximum touch protection with maximum user-friendliness. This makes it possible to change fuses safely and without the need for any tools, such as a fuse handle. This provides safe and fast access even in an emergency.

The cylindrical fuse holders can be supplied in single-pole and two-pole versions with and without signal detectors. In the case of devices with signal detector, a small electronic device with LED is located behind an inspection window in the plug-in module. If the inserted fuse link is tripped, this is indicated by the LED flashing.

The fuse holders size 10 x 38 mm have a sliding catch that enables the removal of individual devices from the assembly. The infeed can be from the top or the bottom. As the cylindrical fuse holders are fitted with the same anti-slip terminals at the top and the bottom, the devices can also be bus-mounted at the top or the bottom.

Our cylindrical fuse holders and 3NH7 ...-4 fuse bases with swiveling mechanism comply with the IEC 60269-6 standard and are considered fuse disconnectors as defined in the switching device standard IEC 60947. Under no circumstances are they suitable for switching loads.

To ensure that PV fuses are correctly selected and dimensioned, the specific operating conditions and the
PV module data must be taken into account when calculating voltage and current ratings.

Benefits

- Protection of the modules and their connecting cables in the event of reverse currents
- Safe tripping in case of fault currents reduces the risk of fire due to DC electric arcs
- Safe separation when the fuse holder/fuse base is open



PV cylindrical fuse system, 3NW7 0..-4, 3NW6 0..-4



PV fuse system NH, 3NH7 3..-4, 3NE1 3..-4D

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Technical specifications

		Cylindrical fuse links 3NW6 0..-4	Cylindrical fuse holders 3NW7 0..-4
Sizes	mm x mm	10 x 38	
Standards		IEC 60269-6	IEC 60269, IEC 60269-6, IEC 60947, UL 4248-1, -18
Approvals		UL 248-13 (available soon)	UL 4248-1, -18, File No. E 355487
Operational class		gPV	
Rated voltage U_n	V DC	1000	
Rated current I_n	A DC	4 to 16	25
Rated short-circuit withstand current	kA	--	30
Rated breaking capacity	kA DC	30	--
Switching capacity • Utilization category		--	AC-20B, DC-20B (switching without load)
Max. power dissipation of the fuse link	W	--	3.4 (3.8 at 6 mm^2)
Rated impulse withstand voltage	kV	--	6
Overvoltage category		--	II
Pollution degree		--	2
No-voltage changing of fuse links		--	Yes
Sealable when installed		--	Yes
Mounting position		Any, but preferably vertical	
Current direction		--	Any (signal detector with antiparallel LED)
Degree of protection acc. to IEC 60529		--	IP20, with connected conductors
Terminals are touch-protected according to BGVA3 at the incoming and outgoing feeder		--	Yes
Ambient temperature	°C	-25 ... +55, humidity 90 % at +20	
Conductor cross-sections • Finely stranded, with end sleeve • AWG (American Wire Gauge)	mm^2	-- --	0.75 ... 25 18 ... 4
Tightening torques	Nm	--	2.5

Selection and ordering data

	Sizes	I_n	U_n	P_v	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	mm x mm	A DC	V DC	W					Unit(s)		kg
	**Cylindrical fuse links operational class gPV**										
3NW6 004-4	10 x 38	4	1000	1.4		**3NW6 004-4**		1	20 units	016	0.010
		6		2.0		**3NW6 001-4**		1	20 units	016	0.010
		8		1.8		**3NW6 008-4**		1	20 units	016	0.010
		10		2.5		**3NW6 003-4**		1	20 units	016	0.010
		12		2.0		**3NW6 006-4**		1	20 units	016	0.009
		16		2.7		**3NW6 005-4**		1	20 units	016	0.010

	Number of poles	I_n	For fuse links of size	Width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A DC	mm x mm	MW					Unit(s)		kg
	**Cylindrical fuse holders with signal detector**										
3NW7 014-4	1P	25	10 x 38	1		**3NW7 014-4**		1	12 units	016	0.068
	2P	25	10 x 38	2		**3NW7 024-4**		1	6 units	016	0.142
	Cylindrical fuse holders without signal detector										
	1P	25	10 x 38	1		**3NW7 013-4**		1	12 units	016	0.063
	2P	25	10 x 38	2		**3NW7 023-4**		1	6 units	016	0.132

* You can order this quantity or a multiple thereof.

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PV cumulative fuses

Technical specifications

		Fuse links 3NE1 ...-4 / -4D / -5E					Fuse bases 3NH7 ...-4			
Sizes		1	1L	2L	1XL	2XL	1L	2L	1XL	2XL
Standards		IEC 60269-6					IEC 60269	IEC 60269-6	IEC 60947	
Operational class		gPV								
Rated voltage U_n	V DC	1000 at time constant (L/R) 3 ms 1500 at time constant (L/R) 3 ms					1000		1500	
Rated current I_n	A DC	63 ... 160	200/250	315/400	63 ... 200	250/315	250	400	250	400
Rated short-circuit withstand current	kA	--					30			
Rated breaking capacity	kA DC	30					--			
Switching capacity • Utilization category		--					AC-20B, DC-20B (switching without load)			
Max. power dissipation of the fuse link	W	--					90	110	90	110
No-voltage changing of fuse links		--					Yes			
Sealable when installed		--					Yes			
Mounting position		Any, but preferably vertical								
Current direction		--					Any			
Ambient temperature	°C	-25 ... +55, humidity 90 % at +20								
Tightening torques	Nm	--					20			

Selection and ordering data


3NE1 330-4D

Sizes	I_n	U_n	P_v at U_n	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A DC	V DC	W							kg
Fuse links operational class gPV										
1	63	1000	19		**3NE1 218-4**		1	2 units	016	0.580
	80		20		**3NE1 220-4**		1	2 units	016	0.580
	100		24		**3NE1 221-4**		1	2 units	016	0.580
	125		26		**3NE1 222-4**		1	2 units	016	0.580
	160		32		**3NE1 224-4**		1	2 units	016	0.605
1L	200		51		**3NE1 225-4D**		1	2 units	016	0.796
	250		54		**3NE1 227-4D**		1	2 units	016	0.796
2L	315		73		**3NE1 330-4D**		1	2 units	016	1.090
	400		82		**3NE1 332-4D**		1	2 units	016	1.090
1XL NEW	63	1500	20		**3NE1 218-5E**		1	2 units	016	2.200
	80		25		**3NE1 220-5E**		1	2 units	016	2.200
	100		30		**3NE1 221-5E**		1	2 units	016	2.200
	125		29	▶	**3NE1 222-5E**		1	2 units	016	2.200
	160		34	▶	**3NE1 224-5E**		1	2 units	016	2.200
	200		41	▶	**3NE1 225-5E**		1	2 units	016	2.200
2XL NEW	250		53	▶	**3NE1 327-5E**		1	2 units	016	2.200
	315		63	▶	**3NE1 330-5E**		1	2 units	016	2.200

* You can order this quantity or a multiple thereof.

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	For fuse links of size	I_n A DC		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	Fuse bases with flat terminal									
	Standard ceramic fuse base [1]									
 3NH3 230	1	250	1000	▶	**3NH3 230**		1	3 units	017	0.738
	Fuse bases with swiveling mechanism									
 3NH7 360-4	1L	250	1000		**3NH7 260-4**		1	1 unit	016	1.300
	2L	400	1000		**3NH7 360-4**		1	1 unit	016	1.750
	1XL NEW	250	1500		**3NH7 261-4**		1	1 unit	016	1.200
	2XL NEW	400	1500		**3NH7 361-4**		1	1 unit	016	1.600

[1] For further information see Catalog LV11.

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Notes

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Overvoltage Protection Devices

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For further technical product information:

Service&Support Portal:
www.siemens.com/lowvoltage/technical-support

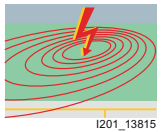
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Introduction

Overview

Devices		Page	Application	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
	**5SD7 lightning arresters, type 1**	6/3	With plug-in protective modules for TN-C, TN-S and TT systems Rated voltage 350 V AC for lightning currents from 25 kA to 100 kA. All versions with remote signaling contact. For installation in main distribution boards, upstream or downstream of the counter.	EN 61643-11	✓	✓	✓
	**5SD7 combination surge arresters, type 1 and type 2**	6/5	With plug-in protective modules for TN-C, TN-S and TT systems Rated voltage 350 V AC for lightning currents from 25 kA to 100 kA. All versions with remote signaling contact. For installation in main distribution boards downstream of the counter.	EN 61643-11	✓	✓	✓
	**5SD7 surge arresters, type 2**	6/7	With plug-in protective modules for TN-C, TN-S and TT systems Rated voltage 350 V AC, rated discharge surge current 20 kA and discharge surge current 40 kA. For installation in sub-distribution boards.	EN 61643-11	✓	✓	✓
	**5SD7 surge arresters, type 3**	6/10	With plug-in protective modules for single-phase and three-phase systems. Rated voltage, single-phase 24 V AC/DC, 60 V, 120 V, 230 V and three-phase 230/400 V AC. For installation as close as possible upstream from the terminal equipment.	EN 61643-11	✓	✓	✓
	**Accessories for surge arresters**	6/11	Plug-in parts for lightning and surge arresters and through-type terminals for installation.	EN 61643-11	✓	✓	✓
	**Configuration**	6/12	Everything you need to know about overvoltage protection: Function, mounting and technical connections.				
	**5SD7 surge arresters for measuring and control technology**	6/15	With plug-in protective modules for measuring and control technology for installation in signal circuits.	EN 61643-21	✓	--	✓

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Overview

Type 1 lightning arresters are the most powerful overvoltage protection. They protect low-voltage systems against any overvoltage or high impulse currents that may be triggered by a direct or indirect lightning strike.

All lightning arresters are fitted with a mechanical fault indication, which does not require an extra power supply.

The lightning conductors can therefore also be used in the pre-counter area.

The protective modules are available as connectors. The majority of lightning arresters have a remote signaling contact, which signals if the device fails.

Technical specifications

		5SD7 411-1	5SD7 412-1	5SD7 413-1	5SD7 413-2 5SD7 413-3	5SD7 414-1	5SD7 414-2 5SD7 414-3
Standards **Approvals**		IEC 61643-11 UL/CUL			KEMA	UL/CUL	KEMA
Rated voltage U_N	V AC	240		240/415			
Rated arrester voltage U_C							
• L/N, N/PE, L/PEN	V AC	350			335	350	335
Lightning impulse current I_{imp} (10/350µs)							
• L/N or L/PEN, 1P/3P • N/PE	kA kA	25 --	25 100	25/75 --	12.5/37.5 --	25/75 100	12.5 50
Rated discharge surge current I_n (8/20µs)							
• L/N or L/PEN, 1P/3P • N/PE	kA kA	25 --	25 100	25/75 --	12.5/37.5 --	25/75 100	12.5/50 --
Protection level U_p							
• L/N, N/PE, L/PEN	kV	≤ 1.5			≤ 1.2	≤ 1.5	≤ 1.2/1.7
Follow current discharge capacity I_{fi} (AC)							
• L/N or L/PEN for 264 V/350 V • N/PE	kA A	50/25 --	50/25 100	50/25 --	-- --	50/25 100	-- --
Response time t_A							
• L/N or L/PEN • L-(N)-PE	ns ns	≤ 100 --	≤ 100 ≤ 100	≤ 100 --	≤ 25 --	≤ 100 ≤ 100	≤ 25 ≤ 100
Max. back-up fuse acc. to IEC 61643-1							
• For parallel connection • For series connection	A A	315 gL/gG 125 gL/gG			160 gL/gG 80 gL/gG	315 gL/gG 125 gL/gG	160 gL/gG 80 gL/gG
Short-circuit withstand current with max. back-up fuse	kA_{rms}	50			25	50	25
Temperature range	°C	-40 ... +80					
Degree of protection		IP20, with connected conductors					
Conductor cross-section							
• Finely stranded • Solid	mm^2 mm^2	2.5 ... 25 2.5 ... 35			1.5 ... 25 1.5 ... 35	2.5 ... 25 2.5 ... 35	1.5 ... 25 1.5 ... 35

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5SD7 lightning arresters, type 1

Selection and ordering data

	Version	Discharge capacity	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		kA	MW							kg
	Lightning arresters									
	**1-pole** For single-conductor systems with remote signaling	25	2		**5SD7 411-1**		1	1 unit	037	0.424
	**2-pole** For TN-S and TT systems with remote signaling	100	4		**5SD7 412-1**		1	1 unit	037	0.808
	3-pole For TN-C systems									
	• With remote signaling	75	6		**5SD7 413-1**		1	1 unit	037	1.221
	• Without remote signaling	37.5	3		**5SD7 413-2**		1	1 unit	037	0.551
	• With remote signaling	37.5	3		**5SD7 413-3**		1	1 unit	037	0.557
	4-pole For TN-S and TT systems									
	• With remote signaling	100	8		**5SD7 414-1**		1	1 unit	037	1.609
	• Without remote signaling	50	4		**5SD7 414-2**		1	1 unit	037	0.671
	• With remote signaling	50	4		**5SD7 414-3**		1	1 unit	037	0.677

* You can order this quantity or a multiple thereof.

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5SD7 combination surge arresters, type 1 and type 2

Overview

Combination surge arresters, type 1 + 2 are compact designs comprising lightning arresters (type 1) and surge arresters (type 2). They protect low-voltage systems against overvoltages triggered by lightning strikes or by switching operations in the network.

A thermal isolating arrester for the varistors offers a high degree of protection against overload. The protective modules are available as connectors. All combination surge arresters have a remote signaling contact, which signals if the device fails.

Technical specifications

			5SD7 441-1	5SD7 442-1	5SD7 443-1	5SD7 444-1
Standards			IEC 61643-11; EN 61643-11			
Approvals			--	KEMA, UL/CUL	KEMA, UL/CUL	KEMA, UL/CUL
Rated voltage U_N		V AC	240		240/415	
Rated arrester voltage U_C						
• L/N, N/PE, L/PEN		V AC	350			
Lightning impulse current I_{imp} (10/350µs)						
• L/N or L/PEN, 1P/3P		kA	25	25	25/75	25/75
• N/PE		kA	--	100	--	100
Rated discharge surge current I_n (8/20µs)						
• L/N or L/PEN, 1P/3P		kA	25	25	25/75	25/75
• N/PE		kA	--	100	--	100
Protection level U_p						
• L/N, N/PE, L/PEN		kV	≤ 1.5			
Follow current discharge capacity I_{fi} (AC)						
• L/N or L/PEN		kA	25	25	25	25
• N/PE		kA	--	100	--	100
Response time t_A						
• L/N or L/PEN		ns	≤ 25	≤ 100	≤ 100	≤ 100
• L-(N)-PE		ns	--	≤ 100	--	≤ 100
Max. back-up fuse	Acc. to IEC 61643-1					
• For parallel connection		A	315 gL/gG			
• For series connection		A	125 gL/gG			
Short-circuit withstand current with max. back-up fuse		kA_{rms}	25			
Temperature range		°C	-40 ... +80			
Degree of protection			IP20, with connected conductors			
Conductor cross-section						
• Finely stranded		mm^2	2.5 ... 25			
• Solid		mm^2	2.5 ... 35			
Mounting width	Acc. to DIN 43880	MW	2	4	6	8
Visual function/fault indication			Yes			

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5SD7 combination surge arresters, type 1 and type 2

Selection and ordering data

	Version	Discharge capacity	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		kA	MW							kg
	Combination surge arresters									
	**1-pole** For single-conductor systems With remote signaling	25	2		**5SD7 441-1**		1	1 unit	037	0.356
	**2-pole** For TN-S and TT systems With remote signaling	100	4		**5SD7 442-1**		1	1 unit	037	0.741
	**3-pole** For TN-C systems With remote signaling	75	6		**5SD7 443-1**		1	1 unit	037	1.004
	**4-pole** For TN-S and TT systems With remote signaling	100	8		**5SD7 444-1**		1	1 unit	037	1.403

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* You can order this quantity or a multiple thereof.

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Overview

Surge arresters type 2 are used downstream of lightning arresters type 1 in main distribution boards or sub-distribution boards. They protect low-voltage systems against transient overvoltages, such as those triggered by switching operations. A thermal isolating arrester for the varistors offers a high degree of protection against overload. The protective modules are available as connectors. The surge arresters have an optional remote signaling contact, which signals if the device fails.

Technical specifications

		Surge arresters, standard design						
		N/PE	Single-pole	Multi-pole				
		Plug-in	Plug-in	3-pole	4-pole	3-pole	4-pole	3-pole
		5SD7 481-0	5SD7 461-.	5SD7 463-.	5SD7 464-.	5SD7 473-.	5SD7 485-.	5SD7 483-.
Standards		IEC 61643-11; EN 61643-11						
Approvals		KEMA	--					
Rated voltage U_N	V AC	240	240	240/415	240/415	500	240/415	--
Rated arrester voltage U_C								
• L/N	V AC	--	350	--	--	--	--	--
• L/N or L/PEN	V	--	--	350 AC	350 AC	580 AC	440 AC	1000 DC
• N/PE	V AC	260	--	--	260	--	--	--
Rated discharge surge current I_n (8/20µs)								
• L/N	kA	--	20	--	--	--	--	--
• L/N or L/PEN, 1P	kA	--	--	20	20	15	20	15
• N/PE	kA	20	--	--	20	--	--	--
Max. discharge surge current I_{max} (8/20 µs)								
• L/N	kA	--	40	--	--	--	--	--
• L/N or L/PEN, 1P	kA	--	--	40	40	--	--	30
• L/N or L/PEN, 1P/multi-pole	kA	--	--	--	--	30	40	--
• N/PE	kA	40	--	--	40	--	--	--
Lightning impulse current I_{imp} (10/350µs)	kA	12	--					
Protection level U_p								
• L/N or L/PEN	kV	--	≤ 1.4	≤ 1.4	≤ 1.4	≤ 2.5	≤ 2.2	≤ 5
• N/PE	kV	≤ 1.5	--	--	≤ 1.5	--	--	--
Response time t_A								
• L/N or L/PEN	ns	--	≤ 25	≤ 25	≤ 25	≤ 25	≤ 25	≤ 25
• N/PE	ns	≤ 100	--	--	≤ 100	--	--	--
Max. back-up fuse acc. to IEC 61643-1								
• For parallel connection	A	125 gL/gG						--
• For series connection	A	63 gL/gG						--
Short-circuit withstand current with max. back-up fuse	kA_{rms}	25						
Temperature range	°C	-40 ... +80						
Degree of protection		IP20, with connected conductors						
Conductor cross-section								
• Finely stranded	mm^2	1.5 ... 25						
• Solid	mm^2	1.5 ... 35						
Mounting width according to DIN 43880	MW	1	1	3	4	3	4	3
Visual function/fault indication		Yes						

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5SD7 surge arresters, type 2

			Multi-pole surge arresters, narrow design					
			5SD7 422-0	5SD7 422-1	5SD7 423-0	5SD7 423-1	5SD7 424-0	5SD7 424-1
Standards			IEC 61643-11					
Approvals			KEMA/UL/ CUL					
Rated voltage U_N		V AC	240		240/415		240/415	
Rated arrester voltage U_C								
• L/N or L/PEN		V AC	350		350		350	
• N/PE		V AC	264		--		264	
Rated discharge surge current I_n (8/20µs)								
• L/N or L/PEN, 1P/3P		kA	20		20		20	
• N/PE		kA	20		--		20	
Max. discharge surge current I_{max} (8/20 µs)								
• L/N or L/PEN, 1P/3P		kA	40		40		40	
• N/PE		kA	40		--		40	
Protection level U_p								
• L/N or L/PEN		kV	≤ 1.4		≤ 1.4		≤ 1.4	
• N/PE		kV	≤ 1.5		--		≤ 1.5	
Response time t_A								
• L/N		ns	≤ 25		≤ 25		≤ 25	
• N/PE		ns	≤ 100		--		≤ 100	
Max. back-up fuse	Acc. to IEC 61643-1							
• For parallel connection		A	125 gL/gG					
• For series connection		A	63 gL/gG					
Short-circuit withstand current with max. back-up fuse		kA_{rms}	25		25		25	
Temperature range		°C	-40 ... +80					
Degree of protection			IP20, with connected conductors					
Conductor cross-section								
• Finely stranded		mm^2	1.5 ... 16					
• Solid		mm^2	1.5 ... 25					
Mounting width	Acc. to DIN 43880	mm	26		38		50	
Visual function/fault indication			Yes					

Selection and ordering data

	Version	Discharge surge current I_n/I_{max}	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		kA	mm (MW)							kg
Surge arresters, standard design										
	**1-pole, plug-in**									
	- Without remote signaling	20/40	1		**5SD7 461-0**		1	1 unit	037	0.133
	- With remote signaling	20/40	1		**5SD7 461-1**		1	1 unit	037	0.139
	1P, N/PE, plug-in									
	- Without remote signaling	20/40	1		**5SD7 481-0**		1	1 unit	037	0.122
	**3-pole, plug-in, 3+0 circuit**									
	• For TN-C systems									
	- Without remote signaling	20/40	3		**5SD7 463-0**		1	1 unit	037	0.362
	- With remote signaling	20/40	3		**5SD7 463-1**		1	1 unit	037	0.371
	• For IT systems									
	- Without remote signaling	15/30	3		**5SD7 473-0**		1	1 unit	037	0.384
	- With remote signaling	15/30	3		**5SD7 473-1**		1	1 unit	037	0.371
	3-pole, plug-in									
	For protecting the DC part of the photovoltaic systems up to 1000 V DC acc. to IEC 60364-7-712									
	- Without remote signaling	15/30	3		**5SD7 483-0**		1	1 unit	037	0.344
	- With remote signaling	15/30	3		**5SD7 483-1**		1	1/44 units	037	0.352

* You can order this quantity or a multiple thereof.

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5SD7 surge arresters, type 2

	Version	Discharge surge current I_n/I_{max}	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		kA	mm (MW)							kg
	**4-pole, plug-in, 3+1 circuit**									
	For TN-S and TT systems									
	- Without remote signaling	20/40	4		**5SD7 464-0**		1	1 unit	037	0.426
	- With remote signaling	20/40	4		**5SD7 464-1**		1	1 unit	037	0.432
	**4-pole, plug-in, 4+0 circuit**									
	For IT systems with N conductor incorporated in the cable									
	- Without remote signaling	20/40	4		**5SD7 485-0**		1	1/44 units	037	0.445
	- With remote signaling	20/40	4		**5SD7 485-1**		1	1 unit	037	0.455
Surge arresters, narrow design										
	**2-pole**									
	For TN-S and TT systems									
	- Without remote signaling	20/40	24 (1 1/3)		**5SD7 422-0**		1	1 unit	037	0.220
	- With remote signaling	20/40	24 (1 1/3)		**5SD7 422-1**		1	1 unit	037	0.229
	**3-pole**									
	For TN-C systems									
	- without remote signaling	20/40	36 (2)		**5SD7 423-0**		1	1 unit	037	0.320
	- With remote signaling	20/40	36 (2)		**5SD7 423-1**		1	1 unit	037	0.317
	**4-pole**									
	For TN-S and TT systems									
	- Without remote signaling	20/40	48 (2 2/3)		**5SD7 424-0**		1	1 unit	037	0.407
	- With remote signaling	20/40	48 (2 2/3)		**5SD7 424-1**		1	1 unit	037	0.423

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5SD7 surge arresters, type 3

Overview

Type 3 surge arresters are installed downstream of type 2 surge arresters in sub-distribution boards as close as possible to the load. The protective modules are available as connectors. In the event of a power failure, a remote signaling is output over an optocoupler with open collector output.

			Multi-pole surge arresters, plug-in				
			2-pole				4-pole
			5SD7 432-1	5SD7 432-2	5SD7 432-3	5SD7 432-4	5SD7 434-1
Standards **Approvals**			IEC 61643-11; EN 61643-11 KEMA/UL/ CUL		--		KEMA
Rated voltage U_N		V AC	230	120	60	24	230/400
Rated load current I_L (at 30 °C)		A	26	26	26	26	3 × 26
Rated arrester voltage U_C		V AC	253	150	100	34	335
Rated discharge surge current I_n (8/20µs)		kA	3	2.5	2.5	1	1.5
Max. discharge surge current I_{max} (8/20 µs)		kA	10	10	6.5	2	4.5
Combined surge U_{oc}		kV	6	6	4	2	4
Protection level U_p	L–N/1	V	≤ 1500/≤ 600	≤ 850/≤ 350	≤ 700/≤ 250	≤ 550/≤ 100	≤ 1200
Response time t_A		ns	≤ 100	≤ 100	≤ 100	≤ 100	≤ 100
Required back-up fuse, max.		A	25 gL/gG	25 gL/gG	25 gL/gG	25 gL/gG	25 gL/gG
Temperature range		°C	-40 ... +85				
Degree of protection			IP20, with connected conductors				
Conductor cross-section							
• Finely stranded		mm^2	0.2 ... 4				
• Solid		mm^2	0.2 ... 2.5				
Mounting width	Acc. to DIN 43880	MW	1	1	1	1	2
Visual function/fault indication			Yes				

Selection and ordering data

	Version	Rated voltage U_N	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	MW							kg
	Surge arresters, plug-in									
	• 2-pole									
	With remote signaling	24	1		**5SD7 432-4**		1	1 unit	037	0.086
		60	1		**5SD7 432-3**		1	1 unit	037	0.087
		120	1		**5SD7 432-2**		1	1 unit	037	0.089
		230	1		**5SD7 432-1**		1	1 unit	037	0.087
	• 4-pole									
	With remote signaling	230/400	2		**5SD7 434-1**		1	1 unit	037	0.135

* You can order this quantity or a multiple thereof.

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Selection and ordering data

Using the plug-in parts in the various overvoltage protection devices

Plug-in parts	5SD7 428-1	5SD7 428-0	5SD7 468-1	5SD7 488-0	5SD7 488-1	5SD7 498-1
Surge arresters, type 2	5SD7 424-1 5SD7 424-0 5SD7 423-1 5SD7 423-0 5SD7 422-1 5SD7 422-0	5SD7 424-1 5SD7 424-0 5SD7 422-1 5SD7 422-0	5SD7 461-0 5SD7 461-1 5SD7 463-0 5SD7 463-1 5SD7 464-0 5SD7 464-1	5SD7 481-0 5SD7 464-0 5SD7 464-1	5SD7 485-0 5SD7 485-1	5SD7 473-0 5SD7 473-1 5SD7 483-0 5SD7 483-1

Plug-in parts	5SD7 428-1	5SD7 448-1	5SD7 418-0	5SD7 418-1	5SD7 418-2	5SD7 418-3
Lightning arresters, type 1 and combination surge arresters type 1+2	5SD7 444-1 5SD7 443-1 5SD7 442-1 5SD7 441-1	5SD7 444-1 5SD7 443-1 5SD7 442-1 5SD7 441-1	5SD7 414-1 5SD7 412-1 5SD7 444-1 5SD7 442-1	5SD7 414-1 5SD7 413-1 5SD7 412-1 5SD7 411-1	5SD7 412-2 5SD7 412-3 5SD7 414-2 5SD7 412-2	5SD7 412-1 5SD7 412-3 5SD7 413-2 5SD7 413-3 5SD7 414-2 5SD7 414-3

	For arresters	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Plug-in parts for lightning arresters, type 1								
			**5SD7 418-0**		1	1 unit	037	0.254
			5SD7 418-1		1	1 unit	037	0.270
			5SD7 418-2		1	1 unit	037	0.101
			5SD7 418-3		1	1 unit	037	0.132
Plug-in parts for combination surge arresters, type 1 and type 2								
			**5SD7 418-0**		1	1 unit	037	0.254
			5SD7 428-1		1	1 unit	037	0.069
			5SD7 448-1		1	1 unit	037	0.148
Plug-in parts for surge arresters, type 2								
			**5SD7 428-0**		1	1 unit	037	0.067
			5SD7 428-1		1	1 unit	037	0.069
			5SD7 468-1		1	1 unit	037	0.066
			5SD7 488-0		1	1 unit	037	0.056
			5SD7 488-1		1	1 unit	037	0.053
			5SD7 498-1		1	1 unit	037	0.065
Plug-in part for surge arresters, type 3								
	5SD7 432-1 5SD7 432-2 5SD7 432-3 5SD7 432-4		**5SD7 437-1** **5SD7 437-2** **5SD7 437-3** **5SD7 437-4**		1 1 1 1	1 unit 1 unit 1 unit 1 unit	037 037 037 037	0.042 0.041 0.041 0.042
	5SD7 434-1		**5SD7 438-1**		1	1 unit	037	0.060

* You can order this quantity or a multiple thereof.

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Configuration

More information

Selection of overvoltage protection devices

Situation Which type of building do you want to protect? Generally speaking, all our devices are suitable for residential buildings, office buildings, industrial and commercial buildings.	Systems	Basic protection For installation upstream of counters in main distribution boards or in combined main/sub-distribution boards
Low risk buildings  - No outer lightning protection - Power supply over ground conductor	**TN-S and TT systems**	**5SD7 surge arresters, type 2** Narrow design 5SD7 424-0, 5SD7 424-1 Wide design 5SD7 464-0, 5SD7 464-1 With or without remote signaling 
	TN-C systems	**5SD7 surge arresters, type 2** Narrow design 5SD7 423-0, 5SD7 423-1 Wide design 5SD7 463-0, 5SD7 463-1 With or without remote signaling 
High-risk buildings  - Outer lightning protection system  - Power supply over overhead lines  - Grounded aerial structures	**TN-S and TT systems**	**5SD7 lightning arresters, type 1** Narrow design 5SD7 414-2, 5SD7 414-3 Wide design 5SD7 414-1 With or without remote signaling 
	TN-C systems	**5SD7 lightning arresters, type 1** Narrow design 5SD7 414-2, 5SD7 414-3 Wide design 5SD7 413-1, 5SD7411-1 With or without remote signaling 
	TN-S and TT systems	**5SD7 combination surge arresters, type 1 and type 2** 5SD7 444-1 With remote signaling 
	TN-C systems	**5SD7 combination surge arresters, type 1 and type 2** 5SD7 443-1, 5SD7441-1 With remote signaling 
	IT systems without N conductor incorporated in the cable	Typically, IT systems are only installed in special building sections. TN-C, TN-S and TT systems are generally still used in the area of the main distribution board. In this case, the protective devices shown above must be installed.
	IT systems with N conductor incorporated in the cable	

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Medium protection

For installation upstream of counters in main distribution boards or in combined main/sub-distribution boards

Fine protection

For installation directly upstream of the terminal equipment

5SD7 surge arresters, type 2



Narrow design
5SD7 424-0, 5SD7 424-1

Standard design
5SD7 464-0, 5SD7 464-1

With or without remote signaling

Only required if the distance between the main and sub-distribution boards is **> 10 m**



Surge arresters, type 3

For installation in sub-distribution boards or control cabinets

5SD7 432-x and 5SD7 434-1

With remote signaling

5SD7 surge arresters, type 2



Narrow design
5SD7 423-0, 5SD7 423-1

Standard design
5SD7 463-0, 5SD7 463-1

With or without remote signaling

Only required if the distance between the main and sub-distribution boards is **> 10 m**

5SD7 surge arresters, type 2



Narrow design
5SD7 424-0, 5SD7 424-1

Standard design
5SD7 464-0, 5SD7 464-1

With or without remote signaling

5SD7 surge arresters, type 2



Narrow design
5SD7 423-0, 5SD7 423-1

Standard design
5SD7 463-0, 5SD7 463-1

With or without remote signaling

5SD7 surge arresters, type 2



Narrow design
5SD7 424-0, 5SD7 424-1

Standard design
5SD7 464-0, 5SD7 464-1

With or without remote signaling

Only required if the distance between the main and sub-distribution boards is **> 10 m**

5SD7 surge arresters, type 2



Narrow design
5SD7 423-0, 5SD7 423-1

Standard design
5SD7 463-0, 5SD7 463-1

With or without remote signaling

Only required if the distance between the main and sub-distribution boards is **> 10 m**

5SD7 surge arresters, type 2



5SD7 473-0, 5SD7 473-1
3-pole (3+0 circuit)
U_c = 580 V AC
With or without remote signaling

5SD7 surge arresters, type 2



5SD7 485-0, 5SD7 485-1
4-pole (4+0 circuit)
U_c = 440 V AC
With or without remote signaling

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Configuration

Dimensioning of conductor cross-sections

The different conductor cross-sections (Lq 1 to Lq 3) must be dimensioned according to the rated current of the miniature circuit breaker or of the fuse.

Series connection



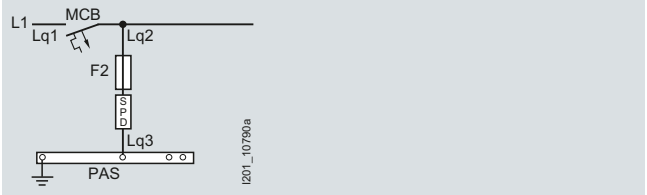
a) Protection of the SPD using miniature circuit breakers



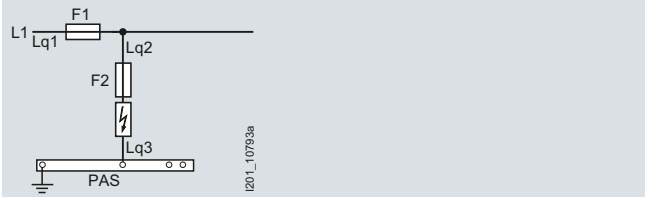
b) Protection of the SPD using fuses

PAS = equipotential bonding strip

Parallel connection



a) Protection of the SPD using miniature circuit breakers



b) Protection of the SPD using fuses

Conductor cross-sections for lightning arresters (type 1) and combination surge arresters (type 1 and type 2) for series connection

MCB/fuse (F1) upstream [A gL/gG]	Lq 2 [mm²]	Lq 3 [mm²]
25	10	16
35	10	16
40	10	16
50	10	16
63	10	16
80	16	16
100	25	16
125	35	16

Conductor cross-sections for surge arresters (type 2) for series connection

MCB/fuse (F1) upstream [A gL/gG]	Lq 2 [mm²]	Lq 3 [mm²]
25	6	6
35	6	6
40	6	6
50	10	10
63	10	10

Conductor cross-sections for lightning arresters (type 1) and combination surge arresters (type 1 and type 2) for parallel connection

MCB/fuse (F1) upstream [A gL/gG]	Lq 2 [mm²]	Lq 3 [mm²]	F2 fuse [A gL/gG]
25	6	16	/
35	10	16	/
40	10	16	/
50	10	16	/
63	10	16	/
80	10	16	/
100	16	16	/
125	16	16	/
160	25	25	/
200	35	35	160[1)]
250	35	35	160[1)]
315	50	50	160[1)]
> 315	50	50	160[1)]

[1)] Recommended fuse.

Conductor cross-sections for surge arresters (type 2) for parallel connection

MCB/fuse (F1) upstream [A gL/gG]	Lq 2 [mm²]	Lq 3 [mm²]	F2 fuse [A gL/gG]
25	6	6	/
32	6	6	/
40	6	6	/
50	6	6	/
63	10	10	/
80	10	10	/
100	16	16	/
125	16	16	/
> 125	16	16	125

In the case of surge arresters type 3, the following conductor cross-sections are generally used:

- Rigid: up to 4 mm²
- Flexible: up to 2.5 mm²

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Overview

The surge arresters for measuring and control technology are overvoltage protection modules that comprise two parts, a basic element and a plug-in part. Their application area is the protection of signal circuits.

The cable shields of basic elements can be either directly or indirectly grounded.

The mounting width of the new surge arrester is 1 MW.

Through the number of integrated paths, it is possible to protect up to four signal cores or two double cores against overvoltages.

The arresters are made up of two parts (plug-in part and base element).

A mechanical encoding ensures protection against reverse polarity.

Technical specifications

			5SD7 502-0	5SD7 520-1	5SD7 522-7	5SD7 530-3	5SD7 541-7	5SD7 550-4
IEC category/EN type			C1/C2/C3/D1	C1/C2/C3/ D1/B2	C1/C2/C3/D1	C1/C2/C3/D1	C1/C2/C3/D1	C1/C2/C3/D1
Max. continuous voltage U_C								
• Direct voltage		V DC	68	185	40	5.2	40	14
• AC voltage		V AC	48	130	28	3.6	28	9.8
Rated current I_N		mA	2000	450	450	450	300	450
Lightning test current I_{imp} 10/350 µs	Per path	kA	5	--	2.5	2.5	2.5	2.5
Rated discharge current I_n	8/20 µs							
• Core - Core		kA	--	10	10	10	--	10
• Core - Ground		kA	20	10	10	10	10	10
Total surge current I_N	8/20 µs	kA	40	10	20	20	20	20
Output voltage limit at 1 kV/µs								
• Core - Core		V	--	≤ 300	≤ 55	≤ 15	--	≤ 25
• Core - Ground		V	≤ 600	≤ 300	≤ 450	≤ 15	≤ 55	≤ 25
Residual voltage at I_n								
• Core - Core		V	--	≤ 160 (C2/5 kA)	≤ 55	≤ 15	--	≤ 25
• Core - Ground		V	--	≤ 160 (C2/5 kA)	--	≤ 30	≤ 55	≤ 40
Response time t_A								
• Core - Core		ns	--	≤ 500	≤ 1	≤ 500	--	≤ 500
• Core - Ground		ns	≤ 100	≤ 500	≤ 100	≤ 500	≤ 1	≤ 500
Insertion loss a_E								
• Symmetrical in the 50 Ω system		dB	--	--	Type 0.5 (1.5 MHz)	--	--	--
• Asymmetrical in the 50 Ω system		dB	0.1 (1 MHz)	--	--	--	0.5 (1.5 MHz)	--
• Symmetrical in the 100 Ω system		dB	--	Type 0.2 (5 MHz)	--	0.2 (5 MHz)	--	0.2 (5 MHz)
Limit frequency f_G (3 dB)								
• Symmetrical in the 50 Ω system		MHz	--	--	Type 8	--	--	--
• Asymmetrical in the 50 Ω system		MHz	--	--	--	--	Type 8	--
• Symmetrical in the 100 Ω system		MHz	--	Type 70	--	Type 70	--	Type 70
Resistor per path		Ω	--	--	2.2	2.2	4.7	2.2
Temperature range		°C	-40 ... +85					
Degree of protection according to IEC 60529/EN 60529			IP20					
Flammability class acc. to UL 94			V0					
Test standards			EN 61643-21	IEC 61643-21	EN 61643-21	IEC 61643-21	EN 61643-21	IEC 61643-21

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5SD7 surge arresters for measuring and control technology

Selection and ordering data

Combination options for basic elements and plug-in parts

Basic elements	Plug-in parts 5SD7 502-0	5SD7 520-1	5SD7 522-7	5SD7 530-3	5SD7 541-7	5SD7 550-4
5SD7 500-0	✓	--	--	--	--	--
5SD7 512-1	--	✓	--	✓	--	--
5SD7 522-0	--	--	✓	--	--	✓
5SD7 522-1	--	--	✓	--	--	✓
5SD7 541-1	--	--	--	--	✓	--

	Version	Mounting width DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		MW						kg
	**Basic elements**							
	• For plug-in parts with protection circuit for a 2-wire ungrounded signal circuit • Jumper between terminals 3/4 (GND) and 9/10 • For 5SD7 520-1 and 5SD7 530-3 plug-in parts	1	**5SD7 512-1**		1	1 unit	037	0.052
	• For plug-in parts with protection circuit for two 2-wire ungrounded signal circuits • Jumper between terminals 3/4 (GND) and 9/10 • For 5SD7 522-1 and 5SD7 550-4 plug-in parts	1	**5SD7 522-1**		1	1 unit	037	0.056
	• For plug-in parts with protection circuit for two 2-wire ungrounded signal circuits • Gas arrester between terminals 3/4 (GND) and 9/10 • For 5SD7 522-1 and 5SD7 550-4 plug-in parts	1	**5SD7 522-0**		1	1 unit	037	0.057
	• For plug-in parts with protection circuit for four conductors single-sided grounded signal circuit • Jumper between terminals 3/4 (GND) and 9/10 • For 5SD7 541-7 plug-in parts	1	**5SD7 541-1**		1	1 unit	037	0.056
	• Jumper between terminals 3/4 (GND) and 9/10 • For 5SD7 502-0 plug-in parts	1	**5SD7 500-0**		1	1 unit	037	0.050
	**Plug-in parts - PROFIBUS** • Protection for 2 signal cores with common reference potential • For 5SD7 512-1 basic element	1	**5SD7 530-3**		1	1 unit	037	0.020
	Plug-in parts for analog telecommunication interfaces • Protection for 2-wire Telecom cable (U_{k0} or T-DSL) • For 5SD7 512-1 basic element	1	**5SD7 520-1**		1	1 unit	037	0.020
	Plug-in parts, AC 24 V • Protection for two 2-wire ungrounded signal circuits • Miniature protection element between the connected cores • For 5SD7 522-0 and 5SD7 522-1 basic elements	1	**5SD7 522-7**		1	1 unit	037	0.024
	Plug-in parts, 12 V DC • Protection for field bus systems and signal circuits in 3- or 4-wire method • For 5SD7 522-0 and 5SD7 522-1 basic elements	1	**5SD7 550-4**		1	1 unit	037	0.026
	Plug-in parts, 24 V DC • Protection for 4 signal cores with common reference potential • For 5SD7 541-1 basic element	1	**5SD7 541-7**		1	1 unit	037	0.026
	Plug-in part, 2-wire • Coarse protection for 2 single-sided grounded signal leads • For 5SD7 500-0 basic element	1	**5SD7 502-0**		1	1 unit	037	0.020

* You can order this quantity or a multiple thereof.

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Switch Disconnectors



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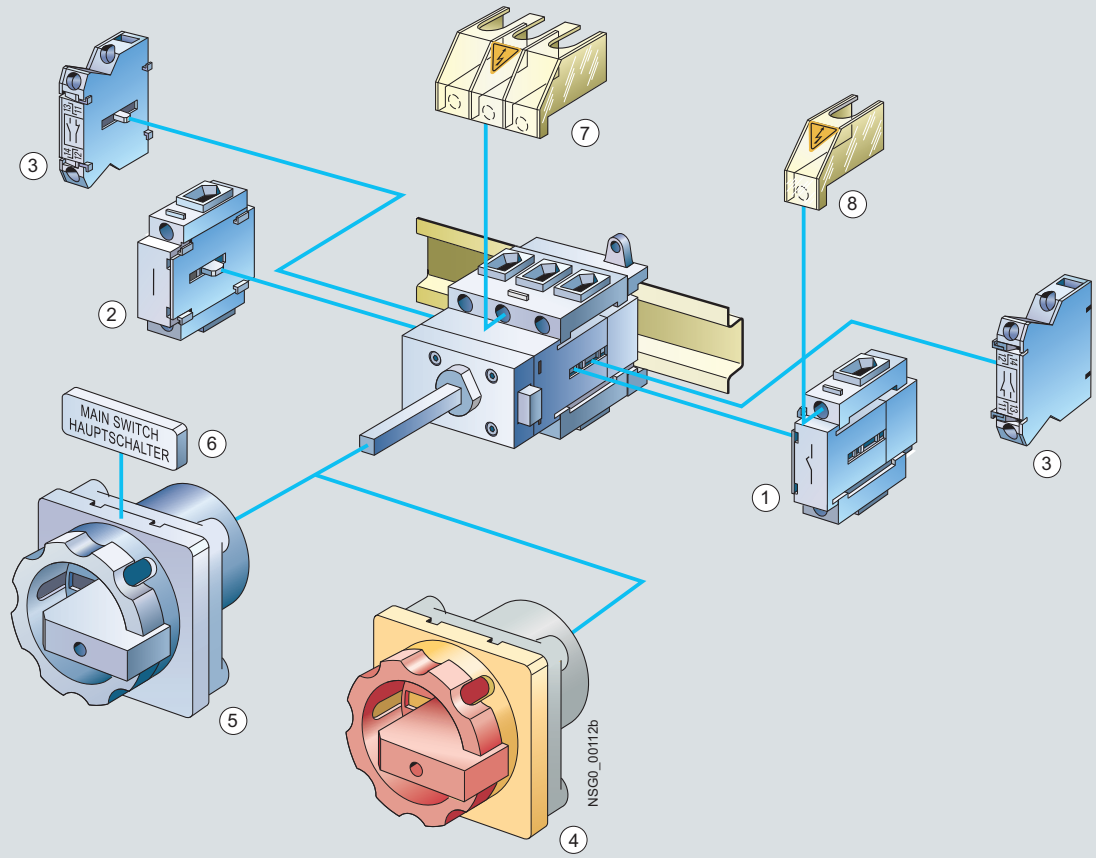
Introduction

Overview

		Order No.	Page
Switch disconnectors			
 3LD	**Main control and EMERGENCY-STOP switches 16 A to 250 A** • Devices for front mounting, floor mounting with door-coupling rotary operating mechanism, distribution board mounting or in molded-plastic enclosures • Front mounting with four-hole and center hole arrangement • 3, 4 and 6-pole versions • 3 and 4-pole load transfer switches • Solar plant isolators 800 V DC	**3LD**	7/3
 5TE1	**100 A switch disconnectors up to 200 A** • For floor and distribution board mounting • 2, 3 and 4-pole versions	**5TE1**	7/27
 3KA/3KE	**63 A switch disconnectors up to 1000 A** • Devices for floor mounting with handle, with door-coupling rotary operating mechanism, in molded-plastic enclosures and for mounting in control cabinet side panels • 3 and 4-pole versions • Accessories for use as load transfer switches and parallel switches	**3KA, 3KE**	7/32
 3VT	**160 A switch disconnectors up to 1600 A** • Compact design allowing it to be used where space is limited. • 3 and 4-pole versions • Coordinated, comprehensive range of accessories for greater functionality, e.g. - Motorized operating mechanisms - Shunt and undervoltage releases for remote control - Switching state interrogation by means of auxiliary and alarm switches	**3VT**	7/44
Switch disconnectors with fuses			
 3KL	**Switch disconnectors with fuses up to 800 A** • Devices for floor mounting with door-coupling rotary operating mechanism and for mounting in control cabinet side panels • 3KM versions with isolating plug connector for mounting on vertical busbars • 3 and 4-pole versions • Suitable for NH and BS 88 fuse systems	**3KL, 3KM**	7/68
 3NJ62	**In-line switch disconnectors with fuses, plug-in type, up to 630 A** • 2, 3 and 4-pole versions • Suitable for NH and BS 88 fuse systems • Manually operated or with motorized operating mechanism • Optionally with integrated current transformers, auxiliary switches and electronic fuse monitoring	**3NJ62**	7/90
Fuse switch disconnectors			
 3NP1	**Fuse switch disconnectors up to 630 A** • Connection components are available for flat connection, saddle terminal connection, prism terminal connection and box terminal connection • Electromechanical and electronic fuse monitoring with/without network monitoring function • Mounting variants for floor mounting and 40/60 mm busbar system	**3NP1 / 3NP5**	7/115
 3NJ4/3NJ5	**In-line fuse switch disconnectors up to 2000 A** • 1- and 3-pole switchable versions • Versions for secondary-side protection of transformers • In-line infeed block versions up to 2000 A with isolating blades • Connection components are available for flat connection, stud bolt connection, saddle terminal connection, prism terminal connection and box terminal connection • Versions with/without integratable current transformer • Versions with/without electronic fuse monitoring	**3NJ4, 3NJ5**	7/148

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Overview



1. 4th contact (N conductor)
2. N or PE/ground terminal, continuous
3. Auxiliary switch 1 NO + 1 NC
4. Rotary operating mechanism, red/yellow
5. Rotary operating mechanism, black
6. Front plate, English/German
7. Terminal cover, three-pole
8. Terminal cover, single-pole

The 3LD main and EMERGENCY-STOP switches are manually operated switch disconnectors according to IEC 60947-3/ VDE 0660 Part 107 (EN 60947-3) and comply with the conditions for switch disconnectors.

In EN 60204-1 (VDE 0113 Part 1), main control switches are called "disconnector units", while EMERGENCY-STOP switches are termed "devices for emergency shutdown".

The 3LD switches for 16 to 250 A are approved according to UL 508 and can be used as "manual motor controllers" and "motor disconnects". In addition, the 3LD switch disconnectors have CCC certification.

Maintenance personnel can protect themselves against unauthorized startup with padlocks (up to three can be fitted).

The 3LD switches can be used in any mounting position.

Application

The 3LD switches are used for switching main and auxiliary circuits, but also for switching induction motors and other loads during maintenance and repair work.

They can be used as:

- ON-OFF switches
- EMERGENCY-STOP switches
- Main control switches according to EN 60204-1.

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Introduction

Design

Construction of the contacts

Each switch has three adjacent contact elements[1]. A fourth leading contact for switching the N conductor, a continuous PE terminal, an auxiliary switch (1 NO + 1 NC) can be fitted to each side of the switch. The auxiliary switches operate as leading contacts on opening. On opening, the NO contact opens before the main contacts, so that a contactor carries the switching capacity in the circuit and the maintenance or safety switch switches at zero current. On closing, the auxiliary switch switches later than or at the same time as the main contacts.

Construction of rotary operating mechanisms

The rotary operating mechanisms of the switches for front or floor mounting are mounted on control cabinet doors, front or side panels with four-hole or center-hole mounting with a standard diameter of 22.5 mm and operated from the outside. In their Off position, they can be locked with up to three padlocks with a hasp thickness of 8 mm. Controls with defeatable door-coupling rotary operating mechanism are available in addition.

- Switch position indicator:
  The switch position is clearly marked with direction arrows and an "O" for OFF and a "I" for ON at the front.
- Switches for front mounting:
  The switches for front mounting are connected directly to the rotary operating mechanism through the fixing screws or - in the case of center-hole mounting - a special-purpose coupling.
- Switches for floor mounting:
  The switches for floor mounting are snapped onto 35 mm standard mounting rails according to EN 60715 or screw-mounted on mounting plates. The actuators are connected to the lower section of the switch through a door coupling, which can be released in its zero position, and a 300 mm long switch shaft. When the control cabinet door is open, the switch can be protected against inadvertent operation by removing the switch shaft from the lower section of the switch.
  The mounting depth can be adapted to individual requirements by adjusting the switch shaft length.
- Switches for distribution board mounting:
  The switches for distribution board mounting are suited for operation in switchboards and for switching inside control cabinets or distributors. They have cap and mounting dimensions to DIN 43880 and can be fitted under the same cover together with miniature circuit breakers. The selector switches can be locked in their Off position with up to 2 padlocks with a hasp thickness of 6 mm.
- Switches in molded-plastic enclosure:
  For surface mounting of individual main and EMERGENCY-STOP switches, molded plastic-enclosed switches to degree of protection IP65 are used. The actuators can be locked in their Off position with three padlocks with a hasp thickness of 8 mm.
  The molded-plastic enclosures each contain an N and/or a PE terminal.

[1] 16 A versions have four contact elements; 3-pole changeover switches and 6-pole main control switches have six contact elements.



3LD2 704-0TK53 switch for front mounting with rotary operating mechanism



3LD2 222-0TK1 switch for front mounting with knob



3LD2 122-7UK01 3-pole changeover switch for front mounting with knob



3LD2 103-3VK53 6-pole switch for front mounting with rotary operating mechanism



3LD2 144-0TK53 switch for floor mounting with rotary operating mechanism and door coupling



3LD2 530-0TK11 switch for distribution board mounting with knob



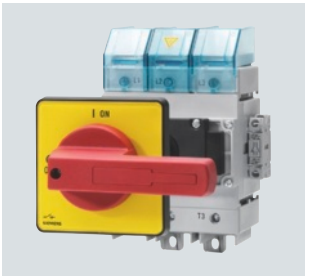
3LD2 264-0TB5 switch in molded-plastic enclosure



3LD2 217-1TL13 switch for floor mounting with rotary operating mechanism and defeatable door coupling



3LD2 265-8VQ51-0AF6 solar plant isolator



3LD2 418-0TK13 switch for floor mounting, 250 A, with rotary operating mechanism and door coupling

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Technical specifications

Standards			DIN VDE 0660, IEC 60947						
Switches		Type	**3LD2 0**	**3LD2 1**	**3LD2 2**	**3LD2 5**	**3LD2 7**	**3LD2 8**	**3LD2 3**	**3LD2 4**
Rated insulation voltage U_i		V	690							
Rated operational voltage U_e		V AC	690							
Rated frequency		Hz	50 ... 60							
Rated impulse withstand voltage U_{imp}		kV	6	6	6	6	6	6	6	6
Rated short-time withstand current (1 s current, rms value)		A	340	640	640	1260	2000	2000	4000	4000
Short-circuit protection, max. back-up fuse (gL)		A	20	25	40	63	100	125	160	250
Rated conditional short-circuit current with upstream fuses at AC 50/60 Hz, 690 V		kArms	50	50	50	50	50	20	50	50
Maximum permissible let-through I^2t value		kA^2s	2.5	4	9	21	64	104	185	557
Permissible let-through current of the fuse		kA	3	3.5	4.5	6	10	10	15	15
Rated uninterrupted current I_u		A	16	25	32	63	100	125	160	250
AC-21A load-break switch	Rated operational current I_e	A	16	25	32	63	100	125	160	250
AC-3 motor load switches	Rating									
In-service switching	At 220 ... 240 V	kW	3.0	4.0	5.5	11.0	18.5	22.0	35.0	55.0
of individual motors	At380 ... 440 V	kW	5.5	7.5	9.5	18.5	30.0	37.0	50.0	110.0
	At 660/690 V	kW	5.5	7.5	9.5	15.0	22.0	30.0	37.0	45.0
AC-23A main control switch	Rating									
Repair switch	At 220 ... 240 V	kW	4.0	5.0	6.0	11.0	18.5	22.0	45.0	75.0
frequent, but not in-service switching	At 380 ... 440 V	kW	7.5	9.5	11.5	22.0	37.0	45.0	75.0	132.0
of individual motors	At 660/690 V	kW	7.5	9.5	11.5	18.5	30.0	37.0	45.0	55.0
Power loss per conducting path at I_e		W	0.5	1.1	1.8	4.5	7.5	12.0	36.0	36.0
Endurance mechanical	Operating cycles		100 000							
Switching frequency		1/h	50							
Permissible ambient temperature		°C	-25 ... +55							
Isolating features	Up to max.	V	690							
Conductor cross-sections for main conductors [1]										
Solid or stranded		mm^2	1 ... 6	1.5 ... 16	1.5 ... 16	2.5 ... 35	4 ... 50	4 ... 50	16 ...185	16 ... 185
Finely stranded with end sleeve (max.)		mm^2	4	10	10	16	35	35	150	150
Conductor cross-sections	Copper cable	AWG	18 ... 10	14 ... 8	14 ... 8	14 ... 6	12 ... 1	12 ... 1		
Torque for terminal		Nm	1.5 ... 2	2 ... 2.5	2 ... 2.5	2.5 ... 3	2.5 ... 3	2.5 ... 3	9.5 ... 10	9.5 ... 10
Touch protection according to EN 50274			Yes							
Auxiliary switches										
Rated insulation voltage U_i		V	500							
Rated operational voltage U_e		V AC	500							
Rated uninterrupted current I_u		A	10							
Rated operational current I_e, AC-15	At 120 V	A	6							
	At 220 ... 240 V	A	3							
	At 380 ... 415 V	A	1.8							
	At 500 V	A	1.4							
Short-circuit protection, auxiliary switch, max. back-up fuse (gL/gG)		A	10							
Conductor cross-sections for auxiliary conductors										
Connection type			Terminals							
Solid or stranded		mm^2	2 × (0.75 ... 2.5), 1 × 4							
Finely stranded with end sleeve		mm^2	2 × (0.75 ... 1.5) 1 x 2.5							
Torque for terminal		Nm	0.8							

3LD main and EMERGENCY-STOP switches for UL/CSA

Standards			UL/CSA						
Switches		Type	**3LD2 0**	**3LD2 1**	**3LD2 2**	**3LD2 5**	**3LD2 7**	**3LD2 8**	**3LD2 3**	**3LD2 4**
Rated operational voltage U_e		V AC	600	600	600	600	600	600	600	600
Rated uninterrupted current I_u		A	10	20	30	60	100	125	160	250
	Current rating		A 600	A 600	A 600	--	--	--	--	--
	Pilot duty		P 600	P 600	P 600	--	--	--	--	--
Conventional thermal current I_{th}		A	16	25	32	63	100	125	160	250
Maximum rated power (AC-3)	3 ~ 120 V	HP	1	3	3	5	10	15	--	--
Alternating current motors 40 ... 60 Hz	240 V	HP	3	7.5	10 (7.5)[2]	15	30	40	40	50
	480 V	HP	7.5	10	20 (15)[2]	40	60	75	75	100
	600 V	HP	10	15	30 (20)[2]	50	75	100	75	75
	1 ~ 120 V	HP	0.5	2	2	3	--	--	--	--
	240 V	HP	1.5	3	3	10	--	--	--	--
Conductor cross-sections	Cu cable	AWG	18 ... 10	14 ... 8	14 ... 8	14 ... 6	12 ... 1	12 ... 1	1 ... MCM400	
Torque		Nm	1.5 ... 2	2 ... 2.5	2 ... 2.5	2.5 ... 3	2.5 ... 3	2.5 ... 3	10	10

[1] Depending on the cable infeed, only small cross-sections are possible with devices in molded-plastic enclosures

[2] Values in brackets apply to devices in molded-plastic enclosure

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Front mounting

Selection and ordering data

Number and version of the contacts		Rated data at 50 ... 60 Hz, 380 ... 440 V			DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
Main contact elements	Aux. contact elements	P/AC-3	P/AC-23A	I_u/ AC-21A							
		kW	kW	A							kg
Main and EMERGENCY-STOP switches with rotary operating mechanism/knob-operated mechanism • Lockable in 0 position with up to 3 padlocks • Degree of protection at front side IP65 • All versions with rotary operating mechanism Exception: 3LD2 3 and 3LD2 4 with knob-operated mechanism • Including terminal cover for the infeed side • Front plate: - 3LD2 0, 3LD2 1, 3LD2 2: 67 mm × 67 mm - 3LD2 5 to 3LD2 8: 90 mm × 90 mm - 3LD2 3 to 3LD2 4: 96 mm × 96 mm											
Four-hole mounting											
3	--	5.5	7.5	16	▶	**3LD2 003-0TK5☐**		1	1 unit	103	0.204
		7.5	9.5	25	▶	**3LD2 103-0TK5☐**		1	1 unit	103	0.203
		9.5	11.5	32	▶	**3LD2 203-0TK5☐**		1	1 unit	103	0.203
		18.5	22.0	63	▶	**3LD2 504-0TK5☐**		1	1 unit	103	0.423
		30	37.0	100	▶	**3LD2 704-0TK5☐**		1	1 unit	103	0.493
		37	45.0	125		**3LD2 804-0TK5☐**		1	1 unit	103	0.490
		50	75.0	160		**3LD2 305-0TK1☐**		1	1 unit	103	2.085
		110	132.0	250		**3LD2 405-0TK1☐**		1	1 unit	103	2.090
3 + N	--	5.5	7.5	16	▶	**3LD2 003-1TL5☐**		1	1 unit	103	0.213
		7.5	9.5	25		**3LD2 103-1TL5☐**		1	1 unit	103	0.243
		9.5	11.5	32		**3LD2 203-1TL5☐**		1	1 unit	103	0.239
		18.5	22.0	63		**3LD2 504-1TL5☐**		1	1 unit	103	0.424
		30.0	37.0	100	▶	**3LD2 704-0TK5☐** +[1]		1	1 unit	103	0.493
					▶	**3LD9 280-0B**		1	1 unit	103	0.099
		37.0	45.0	125		**3LD2 804-0TK5☐** +[1]		1	1 unit	103	0.490
					▶	**3LD9 280-0B**		1	1 unit	103	0.099
		50	75.0	160		**3LD2 305-1TL1☐**		1	1 unit	103	2.580
		110	132.0	250		**3LD2 405-1TL1☐**		1	1 unit	103	2.592
3	1 NO + 1 NC	5.5	7.5	16		**3LD2 003-1TP5☐**		1	1 unit	103	0.224
		7.5	9.5	25		**3LD2 103-1TP5☐**		1	1 unit	103	0.221
		9.5	11.5	32		**3LD2 203-1TP5☐**		1	1 unit	103	0.223
		18.5	22.0	63		**3LD2 504-1TP5☐**		1	1 unit	103	0.424
		30.0	37.0	100		**3LD2 704-1TP5☐**		1	1 unit	103	0.513
		37	45.0	125		**3LD2 804-1TP5☐**		1	1 unit	103	0.513
		50.0	75.0	160		**3LD2 305-0TK1☐** +[2]		1	1 unit	103	2.085
					▶	**3LD9 200-5B**		1	1 unit	103	0.024
		110.0	132.0	250		**3LD2 405-0TK1☐** +[2]		1	1 unit	103	2.090
					▶	**3LD9 200-5B**		1	1 unit	103	0.024
3 + N	1 NO + 1 NC	5.5	7.5	16		**3LD2 003-2EP5☐**		1	1 unit	103	0.234
		7.5	9.5	25		**3LD2 103-2EP5☐**		1	1 unit	103	0.255
		9.5	11.5	32		**3LD2 203-1TL5☐** +[2]		1	1 unit	103	0.239
					▶	**3LD9 200-5B**		1	1 unit	103	0.024
		18.5	22.0	63		**3LD2 504-1TP5☐** +[1]		1	1 unit	103	0.424
					▶	**3LD9 250-0BA**		1	1 unit	103	0.077
		30.0	37.0	100	▶	**3LD2 704-0TK5☐** +[1]		1	1 unit	103	0.493
					▶	**3LD9 280-0B** +[2]		1	1 unit	103	0.099
					▶	**3LD9 200-5B**		1	1 unit	103	0.024
		37.0	45.0	125		**3LD2 804-0TK5☐** +[1]		1	1 unit	103	0.490
					▶	**3LD9 280-0B** +[2]		1	1 unit	103	0.099
					▶	**3LD9 200-5B**		1	1 unit	103	0.024
		50.0	75.0	160		**3LD2 305-1TL1☐** +[2]		1	1 unit	103	2.580
					▶	**3LD9 200-5B**		1	1 unit	103	0.024
		110.0	132.0	250		**3LD2 405-1TL1☐** +[2]		1	1 unit	103	2.592
					▶	**3LD9 200-5B**		1	1 unit	103	0.024



3LD2 203-0TK51



3LD2 704-0TK53

Actuator color

Black	1
Red/yellow (EMERGENCY-STOP)	3

[1] 4th Contact element as N conductor to be ordered separately, see "Accessories".

[2] Auxiliary switches 1 NO + 1 NC to be ordered separately, see "Accessories".

* You can order this quantity or a multiple thereof.

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	Number and version of the contacts		Rated data at 50 ... 60 Hz, 380 ... 440 V			DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	Main contact elements	Auxiliary contact elements	P/AC-3	P/AC-23A	I_u/ AC-21A							
			kW	kW	A							kg
	Main and EMERGENCY-STOP switches with rotary operating mechanism/knob-operated mechanism • Lockable in 0 position with up to 3 padlocks • Degree of protection at front side IP65 • All versions with rotary operating mechanism Exception: 3LD2 3 and 3LD2 4 with knob-operated mechanism • Including terminal cover for the infeed side • Front plate - 3LD2 0, 3LD2 1, 3LD2 2: 67 mm × 67 mm - 3LD2 5 to 3LD2 8: 90 mm × 90 mm - 3LD2 3 to 3LD2 4: 96 mm × 96 mm											
Center-hole mounting Ø 22.5 mm												
 3LD2 254-0TK53	3	--	5.5	7.5	16		**3LD2 054-0TK5☐**		1	1 unit	103	0.207
			7.5	9.5	25		**3LD2 154-0TK5☐**		1	1 unit	103	0.205
			9.5	11.5	32		**3LD2 254-0TK5☐**		1	1 unit	103	0.206
			18.5	22	63		**3LD2 555-0TK5☐**		1	1 unit	103	0.423
	3 + N	--	5.5	7.5	16		**3LD2 054-1TL5☐**		1	1 unit	103	0.216
			7.5	9.5	25		**3LD2 154-1TL5☐**		1	1 unit	103	0.245
			9.5	11.5	32		**3LD2 254-1TL5☐**		1	1 unit	103	0.242
			18.5	22	63		**3LD2 555-0TK5☐** + [1]		1	1 unit	103	0.423
						►	**3LD9 250-0BA**		1	1 unit	103	0.077
	3	1 NO + 1 NC	5.5	7.5	16		**3LD2 054-1TP5☐**		1	1 unit	103	0.225
			7.5	9.5	25		**3LD2 154-1TP5☐**		1	1 unit	103	0.232
			9.5	11.5	32		**3LD2 254-0TK5☐** + [2]		1	1 unit	103	0.206
						►	**3LD9 200-5B**		1	1 unit	103	0.024
			18.5	22	63		**3LD2 555-0TK5☐** + [2]		1	1 unit	103	0.423
						►	**3LD9 200-5B**		1	1 unit	103	0.024
	3 + N	1 NO + 1 NC	5.5	7.5	16		**3LD2 054-2EP5☐**		1	1 unit	103	0.232
			7.5	9.5	25		**3LD2 154-2EP5☐**		1	1 unit	103	0.290
			9.5	11.5	32		**3LD2 254-1TL5☐** + [2]		1	1 unit	103	0.242
						►	**3LD9 200-5B**		1	1 unit	103	0.024
			18.5	22	63		**3LD2 555-0TK5☐** + [1]		1	1 unit	103	0.423
						►	**3LD9 250-0BA** + [2]		1	1 unit	103	0.077
						►	**3LD9 200-5B**		1	1 unit	103	0.024

Actuator color

Black	**1**
Red/yellow (EMERGENCY-STOP)	**3**

[1] 4th Contact element as N conductor to be ordered separately, see "Accessories".

[2] Auxiliary switches 1 NO + 1 NC to be ordered separately, see "Accessories".

* You can order this quantity or a multiple thereof.

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3LD Main Control and EMERGENCY-STOP Switches up to 250 A

Front mounting

	Number and version of the contacts		Rated data 50 ... 60 Hz, 380 ... 440 V		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	Main contact elements	Auxiliary contact elements	P/AC-23A	I_u							
			kW	A							kg
	Main and EMERGENCY-STOP switches with knob-operated mechanism • Lockable in 0 position (can be modified to I position) with max. 2 padlocks • Degree of protection at front side IP65 • Including terminal cover for the infeed side • Front plate - 48 mm × 48 mm										
Four-hole mounting											
 3LD2 222-0TK11	3	--	7.5	16		**3LD2 022-0TK1☐**		1	1 unit	103	0.181
			9.5	25		**3LD2 122-0TK1☐**		1	1 unit	103	0.181
			11.5	32		**3LD2 222-0TK1☐**		1	1 unit	103	0.180
	3 + N	--	7.5	16		**3LD2 022-1TL1☐**		1	1 unit	103	0.191
			9.5	25		**3LD2 122-1TL1☐**		1	1 unit	103	0.213
			11.5	32		**3LD2 222-0TK1☐** +[1]		1	1 unit	103	0.180
					►	**3LD9 220-0B**		1	1 unit	103	0.037
	3	1 NO + 1 NC	7.5	16		**3LD2 022-0TK1☐** +[2]		1	1 unit	103	0.181
					►	**3LD9 200-5B**		1	1 unit	103	0.024
			9.5	25		**3LD2 122-0TK1☐** +[2]		1	1 unit	103	0.181
					►	**3LD9 200-5B**		1	1 unit	103	0.024
			11.5	32		**3LD2 222-0TK1☐** +[2]		1	1 unit	103	0.180
					►	**3LD9 200-5B**		1	1 unit	103	0.024
	3 + N	1 NO + 1 NC	7.5	16		**3LD2 022-1TL1☐** +[2]		1	1 unit	103	0.191
					►	**3LD9 200-5B**		1	1 unit	103	0.024
			9.5	25		**3LD2 122-1TL1☐** +[2]		1	1 unit	103	0.213
					►	**3LD9 200-5B**		1	1 unit	103	0.024
			11.5	32		**3LD2 222-0TK1☐** +[1]		1	1 unit	103	0.180
					►	**3LD9 220-0B** +[2]		1	1 unit	103	0.037
					►	**3LD9 200-5B**		1	1 unit	103	0.024

Actuator color

Black	**1**
Red/yellow (EMERGENCY-STOP)	**3**

1) 4th Contact element as N conductor to be ordered separately, see "Accessories".

2) Auxiliary switches 1 NO + 1 NC to be ordered separately, see "Accessories".

* You can order this quantity or a multiple thereof.

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3LD Main Control and EMERGENCY-STOP Switches up to 250 A

Front mounting

	Number and version of the contacts		Rated data at 50 ... 60 Hz, 380 ... 440 V		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	Main contact elements	Auxiliary contact elements	P/AC-23A	I_u							
			kW	A							kg
	Main and EMERGENCY-STOP switches with knob-operated mechanism • Lockable in 0 position (can be modified to I position) with max. 2 padlocks • Degree of protection at front side IP65 • Including terminal cover for the infeed side • Front plate: 48 mm × 48 mm										
Center-hole mounting Ø 22.5 mm											
 3LD2 150-0TK13	3	--	7.5	16		**3LD2 050-0TK1☐**		1	1 unit	103	0.187
			9.5	25		**3LD2 150-0TK1☐**		1	1 unit	103	0.185
			11.5	32		**3LD2 250-0TK1☐**		1	1 unit	103	0.186
	3 + N	--	7.5	16		**3LD2 050-1TL1☐**		1	1 unit	103	0.196
			9.5	25		**3LD2 150-0TK1☐** +[2]		1	1 unit	103	0.185
					►	**3LD9 200-5B**		1	1 unit	103	0.024
			11.5	32		**3LD2 250-0TK1☐** +[2]		1	1 unit	103	0.186
					►	**3LD9 200-5B**		1	1 unit	103	0.024
	3	1 NO + 1 NC	7.5	16		**3LD2 050-0TK1☐** +[2]		1	1 unit	103	0.187
					►	**3LD9 200-5B**		1	1 unit	103	0.024
			9.5	25		**3LD2 150-0TK1☐** +[2]		1	1 unit	103	0.185
					►	**3LD9 200-5B**		1	1 unit	103	0.024
			11.5	32		**3LD2 250-0TK1☐** +[2]		1	1 unit	103	0.186
					►	**3LD9 200-5B**		1	1 unit	103	0.024
	3 + N	1 NO + 1 NC	7.5	16		**3LD2 050-1TL1☐** +[2]		1	1 unit	103	0.196
					►	**3LD9 200-5B**		1	1 unit	103	0.024
			9.5	25		**3LD2 150-0TK1☐** +[1]		1	1 unit	103	0.185
					►	**3LD9 220-0B** +[2]		1	1 unit	103	0.037
					►	**3LD9 200-5B**		1	1 unit	103	0.024
			11.5	32		**3LD2 250-0TK1☐** +[1]		1	1 unit	103	0.186
					►	**3LD9 220-0B** +[2]		1	1 unit	103	0.037
					►	**3LD9 200-5B**		1	1 unit	103	0.024

Actuator color

Black	1
Red/yellow (EMERGENCY-STOP)	3

[1] 4th Contact element as N conductor to be ordered separately, see "Accessories".

[2] Auxiliary switches 1 NO + 1 NC to be ordered separately, see "Accessories".

* You can order this quantity or a multiple thereof.

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3LD Main Control and EMERGENCY-STOP Switches up to 250 A

Front mounting

	Number and version of the contacts		Rated data at 50 ... 60 Hz, 380 ... 440 V			DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	Main contact elements	Auxiliary contact elements	P/AC-3	P/AC-23A	I_u							
			kW	kW	A							kg
	Main and EMERGENCY-STOP switches with rotary operating mechanism/knob-operated mechanism (6-pole) • Lockable in 0 position with up to 3 padlocks • Degree of protection at front side IP65 • All versions with rotary operating mechanism Exception: 3LD2 3 and 3LD2 4 with knob-operated mechanism • Including terminal cover for the infeed side • Front plate - 3LD2 0, 3LD2 1, 3LD2 2: 67 mm × 67 mm - 3LD2 5: 90 mm × 90 mm - 3LD2 3 to 3LD2 4: 96 mm × 96 mm											
Four-hole mounting												
 3LD2 103-3VK53	6	--	7.5	9.5	25		**3LD2 103-3VK5☐**		1	1 unit	103	0.386
			9.5	11.5	32		**3LD2 203-3VK5☐**		1	1 unit	103	0.381
			18.5	22.0	63		**3LD2 504-3VK5☐**		1	1 unit	103	0.751
			50	75	160		**3LD2 305-3VK1☐**		1	1 unit	103	3.940
			110	132	250		**3LD2 405-3VK1☐**		1	1 unit	103	3.949
	6	1 NO + 1 NC	7.5	9.5	25		**3LD2 103-4VP5☐**		1	1 unit	103	0.408

Actuator color

Black 1

Red/yellow (EMERGENCY-STOP) 3

	Number and version of the contacts		Rated data at 50 ... 60 Hz, 380 ... 440 V			DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	Main contact elements	Auxiliary contact elements	P/AC-3	P/AC-23A	I_u							
			kW	kW	A							kg
	Changeover switches with knob-operated mechanism • Black actuator • Knob-operated mechanism on 3LD2 3 and 3LD2 4 is lockable, on all other versions it is non-lockable • Degree of protection at front side IP65											
Four-hole mounting												
 3LD2 123-7UK01	3	--	7.5	9.5	25		**3LD2 123-7UK01**		1	1 unit	103	0.376
			9.5	11.5	32		**3LD2 223-7UK01**		1	1 unit	103	0.376
			18.5	22.0	63		**3LD2 524-7UK01**		1	1 unit	103	0.744
			30.0	37.0	100		**3LD2 724-7UK01**		1	1 unit	103	0.952
			50	75	160		**3LD2 305-7UK01**		1	1 unit	103	4.340
			110	132	250		**3LD2 405-7UK01**		1	1 unit	103	4.401
 3LD2 405-7UL01	3 + N		50	75	160		**3LD2 305-7UL01**		1	1 unit	103	5.885
			110	132	250		**3LD2 405-7UL01**		1	1 unit	103	5.745

* You can order this quantity or a multiple thereof.

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Selection and ordering data

Number and version of the contacts		Rated data at 50 ... 60 Hz, 380 ... 440 V		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
Main contact elements	Auxiliary contact elements	P/AC-23A	I_u							
		kW	A							kg
Main and EMERGENCY-STOP switches with door-coupling rotary operating mechanism										
• With shaft • Lockable in 0 position with up to 3 padlocks • Degree of protection at front side IP65 • Door-coupling rotary operating mechanism with integrated tolerance compensation (16 A to 125 A) • All versions with rotary operating mechanism • Exception: 3LD2 3 and 3LD2 4 with knob-operated mechanism • Mounting using screws or snap-on mounting on 35 mm standard mounting rail (16 A to 125 A) • Including terminal cover for the infeed side • Front plate - 3LD2 0, 3LD2 1, 3LD2 2: 67 mm x 67 mm - 3LD2 5 to 3LD2 8: 90 mm x 90 mm - 3LD2 3 to 3LD2 4: 96 mm x 96 mm • Mounting dimensions - 3LD2 0, 3LD2 1, 3LD2 2: 380 mm - 3LD2 5 to 3LD2 8: 390 mm - 3LD2 3 to 3LD2 4: 600 mm										
Four-hole mounting										
 3LD2 213-0TK53	3	--	7.5	16	►	**3LD2 013-0TK5☐**	1	1 unit	103	0.400
			9.5	25	►	**3LD2 113-0TK5☐**	1	1 unit	103	0.411
			11.5	32	►	**3LD2 213-0TK5☐**	1	1 unit	103	0.410
			22	63	►	**3LD2 514-0TK5☐**	1	1 unit	103	0.641
			37	100	►	**3LD2 714-0TK5☐**	1	1 unit	103	0.717
			45	125		**3LD2 814-0TK5☐**	1	1 unit	103	0.720
			75	160		**3LD2 318-0TK1☐**	1	1 unit	103	2.360
			132	250		**3LD2 418-0TK1☐**	1	1 unit	103	2.714
	3 + N	--	7.5	16	►	**3LD2 013-1TL5☐**	1	1 unit	103	0.411
			9.5	25		**3LD2 113-1TL5☐**	1	1 unit	103	0.431
			11.5	32		**3LD2 213-1TL5☐**	1	1 unit	103	0.442
			22	63		**3LD2 514-1TL5☐**	1	1 unit	103	0.713
			37	100	►	**3LD2 714-0TK5☐** + [1]	1	1 unit	103	0.717
					►	**3LD9 280-0C**	1	1 unit	103	0.099
			45	125		**3LD2 814-0TK5☐** + [1]	1	1 unit	103	0.720
					►	**3LD9 280-0C**	1	1 unit	103	0.099
			75	160		**3LD2 318-1TL1☐**	1	1 unit	103	2.895
			132	250		**3LD2 418-1TL1☐**	1	1 unit	103	3.226

Actuator color	
Black	**1**
Red/yellow (EMERGENCY-STOP)	**3**

[1] 4th Contact element as N conductor to be ordered separately, see "Accessories".

* You can order this quantity or a multiple thereof.

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3LD Main Control and EMERGENCY-STOP Switches up to 250 A

Floor mounting



3LD2 213-0TK53

Number and version of the contacts		Rated data at 50 ... 60 Hz, 380 ... 440 V		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
Main contact elements	Auxiliary contact elements	P/AC-23A kW	I_u A							kg
3	1 NO + 1 NC	7.5	16	►	**3LD2 013-0TK5☐** +[2]		1	1 unit	103	0.400
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		9.5	25	►	**3LD2 113-0TK5☐** +[2]		1	1 unit	103	0.411
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		11.5	32	►	**3LD2 213-0TK5☐** +[2]		1	1 unit	103	0.410
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		22	63	►	**3LD2 514-0TK5☐** +[2]		1	1 unit	103	0.641
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		37	100	►	**3LD2 714-0TK5☐** +[2]		1	1 unit	103	0.717
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		45	125	►	**3LD2 814-0TK5☐** +[2]		1	1 unit	103	0.720
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		75	160		**3LD2 318-0TK1☐** +[2]		1	1 unit	103	2.360
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		132	250		**3LD2 418-0TK1☐** +[2]		1	1 unit	103	2.714
				►	**3LD9 200-5C**		1	1 unit	103	0.024
3 + N	1 NO + 1 NC	7.5	16	►	**3LD2 013-1TL5☐** +[2]		1	1 unit	103	0.411
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		9.5	25		**3LD2 113-1TL5☐** +[2]		1	1 unit	103	0.431
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		11.5	32		**3LD2 213-1TL5☐** +[2]		1	1 unit	103	0.442
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		22	63		**3LD2 514-1TL5☐** +[2]		1	1 unit	103	0.713
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		37	100	►	**3LD2 714-0TK5☐** +[1]		1	1 unit	103	0.717
				►	**3LD9 280-0C** +[2]		1	1 unit	103	0.099
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		45	125		**3LD2 814-0TK5☐** +[1]		1	1 unit	103	0.720
				►	**3LD9 280-0C** +[2]		1	1 unit	103	0.099
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		75	160		**3LD2 318-1TL1☐** +[2]		1	1 unit	103	2.895
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		132	250		**3LD2 418-1TL1☐** +[2]		1	1 unit	103	3.226
				►	**3LD9 200-5C**		1	1 unit	103	0.024

Actuator color

Black	**1**
Red/yellow (EMERGENCY-STOP)	**3**

1) 4th Contact element as N conductor to be ordered separately, see "Accessories".

2) Auxiliary switches 1 NO + 1 NC to be ordered separately, see "Accessories".

* You can order this quantity or a multiple thereof.

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Number and version of the contacts		Rated data at 50 ... 60 Hz, 380 ... 440 V		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
Main contact elements	Auxiliary contact elements	P/AC-23A kW	I_u A							kg
Main and EMERGENCY-STOP switches with door-coupling rotary operating mechanism • With shaft • Lockable in 0 position with up to 3 padlocks • Degree of protection at front side IP65 • Door-coupling rotary operating mechanism with integrated tolerance compensation (16 A to 125 A) • All versions with rotary operating mechanism • Exception: 3LD2 3 and 3LD2 4 with knob-operated mechanism • Mounting using screws or snap-on mounting on 35 mm standard mounting rail (16 A to 125 A) • Including terminal cover for the infeed side • Front plate - 3LD2 0, 3LD2 1, 3LD2 2: 67 mm x 67 mm - 3LD2 5 to 3LD2 8: 90 mm x 90 mm - 3LD2 3 to 3LD2 4: 96 mm x 96 mm • Mounting dimensions - 3LD2 0, 3LD2 1, 3LD2 2: 380 mm - 3LD2 5 to 3LD2 8: 390 mm - 3LD2 3 to 3LD2 4: 600 mm									
Center-hole mounting Ø 22.5 mm										
3	--	7.5	16		**3LD2 044-0TK5☐**		1	1 unit	103	0.435
		9.5	25		**3LD2 144-0TK5☐**		1	1 unit	103	0.434
		11.5	32		**3LD2 244-0TK5☐**		1	1 unit	103	0.432
		22	63		**3LD2 545-0TK5☐**		1	1 unit	103	0.733
3 + N	--	7.5	16		**3LD2 044-1TL5☐**		1	1 unit	103	0.433
		9.5	25		**3LD2 144-1TL5☐**		1	1 unit	103	0.465
		11.5	32		**3LD2 244-1TL5☐**		1	1 unit	103	0.465
		22	63		**3LD2 545-0TK5☐** +[1]		1	1 unit	103	0.733
				►	**3LD9 250-0CA**		1	1 unit	103	0.077
3	1 NO + 1 NC	7.5	16		**3LD2 044-0TK5☐** +[2]		1	1 unit	103	0.435
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		9.5	25		**3LD2 144-0TK5☐** +[2]		1	1 unit	103	0.434
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		11.5	32		**3LD2 244-0TK5☐** +[2]		1	1 unit	103	0.432
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		22	63		**3LD2 545-0TK5☐** +[2]		1	1 unit	103	0.733
				►	**3LD9 200-5C**		1	1 unit	103	0.024
3 + N	1 NO + 1 NC	7.5	16		**3LD2 044-1TL5☐** +[2]		1	1 unit	103	0.433
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		9.5	25		**3LD2 144-1TL5☐** +[2]		1	1 unit	103	0.465
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		11.5	32		**3LD2 244-1TL5☐** +[2]		1	1 unit	103	0.465
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		22	63		**3LD2 545-0TK5☐** +[1]		1	1 unit	103	0.733
				►	**3LD9 250-0CA** +[2]		1	1 unit	103	0.077
				►	**3LD9 200-5C**		1	1 unit	103	0.024



3LD2 144-0TK53

Actuator color

Black	**1**
Red/yellow (EMERGENCY-STOP)	**3**

[1] 4th Contact element as N conductor to be ordered separately, see "Accessories".

[2] Auxiliary switches 1 NO + 1 NC to be ordered separately, see "Accessories".

* You can order this quantity or a multiple thereof.

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3LD Main Control and EMERGENCY-STOP Switches up to 250 A

Floor mounting

Number and version of the contacts		Rated data at 50 Hz ... 60 Hz, 380 V ... 440 V			DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
Main contact elements	Auxiliary contact elements	P/AC-3	P/AC-23A	I_u							
		kW	kW	A							kg
Main and EMERGENCY-STOP switches with door-coupling rotary operating mechanism (6-pole)											
• Lockable in 0 position with up to 3 padlocks • Degree of protection at front side IP65 • Door-coupling rotary operating mechanism with integrated tolerance compensation (for 3LD21) • All versions with rotary operating mechanism Exception: 3LD2 3 and 3LD2 4 with door-coupling rotary operating mechanism as selector switch • Mounting using screws or snap-on mounting on 35 mm standard mounting rails • Including terminal cover for the infeed side • Front plate - 3LD2 0, 3LD2 1, 3LD2 2: 67 mm × 67 mm - 3LD2 3, 3LD2 4: 96 mm × 96 mm											
Four-hole mounting											
6	--	7.5	9.5	25		**3LD2 113-3VK5☐**		1	1 unit	103	0.597
6	--	50	75	160		**3LD2 318-3VK1☐**		1	1 unit	103	4.450
6	--	110	132	250		**3LD2 418-3VK1☐**		1	1 unit	103	4.530
6	1 NO + 1 NC	9.5	9.5	25		**3LD2 113-4VP5☐**		1	1 unit	103	0.615



3LD2 113-3VK51

Actuator color

Black	**1**
Red/yellow (EMERGENCY-STOP)	**3**

Number and version of the contacts		Rated data at 50 Hz ... 60 Hz, 380 V ... 440 V			DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
Main contact elements	Auxiliary contact elements	P/AC-3	P/AC-23A	I_u							
		kW	kW	A							kg
Changeover switches with door-coupling rotary operating mechanism											
• Lockable in 0 position with up to 3 padlocks • Handle and cover black • Door-coupling rotary operating mechanisms as selector switch • Degree of protection at front side IP65											
Four-hole mounting											
3		50	75	160		**3LD2 318-7UK01**		1	1 unit	103	4.986
3		110	132	250		**3LD2 418-7UK01**		1	1 unit	103	5.003
3 + N		50	75	160		**3LD2 318-7UL01**		1	1 unit	103	6.362
3 + N		110	132	250		**3LD2 418-7UL01**		1	1 unit	103	6.328

* You can order this quantity or a multiple thereof.

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	Number and version of the contacts		Rated data at 50 ... 60 Hz, 380 ... 440 V		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	Main contact elements	Auxiliary contact elements	P/AC-23A	I_u							
			kW	A							kg
	Main and EMERGENCY-STOP switches with defeatable door-coupling rotary operating mechanism										
	The 3LD main and EMERGENCY-STOP switch with defeatable door-coupling rotary operating mechanism enables you to conduct repairs, maintenance work or tests on electrical plants and machines without having to interrupt their operation. With the help of the defeatable door-coupling rotary operating mechanism, an electrician can bypass the interlock in ON position and open the control cabinet door with the plant activated.										
	3LD main and EMERGENCY-STOP switches with defeatable door-coupling rotary operating mechanism are approved according to UL508.										
	• With 300 mm switch shaft										
	• Lockable in 0 position with up to 3 padlocks										
	• Degree of protection at front side IP65										
	• Door-coupling rotary operating mechanism with integrated tolerance compensation										
	• Mounting using screws or snap-on mounting on 35 mm standard mounting rails										
	• Including terminal cover for the infeed side										
	• Front plate 65 mm × 65 mm										
Four-hole mounting											
 3LD2 017-0TK..	3	--	7.5	16		**3LD2 017-0TK1☐**		1	1 unit	103	0.426
			11.5	32		**3LD2 217-0TK1☐**		1	1 unit	103	0.420
			22	63		**3LD2 517-0TK1☐**		1	1 unit	103	0.576
	3 + N	--	7.5	16		**3LD2 017-1TL1☐**		1	1 unit	103	0.426
			11.5	32		**3LD2 217-1TL1☐**		1	1 unit	103	0.445
			22	63		**3LD2 517-1TL1☐**		1	1 unit	103	0.397

Actuator color	
Black	**1**
Red/yellow (EMERGENCY-STOP)	**3**

* You can order this quantity or a multiple thereof.

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Floor mounting

Accessories

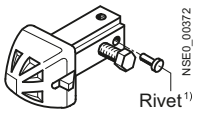
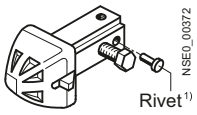
Defeatable door-coupling rotary operating mechanisms from 100 A - 250 A

For switch disconnectors with door-coupling rotary operating mechanisms, a defeatable door-coupling rotary operating mechanism can be assembled with the following components from the 8UC7 series.

The following components are to be used for this purpose:

- For switch disconnectors with door-coupling rotary operating mechanisms 3LD2 7 and 3LD2 8:
  - 8UC71 10-1BB
  - 8UC71 20-3BB
  - 8UC6 011
- For switch disconnectors with door-coupling rotary operating mechanisms 3LD2 3 and 3LD2 4:
  - 8UC72 10-1BB
  - 8UC72 20-3BB
  - 8UC6 012

7

	Rotary operating mechanisms	Size	Cross-section of the actuating shaft	Version [2]	DT	Individual parts for 8UC7 door-coupling rotary operating mechanisms Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	Type		mm × mm								kg
Components for 3LD2 7, 3LD2 8											
 8UC71	8UC71	1	6 × 6	Standard		**8UC71 10-1BB**		1	1 unit	103	0.178
				EMERGENCY-STOP		**8UC71 20-3BB**		1	1 unit	103	0.204
 8UC60 11	8UC71	1	6 × 6	--		**8UC60 11**		1	1 unit	103	0.081
Components for 3LD2 3, 3LD2 4											
 8UC72	8UC72	2	8 × 8	Standard		**8UC72 10-1BB**		1	1 unit	103	0.190
				EMERGENCY-STOP		**8UC72 20-3BB**		1	1 unit	103	0.186
 8UC60 12	8UC72	2	8 × 8	--		**8UC60 12**		1	1 unit	103	0.073

1) Non-interchangeability features.

2) Standard: Ti-grey handle, light-gray masking plate;
EMERGENCY-STOP: Red handle, yellow masking plate.

* You can order this quantity or a multiple thereof.

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Selection and ordering data

Number and version of the contacts		Rated data at 50 ... 60 Hz, 380 ... 440 V		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
Main contact elements	Auxiliary contact elements	P/AC-23A kW	I_u A							kg
ON/OFF and EMERGENCY-STOP switches with masking plate and knob • With screw fixing • With snap-on mounting on 35 mm standard mounting rail (16 to 125 A) • Lockable in 0 position with up to 2 (160 A and 250 A: max. 3) padlocks • Degree of protection at front side IP44 • Including terminal cover for the infeed and outgoing terminal (160 A and 250 A)										
3	--	7.5	16		**3LD2 030-0TK1☐**		1	1 unit	103	0.169
		9.5	25		**3LD2 130-0TK1☐**		1	1 unit	103	0.165
		11.5	32		**3LD2 230-0TK1☐**		1	1 unit	103	0.166
		22	63		**3LD2 530-0TK1☐**		1	1 unit	103	0.309
		37	100		**3LD2 730-0TK1☐**		1	1 unit	103	0.371
		45	125		**3LD2 830-0TK1☐**		1	1 unit	103	0.370
		75	160		**3LD2 330-0TK1☐**		1	1 unit	103	2.030
		132	250		**3LD2 430-0TK1☐**		1	1 unit	103	2.030
3 + N	--	7.5	16		**3LD2 030-1TL1☐**		1	1 unit	103	0.179
		9.5	25		**3LD2 130-0TK1☐** +[1]		1	1 unit	103	0.165
				▶	**3LD9 220-0C**		1	1 unit	103	0.037
		11.5	32		**3LD2 230-0TK1☐** +[1]		1	1 unit	103	0.166
				▶	**3LD9 220-0C**		1	1 unit	103	0.037
		22	63		**3LD2 530-0TK1☐** +[1]		1	1 unit	103	0.309
				▶	**3LD9 250-0CA**		1	1 unit	103	0.077
		37	100		**3LD2 730-0TK1☐** +[1]		1	1 unit	103	0.371
				▶	**3LD9 280-0C**		1	1 unit	103	0.099
		45	125		**3LD2 830-0TK1☐** +[1]		1	1 unit	103	0.370
				▶	**3LD9 280-0C**		1	1 unit	103	0.099
		75	160		**3LD2 330-0TK1☐** +[1]		1	1 unit	103	2.030
				▶	**3LD9 240-0C**		1	1 unit	103	0.516
		132	250		**3LD2 430-0TK1☐** +[1]		1	1 unit	103	2.030
				▶	**3LD9 240-0C**		1	1 unit	103	0.516



3LD2 530-0TK13



3LD2 330-0TK11

Actuator color

Black	**1**
Red/yellow (EMERGENCY-STOP)	**3**

[1] 4th contact element as N conductor to be ordered separately; see "Accessories for floor mounting".

* You can order this quantity or a multiple thereof.

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3LD Main Control and EMERGENCY-STOP Switches up to 250 A

Distribution board mounting



3LD2 530-0TK11

Number and version of the contacts		Rated data at 50 ... 60 Hz, 380 ... 440 V		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
Main contact elements	Auxiliary contact elements	P/AC-23A kW	I_u A							kg
3	1 NO + 1 NC	7.5	16		**3LD2 030-0TK1☐** +2)		1	1 unit	103	0.169
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		9.5	25		**3LD2 130-0TK1☐** +2)		1	1 unit	103	0.165
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		11.5	32		**3LD2 230-0TK1☐** +2)		1	1 unit	103	0.166
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		22	63		**3LD2 530-0TK1☐** +2)		1	1 unit	103	0.309
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		37	100		**3LD2 730-0TK1☐** +2)		1	1 unit	103	0.371
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		45	125		**3LD2 830-0TK1☐** +2)		1	1 unit	103	0.370
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		75	160		**3LD2 330-0TK1☐** +2)		1	1 unit	103	2.030
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		132	250		**3LD2 430-0TK1☐** +2)		1	1 unit	103	2.030
				►	**3LD9 200-5C**		1	1 unit	103	0.024
3 + N	1 NO + 1 NC	7.5	16		**3LD2 030-1TL1☐** +2)		1	1 unit	103	0.179
				►	**3LD9 200-5C**		1	1 unit	103	0.024
		9.5	25		**3LD2 130-0TK1☐** +2)		1	1 unit	103	0.165
				►	**3LD9 200-5C** +1)		1	1 unit	103	0.024
				►	**3LD9 220-0C**		1	1 unit	103	0.037
		11.5	32		**3LD2 230-0TK1☐** +2)		1	1 unit	103	0.166
				►	**3LD9 200-5C** +1)		1	1 unit	103	0.024
				►	**3LD9 220-0C**		1	1 unit	103	0.037
		22	63		**3LD2 530-0TK1☐** +2)		1	1 unit	103	0.309
				►	**3LD9 200-5C** +1)		1	1 unit	103	0.024
				►	**3LD9 250-0CA**		1	1 unit	103	0.077
		37	100		**3LD2 730-0TK1☐** +2)		1	1 unit	103	0.371
				►	**3LD9 200-5C** +1)		1	1 unit	103	0.024
				►	**3LD9 280-0C**		1	1 unit	103	0.099
		45	125		**3LD2 830-0TK1☐** +2)		1	1 unit	103	0.370
				►	**3LD9 200-5C** +1)		1	1 unit	103	0.024
				►	**3LD9 280-0C**		1	1 unit	103	0.099
		75	160		**3LD2 330-0TK1☐** +2)		1	1 unit	103	2.030
				►	**3LD9 200-5C** +1)		1	1 unit	103	0.024
				►	**3LD9 240-0C**		1	1 unit	103	0.516
		132	250		**3LD2 430-0TK1☐** +2)		1	1 unit	103	2.030
				►	**3LD9 200-5C** +1)		1	1 unit	103	0.024
				►	**3LD9 240-0C**		1	1 unit	103	0.516

Actuator color

Black	**1**
Red/yellow (EMERGENCY-STOP)	**3**

1) 4th contact element as N conductor to be ordered separately; see "Accessories for floor mounting".

2) Auxiliary switches 1 NO + 1 NC to be ordered separately, see "Accessories".

* You can order this quantity or a multiple thereof.

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Selection and ordering data

Number and version of the contacts		Base terminal	Rated data at 50 ... 60 Hz, 380 ... 440 V		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
Main contact elements	Auxiliary contact elements		P/AC-23A	I_u							
			kW	A							kg
Main and EMERGENCY-STOP switches • With N- and/or PE-/ground base terminals • Lockable in 0 position with up to 3 padlocks • Degree of protection IP65 • Rotary operating mechanisms with center-hole mounting • For floor-mounted auxiliary switches • Metric screw connection											
3	--	PE + N	7.5	16		**3LD2 064-0TB5☐**		1	1 unit	103	0.458
		PE + N	9.5	25		**3LD2 164-0TB5☐**		1	1 unit	103	0.455
		PE + N	11.5	32		**3LD2 264-0TB5☐**		1	1 unit	103	0.458
		PE + N	22	63		**3LD2 565-0TB5☐**		1	1 unit	103	0.933
		PE + N	37	100		**3LD2 766-0TB5☐**		1	1 unit	103	1.930
		PE + N	45	125		**3LD2 866-0TB5☐**		1	1 unit	103	1.974
3 + N	--	PE	7.5	16		**3LD2 064-1TC5☐**		1	1 unit	103	0.463
		PE	9.5	25		**3LD2 164-1TC5☐**		1	1 unit	103	0.478
		PE	11.5	32		**3LD2 264-1TC5☐**		1	1 unit	103	0.489
		PE	22	63		**3LD2 565-1TC5☐**		1	1 unit	103	0.947
		PE + N	37	100		**3LD2 766-0TB5☐** + [1]		1	1 unit	103	1.930
					▶	**3LD9 280-0C**		1	1 unit	103	0.099
		PE + N	45	125		**3LD2 866-0TB5☐** + [1]		1	1 unit	103	1.974
					▶	**3LD9 280-0C**		1	1 unit	103	0.099
3	1 NO + 1 NC	N	7.5	16		**3LD2 064-1GP5☐**		1	1 unit	103	0.472
		N	9.5	25		**3LD2 164-1GP5☐**		1	1 unit	103	0.468
		N	11.5	32		**3LD2 264-1GP5☐**		1	1 unit	103	0.473
		N	22	63		**3LD2 565-1GP5☐**		1	1 unit	103	0.890
		N	37	100		**3LD2 766-1GP5☐**		1	1 unit	103	1.904
		N	45	125		**3LD2 866-1GP5☐**		1	1 unit	103	1.901
3 + N	1 NO + 1 NC	PE	7.5	16		**3LD2 064-1TC5☐** + [2]		1	1 unit	103	0.463
					▶	**3LD9 200-5C**		1	1 unit	103	0.024
		PE	9.5	25		**3LD2 164-1TC5☐** + [2]		1	1 unit	103	0.478
					▶	**3LD9 200-5C**		1	1 unit	103	0.024
		PE	11.5	32		**3LD2 264-1TC5☐** + [2]		1	1 unit	103	0.489
					▶	**3LD9 200-5C**		1	1 unit	103	0.024
		PE	22	63		**3LD2 565-1TC5☐** + [2]		1	1 unit	103	0.947
					▶	**3LD9 200-5C**		1	1 unit	103	0.024
		N	37	100		**3LD2 766-1GP5☐** + [1]		1	1 unit	103	1.904
					▶	**3LD9 280-0C**		1	1 unit	103	0.099
		N	45	125		**3LD2 866-1GP5☐** + [1]		1	1 unit	103	1.901
					▶	**3LD9 280-0C**		1	1 unit	103	0.099



3LD2 164-0TB53

Actuator color

Black	1
Red/yellow (EMERGENCY-STOP)	3

[1] 4th contact element as N conductor to be ordered separately; see "Accessories for floor mounting".

[2] Auxiliary switches 1 NO + 1 NC to be ordered separately, see "Accessories".

* You can order this quantity or a multiple thereof.

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3LD Main Control and EMERGENCY-STOP Switches up to 250 A

Molded-plastic enclosures

Number and version of the contacts		Base terminal	Rated data at 50 ... 60 Hz, 380 ... 440 V			DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
Main contact elements	Auxiliary contact elements		P/AC-3	P/AC-23A	I_u							
			kW	kW	A							kg
Main and EMERGENCY-STOP switches with rotary operating mechanism (6-pole)												
• With N- and/or PE-/ground base terminals												
• Degree of protection IP65												
• Metric screw connection												
6	--	PE + N	7.5	9.5	25		**3LD2 165-3VB5☐**		1	1 unit	103	0.904
		PE + N	9.5	11.5	32		**3LD2 265-3VB5☐**		1	1 unit	103	0.892
		PE + N	18.5	22.0	63		**3LD2 566-3VB5☐**		1	1 unit	103	2.228
6	1 NO + 1 NC	N	7.5	9.5	25		**3LD2 165-4VD5☐**		1	1 unit	103	0.873
		N	9.5	11.5	32		**3LD2 265-4VD5☐**		1	1 unit	103	0.881
		PE + N	18.5	22.0	63		**3LD2 566-4VD5☐**		1	1 unit	103	2.220



3LD2 165-3VB53

Actuator color

Black	1
Red/yellow (EMERGENCY-STOP)	3

Number and version of the contacts		Base terminal	Rated data at 50 ... 60 Hz, 380 ... 440 V			DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
Main contact elements	Auxiliary contact elements		P/AC-3	P/AC-23A	I_u							
			kW	kW	A							kg
Changeover switches with knob-operated mechanism												
• With N- and/or PE-/ground base terminals												
• Black actuator												
• Lockable in 0 position with up to 3 padlocks (25 A and 32 A)												
• Metric screw connection												
• Degree of protection IP65												
3	--	PE + N	7.5	9.5	25		**3LD2 165-7UB01**		1	1 unit	103	0.883
		PE + N	9.5	11.5	32		**3LD2 265-7UB01**		1	1 unit	103	0.890
		PE + N	18.5	22.0	63		**3LD2 566-7UB01**		1	1 unit	103	2.211
		PE + N	30.0	37.0	100		**3LD2 766-7UB01**		1	1 unit	103	2.330



3LD2 165-7UB01

* You can order this quantity or a multiple thereof.

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Selection and ordering data

	Mains voltage Max. V DC	Rated current I_e at 800 V DC DC-21A A	DC-22A A	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	Solar plant isolators in molded-plastic enclosure • Molded-plastic enclosure IP65 • Metric screw connection • (W x H x D) 146 mm x 199 mm x 136 mm • Conductor cross-sections: - Solid and stranded 1.5 … 16 mm^2 - Finely stranded with end sleeve max. 10 mm^2 • Lockable									
 3LD2 265-8VQ5.-0AF6	800	32	16		**3LD2 265-8VQ5□-0AF6**		1	1 unit	103	0.942
	Actuator color Black					1				
	Red/yellow (EMERGENCY-STOP)					3				

	Mains voltage Max. V DC	Rated current I_e at 800 V DC DC-21A A	DC-22A A	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	Solar plant isolators for distribution board mounting • Conductor cross-sections: - Solid and stranded 1.5 … 16 mm^2 - Finely stranded with end sleeve max. 10 mm^2 • Actuator color: Black									
 3LD2 265-8VQ11-0AF6	800	32	16		**3LD2 230-8VQ11-0AF6**		1	1 unit	103	0.413

* You can order this quantity or a multiple thereof.

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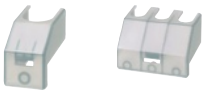
Accessories

Selection and ordering data

	Version	DT	3LD2 0 Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For front mounting								
 3LD9 200-2B	**N or PE terminals** Through-type	►	**3LD9 200-2B**		1	1 unit	103	0.030
 3LD9 200-5B	**Auxiliary switches** For mounting on the left and/or right, lagging switch-on, leading switch-off • 1 NO + 1 NC	►	**3LD9 200-5B**		1	1 unit	103	0.024
	For mounting on the left and/or right, lagging switch-on, with gold-plate contacts for SIMATIC request, leading switch-off • 1 NO + 1 NC		**3LD9 200-5BF**		1	1 unit	103	0.024
For floor mounting, distribution board mounting or molded-plastic enclosures								
 3LD9 200-2C	**N or PE terminals** Through-type	►	**3LD9 200-2C**		1	1 unit	103	0.030
 3LD9 200-5C (left) 3LD9 200-6C (right)	**Auxiliary switches** For mounting on the left and/or right, lagging switch-on, leading switch-off • 1 NO + 1 NC	►	**3LD9 200-5C**		1	1 unit	103	0.024
	• 2 NO	►	**3LD9 200-6C**		1	1 unit	103	0.025
	For mounting on the left and/or right, lagging switch-on, with gold-plate contacts for SIMATIC request, leading switch-off • 1 NO + 1 NC		**3LD9 200-5CF**		1	1 unit	103	0.024
For front and floor mounting								
 3LD9 224-1B	**Rotary operating mechanisms** Lockable in 0 position with up to 3 padlocks • For four-hole mounting, including seal							
	- Black		**3LD9 224-1B**		1	1 unit	103	0.075
	- Red/Yellow		**3LD9 224-3B**		1	1 unit	103	0.075
 3LD9 224-3D	• For center-hole mounting, including seal and nut							
	- Black		**3LD9 224-1D**		1	1 unit	103	0.076
	- Red/Yellow		**3LD9 224-3D**		1	1 unit	103	0.078
 3LD9 256-0A	**Mounting tools** For center-hole mounting with nut		**3LD9 256-0A**		1	5 units	103	0.020
	Switching shafts 6 x 6 mm							
	Length 300 mm		**3LD9 205-0C**		1	5 units	103	0.096
	Length 600 mm		**3LD9 205-2C**		1	5 units	103	0.169
 3LD9 286-1A	**Inscription labels** With English/German inscription (MAIN SWITCH/HAUPTSCHALTER)		**3LD9 286-1A**		1	10 units	103	0.005
	Without inscription		**3LD9 286-4A**		1	10 units	103	0.005
 3LD9 201-2A	**Terminal covers as additional touch protection (also for distribution board mounting)** Can be snapped on at top and bottom							
	• 1-pole		**3LD9 201-2A**		100	4 units	103	0.300
	• 3-/4-pole		**3LD9 201-1A**		1	4 units	103	0.007

* You can order this quantity or a multiple thereof.

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	Version	DT	3LD2 1 and 3LD2 2 Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For front mounting								
 3LD9 220-0B (left) 3LD9 220-2B (right)	**4th contact (N conductor)** Leading switch-on, lagging switch-off	►	**3LD9 220-0B**		1	1 unit	103	0.037
	N or PE terminals Through-type	►	**3LD9 220-2B**		1	1 unit	103	0.034
 3LD9 200-5B	**Auxiliary switches** For mounting on the left and/or right, lagging switch-on, leading switch-off • 1 NO + 1 NC	►	**3LD9 200-5B**		1	1 unit	103	0.024
	For mounting on the left and/or right, lagging switch-on, leading switch-off, with gold-plate contacts for SIMATIC request • 1 NO + 1 NC		**3LD9 200-5BF**		1	1 unit	103	0.024
For floor mounting, distribution board mounting or molded-plastic enclosures								
 3LD9 220-0C	**4th contact (N conductor)** Leading switch-on, lagging switch-off	►	**3LD9 220-0C**		1	1 unit	103	0.037
	N or PE terminals Through-type	►	**3LD9 220-2C**		1	1 unit	103	0.034
 3LD9 200-5C (left) 3LD9 200-6C (right)	**Auxiliary switches** For mounting on the left and/or right, lagging switch-on, leading switch-off • 1 NO + 1 NC	►	**3LD9 200-5C**		1	1 unit	103	0.024
	• 2 NO	►	**3LD9 200-6C**		1	1 unit	103	0.025
	For mounting on the left and/or right, lagging switch-on, leading switch-off, with gold-plate contacts for SIMATIC request • 1 NO + 1 NC		**3LD9 200-5CF**		1	1 unit	103	0.024
For front and floor mounting								
 3LD9 224-1B	**Rotary operating mechanisms** Lockable in 0 position with up to 3 padlocks • For four-hole mounting							
	- Black		**3LD9 224-1B**		1	1 unit	103	0.075
	- Red/Yellow		**3LD9 224-3B**		1	1 unit	103	0.075
 3LD9 224-3D	• For center-hole mounting, including seal and nut							
	- Black		**3LD9 224-1D**		1	1 unit	103	0.076
	- Red/Yellow		**3LD9 224-3D**		1	1 unit	103	0.078
 3LD9 256-0A	**Mounting tools** For center-hole mounting with nut		**3LD9 256-0A**		1	5 units	103	0.020
	Switching shafts 6 x 6 mm Length 300 mm		**3LD9 205-0C**		1	5 units	103	0.096
	Length 600 mm		**3LD9 205-2C**		1	5 units	103	0.169
 3LD9 286-1A	**Inscription labels** With English/German inscription (MAIN SWITCH/HAUPTSCHALTER)		**3LD9 286-1A**		1	10 units	103	0.005
	Without inscription		**3LD9 286-4A**		1	10 units	103	0.005
 3LD9 221-2A (left) 3LD9 221-0A (right)	**Terminal covers as additional touch protection (also for distribution board mounting)** Can be snapped on at top and bottom							
	• 1-pole		**3LD9 221-2A**		100	4 units	103	0.400
	• 3-pole		**3LD9 221-0A**		1	4 units	103	0.009

* You can order this quantity or a multiple thereof.

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Accessories

	Version	DT	3LD2 3 and 3LD2 4 Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For front mounting								
 3LD9 240-0B (left) 3LD9 240-2B (right)	**4th contact (N conductor)** Leading switch-on, lagging switch-off	►	**3LD9 240-0B**		1	1 unit	103	0.525
	N or PE terminals Through-type	►	**3LD9 240-2B**		1	1 unit	103	0.490
 3LD9 200-5B	**Auxiliary switches** For mounting on the left and/or right, lagging switch-on, leading switch-off							
	• 1 NO + 1 NC	►	**3LD9 200-5B**		1	1 unit	103	0.024
	• For mounting on the left and/or right, lagging switch-on, leading switch-off, with gold-plate contacts for SIMATIC request							
	• 1 NO + 1 NC		**3LD9 200-5BF**		1	1 unit	103	0.024
For floor and distribution board mounting								
 3LD9 242-4F	**Coupling piece** NEW no ON-lock		**3LD9 242-4F**		1	5 units	103	0.040
 3LD9 240-0C (left) 3LD9 240-2C (right)	**4th contact (N conductor)** Leading switch-on, lagging switch-off	►	**3LD9 240-0C**		1	1 unit	103	0.516
	N or PE terminals Through-type	►	**3LD9 240-2C**		1	1 unit	103	0.464
 3LD9 200-5C (left) 3LD9 200-6C (right)	**Auxiliary switches** For mounting on the left and/or right, lagging switch-on, leading switch-off							
	• 1 NO + 1 NC	►	**3LD9 200-5C**		1	1 unit	103	0.024
	• 2 NO	►	**3LD9 200-6C**		1	1 unit	103	0.025
	For mounting on the left and/or right, lagging switch-on, leading switch-off, with gold-plate contacts for SIMATIC request							
	• 1 NO + 1 NC		**3LD9 200-5CF**		1	1 unit	103	0.024
For front and floor mounting								
 3LD9 243-1B	**Knob-operated mechanism** Lockable in 0 position with up to 3 padlocks							
	• For four-hole mounting, including seal							
	- Black		**3LD9 243-1B**		1	1 unit	103	0.216
	- Red/Yellow		**3LD9 243-3B**		1	1 unit	103	0.220
	Switching shafts 8 x 8 mm							
	Length 300 mm		**3LD9 245-0C**		1	5 units	103	0.160
	Length 600 mm		**3LD9 245-2C**		1	5 units	103	0.300
 3LD9 286-1A	**Inscription labels** With English/German inscription (MAIN SWITCH/HAUPTSCHALTER)		**3LD9 286-1A**		1	10 units	103	0.005
	Without inscription		**3LD9 286-4A**		1	10 units	103	0.005
 3LD9 241-2A	**Terminal covers as additional touch protection (also for distribution board mounting)** Can be snapped on at top and bottom							
	• 1-pole		**3LD9 241-2A**		1	4 units	103	0.017

* You can order this quantity or a multiple thereof.

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	Version	DT	3LD2 5 Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For front mounting								
 3LD9 250-0BA (left) 3LD9 250-2BA (right)	**4th contact (N conductor)**	►	**3LD9 250-0BA**		1	1 unit	103	0.077
	Leading switch-on, lagging switch-off							
	N or PE terminals	►	**3LD9 250-2BA**		1	1 unit	103	0.069
	Through-type							
 3LD9 200-5B	**Auxiliary switches**							
	For mounting on the left and/or right, lagging switch-on, leading switch-off							
	• 1 NO + 1 NC	►	**3LD9 200-5B**		1	1 unit	103	0.024
	For mounting on the left and/or right, lagging switch-on, leading switch-off, with gold-plate contacts for SIMATIC request							
	• 1 NO + 1 NC		**3LD9 200-5BF**		1	1 unit	103	0.024
For floor mounting, distribution board mounting or molded-plastic enclosures								
 3LD9 250-0CA (left) 3LD9 250-2CA (right)	**4th contact (N conductor)**	►	**3LD9 250-0CA**		1	1 unit	103	0.077
	Leading switch-on, lagging switch-off							
	N or PE terminals	►	**3LD9 250-2CA**		1	1 unit	103	0.070
	Through-type							
 3LD9 200-5C (left) 3LD9 200-6C (right)	**Auxiliary switches**							
	For mounting on the left and/or right, lagging switch-on, leading switch-off							
	• 1 NO + 1 NC	►	**3LD9 200-5C**		1	1 unit	103	0.024
	• 2 NO	►	**3LD9 200-6C**		1	1 unit	103	0.025
	For mounting on the left and/or right, lagging switch-on, leading switch-off, with gold-plate contacts for SIMATIC request							
	• 1 NO + 1 NC		**3LD9 200-5CF**		1	1 unit	103	0.024
For front and floor mounting								
 3LD9 284-1B	**Rotary operating mechanisms**							
	Lockable in 0 position with up to 3 padlocks							
	• For four-hole mounting, including seal							
	- Black		**3LD9 284-1B**		1	1 unit	103	0.146
	- Red/Yellow		**3LD9 284-3B**		1	1 unit	103	0.150
 3LD9 284-3D	• For center-hole mounting, including seal and nut							
	- Black		**3LD9 284-1D**		1	1 unit	103	0.152
	- Red/Yellow		**3LD9 284-3D**		1	1 unit	103	0.155
 3LD9 256-0A	**Mounting tools**							
	For center-hole mounting with nut		**3LD9 256-0A**		1	5 units	103	0.020
	Switching shafts 6 x 6 mm							
	Length 300 mm		**3LD9 205-0C**		1	5 units	103	0.096
	Length 600 mm		**3LD9 205-2C**		1	5 units	103	0.169
 3LD9 286-1A	**Inscription labels**							
	With English/German inscription (MAIN SWITCH/HAUPTSCHALTER)		**3LD9 286-1A**		1	10 units	103	0.005
	Without inscription		**3LD9 286-4A**		1	10 units	103	0.005
 3LD9 251-2A (left) 3LD9 251-0A (right)	**Terminal covers as additional touch protection (also for distribution board mounting)**							
	Can be snapped on at top and bottom							
	• 1-pole		**3LD9 251-2A**		100	4 units	103	0.500
	• 3-pole		**3LD9 251-0A**		1	4 units	103	0.009

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Accessories

	Version	DT	3LD2 7 and 3LD2 8 Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For front mounting								
 3LD9 280-0B (left) 3LD9 280-2B (right)	**4th contact (N conductor)** Leading switch-on, lagging switch-off	►	**3LD9 280-0B**		1	1 unit	103	0.099
	N or PE terminals Through-type	►	**3LD9 280-2B**		1	1 unit	103	0.089
 3LD9 200-5B	**Auxiliary switches** For mounting on the left and/or right, lagging switch-on, leading switch-off • 1 NO + 1 NC	►	**3LD9 200-5B**		1	1 unit	103	0.024
	For mounting on the left and/or right, lagging switch-on, leading switch-off, with gold-plate contacts for SIMATIC request • 1 NO + 1 NC		**3LD9 200-5BF**		1	1 unit	103	0.024
For floor mounting, distribution board mounting or molded-plastic enclosures								
 3LD9 280-0C (left) 3LD9 280-2C (right)	**4th contact (N conductor)** Leading switch-on, lagging switch-off	►	**3LD9 280-0C**		1	1 unit	103	0.099
	N or PE terminals Through-type	►	**3LD9 280-2C**		1	1 unit	103	0.090
 3LD9 200-5C (left) 3LD9 200-6C (right)	**Auxiliary switches** For mounting on the left and/or right, lagging switch-on, leading switch-off • 1 NO + 1 NC	►	**3LD9 200-5C**		1	1 unit	103	0.024
	• 2 NO	►	**3LD9 200-6C**		1	1 unit	103	0.025
	For mounting on the left and/or right, lagging switch-on, leading switch-off, with gold-plate contacts for SIMATIC request • 1 NO + 1 NC		**3LD9 200-5CF**		1	1 unit	103	0.024
For front and floor mounting								
 3LD9 284-1B	**rotary operating mechanisms for four-hole mounting** Lockable in 0 position with up to 3 padlocks, including seal							
	• Black		**3LD9 284-1B**		1	1 unit	103	0.146
	• Red/Yellow		**3LD9 284-3B**		1	1 unit	103	0.150
	Switching shafts 6 x 6 mm							
	Length 300 mm		**3LD9 205-0C**		1	5 units	103	0.096
	Length 600 mm		**3LD9 205-2C**		1	5 units	103	0.169
 3LD9 286-1A	**Inscription labels** With English/German inscription (MAIN SWITCH/HAUPTSCHALTER)		**3LD9 286-1A**		1	10 units	103	0.005
	Without inscription		**3LD9 286-4A**		1	10 units	103	0.005
 3LD9 281-2A	**Terminal covers as additional touch protection (also for distribution board mounting)** Can be snapped on at top and bottom							
	• 1-pole (1 pack = 4 units)		**3LD9 281-2A**		1	4 units	103	0.021

* You can order this quantity or a multiple thereof.

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Overview

The 5TE1 switch disconnectors are available from 100 A to 200 A in 3 and 4-pole versions and can be used as main control switches, repair switches, outgoing feeder switches and emergency mains switching off device.

The series corresponds to the requirements of IEC/EN 60947-3 and its key features are its compact and robust design, high short-circuit strength, high DC breaking capacity and comprehensive accessories.

Its small footprint means it is easy to install in all types of enclosures, distribution boards and control cabinets.

The devices are approved to UL 508 and KEMA certified.

Benefits

- Transparent enclosures ensure that the contact position is always visible
- Contacts with double breaks ensure reliable insulation characteristics
- Can be locked in the OFF position to allow for maintenance work.
- With a red knob and yellow cap, it can also be used as an emergency switching off device.

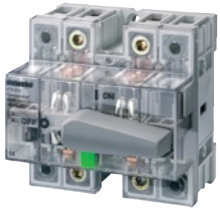
Technical specifications

					5TE1 .1	5TE1 .2	5TE1 .3	5TE1 .4
Standards **Approvals**					IEC/EN 60947-3, UL 508 UL508 for the following types: 5TE1 320, 5TE1 330, 5TE1 340, 5TE1 420, 5TE1 430 and 5TE1 440. UL File No. E302554			
Rated operational current I_e With utilization category AC-21A	Per conduct. path	At U_e = 400 V 415 V 500 V 690 V		A A A A	100 100 100 100	125 125 125 125	160 160 160 160	200 200 200 200
Rated operational current I_e With utilization category AC-22A	Per conduct. path	At U_e = 400 V 415 V 500 V 690 V		A A A A	100 100 100 63	125 125 100 63	160 160 160 160	200 200 200 200
Rated operational current I_e With utilization category AC-23A	Per conduct. path	At U_e = 400 V 415 V 500 V 690 V		A A A A	80 80 50 40		125 125 125 63	160 160 125 80
Rated operational current I_e With utilization category DC-23A	2 poles in series 2 poles in series 4 poles in series	110 V 220 V 220 V		A A A	100 -- 100		160 100 160	
Rated operational voltage U_e				V AC	According to UL: 480, acc. to IEC: 690			
Rated insulation voltage U_i				V AC	690			
Rated impulse withstand voltage U_{imp}	2000 m			kV	8			
Impulse test voltage	At sea level			kV	12.3			
Max. rated operational power With utilization category AC-23A		At U_e = 400 V 415 V 500 V 690 V		kW kW kW kW	44 46 35 36		69 72 86 60	88 92 86 76
Rated thermal current I_{th}	At 40 °C, 50 °C and 60 °C			A	100	125	160	200
Rated making capacity	At 415 V AC-23A			A	1875		3200	4000
Rated breaking capacity	At 415 V AC-23A			A	1000		1920	2400
Rated ultimate short-circuit breaking capacity I_{cm}	Per conduct. path	At U_e = 400 V 415 V 500 V 690 V		kA kA kA kA	10 10 6.7 6.7			
Rated short-time withstand current I_{cw} (peak value)	Per conduct. path	0.25 s 1 s		kA kA	5 2.5		6 3	
Rated conditional short-circuit current With back-up protection with back-up fuse With identical rated current		At U_e = 400 V 415 V 500 V 690 V		kA kA kA kA	50 50 50 33	33	20	18
Capacitive load	At 400 V			kVar	50	60	77	97
Number of poles					2/3/4			
Rated power dissipation P_v	Per pole			VA	2.9	4.5	6.5	10
Frequency				Hz	50/60			
Conductor cross-sections • Solid and stranded • AWG cables • Copper busbars				 mm^2 AWG mm^2	 6 ... 50 10 ... 1/0 --		 -- 8 max. 20 × 6	
Endurance	Electrical Mechanical			Switching cycles	1500 20000		1000 10000	
According to UL 508 **UL 508 General Use 480 V** **UL 508 Manual motor controller 230 V** **UL 508 Manual motor controller 480 V** **UL 508 Short-circuit at 480 V**	I_n FLA (Full load amperes) Rating Rating With Class H or K5 fuses With J fuses			A A hp hp kA kA	-- -- -- -- -- --	80 28 10 20 10 50	100 34 25 15	125 40 30 15

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General data

Selection and ordering data

	Version	I_e	U_e	Width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per P. unit approx.
		A AC	V AC	TE							kg
	**Switch disconnectors, lockable, with gray knob and transparent enclosure, mounting depth 92 mm**										
	2 NO										
		100	690	5		**5TE1 210**		1	1 unit	029	0.485
		125				**5TE1 220**		1	1 unit	029	0.492
		160		8		**5TE1 230**		1	1 unit	029	0.646
		200				**5TE1 240**		1	1 unit	029	0.655
	3 NO										
		100	690	5		**5TE1 310**		1	1 unit	029	0.533
		125				**5TE1 320**		1	1 unit	029	0.541
		160		8		**5TE1 330**		1	1 unit	029	0.694
		200				**5TE1 340**		1	1 unit	029	0.697
	4 NO										
		100	690	5		**5TE1 410**		1	1 unit	029	0.602
		125				**5TE1 420**		1	1 unit	029	0.591
		160		8		**5TE1 430**		1	1 unit	029	0.774
		200				**5TE1 440**		1	1 unit	029	0.794
	3 NO with N-conductor through-type terminal										
		100	690	5		**5TE1 610**		1	1 unit	029	0.592
		125				**5TE1 620**		1	1 unit	029	0.606
		160		8		**5TE1 630**		1	1 unit	029	0.791
		200				**5TE1 640**		1	1 unit	029	0.789
	**Switch disconnectors with red knob and yellow cap, can be used as emergency mains switching off device acc. to IEC 60204-1, EN 60204-1 (VDE 0113-1) if switch is easily accessible, mounting depth 92 mm**										
	3 NO										
		100	690	5		**5TE1 315**		1	1 unit	029	0.545
		125				**5TE1 325**		1	1 unit	029	0.550
		160		8		**5TE1 335**		1	1 unit	029	0.693
		200				**5TE1 345**		1	1 unit	029	0.722
	4 NO										
		100	690	5		**5TE1 415**		1	1 unit	029	0.596
		125				**5TE1 425**		1	1 unit	029	0.609
		160		8		**5TE1 435**		1	1 unit	029	0.803
		200				**5TE1 445**		1	1 unit	029	0.806

* You can order this quantity or a multiple thereof.

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Accessories

	Version	I_e	U_e	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per P. unit approx.
		A AC	V AC							kg
	**Terminal covers** Sealable									
	for 100 A and 125 A load disconnect switches				**5TE9 000**		1	1 unit	029	0.043
	for 160 A and 200 A load disconnect switches				**5TE9 001**		1	1 unit	029	0.037
										
	**Cage terminals** for 160 A and 200 A load disconnect switches, 14.5 mm terminal diameter for 35 mm^2 cables, hexagonal socket head screw 5 mm									
	1 set = 3 units				**5TE9 003**		1	1 set	029	0.245
	1 set = 4 units				**5TE9 004**		1	1 set	029	0.323
	**Auxiliary switches** Can be mounted optionally left or right or both sides (2 off); minimum contact load 24 V, 50 mA									
	1 CO	6	230		**5TE9 005**		1	1 unit	029	0.042
	2 CO	6	230		**5TE9 006**		1	1 unit	029	0.048
	**Locking units**									
	For up to three padlocks with max. ∅ 8 mm				**5TE9 014**		1	1 unit	029	0.017
	**Conversion kits, 4-pole, for 100 A and 125 A for the connection of busbars or cables with cable lugs**									
	For busbars max 15 mm wide including terminal cover				**5TE9 015**		1	1 set	029	0.078
	**Rotary actuators with extension shafts for mounting on hinged doors or enclosure lids, lockable, IP65**									
	Black knob									
	Shaft length 200 mm				**5TE9 010**		1	1 unit	029	0.177
	Shaft length 400 mm				**5TE9 011**		1	1 unit	029	0.234
	Red knob									
	Shaft length 200 mm				**5TE9 012**		1	1 unit	029	0.175
	Shaft length 400 mm				**5TE9 013**		1	1 unit	029	0.234

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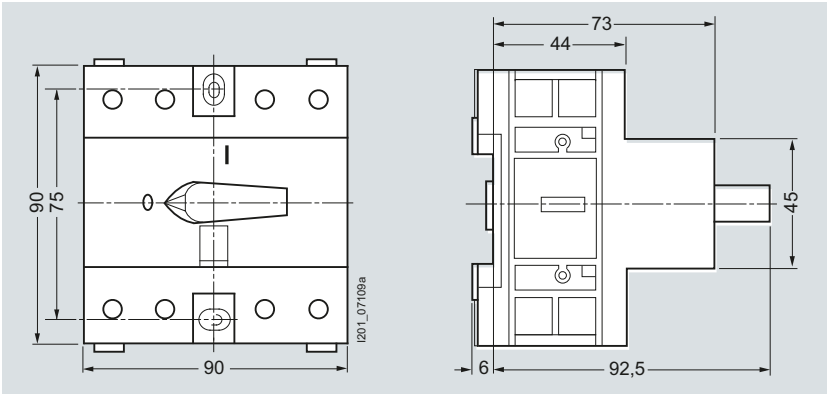
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General data

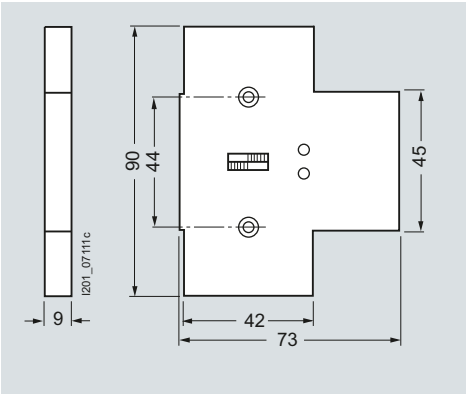
Dimensional drawings

5TE1 switch disconnectors, 100 A and 125 A



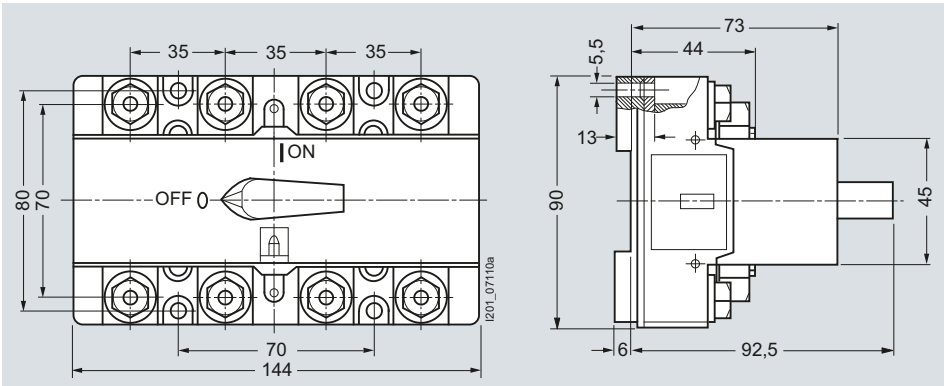
5TE1 210 5TE1 310 5TE1 410 5TE1 610
5TE1 220 5TE1 315 5TE1 415 5TE1 620
5TE1 320 5TE1 420
5TE1 325 5TE1 425

5TE9 auxiliary switches



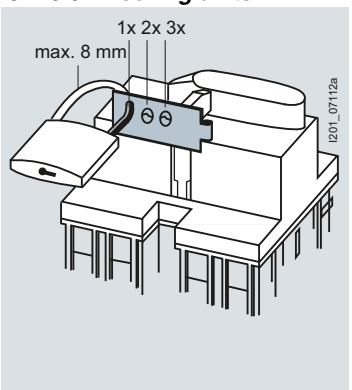
5TE9 005
5TE9 006

5TE1 switch disconnectors, 160 A and 200 A

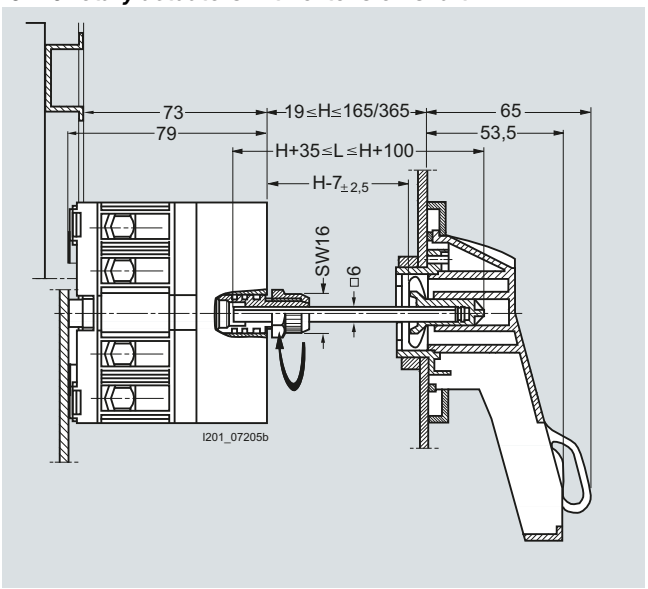


5TE1 230 5TE1 330 5TE1 430 5TE1 630
5TE1 240 5TE1 335 5TE1 435 5TE1 640
5TE1 340 5TE1 440
5TE1 345 5TE1 445

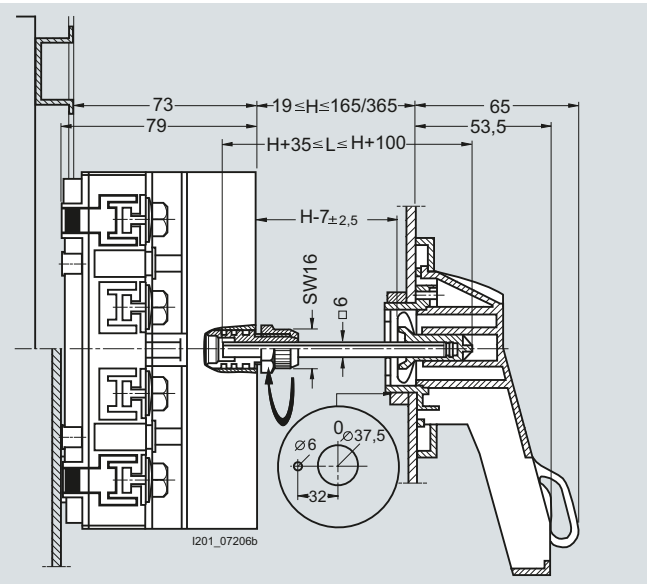
5TE9 014 locking units



5TE9 rotary actuators with extension shaft



With switch disconnectors 100 A and 125 A
5TE9 010, 5TE9 011,
5TE9 012, 5TE9 013
It is possible to open the door in a disconnected state.

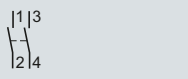


With switch disconnectors 160 A and 200 A
5TE9 010, 5TE9 011,
5TE9 012, 5TE9 013
It is possible to open the door in a disconnected state.

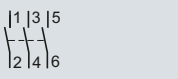
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Circuit diagrams

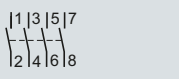
Graphic symbols



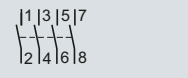
5TE1 210
5TE1 220
5TE1 230
5TE1 240



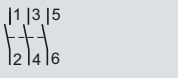
5TE1 310
5TE1 320
5TE1 330
5TE1 340



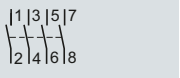
5TE1 410
5TE1 420
5TE1 430
5TE1 440



5TE1 610
5TE1 620
5TE1 630
5TE1 640

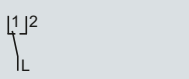


5TE1 315
5TE1 325
5TE1 335
5TE1 345

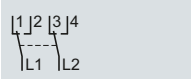


5TE1 415
5TE1 425
5TE1 435
5TE1 445

5TE9 auxiliary switches



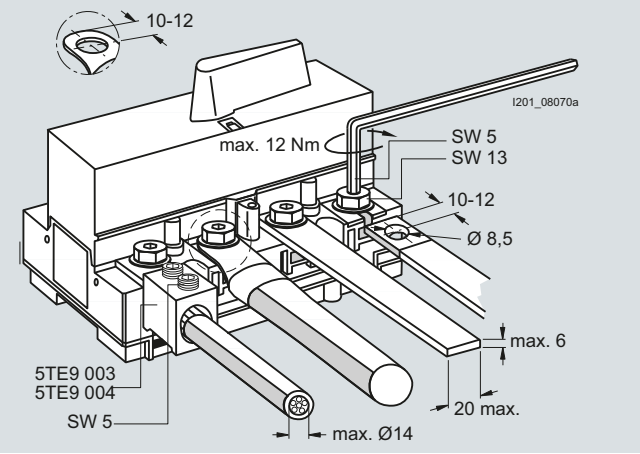
5TE9 005



5TE9 006

More information

Connection of 5TE1 3 and 5TE1 4 switches, 160 and 200 A



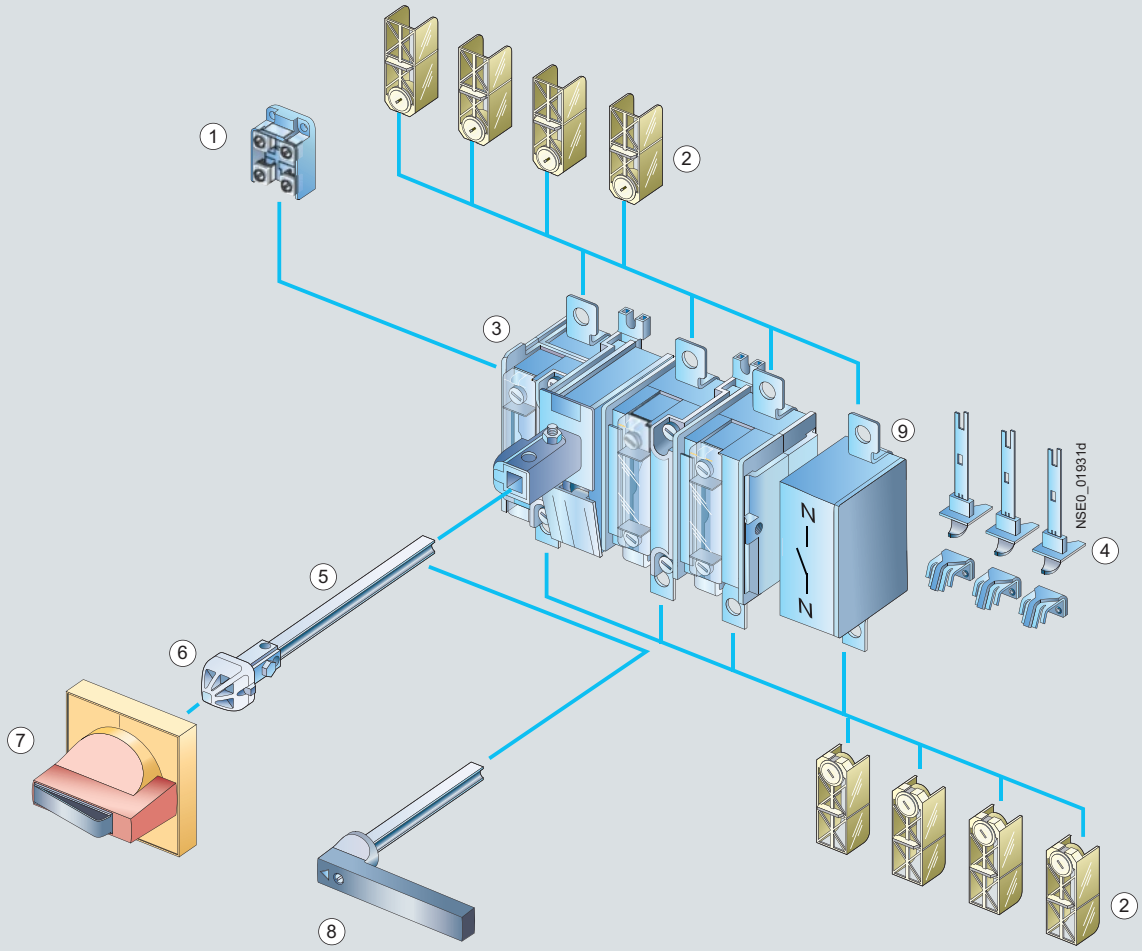
Design

- From 160 A: supplied with one terminal cover
- 160 A and 200 A: version for connection with cable lug
- Screw fixing on base plate
- Installation on standard mounting rail to EN 60715, which is raised at least 5 mm from the base plate.

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Introduction

Overview



1. Auxiliary switch (3SB for 3KA; 3KX for 3KE)
2. IP20 terminal cover (Operator side)
3. 3K switch disconnector
4. Arcing contacts (only for 3KE)
5. Extension shaft
6. Coupling driver
7. 8UC7 door-coupling rotary operating mechanism in standard version (ti-grey) or EMERGENCY-STOP version (red/yellow).
8. 8UC9 handle for fixed mounting in standard version (black) or EMERGENCY-STOP version (red).
9. 4. Pole (optional, only for 3KA)

All components from the switch to the actuator are provided with non-interchangeability features.

For the 3KA switch disconnectors, complete kits for standard and EMERGENCY-STOP application are available for installation in the side and rear panels of control cabinets.

A changeover operating mechanism is available for the use of 2 switch disconnectors of the 3KE series as load changeover switches.

A switch coupling permits simultaneous switching of two 3KE switch disconnectors with identical or different rated operational currents.

Identical accessories for 3KA switch disconnectors and for 3KL and 3KM switch disconnectors with fuses simplify stock keeping.

Application

3KA and 3KE switch disconnectors are used as main control, EMERGENCY-STOP, maintenance and transfer switches in distribution boards for residential and non-residential buildings as well as industrial switchgear. As three and four-pole versions, they ensure making and breaking of the specified rated current under load. At the same time, they constitute a safety isolating function and isolating distance in all low-voltage circuits.

All 3K switch disconnectors are climate-proof and meet the requirements of IEC 60947-1, IEC 60947-3 and VDE 0660 Part 107. Switch disconnectors in the type-tested 8HP molded-plastic distribution board enclosure (degree of protection IP65) are available for use as safety switches.

Additional data, see catalog LV 10.2, chapter 18 "Distribution Boards" and chapter 19 "Terminal Blocks".

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Technical specifications

Standards		IEC 60947-1, IEC 60947-3, VDE 0660 Part 107						
Type		**3KA50**	**3KA51**	**3KA52[1]**	**3KA53[1]**	**3KA55[1]**	**3KA57[1]**	**3KA58[1]**
Rated uninterrupted current I_u	A	63	80	125	160	250	400	630[3]
Conventional free-air thermal current I_{th}[2]	A	63	80	125	160	250	400	630[3]
Rated insulation voltage U_i	V	690	690	1000	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp}	kV	6	6	8	8	8	8	8
Rated operational voltage U_e								
50/60 Hz AC	V	690						
DC	V	440 (3 conducting paths series-connected)						
	V	220 (2 conducting paths series-connected)						
	V	110 (1 conducting path)						
Rated short-circuit making capacity I_{cm} with upstream fuses[4] At 50/60 Hz 690 V AC, peak value	kA	220	220	220	220	176	176	105
Rated conditional short-circuit current with upstream fuses[4] At 50/60 Hz 690 V AC, rms value	kA	100	100	100	100	80	80	50
Max. rated current I_n of the fuses	A	63	80	160	160	400	400	630
Permissible let-through current of the fuses	kA	8	10	17	17	30[5]	30[5]	40[5]
Maximum permissible let-through I^2t value	kA^2s	55	55	223	223	1000	1000	2600
Permissible let-through current of an upstream circuit breaker At 50/60 Hz 690 V AC, peak value	kA	7	8	8	15	25	25	32
Rated short-circuit making capacity without fuses At AC 50 Hz/60 Hz 690 V, peak value	kA	7	7	7	9	20	25	35
Breaking capacity (infeed from the top or bottom)								
At 400 V AC								
• Breaking current I_c (at p.f. = 0.35, rms value)	A	500	650	1000	1280	2000	3200	5040
• Rated operational current I_e at								
- AC-21A, AC-22A, AC-23A	A	63	80	125	160	250	400	630[6]
• Motor switching capacity AC-23A	kW	30	40	65	80	132	200	350
At 500 V AC								
• Breaking current I_c (at p.f. = 0.35, rms value)	A	500	640	1000	1280	2000	3200	3200
• Rated operational current I_e at								
- AC-21A, AC-22A	A	63	80	125	160	250	400	630
- AC-23A	A	63	80	125	160	250	400	400
• Motor switching capacity AC-23A	kW	40	50	90	110	185	280	280
At 690 V AC								
• Breaking current I_c (at p.f. = 0.35, rms value)	A	500	500	1000	1280	2000	3200	3200
• Rated operational current I_e at								
- AC-21A, AC-22A	A	63	80	125	160	250	400	630
- AC-23A	A	63	63	125	160	250	400	400
• Motor switching capacity AC-23A	kW	50	50	110	150	220	375	375
At 440 V DC (3 conducting paths series-connected)[7]								
• Breaking current I_c (L/R = 15 ms)	A	250	260	500	640	1000[8]	1600	1600
• Rated operational current I_e at DC-23A	A	63	63	125	160	250[9]	400	400
Rated short-time current I_{cw} (1 s current, rms value)	kA	2.5	2.5	3.2	3.2	8	11	15
Permissible ambient temperature	°C	-25 ... +55 for operation[3]						
	°C	-50 ... +80 when stored						
Mechanical endurance, operating cycles		15 000	15 000	15 000	15 000	12 000	12 000	12 000
Degree of protection		IP00/IP20 (from the operator side, with busbar and terminal covers)						
Power loss of the switch disconnector at I_{th}	W	7	12	22	22	33	72	170
Main conductor connections								
Busbar systems, max. dimensions (W x T)	mm	25 x 9	25 x 9	45 x 10	45 x 10	40 x 12	40 x 12	40 x 15
Cable lug, max. conductor cross-section (stranded)	mm^2	35	35	70	120	150	2 x 150 or 1 x 240	2 x 240
Tightening torque	Nm	6 ... 7.5	6 ... 7.5	7 ... 10	18 ... 22	35 ... 45	35 ... 45	35 ... 45
Terminal screws		M6	M6	M6	M8	M10	M10	M10
Protective conductor connections								
Flat bars	mm	--	--	--	--	20 x 2.5	20 x 2.5	20 x 2.5
Cable lug, max. conductor cross-section (stranded)	mm^2	--	--	--	--	70	120	120

1) Technical specifications for approval on request.

2) Configuring note: Max. permissible operating temperature at connections 100 °C.

3) With 3KA58 for operation -25 °C ... +35 °C, 570 A at 55 °C.

4) Only available with fuses 3NA3 8, 3NA3 2 or 3ND1 8, 3ND1 2 (otherwise only 105 kA/50 kA).

5) 3ND1 switchgear protection fuse.

6) AC-23B.

7) 220 V DC (L1 and L3 series-connected) or 110 V DC (one conducting path) at -23A DC.

8) At 440 V L/R = 4 ms, at 220 V L/R = 15 ms.

9) At 440 V DC-22A, at 220 V DC-23A.

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3KA, 3KE Switch Disconnectors up to 1000 A

Introduction

Standards		IEC 60947-1, IEC 60947-3, VDE 0660 Part 107			
Type		**3KE42**	**3KE43**	**3KE44**	**3KE45**
Rated uninterrupted current I_u	A	250	400	630	1000
Rated insulation voltage U_i	V	1000 AC, 1200 DC			
Rated impulse withstand voltage U_{imp}	kV	8	8	8	8
Rated operational voltage U_e					
50/60 Hz AC	V	690			
DC	V	440 (3 conducting paths series-connected)			
	V	220 (2 conducting paths series-connected)			
Rated short-circuit making capacity I_{cm} At 50/60 Hz 690 V AC, peak value	kA	35	35	60	60
Rated short-circuit making capacity with upstream fuses At 50/60 Hz 690 V AC, peak value	kA	105	105	105	84
Rated conditional short-circuit current with upstream fuses At 50/60 Hz 690 V AC (rms value)	A	50	50	50	40
Maximum permissible let-through I^2t value	kA^2s	2150	2150	5400	19000
Permissible let-through current of an upstream circuit breaker					
At 50/60 Hz 690 V AC, peak value	kA	35	35	60	60
Max. rated current I_n of the fuse	A	400	400	630	1000
Permissible let-through current of the fuses (peak value)	kA	38	38	60	75
Breaking capacity (infeed from the top or bottom)					
At 400 V AC					
• Breaking current I_c (at p.f. = 0.35, rms value)	A	1000	1000	2520	2520
• Rated operational current I_e at					
- AC-21A	A	250	400	630	1000
- AC-22A	A	250	330	630	800
- AC-23A	A	125	125	315	315
At 500 V AC					
• Breaking current I_c (at p.f. = 0.35, rms value)	A	1000	1000	2520	2520
• Rated operational current I_e at					
- AC-21A	A	250	400	630	1000
- AC-22A	A	250	330	630	800
- AC-23A	A	125	125	315	315
At 690 V AC					
• Breaking current I_c (at p.f. = 0.35, rms value)	A	1000	1000	2520	2520
• Rated operational current I_e at					
- AC-21A	A	250	400	630	1000
- AC-22A	A	250	330	630	800
- AC-23A	A	125	125	315	315
At 440 V DC (3 conducting paths series-connected)					
• Breaking current I_c (L/R = 5 ms)	A	1000	1000	2520	2520
• Rated operational current I_e at					
- DC-21A	A	250	400	630	1000
- DC-22A	A	250	250	630	630
Rated short-time current I_{cw} (1 s current, rms value)	kA	12.5	12.5	21	21
Permissible ambient temperature	°C	-25 ... +55 for operation			
	°C	-50 ... +80 when stored			
Mechanical endurance, operating cycles		10000			
Degree of protection		IP00			
Power loss of the switch disconnector at I_{th}	W	15	33	78	180
Main conductor connections					
Busbar systems, max. dimensions (W x T)	mm	25 x 10	25 x 10	2 x 40 x 10	2 x 40 x 10
Cable lug, max. conductor cross-section (stranded)	mm^2	2 x 150	2 x 150, 1 x 240	2 x 240	2 x 240

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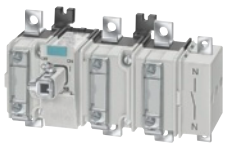
Application

3KA switch disconnectors are implemented as main control switches and EMERGENCY-STOP switches for normal switching duty and isolation of main circuits and auxiliary circuits. Another field of application is the switching of induction motors and other loads in the event of maintenance and repair.

Main control and EMERGENCY-STOP switches are manually operated switch disconnectors according to IEC 60947-3 and VDE 0660 Part 107 (EN 60947-3) and comply with the conditions for switch disconnectors and the requirements of the machinery directive EN 60204-1.

Selection and ordering data

All switch disconnectors with degree of protection IP00
Conductor connecting screws are generally included in the scope of supply.

	Rated uninterrupted current I_u	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.
	A							kg
Complete versions with 8UC7 door-coupling rotary operating mechanism (black handle)								
	3-pole for motor loads and for power distribution							
	63		**3KA50 30-1GE01**		1	1 unit	103	1.372
	80		**3KA51 30-1GE01**		1	1 unit	103	1.365
	125		**3KA52 30-1GE01**		1	1 unit	103	2.217
	160		**3KA53 30-1GE01**		1	1 unit	103	2.264
	250		**3KA55 30-1GE01**		1	1 unit	103	5.387
	400		**3KA57 30-1GE01**		1	1 unit	103	10.284
	630		**3KA58 30-1GE01**		1	1 unit	103	6.065
	4-pole[1] for power distribution							
	63		**3KA50 40-1GE01**		1	1 unit	103	2.449
	80		**3KA51 40-1GE01**		1	1 unit	103	2.474
	125		**3KA52 40-1GE01**		1	1 unit	103	2.455
	160		**3KA53 40-1GE01**		1	1 unit	103	0.002
	250		**3KA55 40-1GE01**		1	1 unit	103	5.979
	400		**3KA57 40-1GE01**		1	1 unit	103	10.824
	630		**3KA58 40-1GE01**		1	1 unit	103	6.570
Basic switch versions without handle								
 3KA53 30-1AE01	**3-pole for motor loads and for power distribution**							
	63		**3KA50 30-1AE01**		1	1 unit	103	0.905
	80		**3KA51 30-1AE01**		1	1 unit	103	0.903
	125		**3KA52 30-1AE01**		1	1 unit	103	1.874
	160	►	**3KA53 30-1AE01**		1	1 unit	103	1.997
	250		**3KA55 30-1AE01**		1	1 unit	103	4.450
	400		**3KA57 30-1AE01**		1	1 unit	103	4.582
	630		**3KA58 30-1AE01**		1	1 unit	103	5.096
 3KA53 40-1AE01	**4-pole[1] for power distribution**							
	63		**3KA50 40-1AE01**		1	1 unit	103	2.080
	80		**3KA51 40-1AE01**		1	1 unit	103	2.113
	125		**3KA52 40-1AE01**		1	1 unit	103	2.105
	160		**3KA53 40-1AE01**		1	1 unit	103	2.220
	250		**3KA55 40-1AE01**		1	1 unit	103	4.970
	400		**3KA57 40-1AE01**		1	1 unit	103	5.120
	630		**3KA58 40-1AE01**		1	1 unit	103	5.641
8UC7 EMERGENCY-STOP door-coupling rotary operating mechanisms (red handle, yellow indicator plate) for basic switch versions w/o handle								
 8UC71 21-3BB10	**3-pole for motor loads and for power distribution**							
	63		**8UC71 21-3BB10**		1	1 unit	103	0.368
	80		**8UC71 21-3BB10**		1	1 unit	103	0.368
	125		**8UC72 22-3BB20**		1	1 unit	103	0.423
	160		**8UC72 22-3BB20**		1	1 unit	103	0.423
	250		**8UC73 23-3BB30**		1	1 unit	103	1.000
	400		**8UC73 23-3BB30**		1	1 unit	103	1.000
	630		**8UC73 23-3BB30**		1	1 unit	103	1.000
	4-pole[1] for power distribution							
	63		**8UC72 22-3BB20**		1	1 unit	103	0.423
	80		**8UC72 22-3BB20**		1	1 unit	103	0.423
	125		**8UC72 22-3BB20**		1	1 unit	103	0.423
	160		**8UC72 22-3BB20**		1	1 unit	103	0.423
	250		**8UC73 23-3BB30**		1	1 unit	103	1.000
	400		**8UC73 23-3BB30**		1	1 unit	103	1.000
	630		**8UC73 23-3BB30**		1	1 unit	103	1.000

[1] Rated values reduced in the event of strong harmonics caused by frequency converter operation.

For 8UC7 EMERGENCY-STOP door-coupling rotary operating mechanisms (red handle, yellow indicator plate), see Accessories.

* You can order this quantity or a multiple thereof.

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Floor mounting



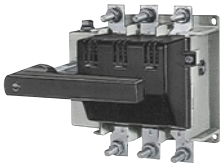
3KA53 30-1AE01 with 3KX3 536-2AA

Rated uninterrupted current I_u A	DT	3-pole, assembly kits for mounting in control cabinet side panels Assembly kits (front IP40) Comprising: Lockable handle and three terminal covers for the infeed side Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Black handle							
63		**3KX3 516-2AA**		1	1 unit	103	0.580
80		**3KX3 516-2AA**		1	1 unit	103	0.580
125		**3KX3 536-2AA**		1	1 unit	103	0.828
160		**3KX3 536-2AA**		1	1 unit	103	0.828
250		**3KX3 556-2AA**		1	1 unit	103	1.567
400		**3KX3 556-2AA**		1	1 unit	103	1.567
630		**3KX3 556-2AA**		1	1 unit	103	1.567
EMERGENCY-STOP red handle							
63		**3KX3 516-2BA**		1	1 unit	103	0.587
80		**3KX3 516-2BA**		1	1 unit	103	0.587
125		**3KX3 536-2BA**		1	1 unit	103	0.832
160		**3KX3 536-2BA**		1	1 unit	103	0.832
250		**3KX3 556-2BA**		1	1 unit	103	1.550
400		**3KX3 556-2BA**		1	1 unit	103	1.550
630		**3KX3 556-2BA**		1	1 unit	103	1.550

* You can order this quantity or a multiple thereof.

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All switch disconnectors with degree of protection IP00 with high speed closing and opening conductor connecting screws are generally included in the scope of supply

Rated uninterrupted current I_u	DT	3-pole, operating mechanism and actuation from the front Direct operating mechanisms Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
A							kg
Complete versions with black handle							
 3KE43 30-0BA							
250		**3KE42 30-0BA**		1	1 unit	103	3.828
400		**3KE43 30-0BA**		1	1 unit	103	4.157
630		**3KE44 30-0BA**		1	1 unit	103	7.252
1000		**3KE45 30-0BA**		1	1 unit	103	7.764
Basic switch versions without handle							
250		**3KE42 30-0AA**		1	1 unit	103	3.886
400		**3KE43 30-0AA**		1	1 unit	103	3.810
630		**3KE44 30-0AA**		1	1 unit	103	6.876
1000		**3KE45 30-0AA**		1	1 unit	103	7.430
EMERGENCY-STOP red handles + coupling sockets for basic switch versions without handle							
250		**8UC93 71** + **3KX2 210-0H**		1 1	1 unit 1 unit	103 103	0.142 0.274
400		**8UC93 71** + **3KX2 210-0H**		1 1	1 unit 1 unit	103 103	0.142 0.274
630		**8UC93 75** + **3KX2 210-0H**		1 1	1 unit 1 unit	103 103	0.180 0.274
1000		**8UC93 75** + **3KX2 210-0H**		1 1	1 unit 1 unit	103 103	0.180 0.274

Rated uninterrupted current I_u	DT	3-pole, operating mechanism and actuation from the front Door-coupling rotary operating mechanisms (lockable) Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
A							kg
Complete versions with 8UC7 door-coupling rotary operating mechanism (black handle)							
250		**3KE42 30-0GA**		1	1 unit	103	4.983
400		**3KE43 30-0GA**		1	1 unit	103	5.046
630		**3KE44 30-0GA**		1	1 unit	103	7.740
1000		**3KE45 30-0GA**		1	1 unit	103	8.267
Basic switch versions without handle							
250		**3KE42 30-0AA**		1	1 unit	103	3.886
400		**3KE43 30-0AA**		1	1 unit	103	3.810
630		**3KE44 30-0AA**		1	1 unit	103	6.876
1000		**3KE45 30-0AA**		1	1 unit	103	7.430
8UC7 EMERGENCY-STOP door-coupling rotary operating mechanisms (red handle, yellow indicator plate) for basic switch versions without handle							
250, 400, 630, 1000		**8UC73 24-3BB44**		1	1 unit	103	1.186

* You can order this quantity or a multiple thereof.

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Floor mounting

Rated uninterrupted current I_u	DT	3-pole, rear operating mechanism and actuation		PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
A		Order No.	Price per PU				kg
Basic switch versions without handle							
Direct operating mechanisms							
250		**3KE42 30-0CA**		1	1 unit	103	4.964
400		**3KE43 30-0CA**		1	1 unit	103	4.946
630		**3KE44 30-0CA**		1	1 unit	103	7.377
1000		**3KE45 30-0CA**		1	1 unit	103	7.907
Direct operating mechanisms (lockable)							
250		**3KE42 30-0CA**		1	1 unit	103	4.964
400		**3KE43 30-0CA**		1	1 unit	103	4.946
630		**3KE44 30-0CA**		1	1 unit	103	7.377
1000		**3KE45 30-0CA**		1	1 unit	103	7.907
Handles (black) + masking plates + display plates (silver) for basic switch versions without handle							
Direct operating mechanisms							
250		**8UC93 70**		1	1 unit	103	0.132
		+					
		8UB95 30		1	1 unit	103	0.028
		+					
		8UC96 31-0B		1	1 unit	103	0.010
400		**8UC93 70**		1	1 unit	103	0.132
		+					
		8UB95 30		1	1 unit	103	0.028
		+					
		8UC96 31-0B		1	1 unit	103	0.010
630		**8UC93 74**		1	1 unit	103	0.150
		+					
		8UB95 30		1	1 unit	103	0.028
		+					
		8UC96 31-0B		1	1 unit	103	0.010
1000		**8UC93 74**		1	1 unit	103	0.150
		+					
		8UB95 30		1	1 unit	103	0.028
		+					
		8UC96 31-0B		1	1 unit	103	0.010
Direct operating mechanisms (lockable)							
250		**8UC93 70**		1	1 unit	103	0.132
		+					
		8UC95 63		1	1 unit	103	0.270
		+					
		8UC96 31-0B		1	1 unit	103	0.010
400		**8UC93 70**		1	1 unit	103	0.132
		+					
		8UC95 63		1	1 unit	103	0.270
		+					
		8UC96 31-0B		1	1 unit	103	0.010
630		**8UC93 74**		1	1 unit	103	0.150
		+					
		8UC95 63		1	1 unit	103	0.270
		+					
		8UC96 31-0B		1	1 unit	103	0.010
1000		**8UC93 74**		1	1 unit	103	0.150
		+					
		8UC95 63		1	1 unit	103	0.270
		+					
		8UC96 31-0B		1	1 unit	103	0.010

* You can order this quantity or a multiple thereof.

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Floor mounting

Rated uninterrupted current I_u	DT	3-pole, rear operating mechanism and actuation		PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
A		Order No.	Price per PU				kg
EMERGENCY-STOP red handles + masking plates + display plates (yellow) for basic switch versions without handle							
Direct operating mechanisms							
250		**8UC93 71**		1	1 unit	103	0.142
		+					
		8UB95 30		1	1 unit	103	0.028
		+					
		8UC96 33-0B		1	1 unit	103	0.010
400		**8UC93 71**		1	1 unit	103	0.142
		+					
		8UB95 30		1	1 unit	103	0.028
		+					
		8UC96 33-0B		1	1 unit	103	0.010
630		**8UC93 75**		1	1 unit	103	0.180
		+					
		8UB95 30		1	1 unit	103	0.028
		+					
		8UC96 33-0B		1	1 unit	103	0.010
1000		**8UC93 75**		1	1 unit	103	0.180
		+					
		8UB95 30		1	1 unit	103	0.028
		+					
		8UC96 33-0B		1	1 unit	103	0.010
Direct operating mechanisms (lockable)							
250		**8UC93 71**		1	1 unit	103	0.142
		+					
		8UC95 63		1	1 unit	103	0.270
		+					
		8UC96 33-0B		1	1 unit	103	0.010
400		**8UC93 71**		1	1 unit	103	0.142
		+					
		8UC95 63		1	1 unit	103	0.270
		+					
		8UC96 33-0B		1	1 unit	103	0.010
630		**8UC93 75**		1	1 unit	103	0.180
		+					
		8UC95 63		1	1 unit	103	0.270
		+					
		8UC96 33-0B		1	1 unit	103	0.010
1000		**8UC93 75**		1	1 unit	103	0.180
		+					
		8UC95 63		1	1 unit	103	0.270
		+					
		8UC96 33-0B		1	1 unit	103	0.010

Rated uninterrupted current I_u	DT	3-pole, rear rotary operating mechanisms (lockable) Door-coupling rotary operating mechanisms (lockable)		PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
A		Order No.	Price per PU				kg
Basic switch versions without handle							
250		**3KE42 30-0CA**		1	1 unit	103	4.964
400		**3KE43 30-0CA**		1	1 unit	103	4.946
630		**3KE44 30-0CA**		1	1 unit	103	7.377
1000		**3KE45 30-0CA**		1	1 unit	103	7.907
8UC7 door-coupling rotary operating mechanisms (black handle) for basic switch versions without handle							
250, 400, 630, 1000		**8UC73 14-1BB44**		1	1 unit	103	1.170
8UC7 EMERGENCY-STOP door-coupling rotary operating mechanisms (red handle, yellow indicator plate) for basic switch versions without handle							
250, 400, 630, 1000		**8UC73 24-3BB44**		1	1 unit	103	1.186

* You can order this quantity or a multiple thereof.

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3KA, 3KE Switch Disconnectors up to 1000 A

Molded-plastic enclosures

Benefits

- Lockable with 3 padlocks
- Generous terminal compartment
- Degree of protection IP65
- Maintenance-free
- Easy mounting

Application

Our main control and EMERGENCY-STOP switches provide absolute safety, even during maintenance and repair work. All-round safety for people and machines.

With their high degree of protection IP65, they can even withstand dust and water spray, providing unparalleled safety in the building and industrial installations as well as the food and chemical industry. Even with the enclosure open, they comply with protection class 2. IP20 is the minimum!

Selection and ordering data

	Main contact elements	Auxiliary contact elements	P/AC-23A at 380 ... 400 V	P/AC-23A At 660/690 V	I_u	Conductor cross-section of main conductor/PEN	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
			kW	kW	A	mm^2							kg
Main control switches complete with rotary operating mechanism, black[1]													
 8HP2 7..	3	--	65	110	125	35/35[2]		**8HP2 707**		1	1 unit	046	5.240
			80	150	160	120/70[2]		**8HP2 711**		1	1 unit	046	8.039
			132	220	250	150/70[2]		**8HP2 712**		1	1 unit	046	12.242
			200	375	400	2 × 150 or 1 × 240/120		**8HP2 717**		1	1 unit	046	12.378
			350	375	630	2 × 240/120		**8HP2 718**		1	1 unit	046	13.050
			315	315	800[3]	2 × 240/240		**8HP2 738**		1	1 unit	046	14.290
EMERGENCY-STOP switches complete with rotary operating mechanism, red/yellow[1]													
	3	--	65	110	125	35/35[2]		**8HP2 747**		1	1 unit	046	5.217
			80	150	160	120/70[2]		**8HP2 748**		1	1 unit	046	7.992
			132	220	250	150/70[2]		**8HP2 761**		1	1 unit	046	12.340
			200	375	400	2 × 150 or 1 × 240/120		**8HP2 762**		1	1 unit	046	12.354
			350	375	630	2 × 240/120		**8HP2 763**		1	1 unit	046	12.875
			315	315	800[3]	2 × 240/240		**8HP2 758**		1	1 unit	046	14.329

1) With PE/ground or N terminal.

2) For a fifth conductor, the same terminal can be fitted additionally.

3) At ambient temperatures up to 35 °C.

* You can order this quantity or a multiple thereof.

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Selection and ordering data

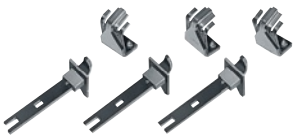
	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
3KA50 30/3KA51 30								
 3KX3 552-3DA01	**Terminal covers**							
	For 3-pole devices (1 set = 6 units)	►	**3KX3 552-3DA01**		1	1 unit	103	0.078
	For 4-pole devices (1 set = 8 units)		**3KX3 552-3DB01**		1	1 unit	103	0.107
	Door-coupling rotary operating mechanisms IP65							
	Black handle, shaft 300 mm		**8UC71 11-1BB10**		1	1 unit	103	0.358
	EMERGENCY-STOP (yellow/red), shaft 300 mm		**8UC71 21-3BB10**		1	1 unit	103	0.368
 3KX3 516-1AA	**Operating mechanisms for fixed mounting** Black handle, shaft 250 mm	►	**3KX3 516-1AA**		1	1 unit	103	0.102
	Extension shaft 300 mm long		**8UC60 31**		1	1 unit	103	0.068
	Extension shaft 600 mm long		**8UC60 81**		1	1 unit	103	0.136
	Shaft connecting pieces		**8UC60 21**		1	1 unit	103	0.027
 3SB14 00-0A	**Auxiliary switches**							
	1 NO + 1 NC		**3SB14 00-0A**		1	1 unit	41J	0.019
	2 NO		**3SB14 00-0G**		1	1 unit	41J	0.019
	2 NC		**3SB14 00-0H**		1	1 unit	41J	0.020
3KA50 40/3KA51 40/3KA52/3KA53								
 3KX3 552-3DA01	**Terminal covers**							
	For 3-pole 3KA52 devices (1 set = 6 units)	►	**3KX3 552-3DA01**		1	1 unit	103	0.078
	For 3KA53	►	**3KX3 553-3DA01**		1	1 unit	103	0.151
	For 4-pole 3KA52 devices (1 set = 8 units)		**3KX3 552-3DB01**		1	1 unit	103	0.107
	For 3KA53		**3KX3 553-3DB01**		1	1 unit	103	0.174
	Door-coupling rotary operating mechanisms IP65							
	Black handle, shaft 300 mm		**8UC72 12-1BB20**		1	1 unit	103	0.424
	EMERGENCY-STOP (yellow/red), shaft 300 mm		**8UC72 22-3BB20**		1	1 unit	103	0.423
 8UC72 12-1BB20	**Operating mechanisms for fixed mounting** Black handle, shaft 250 mm	►	**3KX3 536-1AA**		1	1 unit	103	0.150
	Extension shaft 300 mm long		**8UC60 32**		1	1 unit	103	0.135
	Extension shaft 600 mm long		**8UC60 82**		1	1 unit	103	0.265
	Shaft connecting pieces		**8UC60 22**		1	1 unit	103	0.022
 3SB14 00-0A	**Auxiliary switches**							
	1 NO + 1 NC		**3SB14 00-0A**		1	1 unit	41J	0.019
	2 NO		**3SB14 00-0G**		1	1 unit	41J	0.019
	2 NC		**3SB14 00-0H**		1	1 unit	41J	0.020
	1 NO + 1 NC, 20 ms leading		**3KX3 552-3EA01**		1	1 unit	103	0.022
3KA55/3KA57/3KA58								
	Terminal covers							
	For 3-pole devices (1 set = 6 units)	►	**3KX3 557-3DA01**		1	1 unit	103	0.316
	For 4-pole devices (1 set = 8 units)		**3KX3 557-3DB01**		1	1 unit	103	0.389
	Door-coupling rotary operating mechanisms IP65							
	Black handle, shaft 300 mm		**8UC73 13-1BB30**		1	1 unit	103	0.998
	EMERGENCY-STOP (yellow/red), shaft 300 mm		**8UC73 23-3BB30**		1	1 unit	103	1.000
 3KX3 176-1E	**Operating mechanisms for fixed mounting** Black handle, shaft 250 mm	►	**3KX3 176-1E**		1	1 unit	103	0.287
	Extension shaft 300 mm long		**8UC60 33**		1	1 unit	103	0.215
	Extension shaft 600 mm long		**8UC60 83**		1	1 unit	103	0.424
	Shaft connecting pieces		**8UC60 23**		1	1 unit	103	0.083
 3SB14 00-0A	**Auxiliary switches**							
	1 NO + 1 NC		**3SB14 00-0A**		1	1 unit	41J	0.019
	2 NO		**3SB14 00-0G**		1	1 unit	41J	0.019
	2 NC		**3SB14 00-0H**		1	1 unit	41J	0.020
	1 NO + 1 NC, 20 ms leading		**3KX3 552-3EA01**		1	1 unit	103	0.022

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* You can order this quantity or a multiple thereof.

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Accessories

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
3KE42/3KE43								
	Changeover switches							
 3KX2 210-0D	**Changeover switches with break-before-make feature** Switch I ON – Switch II OFF Switch I OFF – Switch II OFF Switch I OFF – Switch II ON		**3KX2 210-0D**		1	1 unit	103	2.450
	Door-coupling rotary operating mechanisms IP65 Black handle for changeover switch with break-before-make feature, shaft 300 mm		**8UC74 14-1BF44**		1	1 unit	103	1.208
	Direct operating mechanisms Handle (black) for fixed mounting		**8UC93 81**		1	1 unit	103	0.270
	Changeover switches without break-before-make feature Switch I ON – Switch II OFF Switch I ON – Switch II ON Switch I OFF – Switch II ON		**3KX2 210-0E**		1	1 unit	103	2.451
	Door-coupling rotary operating mechanisms IP65 Black handle for changeover switch without break-before-make feature, shaft 300 mm		**8UC74 14-1FG44**		1	1 unit	103	1.113
	Direct operating mechanisms Handle (black) for fixed mounting		**8UC93 81**		1	1 unit	103	0.270
	Parallel switches Switch I ON – Switch II ON Switch I OFF – Switch II OFF		**3KX2 250-1A**		1	1 unit	103	0.760
	Door-coupling rotary operating mechanisms IP65 Handle (black), shaft 300 mm		**8UC74 14-1BB44**		1	1 unit	103	1.228
	EMERGENCY-STOP door-coupling rotary operating mechanisms IP65 Handle (red), shaft 300 mm		**8UC74 24-3BB44**		1	1 unit	103	1.200
	Direct operating mechanisms Handle (black) for fixed mounting		**8UC93 81**		1	1 unit	103	0.270
	Further accessories							
 3KX3 557-3DA01	**Terminal covers** (1 set = 6 units)	▶	**3KX3 557-3DA01**		1	1 unit	103	0.316
	Door-coupling rotary operating mechanisms IP65 Black handle, shaft 300 mm EMERGENCY-STOP (yellow/red), shaft 300 mm		**8UC73 14-1BB44** **8UC73 24-3BB44**		1 1	1 unit 1 unit	103 103	1.170 1.186
	Extension shaft 300 mm long		**8UC60 34**		1	1 unit	103	0.316
	Extension shaft 600 mm long		**8UC60 84**		1	1 unit	103	0.628
 3KX2 231-1A	**Auxiliary switches with switching cam** 1 NO + 1 NC (complete mounting kit)		**3KX2 231-1A**		1	1 unit	103	0.051
	Grounding brackets		**3KX2 252-1A**		1	1 unit	103	0.049
	Arc chutes (spare part with 3 arc-splitter assemblies)		**3KY2 202-0B**		1	1 unit	103	0.650
 3KY2 204-0A	**Arcing contacts** (spare part with 3 fixed and 3 movable contacts)		**3KY2 204-0A**		1	1 unit	103	0.201

* You can order this quantity or a multiple thereof.

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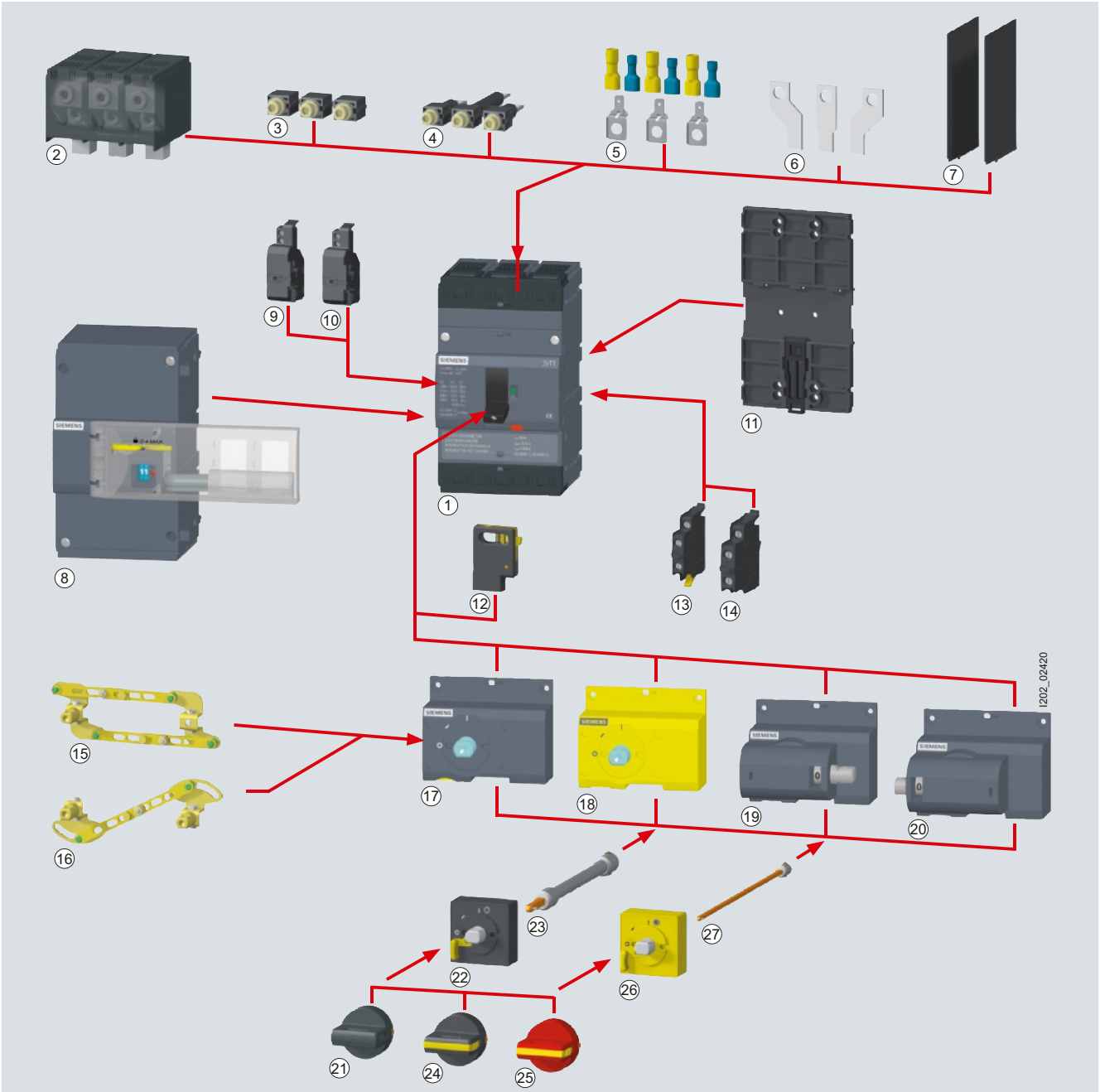
	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
3KE44/3KE45								
 3KX2 210-0D	***Changeover switches***							
	Changeover switches with break-before-make feature Switch I ON – Switch II OFF Switch I OFF – Switch II OFF Switch I OFF – Switch II ON		**3KX2 210-0D**		1	1 unit	103	2.450
	Door-coupling rotary operating mechanisms IP65 Black handle for changeover switch with break-before-make feature, shaft 300 mm		**8UC74 14-1BF44**		1	1 unit	103	1.208
	Direct operating mechanisms Handle (black) for fixed mounting		**8UC93 81**		1	1 unit	103	0.270
	Changeover switches without break-before-make feature Switch I ON – Switch II OFF Switch I ON – Switch II ON Switch I OFF – Switch II ON		**3KX2 210-0E**		1	1 unit	103	2.451
	Door-coupling rotary operating mechanisms IP65 Black handle for changeover switch without break-before-make feature, shaft 300 mm		**8UC74 14-1FG44**		1	1 unit	103	1.113
	Direct operating mechanisms Handle (black) for fixed mounting		**8UC93 81**		1	1 unit	103	0.270
	Parallel switches Switch I ON – Switch II ON Switch I OFF – Switch II OFF		**3KX2 250-1A**		1	1 unit	103	0.760
	Door-coupling rotary operating mechanisms IP65 Handle (black), shaft 300 mm		**8UC74 14-1BB44**		1	1 unit	103	1.228
	EMERGENCY-STOP door-coupling rotary operating mechanisms IP65 Handle (red), shaft 300 mm		**8UC74 24-3BB44**		1	1 unit	103	1.200
	Direct operating mechanisms Handle (black) for fixed mounting		**8UC93 81**		1	1 unit	103	0.270
	Further accessories							
	Terminal covers (top and bottom)		**3KX2 252-0C**		1	1 unit	103	0.418
	Door-coupling rotary operating mechanisms IP65 Black handle, shaft 300 mm EMERGENCY-STOP (yellow/red), shaft 300 mm		**8UC73 14-1BB44** **8UC73 24-3BB44**		1 1	1 unit 1 unit	103 103	1.170 1.186
 3KX2 231-1A	**Extension shaft 300 mm long**		**8UC60 34**		1	1 unit	103	0.316
	Extension shaft 600 mm long		**8UC60 84**		1	1 unit	103	0.628
	Auxiliary switches 1 NO + 1 NC (complete mounting kit)		**3KX2 231-1A**		1	1 unit	103	0.051
	Grounding brackets		**3KX2 252-1A**		1	1 unit	103	0.049
 3KY2 232-0A	**Arc chutes** (spare part with 3 arc-splitter assemblies)		**3KY2 232-0A**		1	1 unit	103	1.031
	Arcing contacts Spare part with 3 fixed and 3 movable contacts		**3KY2 234-0A**		1	1 unit	103	0.110

* You can order this quantity or a multiple thereof.

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Introduction

Overview



1 Switch disconnector
2 Circular conductor terminal
3 Front connection
4 Rear connection
5 Auxiliary conductor terminal
6 Front connecting bus with increased pole spacing
7 Insulating barriers
8 Lateral rotary operating mechanism
9 Shunt release
10 Undervoltage release
11 Adapter to install on 35 mm DIN rail
12 Locking type lever
13 Signal switch
14 Auxiliary switch
15 Mechanical parallel switching
16 Mechanical interlocking
17 Front manual operating mechanism
18 Front manual operating mechanism
19 Lateral manual operating mechanism (right)
20 Lateral manual operating mechanism (left)
21 Non lockable knob
22 Coupling driver
23 Telescopic extension shaft
24 Lockable knob
25 Lockable knob
26 Coupling driver
27 Extension shaft

The 3VT switch disconnectors are a derivative of the corresponding 3VT circuit breakers. This has the advantage that they can be equipped with accessory components in a wide range of ways.

The only difference between this version of the switch connectors and the circuit breakers is the absence of a release. They can be used up to a rated voltage of 690 V AC and 440 V DC.

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Application

3VT switch disconnectors can be used as main control switches for sub-distribution boards, repair and transfer switches for cables, busbars or unit combinations.

As three and four-pole versions, they ensure making and breaking of the specified rated current under load. At the same time, they constitute a safety isolating function and isolating distance in all low-voltage circuits.

The position of the operating toggle lever always matches that of the contacts (positive operation).

All 3VT switch disconnectors meet the requirements of IEC 60947-1 and IEC 60947-3.

Technical specifications



Rated current	A	160	250	630	1000	1600
Number of poles		3 and 4	3 and 4	3 and 4	3	3
Rated insulation voltage	V	690				
Utilization category						
• 690 V AC		AC-23B				
• 440 V DC		DC-23B				
Rated short-time withstand current I_{cw}	kA_{rms}/1s	2	3	7.5	15	20
Rated short-circuit making capacity I_{cm}/U_e						
• At 415 V AC	kA	2.8	4.26	12.5	30	40
• At 440 V DC	kA	2.8	4.26	12.5	30	40
Endurance						
• Mechanical		20 000	30 000	20 000	10 000	10 000
• Electrical		6 000	3 000	5 000	4 000	4 000

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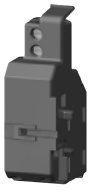
3VT1 switch disconnectors up to 160 A

Selection and ordering data

	Version	Rated current I_n	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A							kg
3VT1 switch disconnectors									
	Switch disconnectors								
	3-pole	160		**3VT1 716-2DE36-0AA0**		1	1 unit	193	1.015
	4-pole	160		**3VT1 716-2EE46-0AA0**		1	1 unit	193	1.317

Accessories

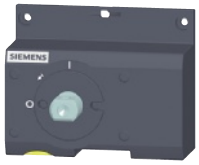
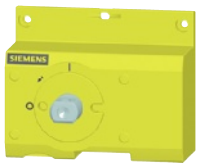
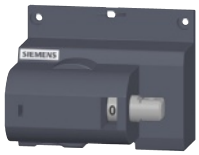
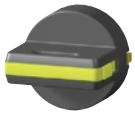
Auxiliary switches and auxiliary releases

	Rated operational voltage U_S/	Frequency	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V	Hz							kg
Auxiliary switches									
	**CO contacts**								
	• 60 ...250 AC/DC	50/60		**3VT9 100-2AB10**		1	1 unit	193	0.020
	• 5 ... 60 AC/DC	50/60		**3VT9 100-2AB20**		1	1 unit	193	0.019
Alarm switches									
	**CO contacts**								
	• 60 ... 250 AC/DC	50/60		**3VT9 100-2AH10**		1	1 unit	193	0.024
	• 5 ... 60 AC/DC	50/60		**3VT9 100-2AH20**		1	1 unit	193	0.020
Shunt releases									
	• 24, 48 AC/DC	50/60		**3VT9 100-1SC00**		1	1 unit	193	0.093
	• 110, 230 AC/ 110, 220 DC	50/60		**3VT9 100-1SD00**		1	1 unit	193	0.093
	• 230, 400 AC/ 220 DC	50/60		**3VT9 100-1SE00**		1	1 unit	193	0.093
Undervoltage releases									
	• 24, 48 AC	50/60		**3VT9 100-1UC00**		1	1 unit	193	0.094
	• 110, 230 AC	50/60		**3VT9 100-1UD00**		1	1 unit	193	0.093
	• 230, 400 AC	50/60		**3VT9 100-1UE00**		1	1 unit	193	0.096
	• 24, 48 DC	--		**3VT9 100-1UU00**		1	1 unit	193	0.095
	• 110, 220 DC	--		**3VT9 100-1UV00**		1	1 unit	193	0.094

* You can order this quantity or a multiple thereof.

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Manual operating mechanisms

	Version	Color	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Manual operating mechanisms									
	Rotary operating mechanisms								
	• Interlocking not available	Gray		**3VT9 100-3HA10**		1	1 unit	193	0.127
	• Lockable with padlock	Gray		**3VT9 100-3HA20**		1	1 unit	193	0.122
	• Lockable with padlock	Yellow		**3VT9 100-3HB20**		1	1 unit	193	0.134
	• For lateral operation, mounted on left side, interlocking not available	Gray		**3VT9 100-3HC10**		1	1 unit	193	0.194
	• For lateral operation, mounted on right side, interlocking not available	Gray		**3VT9 100-3HD10**		1	1 unit	193	0.192
	Handle for manual operating mechanism								
	• Interlocking not available	Black		**3VT9 100-3HE10**		1	1 unit	193	0.022
	• Lockable with padlock	Black		**3VT9 100-3HE20**		1	1 unit	193	0.021
	• Lockable with padlock	Red		**3VT9 100-3HF20**		1	1 unit	193	0.021
	Coupling drivers for door-coupling operating mechanism								
	For use with black handle 3VT9 100-3HE..								
	• Degree of protection IP40	Black		**3VT9 100-3HG10**		1	1 unit	193	0.095
	• Degree of protection IP66	Black		**3VT9 100-3HG20**		1	1 unit	193	0.098
	For use with red handle 3VT9 100-3HF20								
	• Degree of protection IP40	Yellow		**3VT9 100-3HH10**		1	1 unit	193	0.097
	• Degree of protection IP66	Yellow		**3VT9 100-3HH20**		1	1 unit	193	0.097
	Extension shafts								
	• Length 350 mm, can be shortened			**3VT9 100-3HJ10**		1	1 unit	193	0.134
	• Length 199 ... 352 mm, extendable			**3VT9 100-3HJ20**		1	1 unit	193	0.114

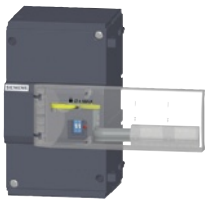
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3VT1 switch disconnectors up to 160 A

	Version	Color	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Mechanical interlocks									
	**Mechanical interlocks**			**3VT9 100-8LA00**		1	1 unit	193	0.119
Mechanical parallel switching									
	**Mechanical parallel switching**			**3VT9 100-8LB00**		1	1 unit	193	0.137

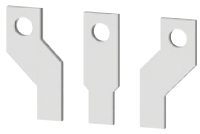
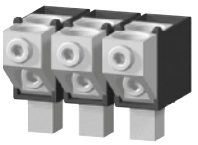
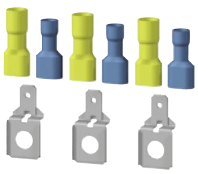
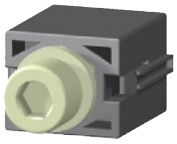
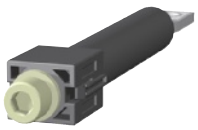
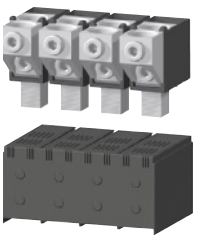
Motorized operating mechanisms

	Rated operational voltage U_s	Frequency	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	V	Hz							
Motorized operating mechanisms, lateral mounting									
	**With locking mechanism for 3 padlocks**								
	24 AC/DC[1)]	50/60		**3VT9 100-3MA00**		1	1 unit	193	0.875
	48 AC/DC	50/60		**3VT9 100-3MB00**		1	1 unit	193	0.867
	110 AC/DC	50/60		**3VT9 100-3MD00**		1	1 unit	193	0.901
	230 V AC/220 DC	50/60		**3VT9 100-3ME00**		1	1 unit	193	0.917
Accessories for motorized operating mechanisms									
	**Extension cables for motorized operating mechanism** 12 cables, length 60 cm			**3VT9 100-3MF00**		1	1 unit	193	0.054

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Connection accessories

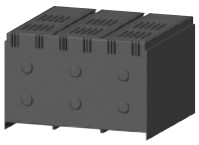
	Version	Conductor cross-sections mm²	Connection type	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Connection combinations										
	Connection combinations for 3-pole version									
	**Front connecting bars** For increased pole spacing	1.5 ... 2.5; 4 ... 6	Al/Cu busbars, cable lugs		**3VT9 100-4ED30**		1	1 unit	193	0.110
	**Front terminals**	--	Al/Cu busbars, cable lugs		**3VT9 100-4TA30**		1	1 unit	193	0.057
	**Rear terminals**	--	Al/Cu busbars, cable lugs		**3VT9 100-4RC30**		1	1 unit	193	0.184
	**Multiple feed-in terminals** Terminal covers, degree of protection IP20 (included in scope of supply)	2 x 25 ... 120	Cu/Al cables		**3VT9 100-4TF30**		1	1 unit	193	0.252
	**Auxiliary conductor terminals**	1.5 ... 2.5; 4 ... 6	Flexible Cu conductor		**3VT9 100-4TN30**		1	1 unit	193	0.029
	Terminals for 4-pole version									
	**Front terminals** For 4th pole (for use with connection combination 3VT9 100-4TA30)	--	Al/Cu busbars, cable lugs		**3VT9 100-4TA00**		1	1 unit	193	0.044
	**Rear terminals** For 4th pole (for use with connection combination 3VT9 100-4RC30)	--	Al/Cu busbars, cable lugs		**3VT9 100-4RC00**		1	1 unit	193	0.089
	**Multiple feed-in terminals** Terminal covers, degree of protection IP20 (included in scope of supply)	2 x 25 ... 120	Cu/Al cables		**3VT9 100-4TF40**		1	1 unit	193	0.324
	**Auxiliary conductor terminals** For 4th pole (for use with connection combination 3VT9 100-4TN30)	1.5 ... 2.5; 4 ... 6	Flexible Cu conductor		**3VT9 100-4TN00**		1	1 unit	193	0.017

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3VT1 switch disconnectors up to 160 A

Mounting accessories

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Mounting accessories								
	**Phase barriers** Included in scope of supply of switch disconnector. If infeed is from below, the units must also be fitted on the sides of terminals 2, 4 and 6 with these phase barriers.							
	• for 3-pole version, 2 units		**3VT9 100-8CE30**		1	1 unit	193	0.038
	• for 4-pole version, 1 unit		**3VT9 100-8CE00**		1	1 unit	193	0.025
	**Terminal covers, degree of protection IP20** Increases degree of protection of connection point to IP20, e.g. when used with cable lugs.							
	• for 3-pole version		**3VT9 100-8CA30**		1	1 unit	193	0.091
	• for 4-pole version		**3VT9 100-8CA40**		1	1 unit	193	0.106
	**Locking devices for knob** • Allows the switch disconnector to be locked in the "manual off" position. • Locking is by means of a padlock with a diameter of up to 3 ... 4 mm.		**3VT9 100-3HL00**		1	1 unit	193	0.015
Mounting adapters								
	3-pole version							
	**For mounting on a 35 mm standard mounting rail**		**3VT9 100-4PP30**		1	1 unit	193	0.078

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Selection and ordering data

	Version	Rated current I_n	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A							kg
Switching units									
	Switch disconnectors								
	3-pole	250		**3VT2 725-2DE36-0AA0**		1	1 unit	193	3.510
	4-pole	250		**3VT2 725-2EE46-0AA0**		1	1 unit	193	4.300

Accessories

Auxiliary switches and auxiliary releases

	Rated operational voltage U_s	Frequency	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V	Hz							kg
Auxiliary switches and alarm switches									
	Individual NO contacts								
	60 ... 500 AC/DC	50/60		**3VT9 300-2AC10**		1	1 unit	193	0.034
	5 ... 60 AC/DC	50/60		**3VT9 300-2AC20**		1	1 unit	193	0.035
	Individual NC contacts								
	60 ... 500 AC/DC	50/60		**3VT9 300-2AD10**		1	1 unit	193	0.043
	5 ... 60 AC/DC	50/60		**3VT9 300-2AD20**		1	1 unit	193	0.038
	Double contacts (2 x NO contacts)								
	60 ... 500 AC/DC	50/60		**3VT9 300-2AE10**		1	1 unit	193	0.048
	5 ... 60 AC/DC	50/60		**3VT9 300-2AE20**		1	1 unit	193	0.047
	Double contacts (NO contact and NC contact)								
	60 ... 500 AC/DC	50/60		**3VT9 300-2AF10**		1	1 unit	193	0.048
	5 ... 60 AC/DC	50/60		**3VT9 300-2AF20**		1	1 unit	193	0.045
	Double contacts (2 x NC contacts)								
	AC/DC 60 ... 500	50/60		**3VT9 300-2AG10**		1	1 unit	193	0.049
	5 ... 60 AC/DC	50/60		**3VT9 300-2AG20**		1	1 unit	193	0.048
	CO contacts								
	60 ... 250 AC/DC	50/60		**3VT9 300-2AH10**		1	1 unit	193	0.037
	5 ... 60 AC/DC	50/60		**3VT9 300-2AH20**		1	1 unit	193	0.028
	Leading contacts								
	60 ... 500 AC/DC	50/60		**3VT9 300-2AJ00**		1	1 unit	193	0.090

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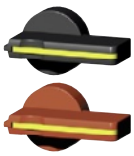
3VT switch disconnectors up to 1600 A

3VT2 switch disconnectors up to 250 A

	Rated operational voltage U_s	Frequency	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V	Hz							kg
Shunt releases									
	24, 40, 48 AC/DC	50/60		**3VT9 300-1SC00**	70.80	1	1 unit	193	0.155
	110 AC/DC	50/60		**3VT9 300-1SD00**	70.80	1	1 unit	193	0.150
	230, 400, 500 AC/220 DC	50/60		**3VT9 300-1SE00**	70.80	1	1 unit	193	0.151
Undervoltage releases									
	24, 40, 48 AC/DC	50/60		**3VT9 300-1UC00**	92.—	1	1 unit	193	0.151
	110 AC/DC	50/60		**3VT9 300-1UD00**	92.—	1	1 unit	193	0.145
	230, 400, 500 AC/220 DC	50/60		**3VT9 300-1UE00**	92.—	1	1 unit	193	0.149
	With leading contact[1]								
	24, 40, 48 AC/DC	50/60		**3VT9 300-1UC10**	112.—	1	1 unit	193	0.161
	110 AC/DC	50/60		**3VT9 300-1UD10**	112.—	1	1 unit	193	0.157
	230, 400, 500 AC/220 DC	50/60		**3VT9 300-1UE10**	112.—	1	1 unit	193	0.160

[1] Not suitable for 3VT9 200-3M..0 motorized operating mechanism.

Manual operating mechanisms

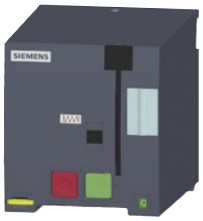
	Version	Color	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
									kg
Rotary operating mechanisms									
	• Interlocking not available	Gray		**3VT9 200-3HA10**		1	1 unit	193	0.255
	• Lockable with padlock	Gray		**3VT9 200-3HA20**		1	1 unit	193	0.265
	• Lockable with padlock	Yellow label		**3VT9 200-3HB20**		1	1 unit	193	0.264
	• For lateral operation, mounted on left side, interlocking not available	Gray		**3VT9 200-3HC10**		1	1 unit	193	0.480
	• For lateral operation, mounted on right side, interlocking not available	Gray		**3VT9 200-3HD10**		1	1 unit	193	0.478
	**Handle for manual operating mechanism**								
	• Interlocking not available	Black		**3VT9 300-3HE10**		1	1 unit	193	0.077
	• Lockable with padlock	Black		**3VT9 300-3HE20**		1	1 unit	193	0.081
	• Lockable with padlock	Red		**3VT9 300-3HF20**		1	1 unit	193	0.081
	**Coupling drivers for door-coupling operating mechanism**								
	For use with black handle 3VT9 300-3HE..								
	• Degree of protection IP40	Black		**3VT9 300-3HG10**		1	1 unit	193	0.208
	• Degree of protection IP66	Black		**3VT9 300-3HG20**		1	1 unit	193	0.202
	For use with red handle 3VT9 300-3HF20								
	• Degree of protection IP40	Yellow		**3VT9 300-3HH10**		1	1 unit	193	0.201
	• Degree of protection IP66	Yellow		**3VT9 300-3HH20**		1	1 unit	193	0.206

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	Version	Color	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	Extension shafts								
	• Length 365 mm, can be shortened			**3VT9 300-3HJ10**		1	1 unit	193	0.208
	• Length 245 ... 410 mm, extendable			**3VT9 300-3HJ20**		1	1 unit	193	0.261

Motorized operating mechanisms

	Rated operational voltage U_s	Frequency	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	V	Hz							
Motorized operating mechanisms with spring energy store									
	**With locking mechanism for 3 padlocks, degree of protection IP00**								
	24 AC/DC	50/60		**3VT9 200-3MJ00**		1	1 unit	193	7.750
	48 AC/DC	50/60		**3VT9 200-3ML00**		1	1 unit	193	1.544
	110 AC/DC	50/60		**3VT9 200-3MN00**		1	1 unit	193	1.570
	230 AC/220 DC	50/60		**3VT9 200-3MQ00**		1	1 unit	193	1.558
	Motorized operating mechanism with counter								
	24 AC/DC	50/60		**3VT9 200-3MJ10**		1	1 unit	193	1.567
	48 AC/DC	50/60		**3VT9 200-3ML10**		1	1 unit	193	1.577
	110 AC/DC	50/60		**3VT9 200-3MN10**		1	1 unit	193	1.579
	230 AC/220 DC	50/60		**3VT9 200-3MQ10**		1	1 unit	193	1.579
Accessories for motorized operating mechanisms									
	**Counter with cable,** length 110 cm			**3VT9 300-3MF10**		1	1 unit	193	0.078
	**Extension cables for motorized operating mechanism,** 12 cables, length 60 cm			**3VT9 300-3MF00**		1	1 unit	193	0.068

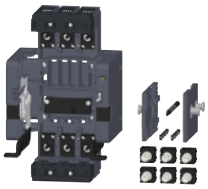
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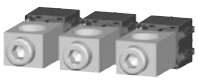
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3VT2 switch disconnectors up to 250 A

Mounting accessories

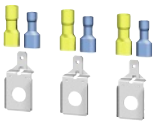
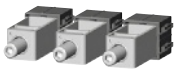
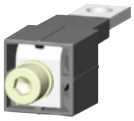
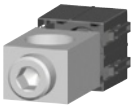
	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit		Weight per PU approx. kg
Plug-in base assembly kits								
	**3-pole**		**3VT9 200-4PA30**		1	1 unit	193	1.774
	4-pole		**3VT9 200-4PA40**		1	1 unit	193	2.252
Withdrawable version								
	**3-pole**		**3VT9 200-4WA30**		1	1 unit	193	3.388
	4-pole		**3VT9 200-4WA40**		1	1 unit	193	3.903

Connection accessories

	Version	Conductor cross-section *S* mm²	Connection type	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Connection combinations										
	Connection combinations for 3-pole version									
	Front connecting bars									
	For increased pole spacing, short	--	Al/Cu busbars/ cable lugs, flexibars		**3VT9 200-4ED30**		1	1 unit	193	0.303
	For increased pole spacing, long	--	Al/Cu busbars/ cable lugs, flexibars		**3VT9 200-4EE30**		1	1 unit	193	0.483
	**Front terminals** Included in scope of supply of all switching units	--	Al/Cu busbars/ cable lugs, flexibars		**3VT9 200-4TA30**		1	1 unit	193	0.123
	**Rear terminals**	--	Al/Cu busbars/ cable lugs		**3VT9 200-4RC30**		1	1 unit	193	0.268
	Multiple feed-in terminals[1)]									
	For 1 cable	1 x 25 ... 150	Cu/Al cables		**3VT9 215-4TD30**		1	1 unit	193	0.205
		1 x 150 ... 240	Cu/Al cables		**3VT9 224-4TD30**		1	1 unit	193	0.369
	For 2 cables	2 x 25 ... 150	Cu/Al cables		**3VT9 215-4TF30**		1	1 unit	193	0.482
		2 x 150 ... 240	Cu/Al cables		**3VT9 224-4TF30**		1	1 unit	193	0.626
	For 6 cable	6 x 6 ... 35	Cu/Al cables		**3VT9 203-4TF30**		1	1 unit	193	0.307

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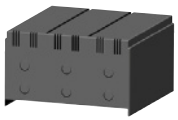
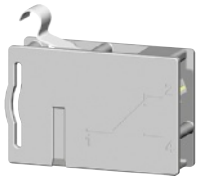
	Version	Conductor cross-section *S*	Connection type	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm^2								kg
	**Auxiliary conductor terminals**	1.5 ... 2.5; 4 ... 6	Flexible Cu conductor		**3VT9 200-4TN30**		1	1 unit	193	0.028
	**Box terminals**	16 ... 150	Cu cables, flexibars		**3VT9 200-4TC30**		1	1 unit	193	0.245
	Terminals for 4-pole version									
	**Rear terminals**	--	Al/Cu busbars/ cable lugs		**3VT9 200-4RC00**		1	1 unit	193	0.089
	Multiple feed-in terminals									
	For 1 cable	1 x 25 ... 150	Cu/Al cables		**3VT9 215-4TD00**		1	1 unit	193	0.076
		1 x 150 ... 240	Cu/Al cables		**3VT9 224-4TD00**		1	1 unit	193	0.128
	For 2 cables	2 x 25 ... 150	Cu/Al cables		**3VT9 215-4TF00**		1	1 unit	193	0.195
		2 x 150 ... 240	Cu/Al cables		**3VT9 224-4TF00**		1	1 unit	193	0.214
	For 6 cable	6 x 6 ... 35	Cu/Al cables		**3VT9 203-4TF00**		1	1 unit	193	0.115
	**Box terminals**	16 ... 150	Cu cables, flexibars		**3VT9 200-4TC00**		1	1 unit	193	0.096

1) Use terminal cover 3VT9 200-8CB30 to increase termination point protection to IP20.

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3VT2 switch disconnectors up to 250 A

Further accessories

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	**Phase barriers** Included in scope of supply of switching unit. If infeed is from below, the units must also be fitted on the sides of terminals 2, 4 and 6 with these phase barriers.							
	• For 3-pole version, 2 units		**3VT9 300-8CE30**		1	1 unit	193	0.081
	• For 4-pole version, 1 unit		**3VT9 300-8CE00**		1	1 unit	193	0.044
	**Terminal covers, degree of protection IP20** Increases degree of protection of connection point to IP20 when using circular conductor terminals 3VT9 224-4TD30, 3VT9 215-4TF30, 3VT9 224-4TF30 or 3VT9 203-4TF30, designed for fixed-mounted, plug-in and withdrawable versions.							
	• 3-pole version		**3VT9 200-8CB30**		1	1 unit	193	0.140
	• 4-pole version		**3VT9 200-8CB40**		1	1 unit	193	0.205
	**Locking devices for knob** • Allows the switch disconnector to be locked in the "manual off" position. • Locking is by means of up to 3 padlocks with a diameter of up to 6 mm.		**3VT9 200-3HL00**		1	1 unit	193	0.022
	**Sealing devices** Sealing for: • Overcurrent releases • Accessory compartment covers • Terminal covers • Manual operating mechanisms • Motorized operating mechanisms		**3VT9 200-8BN00**		1	1 unit	193	0.013
	**Connecting cable** For connecting switch disconnector accessories for withdrawable versions (can also be used for plug-in and fixed-mounted versions)		**3VT9 300-4PL00**		1	1 unit	193	0.168
	**Position signaling switches** For indicating the position of the switch disconnector in plug-in or withdrawable devices		**3VT9 300-4WL00**		1	1 unit	193	0.048
	**Coding sets** Prevents use of the wrong switching unit in plug-in or withdrawable devices		**3VT9 200-4WN00**		1	1 unit	193	0.015
	**Covers for pushbuttons** For motorized operating mechanisms; the cover may be equipped with a sealing device.		**3VT9 300-3MF20**		1	1 unit	193	0.016

* You can order this quantity or a multiple thereof.

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Selection and ordering data

	Version	Rated current I_n	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A							kg
Switching units									
	**Switch disconnectors**								
	3-pole	630		**3VT3 763-2DE36-0AA0**		1	1 unit	193	6.197
	4-pole	630		**3VT3 763-2EE46-0AA0**		1	1 unit	193	7.718

Accessories

Auxiliary switches and auxiliary releases

	Rated operational voltage U_s	Frequency	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V	Hz							kg
Auxiliary switches and alarm switches									
	Individual NO contacts								
	60 ... 500 AC/DC	50/60		**3VT9 300-2AC10**		1	1 unit	193	0.034
	5 ... 60 AC/DC	50/60		**3VT9 300-2AC20**		1	1 unit	193	0.035
	Individual NC contacts								
	60 ... 500 AC/DC	50/60		**3VT9 300-2AD10**		1	1 unit	193	0.043
	5 ... 60 AC/DC	50/60		**3VT9 300-2AD20**		1	1 unit	193	0.038
	Double contacts (2 x NO contacts)								
	60 ... 500 AC/DC	50/60		**3VT9 300-2AE10**		1	1 unit	193	0.048
	5 ... 60 AC/DC	50/60		**3VT9 300-2AE20**		1	1 unit	193	0.047
	Double contacts (NO contact and NC contact)								
	60 ... 500 AC/DC	50/60		**3VT9 300-2AF10**		1	1 unit	193	0.048
	5 ... 60 AC/DC	50/60		**3VT9 300-2AF20**		1	1 unit	193	0.045
	Double contacts (2 x NC contacts)								
	60 ... 500 AC/DC	50/60		**3VT9 300-2AG10**		1	1 unit	193	0.049
	5 ... 60 AC/DC	50/60		**3VT9 300-2AG20**		1	1 unit	193	0.048
	CO contacts								
	60 ... 250 AC/DC	50/60		**3VT9 300-2AH10**		1	1 unit	193	0.037
	5 ... 60 AC/DC	50/60		**3VT9 300-2AH20**		1	1 unit	193	0.028
	Leading contacts								
	60 ... 500 AC/DC	50/60		**3VT9 300-2AJ00**		1	1 unit	193	0.090

* You can order this quantity or a multiple thereof.

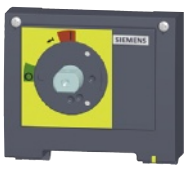
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3VT3 switch disconnectors up to 630 A

	Rated operational voltage U_s	Frequency	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V	Hz							kg
Shunt releases									
	24, 40, 48 AC/DC	50/60		**3VT9 300-1SC00**		1	1 unit	193	0.155
	110 AC/DC	50/60		**3VT9 300-1SD00**		1	1 unit	193	0.150
	230, 400, 500 AC/220 DC	50/60		**3VT9 300-1SE00**		1	1 unit	193	0.151
Undervoltage releases									
	24, 40, 48 AC/DC	50/60		**3VT9 300-1UC00**		1	1 unit	193	0.151
	110 AC/DC	50/60		**3VT9 300-1UD00**		1	1 unit	193	0.145
	230, 400, 500 AC/220 DC	50/60		**3VT9 300-1UE00**		1	1 unit	193	0.149
	with leading contact[1)]								
	24, 40, 48 AC/DC	50/60		**3VT9 300-1UC10**		1	1 unit	193	0.161
	110 AC/DC	50/60		**3VT9 300-1UD10**		1	1 unit	193	0.157
	230, 400, 500 AC/220 DC	50/60		**3VT9 300-1UE10**		1	1 unit	193	0.160

1) Not suitable for 3VT9 300-3M..0 motorized operating mechanism.

Manual operating mechanisms

	Version	Color	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
									kg
Rotary operating mechanisms									
	**Rotary operating mechanisms**								
	• Interlocking not available	Gray		**3VT9 300-3HA10**		1	1 unit	193	0.319
	• Lockable with padlock	Gray		**3VT9 300-3HA20**		1	1 unit	193	0.345
	• Lockable with padlock	Yellow label		**3VT9 300-3HB20**		1	1 unit	193	0.326
	• For lateral operation, mounted on left side, interlocking not available	Gray		**3VT9 300-3HC10**		1	1 unit	193	0.517
	• For lateral operation, mounted on right side, interlocking not available	Gray		**3VT9 300-3HD10**		1	1 unit	193	0.521
	**Handle for manual operating mechanism**								
	• Interlocking not available	Black		**3VT9 300-3HE10**		1	1 unit	193	0.077
	• Lockable with padlock	Black		**3VT9 300-3HE20**		1	1 unit	193	0.081
	• Lockable with padlock	Red		**3VT9 300-3HF20**		1	1 unit	193	0.081
	**Coupling drivers for door-coupling operating mechanism**								
	For use with black handle 3VT9 300-3HE10 or 3VT9 300-3HE20								
	• Degree of protection IP40	Black		**3VT9 300-3HG10**		1	1 unit	193	0.208
	• Degree of protection IP66	Black		**3VT9 300-3HG20**		1	1 unit	193	0.202
	For use with red handle 3VT9 300-3HF20								
	• Degree of protection IP40	Yellow		**3VT9 300-3HH10**		1	1 unit	193	0.201
	• Degree of protection IP66	Yellow		**3VT9 300-3HH20**		1	1 unit	193	0.206

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	Version	Color	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	Extension shafts								
	• Length 365 mm, can be shortened			**3VT9 300-3HJ10**		1	1 unit	193	0.208
	• Length 245 ... 410 mm, extendable			**3VT9 300-3HJ20**		1	1 unit	193	0.261

Motorized operating mechanisms

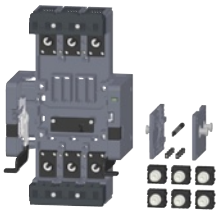
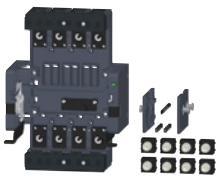
	Rated operational voltage U_s	Frequency	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	V	Hz							
Motorized operating mechanism with spring energy store									
	**With locking mechanism for 3 padlocks, degree of protection IP00**								
	24 AC/DC[1)]	50/60		**3VT9 300-3MJ00**		1	1 unit	193	1.701
	48 AC/DC	50/60		**3VT9 300-3ML00**		1	1 unit	193	1.721
	110 AC/DC	50/60		**3VT9 300-3MN00**		1	1 unit	193	1.724
	230 V AC/220 DC	50/60		**3VT9 300-3MQ00**		1	1 unit	193	1.728
	Motorized operating mechanism with counter								
	24 AC/DC[1)]	50/60		**3VT9 300-3MJ10**		1	1 unit	193	1.748
	48 AC/DC	50/60		**3VT9 300-3ML10**		1	1 unit	193	1.883
	110 AC/DC	50/60		**3VT9 300-3MN10**		1	1 unit	193	1.759
	230 V AC/220 DC	50/60		**3VT9 300-3MQ10**		1	1 unit	193	1.815
Accessories for motorized operating mechanisms									
	**Counter with cable** length 110 cm			**3VT9 300-3MF10**		1	1 unit	193	0.078
	**Extension cables for motorized operating mechanism** 12 cables, length 60 cm			**3VT9 300-3MF00**		1	1 unit	193	0.068

* You can order this quantity or a multiple thereof.

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3VT3 switch disconnectors up to 630 A

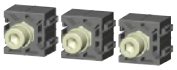
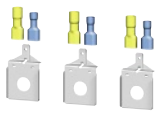
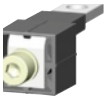
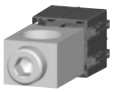
Mounting accessories

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Plug-in base assembly kits								
	**3-pole**		**3VT9 300-4PA30**		1	1 unit	193	3.230
	**4-pole**		**3VT9 300-4PA40**		1	1 unit	193	4.183
Withdrawable version								
	**3-pole**		**3VT9 300-4WA30**		1	1 unit	193	5.007
	**4-pole**		**3VT9 300-4WA40**		1	1 unit	193	5.827

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Connection accessories

	Version	Max. permissible cross-section *S*	Connection type	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm^2								kg
Connection combinations										
	Connection combinations for 3-pole version									
	Front connecting bars									
	For increased pole spacing, short	--	Al/Cu busbars/ cable lugs, flexibars		**3VT9 300-4ED30**		1	1 unit	193	0.507
	For increased pole spacing, long	--	Al/Cu busbars/ cable lugs, flexibars		**3VT9 300-4EE30**		1	1 unit	193	0.647
	**Front terminals** Included in scope of supply of all switching units	--	Al/Cu bus-bars/,cable lugs, flexibars		**3VT9 300-4TA30**		1	1 unit	193	0.205
	**Rear terminals**	--	Al/Cu busbars, cable lugs		**3VT9 300-4RC30**		1	1 unit	193	0.556
	Multiple feed-in terminals[1]									
	For 1 cable	1 x 25 ... 150	Cu/Al cables		**3VT9 315-4TD30**		1	1 unit	193	0.313
		1 x 150 ... 240	Cu/Al cables		**3VT9 324-4TD30**		1	1 unit	193	0.311
	For 2 cables	2 x 25 ... 150	Cu/Al cables		**3VT9 315-4TF30**		1	1 unit	193	0.924
		2 x 150 ... 240	Cu/Al cables		**3VT9 324-4TF30**		1	1 unit	193	0.840
	For 6 cable	6 x 6 ... 35	Cu/Al cables		**3VT9 303-4TF30**		1	1 unit	193	0.308
	**Auxiliary conductor terminals**	1.5 ... 2.5; 4 ... 6	Flexible Cu conductor		**3VT9 300-4TN30**		1	1 unit	193	0.033
	**Box terminals**	35 ... 240	Cu cables, flexibars		**3VT9 300-4TC30**		1	1 unit	193	0.470
	Terminals for 4-pole version									
	**Rear terminals**	--	Al/Cu busbars, cable lugs		**3VT9 300-4RC00**		1	1 unit	193	0.210
	Multiple feed-in terminals									
	For 1 cable	1 x 25 ... 150	Cu/Al cables		**3VT9 315-4TD00**		1	1 unit	193	0.133
		1 x 150 ... 240	Cu/Al cables		**3VT9 324-4TD00**		1	1 unit	193	0.118
	For 2 cables	2 x 25 ... 150	Cu/Al cables		**3VT9 315-4TF00**		1	1 unit	193	0.318
		2 x 150 ... 240	Cu/Al cables		**3VT9 324-4TF00**		1	1 unit	193	0.286
	For 6 cable	6 x 6 ... 35	Cu/Al cables		**3VT9 303-4TF00**		1	1 unit	193	0.119
	**Box terminals**	35 ... 240	Cu cables, flexibars		**3VT9 300-4TC00**		1	1 unit	193	0.171

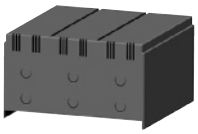
[1] Use terminal cover 3VT9 300-8CB30 to increase termination point protection to IP20.

* You can order this quantity or a multiple thereof.

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3VT3 switch disconnectors up to 630 A

Further accessories

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	**Phase barriers** Included in scope of supply of switching unit. If infeed is from below, the units must also be fitted on the sides of terminals 2, 4 and 6 with these phase barriers.							
	• For 3-pole version, 2 units		**3VT9 300-8CE30**		1	1 unit	193	0.081
	• For 4-pole version, 1 unit		**3VT9 300-8CE00**		1	1 unit	193	0.044
	**Terminal covers, degree of protection IP20** Increases degree of protection of connection point to IP20 when using block terminals 3VT9 224-4TD30, 3VT9 215-4TF30, 3VT9 224-4TF30 or 3VT9 203-4TF30, designed for fixed-mounted, plug-in and withdrawable versions.							
	• 3-pole version		**3VT9 300-8CB30**		1	1 unit	193	0.217
	• 4-pole version		**3VT9 300-8CB40**		1	1 unit	193	0.289
	**Locking devices for knob** • Allows the switch disconnector to be locked in the "manual off" position. • Locking is by means of up to 3 padlocks with a diameter of up to 6 mm.		**3VT9 300-3HL00**		1	1 unit	193	0.027
	**Sealing devices** Sealing for: • Overcurrent releases • Accessory compartment covers • Terminal covers • Manual operating mechanisms • Motorized operating mechanisms		**3VT9 200-8BN00**		1	1 unit	193	0.013
	**Connecting cable** For connecting switch disconnector accessories for withdrawable versions (can also be used for plug-in and fixed-mounted versions)		**3VT9 300-4PL00**		1	1 unit	193	0.168
	**Position signaling switches** For indicating the position of the switch disconnector in plug-in or withdrawable devices		**3VT9 300-4WL00**		1	1 unit	193	0.048
	**Coding sets** Prevents use of the wrong switching unit in plug-in or withdrawable devices		**3VT9 300-4WN00**		1	1 unit	193	0.017
	**Covers for pushbuttons** For motorized operating mechanisms; the cover may be equipped with a sealing device.		**3VT9 300-3MF20**		1	1 unit	193	0.016

* You can order this quantity or a multiple thereof.

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Selection and ordering data

	Version	Rated current I_n	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A							kg
Switching units									
	Fixed-mounted version								
	3-pole	1000		**3VT4 710-2DE36-0AA0**		1	1 unit	193	18.808

For accessories see "3VT5 switch disconnectors up to 1600 A" on next page

* You can order this quantity or a multiple thereof.

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3VT5 switch disconnectors up to 1600 A

Selection and ordering data

	Version	Rated current I_n	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A							kg
Switching units									
	Fixed-mounted version								
	3-pole	1600		**3VT5 716-2DE36-0AA0**		1	1 unit	193	21.142

7

Accessories

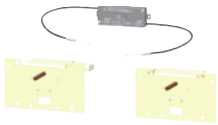
Auxiliary switches and shunt releases

	Rated operational voltage U_s	Frequency	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V	Hz							kg
Auxiliary switches and alarm switches									
	2 x NC, 2 x NO								
	60 ... 500 AC / 60 ... 240 DC	50/60		**3VT9 500-2AF10**		1	1 unit	193	0,065
	5 ... 60 AC/DC	50/60		**3VT9 500-2AF20**		1	1 unit	193	0,069
Shunt releases									
	24 AC/DC	50/60		**3VT9 500-1SF00**		1	1 unit	193	0.229
	48 AC/DC	50/60		**3VT9 500-1SG00**		1	1 unit	193	0.223
	110 AC/DC	50/60		**3VT9 500-1SH00**		1	1 unit	193	0.230
	230 AC/220 DC	50/60		**3VT9 500-1SJ00**		1	1 unit	193	0.231
	400 AC	50/60		**3VT9 500-1SK00**		1	1 unit	193	0.233
	500 AC	50/60		**3VT9 500-1SL00**		1	1 unit	193	0.237
Undervoltage releases									
	24 AC/DC	50/60		**3VT9 500-1UF00**		1	1 unit	193	0.236
	48 AC/DC	50/60		**3VT9 500-1UG00**		1	1 unit	193	0.243
	110 AC/DC	50/60		**3VT9 500-1UH00**		1	1 unit	193	0.238
	230 AC/220 DC	50/60		**3VT9 500-1UJ00**		1	1 unit	193	0.241
	400 AC	50/60		**3VT9 500-1UK00**		1	1 unit	193	0.237
	500 AC	50/60		**3VT9 500-1UL00**		1	1 unit	193	0.236

* You can order this quantity or a multiple thereof.

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Manual operating mechanisms

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Rotary operating mechanisms								
	**Rotary operating mechanisms** • Lockable with padlock		**3VT9 500-3HA10**		1	1 unit	193	1.160
	**Actuator lever** Lockable with padlock							
	• Black		**3VT9 500-3HE10**		1	1 unit	193	0.290
	• Red		**3VT9 500-3HF10**		1	1 unit	193	0.294
	**Coupling drivers**							
	• IP44 degree of protection		**3VT9 500-3HG10**		1	1 unit	193	0.280
	• Degree of protection IP66		**3VT9 500-3HG20**		1	1 unit	193	0.295
	**Extension shaft** Length 365 mm		**3VT9 500-3HJ10**		1	1 unit	193	0.359
Mechanical interlocks								
	Mechanical interlock for manual operating mechanism For switch disconnectors, fixed-mounted versions Both switch disconnectors must be equipped with one manual operating mechanism and one knob as a minimum.		**3VT9 500-8LA00**		1	1 unit	193	0.178
	**Mechanical interlock** by means of Bowden wire Mechanical interlock by means of Bowden wire is intended for withdrawable and fixed-mounted versions							
	• For switch disconnectors, fixed-mounted versions		**3VT9 500-8LC10**		1	1 unit	193	2.808

Motorized operating mechanisms

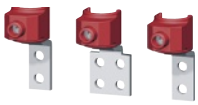
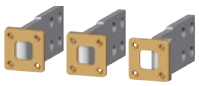
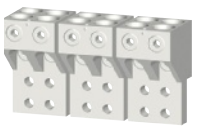
	Rated operational voltage U_s	Frequency	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	V	Hz							
Motorized operating mechanisms									
	**Motorized operating mechanism**								
	110 AC/DC	50/60		**3VT9 500-3MN00**		1	1 unit	193	4.446
	230 V AC/220 DC	50/60		**3VT9 500-3MQ00**		1	1 unit	193	4.479
	Motorized operating mechanism with counter								
	110 AC/DC	50/60		**3VT9 500-3MN10**		1	1 unit	193	4.619
	230 V AC/220 DC	50/60		**3VT9 500-3MQ10**		1	1 unit	193	4.490

* You can order this quantity or a multiple thereof.

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3VT5 switch disconnectors up to 1600 A

Connection accessories

	Version	Max. permissible cross-section *S*	Cable type	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm²								kg
Connection combinations										
	**Box terminals, double** In order to connect four 70 ... 240 mm² cables, two 3VT9 524-4TG30 connection combinations can be used. Not for switching unit 3VT4 710-3AA30-0AA0.	2 x 70 ... 240	Cu/Al cables		**3VT9 524-4TG30**		1	1 unit	193	1.413
	**Box terminals** In order to connect three 70 ... 240 mm² cables it is possible to combine connection combinations 3VT9 524-4TF30 and 3VT9 524-4TF30 with one another.	70 ... 240 mm	Cu/Al cables		**3VT9 524-4TF30**		1	1 unit	193	0.756
	Rear terminals									
	• Up to 1000 A	--	Busbars		**3VT9 400-4RC30**		1	1 unit	193	1.416
	• Up to 1600 A	--	Busbars		**3VT9 500-4RC30**		1	1 unit	193	2.677
	**Front terminals** For withdrawable version	--	Busbars		**3VT9 500-4EF30**		1	1 unit	193	2.616
	**Rear terminals** For withdrawable version	--	Busbars		**3VT9 500-4RD30**		1	1 unit	193	3.200
	Terminals for circular conductors									
	• For 2 cables	150 ... 300	Cu/Al cables		**3VT9 532-4TF30**		1	1 unit	193	1,050
	• For 3 cables	150 ... 300	Cu/Al cables		**3VT9 533-4TF30**		1	1 unit	193	1.965
	• For 4 cables	150 ... 300	Cu/Al cables		**3VT9 534-4TF30**		1	1 unit	193	1.835

* You can order this quantity or a multiple thereof.

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Further accessories

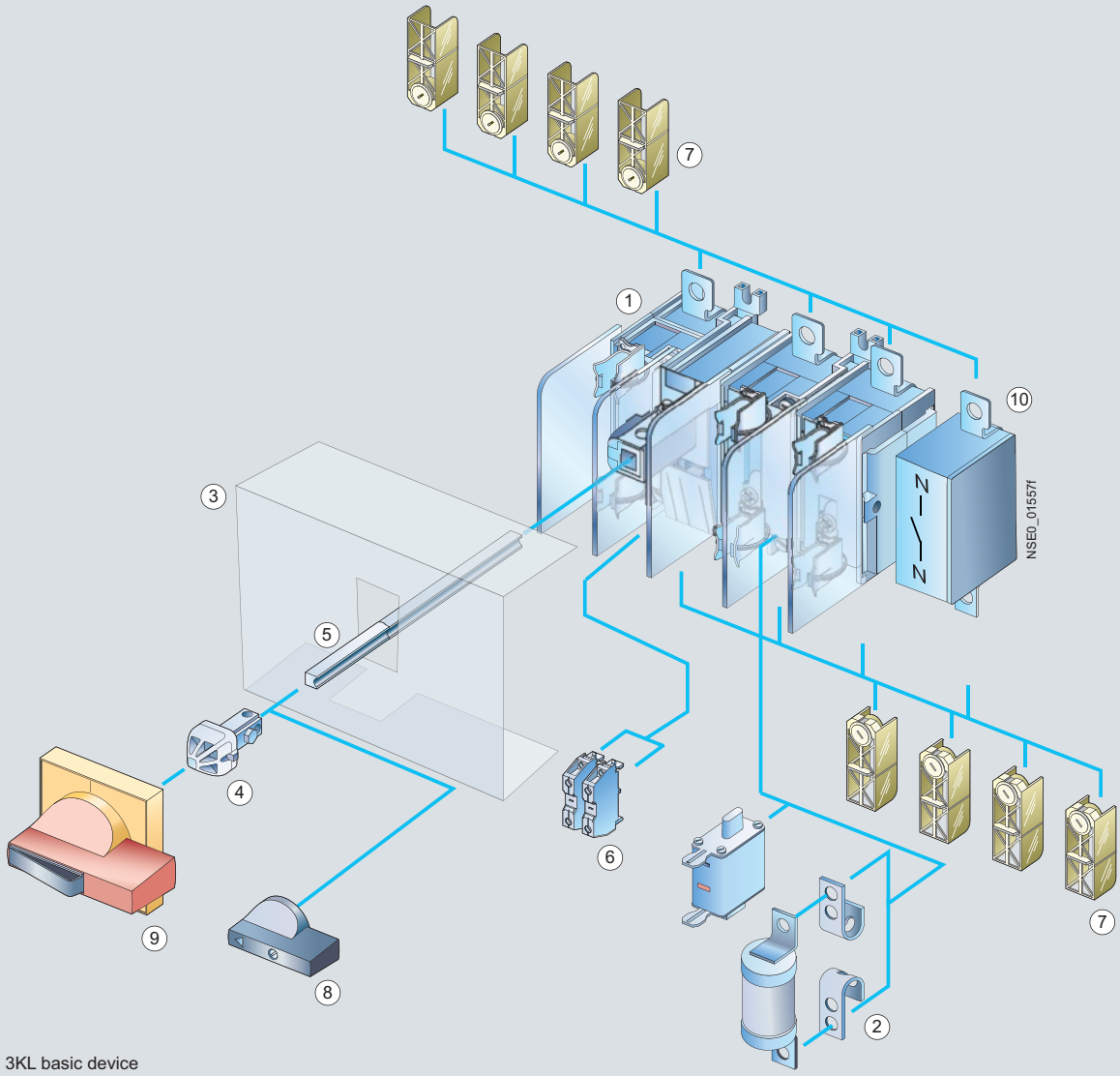
	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Accessories								
	**Phase barriers** In the case of a reversed connection (supply via terminals 2, 4 and 6) the phase barriers must also be installed on the underside. Not included in all switching units for the fixed-mounted version. • For switching units, fixed-mounted versions		**3VT9 500-8CE30**		1	1 unit	193	0.273
	• For withdrawable versions		**3VT9 500-8CF30**		1	1 unit	193	0.243
	**Terminal covers** Increases the degree of protection to IP20. Designed for withdrawable versions with front terminals. To improve safety during maintenance of the electrical device, we recommend installation of a terminal cover on both sides of the withdrawable device. • For fixed-mounted versions with rear terminals • For withdrawable versions with front terminals		**3VT9 500-8CD30** **3VT9 500-8CC30**		1 1	1 unit 1 unit	193 193	0.403 0.225
	**Insulator seals** Designed for fixed-mounted and withdrawable versions of switching units with rear terminals. The insulation seals are used to insulate the connection combinations for rear connection of the switchgear. Installation is recommended for all connection combinations with rear terminals. • For rear terminals		**3VT9 500-8CG30**		1	1 unit	193	0.178
	**Locking devices for knob** Allows switch disconnector to be locked in the "manual off" position. For locking purposes up to three padlocks with a max. diameter of 4 ... 6 mm can be used.		**3VT9 500-3HL00**		1	1 unit	193	0,052
	**Sealing devices** Sealing for: • Overcurrent releases • Accessory compartment covers		**3VT9 500-8BN00**		1	1 unit	193	0,016
	**Fixing screws** • For withdrawable versions		**3VT9 500-4SA40**		1	1 unit	193	0.110
	**Covers for pushbuttons** • In the case of motorized operating mechanisms the cover is sealable.		**3VT9 500-3MF20**		1	1 unit	193	0,032

* You can order this quantity or a multiple thereof.

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Introduction

Overview



1. 3KL basic device
2. Fuses, optionally BS-88 or LV HRC fuses
3. Terminal cover, IP20 (vertical to operator side)
4. Coupling driver
5. Extension shaft
6. Standard products from the Siemens 3SB1 range are used as auxiliary switches.

All components from the switch to the actuator are provided with non-interchangeability features.

Optional

7. Single-pole terminal cover from 63 A to 630 A, IP20 (vertical to operator side)
8. 8UC9 knob for fixed mounting in standard version (black) or EMERGENCY-STOP version (red), or
9. 8UC7 door-coupling rotary operating mechanism in standard version (ti-grey) or EMERGENCY-STOP version (red/yellow)
10. 4th pole (optional)

All switch disconnectors feature double contact interruption and an isolating distance. As a result, the fuses of the switch disconnectors are de-energized in the OFF position.
Generally all 3K.5 switch disconnectors can be secured to the shaft with padlock against unauthorized reclosing.

Identical accessories for 3KA switch disconnectors and 3KL and 3KM switch disconnectors with fuses simplify stock keeping. Please inquire about a special version with reduced values that is particularly resistant to atmospheres high in sulfur, e.g. in the paper and cellulose processing industries.

Application

3KL switch disconnectors with fuses protect against overload and short-circuits as main control and EMERGENCY-STOP switches of switchgear assemblies, distribution boards, power supply and motor outgoing feeders.
In conjunction with Siemens SITOR semiconductor fuses, they are also used in UPS systems, frequency converters and capacitor control systems.

All 3K switch disconnectors are climate-proof and meet the requirements of IEC 60947-1, IEC 60947-3 and VDE 0660 Part 107.

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Technical specifications

Standards		IEC 60947-1, IEC 60947-3, VDE 0660 Part 107						
Type		**3KL50**	**3KL52[1)]**	**3KL53[1)]**	**3KL55[1)]**	**3KL57[1)]**	**3KL61[1)]**	**3KL62[1)]**
Rated uninterrupted current I_u For fuse links according to DIN 43620, (when SITOR semiconductor fuses are used, a reduction of rated current is necessary, see reference to technical information at start of chapter)	A Size	63 00 and 000	125 00 and 000	160 00 and 000	250 1 and 2	400 1 and 2	630 3 and 2	800 3 and 2
Conventional free-air thermal current I_{th}[2)]	A	63	125	160	250	400	630	800
Rated insulation voltage U_i	V	690	1000	1000	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp}	kV	6	8	8	8	8	8	8
Rated operational voltage U_e 50/60 Hz AC DC	 V V	 690 440 (3 conducting paths series-connected) 220 (2 conducting paths series-connected) [3)]						
Rated short-circuit making capacity with fuses peak value at 50/60 Hz 690 V AC	kA	220	220	220	176	176	105	105
Rated conditional short-circuit current with fuses	kA	100	100	100	80	80	50	50
At 50/60 Hz 690 V AC (rms value)								
Max. rated current I_n of the fuses	A	80	160	160	400	400	630[4)]	800
Max. permissible power loss of the installed fuse • NH • BS	 W W	 6 8 (A2/A3)	 9 11.5 (A4)	 11.5 11.5	 32 32	 45 45	 48 48	 62 60.5
Permissible let-through current of the fuses	kA	8	17	17	30[5)]	30[5)]	50	50
Maximum permissible let-through I^2t value	kA^2s	55	223	223	1000	1000	5400	10500
Breaking capacity (infeed from the top or bottom)								
At 400 V AC • Breaking current I_c (at p.f. = 0.35, rms value) • Rated operational current I_e with AC-21A, AC-22A, AC-23A • Motor switching capacity AC-23A	 A A kW	 500 63 30	 1000 125 65	 1280 160 80	 2000 250 132	 3200 400 200	 5100 630[6)] 335	 6400 800[6)] 400
At 500 V AC • Breaking current I_c (at p.f. = 0.35, rms value) • Rated operational current I_e with AC-21A, AC-22A, AC-23A • Motor switching capacity AC-23A	 A A kW	 500 63 40	 1000 125 90	 1280 160 110	 2000 250 185	 3200 400 280	 5100 630[6)] 425	 6400 800[6)] 500
At 690 V AC • Breaking current I_c (at p.f. = 0.35, rms value) • Rated operational current I_e with AC-21A, AC-22A, AC-23A • Motor switching capacity AC-23A	 A A kW	 500 63 50	 1000 125 110	 1280 160 150	 2000 250 220	 3200 400 375	 5100 630[5)] 560	 6400 800[5)] 700
At 440 V DC (3 conducting paths series-connected)[7)] • Breaking current I_c (L/R = 15 ms) • Rated operational current I_e at DC-23A	 A A	 250 63	 500 125	 640 160	 1000[8)] 250[10)]	 1600 400	 2520[9)] 630[10)]	 2520[9)] 630[10)]
Rated short-time current I_{cw} (1 s current, rms value)	kA	2.5	3.2	3.2	8	11	32	32
Permissible ambient temperature	°C °C	-25 ... +55 for operation[4)], -50 ... +80 when stored						
Mechanical endurance, operating cycles		15000	15000	15000	12000	12000	3000	3000
Degree of protection		IP00/IP20 (from the operator side, with fuse and terminal covers)						
Power loss of the switch disconnector at I_{th} (plus power loss of the fuses)	W	8.5	22	36	33	86	140	225
Main conductor connections Busbar systems, max. dimensions (W x T)	mm	25 x 9	45 x 10	45 x 10	40 x 12	40 x 15	40 x 17	40 x 17
Cable lug, max. conductor cross-section (stranded)	mm^2	35	70	120	150	2 x 150 or 1 x 240	2 x 240	2 x 240
Tightening torque Terminal screws	Nm	6 ... 7.5 M6	7 ... 10 M6	18 ... 22 M8	35 ... 45 M10	35 ... 45 M10	56 M12	56 M12
Protective conductor connections Flat bars Cable lug, max. conductor cross-section (stranded)	 mm mm^2	 -- --	 -- --	 -- --	 20 x 2.5 70	 20 x 2.5 120	 -- --	 -- --

1) Technical specifications for approval on request.

2) Configuring note: Max. permissible operating temperature for fuse blades 135 °C, for connections 100 °C.

3) 110 V (one conducting path).

4) With 3KL61 for operation -25 °C ... +35 °C, at +55 °C: I_{th} = 570 A.

5) With 3ND1 switchgear protection fuse.

6) AC-23B.

7) 220 V DC (L1 and L3 series-connected) or 110 V DC (one conducting path) at DC-23A.

8) At 440 V L/R = 4 ms, at 220 V L/R = 15 ms.

9) Only DC-22A (L/R = 2.5 ms).

10) At 440 V DC-22A, at 220 V DC-23A.

Note:

For the 3KL switch disconnectors, complete kits for standard and EMERGENCY-STOP application are available for installation in the side and rear panels of control cabinets.

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Floor mounting

Selection and ordering data

All switch disconnectors with degree of protection IP00
Conductor connecting screws and fuse partitions are generally included in the scope of supply.

Rated uninterrupted current I_u	LV HRC fuse links[1] acc. to DIN 43620[2] Size	Operational class	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
A									kg
Complete versions with 8UC7 door-coupling rotary operating mechanism (black handle)									
3-pole for NH fuse systems									
63	00 and 000	gG, aM		**3KL50 30-1GB01**		1	1 unit	103	1.469
125	00 and 000	gG, aM		**3KL52 30-1GB01**		1	1 unit	103	2.369
160	00 and 000	gG, aM		**3KL53 30-1GB01**		1	1 unit	103	2.500
250	1 and 2	gG, aM		**3KL55 30-1GB01**		1	1 unit	103	6.043
400	2 and 1	gG, aM		**3KL57 30-1GB01**		1	1 unit	103	6.248
630	3 and 2	gG, aM		**3KL61 30-1GB00**		1	1 unit	113	18.680
630[3]	3 and 2[3]	gG, aM[3]		**3KL61 30-1GB02**		1	1 unit	113	16.207
800[3]	3 and 2[3]	gG, aM[3]		**3KL62 30-1GB02**		1	1 unit	113	17.271
4-pole for NH fuse systems									
63	00 and 000	gG, aM		**3KL50 40-1GB01**		1	1 unit	103	2.578
125	00 and 000	gG, aM		**3KL52 40-1GB01**		1	1 unit	103	2.592
160	00 and 000	gG, aM		**3KL53 40-1GB01**		1	1 unit	103	2.733
250	1 and 2	gG, aM		**3KL55 40-1GB01**		1	1 unit	103	6.618
400	2 and 1	gG, aM		**3KL57 40-1GB01**		1	1 unit	103	6.836
630	3 and 2	gG, aM		**3KL61 40-1GB00**		1	1 unit	113	17.340
3-pole for fuses acc. to BS 88									
63	Form A2/A3			**3KL50 30-1GG01**		1	1 unit	103	1.391
125	Form A2/A3			**3KL52 30-1GG01**		1	1 unit	103	2.325
125	Form A4			**3KL52 30-1GJ01**		1	1 unit	103	2.351
160	Form A4			**3KL53 30-1GJ01**		1	1 unit	103	2.522
250	Form B1-B3			**3KL55 30-1GG01**		1	1 unit	103	4.500
400	Form B1-B3			**3KL57 30-1GG01**		1	1 unit	103	6.538
630	Form C1-C3			**3KL61 30-1GG00**		1	1 unit	113	17.880
800	Form C1-C3			**3KL62 30-1GG00**		1	1 unit	113	16.576
4-pole for fuses acc. to BS 88									
63	Form A2/A3			**3KL50 40-1GG01**		1	1 unit	103	2.529
125	Form A2/A3			**3KL52 40-1GG01**		1	1 unit	103	2.522
125	Form A4			**3KL52 40-1GJ01**		1	1 unit	103	2.603
160	Form A4			**3KL53 40-1GJ01**		1	1 unit	103	2.749
250	Form B1-B3			**3KL55 40-1GG01**		1	1 unit	103	6.616
400	Form B1-B3			**3KL57 40-1GG01**		1	1 unit	103	7.090
630	Form C1-C3			**3KL61 40-1GG00**		1	1 unit	113	16.996
Basic switch versions without handle									
3-pole for NH fuse systems									
63	00 and 000	gG, aM	▶	**3KL50 30-1AB01**		1	1 unit	103	1.014
125	00 and 000	gG, aM	▶	**3KL52 30-1AB01**		1	1 unit	103	1.965
160	00 and 000	gG, aM	▶	**3KL53 30-1AB01**		1	1 unit	103	2.140
250	1 and 2	gG, aM	▶	**3KL55 30-1AB01**		1	1 unit	103	5.044
400	2 and 1	gG, aM	▶	**3KL57 30-1AB01**		1	1 unit	103	5.390
630	3 and 2	gG, aM		**3KL61 30-1AB0**		1	1 unit	113	17.640
630[3]	3 and 2[3]	gG, aM[3]		**3KL61 30-1AB02**		1	1 unit	113	14.720
800[3]	3 and 2[3]	gG, aM[3]		**3KL62 30-1AB02**		1	1 unit	113	16.120
4-pole for NH fuse systems									
63	00 and 000	gG, aM		**3KL50 40-1AB01**		1	1 unit	103	2.169
125	00 and 000	gG, aM		**3KL52 40-1AB01**		1	1 unit	103	2.125
160	00 and 000	gG, aM		**3KL53 40-1AB01**		1	1 unit	103	2.344
250	1 and 2	gG, aM		**3KL55 40-1AB01**		1	1 unit	103	5.577
400	2 and 1	gG, aM		**3KL57 40-1AB01**		1	1 unit	103	5.880
630	3 and 2	gG, aM		**3KL61 40-1AB00**		1	1 unit	113	16.520
3-pole for fuses acc. to BS 88									
63	Form A2/A3			**3KL50 30-1AG01**		1	1 unit	103	0.975
125	Form A2/A3			**3KL52 30-1AG01**		1	1 unit	103	1.939
125	Form A4			**3KL52 30-1AJ01**		1	1 unit	103	1.975
160	Form A4			**3KL53 30-1AJ01**		1	1 unit	103	2.170
250	Form B1-B3			**3KL55 30-1AG01**		1	1 unit	103	5.051
400	Form B1-B3			**3KL57 30-1AG01**		1	1 unit	103	5.666
630	Form C1-C3			**3KL61 30-1AG00**		1	1 unit	113	15.075
800	Form C1-C3			**3KL62 30-1AG00**		1	1 unit	113	10.100


3KL52 30-1AB01


3KL52 40-1AB01


3KL52 30-1AJ01

Fuse monitoring through 5TT3 170 safety monitor with a floating 1 NO signaling contact, see chapter 5 "Fuse Systems".

Footnotes see page 7/71.

* You can order this quantity or a multiple thereof.

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3KL52 40-1AJ01 with fuses

	Rated uninterrupted current I_u	LV HRC fuse links[1] acc. to DIN 43620[2] Size	Operational class	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A									kg
	4-pole for fuses acc. to BS 88									
	63	Form A2/A3			**3KL50 40-1AG01**		1	1 unit	103	2.075
	125	Form A2/A3			**3KL52 40-1AG01**		1	1 unit	103	2.161
	125	Form A4			**3KL52 40-1AJ01**		1	1 unit	103	2.230
	160	Form A4			**3KL53 40-1AJ01**		1	1 unit	103	2.390
	250	Form B1-B3			**3KL55 40-1AG01**		1	1 unit	103	5.624
	400	Form B1-B3			**3KL57 40-1AG01**		1	1 unit	103	6.134
	630	Form C1-C3			**3KL61 40-1AG00**		1	1 unit	113	17.020
8UC7 EMERGENCY-STOP door-coupling rotary operating mechanisms (red handle, yellow indicator plate) for basic switch versions without handle										
	3-pole for NH fuse systems									
	63	00 and 000	gG, aM		**8UC71 21-3BB10**		1	1 unit	103	0.368
	125	00 and 000	gG, aM		**8UC72 22-3BB20**		1	1 unit	103	0.423
	160	00 and 000	gG, aM		**8UC72 22-3BB20**		1	1 unit	103	0.423
	250	1 and 2	gG, aM		**8UC73 23-3BB30**		1	1 unit	103	1.000
	400	2 and 1	gG, aM		**8UC73 23-3BB30**		1	1 unit	103	1.000
	630	3 and 2	gG, aM		**8UC74 24-3BB44** +		1	1 unit	103	1.200
				►	**8UC92 53**		1	1 unit	103	0.113
	800	3 and 2	gG, aM		**8UC74 24-3BB44** +		1	1 unit	103	1.200
				►	**8UC92 53**		1	1 unit	103	0.113
	4-pole for NH fuse systems									
	63	00 and 000	gG, aM		**8UC72 22-3BB20**		1	1 unit	103	0.423
	125	00 and 000	gG, aM		**8UC72 22-3BB20**		1	1 unit	103	0.423
	160	00 and 000	gG, aM		**8UC72 22-3BB20**		1	1 unit	103	0.423
	250	1 and 2	gG, aM		**8UC73 23-3BB30**		1	1 unit	103	1.000
	400	2 and 1	gG, aM		**8UC73 23-3BB30**		1	1 unit	103	1.000
	630	3 and 2	gG, aM		**8UC74 24-3BB44** +		1	1 unit	103	1.200
				►	**8UC92 53**		1	1 unit	103	0.113
	3-pole for fuses acc. to BS 88									
	63	Form A2/A3			**8UC71 21-3BB10**		1	1 unit	103	0.368
	125	Form A2/A3			**8UC72 22-3BB20**		1	1 unit	103	0.423
	125	Form A4			**8UC72 22-3BB20**		1	1 unit	103	0.423
	160	Form A4			**8UC72 22-3BB20**		1	1 unit	103	0.423
	250	Form B1-B3			**8UC73 23-3BB30**		1	1 unit	103	1.000
	400	Form B1-B3			**8UC73 23-3BB30**		1	1 unit	103	1.000
	630	Form C1-C3			**8UC74 24-3BB44** +		1	1 unit	103	1.200
				►	**8UC92 53**		1	1 unit	103	0.113
	800	Form C1-C3			**8UC74 24-3BB44** +		1	1 unit	103	1.200
				►	**8UC92 53**		1	1 unit	103	0.113
	4-pole for fuses acc. to BS 88									
	63	Form A2/A3			**8UC72 22-3BB20**		1	1 unit	103	0.423
	125	Form A2/A3			**8UC72 22-3BB20**		1	1 unit	103	0.423
	125	Form A4			**8UC72 22-3BB20**		1	1 unit	103	0.423
	160	Form A4			**8UC72 22-3BB20**		1	1 unit	103	0.423
	250	Form B1-B3			**8UC73 23-3BB30**		1	1 unit	103	1.000
	400	Form B1-B3			**8UC73 23-3BB30**		1	1 unit	103	1.000
	630	Form C1-C3			**8UC74 24-3BB44** +		1	1 unit	103	1.200
				►	**8UC92 53**		1	1 unit	103	0.113



8UC71 21-3BB10

Fuse monitoring through 5TT3 170 safety monitor with a floating 1 NO signaling contact, see chapter 5 "Fuse Systems".

Footnotes for pages 7/70 and 7/71:

1) Silver-plated fuse blades. Silver-plated isolating blades can be used if desired.

2) For the assignment of semiconductor fuses see page 7/75.

3) With SITOR 3NE fuse links cULus-approved.

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Front mounting

Selection and ordering data

All switch disconnectors with degree of protection IP00
Conductor connecting screws and fuse partitions are generally included in the scope of supply.

Rated uninterrupted current I_u	LV HRC fuse links[1] acc. to DIN 43620[2] Size	Operational class	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
A									kg
Assembly kits (IP40) comprising: lockable handle, cover for NH fuse systems (locked in ON state) and three terminal covers for infeed side for basic switch versions without handle									
3-pole, assembly kits for mounting in control cabinet side panels									
• Black handle									
63	00	gG, aM		**3KX3 516-3AA**		1	1 unit	103	0.667
125	00	gG, aM		**3KX3 526-3AA**		1	1 unit	103	0.840
160	00	gG, aM		**3KX3 536-3AA**		1	1 unit	103	0.850
250	1 and 2	gG, aM		**3KX3 556-3AA**		1	1 unit	103	1.670
400	2 and 1	gG, aM		**3KX3 556-3AA**		1	1 unit	103	1.670
• EMERGENCY-STOP red handle									
63	00	gG, aM		**3KX3 516-3BA**		1	1 unit	103	0.625
125	00	gG, aM		**3KX3 526-3BA**		1	1 unit	103	0.800
160	00	gG, aM		**3KX3 536-3BA**		1	1 unit	103	0.870
250	1 and 2	gG, aM		**3KX3 556-3BA**		1	1 unit	103	1.670
400	2 and 1	gG, aM		**3KX3 556-3BA**		1	1 unit	103	1.670

Fuse monitoring through 5TT3 170 safety monitor with a floating 1 NO signaling contact, see chapter 5 "Fuse Systems".

1) Silver-plated fuse blades. Silver-plated isolating blades can be used if desired.

2) For the assignment of semiconductor fuses see page 7/75.

* You can order this quantity or a multiple thereof.

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Selection and ordering data

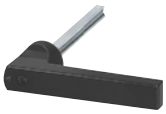
	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
3KL50 30								
 3KX3 552-3DA01	**Terminal covers** For 3-pole devices (1 set = 6 units)	►	**3KX3 552-3DA01**		1	1 unit	103	0.078
 3KX3 5.7-3AA	**Fuse covers** (interlock only detachable in the OFF position)	►	**3KX3 517-3AA**		1	1 unit	103	0.065
	Cover IP20 For 3-pole devices	►	**3KX3 507-0CA02**		1	1 unit	103	0.530
	Fuse partitions (1 set = 5 units)	►	**3KX3 507-0AA01**		1	1 unit	103	0.040
 3KX3 507-0BA01	**Lyre-shaped fuse covers** (1 set = 6 units)		**3KX3 507-0BA01**		1	1 unit	103	0.032
	Door-coupling rotary operating mechanisms IP65							
	Black handle, shaft 300 mm		**8UC71 11-1BB10**		1	1 unit	103	0.358
	EMERGENCY-STOP (yellow/red), shaft 300 mm		**8UC71 21-3BB10**		1	1 unit	103	0.368
	Operating mechanisms for fixed mounting Black handle, shaft 250 mm	►	**3KX3 516-1AA**		1	1 unit	103	0.102
	Extension shaft 300 mm long		**8UC60 31**		1	1 unit	103	0.068
	Extension shaft 600 mm long		**8UC60 81**		1	1 unit	103	0.136
	Shaft connecting pieces		**8UC60 21**		1	1 unit	103	0.027
 3SB14 00-0A	**Auxiliary switches**							
	1 NO + 1 NC		**3SB14 00-0A**		1	1 unit	41J	0.019
	2 NO		**3SB14 00-0G**		1	1 unit	41J	0.019
	2 NC		**3SB14 00-0H**		1	1 unit	41J	0.020
	Fuse monitor connections (1 set = 6 units)		**3KX3 505-0AA**		1	1 unit	103	0.022
3KL50 40/3KL52/3KL53								
 3KX3 552-3DA01	**Terminal covers** For 3-pole devices (1 set = 6 units)							
	• 3KL52	►	**3KX3 552-3DA01**		1	1 unit	103	0.078
	• 3KL53	►	**3KX3 553-3DA01**		1	1 unit	103	0.151
	For 4-pole devices (1 set = 8 units)							
	• 3KL50 40, 3KL52		**3KX3 552-3DB01**		1	1 unit	103	0.107
	• 3KL53		**3KX3 553-3DB01**		1	1 unit	103	0.174
 3KX3 5.7-3AA	**Fuse covers**[1] (interlock only detachable in the OFF position)	►	**3KX3 527-3AA**		1	1 unit	103	0.070
	Cover IP20 For 3KL52 3-pole devices	►	**3KX3 527-0CA02**		1	1 unit	103	0.745
	Cover IP20 For 3KL53 3-pole devices	►	**3KX3 537-0CA02**		1	1 unit	103	0.725
	Fuse partitions (1 set = 5 units)	►	**3KX3 507-0AA01**		1	1 unit	103	0.040
 3KX3 507-0BA01	**Lyre-shaped fuse covers** (1 set = 6 units)		**3KX3 507-0BA01**		1	1 unit	103	0.032

[1] For 3KX3 527-3AA: Not suitable for use with type A4 BS fuses.

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Accessories

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	Door-coupling rotary operating mechanisms IP65							
	Black handle, shaft 300 mm		**8UC72 12-1BB20**		1	1 unit	103	0.424
	EMERGENCY-STOP (yellow/red), shaft 300 mm		**8UC72 22-3BB20**		1	1 unit	103	0.423
	Operating mechanisms for fixed mounting Black handle, shaft 250 mm	►	**3KX3 536-1AA**		1	1 unit	103	0.150
	Extension shaft 300 mm long		**8UC60 32**		1	1 unit	103	0.135
	Extension shaft 600 mm long		**8UC60 82**		1	1 unit	103	0.265
	Shaft connecting pieces		**8UC60 22**		1	1 unit	103	0.022
	Auxiliary switches							
	1 NO + 1 NC		**3SB14 00-0A**		1	1 unit	41J	0.019
	2 NO		**3SB14 00-0G**		1	1 unit	41J	0.019
	2 NC		**3SB14 00-0H**		1	1 unit	41J	0.020
3SB14 00-0A	1 NO + 1 NC, 20 ms leading		**3KX3 552-3EA01**		1	1 unit	103	0.022
	Fuse monitor connections (1 set = 6 units)		**3KX3 505-0AA**		1	1 unit	103	0.022
3KL55/3KL57								
	Terminal covers							
	For 3-pole devices (1 set = 6 units)	►	**3KX3 557-3DA01**		1	1 unit	103	0.316
	For 4-pole devices (1 set = 8 units)		**3KX3 557-3DB01**		1	1 unit	103	0.389
	Fuse covers (interlock only detachable in the OFF position)	►	**3KX3 557-3AA**		1	1 unit	103	0.231
	**Cover IP20** For 3-pole devices	►	**3KX3 557-0CA02**		1	1 unit	103	1.255
	Fuse partitions (1 set = 5 units)	►	**3KX3 557-0AA01**		1	1 unit	103	0.122
3KX3 5.7-3AA	**Door-coupling rotary operating mechanisms IP65**							
	Black handle, shaft 300 mm		**8UC73 13-1BB30**		1	1 unit	103	0.998
	EMERGENCY-STOP (yellow/red), shaft 300 mm		**8UC73 23-3BB30**		1	1 unit	103	1.000
	**Operating mechanisms for fixed mounting, size 3** Black handle, shaft 250 mm	►	**3KX3 176-1E**		1	1 unit	103	0.287
	Extension shaft 300 mm long		**8UC60 33**		1	1 unit	103	0.215
	Extension shaft 600 mm long		**8UC60 83**		1	1 unit	103	0.424
3KX3 176-1E	**Shaft connecting pieces**		**8UC60 23**		1	1 unit	103	0.083
	Auxiliary switches							
	1 NO + 1 NC		**3SB14 00-0A**		1	1 unit	41J	0.019
	2 NO		**3SB14 00-0G**		1	1 unit	41J	0.019
	2 NC		**3SB14 00-0H**		1	1 unit	41J	0.020
	1 NO + 1 NC, 20 ms leading		**3KX3 552-3EA01**		1	1 unit	103	0.022
	Fuse monitor connections		**3KX3 505-0AA**		1	1 unit	103	0.022
3SB14 00-0A	(1 set = 6 units)							
3KL61/3KL62								
	Terminal covers							
	For 3-pole devices (1 set = 6 units)	►	**3KX3 561-3DA01**		1	1 unit	103	0.282
	For 4-pole devices (1 set = 8 units)		**3KX3 561-3DB01**		1	1 unit	103	0.360
	Fuse covers							
	Cover plate		**3KX3 561-0AA00**		1	1 unit	113	0.372
	Complete covers[1]		**3KX3 561-1AA00**		1	1 unit	113	0.408
	Door-coupling rotary operating mechanisms IP65							
	Black handle, shaft 300 mm		**8UC74 14-1BB44**		1	1 unit	103	1.228
			+					
8UC92 53		►	**8UC92 53**		1	1 unit	103	0.113
	EMERGENCY-STOP (yellow/red), shaft 300 mm		**8UC74 24-3BB44**		1	1 unit	103	1.200
			+					
		►	**8UC92 53**		1	1 unit	103	0.113
	Operating mechanisms for fixed mounting, size 5 Black handle, shaft 250 mm	►	**3KX3 616-1A**		1	1 unit	103	0.500
	Extension shaft 300 mm long		**8UC60 34**		1	1 unit	103	0.316
	Extension shaft 600 mm long		**8UC60 84**		1	1 unit	103	0.628
	Shaft connecting pieces		**8UC60 24**		1	1 unit	103	0.078
	Auxiliary switches[2]							
	1 NO + 1 NC		**3KX3 612-1B**		1	1 unit	113	0.130

[1] Only for NH fuse systems

[2] For more 3SB34 00-0. contact blocks with other contact types, see catalog IC 10, chapter 10 "Pushbutton Units and Indicator Lights"

* You can order this quantity or a multiple thereof.

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Overview

The 3KL switch disconnectors with fuses are suitable for all fuses in LV HRC design, see chapter 5.
LV HRC design fuses for SITOR semiconductor protection can also be used, although it must be noted that, compared to cable and line protection fuses, these get much hotter during operation. For this reason, the fuse must be operated below the rated current I_n of the device (derating) when installed in a closed switching device.

The following table shows the permissible load currents of the SITOR fuses for installation in 3KL. The values were determined using the conductor cross-sections specified in the table.

Note

If using smaller cross-sections, a considerably higher derating is required due to the lower heat dissipation.

SITOR fuses for 3KL fuse switch disconnectors: Assignment table

SITOR fuse data						Permissible rated currents of fuse when installed in 3KL for floor mounting					
						Type 3KL			Alternative type - 3KL		
Type [1]	Rated current I_n	Rated voltage [2]	Operational class	Size	Required conductor cross-section Cu	Type	Size	Permissible load current [3]	Type	Size	Permissible load current [3]
	A	V AC			mm²			A			A
3NC2 423..	150	500	gR	3	70	3KL61	3	145	3KL62	3	150
3NC2 425..	200	500	gR	3	95	3KL61	3	180	3KL62	3	190
3NC2 427..	250	500	gR	3	120	3KL61	3	225	3KL62	3	240
3NC2 428..	300	500	gR	3	185	3KL61	3	255	3KL62	3	270
3NC2 431..	350	500	gR	3	240	3KL61	3	330	3KL62	3	345
3NC2 432..	400	500	aR	3	240	3KL61	3	400	3KL62	3	400
3NC3 336-1	630	1000	aR	3	2x (40x5)	3KL62	3	500	3KL61	3	480
3NC3 337-1	710	1000	aR	3	2x (50x5)	3KL62	3	540	--	--	--
3NC3 338-1	800	1000	aR	3	2x (40x8)	3KL62	3	600	--	--	--
3NC3 340-1	900	1000	aR	3	2x (40x8)	3KL62	3	650	--	--	--
3NC3 341-1	1000	1000	aR	3	2x (50x8)	3KL62	3	720	--	--	--
3NC3 342-1	1100	800	aR	3	2x (50x8)	3KL62	3	800	--	--	--
3NC3 343-1	1250	800	aR	3	2x (50x8)	3KL62	3	800	--	--	--
3NC3 430-1	315	1250	aR	3	2x95	3KL61	3	285	3KL62	3	300
3NC3 432-1	400	1250	aR	3	2x120	3KL61	3	365	3KL62	3	380
3NC3 434-1	500	1250	aR	3	2x150	3KL61	3	425	3KL62	3	450
3NC3 436-1	630	1250	aR	3	2x (40x5)	3KL61	3	500	3KL62	3	540
3NC3 438-1	800	1100	aR	3	2x (40x8)	3KL62	3	650	--	--	--
3NC8 423..	150	660	gR	3	70	3KL61	3	135	3KL62	3	140
3NC8 425..	200	660	gR	3	95	3KL61	3	180	3KL62	3	190
3NC8 427..	250	660	gR	3	120	3KL61	3	225	3KL62	3	240
3NC8 431..	350	660	gR	3	240	3KL61	3	300	3KL62	3	315
3NC8 434..	500	660	gR	3	2x 150	3KL61	3	425	3KL62	3	450
3NC8 444..	1000	600	aR	3	2x (60x6)	3KL62	3	800	3KL61	3	630
3NE1 020-2	80	690	gR	00	25	3KL52	00	80	3KL53	00	80
3NE1 021-0	100	690	gS	00	35	3KL52	00	100	3KL53	00	100
3NE1 021-2	100	690	gR	00	35	3KL52	00	100	3KL53	00	100
3NE1 022-0	125	690	gS	00	50	3KL52	00	125	3KL53	00	125
3NE1 022-2	125	690	gR	00	50	3KL52	00	125	3KL53	00	125
3NE1 224-0	160	690	gS	1	70	3KL55	1	160	3KL57	2	160
3NE1 224-2/-3	160	690	gR	1	70	3KL55	1	160	3KL57	2	160
3NE1 225-0	200	690	gS	1	95	3KL55	1	200	3KL57	2	200
3NE1 225-2/-3	200	690	gR	1	95	3KL55	1	200	3KL57	2	200
3NE1 227-0	250	690	gS	1	120	3KL55	1	250	3KL57	2	250
3NE1 227-2/-3	250	690	gR	1	120	3KL55	1	245	3KL57	2	250
3NE1 230-0	315	690	gS	1	2x 70	3KL57	2	315	--	--	--
3NE1 230-2/-3	315	690	gR	1	2x 70	3KL57	2	280	--	--	--
3NE1 331-0	350	690	gS	2	2x 95	3KL57	2	330	3KL61	3	350
3NE1 331-2/-3	350	690	gR	2	2x 95	3KL57	2	300	3KL61	3	350
3NE1 332-0	400	690	gS	2	2x 95	3KL57	2	375	3KL61	3	400
3NE1 332-2/-3	400	690	gR	2	2x 95	3KL57	2	340	3KL61	3	400
3NE1 333-0	450	690	gS	2	2x 120	3KL61	3	450	3KL62	3	450
3NE1 333-2/-3	450	690	gR	2	2x 120	3KL61	3	450	3KL62	3	450
3NE1 334-0	500	690	gS	2	2x 120	3KL61	3	500	3KL62	3	500
3NE1 334-2/-3	500	690	gR	2	2x 120	3KL61	3	500	3KL62	3	500
3NE1 435-0	560	690	gS	3	2x 150	3KL61	3	560	3KL62	3	560
3NE1 435-2/-3	560	690	gR	3	2x 150	3KL61	3	560	3KL62	3	560

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3KL Switch Disconnectors with Fuses up to 800 A

Fuses

SITOR fuse data						Permissible rated currents of fuse when installed in 3KL for floor mounting					
						Type 3KL			Alternative type - 3KL		
Type [1]	Rated current I_n	Rated voltage [2]	Operational class	Size	Required conductor cross-section Cu	Type	Size	Permissible load current [3]	Type	Size	Permissible load current [3]
	A	V AC			mm²			A			A
3NE1 436-0	630	690	gS	3	2x 185	3KL61	3	630	3KL62	3	630
3NE1 436-2/-3	630	690	gR	3	2x 185	3KL61	3	615	3KL62	3	630
3NE1 437-0	710	690	gS	3	2x (40x5)	3KL61	3	630	3KL62	3	710
3NE1 437-1	710	600	gR	3	2x (40x5)	3KL61	3	630	3KL62	3	710
3NE1 437-2/-3	710	690	gR	3	2x (40x5)	3KL61	3	630	3KL62	3	700
3NE1 438-0	800	690	gS	3	2x (50x5)	3KL61	3	630	3KL62	3	800
3NE1 438-1	800	600	gR	3	2x (50x5)	3KL61	3	630	3KL62	3	800
3NE1 438-2/-3	800	690	gR	3	2x (50x5)	3KL61	3	630	3KL62	3	760
3NE1 447-2/-3	670	690	gR	3	2x (40x5)	3KL61	3	630	3KL62	3	670
3NE1 448-2/-3	850	690	gR	3	2x (40x8)	3KL61	3	630	3KL62	3	790
3NE1 802-0	40	690	gS	000	10	3KL50	00	40	3KL52	00	40
3NE1 803-0	35	690	gS	000	6	3KL50	00	35	3KL52	00	35
3NE1 813-0	16	690	gS	000	1.5	3KL50	00	16	3KL52	00	16
3NE1 814-0	20	690	gS	000	2.5	3KL50	00	20	3KL52	00	20
3NE1 815-0	25	690	gS	000	4	3KL50	00	25	3KL52	00	25
3NE1 817-0	50	690	gS	000	10	3KL50	00	50	3KL52	00	50
3NE1 818-0	63	690	gS	000	16	3KL50	00	63	3KL52	00	63
3NE1 820-0	80	690	gS	000	25	3KL52	00	80	--	--	--
3NE3 221	100	1000	aR	1	35	3KL55	1	90	3KL57	2	95
3NE3 222	125	1000	aR	1	50	3KL55	1	110	3KL57	2	115
3NE3 224	160	1000	aR	1	70	3KL55	1	140	3KL57	2	150
3NE3 225	200	1000	aR	1	95	3KL55	1	175	3KL57	2	180
3NE3 227	250	1000	aR	1	120	3KL55	1	210	3KL57	2	220
3NE3 230-0B	315	1000	aR	1	185	3KL57	2	240	--	--	--
3NE3 231	350	1000	aR	1	240	3KL57	2	265	--	--	--
3NE3 232-0B	400	1000	aR	1	240	3KL57	2	290	--	--	--
3NE3 233	450	1000	aR	1	2x 150	3KL57	2	320	--	--	--
3NE3 332-0B	400	1000	aR	2	240	3KL61	3	340	3KL62	3	360
3NE3 333	450	1000	aR	2	2x 150	3KL61	3	380	3KL62	3	400
3NE3 334-0B	500	1000	aR	2	2x 150	3KL61	3	440	3KL62	3	470
3NE3 335	560	1000	aR	2	2x 185	3KL61	3	500	3KL62	3	530
3NE3 336	630	1000	aR	2	2x 185	3KL61	3	540	3KL62	3	580
3NE3 337-8	710	900	aR	2	2x (40x5)	3KL61	3	600	3KL62	3	640
3NE3 338-8	800	800	aR	2	2x 240	3KL61	3	630	3KL62	3	720
3NE3 340-8	900	690	aR	2	2x (40x8)	3KL61	3	630	3KL62	3	800
3NE4 101	32	1000	gR	0	6	3KL55	1	32	--	--	--
3NE4 102	40	1000	gR	0	10	3KL55	1	40	--	--	--
3NE4 117	50	1000	gR	0	10	3KL55	1	50	--	--	--
3NE4 118	63	1000	aR	0	16	3KL55	1	63	--	--	--
3NE4 120	80	1000	aR	0	25	3KL55	1	80	--	--	--
3NE4 121	100	1000	aR	0	35	3KL55	1	95	--	--	--
3NE4 122	125	1000	aR	0	50	3KL55	1	120	--	--	--
3NE4 124	160	1000	aR	0	70	3KL55	1	150	--	--	--
3NE4 327-0B	250	800	aR	2	150	3KL57	2	175	3KL61	3	200
3NE4 330-0B	315	800	aR	2	240	3KL57	2	230	3KL61	3	260
3NE4 333-0B	450	800	aR	2	2x (30x5)	3KL57	2	340	3KL61	3	370
3NE4 334-0B	500	800	aR	2	2x (30x5)	3KL61	3	425	3KL62	3	450
3NE4 337	710	800	aR	2	2x (50x5)	3KL61	3	600	3KL62	3	630
3NE8 015-1	25	690	gR	00	4	3KL50	00	25	3KL52	00	25
3NE8 003-1	35	690	gR	00	6	3KL50	00	33	3KL52	00	35
3NE8 017-1	50	690	gR	00	10	3KL50	00	45	3KL52	00	50
3NE8 018-1	63	690	gR	00	16	3KL50	00	54	3KL52	00	60
3NE8 020-1	80	690	aR	00	25	3KL52	00	68	--	--	--
3NE8 021-1	100	690	aR	00	35	3KL52	00	89	--	--	--
3NE8 022-1	125	690	aR	00	50	3KL52	00	106	--	--	--
3NE8 024-1	160	690	aR	00	70	3KL52	00	130[4]	--	--	--

[1] Due to the mechanical stress on the relatively long fuse blades, SITOR 3NE4 1 fuses should only be switched occasionally and only at zero current.

[2] Fuses with a rated voltage of >690 V may only be operated at max. 690 V (rated voltage of the 3KL) when installed in 3KL.

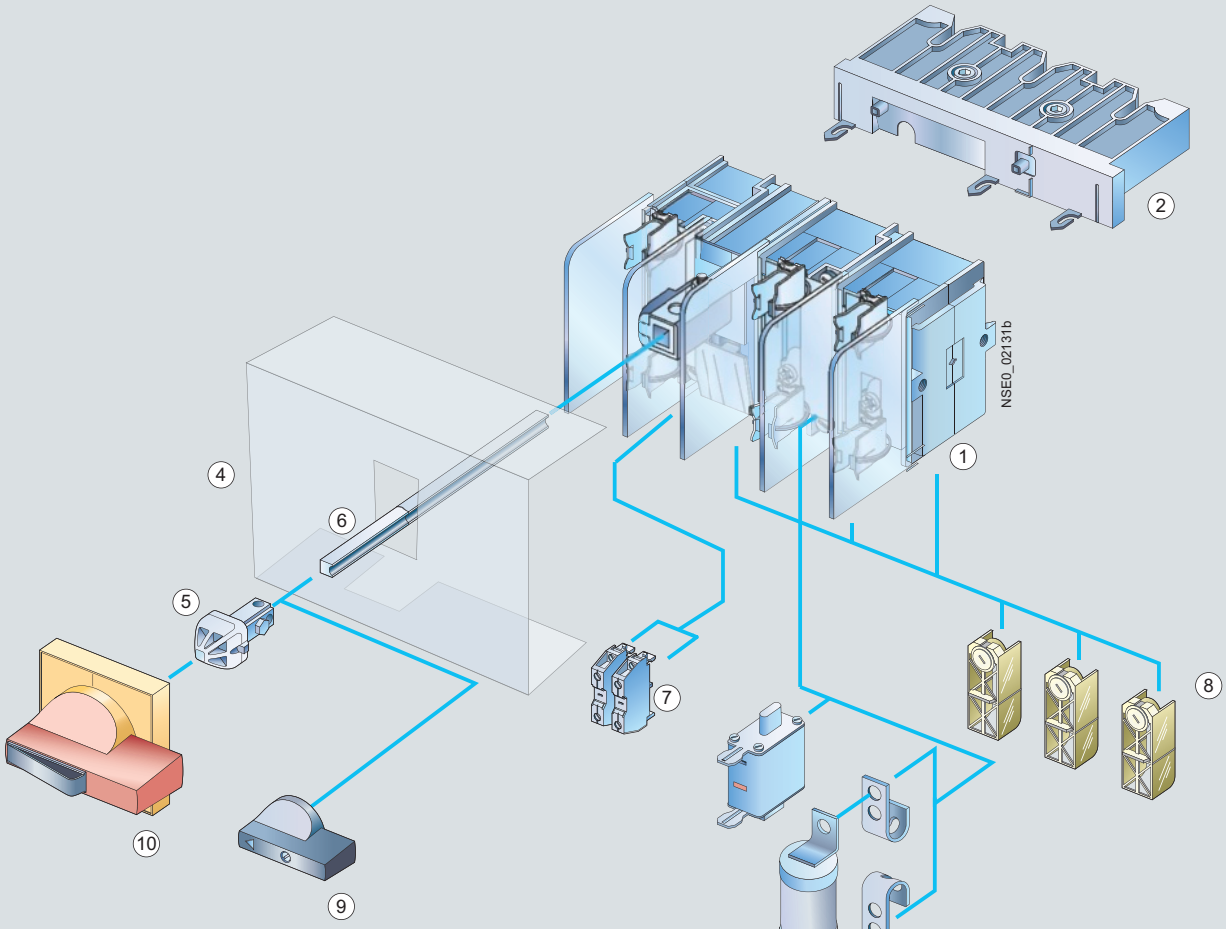
[3] In the case of cyclic loads, the currents may have to be further reduced (precise values on request).

[4] The fuse can also be operated at a higher rated uninterrupted current than the 125 A current of the 3KL52. However, in this case, the 3KL52 must not be switched under load (utilization category AC-20)

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3KM Switch Disconnectors with Fuses and Isolating Plug Connector up to 400 A

Overview



1. 3KM basic device
2. Plug-in contact strip for 3KM (part of basic device)
3. Fuses, optionally BS-88 or LV HRC fuses
4. Terminal cover, IP20 (vertical to operator side)
5. Coupling driver
6. Extension shaft
7. Standard products from the Siemens 3SB1 range are used as auxiliary switches.

All components from the switch to the actuator are provided with non-interchangeability features.

Optional

8. Single-pole terminal cover from 63 A to 630 A, IP20 (vertical to operator side)
9. 8UC9 knob for fixed mounting in standard version (black) or EMERGENCY-STOP version (red), or
10. 8UC7 door-coupling rotary operating mechanism in standard version (ti-grey) or EMERGENCY-STOP version (red/yellow)

All switch disconnectors feature double contact interruption and an isolating distance. As a result, the fuses are de-energized when the switch disconnectors are in the disconnected position.

The 3KM switch disconnectors with fuses also feature an isolating plug connector. This facilitates mounting and contact establishment in motor control centers (MCCs) in conjunction with vertical busbars. Generally all 3K.5 switch disconnectors can be secured to the shaft with padlock against unauthorized reclosing.

Identical accessories for 3KA switch disconnectors and for 3KL and 3KM switch disconnectors with fuses simplify stock keeping. Please inquire about a special variant with reduced values that is particularly resistant to atmospheres high in sulfur, e.g. in the paper and cellulose processing industries.

Application

3KM switch disconnectors with fuses protect against overload and short-circuits as main control and EMERGENCY-STOP switches of switchgear assemblies, distribution boards, power supply and motor outgoing feeders.

In conjunction with Siemens SITOR semiconductor fuses, they are also used in UPS systems, frequency converters and capacitor control systems.
All 3K switch disconnectors are climate-proof and meet the requirements of IEC 60947-1, IEC 60947-3 and VDE 0660 Part 107.

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3KM Switch Disconnectors with Fuses and Isolating Plug Connector up to 400 A

Introduction

Technical specifications

Standards		IEC 60947-1, IEC 60947-3, VDE 0660 Part 107				
Type		**3KM50**	**3KM52**	**3KM53**	**3KM55**	**3KM57**
Rated uninterrupted current I_u For fuse links according to DIN 43620, (when SITOR semiconductor fuses are used, a reduction of rated current is necessary, see reference to technical information at start of chapter)	A Size	63 00 and 000	125 00 and 000	160 00 and 000	250 1 and 2	400 1 and 2
Conventional free-air thermal current I_{th} [1]	A	63	125	160	250	400
Rated insulation voltage U_i	V	690	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp}	kV	6	8	8	8	8
Rated operational voltage U_e						
50/60 Hz AC	V	690				
DC	V V	440 (3 conducting paths series-connected) 220 (2 conducting paths series-connected) [2]				
Rated short-circuit making capacity with fuses (peak value, at 50/60 Hz 690 V AC)	kA	220	220	220	176	176
Rated conditional short-circuit current with fuses At 50/60 Hz 690 V AC (rms value)	kA	100	100	100	80	80
Max. rated current I_n of the fuses	A	80	160	160	400	400
Max. permissible power loss of the installed fuse						
• NH	W	6	9	11.5	32	45
• BS	W	8 (A2/A3)	11.5 (A4)	11.5	32	45
Permissible let-through current of the fuses	kA	8	17	17	30 [3]	30 [3]
Maximum permissible let-through I^2t value	kA^2s	55	223	223	1000	1000
Breaking capacity (infeed from the top or bottom)						
At 400 V AC						
• Breaking current I_c (at p.f. = 0.35, rms value)	A	500	1000	1280	2000	3200
• Rated operational current I_e with AC-21A, AC-22A, AC-23A	A	63	125	160	250	400
• Motor switching capacity AC-23A	kW	30	65	80	132	200
At 500 V AC						
• Breaking current I_c (at p.f. = 0.35, rms value)	A	500	1000	1280	2000	3200
• Rated operational current I_e with AC-21A, AC-22A, AC-23A	A	63	125	160	250	400
• Motor switching capacity AC-23A	kW	40	90	110	185	280
At 690 V AC						
• Breaking current I_c (at p.f. = 0.35, rms value)	A	500	1000	1280	2000	3200
• Rated operational current I_e with AC-21A, AC-22A, AC-23A	A	63	125	160	250	400
• Motor switching capacity AC-23A	kW	50	110	150	220	375
At 440 V DC (3 conducting paths series-connected) [4]						
• Breaking current I_c (L/R = 15 ms)	A	250	500	640	1000 [4]	1600
• Rated operational current I_e at DC-23A	A	63	125	160	250 [5]	400
Rated short-time current (1 s current), rms value	kA	2.5	3.2	3.2	8	11
Permissible ambient temperature	°C °C	-25 ... +55 for operation [6] -50 ... +80 when stored				
Mechanical endurance, operating cycles		15000	15000	15000	12000	12000
Degree of protection		IP00/IP20 (from the operator side, with fuse and terminal covers)				
Power loss of the switch disconnector at I_{th} (plus power loss of the fuses)	W	8.5	22	36	33	86
Main conductor connections						
Busbar systems, max. dimensions (W × T)	mm	25 × 9	45 × 10	45 × 10	40 × 12	40 × 15
Cable lug, max. conductor cross-section (stranded)	mm^2	35	70	120	150	2 ∞ 150 or 1 × 240
Busbar systems, max. dimensions (W × T)	mm	25 × 9	45 × 10	45 × 10	40 × 12	40 × 15
Tightening torque	Nm	6 ... 7.5	7 ... 10	18 ... 22	35 ... 45	35 ... 45
Terminal screws		M6	M6	M8	M10	M10
Protective conductor connections						
Flat bars	mm	--	--	--	20 × 2.5	20 × 2.5
Cable lug, max. conductor cross-section (stranded)	mm^2	--	--	--	70	120

[1] Configuring note: Max. permissible operating temperature for fuse blades 135°C, for connections 100°C.

[2] 110 V (one conducting path).

[3] 220 V DC (L1 and L3 series-connected) or 110 V DC (one conducting path) at DC-23A.

[4] At 440 V L/R = 4 ms, at 220 V L/R = 1 ms.

[5] At 440 V DC-22A, at 220 V DC-23A.

[6] 3ND1 switchgear protection fuse.

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3KM Switch Disconnectors with Fuses and Isolating Plug Connector up to 400 A

Selection and ordering data

All switch disconnectors with degree of protection IP00
Mounting on vertical busbars with busbar center-to-center spacing of 60 mm and bar thickness from 5 mm to 6.35 mm
Conductor connecting screws and fuse partitions are generally included in the scope of supply.

	Rated uninterrupted current I_u	LV HRC fuse links[1] acc. to DIN 43620[2]		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		Size	Operational class							
	A									kg
8UC7 complete versions with door-coupling rotary operating mechanisms										
	3-pole for NH fuse systems									
	• (black handle)									
	63	00 and 000	gG, aM		**3KM50 30-1GB01**		1	1 unit	103	1.855
	125	00 and 000	gG, aM		**3KM52 30-1GB01**		1	1 unit	103	2.796
	160	00 and 000	gG, aM		**3KM53 30-1GB01**		1	1 unit	103	2.857
	250	1 and 2	gG, aM		**3KM55 30-1GB01**		1	1 unit	103	6.528
	400	2 and 1	gG, aM		**3KM57 30-1GB01**		1	1 unit	103	6.829
	3-pole for fuses acc. to BS 88									
	• Complete versions with 8UC7 door-coupling rotary operating mechanism (black handle)									
	125	Form A2/A3			**3KM52 30-1GG01**		1	1 unit	103	2.747
	125	Form A4			**3KM52 30-1GJ01**		1	1 unit	103	2.821
	160	Form A4			**3KM53 30-1GJ01**		1	1 unit	103	2.933
	250	Form B1-B3			**3KM55 30-1GG01**		1	1 unit	103	6.571
	400	Form B1-B3			**3KM57 30-1GG01**		1	1 unit	103	7.110
Basic switch versions without handle										
 3KM53 30-1AB01 with fuses	**3-pole for NH fuse systems**									
	63	00 and 000	gG, aM		**3KM50 30-1AB01**		1	1 unit	103	1.507
	125	00 and 000	gG, aM		**3KM52 30-1AB01**		1	1 unit	103	2.415
	160	00 and 000	gG, aM		**3KM53 30-1AB01**		1	1 unit	103	2.505
	250	1 and 2	gG, aM		**3KM55 30-1AB01**		1	1 unit	103	5.598
	400	2 and 1	gG, aM		**3KM57 30-1AB01**		1	1 unit	103	5.894
 3KM55 30-1AG01 with fuses	**3-pole for fuses acc. to BS 88**									
	63	Form A2/A3			**3KM50 30-1AG01**		1	1 unit	103	1.450
	125	Form A2/A3			**3KM52 30-1AG01**		1	1 unit	103	2.335
	125	Form A4			**3KM52 30-1AJ01**		1	1 unit	103	2.400
	160	Form A4			**3KM53 30-1AJ01**		1	1 unit	103	2.507
	250	Form B1-B3			**3KM55 30-1AG01**		1	1 unit	103	5.689
	400	Form B1-B3			**3KM57 30-1AG01**		1	1 unit	103	6.250
8UC7 EMERGENCY-STOP door-coupling rotary operating mechanisms (red handle, yellow indicator plate) for basic switch versions without handle										
 8UC71 21-3BB10	63	00 and 000	gG, aM		**8UC71 21-3BB10**		1	1 unit	103	0.368
	125	00 and 000	gG, aM		**8UC72 22-3BB20**		1	1 unit	103	0.423
	160	00 and 000	gG, aM		**8UC72 22-3BB20**		1	1 unit	103	0.423
	250	1 and 2	gG, aM		**8UC73 23-3BB30**		1	1 unit	103	1.000
	400	2 and 1	gG, aM		**8UC73 23-3BB30**		1	1 unit	103	1.000
	• 8UC7 EMERGENCY-STOP door-coupling rotary operating mechanisms (red handle, yellow indicator plate)									
	63	Form A2/A3			**8UC71 21-3BB10**		1	1 unit	103	0.368
	125	Form A2/A3			**8UC72 22-3BB20**		1	1 unit	103	0.423
	125	Form A4			**8UC72 22-3BB20**		1	1 unit	103	0.423
	160	Form A4			**8UC72 22-3BB20**		1	1 unit	103	0.423
	250	Form B1-B3			**8UC73 23-3BB30**		1	1 unit	103	1.000
	400	Form B1-B3			**8UC73 23-3BB30**		1	1 unit	103	1.000

Fuse monitoring through 5TT3 170 safety monitor with a floating 1 NO signaling contact, see chapter 5 "Fuse Systems".

[1] Silver-plated fuse blades. Silver-plated isolating blades can be used if desired.

[2] For assignment of semiconductor fuses see page 7/82

* You can order this quantity or a multiple thereof.

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3KM Switch Disconnectors with Fuses and Isolating Plug Connector up to 400 A

Accessories

Selection and ordering data

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
3KM50								
	Terminal covers For 3-pole devices (1 set = 6 units)	►	**3KX3 552-3DA01**		1	1 unit	103	0.078
 3KX3 5.7-3AA	**Fuse covers** (interlock only detachable in the OFF position)	►	**3KX3 517-3AA**		1	1 unit	103	0.065
	Fuse partitions (1 set = 5 units)	►	**3KX3 507-0AA01**		1	1 unit	103	0.040
 3KX3 507-0BA01	**Lyre-shaped fuse covers** (1 set = 6 units)		**3KX3 507-0BA01**		1	1 unit	103	0.032
	Door-coupling rotary operating mechanisms IP65							
	Black handle, shaft 300 mm		**8UC71 11-1BB10**		1	1 unit	103	0.358
	EMERGENCY-STOP (yellow/red), shaft 300 mm		**8UC71 21-3BB10**		1	1 unit	103	0.368
	Operating mechanisms for fixed mounting Black handle, shaft 250 mm	►	**3KX3 516-1AA**		1	1 unit	103	0.102
	Extension shaft 300 mm long		**8UC60 31**		1	1 unit	103	0.068
	Extension shaft 600 mm long		**8UC60 81**		1	1 unit	103	0.136
	Shaft connecting pieces		**8UC60 21**		1	1 unit	103	0.027
	Auxiliary switches							
 3SB14 00-0A	1 NO + 1 NC		**3SB14 00-0A**		1	1 unit	41J	0.019
	2 NO		**3SB14 00-0G**	14.20	1	1 unit	41J	0.019
	2 NC		**3SB14 00-0H**	14.20	1	1 unit	41J	0.020
	Fuse monitor connections (1 set = 6 units)		**3KX3 505-0AA**		1	1 unit	103	0.022
3KM52/3KM53								
	Terminal covers For 3-pole devices (1 set = 6 units) 3KM52	►	**3KX3 552-3DA01**		1	1 unit	103	0.078
	3KM53	►	**3KX3 553-3DA01**		1	1 unit	103	0.151
 3KX3 5.7-3AA	**Fuse covers**[1] (interlock only detachable in the OFF position)	►	**3KX3 527-3AA**		1	1 unit	103	0.070
	Fuse partitions (1 set = 5 units)	►	**3KX3 507-0AA01**		1	1 unit	103	0.040
 3KX3 507-0BA01	**Lyre-shaped fuse covers** (1 set = 6 units)		**3KX3 507-0BA01**		1	1 unit	103	0.032
	Door-coupling rotary operating mechanisms IP65							
	Black handle, shaft 300 mm		**8UC72 12-1BB20**		1	1 unit	103	0.424
	EMERGENCY-STOP (yellow/red), shaft 300 mm		**8UC72 22-3BB20**		1	1 unit	103	0.423
	Operating mechanisms for fixed mounting Black handle, shaft 250 mm	►	**3KX3 536-1AA**		1	1 unit	103	0.150

[1] For 3KX3 527-3AA: Not suitable for use with type A4 BS fuses.

* You can order this quantity or a multiple thereof.

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3KM Switch Disconnectors with Fuses and Isolating Plug Connector up to 400 A

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	Extension shaft 300 mm long		**8UC60 32**		1	1 unit	103	0.135
	Extension shaft 600 mm long		**8UC60 82**		1	1 unit	103	0.265
	Shaft connecting pieces		**8UC60 22**		1	1 unit	103	0.022
 3SB14 00-0A	**Auxiliary switches**							
	1 NO + 1 NC		**3SB14 00-0A**		1	1 unit	41J	0.019
	2 NO		**3SB14 00-0G**		1	1 unit	41J	0.019
	2 NC		**3SB14 00-0H**		1	1 unit	41J	0.020
	1 NO + 1 NC, 20 ms leading		**3KX3 552-3EA01**		1	1 unit	103	0.022
	Fuse monitor connections (1 set = 6 units)		**3KX3 505-0AA**		1	1 unit	103	0.022
3KM55/3KM57								
	Terminal covers							
	For 3-pole devices (1 set = 6 units)	►	**3KX3 557-3DA01**		1	1 unit	103	0.316
	For 4-pole devices (1 set = 8 units)		**3KX3 557-3DB01**		1	1 unit	103	0.389
 3KX3 5.7-3AA	**Fuse covers** (interlock only detachable in the OFF position)	►	**3KX3 557-3AA**		1	1 unit	103	0.231
 3KX3 557-0AA01	**Fuse partitions** (1 set = 5 units)	►	**3KX3 557-0AA01**		1	1 unit	103	0.122
	Door-coupling rotary operating mechanisms IP65							
	Black handle, shaft 300 mm		**8UC73 13-1BB30**		1	1 unit	103	0.998
	EMERGENCY-STOP (yellow/red), shaft 300 mm		**8UC73 23-3BB30**		1	1 unit	103	1.000
 3KX3 176-1E	**Operating mechanisms for fixed mounting, size 3** Black handle, shaft 250 mm	►	**3KX3 176-1E**		1	1 unit	103	0.287
	Extension shaft 300 mm long		**8UC60 33**		1	1 unit	103	0.215
	Extension shaft 600 mm long		**8UC60 83**		1	1 unit	103	0.424
	Shaft connecting pieces		**8UC60 23**		1	1 unit	103	0.083
 3SB14 00-0A	**Auxiliary switches**							
	1 NO + 1 NC		**3SB14 00-0A**		1	1 unit	41J	0.019
	2 NO		**3SB14 00-0G**		1	1 unit	41J	0.019
	2 NC		**3SB14 00-0H**		1	1 unit	41J	0.020
	1 NO + 1 NC, 20 ms leading		**3KX3 552-3EA01**		1	1 unit	103	0.022
	Fuse monitor connections (1 set = 6 units)		**3KX3 505-0AA**		1	1 unit	103	0.022

* You can order this quantity or a multiple thereof.

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Fuses

Overview

The 3KM switch disconnectors with fuses are suitable for all fuses in LV HRC design, see chapter 5.

LV HRC design fuses for SITOR semiconductor protection can also be used, although it must be noted that, compared to cable and line protection fuses, these get much hotter during operation. For this reason, the fuse must be operated below the rated current I_n of the device (derating) when installed in a closed switching device.

The following table shows the permissible load currents of the SITOR fuses for installation in 3KM. The values were determined using the conductor cross-sections specified in the table.

Note

If using smaller cross-sections, a considerably higher derating is required due to the lower heat dissipation.

SITOR fuses for 3KM fuse switch disconnectors: Assignment table

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SITOR fuse data						Permissible rated currents of fuse when installed in 3KM for busbar mounting					
						Type 3KM			Alternative type 3KM		
Type [1]	Rated current I_n	Rated voltage [2]	Operational class	Size	Required conductor cross-section Cu	Type	Size	Permissible load current [3]	Type	Size	Permissible load current [3]
	A	V AC			mm²			A			A
3NE1 020-2	80	690	gR	00	25	3KM52	00	80	3KM53	00	80
3NE1 021-0	100	690	gS	00	35	3KM52	00	100	3KM53	00	100
3NE1 021-2	100	690	gR	00	35	3KM52	00	100	3KM53	00	100
3NE1 022-0	125	690	gS	00	50	3KM52	00	125	3KM53	00	125
3NE1 022-2	125	690	gR	00	50	3KM52	00	125	3KM53	00	125
3NE1 224-0	160	690	gS	1	70	3KM55	1	160	3KM57	2	160
3NE1 224-2/-3	160	690	gR	1	70	3KM55	1	160	3KM57	2	160
3NE1 225-0	200	690	gS	1	95	3KM55	1	200	3KM57	2	200
3NE1 225-2/-3	200	690	gR	1	95	3KM55	1	200	3KM57	2	200
3NE1 227-0	250	690	gS	1	120	3KM55	1	250	3KM57	2	250
3NE1 227-2/-3	250	690	gR	1	120	3KM55	1	245	3KM57	2	250
3NE1 230-0	315	690	gS	1	2x 70	3KM57	2	315	--	--	--
3NE1 230-2/-3	315	690	gR	1	2x 70	3KM57	2	280	--	--	--
3NE1 331-0	350	690	gS	2	2x 95	3KM57	2	330	--	--	--
3NE1 331-2/-3	350	690	gR	2	2x 95	3KM57	2	300	--	--	--
3NE1 332-0	400	690	gS	2	2x 95	3KM57	2	375	--	--	--
3NE1 332-2/-3	400	690	gR	2	2x 95	3KM57	2	315	--	--	--
3NE1 333-0	450	690	gS	2	2x 120	3KM57	2	400	--	--	--
3NE1 333-2/-3	450	690	gR	2	2x 120	3KM57	2	325	--	--	--
3NE1 334-0	500	690	gS	2	2x 120	3KM57	2	400	--	--	--
3NE1 334-2/-3	500	690	gR	2	2x 120	3KM57	2	350	--	--	--
3NE1 802-0	40	690	gS	000	10	3KM50	00	40	3KM52	00	40
3NE1 803-0	35	690	gS	000	6	3KM50	00	35	3KM52	00	35
3NE1 813-0	16	690	gS	000	1.5	3KM50	00	16	3KM52	00	16
3NE1 814-0	20	690	gS	000	2.5	3KM50	00	20	3KM52	00	20
3NE1 815-0	25	690	gS	000	4	3KM50	00	25	3KM52	00	25
3NE1 817-0	50	690	gS	000	10	3KM50	00	50	3KM52	00	50
3NE1 818-0	63	690	gS	000	16	3KM50	00	63	3KM52	00	63
3NE1 820-0	80	690	gS	000	25	3KM52	00	80	--	--	--
3NE3 221	100	1000	aR	1	35	3KM55	1	90	3KM57	2	95
3NE3 222	125	1000	aR	1	50	3KM55	1	110	3KM57	2	115
3NE3 224	160	1000	aR	1	70	3KM55	1	140	3KM57	2	150
3NE3 225	200	1000	aR	1	95	3KM55	1	175	3KM57	2	180
3NE3 227	250	1000	aR	1	120	3KM55	1	210	3KM57	2	220
3NE3 230-0B	315	1000	aR	1	185	3KM57	2	240	--	--	--
3NE3 231	350	1000	aR	1	240	3KM57	2	265	--	--	--
3NE3 232-0B	400	1000	aR	1	240	3KM57	2	290	--	--	--
3NE3 233	450	1000	aR	1	2x 150	3KM57	2	320	--	--	--
3NE3 332-0B	400	1000	aR	2	240	3KM57	2	290	--	--	--
3NE3 333	450	1000	aR	2	2x 150	3KM57	2	320	--	--	--
3NE3 334-0B	500	1000	aR	2	2x 150	3KM57	2	360	--	--	--
3NE3 335	560	1000	aR	2	2x 185	3KM57	2	400	--	--	--

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3KM Switch Disconnectors with Fuses and Isolating Plug Connector up to 400 A

SITOR fuse data						Permissible rated currents of fuse when installed in 3KM for busbar mounting					
						Type 3KM			Alternative type 3KM		
Type[1]	Rated current I_n	Rated voltage [2]	Operational class	Size	Required conductor cross-section Cu	Type	Size	Permissible load current [3]	Type	Size	Permissible load current [3]
	A	V AC			mm²			A			A
3NE3 336	630	1000	aR	2	2x 185	3KM57	2	400	--	--	--
3NE3 337-8	710	900	aR	2	2x (40x5)	3KM57	2	400	--	--	--
3NE3 338-8	800	800	aR	2	2x 240	3KM57	2	400	--	--	--
3NE3 340-8	900	690	aR	2	2x (40x8)	3KM57	2	400	--	--	--
3NE4 101	32	1000	gR	0	6	3KM55	1	32	--	--	--
3NE4 102	40	1000	gR	0	10	3KM55	1	40	--	--	--
3NE4 117	50	1000	gR	0	10	3KM55	1	50	--	--	--
3NE4 118	63	1000	aR	0	16	3KM55	1	63	--	--	--
3NE4 120	80	1000	aR	0	25	3KM55	1	80	--	--	--
3NE4 121	100	1000	aR	0	35	3KM55	1	95	--	--	--
3NE4 122	125	1000	aR	0	50	3KM55	1	120	--	--	--
3NE4 124	160	1000	aR	0	70	3KM55	1	150	--	--	--
3NE4 327-0B	250	800	aR	2	150	3KM57	2	175	--	--	--
3NE4 330-0B	315	800	aR	2	240	3KM57	2	230	--	--	--
3NE4 333-0B	450	800	aR	2	2x (30x5)	3KM57	2	340	--	--	--
3NE4 334-0B	500	800	aR	2	2x (30x5)	3KM57	2	380	--	--	--
3NE4 337	710	800	aR	2	2x (50x5)	3KM57	2	400	--	--	--
3NE8 015-1	25	690	gR	00	4	3KM50	00	25	3KM52	00	25
3NE8 003-1	35	690	gR	00	6	3KM50	00	33	3KM52	00	35
3NE8 017-1	50	690	gR	00	10	3KM50	00	45	3KM52	00	50
3NE8 018-1	63	690	gR	00	16	3KM50	00	54	3KM52	00	60
3NE8 020-1	80	690	aR	00	25	3KM52	00	68	--	--	--
3NE8 021-1	100	690	aR	00	35	3KM52	00	89	--	--	--
3NE8 022-1	125	690	aR	00	50	3KM52	00	106	--	--	--
3NE8 024-1	160	690	aR	00	70	3KM52	00	130[4]	--	--	--

[1] Due to the mechanical stress on the relatively long fuse blades, SITOR 3NE4 1 fuses should only be switched occasionally and only at zero current.

[2] Fuses with a rated voltage >690 V may only be operated at max. 690 V (rated voltage of the 3KM) when installed in 3KM

[3] In the case of cyclic loads, the currents may have to be further reduced (precise values on request).

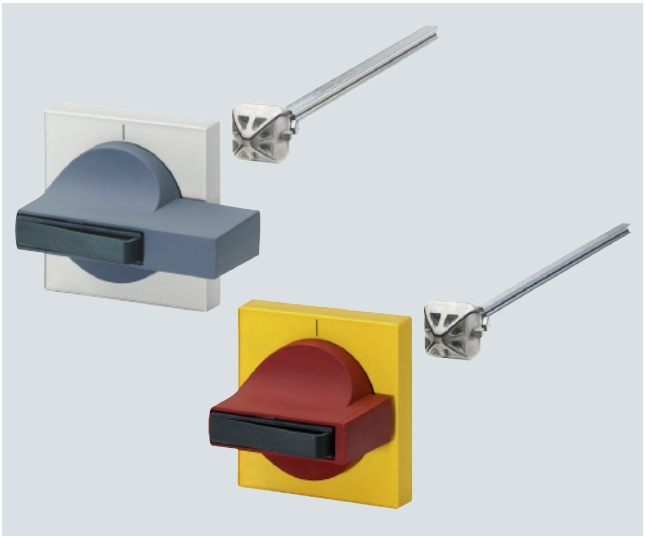
[4] The fuse can also be operated at a higher rated uninterrupted current than the 125 A current of the 3KM52. However, in this case, the 3KM52 must not be switched under load (utilization category AC-20).

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8UC7 Door-Coupling Rotary Operating Mechanisms

For 3K switch disconnectors

Overview



8UC7 rotary operating mechanism in STANDARD version (left) and EMERGENCY-STOP version (right)

With door-coupling rotary operating mechanisms it is also possible to operate switch disconnectors from the outside with the control cabinet doors closed.

The rotary operating mechanisms are available in "STANDARD" and "EMERGENCY-STOP" versions with the following differences:

- STANDARD version: Masking plates in light-gray with black inscription, handles in ti-grey
- EMERGENCY-STOP version: Masking plates in yellow with black inscription, handles in red

Available sizes

Rotary operating mechanisms	Size	Rated torque[1]	Shaft profile	Masking plate
		Nm	mm x mm	mm x mm
8UC71	1	4	6 x 6	75 x 75
8UC72	2	9	8 x 8	75 x 75
8UC73	3	25	10 x 10 or 12 x 12	100 x 100
8UC74	4	40/55[2]	12 x 12	100 x 100

[1] Operating mechanisms tested with triple torque (according to EN 60947-3). They are therefore also suitable for applications in this area.

[2] Operation with two hands.

Degree of protection

Degree of protection when installed is IP65.

Standards

8UC7 door-coupling rotary operating mechanisms are in line with for example the following standards:

Standard	Title
IEC 60204-1, EN 60204-1 (VDE 0113 Part 1)	Safety of machinery; electrical equipment of machines
IEC 60439-1, EN 60439-1 (VDE 0660 Part 500)	Low-voltage switchgear and controlgear assemblies
IEC 60947-3, EN 60947-3 (VDE 0660 Part 107)	Low-voltage switchgear and controlgear; Switches, disconnectors, switch disconnectors and fuse-combination units

Benefits

Can be locked

The retractable locking device integrated in the handles is suitable for padlocks with shackle diameters of 4.5 mm to 8.5 mm (locks according to DIN 7465).

Up to three padlocks with a shackle diameter of 8.5 mm and up to five padlocks with a shackle diameter of 6 mm can be fitted simultaneously.

Non-interchangeability

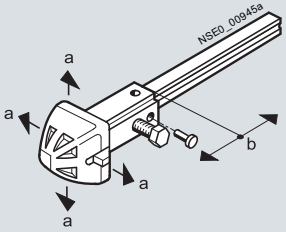
In order to ensure that, when installing switches and door-coupling operating mechanisms, all components are assembled in the correct position with respect to one another, the components are provided with non-interchangeability features (rivel and lug).

Stops

Stops are used to prevent damage occurring as the result of excessive torque. These stops are supplied loose with the rotary operating mechanisms and can be fitted as required. Stops are fitted at the factory to size 1 and 2 rotary operating mechanisms with a 90° operating angle (exception: 3RV motor starter protectors/circuit breakers).

Tolerance compensation

8UC7 rotary operating mechanisms are capable of taking up a radial eccentricity of max. 3 mm between the actuating shaft of the switching device and the door-coupling rotary operating mechanism. Supporting the extension shaft is recommended with greater tolerances.



Coupling drivers	a	b	Shaft length
With tolerance compensation	+3	±5	x
Without tolerance compensation	+1.5	±2.5	x+23.5

Permissible radial eccentricity and axial tolerance compensation in mm

Pull-out strength

The pull-out strength of interlocked operating mechanisms, e.g. pulling off the shaft or destruction of the operating mechanism, amounts to 800 N when the pulling force acts directly onto the operating mechanism in direction of shaft.

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Application

8UC7 door-coupling rotary operating mechanisms can be used in electrical controls, distribution boards and switchgear in cases where switches have to be mounted behind covers, end plates and doors that must be opened and where they are to be operated manually from outside.

Interlocking conditions

The basic versions of the rotary operating mechanisms comply with the following interlocking conditions:

- Operating mechanism and switch in "0" (OFF) position: The control cabinet door can be opened. With padlocks fitted, the control cabinet door remains locked however.
- Operating mechanism and switch in "I" (ON) position: The control cabinet door cannot be opened in this position. However, the interlock can be overridden and the control cabinet door opened by trained personnel for performing checks. No padlocks can be fitted in "I" position.

Other interlocking conditions:

- If no door interlock is required, the user can remove the door interlocking plate of the rotary operating mechanism.
- It is easy for the user to fit padlocks to the rotary operating mechanisms in the "I" position as well. In this case the door cannot be opened, the operating mechanism cannot be actuated and the door interlock cannot be overridden.

Operating conditions and ambient conditions

The temperature range for operation of the rotary operating mechanisms is between -25 °C and +60 °C.

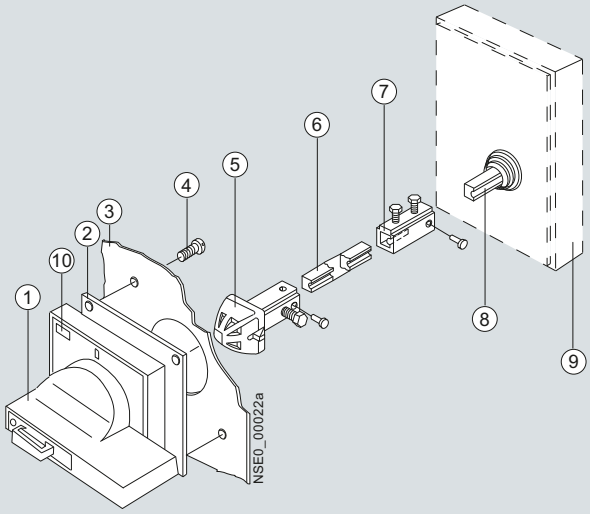
Thanks to the use of glass fiber-reinforced molded plastic for handles and masking plates as well as metal components with surface protection, the rotary operating mechanisms are suitable for rough conditions, high air humidity and aggressive atmospheres.

Design

Components

The rotary operating mechanisms consist of a masking plate with handle, including seal and fixing screws for door installation, an extension shaft (300 mm) and a coupling driver to be mounted onto the switch shaft.

Operating mechanisms for 3KA / 3KL / 3KM switch disconnectors do not have a shaft coupling since the extension shaft is fitted directly into the switch. Extension shafts with a length of 600 mm are also available.

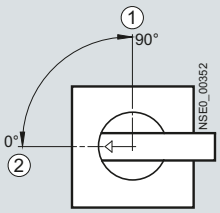


1 Handle with masking frame
2 Seal
3 Door
4 Fixing screws
5 Coupling driver
6 Extension shaft
7 Adapter
8 Operating shaft of switching device
9 Switching device
10 Tripped plate (can be glued on if required)

Design, schematic representation

Switch position

In order to ensure compliance with locking and interlocking conditions, the controls and operating mechanisms must be installed such that, with two-position switches the "0" position lies at 9 o'clock and the "I" position at 12 o'clock.



1 12 o'clock position
2 9 o'clock position

Positions for two-position switches with 90° operating angle

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8UC7 Door-Coupling Rotary Operating Mechanisms

For 3K switch disconnectors

Selection and ordering data

Door-coupling rotary operating mechanisms, fully lockable with padlocks, with door interlock supplied with seal and fixing screws

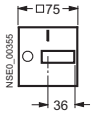
Switchgear	Rated current	Cross-section of the actuating shaft	Torque	Rotary operating mechanisms	Illustrated: Handle, masking plate
Type	A	mm	Nm	Size	

8UC71



For switch disconnectors with or without fuses

3KL50[1], 3KM50[1]	63	6 x 6	3	1
3KA50[1]	63	6 x 6	3	
3KA51[1]	80	6 x 6	3	

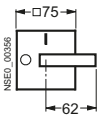


8UC72

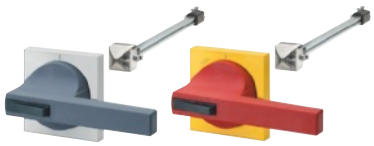


For switch disconnectors with or without fuses

3KL52, 3KM52	125	8 x 8	7.5	2
3KL53, 3KM53	160	8 x 8	7.5	
3KA52	125	8 x 8	7.5	
3KA53	160	8 x 8	7.5	

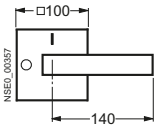


8UC73



For switch disconnectors with or without fuses

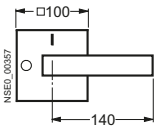
3KL55, 3KM55	250	10 x 10	16	3
3KL57, 3KM57	400	10 x 10	16	
3KA55	250	10 x 10	16	
3KA57	400	10 x 10	16	
3KA58	630	10 x 10	16	



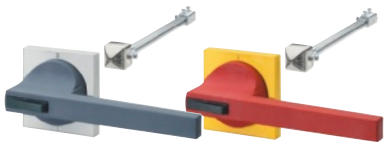


For switch disconnectors without fuses

3KE42	250	12 x 12	15	3
3KE43	400	12 x 12	15	
3KE44	630	12 x 12	24	
3KE45	1000	12 x 12	24	

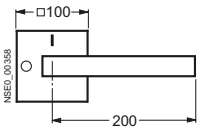


8UC74



For switch disconnectors with fuses

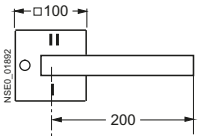
3KL61[2]	630	12 x 12	30	4
3KL62[2]	800	12 x 12	30	





For switch disconnectors as changeover switches with break-before-make feature

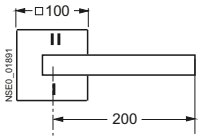
3KE42 (2 units)	250	12 x 12	20	4
3KE43 (2 units)	400	12 x 12	20	
3KE44 (2 units)	630	12 x 12	30	
3KE45 (2 units)	1000	12 x 12	30	





For switch disconnectors as changeover switches without break-before-make feature

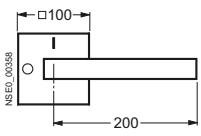
3KE42 (2 units)	250	12 x 12	40	4
3KE43 (2 units)	400	12 x 12	40	
3KE44 (2 units)	630	12 x 12	55	
3KE45 (2 units)	1000	12 x 12	55	





For load disconnect switch as parallel connection

3KE42 (2 units)	250	12 x 12	40	4
3KE43 (2 units)	400	12 x 12	40	
3KE44 (2 units)	630	12 x 12	55	
3KE45 (2 units)	1000	12 x 12	55	



[1] Valid only for 3-pole switching devices. For 4-pole switching devices, an operating mechanism with 8 x 8 mm actuating shaft must be used, see lower level for 3KA52, 3KL52 or 3KM52.

[2] Additionally required for 3KL61: 1 shaft coupling, order no. 8UC92 53, see individual parts, table, page 7/88.

[3] The door interlocking plate must be removed.

[4] With shortened 8UC60 16/8UC60 17 coupling driver and reduced tolerance compensation, see "Dimensional Drawings".

* You can order this quantity or a multiple thereof.

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Version	DT	Rotary operating mechanisms, complete		PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.	Individual parts: Handle with masking plate	Coupling drivers	Extension shaft length 300 mm	Shaft couplings
		Order No.	Price per PU				kg	Order No.	Order No.	Order No.	Order No.
									☐ 6 mm	☐ 6 mm	☐ 6 mm by 6 mm
Standard		**8UC71 11-1BB10**		1	1 unit	103	0.358	8UC71 10-1BB	8UC60 11	8UC60 31	Not required
Standard[4)]		**8UC71 61-1BB10**		1	1 unit	103	0.328	8UC71 10-1BB	8UC60 16	8UC60 31	Not required
EMER-GENCY-STOP		**8UC71 21-3BB10**		1	1 unit	103	0.368	8UC71 20-3BB	8UC60 11	8UC60 31	Not required
									☐ 8 mm	☐ 8 mm	☐ 8 mm by 8 mm
Standard		**8UC72 12-1BB20**		1	1 unit	103	0.424	8UC72 10-1BB	8UC60 12	8UC60 32	Not required
Standard[4)]		**8UC72 62-1BB20**		1	1 unit	103	0.392	8UC72 10-1BB	8UC60 17	8UC60 32	Not required
EMER-GENCY-STOP		**8UC72 22-3BB20**		1	1 unit	103	0.423	8UC72 20-3BB	8UC60 12	8UC60 32	Not required
									☐ 10 mm	☐ 10 mm	☐ 10 mm by 10 mm
Standard		**8UC73 13-1BB30**		1	1 unit	103	0.998	8UC73 10-1BB	8UC60 13	8UC60 33	Not required
EMER-GENCY-STOP		**8UC73 23-3BB30**		1	1 unit	103	1.000	8UC73 20-3BB	8UC60 13	8UC60 33	Not required
									☐ 12 mm	☐ 12 mm	☐ 12 mm by 12 mm
Standard		**8UC73 14-1BB44**		1	1 unit	103	1.170	8UC73 10-1BB	8UC60 14	8UC60 34	8UC60 24
EMER-GENCY-STOP		**8UC73 24-3BB44**		1	1 unit	103	1.186	8UC73 20-3BB	8UC60 14	8UC60 34	8UC60 24
									☐ 12 mm	☐ 12 mm	☐ 12 mm by 12 mm
Standard		**8UC74 14-1BB44**		1	1 unit	103	1.228	8UC74 10-1BB	8UC60 14	8UC60 34	8UC60 24
EMER-GENCY-STOP		**8UC74 24-3BB44**		1	1 unit	103	1.200	8UC74 20-3BB	8UC60 14	8UC60 34	8UC60 24
									☐ 12 mm	☐ 12 mm	☐ 12 mm by 12 mm
Standard		**8UC74 14-1BF44**		1	1 unit	103	1.208	8UC74 10-1BF	8UC60 14	8UC60 34	8UC60 24
									☐ 12 mm	☐ 12 mm	☐ 12 mm by 12 mm
Standard		**8UC74 14-1FG44**		1	1 unit	103	1.113	8UC74 10-1FG	8UC60 14	8UC60 34	8UC60 24
									☐ 12 mm	☐ 12 mm	☐ 12 mm by 12 mm
Standard		**8UC74 14-1BB44**		1	1 unit	103	1.228	8UC74 10-1BB	8UC60 14	8UC60 34	8UC60 24

7

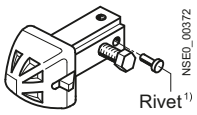
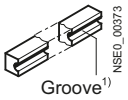
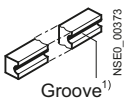
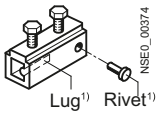
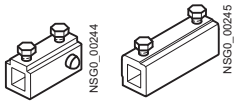
* You can order this quantity or a multiple thereof.

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Individual parts

Selection and ordering data

	Switchgear	Rotary operating mechanisms	Size	Cross-section of the actuating shaft	Version [4]	DT	Individual parts for 8UC7 door-coupling rotary operating mechanisms Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	Type	Type		mm × mm								kg
Handles with masking plate (including flat gasket and fixing screws)												
 8UC71	3KL50, 3KM50, 3KA50, 3KA51	8UC71	1	6 × 6	Standard		**8UC71 10-1BB**		1	1 unit	103	0.178
					EMER-GENCY-STOP		**8UC71 20-3BB**		1	1 unit	103	0.204
 8UC72	3KL52, 3KM52, 3KL53, 3KM53, 3KA52, 3KA53	8UC72	2	8 × 8	Standard		**8UC72 10-1BB**		1	1 unit	103	0.190
					EMER-GENCY-STOP		**8UC72 20-3BB**		1	1 unit	103	0.186
 8UC73	3KL55, 3KM55, 3KL57, 3KM57, 3KA55, 3KA57, 3KE42, 3KE43, 3KE44, 3KE45	8UC73	3	10 × 10 or 12 × 12	Standard		**8UC73 10-1BB**		1	1 unit	103	0.493
					EMER-GENCY-STOP		**8UC73 20-3BB**		1	1 unit	103	0.472
 8UC74	3KL61, 3KL62	8UC74	4	12 × 12	Standard		**8UC74 10-1BB**		1	1 unit	103	0.514
					EMER-GENCY-STOP		**8UC74 20-3BB**		1	1 unit	103	0.488
	3KE42, 3KE43, 3KE44, 3KE45	8UC74[3]	4	12 × 12	Standard		**8UC74 10-1BF**		1	1 unit	103	0.496
					Standard		**8UC74 10-1FG**		1	1 unit	103	0.435
					Standard		**8UC74 10-1BB**		1	1 unit	103	0.514

	Rotary operating mechanisms	Cross-section of the actuating shaft	DT	Individual parts for 8UC6 door-coupling rotary operating mechanisms Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	Type	mm × mm							kg
Coupling drivers, extension shafts, shaft couplings and reducers									
 8UC60 11	**Coupling drivers for 3K**								
	8UC71	6 × 6		**8UC60 11**		1	1 unit	103	0.081
	8UC71[2]	6 × 6		**8UC60 16**		1	1 unit	103	0.045
	8UC72	8 × 8		**8UC60 12**		1	1 unit	103	0.073
	8UC72[2]	8 × 8		**8UC60 17**		1	1 unit	103	0.041
	8UC73	10 × 10		**8UC60 13**		1	1 unit	103	0.235
	8UC73/74	12 × 12		**8UC60 14**		1	1 unit	103	0.233
 8UC60 31 ... 34	**Extension shafts 300 mm long**								
	8UC71	6 × 6		**8UC60 31**		1	1 unit	103	0.068
	8UC72	8 × 8		**8UC60 32**		1	1 unit	103	0.135
	8UC73	10 × 10		**8UC60 33**		1	1 unit	103	0.215
	8UC73/74	12 × 12		**8UC60 34**		1	1 unit	103	0.316
 8UC60 81 ... 84	**Extension shafts 600 mm long**								
	8UC71	6 × 6		**8UC60 81**		1	1 unit	103	0.136
	8UC72	8 × 8		**8UC60 82**		1	1 unit	103	0.265
	8UC73	10 × 10		**8UC60 83**		1	1 unit	103	0.424
	8UC73/74	12 × 12		**8UC60 84**		1	1 unit	103	0.628
 8UC60 21 to 8UC6024	**Shaft couplings**								
	8UC71	6 × 6		**8UC60 21**		1	1 unit	103	0.027
	8UC72	8 × 8		**8UC60 22**		1	1 unit	103	0.022
	8UC73	10 × 10		**8UC60 23**		1	1 unit	103	0.083
	8UC73/74	12 × 12		**8UC60 24**		1	1 unit	103	0.078
	8UC74 (3KL61)	12 × 12	▶	**8UC92 53**		1	1 unit	103	0.113
 8UC70 58 8UC70 50	**Reducers**								
	8UC71	8 × 8 to 6 × 6		**8UC70 58**		1	1 unit	103	0.024
	8UC72	12 × 12 to 8 × 8		**8UC70 50**		1	1 unit	103	0.081

1) Non-interchangeability features.

2) Shortened coupling driver with reduced tolerance compensation.

3) For switch disconnectors as changeover switches in various versions, see table on page 7/86.

4) Standard: Ti-grey handle, light-gray masking plate;
EMERGENCY-STOP: Red handle, yellow masking plate.

* You can order this quantity or a multiple thereof.

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Selection and ordering data

	Switch-gear	Cross-section of the actuating shaft	Torque of the operating mechanism[1]	Operating mechanisms	Color of handle	DT	Operating mechanisms for fixed mounting		PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	Type	mm × mm	Nm	Size			Order No.	Price per PU				kg
 8UC93 54	3KA50, 3KA51, 3KL50, 3KM50	6 × 6	4	1	Black	[2]	**8UC93 54**		1	1 unit	103	0.038
 8UC93 60			7.5	2	Black	[2]	**8UC93 60**		1	1 unit	103	0.050
	3KA52 3KA53, 3KL52, 3KM52, 3KL53, 3KM53	8 × 8	7.5	2	Black		**8UC93 62**		1	1 unit	103	0.045
					Red		**8UC93 63**		1	1 unit	103	0.049
 8UC93 65	3KL55, 3KM55, 3KL57, 3KM57	10 × 10	16	3	Black		**8UC93 65**		1	1 unit	103	0.147
	3KA55, 3KA57, 3KA58				Red		**8UC93 66**		1	1 unit	103	0.150
	3KE42, 3KE43	12 × 12	16	3	Black	[3]	**8UC93 70**		1	1 unit	103	0.132
					Red	[3]	**8UC93 71**		1	1 unit	103	0.142
 8UC93 74	3KE44, 3KE45	12 × 12	30	4	Black	[3]	**8UC93 74**		1	1 unit	103	0.150
					Red	[3]	**8UC93 75**		1	1 unit	103	0.180
 8UC93 81	3KL61	12 × 12	55	5	Black		**8UC93 81**		1	1 unit	103	0.270
					Red		**8UC93 82**		1	1 unit	103	0.263

[1] Operating mechanisms were tested with triple torque (DIN VDE 0660 Part 107). They are therefore qualified for use in all controls, especially for disconnectors.

[2] Red handle available on request.

[3] Also required: 3KX2 210-0H coupling socket.

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3NJ62 In-Line Switch Disconnectors with Fuses up to 630 A

Introduction

Overview

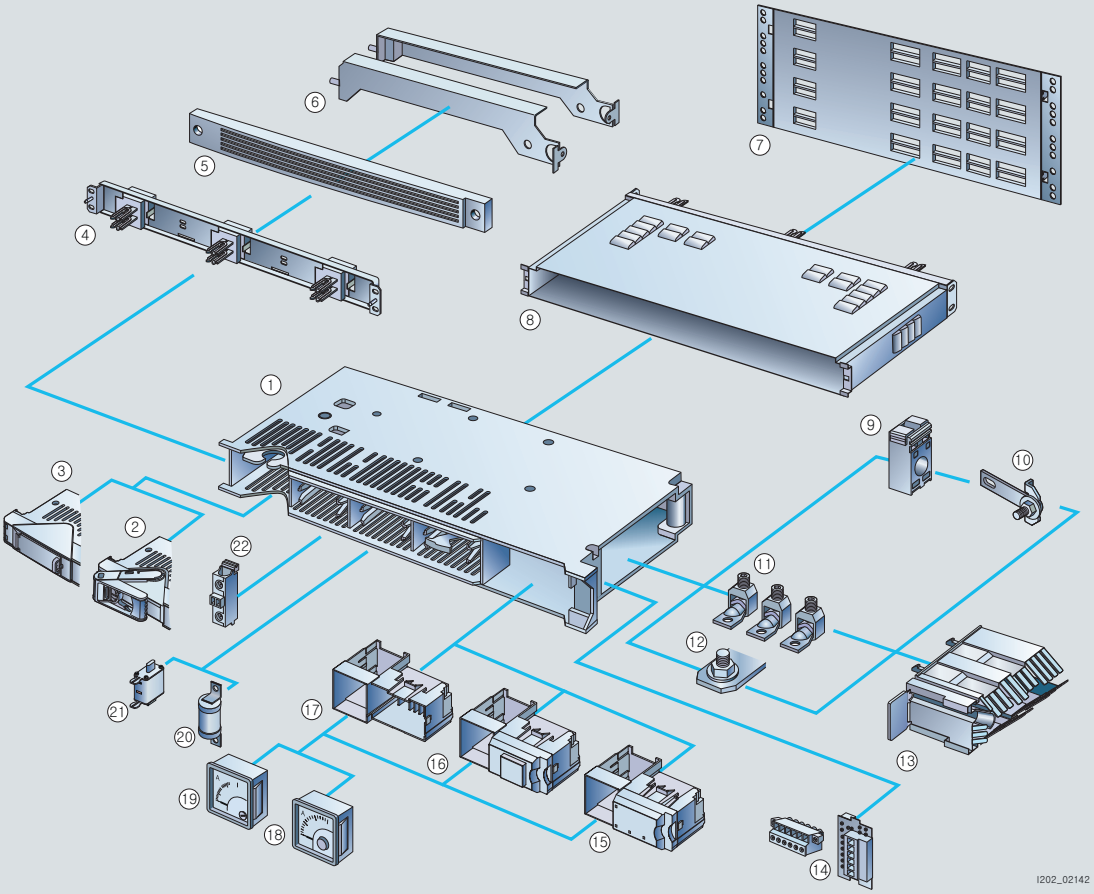


3NJ62 switch disconnectors with fuses

All key product features at a glance

- In-line design
- Type-tested according to IEC EN 60947-3
- Voltage levels up to 690 V AC/440 V DC
- 160 A to 630 A for LV HRC and BS 88 fuse links, according to IEC 60269-1/EN 60269-1
- 2-, 3- and 4-pole versions available
- 185 mm phase center distance of plug-in contacts
- Manually operated or with motorized operating mechanism
- Electronic fuse monitoring (EFM)
- Developed for switchgear in plug-in design
- Horizontal or vertical mounting position
- Front panel locked in ON position
- Degree of protection IP41

Overview of all components and accessory parts



1. 3NJ62 switch disconnector basic device here in size 00, open, without front cover
2. Hand drive
3. Motor drive
4. Connection module
5. Blanking cover
6. Guide rails
7. Busbar cover
8. Contact extension
9. Current transformer
10. Current transformer bar
11. Connection terminals
12. Stud terminal
13. Terminal cover
14. Multifunction plug
15. Holder for measuring device with electronic fuse monotoring (EFM10)
16. Holder for measuring device with electronic fuse monotoring (EFM20/25)
17. Holder for measuring device without EFM
18. Bimetal current measuring device
19. Moving-iron current measuring device
20. BS fuse
21. LV MRC fuse
22. Auxiliary switch

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Benefits

Key advantages for switchgear manufacturers due to the following:

- Compact, modular design
- Simple and efficient mounting due to incoming plug-in contact
- High packing density in the field
- Cable connection with cable clamps or cable lugs
- Can be mounted in different control cabinet depths
- Comprehensive range of accessories.

The advantages for users are:

- Conversion, retrofitting and replacement without switching off the switchgear
- Dead-state fuse replacement
- Maintenance-free
- High personal safety
- Operating handle can be locked in OFF position
- Clear and unambiguous switch position indicator

Application

The plug-in 3NJ6 switch disconnectors with fuses are installed in low-voltage distribution boards where a minimum amount of space is available for a maximum number of cable ducts to the power distribution. They can be easily fitted in all common control cabinets (minimum depth: 400 mm).

The plug-in 3NJ62 switch disconnectors with fuses are available for rated uninterrupted currents from 160 A to 630 A.

LV HRC fuse links according to IEC 60269-1/EN 60269-1 (sizes NH 00 to NH 3) or BS fuse links according to BS 88 provide overload and short-circuit protection up to 690 V AC.

The switch disconnectors can be retrofitted at any time with auxiliary switches, an ammeter (48 mm x 48 mm) and current transformers, with no extra space required. For installation in control cabinets of > 400 mm depth, the mounting depth of the disconnectors can be increased by 200 mm using a contact extension. Further installation accessories, such as guide rails and blanking covers, complete the product range.

Function

Fuse monitoring

Fuse monitoring is used to detect, indicate and report faults. The electronic fuse monitors are available in 2 versions.

EFM10 electronic fuse monitor:

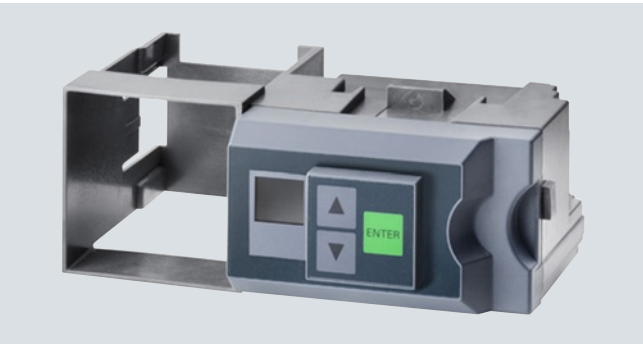
- For use up to 690 V AC
- Operational voltage < 20 V
- Display: ready-to-run
- Individual fault display per phase
- 1 CO contact as centralized fault signaling unit

EFM20/25 electronic fuse monitor and line monitor:

- EFM20 for use up to 690 V AC, EFM25 for use up to 440 V DC
- Operational voltage < 13 V (EFM20) < 20 V (EFM25)
- Test function
- Closed-circuit principle or open-circuit principle
- 2 CO contacts as centralized fault signaling unit incl. line monitoring functions with phase failure detection (EFM20), undervoltage/overvoltage detection



EFM10 electronic fuse monitor



EFM20/25 electronic fuse monitor

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3NJ62 In-Line Switch Disconnectors with Fuses up to 630 A

Introduction

Technical specifications

Main devices of sizes 00 and 1

Size		BG00								Size 1			
Switch disconnectors with fuses type 3NJ62...	**NH**			**...02-3 ...02-4**		**...03-1 ...04-1 ...04-2**		**...03-3 ...03-4**		**...12-3 ...12-4**		**...13-1 ...14-1 ...14-2**	**...13-3 ...13-4**
	BS	**...43-3**	**...53-3**	**...62-3 ...62-4**				**...63-3 ...63-4**		**...72-3 ...72-4**		**...74-1 ...74-2**	**...73-3 ...73-4**
Breaking capacity		H	H	H		S		H		H		S	H
Rated insulation voltage U_i	V	1000											
Rated impulse withstand voltage U_{imp}	V	8000											
Rated operational current I_e	A	63	100	160	--	160	125	160	125	250			
For LV HRC fuse links acc. to IEC 60269		--	--	00 and 000						1			
For BS fuse links acc. to BS 88		A3	A3	00T[1]						B2			
Rated operational voltage U_e													
• At 50/60Hz rated frequency	V	690		--	--	500	690	500	690	690			
• At DC	V	--	--	230	440	--	--	--	--	230	440	--	--
Utilization category		AC23B		DC23B	DC21B	AC22B		AC23B		DC23B	DC21B	AC22B	AC23B
Rated conditional short-circuit current													
• Short-circuit strength (rms value)	kA	100		60		100		100		60		100	
• Short-circuit making capacity (rms value)	kA	66		60		55		66		60		55	66
Rated making capacity													
• p.f. = 0.65	A	--	--	--	--	480	375	--	--	--	--	750	--
• p.f. = 0.45	A	630	1000	--	--	--	--	--	--	--	--	--	--
• p.f. = 0.35	A	--	--	--	--	--	--	1600	1250	--	--	--	2500
Rated breaking capacity													
• p.f. = 0.65	A	--	--	--	--	480	375	--	--	--	--	750	--
• p.f. = 0.45	A	504	800	--	--	--	--	--	--	--	--	--	--
• p.f. = 0.35	A	--	--	--	--	--	--	1280	1000	--	--	--	2000
Endurance													
Operating cycles total		2000		1600						1600			
• Electrical (690 V, p.f. = 0.65)		300		200						200			
Power loss (no fuse links)	W	7	17	43						78			
Permissible ambient temperature	°C	-5...+55											
Permissible mounting positions		Horizontal and vertical with bottom connection											
Degree of protection (in operating state)		IP41											
Connection type		Main conductor connections											
Cable lug connection													
• Conductor cross-section (Al/Cu, solid or stranded) according to DIN 46235 (Cu) and DIN 46239 (Al)	mm^2	1x 10-95 2x 16-70								1x 25-240 2x 25-70			
• Screw size		M8								M12			
• Torque	Nm	15								30			
Terminal connection													
• Conductor cross-section (Al/Cu), rm	mm^2	1x 10-50								1x 16-185			
• Conductor cross-section (Al/Cu), re	mm^2	1x 10-50								1x 16-150			
• Conductor cross-section (Al/Cu), sm	mm^2	1x 16-95								1x 35-240			
• Conductor cross-section (Al/Cu), se	mm^2	1x 16-95								1x 35-300			
• Required torque	Nm	15								25			

[1] The fuse is available from Lawson fuses (UK) and does not correspond to BS 88.

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Main devices of sizes 2 and 3

Size		**Size 2**				**Size 3**					
Switch disconnectors with fuses type 3NJ62...	**NH**	**...22-3 ...22-4**		**...23-1 ...24-1 ...24-2**	**...23-3 ...23-4**	**...32-3 ...32-4**		**...33-1 ...34-1 ...34-2**		**...33-3 ...33-4**	
	BS	**...82-3 ...82-4**			**...83-3 ...83-4**	**...92-3 ...92-4**		**...94-1 ...94-2**		**...93-3 ...93-4 ...33-3 ...33-4**	
Breaking capacity		H		S	H	H		S		H	
Rated insulation voltage U_i	V	1000									
Rated impulse withstand voltage U_{imp}	V	8000									
Rated operational current I_e											
• For fuse links according to IEC 60269/ BS88	A	400				630			500	630	500
For fuse links according to IEC 60269		2 and 1				3 and 2					
For BS fuse links acc. to BS 88		B4				3T[1)]					
Rated operational voltage U_e											
• At 50/60Hz rated frequency	V	--	--	690		230	440	500	690	500	690
• At DC	V	230	440	--		--	--	--	--	--	--
Utilization category		DC23B	DC21B	AC22B	AC23B	DC23B	DC21B	AC22B		AC23B	
Rated conditional short-circuit current											
• Short-circuit strength (rms value)	kA	60		100		60		100			
• Short-circuit making capacity (rms value)	kA	60		55	66	60		55		66	
Rated making capacity											
• p.f. = 0.65	A	--	--	1200	--	--	--	1890	1500	--	--
• p.f. = 0.45	A	--	--	--	--	--	--	--	--	--	--
• p.f. = 0.35	A	--	--	--	4000	--	--	--	--	6300	5000
Rated breaking capacity											
• p.f. = 0.65	A	--	--	1200	--	--	--	1890	1500	--	--
• p.f. = 0.45	A	--	--	--	--	--	--	--	--	--	--
• p.f. = 0.35	A	--	--	--	3200	--	--	--	--	5040	4000
Endurance											
Operating cycles total		1000				1000					
• Electrical (690 V, p.f. = 0.65)		200				200					
Power loss (no fuse links)	W	158				357					
Permissible ambient temperature	°C	-5...+55									
Permissible mounting positions		Horizontal and vertical with bottom connection									
Degree of protection (in operating state)		IP41									
Connection type		Main conductor connections									
Cable lug connection											
Conductor cross-section	mm^2	1x 25-300				1x 25-300					
• Conductor cross-section (Al/Cu, solid or stranded) according to DIN 46235 (Cu) and DIN 46239 (Al)		2x 25-240				2x 25-240					
• Screw size		2x M12				2x M12					
• Torque	Nm	30				30					
Terminal connection											
• Conductor cross-section (Al/Cu), rm	mm^2	2x 16-185				2x 16-185					
• Conductor cross-section (Al/Cu), re	mm^2	2x 16-150				2x 16-150					
• Conductor cross-section (Al/Cu), sm	mm^2	2x 35-240				2x 35-240					
• Conductor cross-section (Al/Cu), se	mm^2	2x 35-300				2x 35-300					
• Required torque	Nm	25				25					

[1)] The fuse is available from Lawson fuses (UK) and does not correspond to BS 88.

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3NJ62 In-Line Switch Disconnectors with Fuses up to 630 A

Introduction

Auxiliary switches

Acc. to IEC 60947-5-1		
Rated insulation voltage U_i	V	690
Rated impulse withstand voltage U_{imp}	V	8000
Rated operational current I_e		
• At AC15, U_e = 120 V	A	8
• At AC15, U_e = 230 V	A	6
• At AC15, U_e = 400 V	A	4
• At AC15, U_e = 690 V	A	2

Electronic fuse monitor, AC version (EFM 10)

Size		Size 00	Size 1	Size 2 / Size 3
Apparent power consumption	VA	S approx. 2.5		
Internal resistance of measurement circuit	MΩ	R_{in} > 6		
Storage temperature **Operating temperature** **Operating temperature (500 V and/or 500 A)**	°C °C °C	- 20 ... + 80 - 5 ... + 55 - 5 ... + 35		
Protection rating in closed in-line connector		IP40		
Rated operating voltage of the main control switching devices	V AC Hz	230 ... 690 50/60		
Voltage limits	%	±15		
Signaling relay acc. to IEC 60947-5-1	A kV V	I_{th} = 1.5 U_{imp} = 4 U_i = 250		
Load capacity of the signaling relay				
• U_e	V	24	125	240
• DC - 13; I_e	A	1	0.2	0.1
• AC - 15; I_e	A	1.5		
Short-circuit protection		Max. fuse protection Diazed 2 A gLgG		

Electronic fuse monitor, AC version (EFM 20)

Size		Size 00	Size 1	Size 2 / Size 3
Apparent power consumption	VA	S approx. 2.5		
Internal resistance of measurement circuit	MΩ	R_{in} > 6		
Storage temperature **Operating temperature** **Operating temperature (500 V and/or 500 A)**	°C °C °C	- 20 ... + 80 - 5 ... + 55 - 5 ... + 35		
Protection rating in closed in-line connector		IP40		
Rated operating voltage of the main control switching devices	V AC Hz	230 ... 690 50/60		
Voltage limits	%	±15		
Undervoltage **Overvoltage**	V V	375 425		
Voltage drop for faulty fuses	V	> 13		
Delay time	s	0.1		
Relay 2		as relay 1 (fuse monitor)		
Storage function		Off		
Open/closed-circuit principle		Closed-circuit principle		
Mode		Run mode		
Menu option		Display of voltage values/ signals		
Signaling relay acc. to IEC 60947-5-1	A kV V	I_{th} = 1.5 U_{imp} = 4 U_i = 250		
Signaling relay 1 **Signaling relay 2**		1 changeover contact for fuse monitoring only 1 changeover contact as output for central fault OR as signaling relay 1 (presetting)		
Load capacity of the signaling relay				
• U_e	V	24	125	240
• DC - 13; I_e	A	1	0.2	0.1
• AC - 15; I_e	A	1.5		
Short-circuit protection		Max. fuse protection Diazed 2 A gLgG		

Electronic fuse monitor, DC version (EFM 25)

Size		Size 00	Size 1	Size 2 / Size 3
Apparent power consumption	VA	S approx. 2.5		
Internal resistance of measurement circuit	MΩ	R_{in} > 6		
Storage temperature **Operating temperature** **Operating temperature (500 V and/or 500 A)**	°C °C °C	- 20 ... + 80 - 5 ... + 55 - 5 ... + 35		
Protection rating in closed in-line connector		IP40		
Rated operating voltage of the main control switching devices	V DC	220 ... 440		
Voltage limits	%	±15		
Undervoltage **Overvoltage**	V V	200 240		
Voltage drop for faulty fuses	V	> 20		
Delay time	s	0.1		
Relay 2		as relay 1 (fuse monitor)		
Storage function		Off		
Open/closed-circuit principle		Closed-circuit principle		
Mode		Run mode		
Menu option		Display of voltage values/ signals		
Signaling relay acc. to IEC 60947-5-1	A kV V	I_{th} = 1.5 U_{imp} = 4 U_i = 250		
Signaling relay 1 **Signaling relay 2**		1 changeover contact for fuse monitoring only 1 changeover contact as output for central fault OR as signaling relay 1 (presetting)		
Load capacity of the signaling relay				
• U_e	V	24	125	240
• DC - 13; I_e	A	1	0.2	0.1
• AC - 15; I_e	A	1.5		
Short-circuit protection		Max. fuse protection Diazed 2 A gLgG		

Ammeters

Inputs		x/1 A or x/5 A
Overload		
• Moving-iron measuring instruments		1.2 times
• Bi-metal measuring instruments		2 times
Slave pointer		
• Moving-iron measuring instruments	min	--
• Bi-metal measuring instruments	min	15
Power consumption		
• Moving-iron measuring instruments	VA	0.6
• Bi-metal measuring instruments	VA	1

Motorized operating mechanism

Size		Size 00	Size 1	Size 2 / Size 3
Control supply voltage	V DC	24 ± 2		
Power consumption	A	1.1	1.3	2.8
Service life (no limitation of circuit breaker according to IEC 60947-3)				
• Operating cycles total		1600		
• Switch cycles under load		200		
Signal duration	s	min. 0.5 or continuous signal		

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Selection and ordering data

Rated current I_n	Size	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
A								kg
2-pole, high breaking capacity H								
								
Manually operated								
160	00		**3NJ62 02-3AA0□-0AA0**		1	1 unit	143	3.630
250	1		**3NJ62 12-3AA0□-0AA0**		1	1 unit	143	6.750
400	2		**3NJ62 22-3AA0□-0AA0**		1	1 unit	143	15.000
630	3		**3NJ62 32-3AA0□-0AA0**		1	1 unit	143	15.360
Manually operated, EFM 25								
160	00		**3NJ62 02-3AE0□-0AA0**		1	1 unit	143	3.830
250	1		**3NJ62 12-3AE0□-0AA0**		1	1 unit	143	6.950
400	2		**3NJ62 22-3AE0□-0AA0**		1	1 unit	143	15.200
630	3		**3NJ62 32-3AE0□-0AA0**		1	1 unit	143	15.560
Motorized operating mechanism								
160	00		**3NJ62 02-4AA0□-0AA0**		1	1 unit	143	3.630
250	1		**3NJ62 12-4AA0□-0AA0**		1	1 unit	143	6.750
400	2		**3NJ62 22-4AA0□-0AA0**		1	1 unit	143	15.000
630	3		**3NJ62 32-4AA0□-0AA0**		1	1 unit	143	15.360
Motorized operat. mechanism, EFM 25								
160	00		**3NJ62 02-4AE0□-0AA0**		1	1 unit	143	4.330
250	1		**3NJ62 12-4AE0□-0AA0**		1	1 unit	143	7.450
400	2		**3NJ62 22-4AE0□-0AA0**		1	1 unit	143	15.700
630	3		**3NJ62 32-4AE0□-0AA0**		1	1 unit	143	16.060
3-pole, standard breaking capacity S								
								
Manually operated								
160	00		**3NJ62 03-1AA0□-□□□□**		1	1 unit	143	3.630
250	1		**3NJ62 13-1AA0□-□□□□**		1	1 unit	143	6.750
400	2		**3NJ62 23-1AA0□-□□□□**		1	1 unit	143	15.000
630	3		**3NJ62 33-1AA0□-□□□□**		1	1 unit	143	15.360
Manually operated, EFM 10								
160	00		**3NJ62 03-1AB0□-□□□□**		1	1 unit	143	3.830
250	1		**3NJ62 13-1AB0□-□□□□**		1	1 unit	143	6.950
400	2		**3NJ62 23-1AB0□-□□□□**		1	1 unit	143	15.200
630	3		**3NJ62 33-1AB0□-□□□□**		1	1 unit	143	15.560
Manually operated, EFM 20								
160	00		**3NJ62 03-1AC0□-□□□□**		1	1 unit	143	3.830
250	1		**3NJ62 13-1AC0□-□□□□**		1	1 unit	143	6.950
400	2		**3NJ62 23-1AC0□-□□□□**		1	1 unit	143	15.200
630	3		**3NJ62 33-1AC0□-□□□□**		1	1 unit	143	15.560
3-pole, high breaking capacity H								
								
Manually operated								
160	00		**3NJ62 03-3AA0□-□□□□**		1	1 unit	143	3.630
250	1		**3NJ62 13-3AA0□-□□□□**		1	1 unit	143	6.750
400	2		**3NJ62 23-3AA0□-□□□□**		1	1 unit	143	15.000
630	3		**3NJ62 33-3AA0□-□□□□**		1	1 unit	143	15.360
Manually operated, EFM 10								
160	00		**3NJ62 03-3AB0□-□□□□**		1	1 unit	143	3.830
250	1		**3NJ62 13-3AB0□-□□□□**		1	1 unit	143	6.950
400	2		**3NJ62 23-3AB0□-□□□□**		1	1 unit	143	15.200
630	3		**3NJ62 33-3AB0□-□□□□**		1	1 unit	143	15.560
Manually operated, EFM 20								
160	00		**3NJ62 03-3AC0□-□□□□**		1	1 unit	143	3.830
250	1		**3NJ62 13-3AC0□-□□□□**		1	1 unit	143	6.950
400	2		**3NJ62 23-3AC0□-□□□□**		1	1 unit	143	15.200
630	3		**3NJ62 33-3AC0□-□□□□**		1	1 unit	143	15.560
Motorized operating mechanism								
160	00		**3NJ62 03-4AA0□-□□□□**		1	1 unit	143	3.630
250	1		**3NJ62 13-4AA0□-□□□□**		1	1 unit	143	6.750
400	2		**3NJ62 23-4AA0□-□□□□**		1	1 unit	143	15.000
630	3		**3NJ62 33-4AA0□-□□□□**		1	1 unit	143	15.360
Motorized operat. mechanism, EFM 10								
160	00		**3NJ62 03-4AB0□-□□□□**		1	1 unit	143	4.330
250	1		**3NJ62 13-4AB0□-□□□□**		1	1 unit	143	7.450
400	2		**3NJ62 23-4AB0□-□□□□**		1	1 unit	143	15.700
630	3		**3NJ62 33-4AB0□-□□□□**		1	1 unit	143	16.060
Motorized operat. mechanism, EFM 20								
160	00		**3NJ62 03-4AC0□-□□□□**		1	1 unit	143	4.330
250	1		**3NJ62 13-4AC0□-□□□□**		1	1 unit	143	7.450
400	2		**3NJ62 23-4AC0□-□□□□**		1	1 unit	143	15.700
630	3		**3NJ62 33-4AC0□-□□□□**		1	1 unit	143	16.060
			Order No. supplement	Add. price				
Standard Order No. supplement (more Order No. supplements from page 7/99 onwards)								
Without auxiliary switches, ammeters, current transformers			**0 0AA0**	None				

* You can order this quantity or a multiple thereof.

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3NJ62 In-Line Switch Disconnectors with Fuses up to 630 A

For LV HRC fuse links

Rated current I_n	Size	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
A								kg
4-pole, standard breaking capacity S								
Manually operated								
160	00		**3NJ62 04-1AA0□-□□□□**		1	1 unit	143	6.160
250	1		**3NJ62 14-1AA0□-□□□□**		1	1 unit	143	10.380
400	2		**3NJ62 24-1AA0□-□□□□**		1	1 unit	143	18.900
630	3		**3NJ62 34-1AA0□-□□□□**		1	1 unit	143	20.000
Manually operated, EFM 10								
160	00		**3NJ62 04-1AB0□-□□□□**		1	1 unit	143	6.830
250	1		**3NJ62 14-1AB0□-□□□□**		1	1 unit	143	9.950
400	2		**3NJ62 24-1AB0□-□□□□**		1	1 unit	143	18.200
630	3		**3NJ62 34-1AB0□-□□□□**		1	1 unit	143	18.560
Manually operated, EFM 20								
160	00		**3NJ62 04-1AC0□-□□□□**		1	1 unit	143	6.830
250	1		**3NJ62 14-1AC0□-□□□□**		1	1 unit	143	9.950
400	2		**3NJ62 24-1AC0□-□□□□**		1	1 unit	143	18.200
630	3		**3NJ62 34-1AC0□-□□□□**		1	1 unit	143	18.560
Motorized operating mechanism								
160	00		**3NJ62 04-2AA0□-□□□□**		1	1 unit	143	6.160
250	1		**3NJ62 14-2AA0□-□□□□**		1	1 unit	143	10.380
400	2		**3NJ62 24-2AA0□-□□□□**		1	1 unit	143	18.900
630	3		**3NJ62 34-2AA0□-□□□□**		1	1 unit	143	20.000
Motorized operat. mechanism, EFM 10								
160	00		**3NJ62 04-2AB0□-□□□□**		1	1 unit	143	7.330
250	1		**3NJ62 14-2AB0□-□□□□**		1	1 unit	143	10.450
400	2		**3NJ62 24-2AB0□-□□□□**		1	1 unit	143	18.700
630	3		**3NJ62 34-2AB0□-□□□□**		1	1 unit	143	19.060
Motorized operat. mechanism, EFM 20								
160	00		**3NJ62 04-2AC0□-□□□□**		1	1 unit	143	7.330
250	1		**3NJ62 14-2AC0□-□□□□**		1	1 unit	143	10.450
400	2		**3NJ62 24-2AC0□-□□□□**		1	1 unit	143	18.700
630	3		**3NJ62 34-2AC0□-□□□□**		1	1 unit	143	19.060
			Order No. supplement	Add. price				
Standard Order No. supplement (more Order No. supplements from page 7/99 onwards)								
Without auxiliary switches, ammeters, current transformers			**0 0AA0**	None				

* You can order this quantity or a multiple thereof.

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Selection and ordering data

Rated current I_n	Size	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
A								kg
2-pole, high breaking capacity H								
Manually operated								
160	00T[1)]		**3NJ62 62-3AA0□-0AA0**		1	1 unit	143	3.630
250	B2		**3NJ62 72-3AA0□-0AA0**		1	1 unit	143	6.750
400	B4		**3NJ62 82-3AA0□-0AA0**		1	1 unit	143	15.000
630	3T[1)]		**3NJ62 92-3AA0□-0AA0**		1	1 unit	143	15.360
Manually operated, EFM 25								
160	00T[1)]		**3NJ62 62-3AE0□-0AA0**		1	1 unit	143	3.830
250	B2		**3NJ62 72-3AE0□-0AA0**		1	1 unit	143	6.950
400	B4		**3NJ62 82-3AE0□-0AA0**		1	1 unit	143	15.200
630	3T[1)]		**3NJ62 92-3AE0□-0AA0**		1	1 unit	143	15.560
Motorized operating mechanism								
160	00T[1)]		**3NJ62 62-4AA0□-0AA0**		1	1 unit	143	3.630
250	B2		**3NJ62 72-4AA0□-0AA0**		1	1 unit	143	6.750
400	B4		**3NJ62 82-4AA0□-0AA0**		1	1 unit	143	15.000
630	3T[1)]		**3NJ62 92-4AA0□-0AA0**		1	1 unit	143	15.360
Motorized operat. mechanism, EFM 25								
160	00T[1)]		**3NJ62 62-4AE0□-0AA0**		1	1 unit	143	4.330
250	B2		**3NJ62 72-4AE0□-0AA0**		1	1 unit	143	7.450
400	B4		**3NJ62 82-4AE0□-0AA0**		1	1 unit	143	15.700
630	3T[1)]		**3NJ62 92-4AE0□-0AA0**		1	1 unit	143	16.060
3-pole, high breaking capacity H								
Manually operated								
63	A3		**3NJ62 43-3AA0□-□□□□**		1	1 unit	143	3.630
100	A3		**3NJ62 53-3AA0□-□□□□**		1	1 unit	143	3.630
160	00T[1)]		**3NJ62 63-3AA0□-□□□□**		1	1 unit	143	3.630
250	B2		**3NJ62 73-3AA0□-□□□□**		1	1 unit	143	6.750
400	B4		**3NJ62 83-3AA0□-□□□□**		1	1 unit	143	15.000
630	3T[1)]		**3NJ62 93-3AA0□-□□□□**		1	1 unit	143	15.360
Manually operated, EFM 10								
160	00T[1)]		**3NJ62 63-3AB0□-□□□□**		1	1 unit	143	3.830
250	B2		**3NJ62 73-3AB0□-□□□□**		1	1 unit	143	6.950
400	B4		**3NJ62 83-3AB0□-□□□□**		1	1 unit	143	15.200
630	3T[1)]		**3NJ62 93-3AB0□-□□□□**		1	1 unit	143	15.560
Manually operated, EFM 20								
160	00T[1)]		**3NJ62 63-3AC0□-□□□□**		1	1 unit	143	3.830
250	B2		**3NJ62 73-3AC0□-□□□□**		1	1 unit	143	6.950
400	B4		**3NJ62 83-3AC0□-□□□□**		1	1 unit	143	15.200
630	3T[1)]		**3NJ62 93-3AC0□-□□□□**		1	1 unit	143	15.560
Motorized operating mechanism								
160	00T[1)]		**3NJ62 63-4AA0□-□□□□**		1	1 unit	143	3.630
250	B2		**3NJ62 73-4AA0□-□□□□**		1	1 unit	143	6.750
400	B4		**3NJ62 83-4AA0□-□□□□**		1	1 unit	143	15.000
630	3T[1)]		**3NJ62 93-4AA0□-□□□□**		1	1 unit	143	15.360
Motorized operat. mechanism, EFM 10								
160	00T[1)]		**3NJ62 63-4AB0□-□□□□**		1	1 unit	143	4.330
250	B2		**3NJ62 73-4AB0□-□□□□**		1	1 unit	143	7.450
400	B4		**3NJ62 83-4AB0□-□□□□**		1	1 unit	143	15.700
630	3T[1)]		**3NJ62 93-4AB0□-□□□□**		1	1 unit	143	16.060
Motorized operat. mechanism, EFM 20								
160	00T[1)]		**3NJ62 63-4AC0□-□□□□**		1	1 unit	143	4.330
250	B2		**3NJ62 73-4AC0□-□□□□**		1	1 unit	143	7.450
400	B4		**3NJ62 83-4AC0□-□□□□**		1	1 unit	143	15.700
630	3T[1)]		**3NJ62 93-4AC0□-□□□□**		1	1 unit	143	16.060

	Order No. supplement	Add. price
Standard Order No. supplement (more Order No. supplements from page 7/99 onwards)		
Without auxiliary switches, ammeters, current transformers }	**0 0AA0**	None

[1)] The fuse is available from Lawson fuses (UK) and does not correspond to BS 88.

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3NJ62 In-Line Switch Disconnectors with Fuses up to 630 A

For BS fuse links

Rated current I_n	Size	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
A								kg
4-pole, standard breaking capacity S								
Manually operated								
160	00T[1)]		**3NJ62 64-1AA0□-□□□□**		1	1 unit	143	6.160
250	B2		**3NJ62 74-1AA0□-□□□□**		1	1 unit	143	10.380
400	B4		**3NJ62 84-1AA0□-□□□□**		1	1 unit	143	18.900
630	3T[1)]		**3NJ62 94-1AA0□-□□□□**		1	1 unit	143	20.000
Manually operated, EFM 10								
160	00T[1)]		**3NJ62 64-1AB0□-□□□□**		1	1 unit	143	6.830
250	B2		**3NJ62 74-1AB0□-□□□□**		1	1 unit	143	9.950
400	B4		**3NJ62 84-1AB0□-□□□□**		1	1 unit	143	18.200
630	3T[1)]		**3NJ62 94-1AB0□-□□□□**		1	1 unit	143	18.560
Manually operated, EFM 20								
160	00T[1)]		**3NJ62 64-1AC0□-□□□□**		1	1 unit	143	6.830
250	B2		**3NJ62 74-1AC0□-□□□□**		1	1 unit	143	9.950
400	B4		**3NJ62 84-1AC0□-□□□□**		1	1 unit	143	18.200
630	3T[1)]		**3NJ62 94-1AC0□-□□□□**		1	1 unit	143	18.560
Motorized operating mechanism								
160	00T[1)]		**3NJ62 64-2AA0□-□□□□**		1	1 unit	143	6.160
250	B2		**3NJ62 74-2AA0□-□□□□**		1	1 unit	143	10.380
400	B4		**3NJ62 84-2AA0□-□□□□**		1	1 unit	143	18.900
630	3T[1)]		**3NJ62 94-2AA0□-□□□□**		1	1 unit	143	20.000
Motorized operat. mechanism, EFM 10								
160	00T[1)]		**3NJ62 64-2AB0□-□□□□**		1	1 unit	143	7.330
250	B2		**3NJ62 74-2AB0□-□□□□**		1	1 unit	143	10.450
400	B4		**3NJ62 84-2AB0□-□□□□**		1	1 unit	143	18.700
630	3T[1)]		**3NJ62 94-2AB0□-□□□□**		1	1 unit	143	19.060
Motorized operat. mechanism, EFM 20								
160	00T[1)]		**3NJ62 64-2AC0□-□□□□**		1	1 unit	143	7.330
250	B2		**3NJ62 74-2AC0□-□□□□**		1	1 unit	143	10.450
400	B4		**3NJ62 84-2AC0□-□□□□**		1	1 unit	143	18.700
630	3T[1)]		**3NJ62 94-2AC0□-□□□□**		1	1 unit	143	19.060
			Order No. supplement	Add. price				
Standard Order No. supplement (more Order No. supplements from page 7/99 onwards)								
Without auxiliary switches, ammeters, current transformers		}	**0 0AA0**	None				

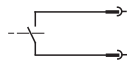
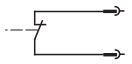
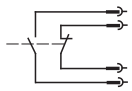
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* You can order this quantity or a multiple thereof.

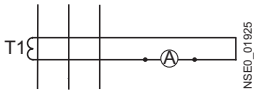
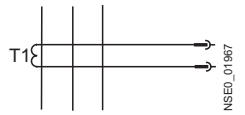
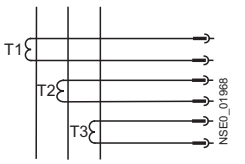
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Options

1. Order No. supplement:
Auxiliary switch wired to multi-function plug

		DT	Order No. supplement 3NJ62 ..-....□-....	Additional price	PS*/ P. unit
	Without	►	**0**	None	1 unit
	1 NO contact		**1**	✓	1 unit
	1 NC contact		**2**	✓	1 unit
	1 NO contact + 1 NC contact		**3**	✓	1 unit

2. Order No. supplement:
Ammeter and current transformer wired

	Ammeters	Current transformers: Primary current A	Current transformers: Secondary current A	Current transformers: Accuracy class	DT	Order No. supplement 3NJ62 ..-.....-□□□□	Additional price	PS*/ P. unit
For size NH 00 and BS 00T								
	Without	Without	Without	Without	►	**0AA0**	None	1 unit
	1 current transformer to 1 ammeter							
	Moving iron	50	1	1		**1DB1**	✓	1 unit
	Moving iron	50	5	1		**1DB4**	✓	1 unit
	Moving iron	100	1	1		**1DD1**	✓	1 unit
	Moving iron	100	5	1		**1DD4**	✓	1 unit
	Moving iron	150	1	1		**1DE1**	✓	1 unit
	Moving iron	150	5	1		**1DE4**	✓	1 unit
	Bi-metal	50	1	1		**2DB1**	✓	1 unit
	Bi-metal	50	5	1		**2DB4**	✓	1 unit
	Bi-metal	100	1	1		**2DD1**	✓	1 unit
	Bi-metal	100	5	1		**2DD4**	✓	1 unit
	Bi-metal	150	1	1		**2DE1**	✓	1 unit
	Bi-metal	150	5	1		**2DE4**	✓	1 unit
	1 current transformers to multi-function plug							
	Without	50	1	1		**0BB1**	✓	1 unit
	Without	50	5	1		**0BB4**	✓	1 unit
	Without	100	1	1		**0BD1**	✓	1 unit
	Without	100	1	0,5		**0BD2**	✓	1 unit
	Without	100	1	0.5 calibrated		**0BD3**	✓	1 unit
	Without	100	5	1		**0BD4**	✓	1 unit
	Without	100	5	0,5		**0BD5**	✓	1 unit
	Without	100	5	0.5 calibrated		**0BD6**	✓	1 unit
	Without	150	1	1		**0BE1**	✓	1 unit
	Without	150	1	0,5		**0BE2**	✓	1 unit
	Without	150	1	0.5 calibrated		**0BE3**	✓	1 unit
	Without	150	5	1		**0BE4**	✓	1 unit
	Without	150	5	0,5		**0BE5**	✓	1 unit
	Without	150	5	0.5 calibrated		**0BE6**	✓	1 unit
	3 current transformers to multi-function plug							
	Without	50	1	1		**0CB1**	✓	1 unit
	Without	50	5	1		**0CB4**	✓	1 unit
	Without	100	1	1		**0CD1**	✓	1 unit
	Without	100	1	0,5		**0CD2**	✓	1 unit
	Without	100	1	0.5 calibrated		**0CD3**	✓	1 unit
	Without	100	5	1		**0CD4**	✓	1 unit
	Without	100	5	0,5		**0CD5**	✓	1 unit
	Without	100	5	0.5 calibrated		**0CD6**	✓	1 unit
	Without	150	1	1		**0CE1**	✓	1 unit
	Without	150	1	0,5		**0CE2**	✓	1 unit
	Without	150	1	0.5 calibrated		**0CE3**	✓	1 unit
	Without	150	5	1		**0CE4**	✓	1 unit
	Without	150	5	0,5		**0CE5**	✓	1 unit
	Without	150	5	0.5 calibrated		**0CE6**	✓	1 unit

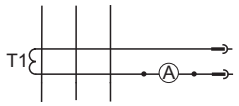
* You can order this quantity or a multiple thereof.

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3NJ62 In-Line Switch Disconnectors with Fuses up to 630 A

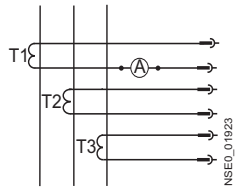
For LV HRC and BS fuse links

For size NH 00 and BS 00T (continued)



1 current transformer to 1 ammeter and multi-function plug

Ammeters	Current transformers: Primary current A	Secondary current A	Accuracy class	DT	Order No. supplement 3NJ62 ..-.....-□□□□	Additional price	PS*/ P. unit
Moving iron	50	1	1		1EB1	✓	1 unit
Moving iron	50	5	1		1EB4	✓	1 unit
Moving iron	100	1	1		1ED1	✓	1 unit
Moving iron	100	1	0,5		1ED2	✓	1 unit
Moving iron	100	1	0.5 calibrated		1ED3	✓	1 unit
Moving iron	100	5	1		1ED4	✓	1 unit
Moving iron	100	5	0,5		1ED5	✓	1 unit
Moving iron	100	5	0.5 calibrated		1ED6	✓	1 unit
Moving iron	150	1	1		1EE1	✓	1 unit
Moving iron	150	1	0,5		1EE2	✓	1 unit
Moving iron	150	1	0.5 calibrated		1EE3	✓	1 unit
Moving iron	150	5	1		1EE4	✓	1 unit
Moving iron	150	5	0,5		1EE5	✓	1 unit
Moving iron	150	5	0.5 calibrated		1EE6	✓	1 unit
Bi-metal	50	1	1		2EB1	✓	1 unit
Bi-metal	50	5	1		2EB4	✓	1 unit
Bi-metal	100	1	1		2ED1	✓	1 unit
Bi-metal	100	1	0,5		2ED2	✓	1 unit
Bi-metal	100	1	0.5 calibrated		2ED3	✓	1 unit
Bi-metal	100	5	1		2ED4	✓	1 unit
Bi-metal	100	5	0,5		2ED5	✓	1 unit
Bi-metal	100	5	0.5 calibrated		2ED6	✓	1 unit
Bi-metal	150	1	1		2EE1	✓	1 unit
Bi-metal	150	1	0,5		2EE2	✓	1 unit
Bi-metal	150	1	0.5 calibrated		2EE3	✓	1 unit
Bi-metal	150	5	1		2EE4	✓	1 unit
Bi-metal	150	5	0,5		2EE5	✓	1 unit
Bi-metal	150	5	0.5 calibrated		2EE6	✓	1 unit

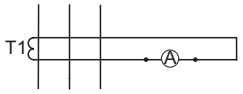
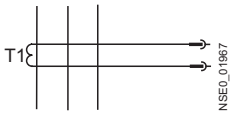
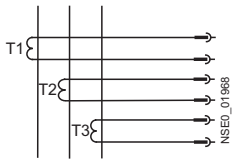


3 current transformer to 1 ammeter and multi-function plug

Ammeters	Current transformers: Primary current A	Secondary current A	Accuracy class	DT	Order No. supplement 3NJ62 ..-.....-□□□□	Additional price	PS*/ P. unit
Moving iron	50	1	1		1FB1	✓	1 unit
Moving iron	50	5	1		1FB4	✓	1 unit
Moving iron	100	1	1		1FD1	✓	1 unit
Moving iron	100	1	0,5		1FD2	✓	1 unit
Moving iron	100	1	0.5 calibrated		1FD3	✓	1 unit
Moving iron	100	5	1		1FD4	✓	1 unit
Moving iron	100	5	0,5		1FD5	✓	1 unit
Moving iron	100	5	0.5 calibrated		1FD6	✓	1 unit
Moving iron	150	1	1		1FE1	✓	1 unit
Moving iron	150	5	0,5		1FE2	✓	1 unit
Moving iron	150	5	0.5 calibrated		1FE3	✓	1 unit
Moving iron	150	5	1		1FE4	✓	1 unit
Moving iron	150	5	0,5		1FE5	✓	1 unit
Moving iron	150	5	0.5 calibrated		1FE6	✓	1 unit
Bi-metal	50	1	1		2FB1	✓	1 unit
Bi-metal	50	5	1		2FB4	✓	1 unit
Bi-metal	100	1	1		2FD1	✓	1 unit
Bi-metal	100	1	0,5		2FD2	✓	1 unit
Bi-metal	100	1	0.5 calibrated		2FD3	✓	1 unit
Bi-metal	100	5	1		2FD4	✓	1 unit
Bi-metal	100	5	0,5		2FD5	✓	1 unit
Bi-metal	100	5	0.5 calibrated		2FD6	✓	1 unit
Bi-metal	150	1	1		2FE1	✓	1 unit
Bi-metal	150	1	0,5		2FE2	✓	1 unit
Bi-metal	150	1	0.5 calibrated		2FE3	✓	1 unit
Bi-metal	150	5	1		2FE4	✓	1 unit
Bi-metal	150	5	0,5		2FE5	✓	1 unit
Bi-metal	150	5	0.5 calibrated		2FE6	✓	1 unit

* You can order this quantity or a multiple thereof.

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	Ammeters	Current transformers primary current A	Secondary current A	Accuracy class	DT	Order No. supplement 3NJ62 ..-.....-□□□□	Additional price	PS*/ P. unit
For size NH 1 and BS B2								
	Without	Without	Without	Without	▶	**0AA0**	None	1 unit
	1 current transformer to 1 ammeter							
	Moving iron	50	1	1		**1DB1**	✓	1 unit
	Moving iron	50	5	1		**1DB4**	✓	1 unit
	Moving iron	100	1	1		**1DD1**	✓	1 unit
	Moving iron	100	5	1		**1DD4**	✓	1 unit
	Moving iron	150	1	1		**1DE1**	✓	1 unit
	Moving iron	150	5	1		**1DE4**	✓	1 unit
	Moving iron	200	1	1		**1DF1**	✓	1 unit
	Moving iron	200	5	1		**1DF4**	✓	1 unit
	Moving iron	250	1	1		**1DG1**	✓	1 unit
	Moving iron	250	5	1		**1DG4**	✓	1 unit
	Bi-metal	50	1	1		**2DB1**	✓	1 unit
	Bi-metal	50	5	1		**2DB4**	✓	1 unit
	Bi-metal	100	1	1		**2DD1**	✓	1 unit
	Bi-metal	100	5	1		**2DD4**	✓	1 unit
	Bi-metal	150	1	1		**2DE1**	✓	1 unit
	Bi-metal	150	5	1		**2DE4**	✓	1 unit
	Bi-metal	200	1	1		**2DF1**	✓	1 unit
	Bi-metal	200	5	1		**2DF4**	✓	1 unit
	Bi-metal	250	1	1		**2DG1**	✓	1 unit
	Bi-metal	250	5	1		**2DG4**	✓	1 unit
	1 current transformers to multi-function plug							
	Without	50	1	1		**0BB1**	✓	1 unit
	Without	50	5	1		**0BB4**	✓	1 unit
	Without	100	1	1		**0BD1**	✓	1 unit
	Without	100	1	0,5		**0BD2**	✓	1 unit
	Without	100	5	1		**0BD4**	✓	1 unit
	Without	100	5	0,5		**0BD5**	✓	1 unit
	Without	150	1	1		**0BE1**	✓	1 unit
	Without	150	1	0,5		**0BE2**	✓	1 unit
	Without	150	5	1		**0BE4**	✓	1 unit
	Without	150	5	0,5		**0BE5**	✓	1 unit
	Without	200	1	1		**0BF1**	✓	1 unit
	Without	200	1	0,5		**0BF2**	✓	1 unit
	Without	200	5	1		**0BF4**	✓	1 unit
	Without	200	5	0,5		**0BF5**	✓	1 unit
	Without	250	1	1		**0BG1**	✓	1 unit
	Without	250	1	0,5		**0BG2**	✓	1 unit
	Without	250	5	1		**0BG4**	✓	1 unit
	Without	250	5	0,5		**0BG5**	✓	1 unit
	3 current transformers to multi-function plug							
	Without	50	1	1		**0CB1**	✓	1 unit
	Without	50	5	1		**0CB4**	✓	1 unit
	Without	100	1	1		**0CD1**	✓	1 unit
	Without	100	1	0,5		**0CD2**	✓	1 unit
	Without	100	5	1		**0CD4**	✓	1 unit
	Without	100	5	0,5		**0CD5**	✓	1 unit
	Without	150	1	1		**0CE1**	✓	1 unit
	Without	150	1	0,5		**0CE2**	✓	1 unit
	Without	150	5	1		**0CE4**	✓	1 unit
	Without	150	5	0,5		**0CE5**	✓	1 unit
	Without	200	1	1		**0CF1**	✓	1 unit
	Without	200	1	0,5		**0CF2**	✓	1 unit
	Without	200	5	1		**0CF4**	✓	1 unit
	Without	200	5	0,5		**0CF5**	✓	1 unit
	Without	250	1	1		**0CG1**	✓	1 unit
	Without	250	1	0,5		**0CG2**	✓	1 unit
	Without	250	5	1		**0CG4**	✓	1 unit
	Without	250	5	0,5		**0CG5**	✓	1 unit

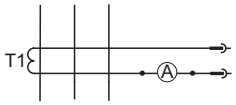
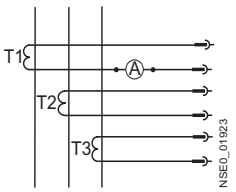
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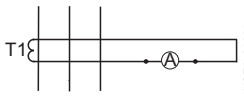
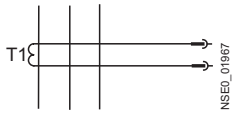
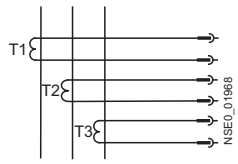
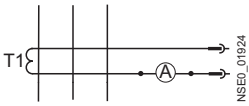
3NJ62 In-Line Switch Disconnectors with Fuses up to 630 A

For LV HRC and BS fuse links

	Ammeters	Current transformers primary current A	Secondary current A	Accuracy class	DT	Order No. supplement 3NJ62 ..-.....-□□□□	Additional price	PS*/ P. unit
For size NH 1 and BS B2 (continued)								
	1 current transformer to 1 ammeter and multi-function plug							
	Moving iron	50	1	1		**1EB1**	✓	1 unit
	Moving iron	50	5	1		**1EB4**	✓	1 unit
	Moving iron	100	1	1		**1ED1**	✓	1 unit
	Moving iron	100	1	0,5		**1ED2**	✓	1 unit
	Moving iron	100	5	1		**1ED4**	✓	1 unit
	Moving iron	100	5	0,5		**1ED5**	✓	1 unit
	Moving iron	150	1	1		**1EE1**	✓	1 unit
	Moving iron	150	1	0,5		**1EE2**	✓	1 unit
	Moving iron	150	5	1		**1EE4**	✓	1 unit
	Moving iron	150	5	0,5		**1EE5**	✓	1 unit
	Moving iron	200	1	1		**1EF1**	✓	1 unit
	Moving iron	200	1	0,5		**1EF2**	✓	1 unit
	Moving iron	200	5	1		**1EF4**	✓	1 unit
	Moving iron	200	5	0,5		**1EF5**	✓	1 unit
	Moving iron	250	1	1		**1EG1**	✓	1 unit
	Moving iron	250	1	0,5		**1EG2**	✓	1 unit
	Moving iron	250	5	1		**1EG4**	✓	1 unit
	Moving iron	250	5	0,5		**1EG5**	✓	1 unit
	Bi-metal	50	1	1		**2EB1**	✓	1 unit
	Bi-metal	50	5	1		**2EB4**	✓	1 unit
	Bi-metal	100	1	1		**2ED1**	✓	1 unit
	Bi-metal	100	1	0,5		**2ED2**	✓	1 unit
	Bi-metal	100	5	1		**2ED4**	✓	1 unit
	Bi-metal	100	5	0,5		**2ED5**	✓	1 unit
	Bi-metal	150	1	1		**2EE1**	✓	1 unit
	Bi-metal	150	1	0,5		**2EE2**	✓	1 unit
	Bi-metal	150	5	1		**2EE4**	✓	1 unit
	Bi-metal	150	5	0,5		**2EE5**	✓	1 unit
	Bi-metal	200	1	1		**2EF1**	✓	1 unit
	Bi-metal	200	1	0,5		**2EF2**	✓	1 unit
	Bi-metal	200	5	1		**2EF4**	✓	1 unit
	Bi-metal	200	5	0,5		**2EF5**	✓	1 unit
	Bi-metal	250	1	1		**2EG1**	✓	1 unit
	Bi-metal	250	1	0,5		**2EG2**	✓	1 unit
	Bi-metal	250	5	1		**2EG4**	✓	1 unit
	Bi-metal	250	5	0,5		**2EG5**	✓	1 unit
	3 current transformer to 1 ammeter and multi-function plug							
	Moving iron	50	1	1		**1FB1**	✓	1 unit
	Moving iron	50	5	1		**1FB4**	✓	1 unit
	Moving iron	100	1	1		**1FD1**	✓	1 unit
	Moving iron	100	1	0,5		**1FD2**	✓	1 unit
	Moving iron	100	5	1		**1FD4**	✓	1 unit
	Moving iron	100	5	0,5		**1FD5**	✓	1 unit
	Moving iron	150	1	1		**1FE1**	✓	1 unit
	Moving iron	150	1	0,5		**1FE2**	✓	1 unit
	Moving iron	150	5	1		**1FE4**	✓	1 unit
	Moving iron	150	5	0,5		**1FE5**	✓	1 unit
	Moving iron	200	1	1		**1FF1**	✓	1 unit
	Moving iron	200	1	0,5		**1FF2**	✓	1 unit
	Moving iron	200	5	1		**1FF4**	✓	1 unit
	Moving iron	200	5	0,5		**1FF5**	✓	1 unit
	Moving iron	250	1	1		**1FG1**	✓	1 unit
	Moving iron	250	1	0,5		**1FG2**	✓	1 unit
	Moving iron	250	5	1		**1FG4**	✓	1 unit
	Moving iron	250	5	0,5		**1FG5**	✓	1 unit
	Bi-metal	50	1	1		**2FB1**	✓	1 unit
	Bi-metal	50	5	1		**2FB4**	✓	1 unit
	Bi-metal	100	1	1		**2FD1**	✓	1 unit
	Bi-metal	100	1	0,5		**2FD2**	✓	1 unit
	Bi-metal	100	5	1		**2FD4**	✓	1 unit
	Bi-metal	100	5	0,5		**2FD5**	✓	1 unit
	Bi-metal	150	1	1		**2FE1**	✓	1 unit
	Bi-metal	150	1	0,5		**2FE2**	✓	1 unit
	Bi-metal	150	5	1		**2FE4**	✓	1 unit
	Bi-metal	150	5	0,5		**2FE5**	✓	1 unit
	Bi-metal	200	1	1		**2FF1**	✓	1 unit
	Bi-metal	200	1	0,5		**2FF2**	✓	1 unit
	Bi-metal	200	5	1		**2FF4**	✓	1 unit
	Bi-metal	200	5	0,5		**2FF5**	✓	1 unit
	Bi-metal	250	1	1		**2FG1**	✓	1 unit
	Bi-metal	250	1	0,5		**2FG2**	✓	1 unit
	Bi-metal	250	5	1		**2FG4**	✓	1 unit
	Bi-metal	250	5	0,5		**2FG5**	✓	1 unit

* You can order this quantity or a multiple thereof.

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	Ammeters	Current transformers primary current A	Secondary current A	Accuracy class	DT	Order No. supplement 3NJ62 ..-.....-□□□□	Additional price	PS*/ P. unit
For size NH 2 and BS B4								
	Without	Without	Without		▶	**0AA0**	None	1 unit
	1 current transformer to 1 ammeter							
	Moving iron	300	1	1		**1DH1**	✓	1 unit
	Moving iron	300	5	1		**1DH4**	✓	1 unit
	Moving iron	400	1	1		**1DJ1**	✓	1 unit
	Moving iron	400	5	1		**1DJ4**	✓	1 unit
	Bi-metal	300	1	1		**2DH1**	✓	1 unit
	Bi-metal	300	5	1		**2DH4**	✓	1 unit
	Bi-metal	400	1	1		**2DJ1**	✓	1 unit
	Bi-metal	400	5	1		**2DJ4**	✓	1 unit
	1 current transformers to multi-function plug							
	Without	300	1	1		**0BH1**	✓	1 unit
	Without	300	1	0,5		**0BH2**	✓	1 unit
	Without	300	1	0.5 calibrated		**0BH3**	✓	1 unit
	Without	300	5	1		**0BH4**	✓	1 unit
	Without	300	5	0,5		**0BH5**	✓	1 unit
	Without	300	5	0.5 calibrated		**0BH6**	✓	1 unit
	Without	400	1	1		**0BJ1**	✓	1 unit
	Without	400	1	0,5		**0BJ2**	✓	1 unit
	Without	400	1	0.5 calibrated		**0BJ3**	✓	1 unit
	Without	400	5	1		**0BJ4**	✓	1 unit
	Without	400	5	0,5		**0BJ5**	✓	1 unit
	Without	400	5	0.5 calibrated		**0BJ6**	✓	1 unit
	3 current transformers to multi-function plug							
	Without	300	1	1		**0CH1**	✓	1 unit
	Without	300	1	0,5		**0CH2**	✓	1 unit
	Without	300	1	0.5 calibrated		**0CH3**	✓	1 unit
	Without	300	5	1		**0CH4**	✓	1 unit
	Without	300	5	0,5		**0CH5**	✓	1 unit
	Without	300	5	0.5 calibrated		**0CH6**	✓	1 unit
	Without	400	1	1		**0CJ1**	✓	1 unit
	Without	400	1	0,5		**0CJ2**	✓	1 unit
	Without	400	1	0.5 calibrated		**0CJ3**	✓	1 unit
	Without	400	5	1		**0CJ4**	✓	1 unit
	Without	400	5	0,5		**0CJ5**	✓	1 unit
	Without	400	5	0.5 calibrated		**0CJ6**	✓	1 unit
	1 current transformer to 1 ammeter and multi-function plug							
	Moving iron	300	1	1		**1EH1**	✓	1 unit
	Moving iron	300	1	0,5		**1EH2**	✓	1 unit
	Moving iron	300	1	0.5 calibrated		**1EH3**	✓	1 unit
	Moving iron	300	5	1		**1EH4**	✓	1 unit
	Moving iron	300	5	0,5		**1EH5**	✓	1 unit
	Moving iron	300	5	0.5 calibrated		**1EH6**	✓	1 unit
	Moving iron	400	1	1		**1EJ1**	✓	1 unit
	Moving iron	400	1	0,5		**1EJ2**	✓	1 unit
	Moving iron	400	1	0.5 calibrated		**1EJ3**	✓	1 unit
	Moving iron	400	5	1		**1EJ4**	✓	1 unit
	Moving iron	400	5	0,5		**1EJ5**	✓	1 unit
	Moving iron	400	5	0.5 calibrated		**1EJ6**	✓	1 unit
	Bi-metal	300	1	1		**2EH1**	✓	1 unit
	Bi-metal	300	1	0,5		**2EH2**	✓	1 unit
	Bi-metal	300	1	0.5 calibrated		**2EH3**	✓	1 unit
	Bi-metal	300	5	1		**2EH4**	✓	1 unit
	Bi-metal	300	5	0,5		**2EH5**	✓	1 unit
	Bi-metal	300	5	0.5 calibrated		**2EH6**	✓	1 unit
	Bi-metal	400	1	1		**2EJ1**	✓	1 unit
	Bi-metal	400	1	0,5		**2EJ2**	✓	1 unit
	Bi-metal	400	1	0.5 calibrated		**2EJ3**	✓	1 unit
	Bi-metal	400	5	1		**2EJ4**	✓	1 unit
	Bi-metal	400	5	0,5		**2EJ5**	✓	1 unit
	Bi-metal	400	5	0.5 calibrated		**2EJ6**	✓	1 unit

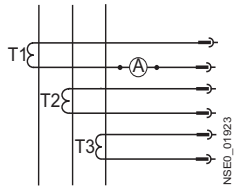
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3NJ62 In-Line Switch Disconnectors with Fuses up to 630 A

For LV HRC and BS fuse links

For size NH 2 and BS B4 (continued)



3 current transformer to 1 ammeter and multi-function plug

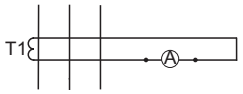
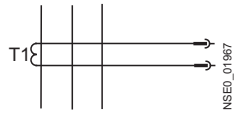
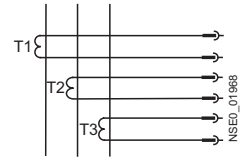
Ammeters	Current transformers: primary current	Current transformers: Secondary current	Current transformers: Accuracy class	DT	Order No. supplement 3NJ62 ..-.....-□□□□	Additional price	PS*/ P. unit
	A	A					
Moving iron	300	1	1		**1FH1**	✓	1 unit
Moving iron	300	1	0,5		**1FH2**	✓	1 unit
Moving iron	300	1	0.5 calibrated		**1FH3**	✓	1 unit
Moving iron	300	5	1		**1FH4**	✓	1 unit
Moving iron	300	5	0,5		**1FH5**	✓	1 unit
Moving iron	300	5	0.5 calibrated		**1FH6**	✓	1 unit
Moving iron	400	1	1		**1FJ1**	✓	1 unit
Moving iron	400	1	0,5		**1FJ2**	✓	1 unit
Moving iron	400	1	0.5 calibrated		**1FJ3**	✓	1 unit
Moving iron	400	5	1		**1FJ4**	✓	1 unit
Moving iron	400	5	0,5		**1FJ5**	✓	1 unit
Moving iron	400	5	0.5 calibrated		**1FJ6**	✓	1 unit
Bi-metal	300	1	1		**2FH1**	✓	1 unit
Bi-metal	300	1	0,5		**2FH2**	✓	1 unit
Bi-metal	300	1	0.5 calibrated		**2FH3**	✓	1 unit
Bi-metal	300	5	1		**2FH4**	✓	1 unit
Bi-metal	300	5	0,5		**2FH5**	✓	1 unit
Bi-metal	300	5	0.5 calibrated		**2FH6**	✓	1 unit
Bi-metal	400	1	1		**2FJ1**	✓	1 unit
Bi-metal	400	1	0,5		**2FJ2**	✓	1 unit
Bi-metal	400	1	0.5 calibrated		**2FJ3**	✓	1 unit
Bi-metal	400	5	1		**2FJ4**	✓	1 unit
Bi-metal	400	5	0,5		**2FJ5**	✓	1 unit
Bi-metal	400	5	0.5 calibrated		**2FJ6**	✓	1 unit

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3NJ62 In-Line Switch Disconnectors with Fuses up to 630 A

For LV HRC and BS fuse links

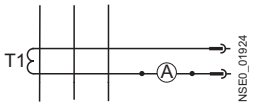
	Ammeters	Current transformers primary current A	Secondary current A	Accuracy class	DT	Order No. supplement 3NJ62 ..-.....-□□□□	Additional price	PS*/ P. unit
For size NH 3 and BS 3T								
	Without	Without	Without	Without	▶	**0AA0**	None	1 unit
	1 current transformer to 1 ammeter							
	Moving iron	300	1	1		**1DH1**	✓	1 unit
	Moving iron	300	5	1		**1DH4**	✓	1 unit
	Moving iron	400	1	1		**1DJ1**	✓	1 unit
	Moving iron	400	5	1		**1DJ4**	✓	1 unit
	Moving iron	500	1	1		**1DK1**	✓	1 unit
	Moving iron	500	5	1		**1DK4**	✓	1 unit
	Moving iron	600	1	1		**1DL1**	✓	1 unit
	Moving iron	600	5	1		**1DL4**	✓	1 unit
	Bi-metal	300	1	1		**2DH1**	✓	1 unit
	Bi-metal	300	5	1		**2DH4**	✓	1 unit
	Bi-metal	400	1	1		**2DJ1**	✓	1 unit
	Bi-metal	400	5	1		**2DJ4**	✓	1 unit
	Bi-metal	500	1	1		**2DK1**	✓	1 unit
	Bi-metal	500	5	1		**2DK4**	✓	1 unit
	Bi-metal	600	1	1		**2DL1**	✓	1 unit
	Bi-metal	600	5	1		**2DL4**	✓	1 unit
	1 current transformers to multi-function plug							
	Without	300	1	1		**0BH1**	✓	1 unit
	Without	300	1	0,5		**0BH2**	✓	1 unit
	Without	300	1	0.5 calibrated		**0BH3**	✓	1 unit
	Without	300	5	1		**0BH4**	✓	1 unit
	Without	300	5	0,5		**0BH5**	✓	1 unit
	Without	300	5	0.5 calibrated		**0BH6**	✓	1 unit
	Without	400	1	1		**0BJ1**	✓	1 unit
	Without	400	1	0,5		**0BJ2**	✓	1 unit
	Without	400	1	0.5 calibrated		**0BJ3**	✓	1 unit
	Without	400	5	1		**0BJ4**	✓	1 unit
	Without	400	5	0,5		**0BJ5**	✓	1 unit
	Without	400	5	0.5 calibrated		**0BJ6**	✓	1 unit
	Without	500	1	1		**0BK1**	✓	1 unit
	Without	500	1	0,5		**0BK2**	✓	1 unit
	Without	500	1	0.5 calibrated		**0BK3**	✓	1 unit
	Without	500	5	1		**0BK4**	✓	1 unit
	Without	500	5	0,5		**0BK5**	✓	1 unit
	Without	500	5	0.5 calibrated		**0BK6**	✓	1 unit
	Without	600	1	1		**0BL1**	✓	1 unit
	Without	600	1	0,5		**0BL2**	✓	1 unit
	Without	600	1	0.5 calibrated		**0BL3**	✓	1 unit
	Without	600	5	1		**0BL4**	✓	1 unit
	Without	600	5	0,5		**0BL5**	✓	1 unit
	Without	600	5	0.5 calibrated		**0BL6**	✓	1 unit
	3 current transformers to multi-function plug							
	Without	300	1	1		**0CH1**	✓	1 unit
	Without	300	1	0,5		**0CH2**	✓	1 unit
	Without	300	1	0.5 calibrated		**0CH3**	✓	1 unit
	Without	300	5	1		**0CH4**	✓	1 unit
	Without	300	5	0,5		**0CH5**	✓	1 unit
	Without	300	5	0.5 calibrated		**0CH6**	✓	1 unit
	Without	400	1	1		**0CJ1**	✓	1 unit
	Without	400	1	0,5		**0CJ2**	✓	1 unit
	Without	400	1	0.5 calibrated		**0CJ3**	✓	1 unit
	Without	400	5	1		**0CJ4**	✓	1 unit
	Without	400	5	0,5		**0CJ5**	✓	1 unit
	Without	400	5	0.5 calibrated		**0CJ6**	✓	1 unit
	Without	500	1	1		**0CK1**	✓	1 unit
	Without	500	1	0,5		**0CK2**	✓	1 unit
	Without	500	1	0.5 calibrated		**0CK3**	✓	1 unit
	Without	500	5	1		**0CK4**	✓	1 unit
	Without	500	5	0,5		**0CK5**	✓	1 unit
	Without	500	5	0.5 calibrated		**0CK6**	✓	1 unit
	Without	600	1	1		**0CL1**	✓	1 unit
	Without	600	1	0,5		**0CL2**	✓	1 unit
	Without	600	1	0.5 calibrated		**0CL3**	✓	1 unit
	Without	600	5	1		**0CL4**	✓	1 unit
	Without	600	5	0,5		**0CL5**	✓	1 unit
	Without	600	5	0.5 calibrated		**0CL6**	✓	1 unit

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3NJ62 In-Line Switch Disconnectors with Fuses up to 630 A

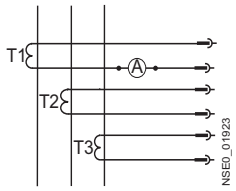
For LV HRC and BS fuse links



Ammeters	Current transformers primary current A	Secondary current A	Accuracy class	DT	Order No. supplement 3NJ62 ..-.....-□□□□	Additional price	PS*/ P. unit
For size NH 3 and BS 3T (continued)							
1 current transformer to 1 ammeter and multi-function plug							
Moving iron	400	1	1		**1EH1**	✓	1 unit
Moving iron	400	1	0,5		**1EH2**	✓	1 unit
Moving iron	300	1	0.5 calibrated		**1EH3**	✓	1 unit
Moving iron	300	5	1		**1EH4**	✓	1 unit
Moving iron	300	5	0,5		**1EH5**	✓	1 unit
Moving iron	300	5	0.5 calibrated		**1EH6**	✓	1 unit
Moving iron	400	1	1		**1EJ1**	✓	1 unit
Moving iron	400	1	0,5		**1EJ2**	✓	1 unit
Moving iron	400	1	0.5 calibrated		**1EJ3**	✓	1 unit
Moving iron	400	5	1		**1EJ4**	✓	1 unit
Moving iron	400	5	0,5		**1EJ5**	✓	1 unit
Moving iron	400	5	0.5 calibrated		**1EJ6**	✓	1 unit
Moving iron	500	1	1		**1EK1**	✓	1 unit
Moving iron	500	1	0,5		**1EK2**	✓	1 unit
Moving iron	500	1	0.5 calibrated		**1EK3**	✓	1 unit
Moving iron	500	5	1		**1EK4**	✓	1 unit
Moving iron	500	5	0,5		**1EK5**	✓	1 unit
Moving iron	500	5	0.5 calibrated		**1EK6**	✓	1 unit
Moving iron	600	1	1		**1EL1**	✓	1 unit
Moving iron	600	1	0,5		**1EL2**	✓	1 unit
Moving iron	600	1	0.5 calibrated		**1EL3**	✓	1 unit
Moving iron	600	5	1		**1EL4**	✓	1 unit
Moving iron	600	5	0,5		**1EL5**	✓	1 unit
Moving iron	600	5	0.5 calibrated		**1EL6**	✓	1 unit
Bi-metal	300	1	1		**2EH1**	✓	1 unit
Bi-metal	300	1	0,5		**2EH2**	✓	1 unit
Bi-metal	300	1	0.5 calibrated		**2EH3**	✓	1 unit
Bi-metal	300	5	1		**2EH4**	✓	1 unit
Bi-metal	300	5	0,5		**2EH5**	✓	1 unit
Bi-metal	300	5	0.5 calibrated		**2EH6**	✓	1 unit
Bi-metal	400	1	1		**2EJ1**	✓	1 unit
Bi-metal	400	1	0,5		**2EJ2**	✓	1 unit
Bi-metal	400	1	0.5 calibrated		**2EJ3**	✓	1 unit
Bi-metal	400	5	1		**2EJ4**	✓	1 unit
Bi-metal	400	5	0,5		**2EJ5**	✓	1 unit
Bi-metal	400	5	0.5 calibrated		**2EJ6**	✓	1 unit
Bi-metal	500	1	1		**2EK1**	✓	1 unit
Bi-metal	500	1	0,5		**2EK2**	✓	1 unit
Bi-metal	500	1	0.5 calibrated		**2EK3**	✓	1 unit
Bi-metal	500	5	1		**2EK4**	✓	1 unit
Bi-metal	500	5	0,5		**2EK5**	✓	1 unit
Bi-metal	500	5	0.5 calibrated		**2EK6**	✓	1 unit
Bi-metal	600	1	1		**2EL1**	✓	1 unit
Bi-metal	600	1	0,5		**2EL2**	✓	1 unit
Bi-metal	600	1	0.5 calibrated		**2EL3**	✓	1 unit
Bi-metal	600	5	1		**2EL4**	✓	1 unit
Bi-metal	600	5	0,5		**2EL5**	✓	1 unit
Bi-metal	600	5	0.5 calibrated		**2EL6**	✓	1 unit

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Ammeters	Current transformers primary current A	Secondary current A	Accuracy class	DT	Order No. supplement 3NJ62 ..-.....-□□□□	Additional price	PS*/ P. unit
For size NH 3 and BS 3T (continued)							
3 current transformer to 1 ammeter and multi-function plug							
Moving iron	300	1	1		**1FH1**	✓	1 unit
Moving iron	300	1	0,5		**1FH2**	✓	1 unit
Moving iron	300	1	0.5 calibrated		**1FH3**	✓	1 unit
Moving iron	300	5	1		**1FH4**	✓	1 unit
Moving iron	300	5	0,5		**1FH5**	✓	1 unit
Moving iron	300	5	0.5 calibrated		**1FH6**	✓	1 unit
Moving iron	400	1	1		**1FJ1**	✓	1 unit
Moving iron	400	1	0,5		**1FJ2**	✓	1 unit
Moving iron	400	1	0.5 calibrated		**1FJ3**	✓	1 unit
Moving iron	400	5	1		**1FJ4**	✓	1 unit
Moving iron	400	5	0,5		**1FJ5**	✓	1 unit
Moving iron	400	5	0.5 calibrated		**1FJ6**	✓	1 unit
Moving iron	500	1	1		**1FK1**	✓	1 unit
Moving iron	500	1	0,5		**1FK2**	✓	1 unit
Moving iron	500	1	0.5 calibrated		**1FK3**	✓	1 unit
Moving iron	500	5	1		**1FK4**	✓	1 unit
Moving iron	500	5	0,5		**1FK5**	✓	1 unit
Moving iron	500	5	0.5 calibrated		**1FK6**	✓	1 unit
Moving iron	600	1	1		**1FL1**	✓	1 unit
Moving iron	600	1	0,5		**1FL2**	✓	1 unit
Moving iron	600	1	0.5 calibrated		**1FL3**	✓	1 unit
Moving iron	600	5	1		**1FL4**	✓	1 unit
Moving iron	600	5	0,5		**1FL5**	✓	1 unit
Moving iron	600	5	0.5 calibrated		**1FL6**	✓	1 unit
Bi-metal	300	1	1		**2FH1**	✓	1 unit
Bi-metal	300	1	0,5		**2FH2**	✓	1 unit
Bi-metal	300	1	0.5 calibrated		**2FH3**	✓	1 unit
Bi-metal	300	5	1		**2FH4**	✓	1 unit
Bi-metal	300	5	0,5		**2FH5**	✓	1 unit
Bi-metal	300	5	0.5 calibrated		**2FH6**	✓	1 unit
Bi-metal	400	1	1		**2FJ1**	✓	1 unit
Bi-metal	400	1	0,5		**2FJ2**	✓	1 unit
Bi-metal	400	1	0.5 calibrated		**2FJ3**	✓	1 unit
Bi-metal	400	5	1		**2FJ4**	✓	1 unit
Bi-metal	400	5	0,5		**2FJ5**	✓	1 unit
Bi-metal	400	5	0.5 calibrated		**2FJ6**	✓	1 unit
Bi-metal	500	1	1		**2FK1**	✓	1 unit
Bi-metal	500	1	0,5		**2FK2**	✓	1 unit
Bi-metal	500	1	0.5 calibrated		**2FK3**	✓	1 unit
Bi-metal	500	5	1		**2FK4**	✓	1 unit
Bi-metal	500	5	0,5		**2FK5**	✓	1 unit
Bi-metal	500	5	0.5 calibrated		**2FK6**	✓	1 unit
Bi-metal	600	1	1		**2FL1**	✓	1 unit
Bi-metal	600	1	0,5		**2FL2**	✓	1 unit
Bi-metal	600	1	0.5 calibrated		**2FL3**	✓	1 unit
Bi-metal	600	5	1		**2FL4**	✓	1 unit
Bi-metal	600	5	0,5		**2FL5**	✓	1 unit
Bi-metal	600	5	0.5 calibrated		**2FL6**	✓	1 unit

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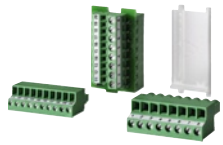
Accessories

Selection and ordering data

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For size NH 00, BS A3 and BS 00T								
 3NJ69 23-1BA00	**Terminals**							
	Single terminal for 2-/3-pole devices, 10 ... 95 mm² (1 set = 3 units)		**3NJ69 23-1BA00**		1	1 unit	143	0.240
	Single terminal for 4-pole devices, 10 ... 95 mm² (1 set = 4 units)		**3NJ69 24-1BA00**		1	1 unit	143	0.320
 3NJ69 23-1DA00	**Terminal covers**							
	For 2-/3-pole devices		**3NJ69 23-1DA00**		1	1 unit	143	0.091
	Only for 4th pole		**3NJ69 04-1DA00**		1	1 unit	143	0.068
 3NJ69 23-1EB00	**Contact extensions**							
	3-pole		**3NJ69 23-1EB00**		1	1 unit	143	1.998
	4-pole		**3NJ69 24-1EB00**		1	1 unit	143	2.810
 3NJ69 23-3FB00	**Electronic fuse monitor and line monitor**							
	EFM 10 - fuse monitoring for AC networks		**3NJ69 20-3FB00**		1	1 unit	143	0.100
	EFM 20 - fuse monitoring and line monitoring for AC networks		**3NJ69 20-3FC00**		1	1 unit	143	0.100
	EFM 25 - fuse monitoring and line monitoring for DC networks		**3NJ69 20-3FE00**		1	1 unit	143	0.100
 3NJ69 23-3FC00								
 3NJ69 20-2BB00	**Auxiliary switches**							
	1 NO contact (1 NO) with cover		**3NJ69 20-2BB00**		1	1 unit	143	0.103
	1 NO contact (1 NO)		**3NJ69 00-2BC00**		1	1 unit	143	0.015
	1 NC contact (1 NC) with cover		**3NJ69 20-2CB00**		1	1 unit	143	0.092
 3NJ69 00-2BC00	1 NC contact (1 NC)		**3NJ69 00-2CC00**		1	1 unit	143	0.018
 3NJ69 20-3BD11	**Current transformers for main devices and contact extensions**							
	∅ = Feed-through opening diameter							
	50 A / 1 A Class 1	1 VA, ∅ 21 mm	**3NJ69 20-3BB11**		1	1 unit	143	0.171
	50 A / 5 A Class 1	1 VA, ∅ 21 mm	**3NJ69 20-3BB21**		1	1 unit	143	0.168
	100 A / 1 A Class 1	2.5 VA, ∅ 21 mm	**3NJ69 20-3BD11**		1	1 unit	143	0.172
	100 A / 1 A Class 0.5	1.5 VA, ∅ 21 mm	**3NJ69 20-3BD12**		1	1 unit	143	0.173
	100 A / 1 A Class 0.5 calibrated	1.5 VA, ∅ 14 mm	**3NJ69 20-3BD13**		1	1 unit	143	0.223
	100 A / 5 A Class 1	2.5 VA, ∅ 21 mm	**3NJ69 20-3BD21**		1	1 unit	143	0.175
	100 A / 5 A Class 0.5	1.5 VA, ∅ 21 mm	**3NJ69 20-3BD22**		1	1 unit	143	0.173
	100 A / 5 A Class 0.5 calibrated	1.5 VA, ∅ 14 mm	**3NJ69 20-3BD23**		1	1 unit	143	0.188
	150 A / 1 A Class 1	2.5 VA, ∅ 21 mm	**3NJ69 20-3BE11**		1	1 unit	143	0.175
	150 A / 1 A Class 0.5	1.5 VA, ∅ 21 mm	**3NJ69 20-3BE12**		1	1 unit	143	0.182
	150 A / 1 A Class 0.5 calibrated	2.5 VA, ∅ 14 mm	**3NJ69 20-3BE13**		1	1 unit	143	0.170
	150 A / 5 A Class 1	1.5 VA, ∅ 21 mm	**3NJ69 20-3BE21**		1	1 unit	143	0.185
	150 A / 5 A Class 0.5	1.5 VA, ∅ 21 mm	**3NJ69 20-3BE22**		1	1 unit	143	0.173
	150 A / 5 A Class 0.5 calibrated	2.5 VA, ∅ 14 mm	**3NJ69 20-3BE23**		1	1 unit	143	0.182

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	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For size NH 00, BS A3 and BS 00T (continued)								
 3NJ69 20-3DB00	**Current transformer busbars for current transformers with feed-through opening ∅ 21 mm**							
	For 1 current transformer		**3NJ69 20-3DB00**		1	1 unit	143	0.067
	For 3 current transformers		**3NJ69 20-3DC00**		1	1 unit	143	0.193
 3NJ69 20-3DC00	For 4 current transformers[1)]		**3NJ69 20-3DD00**		1	1 unit	143	0.259
	Current transformer busbars for current transformers with feed-through opening ∅ 14 mm							
	For 1 current transformer		**3NJ69 20-3DE00**		1	1 unit	143	0.062
	For 3 current transformers		**3NJ69 20-3DF00**		1	1 unit	143	0.182
 3NJ69 20-3DD00	For 4 current transformers[1)]		**3NJ69 20-3DG00**		1	1 unit	143	0.248
 3NJ69 00-4GA00	**Holders for ammeters** For sizes 00, 1, 2, 3		**3NJ69 00-4GA00**		1	1 unit	143	0.056
 3NJ69 00-4H...	**Ammeters**							
	Moving-iron measuring instruments for measurements on transformer x/1A with double overload							
	50 A / 1 A 0.6 VA		**3NJ69 00-4HB11**		1	1 unit	143	0.084
	100 A / 1 A 0.6 VA		**3NJ69 00-4HD11**		1	1 unit	143	0.086
	150 A / 1 A 0.6 VA		**3NJ69 00-4HE11**		1	1 unit	143	0.085
	Moving-iron measuring instruments for measurements on transformer x/5A with double overload							
	50 A / 5 A 0.6 VA		**3NJ69 00-4HB21**		1	1 unit	143	0.092
	100 A / 5 A 0.6 VA		**3NJ69 00-4HD21**		1	1 unit	143	0.093
	150 A / 5 A 0.6 VA		**3NJ69 00-4HE21**		1	1 unit	143	0.092
 3NJ69 00-4H...	**Bi-metal measuring instruments for measurements on transformer x/1A with 1.2-times the overload**							
	50 A / 1 A 1 VA		**3NJ69 00-4HB12**		1	1 unit	143	0.068
	100 A / 1 A 1 VA		**3NJ69 00-4HD12**		1	1 unit	143	0.068
	150 A / 1 A 1 VA		**3NJ69 00-4HE12**		1	1 unit	143	0.068
	Bi-metal measuring instruments for measurements on transformer x/5A with 1.2-times the overload							
	50 A / 5 A 1 VA		**3NJ69 00-4HB22**		1	1 unit	143	0.067
	100 A / 5 A 1 VA		**3NJ69 00-4HD22**		1	1 unit	143	0.065
	150 A / 5 A 1 VA		**3NJ69 00-4HE22**		1	1 unit	143	0.065
 3NJ69 20-3EB00	**Multi-function plugs**							
	6 x 2.5 mm^2, with fixing screws		**3NJ69 20-3EB00**		1	1 unit	143	0.046
 3NJ69 20-3ED00	8 x 2.5 mm^2, without fixing screws		**3NJ69 20-3ED00**		1	1 unit	143	0.055
 3NJ69 20-3EE00	10 x 1.5 mm^2 and 8 x 2.5 mm^2, without fixing screws		**3NJ69 20-3EE00**		1	1 unit	143	0.070
 3NJ69 23-4BB00	**Front panel**							
	For NH: 3NJ62 03-1AA... and 3NJ62 03-3AA... without/with EFM		**3NJ69 23-4BB00**		1	1 unit	143	0.345
	For BS: 3NJ62 03-1AA... and 3NJ62 03-3AA... without/with EFM		**3NJ69 23-4BC00**		1	1 unit	143	0.400

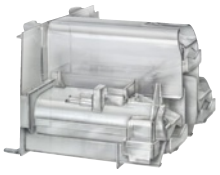
[1)] Not available in combination with multi-function plug.

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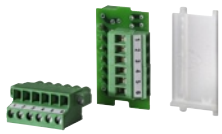
3NJ62 In-Line Switch Disconnectors with Fuses up to 630 A

Accessories

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For size NH 1 and BS B2								
 3NJ69 33-1BA00	**Terminals**							
	Single terminal for 2-/3-pole devices, 16 ... 300 mm² (1 set = 3 units)		**3NJ69 33-1BA00**		1	1 unit	143	0.440
	Single terminal for 4-pole devices, 16 ... 300 mm² (1 set = 4 units)		**3NJ69 34-1BA00**		1	1 unit	143	0.591
 3NJ69 33-1DA00	**Terminal covers**							
	For 2-/3-pole devices		**3NJ69 33-1DA00**		1	1 unit	143	0.242
	Internal terminal covers for 2-/3-pole devices		**3NJ69 33-1DB00**		1	1 unit	143	0.022
 3NJ69 33-1DB00	Only for 4th pole		**3NJ69 04-1DA00**		1	1 unit	143	0.068
	Contact extensions							
 3NJ69 33-1EB00	3-pole		**3NJ69 33-1EB00**		1	1 unit	143	2.820
	4-pole		**3NJ69 34-1EB00**		1	1 unit	143	4.103
	Electronic fuse monitor and line monitor							
 3NJ69 23-3FB00	EFM 10 - fuse monitoring for AC networks		**3NJ69 30-3FB00**		1	1 unit	143	0.100
	EFM 20 - fuse monitoring and line monitoring for AC networks		**3NJ69 30-3FC00**		1	1 unit	143	0.110
 3NJ69 23-3FC00	EFM 25 - fuse monitoring and line monitoring for DC networks		**3NJ69 30-3FE00**		1	1 unit	143	0.100
	Auxiliary switches							
 3NJ69 30-2BB00	1 NO contact (1 NO) with cover		**3NJ69 30-2BB00**		1	1 unit	143	0.068
	1 NO contact (1 NO)		**3NJ69 00-2BC00**		1	1 unit	143	0.015
 3NJ69 00-2BC00	1 NC contact (1 NC) with cover		**3NJ69 30-2CB00**		1	1 unit	143	0.063
	1 NC contact (1 NC)		**3NJ69 00-2CC00**		1	1 unit	143	0.018
	Current transformers for main devices and contact extensions							
	Ø = Feed-through opening diameter							
 3NJ69 20-3BD11	50 A / 1 A Class 1 1 VA, Ø 21 mm		**3NJ69 20-3BB11**		1	1 unit	143	0.171
	50 A / 5 A Class 1 1 VA, Ø 21 mm		**3NJ69 20-3BB21**		1	1 unit	143	0.168
	100 A / 1 A Class 1 2.5 VA, Ø 21 mm		**3NJ69 20-3BD11**		1	1 unit	143	0.172
	100 A / 1 A Class 0.5 1.5 VA, Ø 21 mm		**3NJ69 20-3BD12**		1	1 unit	143	0.173
	100 A / 5 A Class 1 2.5 VA, Ø 21 mm		**3NJ69 20-3BD21**		1	1 unit	143	0.175
	100 A / 5 A Class 0.5 1.5 VA, Ø 21 mm		**3NJ69 20-3BD22**		1	1 unit	143	0.173
	150 A / 1 A Class 1 2.5 VA, Ø 21 mm		**3NJ69 20-3BE11**		1	1 unit	143	0.175
	150 A / 1 A Class 0.5 1.5 VA, Ø 21 mm		**3NJ69 20-3BE12**		1	1 unit	143	0.182
	150 A / 5 A Class 1 1.5 VA, Ø 21 mm		**3NJ69 20-3BE21**		1	1 unit	143	0.185
	150 A / 5 A Class 0.5 1.5 VA, Ø 21 mm		**3NJ69 20-3BE22**		1	1 unit	143	0.173
	200 A / 1 A Class 1 2.5 VA, Ø 21 mm		**3NJ69 30-3BF11**		1	1 unit	143	0.179
	200 A / 1 A Class 0.5 5 VA, Ø 21 mm		**3NJ69 30-3BF12**		1	1 unit	143	0.177
	200 A / 5 A Class 1 2.5 VA, Ø 21 mm		**3NJ69 30-3BF21**		1	1 unit	143	0.173
	200 A / 5 A Class 0.5 2.5 VA, Ø 21 mm		**3NJ69 30-3BF22**		1	1 unit	143	0.177
	250 A / 1 A Class 1 5 VA, Ø 21 mm		**3NJ69 30-3BG11**		1	1 unit	143	0.181
	250 A / 1 A Class 0.5 5 VA, Ø 21 mm		**3NJ69 30-3BG12**		1	1 unit	143	0.186
	250 A / 5 A Class 1 2.5 VA, Ø 21 mm		**3NJ69 30-3BG21**		1	1 unit	143	0.181
	250 A / 5 A Class 0.5 2.5 VA, Ø 21 mm		**3NJ69 30-3BG22**		1	1 unit	143	0.177

* You can order this quantity or a multiple thereof.

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	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For size NH 1 and BS B2 (continued)								
 3NJ69 30-3DB00  3NJ69 30-3DC00  3NJ69 30-3DD00	**Current transformer busbars for current transformers with feed-through opening ∅ 21 mm**							
	For 1 current transformer		**3NJ69 30-3DB00**		1	1 unit	143	0.127
	For 3 current transformers		**3NJ69 30-3DC00**		1	1 unit	143	0.362
	For 4 current transformers[1)]		**3NJ69 30-3DD00**		1	1 unit	143	0.382
 3NJ69 00-4GA00	**Holders for ammeters**		**3NJ69 00-4GA00**		1	1 unit	143	0.056
	For sizes 00, 1, 2, 3							
 3NJ69 00-4H...	**Ammeters**							
	Moving-iron measuring instruments for measurements on transformer x/1A with double overload							
	50 A / 1 A 0.6 VA		**3NJ69 00-4HB11**		1	1 unit	143	0.084
	100 A / 1 A 0.6 VA		**3NJ69 00-4HD11**		1	1 unit	143	0.086
	150 A / 1 A 0.6 VA		**3NJ69 00-4HE11**		1	1 unit	143	0.085
	200 A / 1 A 0.6 VA		**3NJ69 00-4HF11**		1	1 unit	143	0.085
	250 A / 1 A 0.6 VA		**3NJ69 00-4HG11**		1	1 unit	143	0.085
	Moving-iron measuring instruments for measurements on transformer x/5A with double overload							
	50 A / 5 A 0.6 VA		**3NJ69 00-4HB21**		1	1 unit	143	0.092
	100 A / 5 A 0.6 VA		**3NJ69 00-4HD21**		1	1 unit	143	0.093
	150 A / 5 A 0.6 VA		**3NJ69 00-4HE21**		1	1 unit	143	0.092
	200 A / 5 A 0.6 VA		**3NJ69 00-4HF21**		1	1 unit	143	0.092
	250 A / 5 A 0.6 VA		**3NJ69 00-4HG21**		1	1 unit	143	0.089
 3NJ69 00-4H...	**Bi-metal measuring instruments for measurements on transformer x/1A with 1.2-times the overload**							
	50 A / 1 A 1 VA		**3NJ69 00-4HB12**		1	1 unit	143	0.068
	100 A / 1 A 1 VA		**3NJ69 00-4HD12**		1	1 unit	143	0.068
	150 A / 1 A 1 VA		**3NJ69 00-4HE12**		1	1 unit	143	0.068
	200 A / 1 A 1 VA		**3NJ69 00-4HF12**		1	1 unit	143	0.067
	250 A / 1 A 1 VA		**3NJ69 00-4HG12**		1	1 unit	143	0.068
	Bi-metal measuring instruments for measurements on transformer x/5A with 1.2-times the overload							
	50 A / 5 A 1 VA		**3NJ69 00-4HB22**		1	1 unit	143	0.067
	100 A / 5 A 1 VA		**3NJ69 00-4HD22**		1	1 unit	143	0.065
	150 A / 5 A 1 VA		**3NJ69 00-4HE22**		1	1 unit	143	0.065
	200 A / 5 A 1 VA		**3NJ69 00-4HF22**		1	1 unit	143	0.068
	250 A / 5 A 1 VA		**3NJ69 00-4HG22**		1	1 unit	143	0.066
 3NJ69 20-3EB00  3NJ69 40-3EE00	**Multi-function plugs**							
	6 x 2.5 mm^2, with fixing screws		**3NJ69 20-3EB00**		1	1 unit	143	0.046
	8 x 2.5 mm^2, without fixing screws		**3NJ69 20-3ED00**		1	1 unit	143	0.055
	10 x 1.5 mm^2 and 8 x 2.5 mm^2, without fixing screws		**3NJ69 20-3EE00**		1	1 unit	143	0.070
 3NJ69 33-4BB00	**Front panel**							
	For NH: 3NJ62 13-1AA... and 3NJ62 13-3AA... without/with EFM		**3NJ69 33-4BB00**		1	1 unit	143	0.521
	For BS: 3NJ62 13-1AA... and 3NJ62 13-3AA... without/with EFM		**3NJ69 33-4BC00**		1	1 unit	143	0.500

[1)] Not available in combination with multi-function plug.

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3NJ62 In-Line Switch Disconnectors with Fuses up to 630 A

Accessories

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For size NH 2, NH 3, BS B4 and BS 3T								
 3NJ69 43-1CA00	**Terminals**							
	Double terminal for 2-/3-pole devices, 2 x (16 mm² ... 300 mm², 1 set = 6 units)		**3NJ69 43-1CA00**		1	1 unit	143	0.869
	Double terminal for 4-pole devices, 2 x (16 mm² ... 300 mm², 1 set = 8 units)		**3NJ69 44-1CA00**		1	1 unit	143	1.175
 3NJ69 43-1DA00	**Terminal covers**							
	For 2-/3-pole devices		**3NJ69 43-1DA00**		1	1 unit	143	0.198
	Only for 4th pole		**3NJ69 04-1DA00**		1	1 unit	143	0.068
 3NJ69 44-1EB00	**Contact extensions**							
	3-pole		**3NJ69 43-1EB00**		1	1 unit	143	4.200
	4-pole		**3NJ69 44-1EB00**		1	1 unit	143	8.620
 3NJ69 23-3FB00	**Electronic fuse monitor and line monitor**							
	EFM 10 - fuse monitoring for AC networks		**3NJ69 40-3FB00**		1	1 unit	143	0.100
	EFM 20 - fuse monitoring and line monitoring for AC networks		**3NJ69 40-3FC00**		1	1 unit	143	0.110
	EFM 25 - fuse monitoring and line monitoring for DC networks		**3NJ69 40-3FE00**		1	1 unit	143	0.100
 3NJ69 23-3FC00								
 3NJ69 40-2BB00	**Auxiliary switches**							
	1 NO contact (1 NO) with cover		**3NJ69 40-2BB00**		1	1 unit	143	0.029
	1 NO contact (1 NO)		**3NJ69 00-2BC00**		1	1 unit	143	0.015
	1 NC contact (1 NC) with cover		**3NJ69 40-2CB00**		1	1 unit	143	0.026
	1 NC contact (1 NC)		**3NJ69 00-2CC00**		1	1 unit	143	0.018
 3NJ69 00-2BC00								
 3NJ69 40-3B...	**Current transformers for main devices and contact extensions**							
	300 A / 1 A	Class 1	5 VA	**3NJ69 40-3BH11**	1	1 unit	143	0.329
	300 A / 1 A	Class 0.5	5 VA	**3NJ69 40-3BH12**	1	1 unit	143	0.503
	300 A / 1 A	Class 0.5 calibrated	5 VA	**3NJ69 40-3BH13**	1	1 unit	143	0.433
	300 A / 5 A	Class 1	5 VA	**3NJ69 40-3BH21**	1	1 unit	143	0.324
	300 A / 5 A	Class 0.5	5 VA	**3NJ69 40-3BH22**	1	1 unit	143	0.495
	300 A / 5 A	Class 0.5 calibrated	5 VA	**3NJ69 40-3BH23**	1	1 unit	143	0.429
	400 A / 1 A	Class 1	5 VA	**3NJ69 40-3BJ11**	1	1 unit	143	0.353
	400 A / 1 A	Class 0.5	5 VA	**3NJ69 40-3BJ12**	1	1 unit	143	0.440
	400 A / 1A	Class 0.5 calibrated	5 VA	**3NJ69 40-3BJ13**	1	1 unit	143	0.384
	400 A / 5 A	Class 1	5 VA	**3NJ69 40-3BJ21**	1	1 unit	143	0.326
	400 A / 5 A	Class 0.5	5 VA	**3NJ69 40-3BJ22**	1	1 unit	143	0.356
	400 A / 5 A	Class 0.5 calibrated	5 VA	**3NJ69 40-3BJ23**	1	1 unit	143	0.364
	500 A / 1 A	Class 1	5 VA	**3NJ69 40-3BK11**	1	1 unit	143	0.312
	500 A / 1 A	Class 0.5	5 VA	**3NJ69 40-3BK12**	1	1 unit	143	0.359
	500 A / 1 A	Class 0.5 calibrated	5 VA	**3NJ69 40-3BK13**	1	1 unit	143	0.460
	500 A / 5 A	Class 1	5 VA	**3NJ69 40-3BK21**	1	1 unit	143	0.342
	500 A / 5 A	Class 0.5	5 VA	**3NJ69 40-3BK22**	1	1 unit	143	0.339
	500 A / 5 A	Class 0.5 calibrated	5 VA	**3NJ69 40-3BK23**	1	1 unit	143	0.374
	600 A / 1 A	Class 1	5 VA	**3NJ69 40-3BL11**	1	1 unit	143	0.435
	600 A / 1 A	Class 0.5	5 VA	**3NJ69 40-3BL12**	1	1 unit	143	0.432
	600 A / 1 A	Class 0.5 calibrated	5 VA	**3NJ69 40-3BL13**	1	1 unit	143	0.337
	600 A / 5 A	Class 1	5 VA	**3NJ69 40-3BL21**	1	1 unit	143	0.368
	600 A / 5 A	Class 0.5	5 VA	**3NJ69 40-3BL22**	1	1 unit	143	0.437
	600 A / 5 A	Class 0.5 calibrated	5 VA	**3NJ69 40-3BL23**	1	1 unit	143	0.389

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	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For size NH 2, NH 3, BS B4 and BS 3T (continued)								
 3NJ69 00-4GA00	**Holders for ammeters** For sizes 00, 1, 2, 3		**3NJ69 00-4GA00**		1	1 unit	143	0.056
 3NJ69 00-4H...	**Ammeters** **Moving-iron measuring instruments for measuring input on transformer x/1A with double overload**							
	300 A / 1 A 0.6 VA		**3NJ69 00-4HH11**		1	1 unit	143	0.085
	400 A / 1 A 0.6 VA		**3NJ69 00-4HJ11**		1	1 unit	143	0.085
	500 A / 1 A 0.6 VA		**3NJ69 00-4HK11**		1	1 unit	143	0.085
	600 A / 1 A 0.6 VA		**3NJ69 00-4HL11**		1	1 unit	143	0.086
	Moving-iron measuring instruments for measuring input on transformer x/5A with double overload							
	300 A / 5 A 0.6 VA		**3NJ69 00-4HH21**		1	1 unit	143	0.092
	400 A / 5 A 0.6 VA		**3NJ69 00-4HJ21**		1	1 unit	143	0.093
	500 A / 5 A 0.6 VA		**3NJ69 00-4HK21**		1	1 unit	143	0.094
	600 A / 5 A 0.6 VA		**3NJ69 00-4HL21**		1	1 unit	143	0.092
 3NJ69 00-4H...	**Bi-metal measuring instruments for measurements on transformer x/1A with 1.2-times the overload**							
	300 A / 1 A 1 VA		**3NJ69 00-4HH12**		1	1 unit	143	0.067
	400 A / 1 A 1 VA		**3NJ69 00-4HJ12**		1	1 unit	143	0.063
	500 A / 1 A 1 VA		**3NJ69 00-4HK12**		1	1 unit	143	0.067
	600 A / 1 A 1 VA		**3NJ69 00-4HL12**		1	1 unit	143	0.068
	Bi-metal measuring instruments for measurements on transformer x/5A with 1.2-times the overload							
	300 A / 5 A 1 VA		**3NJ69 00-4HH22**		1	1 unit	143	0.068
	400 A / 5 A 1 VA		**3NJ69 00-4HJ22**		1	1 unit	143	0.064
	500 A / 5 A 1 VA		**3NJ69 00-4HK22**		1	1 unit	143	0.065
	600 A / 5 A 1 VA		**3NJ69 00-4HL22**		1	1 unit	143	0.068
 3NJ69 40-3EC00	**Multi-function plugs**							
	8 x 2.5 mm^2, with fixing screws		**3NJ69 40-3EC00**		1	1 unit	143	0.085
 3NJ69 40-3ED00	8 x 2.5 mm^2, without fixing screws		**3NJ69 40-3ED00**		1	1 unit	143	0.085
 3NJ69 40-3EF00	12 x 1.5 mm^2 and 8 x 2.5 mm^2, without fixing screws		**3NJ69 40-3EF00**		1	1 unit	143	0.114
 3NJ69 43-4BB00	**Front panel**							
	For NH: 3NJ62 23-1AA... and 3NJ62 23-3AA... without/with EFM		**3NJ69 43-4BB00**		1	1 unit	143	0.851
	For BS: 3NJ62 23-1AA... and 3NJ62 23-3AA... without/with EFM		**3NJ69 43-4BC00**		1	1 unit	143	0.700
	For NH: 3NJ62 33-1AA... and 3NJ62 33-3AA... without/with EFM		**3NJ69 53-4BB00**		1	1 unit	143	0.780
	For BS: 3NJ62 33-1AA... and 3NJ62 33-3AA... without/with EFM		**3NJ69 53-4BC00**		1	1 unit	143	0.700

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3NJ62 In-Line Switch Disconnectors with Fuses up to 630 A

Accessories

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Common accessories								
 3NJ69 16-4EA00	**Busbar covers**							
	Mounting height 200 mm, IP20		**3NJ69 16-4EA00**		1	1 unit	113	0.490
 3NJ69 00-4CB00	**Blanking covers**							
	Mounting height 50 mm, IP41		**3NJ69 00-4CB00**		1	1 unit	143	0.335
 3NJ69 15-3BA00	**Connection modules**							
	For power takeoff from field distribution bus up to 400 A		**3NJ69 15-3BA00**		1	1 unit	113	1.578
 3NJ69 00-4FB00	**Guide rails**							
	Depth 200 mm (1 x left and 1 x right)		**3NJ69 00-4FB00**		1	1 unit	143	0.280
 3NJ69 00-4FC00	Depth 400 mm (1 x left and 1 x right)		**3NJ69 00-4FC00**		1	1 unit	143	0.513
	NH fuse puller tongs							
	For NH00		**XPT:8PT9624**		1	1 unit	195	0.497
	For NH1, 2, 3		**XPT:8PT9625**		1	1 unit	195	0.505

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* You can order this quantity or a multiple thereof.

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Overview

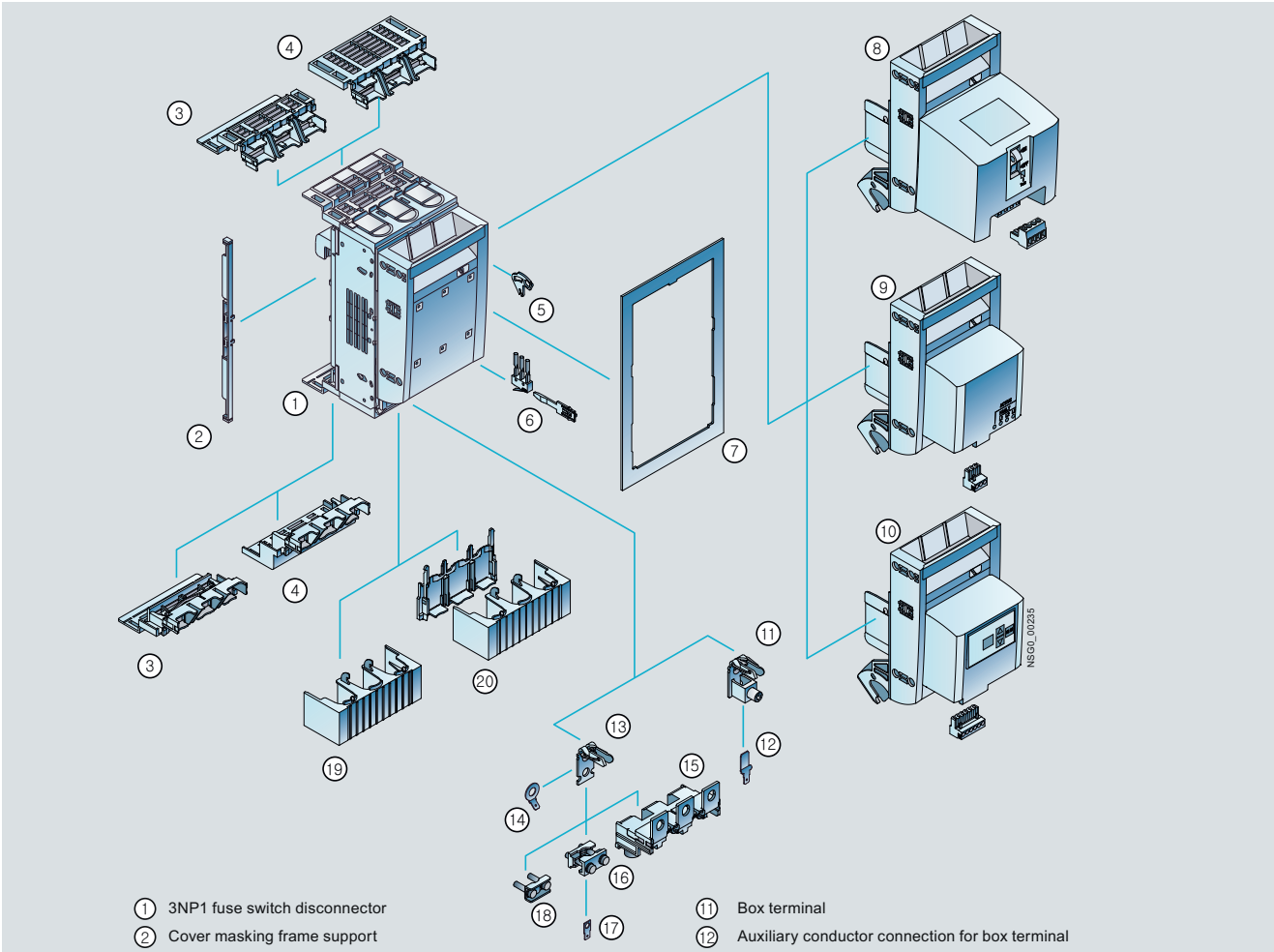


3NP1 fuse switch disconnectors

All key product features at a glance

- Box terminals available for all sizes
- Connection of circular conductors and laminated conductors
- Fuse monitoring possible throughout
- Busbar supports can be built over
- Conversion of 5/10 mm thick busbars without parts which can be lost or broken off
- Convertibility of cable feeder at top/bottom without intervention in the internal conducting paths
- Optimum integration in various system environments through cover levels and on busbar systems with/without base
- Touch protection also with rear incoming feeder
- Fuses are removed using a release shaft without the fuses being touched
- All units can be sealed and locked

Overview of all components and accessory parts



1 3NP1 fuse switch disconnector
2 Cover masking frame support
3 Reach-around protection for Siemens busbar system
4 Reach-around protection for Rittal busbar system
5 Locking device
6 Auxiliary switch with actuator
7 Molded-plastic masking frame
8 Fuse carrier with MFM electromechanical fuse monitoring
9 Fuse carrier with EFM 10 electronic fuse monitoring
10 Fuse carrier with EFM 20/25 electronic fuse monitoring
11 Box terminal
12 Auxiliary conductor connection for box terminal
13 Flat connector
14 Auxiliary conductor connection for flat connector
15 Deep-drawn connection module
16 Prism terminal
17 Auxiliary conductor connection for prism terminal
18 Saddle terminal
19 Cable connection cover
20 Cable connection cover with rear reach-around protection

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Introduction

Benefits

Advantages during planning and configuration

- Low level of equipment variation due to easy convertibility of cable feeder at top/bottom (delivered from factory with cable feeder at bottom)
- Only one device version for applications in industry and infrastructure thanks to touch and reach-around protection as a standard feature
- Uniform grid sizes for easy configuration

Advantages during operation and service

- The optional rear covers for the cable connections ensure optimum touch protection even for switchgear assemblies with rear access.
- Innovative design enables the highest safety for equipment and personnel.
- Fuses can be released and removed using a release shaft.
- Lockable and sealable design enables safe working and prevents unauthorized access.

Advantages during installation

- Only one device version is required for cable feeders at top/bottom and there is no need to intervene in the internal conducting paths.
- One device version with very high short-circuit values dispenses with having to order and install arc splitters to increase the electrical values.
- On all sizes it is possible to install two CO contacts for indicating the switching position.
- All devices feature all-round touch protection.
- Box terminals are available for all sizes and shorten the mounting time appreciably.
- Snapping on the sizes NH000 and NH00 shortens the mounting time greatly compared to fixing with screws.
- The screw-fixing method on sizes NH1, NH2 and NH3 provides for easy positioning and at the same time secure contacting of the larger and heavier device versions.
- Small space requirement through compact devices and busbar supports which can be built over
- Device versions for busbar mounting can be converted to 5 mm or 10 mm thick busbars without parts which can be lost or broken off.

Application

Possible uses

3NP1 fuse switch disconnectors can be used for protecting and switching the most diverse electrical loads:

- Motor starter combinations
- In conjunction with SITOR fuses for the protection of frequency converters and soft starters
- Fusing of compensation modules
- Cable feeders
- Group fusing of small loads

The devices are optimized for operation in all kinds of system environments:

- Low-voltage switchgear assemblies for power distribution and MCCs (e.g. main and sub-distribution boards)
- Distribution systems with cover levels of 32 and 70 mm or 45 and 70 mm
- Mechanical engineering
- Railway applications

Fuse monitoring

Fuse monitors are used to detect, indicate and report faults:

- MFM – electromechanical fuse monitoring for AC/DC networks
- EFM 10 – electronic fuse monitoring for AC networks
- EFM 20 – electronic fuse monitoring with line monitoring for AC networks
- EFM 25 – electronic fuse monitoring with line monitoring for DC networks

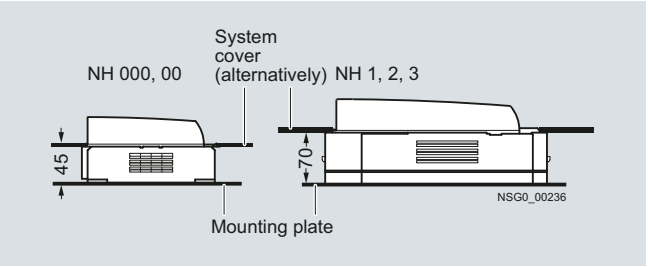
Standards and specifications

The 3NP1 fuse switch disconnectors are compliant with:

- IEC 60947-1, EN 60947-1
- IEC 60947-3, EN 60947-3

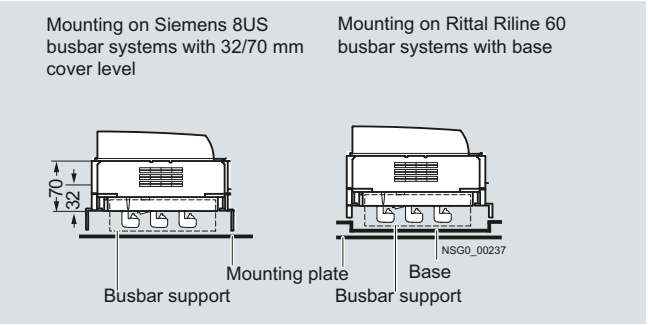
Mounting

Floor mounting



3NP1 fuse switch disconnector for floor mounting

Busbar mounting



3NP1 fuse switch disconnector for busbar mounting

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Technical specifications

Standards			IEC / EN 60947-1, IEC / EN 60947-3, VDE 0660 Part 7				
Type			**3NP1 123...**	**3NP1 133...**	**3NP1 143...**	**3NP1 153...**	**3NP1 163...**
Rated uninterrupted current I_u		A	160[1]	160	250	400	630
For fuse links acc. to IEC 60269-2		Size	000	00 and 000	1 and 0	2 and 1	3 and 2
Conventional free air thermal current I_{th}		A	160	160	250	400	630
Rated operational voltage U_e							
50 Hz / 60 Hz AC		V	690	690	690	690	690
DC (3 conduct. paths series-connected)		V	440	440	440	440	440
DC (2 conduct. paths series-connected)		V	220/240	220/240	220/240	220/240	220/240
Rated insulation voltage U_i[2]		V	1000	1000	1000	1000	1000
Rated impulse withstand voltage U_{imp}		kV	8	8	8	8	8
Rated conditional short-circuit current with fuses (by fast switch on)		Size / A	000/160	00/160	1/250	2/400	3/630
Rated current at 500 V / 690 V AC		kA	80/80	80/80	80/50	80/50	50/50
Permissible let-through current of the fuses, peak value		kA	10	15	25	40	50
Short-circuit strength with fuses (with closed disconnector)		Size / A	000/160	00/160	1/250	2/400	3/630
Rated current at 500 V / 690 V AC, rms value		kA	120/120	120/120	120/100	100/100	100/100
Let-through I^2t value		kA^2s	56	158	780	2150	5400
Permissible let-through current of the fuses, peak value		kA	15	23	32	40	60
Rated making capacity with isolating blades at 500 V AC		kA	2	6	17	17	17
Rated making and breaking capacity							
• At AC-21B, 22B, 23B	400 V AC	A	160	160	250	400	630
• At AC-21B	500 V AC	A	160	160	250	400	630
• At AC-22B	500 V AC	A	125	160	250	400	630
• At AC-23B	500 V AC	A	40	63	200	315	500
• At AC-21B	690 V AC	A	160	160	250	400	630
• At AC-22B	690 V AC	A	50	125	250	400	500
• At AC-23B	690 V AC	A	25	35	100	125	200
• At DC-21B	240 V DC	A	160	160	250	400	630
• At DC-22B	240 V DC	A	100	160	250	400	630
• At DC-23B	240 V DC	A	80	100	200	250	400
• At DC-21B	440 V DC	A	100	160	250	400	630
• At DC-22B	440 V DC	A	50	125	200	315	500
• At DC-23B	440 V DC	A	25	63	100	160	250
Capacitor switching capacity							
At 400 V AC							
• Capacitor rating		kvar	50	50	50	50	50
• Rated current I_n		A	72	72	72	72	72
At 525 V AC							
• Capacitor rating		kvar	50	50	50	50	50
• Rated current I_n		A	55	55	55	55	55
Permissible ambient temperature[3]		°C	-25 ...+55°C (operating), -50 ...+80°C (storage)				
Mechanical endurance, operating cycles			2000	2000	1600	1000	1000
Degree of protection (operator side)							
W/o molded-plastic masking frame / cable lug cover			IP30 (switch closed) / IP20 (switch open)				
With molded-plastic masking frame / cable lug cover			IP40 (switch closed) / IP20 (switch open)				
Power loss of switch at I_{th} (plus fuses)		W	9	12	23	34	48
Maximum power loss of the usable fuses (per fuse)[4]		W	7.5[5]	12	23	34	48
Max. conductor cross-section of main conductor connection							
Flat terminals		mm^2	--	Up to 95 (M8)	Up to 150 (M10)	Up to 240 (M10)	Up to 300 (M10)
Box terminals		mm^2	1.5 ... 50	6 ... 70	70 ... 185	120 ... 240	150 ... 300
Prism terminal		mm^2	--	35 ... 95	70 ... 150	120 ... 240	150 ... 300
Saddle terminals		mm^2	--	1.5 ... 70	70 ... 120	120 ... 240	150 ... 300
Laminated conductors in box terminal		mm	8 x 8	9 x 8	10 x 20	10 x 32	20 x 32
Rated operational current of auxiliary switch (at max. 250 V AC)							
3NP19...-1FA00 auxiliary switch		A	0.25 (I_{th} = 5 A)				
3NP19...-1FB00 auxiliary switch (solid-state compatible)		A	0.1 (I_{th} = 0.1 A)				
Permissible mounting positions			Vertical and horizontal (no derating)				

1) 160 A available in combination with feeder terminal 3NP1 923-1BD00, otherwise max. 100 A

2) Up to pollution degree 2, above this U_i = 690 V.

3) Only with isolating blades; otherwise, please observe specifications of fuse manufacturer.

4) Values are valid when using LV HRC (NH) fuse systems with characteristic gG. If using fuses for semiconductor protection, please refer to the assignment table, see page 7/132.

5) For operation up to 160 A, max. 9 W.

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Floor mounting

Selection and ordering data

	Rated current I_u	Size	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A								kg
For 45 mm cover level									
	Basic units								
	Flat terminals								
 3NP133-1CA20	160	00		**3NP1 133-1CA10**		1	1 unit	143	0.842
	Box terminals								
	100[1)]	000		**3NP1 123-1CA20**		1	1 unit	143	0.546
	160	00		**3NP1 133-1CA20**		1	1 unit	143	0.849
	With MFM electromechanical fuse monitoring								
	Flat terminals								
 3NP1 133-1CA21	160	00		**3NP1 133-1CA11**		1	1 unit	143	1.399
	Box terminals								
	160	00		**3NP1 133-1CA21**		1	1 unit	143	1.399
	With electronic EFM 10 fuse monitoring								
	Flat terminals								
 3NP1 133-1CA22	160	00		**3NP1 133-1CA12**		1	1 unit	143	1.103
	Box terminals								
	100[1)]	000		**3NP1 123-1CA22**		1	1 unit	143	0.697
	160	00		**3NP1 133-1CA22**		1	1 unit	143	1.126
	With electronic EFM 20 fuse monitoring and line monitoring								
	Flat terminals								
 3NP1 133-1CA23	160	00		**3NP1 133-1CA13**		1	1 unit	143	1.134
	Box terminals								
	100[1)]	000		**3NP1 123-1CA23**		1	1 unit	143	0.716
	160	00		**3NP1 133-1CA23**		1	1 unit	143	1.142

[1)] 160 A available in combination with feeder terminal 3NP1 923-1BD00

* You can order this quantity or a multiple thereof.

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	Rated current I_u	Size	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A								kg
For 70 mm cover level									
	Basic units								
	Flat terminals								
 3NP1 143-1DA20	250	1		**3NP1 143-1DA10**		1	1 unit	143	2.789
	400	2		**3NP1 153-1DA10**		1	1 unit	143	3.675
	630	3		**3NP1 163-1DA10**		1	1 unit	143	4.639
	Box terminals								
	250	1		**3NP1 143-1DA20**		1	1 unit	143	2.950
	400	2		**3NP1 153-1DA20**		1	1 unit	143	4.600
	630	3		**3NP1 163-1DA20**		1	1 unit	143	5.220
	With MFM electromechanical fuse monitoring								
	Flat terminals								
 3NP1 143-1DA21	250	1		**3NP1 143-1DA11**		1	1 unit	143	3.590
	400	2		**3NP1 153-1DA11**		1	1 unit	143	6.500
	630	3		**3NP1 163-1DA11**		1	1 unit	143	5.300
	Box terminals								
	250	1		**3NP1 143-1DA21**		1	1 unit	143	3.630
	400	2		**3NP1 153-1DA21**		1	1 unit	143	5.115
	630	3		**3NP1 163-1DA21**		1	1 unit	143	5.908
	With electronic EFM 10 fuse monitoring								
	Flat terminals								
 3NP1 143-1DA22	250	1		**3NP1 143-1DA12**		1	1 unit	143	3.141
	400	2		**3NP1 153-1DA12**		1	1 unit	143	4.122
	630	3		**3NP1 163-1DA12**		1	1 unit	143	4.950
	Box terminals								
	250	1		**3NP1 143-1DA22**		1	1 unit	143	3.270
	400	2		**3NP1 153-1DA22**		1	1 unit	143	4.762
	630	3		**3NP1 163-1DA22**		1	1 unit	143	5.540
	With electronic EFM 20 fuse monitoring and line monitoring								
	Flat terminals								
 3NP1 143-1DA23	250	1		**3NP1 143-1DA13**		1	1 unit	143	3.151
	400	2		**3NP1 153-1DA13**		1	1 unit	143	4.104
	630	3		**3NP1 163-1DA13**		1	1 unit	143	4.972
	Box terminals								
	250	1		**3NP1 143-1DA23**		1	1 unit	143	3.307
	400	2		**3NP1 153-1DA23**		1	1 unit	143	4.792
	630	3		**3NP1 163-1DA23**		1	1 unit	143	5.594

* You can order this quantity or a multiple thereof.

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3NP1 Fuse Switch Disconnectors up to 630 A

For 40 mm busbar system

Selection and ordering data

	Rated current I_u	Size	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A								kg
With reach-around protection suitable for Siemens 8US busbar system and Rittal 40 mm busbar system without base[1]									
 3NP1 133-1BB20	***Basic units***								
	Flat terminals								
	160	00		**3NP1 133-1BB10**		1	1 unit	143	1.112
	Box terminals								
	100[2]	000		**3NP1 123-1BB20**		1	1 unit	143	0.950
	160	00		**3NP1 133-1BB20**		1	1 unit	143	1.135
 3NP1 133-1BB21	***With MFM electromechanical fuse monitoring***								
	Flat terminals								
	160	00		**3NP1 133-1BB11**		1	1 unit	143	1.756
	Box terminals								
	160	00		**3NP1 133-1BB21**		1	1 unit	143	1.743
 3NP1 133-1BB22	***With electronic EFM 10 fuse monitoring***								
	Flat terminals								
	160	00		**3NP1 133-1BB12**		1	1 unit	143	1.389
	Box terminals								
	100[2]	000		**3NP1 123-1BB22**		1	1 unit	143	1.099
	160	00		**3NP1 133-1BB22**		1	1 unit	143	4.133
 3NP1 133-1BB23	***With electronic EFM 20 fuse monitoring and line monitoring***								
	Flat terminals								
	160	00		**3NP1 133-1BB13**		1	1 unit	143	1.120
	Box terminals								
	100[2]	000		**3NP1 123-1BB23**		1	1 unit	143	1.107
	160	00		**3NP1 133-1BB23**		1	1 unit	143	1.120

[1] Cannot be used with T profile rails

[2] 160 A available in combination with feeder terminal 3NP1 923-1BD00

Note:

Delivered from factory with cable feeder at bottom and convertible by the customer

* You can order this quantity or a multiple thereof.

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3NP1 Fuse Switch Disconnectors up to 630 A

For 40 mm busbar system

	Rated current I_u	Size	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A								kg
With reach-around protection suitable for Rittal 40 mm busbar system with base[1]									
	Basic units								
 3NP1 133-1JB20	**Flat terminals**								
	160	00		**3NP1 133-1JB10**		1	1 unit	143	1.115
	Box terminals								
	100[1]	000		**3NP1 123-1JB20**		1	1 unit	143	0.907
	160	00		**3NP1 133-1JB20**		1	1 unit	143	0.112
	With MFM electromechanical fuse monitoring								
 3NP1 133-1JB21	**Flat terminals**								
	160	00		**3NP1 133-1JB11**		1	1 unit	143	1.670
	Box terminals								
	160	00		**3NP1 133-1JB21**		1	1 unit	143	1.690
	With electronic EFM 10 fuse monitoring								
 3NP1 133-1JB22	**Flat terminals**								
	160	00		**3NP1 133-1JB12**		1	1 unit	143	1.120
	Box terminals								
	100[1]	000		**3NP1 123-1JB22**		1	1 unit	143	0.940
	160	00		**3NP1 133-1JB22**		1	1 unit	143	1.120
	With electronic EFM 20 fuse monitoring and line monitoring								
 3NP1 133-1JB23	**Flat terminals**								
	160	00		**3NP1 133-1JB13**		1	1 unit	143	1.120
	Box terminals								
	100[1]	000		**3NP1 123-1JB23**		1	1 unit	143	0.940
	160	00		**3NP1 133-1JB23**		1	1 unit	143	1.414

[1] Cannot be used with T profile rails

[2] 160 A available in combination with feeder terminal 3NP1 923-1BD00

Note:

Delivered from factory with cable feeder at bottom and convertible by the customer

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3NP1 Fuse Switch Disconnectors up to 630 A

For 60 mm busbar system

Selection and ordering data

	Rated current I_u	Size	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A								kg
With reach-around protection suitable for Siemens 8US, Wöhner Classic, and Rittal RiLine60 busbar systems without base									
	Basic units								
	Flat terminals								
 3NP1 133-1BC20	160	00		**3NP1 133-1BC10**		1	1 unit	143	1.155
	250	1		**3NP1 143-1BC10**		1	1 unit	143	3.245
	400	2		**3NP1 153-1BC10**		1	1 unit	143	4.314
	630	3		**3NP1 163-1BC10**		1	1 unit	143	5.260
	Box terminals								
	100[1)]	000		**3NP1 123-1BC20**		1	1 unit	143	0.971
	160	00		**3NP1 133-1BC20**		1	1 unit	143	1.146
	250	1		**3NP1 143-1BC20**		1	1 unit	143	3.306
	400	2		**3NP1 153-1BC20**		1	1 unit	143	4.672
	630	3		**3NP1 163-1BC20**		1	1 unit	143	5.538
	With MFM electromechanical fuse monitoring								
	Flat terminals								
 3NP1 133-1BC21	160	00		**3NP1 133-1BC11**		1	1 unit	143	1.698
	250	1		**3NP1 143-1BC11**		1	1 unit	143	3.914
	400	2		**3NP1 153-1BC11**		1	1 unit	143	5.016
	630	3		**3NP1 163-1BC11**		1	1 unit	143	5.910
	Box terminals								
	160	00		**3NP1 133-1BC21**		1	1 unit	143	1.702
	250	1		**3NP1 143-1BC21**		1	1 unit	143	3.993
	400	2		**3NP1 153-1BC21**		1	1 unit	143	5.500
	630	3		**3NP1 163-1BC21**		1	1 unit	143	6.223
	With electronic EFM 10 fuse monitoring								
	Flat terminals								
 3NP1 133-1BC22	160	00		**3NP1 133-1BC12**		1	1 unit	143	1.394
	250	1		**3NP1 143-1BC12**		1	1 unit	143	3.564
	400	2		**3NP1 153-1BC12**		1	1 unit	143	4.666
	630	3		**3NP1 163-1BC12**		1	1 unit	143	5.555
	Box terminals								
	100[1)]	000		**3NP1 123-1BC22**		1	1 unit	143	1.109
	160	00		**3NP1 133-1BC22**		1	1 unit	143	1.406
	250	1		**3NP1 143-1BC22**		1	1 unit	143	3.650
	400	2		**3NP1 153-1BC22**		1	1 unit	143	5.014
	630	3		**3NP1 163-1BC22**		1	1 unit	143	5.826
	With electronic EFM 20 fuse monitoring and line monitoring								
	Flat terminals								
 3NP1 133-1BC23	160	00		**3NP1 133-1BC13**		1	1 unit	143	1.411
	250	1		**3NP1 143-1BC13**		1	1 unit	143	3.641
	400	2		**3NP1 153-1BC13**		1	1 unit	143	4.750
	630	3		**3NP1 163-1BC13**		1	1 unit	143	5.611
	Box terminals								
	100[1)]	000		**3NP1 123-1BC23**		1	1 unit	143	1.121
	160	00		**3NP1 133-1BC23**		1	1 unit	143	1.470
	250	1		**3NP1 143-1BC23**		1	1 unit	143	3.685
	400	2		**3NP1 153-1BC23**		1	1 unit	143	5.090
	630	3		**3NP1 163-1BC23**		1	1 unit	143	5.920

[1)] 160 A available in combination with feeder terminal 3NP1 923-1BD00

Note:

Delivered from factory with cable feeder at bottom and convertible by the customer

* You can order this quantity or a multiple thereof.

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3NP1 Fuse Switch Disconnectors up to 630 A

For 60 mm busbar system

	Rated current I_u	Size	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A								kg
With reach-around protection suitable for Rittal RiLine60 busbar system with base									
	Basic units								
	Flat terminals								
	160	00		**3NP1 133-1JC10**		1	1 unit	143	1.125
	250	1		**3NP1 143-1JC10**		1	1 unit	143	3.246
	400	2		**3NP1 153-1JC10**		1	1 unit	143	4.316
	630	3		**3NP1 163-1JC10**		1	1 unit	143	5.244
	Box terminals								
	100[1)]	000		**3NP1 123-1JC20**		1	1 unit	143	0.912
3NP1 133-1JC20	160	00		**3NP1 133-1JC20**		1	1 unit	143	1.123
	250	1		**3NP1 143-1JC20**		1	1 unit	143	3.323
	400	2		**3NP1 153-1JC20**		1	1 unit	143	4.670
	630	3		**3NP1 163-1JC20**		1	1 unit	143	5.522
	With MFM electromechanical fuse monitoring								
	Flat terminals								
	160	00		**3NP1 133-1JC11**		1	1 unit	143	1.700
	250	1		**3NP1 143-1JC11**		1	1 unit	143	3.960
	400	2		**3NP1 153-1JC11**		1	1 unit	143	5.050
	630	3		**3NP1 163-1JC11**		1	1 unit	143	6.012
	Box terminals								
3NP1 133-1JC21	160	00		**3NP1 133-1JC21**		1	1 unit	143	1.715
	250	1		**3NP1 143-1JC21**		1	1 unit	143	4.100
	400	2		**3NP1 153-1JC21**		1	1 unit	143	5.400
	630	3		**3NP1 163-1JC21**		1	1 unit	143	6.310
	With electronic EFM 10 fuse monitoring								
	Flat terminals								
	160	00		**3NP1 133-1JC12**		1	1 unit	143	1.600
	250	1		**3NP1 143-1JC12**		1	1 unit	143	2.990
	400	2		**3NP1 153-1JC12**		1	1 unit	143	4.721
	630	3		**3NP1 163-1JC12**		1	1 unit	143	6.980
	Box terminals								
	100[1)]	000		**3NP1 123-1JC22**		1	1 unit	143	1.065
3NP1 133-1JC22	160	00		**3NP1 133-1JC22**		1	1 unit	143	1.397
	250	1		**3NP1 143-1JC22**		1	1 unit	143	3.700
	400	2		**3NP1 153-1JC22**		1	1 unit	143	5.130
	630	3		**3NP1 163-1JC22**		1	1 unit	143	7.180
	With electronic EFM 20 fuse monitoring and line monitoring								
	Flat terminals								
	160	00		**3NP1 133-1JC13**		1	1 unit	143	1.401
	250	1		**3NP1 143-1JC13**		1	1 unit	143	2.990
	400	2		**3NP1 153-1JC13**		1	1 unit	143	4.740
	630	3		**3NP1 163-1JC13**		1	1 unit	143	6.980
	Box terminals								
	100[1)]	000		**3NP1 123-1JC23**		1	1 unit	143	1.086
	160	00		**3NP1 133-1JC23**		1	1 unit	143	1.413
3NP1 133-1JC23	250	1		**3NP1 143-1JC23**		1	1 unit	143	3.690
	400	2		**3NP1 153-1JC23**		1	1 unit	143	5.130
	630	3		**3NP1 163-1JC23**		1	1 unit	143	7.180

1) 160 A available in combination with feeder terminal 3NP1 923-1BD00

Note:

Delivered from factory with cable feeder at bottom and convertible by the customer

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* You can order this quantity or a multiple thereof.

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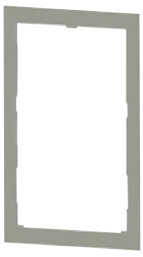
Accessories

Selection and ordering data

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For size NH000								
	Connection methods							
 3NP1 923-1BD00	**Feeder terminals**, 16 ... 95 mm^2 (1 set = 3 units) • For 3NP1 123 with box terminal for use up to 160 A • For infeed when using the 3-phase busbar • For connection of copper conductors		**3NP1 923-1BD00**		1	1 unit	143	0.261
 3NP1 923-1BE20	**Three-tier terminals**, 3 x 2.5 ... 16 mm^2, (1 set = 3 units) • For 3NP1 123 with box terminal • For connection of copper conductors		**3NP1 923-1BE20**		1	1 unit	143	0.130
 3NP1 923-1BF10	**Covering caps** for 1 blank space on a three-phase busbar (1 set = 20 units)		**3NP1 923-1BF10**		1	1 unit	143	0.011
 3NP1 933-1BF30	**3-phase busbar** I_u = max. 225 A (1 set = 5 units)							
	• For 2 x NH000		**3NP1 923-1BF20**		1	1 unit	143	0.267
	• For 3x NH000		**3NP1 923-1BF30**		1	1 unit	143	0.431
	• For 4x NH000		**3NP1 923-1BF40**		1	1 unit	143	0.656
 3NP1 933-1BF50	**Connecting rail**, I_u = max. 225 A for 3-phase busbar (1 set = 3 units)		**3NP1 923-1BF50**		1	1 unit	143	0.262
 3NP1 933-1BG40	**Auxiliary conductor connections** For flat tab sleeve 6.3 x 0.8 mm, max. 5 A (1 set = 3 units) For 3NP1123 with box terminal		**3NP1 923-1BG40**		1	1 unit	143	0.006

* You can order this quantity or a multiple thereof.

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	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For size NH000 (continued)								
	Device covers, auxiliary switches							
 3NP1 923-1CA10	**Reach-around protection** for busbar mounting (1x top, 1x bottom)							
	• For Siemens 8US system		**3NP1 923-1CA10**		1	1 unit	143	0.053
	• For Rittal system		**3NP1 923-1CA20**		1	1 unit	143	0.057
 3NP1 923-1CB00	**Cable connection covers** only for busbar systems 40 mm / 60 mm, top and bottom		**3NP1 923-1CB00**		1	1 unit	143	0.046
 3NP1 923-1CF00	**Masking frame supports** (1 set = 2 units)		**3NP1 923-1CF00**		1	1 unit	143	0.016
 3NP1 923-1DA00	**System masking frames**							
	Dimensions (H x W) 215 x 130 mm		**3NP1 923-1DA00**		1	1 unit	143	0.059
  3NP1 923-1EA00	**Fixing kits**							
	For 1 standard mounting rail		**3NP1 923-1EA00**		1	1 unit	143	0.069
 3NP1 920-1FA00	**Auxiliary switches**							
	1 CO contact		**3NP1 920-1FA00**		1	1 unit	143	0.018
	1 CO contact, solid-state compatible		**3NP1 920-1FB00**		1	1 unit	143	0.023
 3NP1 923-1GA00	**Fuse carriers**							
	Standard		**3NP1 923-1GA00**		1	1 unit	143	0.159
	With electronic EFM 10 fuse monitoring		**3NP1 923-1GB20**		1	1 unit	143	0.316
	With electronic EFM 20 fuse monitoring and line monitoring		**3NP1 923-1GB30**		1	1 unit	143	0.323
	With electronic EFM 25 fuse monitoring and line monitoring		**3NP1 923-1GB50**		1	1 unit	143	0.338
 3NP1 900-1HA00	**Locking devices**							
	(1 set = 10 units)		**3NP1 900-1HA00**		1	1 unit	143	0.023

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* You can order this quantity or a multiple thereof.

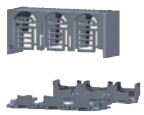
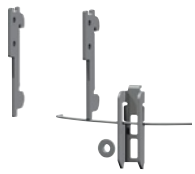
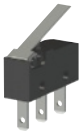
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Accessories

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For size NH00								
	Connection methods							
 3NP1 933-1BA00	**Saddle terminals**, 1.5 ... 70 mm^2 (1 set = 3 units) • For 3NP1 133 with flat terminal • For connection of copper conductors		**3NP1 933-1BA00**		1	1 unit	143	0.047
 3NP1 933-1BB10	**Prism terminals** single, 35 ... 95 mm^2 (1 set = 3 units) • For 3NP1133 with flat terminal • For connection of copper or aluminum conductors		**3NP1 933-1BB10**		1	1 unit	143	0.126
 3NP1 933-1BC00	**Terminal kits**, 6 ... 70 mm^2 For 32-mm cover level with box terminal • For 3NP1 133 with flat terminal • For connection of copper conductors		**3NP1 933-1BC00**		1	1 unit	143	0.193
 3NP1 933-1BE10	**Three-tier terminals**, 3 x 2.5 ... 16 mm^2 (1 set = 3 units) • For 3NP1133 with flat terminal • For connection of copper conductors		**3NP1 933-1BE10**		1	1 unit	143	0.113
 3NP1 923-1BE20	**Three-tier terminals**, 3 x 2.5 ... 16 mm^2 (1 set = 3 units) • For 3NP1133 with box terminal • For connection of copper conductors		**3NP1 923-1BE20**		1	1 unit	143	0.130
 3NP1 933-1BG10	**Auxiliary conductor connections** for flat tab sleeve 6.3 x 0.8 mm, max. 5 A for flat terminal (1 set = 3 units)		**3NP1 933-1BG10**		1	1 unit	143	0.006
 3NP1 933-1BG30	**Auxiliary conductor connections** for flat tab sleeve 6.3 x 0.8 mm, max. 5 A for prism terminal (1 set = 3 units)		**3NP1 933-1BG30**		1	1 unit	143	0.004
 3NP1 933-1BG40	**Auxiliary conductor connections** for flat tab sleeve 6.3 x 0.8 mm, max. 5 A for box terminal (1 set = 3 units)		**3NP1 933-1BG40**		1	1 unit	143	0.007

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	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For size NH00 (continued)								
	Device covers, auxiliary switches							
 3NP1 933-1CA10	**Reach-around protection** for busbar mounting (1x at top, 1x at bottom)							
	• For Siemens 8US system		**3NP1 933-1CA10**		1	1 unit	143	0.062
	• For Rittal system		**3NP1 933-1CA20**		1	1 unit	143	0.051
 3NP1 933-1CB00	**Cable connection covers** (at top and bottom) for flat terminal		**3NP1 933-1CB00**		1	1 unit	143	0.063
 3NP1 933-1CC00	**Cable connection covers** with rear reach-around protection in case of busbar mounting (at top and bottom) for flat terminal		**3NP1 933-1CC00**		1	1 unit	143	0.087
 3NP1 933-1CD00	**Cable connection covers** with rear reach-around protection in case of busbar mounting (at top and bottom) for flat terminal		**3NP1 933-1CD00**		1	1 unit	143	0.131
 3NP1 933-1CF00	**Masking frame supports** (1 set = 2 units)		**3NP1 933-1CF00**		1	1 unit	143	0.021
	System masking frames							
	Dimensions (H x W) 215 x 130 mm		**3NP1 933-1DA00**		1	1 unit	143	0.035
 3NP1 933-1EB00	**Fixing kits**							
	For 2 standard mounting rails 125/150 mm		**3NP1 933-1EB00**		1	1 unit	143	0.054
 3NP1 930-1FB00	**Auxiliary switches**							
	1 CO contact		**3NP1 930-1FA00**		1	1 unit	143	0.018
	1 CO contact, solid-state compatible		**3NP1 930-1FB00**		1	1 unit	143	0.019
 3NP1 933-1GB10	**Fuse carriers**							
	Standard		**3NP1 933-1GA00**		1	1 unit	143	0.165
	With MFM electromechanical fuse monitoring		**3NP1 933-1GB10**		1	1 unit	143	0.687
	With electronic EFM 10 fuse monitoring		**3NP1 933-1GB20**		1	1 unit	143	0.394
	With electronic EFM 20 fuse monitoring and line monitoring		**3NP1 933-1GB30**		1	1 unit	143	0.410
	With electronic EFM 25 fuse monitoring and line monitoring		**3NP1 933-1GB50**		1	1 unit	143	0.407
	Locking devices							
	(1 set = 10 units)		**3NP1 900-1HA00**		1	1 unit	143	0.023

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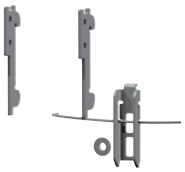
Accessories

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For size NH1								
	Connection methods							
 3NP1 943-1BA00	**Saddle terminals**, 70 ... 120 mm^2 (1 set = 3 units) • For 3NP1 143 with flat terminal • For connection of copper conductors		**3NP1 943-1BA00**		1	1 unit	143	0.127
 3NP1 943-1BB10	**Prism terminals** single, 70 ... 150 mm^2 (1 set = 3 units) • For 3NP1143 with flat terminal • For connection of copper or aluminum conductors		**3NP1 943-1BB10**		1	1 unit	143	0.321
 3NP1 943-1BB20	**Prism terminals** double, 2 x 35 ... 70 mm^2 (1 set = 3 units) • For 3NP1143 with flat terminal • For connection of copper or aluminum conductors		**3NP1 943-1BB20**		1	1 unit	143	0.473
 3NP1 943-1BG10	**Auxiliary conductor connections** for flat tab sleeve 6.3 x 0.8 mm, max. 5 A for flat terminal (1 set = 3 units)		**3NP1 943-1BG10**		1	1 unit	143	0.006
 3NP1 943-1BG30	**Auxiliary conductor connections** for flat tab sleeve 6.3 x 0.8 mm; max. 5 A for saddle-type or prism terminals (1 set = 3 units)		**3NP1 943-1BG30**		1	1 unit	143	0.007
 3NP1 943-1BG40	**Auxiliary conductor connections** for flat tab sleeve 6.3 x 0.8 mm; max. 5 A for box terminal (1 set = 3 units)		**3NP1 943-1BG40**		1	1 unit	143	0.015

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	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For size NH1 (continued)								
	Device covers, auxiliary switches							
 3NP1 943-1CA10	**Reach-around protection** for busbar mounting (1x at top, 1x at bottom)							
	• For Siemens 8US system		**3NP1 943-1CA10**		1	1 unit	143	0.034
	• For Rittal system		**3NP1 943-1CA20**		1	1 unit	143	0.045
 3NP1 943-1CB00	**Cable connection covers** (at top and bottom)		**3NP1 943-1CB00**		1	1 unit	143	0.182
 3NP1 943-1CD00	**Cable connection covers** with rear reach-around protection (at top and bottom)		**3NP1 943-1CD00**		1	1 unit	143	0.420
	Masking frame supports (1 set = 2 units)		**3NP1 943-1CF00**		1	1 unit	143	0.043
	System masking frames							
	Dimensions (H x W) 375 x 220 mm		**3NP1 943-1DA00**		1	1 unit	143	0.123
 3NP1 943-1EB00	**Fixing kits**							
	For 2 standard mounting rails 125/150 mm		**3NP1 943-1EB00**		1	1 unit	143	0.055
 3NP1 940-1FA00	**Auxiliary switches**							
	1 CO contact		**3NP1 940-1FA00**		1	1 unit	143	0.020
	1 CO contact, solid-state compatible		**3NP1 940-1FB00**		1	1 unit	143	0.021
 3NP1 943-1GB20	**Fuse carriers**							
	Standard		**3NP1 943-1GA00**		1	1 unit	143	0.776
	With MFM electromechanical fuse monitoring		**3NP1 943-1GB10**		1	1 unit	143	1.319
	With electronic EFM 10 fuse monitoring		**3NP1 943-1GB20**		1	1 unit	143	0.999
	With electronic EFM 20 fuse monitoring and line monitoring		**3NP1 943-1GB30**		1	1 unit	143	1.004
	With electronic EFM 25 fuse monitoring and line monitoring		**3NP1 943-1GB50**		1	1 unit	143	0.085
	Locking devices							
	(1 set = 10 units)		**3NP1 900-1HA00**		1	1 unit	143	0.023

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Accessories

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For size NH2								
	Connection methods							
 3NP1 953-1BA00	**Saddle terminals**, 120 ... 240 mm² (1 set = 3 units) • For 3NP1 153 with flat terminal • For connection of copper conductors		**3NP1 953-1BB10**		1	1 unit	143	0.374
 3NP1 953-1BB10	**Prism terminals** single, 120 ... 240 mm² (1 set = 3 units) • For 3NP1 153 with flat terminal • For connection of copper or aluminum conductors		**3NP1 953-1BB20**		1	1 unit	143	0.552
 3NP1 953-1BB20	**Prism terminals** double, 2 x 70 ... 120 mm² (1 set = 3 units) • For 3NP1 153 with flat terminal • For connection of copper or aluminum conductors		**3NP1 943-1BG10**		1	1 unit	143	0.770
 3NP1 943-1BG10	**Auxiliary conductor connections** for flat tab sleeve 6.3 x 0.8 mm, max. 5 A for flat terminal (1 set = 3 units)		**3NP1 953-1BG30**		1	1 unit	143	0.006
 3NP1 953-1BG30	**Auxiliary conductor connections** for flat tab sleeve 6.3 x 0.8 mm; max. 5 A for saddle-type or prism terminals (1 set = 3 units)		**3NP1 953-1BG40**		1	1 unit	143	0.008
 3NP1 953-1BG40	**Auxiliary conductor connections** for flat tab sleeve 6.3 x 0.8 mm; max. 5 A for box terminal (1 set = 3 units)							0.032
	Device covers, auxiliary switches							
 3NP1 953-1CA10	**Reach-around protection** for busbar mounting (1x at top, 1x at bottom)							
	• For Siemens 8US system		**3NP1 953-1CA10**		1	1 unit	143	0.038
	• For Rittal system		**3NP1 953-1CA20**		1	1 unit	143	0.042
 3NP1 953-1CB00	**Cable connection covers** (at top and bottom)		**3NP1 953-1CB00**		1	1 unit	143	0.243
	Cable connection covers with rear reach-around protection (at top and bottom)		**3NP1 953-1CD00**		1	1 unit	143	0.474
	Masking frame supports (1 set = 2 units)		**3NP1 943-1CF00**		1	1 unit	143	0.043
	System masking frames							
	Dimensions (H x W) 375 x 245 mm		**3NP1 953-1DA00**		1	1 unit	143	0.101
 3NP1 940-1FA00	**Auxiliary switches**							
	1 CO contact		**3NP1 940-1FA00**		1	1 unit	143	0.020
	1 CO contact, solid-state compatible		**3NP1 940-1FB00**		1	1 unit	143	0.021
 3NP1 953-1GB30	**Fuse carriers**							
	Standard		**3NP1 953-1GA00**		1	1 unit	143	0.833
	With MFM electromechanical fuse monitoring		**3NP1 953-1GB10**		1	1 unit	143	1.399
	With electronic EFM 10 fuse monitoring		**3NP1 953-1GB20**		1	1 unit	143	1.049
	With electronic EFM 20 fuse monitoring and line monitoring		**3NP1 953-1GB30**		1	1 unit	143	1.079
	With electronic EFM 25 fuse monitoring and line monitoring		**3NP1 953-1GB50**		1	1 unit	143	3.000
	Locking devices							
	(1 set = 10 units)		**3NP1 900-1HA00**		1	1 unit	143	0.023

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	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For size NH3								
	Connection methods							
 3NP1 963-1BA00	**Saddle terminals**, 150 ... 300 mm² (1 set = 3 units) • For 3NP1 163 with flat terminal • For connection of copper conductors		**3NP1 963-1BA00**		1	1 unit	143	0.385
 3NP1 963-1BB10	**Prism terminals** single, 150 ... 300 mm² (1 set = 3 units) • For 3NP1 163 with flat terminal • For connection of copper or aluminum conductors		**3NP1 963-1BB10**		1	1 unit	143	0.681
 3NP1 963-1BB20	**Prism terminals** double, 2 x 150 ... 185 mm² (1 set = 3 units) • For 3NP1 163 with flat terminal • For connection of copper or aluminum conductors		**3NP1 963-1BB20**		1	1 unit	143	1.068
 3NP1 943-1BG10	**Auxiliary conductor connections** For flat tab sleeve 6.3 x 0.8 mm, max. 5 A for flat terminal (1 set = 3 units)		**3NP1 943-1BG10**		1	1 unit	143	0.006
 3NP1 953-1BG30	**Auxiliary conductor connections** For flat tab sleeve 6.3 x 0.8 mm, max. 5 A for saddle-type or prism terminal (1 set = 3 units)		**3NP1 953-1BG30**		1	1 unit	143	0.008
 3NP1 953-1BG40	**Auxiliary conductor connections** For flat tab sleeve 6.3 x 0.8 mm, max. 5 A for box terminal (1 set = 3 units)		**3NP1 953-1BG40**		1	1 unit	143	0.032
	Device covers, auxiliary switches							
 3NP1 963-1CA10	**Reach-around protection** for busbar mounting (1x at top, 1x at bottom)							
	• For Siemens 8US system		**3NP1 963-1CA10**		1	1 unit	143	0.043
	• For Rittal system		**3NP1 963-1CA20**		1	1 unit	143	0.051
 3NP1 963-1CB00	**Cable connection covers** (at top and bottom)		**3NP1 963-1CB00**		1	1 unit	143	0.274
	Cable connection covers With rear reach-around protection (at top and bottom)		**3NP1 963-1CD00**		1	1 unit	143	0.550
	Masking frame supports (1 set = 2 units)		**3NP1 943-1CF00**		1	1 unit	143	0.043
	System masking frames							
	Dimensions (H x W) 375 x 290 mm		**3NP1 963-1DA00**		1	1 unit	143	0.148
	Auxiliary switches							
 3NP1 940-1FA00	1 CO contact		**3NP1 940-1FA00**		1	1 unit	143	0.020
	1 CO contact, solid-state compatible		**3NP1 940-1FB00**		1	1 unit	143	0.021
	Fuse carriers							
 3NP1 963-1GB50	Standard		**3NP1 963-1GA00**		1	1 unit	143	1.011
	With MFM electromechanical fuse monitoring		**3NP1 963-1GB10**		1	1 unit	143	1.551
	With electronic EFM 10 fuse monitoring		**3NP1 963-1GB20**		1	1 unit	143	1.198
	With electronic EFM 20 fuse monitoring and line monitoring		**3NP1 963-1GB30**		1	1 unit	143	1.239
	With electronic EFM 25 fuse monitoring and line monitoring		**3NP1 963-1GB50**		1	1 unit	143	1.211
	Locking devices							
	(1 set = 10 units)		**3NP1 900-1HA00**		1	1 unit	143	0.023

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Fuses

Overview

The 3NP1 fuse switch disconnectors are suitable for all fuses in LV HRC design, see chapter 5.

LV HRC design fuses for SITOR semiconductor protection can also be used, although it must be noted that, compared to cable and line protection fuses, these get much hotter during operation. For this reason, the fuse must be operated below the rated current I_n of the device (derating) when installed in a closed switching device.

The following table shows the permissible load currents of the SITOR fuses for installation in 3NP1. The values were determined using the conductor cross-sections specified in the table.

Note

If using smaller cross-sections, a considerably higher derating is required due to the lower heat dissipation.

SITOR fuses for 3NP1 fuse switch disconnectors: Assignment table

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SITOR fuse data						Permissible load currents of fuse when installed in					
						3NP1 for floor mounting			3NP1 for busbar mounting		
Type [1]	Rated current I_n	Rated voltage [2]	Operational class	Size	Required conductor cross-section Cu	Type	Size	Permissible load current [3]	Type	Size	Permissible load current [3] [4]
	A	V AC			mm²			A			A
3NC23..	150	500	gR	3	70	3NP1 163	3	140	3NP1 163	3	150
3NC2 425..	200	500	gR	3	95	3NP1 163	3	175	3NP1 163	3	190
3NC2 427..	250	500	gR	3	120	3NP1 163	3	220	3NP1 163	3	237
3NC2 428..	300	500	gR	3	185	3NP1 163	3	250	3NP1 163	3	285
3NC2 431..	350	500	gR	3	240	3NP1 163	3	320	3NP1 163	3	332
3NC2 432..	400	500	aR	3	240	3NP1 163	3	370	3NP1 163	3	380
3NC3 336-1	630	1000	aR	3	2x (40x5)	3NP1 163	3	500	3NP1 163	3	500
3NC3 430-1	315	1250	aR	3	2x95	3NP1 163	3	280	3NP1 163	3	285
3NC3 432-1	400	1250	aR	3	2x120	3NP1 163	3	340	3NP1 163	3	340
3NC3 434-1	500	1250	aR	3	2x150	3NP1 163	3	400	3NP1 163	3	425
3NC3 436-1	630	1250	aR	3	2x (40x5)	3NP1 163	3	460	3NP1 163	3	535
3NC8 423..	150	660	gR	3	70	3NP1 163	3	120	3NP1 163	3	140
3NC8 425..	200	660	gR	3	95	3NP1 163	3	160	3NP1 163	3	190
3NC8 427..	250	660	gR	3	120	3NP1 163	3	200	3NP1 163	3	240
3NC8 431..	350	660	gR	3	240	3NP1 163	3	270	3NP1 163	3	300
3NC8 434..	500	660	gR	3	2x 150	3NP1 163	3	385	3NP1 163	3	385
3NE1 020-2	80	690	gR	00	25	3NP1 133	00	80	3NP1 133	00	80
3NE1 021-0	100	690	gS	00	35	3NP1 133	00	100	3NP1 133	00	100
3NE1 021-2	100	690	gR	00	35	3NP1 133	00	95	3NP1 133	00	95
3NE1 022-0	125	690	gS	00	50	3NP1 133	00	120	3NP1 133	00	120
3NE1 022-2	125	690	gR	00	50	3NP1 133	00	115	3NP1 133	00	115
3NE1 224-0	160	690	gS	1	70	3NP1 143 3NP1 153	1 2	160 160	3NP1 143 3NP1 153	1 2	160 160
3NE1 224-2/-3	160	690	gR	1	70	3NP1 143 3NP1 153	1 2	150 200	3NP1 143 3NP1 153	1 2	152 200
3NE1 224-2/-3	160	690	gR	1	70	3NP1 143 3NP1 153	1 2	150 160	3NP1 143 3NP1 153	1 2	152 160
3NE1 225-2/-3	200	690	gR	1	95	3NP1 143 3NP1 153	1 2	180 190	3NP1 143 3NP1 153	1 2	180 190
3NE1 227-0	250	690	gS	1	120	3NP1 143 3NP1 153	1 2	235 250	3NP1 143 3NP1 153	1 2	238 250
3NE1 227-2/-3	250	690	gR	1	120	3NP1 143 3NP1 153	1 2	220 235	3NP1 143 3NP1 153	1 2	213 235
3NE1 230-0	315	690	gS	1	2x 70	3NP1 153	2	290	3NP1 153	2	315
3NE1 230-2/-3	315	690	gR	1	2x 70	3NP1 153 3NP1 163	2 3	278 380	3NP1 153 3NP1 163	2 3	315 400
3NE1 331-0	350	690	gS	2	2x 95	3NP1 153 3NP1 163	2 3	315 340	3NP1 153 3NP1 163	2 3	350 350
3NE1 331-2/-3	350	690	gR	2	2x 95	3NP1 153 3NP1 163	2 3	300 330	3NP1 153 3NP1 163	2 3	330 350
3NE1 332-0	400	690	gS	2	2x 95	3NP1 153	2	340	3NP1 153	2	380
3NE1 332-2/-3	400	690	gR	2	2x 95	3NP1 153 3NP1 163	2 3	328 370	3NP1 153 3NP1 163	2 3	360 400
3NE1 333-0	450	690	gS	2	2x 120	3NP1 163	3	450	3NP1 163	3	430
3NE1 333-2/-3	450	690	gR	2	2x 120	3NP1 163	3	430	3NP1 163	3	420

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SITOR fuse data						Permissible load currents of fuse when installed in					
						3NP1 for floor mounting			3NP1 for busbar mounting		
Type[1]	Rated current I_n	Rated voltage [2]	Operational class	Size	Required conductor cross-section Cu	Type	Size	Permissible load current [3]	Type	Size	Permissible load current [3] [4]
	A	V AC			mm²			A			A
3NE1 334-0	500	690	gS	2	2x 120	3NP1 163	3	500	3NP1 163	3	450
3NE1 334-2/-3	500	690	gR	2	2x 120	3NP1 163	3	475	3NP1 163	3	450
3NE1 435-0	560	690	gS	3	2x 150	3NP1 163	3	560	3NP1 163	3	520
3NE1 435-2/-3	560	690	gR	3	2x 150	3NP1 163	3	555	3NP1 163	3	510
3NE1 436-0	630	690	gS	3	2x 185	3NP1 163	3	630	3NP1 163	3	585
3NE1 436-2/-3	630	690	gR	3	2x 185	3NP1 163	3	620	3NP1 163	3	570
3NE1 437-0	710	690	gS	3	2x (40x5)	--	--	--	3NP1 163	3	605
3NE1 437-1	710	600	gR	3	2x (40x5)	--	--	--	3NP1 163	3	590
3NE1 437-2/-3	710	690	gR	3	2x (40x5)	--	--	--	3NP1 163	3	580
3NE1 438-0	800	690	gS	3	2x (50x5)	--	--	--	3NP1 163	3	630
3NE1 438-1	800	600	gR	3	2x (50x5)	--	--	--	3NP1 163	3	610
3NE1 438-2/-3	800	690	gR	3	2x (50x5)	--	--	--	3NP1 163	3	600
3NE1 447-2/-3	670	690	gR	3	2x (40x5)	--	--	--	3NP1 163	3	575
3NE1 448-2/-3	850	690	gR	3	2x (40x8)	--	--	--	3NP1 163	3	630
3NE1 802-0	40	690	gS	000	10	3NP1 123 3NP1 133	000 00	40 40	3NP1 123 3NP1 133	000 00	40 40
3NE1 803-0	35	690	gS	000	6	3NP1 123 3NP1 133	000 00	35 35	3NP1 123 3NP1 133	000 00	35 35
3NE1 813-0	16	690	gS	000	1.5	3NP1 123 3NP1 133	000 00	16 16	3NP1 123 3NP1 133	000 00	16 16
3NE1 814-0	20	690	gS	000	2.5	3NP1 123 3NP1 133	000 00	20 20	3NP1 123 3NP1 133	000 00	20 20
3NE1 815-0	25	690	gS	000	4	3NP1 123 3NP1 133	000 00	25 25	3NP1 123 3NP1 133	000 00	25 25
3NE1 817-0	50	690	gS	000	10	3NP1 123 3NP1 133	000 00	50 50	3NP1 123 3NP1 133	000 00	50 50
3NE1 818-0	63	690	gS	000	16	3NP1 123 3NP1 133	000 00	63 63	3NP1 123 3NP1 133	000 00	63 63
3NE1 820-0	80	690	gS	000	25	3NP1 123 3NP1 133	000 00	80 80	3NP1 123 3NP1 133	000 00	80 80
3NE3 221	100	1000	aR	1	35	3NP1 143 3NP1 153	1 2	88 95	3NP1 143 3NP1 153	1 2	95 100
3NE3 222	125	1000	aR	1	50	3NP1 143 3NP1 153	1 2	102 110	3NP1 143 3NP1 153	1 2	113 125
3NE3 224	160	1000	aR	1	70	3NP1 143 3NP1 153	1 2	130 140	3NP1 143 3NP1 153	1 2	140 150
3NE3 225	200	1000	aR	1	95	3NP1 143 3NP1 153	1 2	163 175	3NP1 143 3NP1 153	1 2	170 180
3NE3 227	250	1000	aR	1	120	3NP1 143 3NP1 153	1 2	195 210	3NP1 143 3NP1 153	1 2	200 215
3NE3 230-0B	315	1000	aR	1	185	3NP1 153	2	270	3NP1 153	2	265
3NE3 231	350	1000	aR	1	240	3NP1 153	2	290	3NP1 153	2	280
3NE3 232-0B	400	1000	aR	1	240	3NP1 153	2	320	3NP1 153	2	310
3NE3 233	450	1000	aR	1	2x 150	3NP1 153	2	360	3NP1 153	2	330
3NE3 332-0B	400	1000	aR	2	240	3NP1 153 3NP1 163	2 3	330 360	3NP1 163 --	3 --	360 --
3NE3 333	450	1000	aR	2	2x 150	3NP1 163	3	375	3NP1 163	3	390
3NE3 334-0B	500	1000	aR	2	2x 150	3NP1 163	3	420	3NP1 163	3	415
3NE3 335	560	1000	aR	2	2x 185	3NP1 163	3	475	3NP1 163	3	460
3NE3 336	630	1000	aR	2	2x 185	3NP1 163	3	540	3NP1 163	3	500
3NE3 337-8	710	900	aR	2	2x (40x5)	3NP1 163	3	580	3NP1 163	3	500
3NE3 338-8	800	800	aR	2	2x 240	3NP1 163	3	605	3NP1 163	3	500
3NE3 340-8	900	690	aR	2	2x (40x8)	3NP1 163	3	630	3NP1 163	3	500
3NE4 101	32	1000	gR	0	6	3NP1 143	1	30	3NP1 143	1	32
3NE4 102	40	1000	gR	0	10	3NP1 143	1	35	3NP1 143	1	40
3NE4 117	50	1000	gR	0	10	3NP1 143	1	42	3NP1 143	1	50
3NE4 118	63	1000	aR	0	16	3NP1 143	1	55	3NP1 143	1	60
3NE4 120	80	1000	aR	0	25	3NP1 143	1	71	3NP1 143	1	76
3NE4 121	100	1000	aR	0	35	3NP1 143	1	84	3NP1 143	1	93
3NE4 122	125	1000	aR	0	50	3NP1 143	1	107	3NP1 143	1	115
3NE4 124	160	1000	aR	0	70	3NP1 143	1	134	3NP1 143	1	144
3NE4 327-0B	250	800	aR	2	150	3NP1 153 3NP1 163	2 3	195 215	3NP1 163 3NP1 163	3 3	220 220

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3NP1 Fuse Switch Disconnectors up to 630 A

Fuses

SITOR fuse data						Permissible load currents of fuse when installed in					
						3NP1 for floor mounting			3NP1 for busbar mounting		
Type [1]	Rated current I_n	Rated voltage [2]	Operational class	Size	Required conductor cross-section Cu	Type	Size	Permissible load current [3]	Type	Size	Permissible load current [3] [4]
	A	V AC			mm²			A			A
3NE4 330-0B	315	800	aR	2	240	3NP1 153 3NP1 163	2 3	240 270	3NP1 163 --	3 --	255 --
3NE4 333-0B	450	800	aR	2	2x (30x5)	3NP1 163	3	370	3NP1 163	3	355
3NE4 334-0B	500	800	aR	2	2x (30x5)	3NP1 163	3	410	3NP1 163	3	390
3NE4 337	710	800	aR	2	2x (50x5)	3NP1 163	3	540	3NP1 163	3	500
3NE8 015-1	25	690	gR	00	4	3NP1 133	00	25	3NP1 133	00	25
3NE8 003-1	35	690	gR	00	6	3NP1 133	00	32	3NP1 133	00	35
3NE8 017-1	50	690	gR	00	10	3NP1 133	00	43	3NP1 133	00	50
3NE8 018-1	63	690	gR	00	16	3NP1 133	00	52	3NP1 133	00	60
3NE8 020-1	80	690	aR	00	25	3NP1 133	00	65	3NP1 133	00	72
3NE8 021-1	100	690	aR	00	35	3NP1 133	00	85	3NP1 133	00	85
3NE8 022-1	125	690	aR	00	50	3NP1 133	00	100	3NP1 133	00	100
3NE8 024-1	160	690	aR	00	70	3NP1 133	00	120	3NP1 133	00	115

[1] Due to the mechanical stress on the relatively long fuse blades, SITOR 3NE41 fuses should only be switched occasionally and only at zero current.

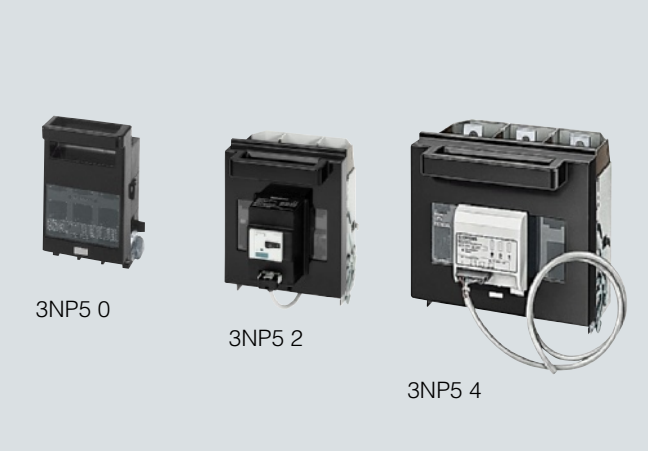
[2] 3NP1 fuse switch disconnectors may be operated at up to 1000 V AC/DC with the following restrictions:
- Degree of pollution 2 (instead of 3)
- AC20 or DC20 - i.e. switching only without load

[3] In the case of cyclic loads, the currents may have to be further reduced (precise values on request).

[4] Values apply if used with 30 x 10 mm rails, 12 x 5 mm for NH00 and top busbar connection - values for other configurations available on request

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Overview



3NP5 fuse switch disconnector range

3NP5 fuse switch disconnectors are controls for the occasional manual switching/isolating of loads and distribution boards. They are able to switch on, control and switch off the specified rated current (including a specific overload).

With the 3NP5 fuse switch disconnectors, all poles of downstream electric loads can be safely disconnected from the system under load.

Application

The 3NP5 fuse switch disconnectors are ideally suited for surface mounting and installation in distribution boards (e.g. ALPHA, SIKUS), meter cabinets (e.g. ALPHA 400-ZS), and molded-plastic distribution systems such as 8HP.

The ability to mount them on a range of different busbar systems allows their very diverse implementation in switchgear cabinet and control engineering.

The 3NP5 fuse switch disconnectors are ideal for operation in combination with other switching devices, for example in capacitor modules for reactive-power compensation.

In conjunction with semiconductor protection fuses (e.g. SITOR), these are used for the effective protection of frequency converters and soft starters.

The 3NP5 fuse switch disconnectors are suitable for use in any climate and comply with standards IEC 60947-1, IEC 60947-3 and DIN VDE 0660 Part 107.

In addition, the 3NP5 series of fuse switch disconnectors complies with the requirements of BS 5419 and is also approved for operation in marine applications.

All 3NP5 fuse switch disconnectors can be sealed as standard (or can be sealed through accessories).

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Introduction

Technical specifications

Standards		**IEC 60947-1, IEC 60947-3, VDE 0660 Part 107**						
Type		**3NP5 0**	**3NP5 2**		**3NP5 3**		**3NP5 4**	
Rated uninterrupted current I_u	A	160	250		400		630	
For fuse links acc. to IEC 60269-2	Size	00	1 and 0		2 and 1		3 and 2	
Conventional free air thermal current I_{th}	A	160	250		400		630	
Rated operational voltage U_e								
• 50/60 Hz AC	V	690						
• DC	V	440 (3 conducting paths series-connected), 220 (2 conducting paths series-connected, with fuse monitoring through 3RV)						
Rated insulation voltage U_i	V	690[1]	690[1]		690[1]		690[1]	
Rated impulse withstand voltage U_{imp}	kV	6	6		6		6	
Rated conditional short-circuit current with fuses (by fast switch on)								
Rated current	Size/A	00/160	1/250		2/400		3/630	
• At 500 V AC (rms value)	kA	50	50		50		50	
Permissible let-through current of the fuses (peak value)	kA	15	25		40		50	
Short-circuit strength with fuses (with closed disconnector)								
• Rated current	Size/A	00/160	1/250		2/400		3/630	
• At 500 V AC (rms value)	kA	100	100		50		50	
• Maximum permissible let-through I^2t value	kA^2s	223	780		2150		5400	
• Permissible let-through current of the fuses (peak value)	kA	23	32		40		60	
Rated short-circuit making capacity with isolating blades[2]	Size	00	1		2		3	
• At 500 V AC (peak value)	kA	6	17		17		17	
Rated making and breaking capacity[2] (infeed from top or bottom)[3]	Size	00	1	0	2	1	3	2
Breaking current I_c								
• At p.f. = 0.35, rms value	A	1300	2500	1600	4000	2500	5040	4000
• At p.f. = 0.35, rms value	A	800	1280	1000	2520	1600	3200	2520
• At p.f. = 0.35 and 400 V AC, with fuse links, rms value	A	1600	2500	1600	4000	2500	5040	4000
Rated operational current I_e								
• At AC-21B, AC-22B, AC-23B at 500 V AC, with fuse links	A	160	250	160	400	250	630	400
• At AC-21B, AC-22B, AC-23B at 690 V AC, with fuse links	A	160	250	160	400	250	630	400
• At AC -21B, AC-22B	A	160	250	160	400	250	630	400
• At AC-23B	A	100	160	125	315	200	400	315
At 220 (440) V DC, with 2 (3) conducting paths series-connected and fuse links:								
• Breaking current I_c (L/R = 15 ms)	A	640	1000	640	1600	1600	2520	1600
• Rated operational current I_e for DC-23B	A	160	250	160	250	250	630	400
Capacitor switching capacity								
• Capacitor rating at 400 V AC	kvar	80	90		150		250	
• Rated current I_n at 525 V AC	A	116	130		216		361	
• Capacitor rating	kvar	100	125		200		300	
• Rated current I_n	A	110	137		220		330	
Permissible ambient temperature	°C	-25 ... +55 for operation[4]), -50 ... +80 during storage						
Mechanical endurance, operating cycles		1600						
Degree of protection								
• Without molded-plastic masking frame		IP00, for 3NP5 2 with clamp terminal, degree of protection IP10						
• With molded-plastic masking frame with closed fuse carrier on the operator side		IP30						
• With molded-plastic masking frame with open fuse carrier		IP10						
Power loss of the switch at I_{th} (without power loss of fuse links)								
Without busbar adapter	W	7.8 (16.3)[5]	7.5		15		39	
Maximum power loss of the usable fuses (per fuse)[6]	**W**	**12**	**23**		**37**		**50**	
Main conductor connections								
Flat terminal for connection of								
• Crimped cable lugs acc. to DIN 46234 (conductor cross-section, stranded)	mm^2	2.5 ... 120	6 ... 150		6 ... 240		6 ... 2 × 240	
• Pressed cable lugs acc. to DIN 46235 (conductor cross-section, stranded)	mm^2	16 ... 70	16 ... 150		16 ... 240		16 ... 2 × 240	
• Busbars (usable busbar width)	mm	16 ... 22	22 ... 30		22 ... 30		22 ... 30	
Clamp terminals	mm^2	2.5 ... 50[7]	35 ... 120		--		--	
Auxiliary switch 1 NO + 1 NC (accessories)		The same voltage potential must be applied to the NO and NC contacts						
• At 50 Hz/60 Hz to 400 V AC, rated operational current I_e at AC-12/AC-15 A	A	16/6						
• Flat plug-in terminals (DIN 46244)		A 6.3 ... 0.8						
Permissible mounting positions		Vertical or horizontal installation (switching capacity may be reduced with horizontal installation)						
Signaling contact for solid-state fuse monitoring		2 NO + 1 NC						
• Rated operational current I_e at 250 V, DC-13	A	0.27						
• Rated operational current I_e at 240 V, AC-15	A	1.5						
• Thermal free-air rated current I_{th}	A	5						

1) When observing degree of pollution 2 (instead of 3) operation is also possible up to U_i = 1000 V.

2) Rated making and breaking current according to IEC 60947-3:
Rated making current
I = 10 × I_e (AC-23); 3 × I_e (AC-22); 1.5 × I_e (AC-21)
Rated breaking current
I_e = 8 × I_e (AC-23); 3 × I_e (AC-22); 1.5 × I_e (AC-21).

3) When electronic fuse monitors are used, infeed must be from the top.

4) When using isolating blades. If using fuse links, please observe specifications of fuse manufacturer.

5) With busbar adapter.

6) Values are valid when using LV HRC (NH) fuse systems with characteristic gG. If using fuses for semiconductor protection, please refer to the assignment table, see page 7/145.

7) When connecting one conductor.
For 2 conductors max. 1 x 50 mm^2 and 1 x 35 mm^2.

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Selection and ordering data

	Rated uninterrupted current I_u	Connection type	Size	Auxiliary switches at the switch disconnectors Version	DT	Degree of protection IP00, without fuse links, without isolating blades, with terminal screws Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A										kg
Completely compartmentalized, with high speed closing feature											
 3NP5 060-0CA00	160	Flat terminals[1]	00	Without[3]	►	**3NP5 060-0CA00**		1	1 unit	103	1.610
				1 NO + 1 NC		**3NP5 060-0CA10**		1	1 unit	103	1.639
		Clamp terminals	00	Without[3]		**3NP5 060-0CB00**		1	1 unit	103	1.733
				1 NO + 1 NC		**3NP5 060-0CB10**		1	1 unit	103	1.761
 3NP5 260-0CA00	250	Flat terminals	1	Without	►	**3NP5 260-0CA00**		1	1 unit	103	5.360
				1 NO + 1 NC		**3NP5 260-0CA10**		1	1 unit	103	5.412
		Clamp terminals	1	Without		**3NP5 260-0CB00**		1	1 unit	103	5.649
				1 NO + 1 NC		**3NP5 260-0CB10**		1	1 unit	103	5.601
 3NP5 360-0CA00	400	Flat terminals	2	Without	►	**3NP5 360-0CA00**		1	1 unit	103	6.510
				1 NO + 1 NC		**3NP5 360-0CA10**		1	1 unit	103	6.475
 3NP5 460-0CA00	630	Flat terminals	3	Without	►	**3NP5 460-0CA00**		1	1 unit	103	7.890
				1 NO + 1 NC		**3NP5 460-0CA10**		1	1 unit	103	7.906

1) For 3NP5 060 with flat terminals, appropriate 3NY1 106 cable lug covers must be used to provide a finger-safe cover, according to DIN VDE 0106 Part 100 (see Accessories).

2) If auxiliary switch is retrofitted, additional drill holes are required on the switch.

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3NP5 Fuse Switch Disconnectors up to 630 A

For 40 mm busbar system

Selection and ordering data

Rated uninterrupted current I_u	Connection type	Size	Auxiliary switches at the switch disconnectors Version	DT	**Degree of protection IP00, without fuse links, without isolating blades, with terminal screws** Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
A										kg
Completely compartmentalized, with high speed closing feature[1]										
Busbars with a width of 12 mm and thickness of 5 mm or 10 mm										
160	Flat terminals	00	Without		**3NP5 065-1CF00**		1	1 unit	103	2.306
			1 NO + 1 NC		**3NP5 065-1CF10**		1	1 unit	103	2.290
	Clamp terminals	00	Without		**3NP5 065-1CG00**		1	1 unit	103	2.351
			1 NO + 1 NC		**3NP5 065-1CG10**		1	1 unit	103	2.396

[1] For accessories and more devices on busbar systems, see "Accessories"

* You can order this quantity or a multiple thereof.

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Overview

Note:

For switch versions "For installation in any distribution board" and busbar adapters see page 7/144.

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3NP5 Fuse Switch Disconnectors up to 630 A

With fuse monitoring

Selection and ordering data

Fuse monitoring by circuit breakers

Floor mounting

Rated uninterrupted current I_u	Connection type	Size	Auxiliary switches: At switch disconnectors	Auxiliary switches: At circuit breakers	DT	Degree of protection IP00, without fuse links, without isolating blades, with terminal screws: Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
A			Version	Version							kg
Completely compartmentalized, with high speed closing feature with fuse monitoring by SIRIUS circuit breakers											
With plug-in connection of the auxiliary switch connecting cable (length approx. 1 m) to the circuit breakers											
160	Flat terminals[1]	00	1 NO + 1 NC	1 NO + 1 NC	►	**3NP5 060-0EA86**		1	1 unit	103	2.435
			1 NO + 1 NC	2 NO		**3NP5 060-0EA26**		1	1 unit	103	2.459
	Clamp terminals	00	1 NO + 1 NC	1 NO + 1 NC		**3NP5 060-0EB86**		1	1 unit	103	2.570
			1 NO + 1 NC	2 NO		**3NP5 060-0EB26**		1	1 unit	103	2.562
250	Flat terminals	1	1 NO + 1 NC	1 NO + 1 NC	►	**3NP5 260-0EA86**		1	1 unit	103	5.962
			1 NO + 1 NC	2 NO		**3NP5 260-0EA26**		1	1 unit	103	5.981
	Clamp terminals	1	1 NO + 1 NC	1 NO + 1 NC		**3NP5 260-0EB86**		1	1 unit	103	6.202
			1 NO + 1 NC	2 NO		**3NP5 260-0EB26**		1	1 unit	103	6.169
400	Flat terminals	2	1 NO + 1 NC	1 NO + 1 NC	►	**3NP5 360-0EA86**		1	1 unit	103	7.052
			1 NO + 1 NC	2 NO		**3NP5 360-0EA26**		1	1 unit	103	7.042
630	Flat terminals	3	1 NO + 1 NC	1 NO + 1 NC	►	**3NP5 460-0EA86**		1	1 unit	103	8.437
			1 NO + 1 NC	2 NO		**3NP5 460-0EA26**		1	1 unit	103	8.443



3NP5 260-0EA86



3NP5 360-0EA86



3NP5 460-0EA86

[1] For 3NP5 060 with flat terminals, appropriate 3NY1 106 cable lug covers must be used to provide a finger-safe cover, according to DIN VDE 0106 Part 100 (see Accessories).

For 40 mm busbar system

Rated uninterrupted current I_u	Connection type	Size	Auxiliary switches: At switch disconnectors	Auxiliary switches: At circuit breakers	DT	Degree of protection IP00, without fuse links, without isolating blades, with terminal screws: Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
A			Version	Version							kg
Completely compartmentalized, with high speed closing feature with fuse monitoring by SIRIUS circuit breakers[1]											
Busbars with a width of 12 mm and thickness of 5 mm or 10 mm											
160	Flat terminals	00	1 NO + 1 NC	1 NO + 1 NC		**3NP5 065-1EF86**		1	1 unit	103	2.869
			1 NO + 1 NC	2 NO		**3NP5 065-1EF26**		1	1 unit	103	2.807
	Clamp terminals	00	1 NO + 1 NC	1 NO + 1 NC		**3NP5 065-1EG86**		1	1 unit	103	2.876
			1 NO + 1 NC	2 NO		**3NP5 065-1EG26**		1	1 unit	103	2.974

[1] For accessories and more devices on busbar systems, see chapter 10 "Busbar Systems".

For 60 mm busbar system

Note:

For switch versions "For installation in any distribution board" and busbar adapters see page 7/144.

* You can order this quantity or a multiple thereof.

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Fuse monitoring by electronic fuse monitoring device

Floor mounting

	Rated uninterrupted current I_u	Connection type	Size	Auxiliary switches		DT	Degree of protection IP00, without fuse links, without isolating blades, with terminal screws		PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
				At switch disconnectors	At fuse monitoring							
	A			Version	Version		Order No.	Price per PU				kg
Completely compartmentalized, with high-speed closing feature with electronic fuse monitoring EF (self-powered), open-circuit principle												
	For rated operational voltages U_e from 400 V to 500 V AC, infeed must come from above! With plug-in connection for connecting cables from auxiliary switches (approx. 1 m long) to the fuse monitoring device, - status indicator: green LED illuminated, - fault indication: green LED flashing, - fuse failure: red LED (display per phase)											
 3NP5 060-0HA13	160	Flat terminals[1]	00	1 NO + 1 NC	2 NO + 1 NC		**3NP5 060-0HA13**		1	1 unit	103	2.334
		Clamp terminals	00	1 NO + 1 NC	2 NO + 1 NC		**3NP5 060-0HB13**		1	1 unit	103	2.366
 3NP5 260-0HA13	250	Flat terminals	1	1 NO + 1 NC	2 NO + 1 NC		**3NP5 260-0HA13**		1	1 unit	103	5.930
 3NP5 360-0HA13	400	Flat terminals	2	1 NO + 1 NC	2 NO + 1 NC		**3NP5 360-0HA13**		1	1 unit	103	6.937
 3NP5 460-0HA13	630	Flat terminals	3	1 NO + 1 NC	2 NO + 1 NC		**3NP5 460-0HA13**		1	1 unit	103	8.313

[1] For 3NP50 60 with flat connectors, appropriate 3NY1 106 cable lug covers must be used to provide finger-safe cover, according to DIN VDE 0106 Part 100 (see Accessories).

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3NP5 Fuse Switch Disconnectors up to 630 A

With fuse monitoring

For 40 mm busbar system

	Rated uninterrupted current I_u	Connection type	Size	Auxiliary switches		DT	**Degree of protection IP00, without fuse links, without isolating blades, with terminal screws**		PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
				At switch disconnectors	At fuse monitoring							
	A			Version	Version		Order No.	Price per PU				kg
Completely compartmentalized, with high-speed closing feature with electronic fuse monitoring EF (self-powered), open-circuit principle												
	For rated operational voltages U_e from 400 V to 500 V AC, infeed must come from above!											
	Busbars with a width of 12 mm and thickness of 5 mm or 10 mm											
 3NP5 065-1HF13	160	Flat terminals	00	1 NO + 1 NC	2 NO + 1 NC		**3NP5 065-1HF13**		1	1 unit	103	2.697

For 60 mm busbar system

Note:

For switch versions "For installation in any distribution board" and busbar adapters see page 7/144.

* You can order this quantity or a multiple thereof.

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Selection and ordering data

	Version	For fuse switch disconnectors	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	Fuse carriers								
 3NY1 074		3NP50 6.-.C..0		**3NY1 074**		1	1 unit	103	0.575
		3NP52 60-.C..0		**3NY1 371**		1	1 unit	103	1.753
		3NP53 60-.C..0		**3NY1 372**		1	1 unit	103	1.912
		3NP54 60-.C..0		**3NY1 373**		1	1 unit	103	2.091
	With fuse monitoring by 3RV1 MSPs	3NP50 6.-.E..6		**3NY1 420**		1	1 unit	103	1.289
		3NP52 60-.E..6		**3NY1 421**		1	1 unit	103	2.217
	(with auxiliary switch 1 NO + 1 NC), with plug-in connection, without connector and connecting cable	3NP53 60-.E..6		**3NY1 422**		1	1 unit	103	2.272
		3NP54 60-.E..6		**3NY1 423**		1	1 unit	103	2.511
	Connector and connecting cable								
	1 m long	3NP5 with 3RV1		**3NY1 910**		1	1 unit	103	0.102
	3 m long			**3NY1 911**		1	1 unit	103	0.270
 3NY1 513-3	With electronic fuse monitoring for 400 V ... 500 V	3NP50 6.-.H.13		**3NY1 513-0**		1	1 unit	103	1.026
		3NP52 60-.H.13		**3NY1 513-2**		1	1 unit	103	2.130
	(with auxiliary switch 2 NO + 1 NC), with plug-in connection, without connector and connecting cable	3NP53 60-.H.13		**3NY1 513-3**		1	1 unit	103	2.180
		3NP54 60-.H.13		**3NY1 513-4**		1	1 unit	103	0.325
 3NY1 915	Connector and connecting cable (6-pole) 3 m long	3NP5 with EFM		**3NY1 915**		1	1 unit	103	0.306
	Auxiliary switch 1 NO + 1 NC								
 3NY3 033	With actuating cams, screws and washers (mounting kit)	3NP50[1)]		**3NY3 033**		1	1 unit	103	0.018
 3NY3 034	With fixing bracket and screws (mounting kit)	3NP52 ... 3NP54		**3NY3 034**		1	1 unit	103	0.008
	Arc chutes								
 3NY4 031	(3 units each are required for 3NP52, 3NP53 and 3NP54)	3NP50		**3NY4 031**		1	1 unit	103	0.221
		3NP52		**3NY4 011**		1	1 unit	103	0.185
		3NP53, 3NP54		**3NY4 012**		1	1 unit	103	0.242
 3NY4 011									
	Molded-plastic masking frames								
	As replacement for masking frames from assembly kits for flush mounting (without fixing brackets and small components)	300 × 220 mm	3NY1 210	**3NY1 102**		1	1 unit	103	0.070
		300 × 245 mm	3NY1 211	**3NY1 103**		1	1 unit	103	0.083
		300 × 290 mm	3NY1 212	**3NY1 104**		1	1 unit	103	0.084

[1)] If retrofitted, drill holes are required.

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Accessories

Assembly kits for distribution systems

	Version	For fuse switch disconnectors	Dimensions mm	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
For installation in any distribution board										
	Molded-plastic masking frames		Height × Width							
	For installation in cabinet	3NP50 with and without auxiliary switch	215 × 135		**3NY1 105**		1	1/400 units	103	0.045
		With auxiliary switch	215 × 135		**3NY1 115**		1	1/400 units	103	0.045
	For installation in metal front panels	With and without auxiliary switch	220 × 160		**3NY1 125**		1	1 unit	103	0.062
 3NY1 107	For covering connection terminals	3NP50 with and without auxiliary switch	265 × 135		**3NY1 107**		1	1 unit	103	0.071
 3NY1 106	For covering cable lug connections	3NP50 with and without auxiliary switch	290 × 135		**3NY1 106**		1	1/225 units	103	0.074
	For separate covering of top and bottom cable lug connections	With auxiliary switch	290 × 135		**3NY1 116**		1	1/225 units	103	0.075
		3NP50 with and without auxiliary switch	290 × 135		**3NY1 108**		1	1/200 units	103	0.046
 3NY1 212	**Assembly kits for flush mounting**									
	With molded-plastic masking frame, fixing brackets and small components. For disconnectors with and without auxiliary switches	3NP50 60	250 × 149		**3NY1 208**		1	1 unit	103	0.514
		3NP52 60	300 × 220		**3NY1 210**		1	1 unit	103	0.291
		3NP53 60	300 × 245		**3NY1 211**		1	1 unit	103	0.298
		3NP54 60	300 × 290		**3NY1 212**		1	1 unit	103	0.313
 3TX6 546-3B	**Covers for cable lug connections**		Cover length							
	(1 set = 6 units) can be screwed onto free screw end to protect against accidental touch	3NP52	99		**3NY1 241**		1	1 unit	103	0.208
		3NP53/3NP54	95		**3TX6 546-3B**		1	1 unit	41B	0.256
			120		**3NY1 245**		1	1 unit	103	0.318
 3NY1 907	**Clamp terminals** (1 set = 3 units)		Conductor cross-section							
		3NP50	2.5 ... 50 mm^2 [1]		**3NY1 903**		1	1 unit	103	0.110
		3NP52	35 ... 120 mm^2		**3NY1 907**		1	1 unit	103	0.223
 8US12 10-4AG00	**Busbar adapters**		Busbar width							
	For 60 mm busbar system	3NP50	108		**8US12 91-4SB00**		1	1 unit	143	0.524
		3NP52, 3NP53, 3NP54[2]	250 (length 320 mm, M10 terminal screws, connecting cables must be manufactured)		**8US12 10-4AG00**		1	1 unit	143	2.926
	Sealing lugs Retrofittable (1 pack = 10 units)	3NP50			**3NY1 940**		1	1 unit	103	0.007

[1] Also available in 2-wire version: 1 × 2.5 mm^2 ... 50 mm^2 and 1 × 2.5 ... 35 mm^2.

[2] Disconnector is wider than adapter. The adapter can, however, be expanded to 276 mm with two 8US19 98-2BM00 side modules

* You can order this quantity or a multiple thereof.

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Overview

3NP5 fuse switch disconnectors are suitable for all fuses in LV HRC design, see chapter 5.

LV HRC design fuses for SITOR semiconductor protection can also be used, although it must be noted that, compared to cable and line protection fuses, these get much hotter during operation. For this reason, the fuse must be operated below the rated current I_n of the device (derating) when installed in a closed switching device.

The following table shows the permissible load currents of the SITOR fuses for installation in 3NP5. The values were determined using the conductor cross-sections specified in the table.

Note

If using smaller cross-sections, a considerably higher derating is required due to the lower heat dissipation.

SITOR fuses for 3NP5 fuse switch disconnectors: Assignment table

SITOR fuse data						**Permissible load currents of fuse when installed in 3NP5 for floor mounting**					
						Type 3NP5			**Alternative type 3NP5**		
Type[1]	Rated current I_n	Rated voltage [2]	Operational class	Size	Required conductor cross-section Cu	Type	Size	Permissible load current [3]	Type	Size	Permissible load current [3]
	A	V AC			mm²			A			A
3NC2 423..	150	500	gR	3	70	3NP5 4	3	145	--	--	--
3NC2 425..	200	500	gR	3	95	3NP5 4	3	180	--	--	--
3NC2 427..	250	500	gR	3	120	3NP5 4	3	225	--	--	--
3NC2 428..	300	500	gR	3	185	3NP5 4	3	255	--	--	--
3NC2 431..	350	500	gR	3	240	3NP5 4	3	330	--	--	--
3NC2 432..	400	500	aR	3	240	3NP5 4	3	400	--	--	--
3NC3 336-1	630	1000	aR	3	2x (40x5)	3NP5 4	3	530	--	--	--
3NC3 337-1	710	1000	aR	3	2x (50x5)	3NP5 4	3	570	--	--	--
3NC3 338-1	800	1000	aR	3	2x (40x8)	3NP5 4	3	630	--	--	--
3NC3 340-1	900	1000	aR	3	2x (40x8)	3NP5 4	3	700[4]	--	--	--
3NC3 341-1	1000	1000	aR	3	2x (50x8)	3NP5 4	3	770[4]	--	--	--
3NC3 342-1	1100	800	aR	3	2x (50x8)	3NP5 4	3	800[4]	--	--	--
3NC3 343-1	1250	800	aR	3	2x (50x8)	3NP5 4	3	850[4]	--	--	--
3NC3 430-1	315	1250	aR	3	2x95	3NP5 4	3	295	--	--	--
3NC3 432-1	400	1250	aR	3	2x120	3NP5 4	3	355	--	--	--
3NC3 434-1	500	1250	aR	3	2x150	3NP5 4	3	440	--	--	--
3NC3 436-1	630	1250	aR	3	2x (40x5)	3NP5 4	3	520	--	--	--
3NC3 438-1	800	1100	aR	3	2x (40x8)	3NP5 4	3	625	--	--	--
3NC8 423..	150	660	gR	3	70	3NP5 4	3	135	--	--	--
3NC8 425..	200	660	gR	3	95	3NP5 4	3	180	--	--	--
3NC8 427..	250	660	gR	3	120	3NP5 4	3	225	--	--	--
3NC8 431..	350	660	gR	3	240	3NP5 4	3	300	--	--	--
3NC8 434..	500	660	gR	3	2x 150	3NP5 4	3	425	--	--	--
3NC8 444-3C	1000	600	aR	3	2x (60x6)	3NP5 4	3	800[4]	--	--	--
3NE1 020-2	80	690	gR	00	25	3NP5 0	00	80	--	--	--
3NE1 021-0	100	690	gS	00	35	3NP5 0	00	100	--	--	--
3NE1 021-2	100	690	gR	00	35	3NP5 0	00	100	--	--	--
3NE1 022-0	125	690	gS	00	50	3NP5 0	00	125	--	--	--
3NE1 022-2	125	690	gR	00	50	3NP5 0	00	125	--	--	--
3NE1 224-0	160	690	gS	1	70	3NP5 2	1	160	3NP5 3	2	160
3NE1 224-2/-3	160	690	gR	1	70	3NP5 2	1	160	3NP5 3	2	160
3NE1 225-0	200	690	gS	1	95	3NP5 2	1	200	3NP5 3	2	200
3NE1 225-2	200	690	gR	1	95	3NP5 2	1	200	3NP5 3	2	200
3NE1225-3	200	690	gR	1	95	3NP5 2	1	190	3NP5 3	2	200
3NE1 227-0	250	690	gS	1	120	3NP5 2	1	250	3NP5 3	2	250
3NE1 227-2	250	690	gR	1	120	3NP5 2	1	250	3NP5 3	2	250
3NE1 227-3	250	690	gR	1	120	3NP5 2	1	235	3NP5 3	2	250
3NE1 230-0	315	690	gS	1	2x 70	3NP5 3	2	315	--	--	--
3NE1 230-2/-3	315	690	gR	1	2x 70	3NP5 3	2	315	--	--	--
3NE1 331-0	350	690	gS	2	2x 95	3NP5 3	2	350	3NP5 4	3	350
3NE1 331-2/-3	350	690	gR	2	2x 95	3NP5 3	2	350	3NP5 4	3	350
3NE1 332-0	400	690	gS	2	2x 95	3NP5 3	2	400	3NP5 4	3	400

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Fuses

SITOR fuse data						Permissible load currents of fuse when installed in 3NP5 for floor mounting					
						Type 3NP5			Alternative type 3NP5		
Type [1]	Rated current I_n	Rated voltage [2]	Operational class	Size	Required conductor cross-section Cu	Type	Size	Permissible load current [3]	Type	Size	Permissible load current [3]
	A	V AC			mm²			A			A
3NE1 332-2/-3	400	690	gR	2	2x 95	3NP5 3	2	400	3NP5 4	3	400
3NE1 333-0	450	690	gS	2	2x 120	3NP5 4	3	450	--	--	--
3NE1 333-2/-3	450	690	gR	2	2x 120	3NP5 4	3	450	--	--	--
3NE1 334-0	500	690	gS	2	2x 120	3NP5 4	3	500	--	--	--
3NE1 334-2/-3	500	690	gR	2	2x 120	3NP5 4	3	500	--	--	--
3NE1 435-0	560	690	gS	3	2x 150	3NP5 4	3	560	--	--	--
3NE1 435-2/-3	560	690	gR	3	2x 150	3NP5 4	3	560	--	--	--
3NE1 436-0	630	690	gS	3	2x 185	3NP5 4	3	630	--	--	--
3NE1 436-2/-3	630	690	gR	3	2x 185	3NP5 4	3	625	--	--	--
3NE1 437-0	710	690	gS	3	2x (40x5)	3NP5 4	3	710 [4]	--	--	--
3NE1 437-1	710	600	gR	3	2x (40x5)	3NP5 4	3	690 [4]	--	--	--
3NE1 437-2/-3	710	690	gR	3	2x (40x5)	3NP5 4	3	685 [4]	--	--	--
3NE1 438-0	800	690	gS	3	2x (50x5)	3NP5 4	3	800 [4]	--	--	--
3NE1 438-1	800	600	gR	3	2x (50x5)	3NP5 4	3	750 [4]	--	--	--
3NE1 438-2/-3	800	690	gR	3	2x (50x5)	3NP5 4	3	770 [4]	--	--	--
3NE1 447-2/-3	670	690	gR	3	2x (40x5)	3NP5 4	3	655 [4]	--	--	--
3NE1 448-2/-3	850	690	gR	3	2x (40x8)	3NP5 4	3	820 [4]	--	--	--
3NE1 802-0	40	690	gS	000	10	3NP5 0	00	40	--	--	--
3NE1 803-0	35	690	gS	000	6	3NP5 0	00	35	--	--	--
3NE1 813-0	16	690	gS	000	1.5	3NP5 0	00	16	--	--	--
3NE1 814-0	20	690	gS	000	2.5	3NP5 0	00	20	--	--	--
3NE1 815-0	25	690	gS	000	4	3NP5 0	00	25	--	--	--
3NE1 817-0	50	690	gS	000	10	3NP5 0	00	50	--	--	--
3NE1 818-0	63	690	gS	000	16	3NP5 0	00	63	--	--	--
3NE1 820-0	80	690	gS	000	25	3NP5 0	00	80	--	--	--
3NE3 221	100	1000	aR	1	35	3NP5 2	1	95	3NP5 3	2	100
3NE3 222	125	1000	aR	1	50	3NP5 2	1	110	3NP5 3	2	120
3NE3 224	160	1000	aR	1	70	3NP5 2	1	140	3NP5 3	2	150
3NE3 225	200	1000	aR	1	95	3NP5 2	1	175	3NP5 3	2	190
3NE3 227	250	1000	aR	1	120	3NP5 2	1	210	3NP5 3	2	230
3NE3 230-0B	315	1000	aR	1	185	3NP5 3	2	285	--	--	--
3NE3 231	350	1000	aR	1	240	3NP5 3	2	310	--	--	--
3NE3 232-0B	400	1000	aR	1	240	3NP5 3	2	330	--	--	--
3NE3 233	450	1000	aR	1	2x 150	3NP5 3	2	360	--	--	--
3NE3 332-0B	400	1000	aR	2	240	3NP5 4	3	360	--	--	--
3NE3 333	450	1000	aR	2	2x 150	3NP5 4	3	400	--	--	--
3NE3 334-0B	500	1000	aR	2	2x 150	3NP5 4	3	450	--	--	--
3NE3 335	560	1000	aR	2	2x 185	3NP5 4	3	510	--	--	--
3NE3 336	630	1000	aR	2	2x 185	3NP5 4	3	580	--	--	--
3NE3 337-8	710	900	aR	2	2x (40x5)	3NP5 4	3	630	--	--	--
3NE3 338-8	800	800	aR	2	2x 240	3NP5 4	3	630	--	--	--
3NE3 340-8	900	690	aR	2	2x (40x8)	3NP5 4	3	630	--	--	--
3NE4 101	32	1000	gR	0	6	3NP5 2	1	32	--	--	--
3NE4 102	40	1000	gR	0	10	3NP5 2	1	40	--	--	--
3NE4 117	50	1000	gR	0	10	3NP5 2	1	50	--	--	--
3NE4 118	63	1000	aR	0	16	3NP5 2	1	63	--	--	--
3NE4 120	80	1000	aR	0	25	3NP5 2	1	80	--	--	--
3NE4 121	100	1000	aR	0	35	3NP5 2	1	95	--	--	--
3NE4 122	125	1000	aR	0	50	3NP5 2	1	120	--	--	--
3NE4 124	160	1000	aR	0	70	3NP5 2	1	150	--	--	--
3NE4 327-0B	250	800	aR	2	150	3NP5 3	2	210	3NP5 4	3	220
3NE4 330-0B	315	800	aR	2	240	3NP5 3	2	270	3NP5 4	3	285
3NE4 333-0B	450	800	aR	2	2x (30x5)	3NP5 3	2	400	3NP5 4	3	420

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SITOR fuse data						Permissible load currents of fuse when installed in 3NP5 for floor mounting					
						Type 3NP5			Alternative type 3NP5		
Type [1]	Rated current I_n	Rated voltage [2]	Operational class	Size	Required conductor cross-section Cu	Type	Size	Permissible load current [3]	Type	Size	Permissible load current [3]
	A	V AC			mm²			A			A
3NE4 334-0B	500	800	aR	2	2x (30x5)	3NP5 4	3	450	--	--	--
3NE4 337	710	800	aR	2	2x (50x5)	3NP5 4	3	600	--	--	--
3NE8 015-1	25	690	gR	00	4	3NP5 0	00	25	--	--	--
3NE8 003-1	35	690	gR	00	6	3NP5 0	00	33	--	--	--
3NE8 017-1	50	690	gR	00	10	3NP5 0	00	45	--	--	--
3NE8 018-1	63	690	gR	00	16	3NP5 0	00	54	--	--	--
3NE8 020-1	80	690	aR	00	25	3NP5 0	00	68	--	--	--
3NE8 021-1	100	690	aR	00	35	3NP5 0	00	89	--	--	--
3NE8 022-1	125	690	aR	00	50	3NP5 0	00	106	--	--	--
3NE8 024-1	160	690	aR	00	70	3NP5 0	00	130	--	--	--

1) Due to the mechanical stress on the relatively long fuse blades, SITOR 3NE41 fuses should only be switched occasionally and only at zero current.

2) 3NP1 fuse switch disconnectors may be operated at up to 1000 V AC/DC with the following restrictions:
- Degree of pollution 2 (instead of 3)
- AC20 or DC20 - i.e. switching only without load

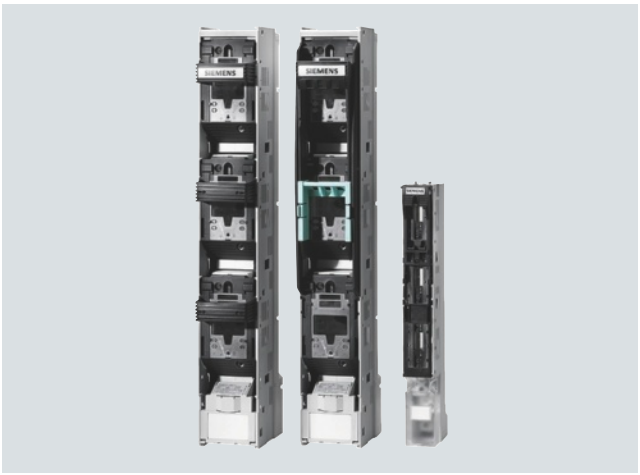
3) In the case of cyclic loads, the currents may have to be further reduced (precise values on request).

4) The fuse can also be operated at a higher rated uninterrupted current than the 630 A current of the 3NP54. However, in this case, the 3NP54 must not be switched under load (utilization category AC-20).

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Introduction

Overview

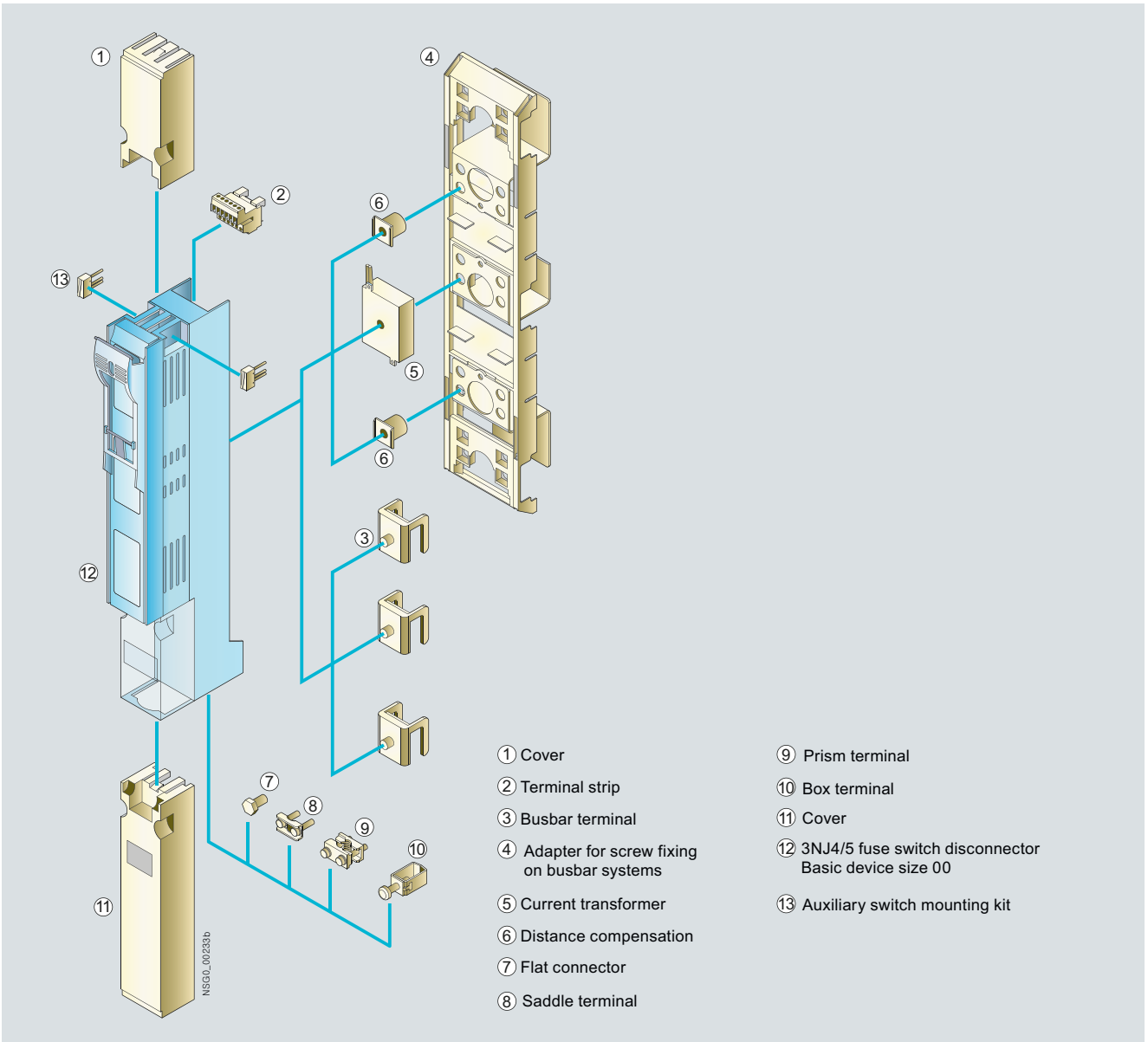


3NJ4/3NJ5 fuse switch disconnectors

All key product features at a glance

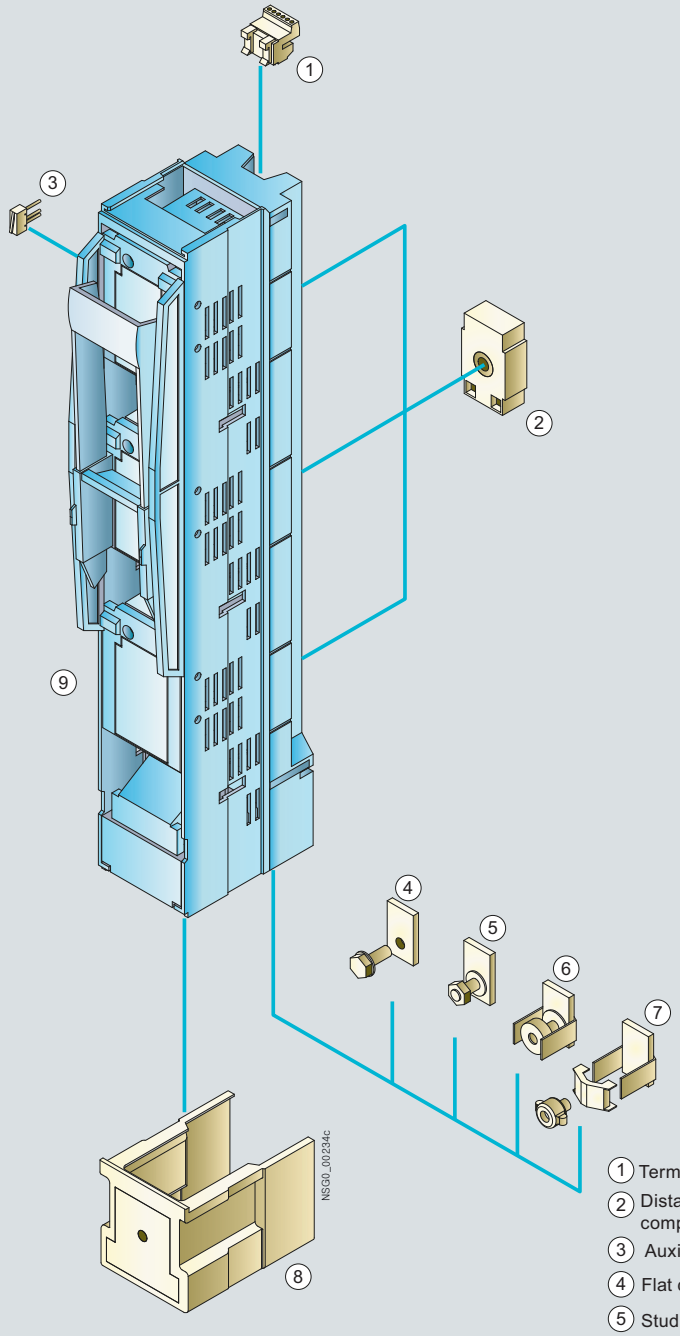
- Compliant with IEC/EN 60439-1, IEC/EN 60947-3
- Voltage levels up to 690 V AC
- Rated operational current from 160 A to 2000 A
- Fuse links according to IEC 60269 Part 1 can be used – nickel-plated fuse blades are not permissible due to the high transfer resistance
- In open position safe from touch by the back of the hand (exception 3NJ56: IP00)
- Parking position for maintenance
- 1-pole or 3-pole switchable
- Vertical and horizontal mounting position
- Climate-proof
- Degree of protection IP30 with closed fuse carriers, IP10 with open fuse carriers (exception 3NJ56: IP00)

Overview of all components and accessory parts: 3NJ4/3NJ5 in size 00



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Overview of all components and accessory parts: 3NJ4/3NJ5 in sizes 1 to 3



1 Terminal strip
2 Distance compensation
3 Auxiliary switch
4 Flat connector
5 Stud terminal
6 V terminal
7 Box terminal
8 Cover
9 3NJ4/5 fuse switch disconnector Basic device size 1/2/3

Benefits

Parking position

For maintenance e.g. the fuse carriers of the 1-pole switchable in-line fuse switch disconnectors of sizes 1 to 3 and the 3-pole switchable in-line fuse switch disconnectors of size 00 can be mounted after being turned by 180° (fuse facing outwards).

This results in the following advantages:
- Visible disconnection point
- Depot for fuse links (parking position)
- No opportunity for mistakes when replacing the fuse links
- Additional touch protection in the vicinity of the lyre-shaped contacts

Application

3NJ41 and 3NJ56 single-pole and 3-pole in-line fuse switch disconnectors can be installed in low-voltage distribution boards, substations and cable distribution cubicles.

Note:

For 1-pole switchable fuse switch disconnectors the following applies acc. to EC/EN 60947-3: *These devices are intended for power distribution systems that may require the switching and/or disconnection of individual outer conductors. They should not be used for switching the primary circuits of 3-phase equipment.*

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3NJ4, 3NJ5 In-Line Fuse Switch Disconnectors up to 2000 A

Introduction

Technical specifications

Standards			IEC 60947-1, IEC 60947-3, VDE 0660 Part 107								
Type			**3NJ41 0 3NJ50**	**3NJ41 2**	**3NJ41 3**	**3NJ41 4**	**3NJ56**	**3NJ41 5**	**3NJ41 8**	**3NJ41 6**	**3NJ41 7**
Conventional thermal current											
Free-air with gG fuses, I_{th}		A	160	250	400	630	1250	630	800	1260	1600
Free-air with isolating blade, I_{th}		A	--	--	--	800	--	1000	1250	1600	2000
Free-air with gTr fuses, I_{th}		A	--	--	--	--	1154	722	910	1154	1444
Rated apparent power of the transformer, S_n		kVA	--	--	--	--	800	500	630	800	1000
For fuse links and isolating blades		Size	00	1	2	3	4a	3	3	2 x 3	2 x 3
gG according to IEC 60269, I_n		A	160	250	400	630	1250	630	800	2 x 630	2 x 800
Free-air with isolating link, I_n		A	--	--	--	--	--	1000	1250	2 x 800	2 x 1000
gTr according to VDE 0636-2011, I_{rat}		A	--	--	--	--	1154	722	909	2 x 577	2 x 722
gTr according to VDE 0636-2011, S_n		kVA	--	--	--	--	800	500	630	2 x 400	2 x 500
Rated operational voltage U_e At 40 Hz ...60 Hz AC		V	690	690	690	690	690	690	400	690	400
Rated insulation voltage U_i		V	800	1000	1000	1000	1000	1000	690	1000	690
Rated impulse withstand voltage U_{imp}		kV	8	12	12	12	12	12	8	12	8
Rated conditional short-circuit current with fuses											
With gG fuse (rms value)		kA	80/50	110	110	110	80	110	50	80	50
With gTr fuse (rms value)		kA	--	--	--	--	--	--	50	--	--
Max. permissible power loss per fuse link		W	12	32	45	48	110	51	61	48	51
Rated short-time withstand current I_{CW} rms value		kA	--	14.5	14.5	14.5	35	14.5	14.5	25	25
Rated making and breaking capacity											
Rated operational current I_e for gG fuses											
At AC-21B	400 V AC	A	160	250	400	630	1250	630	800	2 x 630	2 x 800
AC-22B	400 V AC	A	160	250	400	630	1250	630	800	2 x 630	2 x 800
AC-23B	400 V AC	A	--	250	400	--	--	--	--	--	--
AC-21B	500 V AC	A	160	250	400	630	1250	--	--	--	--
AC-22B	500 V AC	A	160	250	400	630	1250	--	--	--	--
AC-23B	500 V AC	A	--	--	--	--	--	--	--	--	--
AC-21B	690 V AC	A	100	250	400	630	1250	--	--	--	--
AC-22B	690 V AC	A	100	250	--	--	--	--	--	--	--
AC-23B	690 V AC	A	--	--	--	--	--	--	--	--	--
Rated operational current I_e for gTr fuses											
At AC-22B	400 V AC	A	--	--	--	--	--	722	910	2 x 577	2 x 722
Rated operational current I_e for isolating blades											
At AC-22B	400 V AC	A	--	--	--	--	--	1000	1250	2 x 800	2 x 1000
Capacitive switching capacity		kvar	--	105 ... 115	155 ... 185	250 ...300	--	--	--	--	--
Permissible ambient temperature		°C	-25 ... +55, > 35 °C with derating factors								
Mechanical endurance, operating cycles			1400	1400	800	800	500	800	500	500	500
Electrical endurance, operating cycles			200	200	200	200	100	100	100	100	100
Degree of protection											
With closed fuse carrier, with terminal cover and peripheral cover			IP30	IP30	IP30	IP30	IP10	IP30	IP30	IP30	IP30
With open fuse carrier			IP10	IP10	IP10	IP10	IP00	IP10	IP10	IP10	IP10
Power loss of the main current paths at I_{th}		W	18	23	54	115	190	275	155	350	375
Main conductor connections											
Terminal screws			M8	M10	M12	M12	M16	2 × M12	2 × M12	3 × M12	4 × M12
Flat bars		mm	20	30	30	30	80	80 x 10	80 x 10	--	--
Cable lug, max. conductor cross-section (stranded)		mm^2	95	240	240	240	2 × 300	2 × 300	2 × 300	3 × 300 4 x 185	4 × 300 4 x 185
Tightening torque		Nm	12 ... 15	30 ... 35	35 ... 40	35 ... 40	50 ... 60	35 ... 40	35 ... 40	35 ... 40	35 ... 40
Clamp/V terminals		mm^2	1.5 ... 70	25 ... 300	25 ... 300	25 ... 300	--	--	--	--	--
Fixing screws			M8	M12	M12	M12	M16	M12	M12	M12	M12
Required tightening torque for mounting on busbars		Nm	16 ... 18	35 ... 40	35 ... 40	35 ... 40	50 ... 60	35 ... 40	35 ... 40	35 ... 40	35 ... 40

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Selection and ordering data

	Rated operating current I_e	For fuse links acc. to IEC 60269-1	Busbar center-to-center spacing	Connection type (terminal screws/ clamp-type terminals included in the scope of supply)[1], optionally top or bottom (rotatable!)	For conductor material	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	Size	mm									kg
In-line fuse switch disconnectors, 1-pole switchable												
 3NJ41 21-3BF01	160	00 and 000	185	M8 flat connector	Cu/Al[2]		**3NJ50 13-0BD00**		1	1 unit	143	2.260
	250	1	185	M10 flat connector	Cu/Al[2]		**3NJ41 21-3BF01**		1	1 unit	143	5.040
	400	2 and 1	185	M12 flat connector	Cu/Al[2]		**3NJ41 31-3BF01**		1	1 unit	143	5.363
	630	3 and 2	185	M12 flat connector	Cu/Al[2]		**3NJ41 41-3BF01**		1	1 unit	143	5.860
	1250	4a	185	M16 × 60 stud terminal	Cu/Al[2]		**3NJ56 43-0BB00**		1	1 unit	143	21.260
In-line fuse switch disconnectors, 1-pole switchable, for integratable current transformers												
 3NJ41 21-3BF11	250	1	185	M10 flat connector	Cu/Al[2]		**3NJ41 21-3BF11**		1	1 unit	143	4.890
	400	2 and 1	185	M12 flat connector	Cu/Al[2]		**3NJ41 31-3BF11**		1	1 unit	143	5.200
	630	3 and 2	185	M12 flat connector	Cu/Al[2]		**3NJ41 41-3BF11**		1	1 unit	143	5.880

[1] Fixing screws for mounting on busbars must be ordered separately.

[2] Cu/Al when using suitable cable lugs or terminals.

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3NJ4, 3NJ5 In-Line Fuse Switch Disconnectors up to 2000 A

3-pole switchable

Selection and ordering data

Rated operating current I_e	For fuse links acc. to IEC 60269-1	Busbar center-to-center spacing	Connection type (terminal screws/ clamp-type terminals included in the scope of supply)[1] optionally top or bottom (rotatable!)	For conductor material	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
A	Size	mm									kg
In-line fuse switch disconnectors, 3-pole switchable											
160	00 and 000	100	M8 flat connector	Cu/Al[2]	►	**3NJ41 03-3BF02**		1	1 unit	143	1.140
			F70 box terminal	Cu		**3NJ41 03-3BR02**		1	1 unit	143	1.135
160	00 and 000	185	M8 flat connector	Cu/Al[2]		**3NJ50 33-0BD00**		1	1 unit	143	2.390
250	1	185	M10 flat connector	Cu/Al[2]	►	**3NJ41 23-3BF01**		1	1 unit	143	5.481
			M12 stud terminal	Cu/Al[2]		**3NJ41 23-3BJ01**		1	1 unit	143	5.512
			V terminal	Cu/Al[2]		**3NJ41 23-3BT01**		1	1 unit	143	5.908
400	2 and 1	185	M12 flat connector	Cu/Al[2]	►	**3NJ41 33-3BF01**		1	1 unit	143	5.250
			M12 stud terminal	Cu/Al[2]		**3NJ41 33-3BJ01**		1	1 unit	143	5.406
			V terminal	Cu/Al[2]		**3NJ41 33-3BT01**		1	1 unit	143	5.899
630	3 and 2	185	M12 flat connector	Cu/Al[2]	►	**3NJ41 43-3BF01**		1	1 unit	143	6.165
			M12 stud terminal	Cu/Al[2]		**3NJ41 43-3BJ01**		1	1 unit	143	6.321
			V terminal	Cu/Al[2]		**3NJ41 43-3BT01**		1	1 unit	143	6.675



3NJ41 23-3BF01

In-line fuse switch disconnectors, 3-pole switchable, with electronic fuse monitoring (EFM)											
160	00 and 000	100	M8 flat connector	Cu/Al[2]		**3NJ41 03-3CF02**		1	1 unit	143	1.540
250	1	185	M10 flat connector	Cu/Al[2]		**3NJ41 23-3CF01**		1	1 unit	143	6.280
400	2 and 1	185	M12 flat connector	Cu/Al[2]		**3NJ41 33-3CF01**		1	1 unit	143	6.350
630	3 and 2	185	M12 flat connector	Cu/Al[2]		**3NJ41 43-3CF01**		1	1 unit	143	7.050



3NJ41 .3-3CF..

In-line fuse switch disconnectors, 3-pole switchable, for integratable current transformers											
160	00 and 000	100	M8 flat connector	Cu/Al[2]	►	**3NJ41 03-3BF12**		1	1 unit	143	1.110
250	1	185	M10 flat connector	Cu/Al[2]	►	**3NJ41 23-3BF11**		1	1 unit	143	5.192
400	2 and 1	185	M12 flat connector	Cu/Al[2]	►	**3NJ41 33-3BF11**		1	1 unit	143	5.250
630	3 and 2	185	M12 flat connector	Cu/Al[2]	►	**3NJ41 43-3BF11**		1	1 unit	143	6.090
In-line fuse switch disconnectors, 3-pole switchable, for integratable current transformers, with electronic fuse monitoring (EFM)											
160	00 and 000	100	M8 flat connector	Cu/Al[2]		**3NJ41 03-3CF12**		1	1 unit	143	1.500
250	1	185	M10 flat connector	Cu/Al[2]		**3NJ41 23-3CF11**		1	1 unit	143	8.500
400	2 and 1	185	M12 flat connector	Cu/Al[2]		**3NJ41 33-3CF11**		1	1 unit	143	11.500
630	3 and 2	185	M12 flat connector	Cu/Al[2]		**3NJ41 43-3CF11**		1	1 unit	143	7.090

Transformer apparent power	Rated apparent power of the gTr fuses	Busbar center-to-center spacing	Rated current of gTr fuses	Rated operational current I_e with 3NJ4914-8BA00 isolating blade		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
kVA	kVA	mm	A	A								kg
In-line fuse switch disconnectors, 3-pole switchable, for secondary-side fusing of transformers and incoming block												
500	500	185	722	1000	Cu/Al[2]		**3NJ41 53-3BF01**		1	1 unit	143	9.000
630	630	185	909	1250	Cu/Al[2]		**3NJ41 83-3BF01**		1	1 unit	143	12.943
800	2 x 400	185	2 x 577	1600	Cu/Al[2]		**3NJ41 63-3BF01**		1	1 unit	143	15.500
1000	2 x 500	185	2 x 722	2000	Cu/Al[2]		**3NJ41 73-3BF01**		1	1 unit	143	25.520



3NJ41 63-3BF01

[1] Fixing screws for mounting on busbars must be ordered separately.

[2] Cu/Al when using suitable cable lugs or terminals.

* You can order this quantity or a multiple thereof.

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Selection and ordering data

	Version	For in-line fuse switch disconnectors or dimensions	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	Covers Size 00, additional touch protection when using cable lugs and as spacer	NJ50 33, 3NJ50 13		**3NJ49 12-1FA02**		1	1 unit	143	0.107
 33NJ49 12-1AA01	**Covers**[1] Size 1 to 3 Additional touch protection with use of cable lugs or connection from above	3NJ41 2 to 3NJ41 4, 3NJ41 5, 3NJ41 8	►	**3NJ49 12-1AA01**		1	1 unit	143	0.099
 3NJ49 12-1EA00	**Covers** size 3 For double in-line disconnectors	3NJ41 4		**3NJ49 12-1EA00**		1	1 unit	143	0.786
 3NJ49 12-1DA02	**Covers** Size 00 (can also be used as spacer) top and bottom to cover long cable lugs and compensate for combination of 3NJ41 03 with terminals 3NJ41 2 to 3NJ41 4 (1 set = 2 units: short and long[2])	3NJ4103-3BF02		**3NJ49 12-1DA02**		1	1 unit	143	0.156
 3NJ49 12-2AA01	**Blanking covers** For panel cutout	50 mm wide		**3NJ49 12-2AA00**		1	1 unit	143	0.189
 3NJ49 12-2BA00	According to the size of the switch disconnectors: sizes 1 to 3 (for fitting in the cutout of the control panels)	100 mm wide		**3NJ49 12-2BA00**		1	1 unit	143	0.215
 3NJ49 12-2CA01	For 3NJ41 03	50 mm wide		**3NJ49 12-2CA00**		1	1 unit	143	0.086
 3NJ49 18-0AAA00	**Fixing clips** 2 units per side, for fixing the cover of the control panel front (1 set = 4 units, including fixing accessories)	3NJ41		**3NJ49 18-0AA00**		1	1 unit	143	0.130

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* You can order this quantity or a multiple thereof.

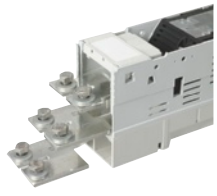
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Accessories

	Version	For in-line fuse switch disconnectors or dimensions	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
 ① ② ③	**Unequipped section covers for busbars** To be fitted directly in the drilled holes of the busbars								
	① Busbar center-to-center spacing 185 mm	50 mm wide		**3NJ49 12-3AA00**		1	1 unit	143	0.130
	② Busbar center-to-center spacing 185 mm	100 mm wide		**3NJ49 12-3BA01**		1	1 unit	143	0.372
	③ Busbar center-to-center spacing 100 mm	50 mm wide		**3NJ49 12-3CA00**		1	1 unit	143	0.100
	Also for covering a blank space on 3NJ49 18-0DA02 or 3NJ59 30–3BB								
 3NJ49 18-0DA02	**Adapters for screw fixing on busbar systems**								
	• For fitting two 3NJ41 03 fuse switch disconnectors (= 1 holder) onto a busbar system with 185 mm center-to-center spacing with hang-in terminal (including adaptation of the overall depth to that of the 3NJ41 2 to 3NJ41 4 fuse switch disconnectors)	3NJ41 03		**3NJ49 18-0DA02**		1	1 unit	143	0.745
	• For fitting two 3NJ50 fuse switch disconnectors (= 1 holder) (to adapt the overall depth of sizes 1 to 3)	3NJ50 13 and 3NJ50 33		**3NJ59 30-3BB**		1	1 unit	143	0.703
 3NJ49 18-0EA00	• For fitting one 3NJ41 03 fuse switch disconnector (= 3 separate brackets) onto a busbar system with 60 mm center-to-center spacing	3NJ41 03		**3NJ49 18-0EA00**		1	1 unit	143	0.249
	Adapters with busbar terminals For fitting two 3NJ41 03 fuse switch disconnectors (= 1 holder) onto a busbar system with 185 mm center-to-center spacing (including adaptation of the overall depth to the 3NJ41 2 to 3NJ41 4 fuse switch disconnectors)	3NJ41 03		**3NJ49 18-0DB02**		1	1 unit	143	1.240
	Fixing screws (1 set = 3 units) for fitting 3NJ41 03 switch disconnectors with integratable current transformers onto adapters	3NJ41 03		**3NJ49 18-0DC02**		1	1 unit	143	0.065
 3NJ59 74-0AB	**Busbar supports** For 100 mm and 185 mm center-to-center spacing, for screwing on of busbars	3NJ41 and 3NJ5 ►		**3NJ59 74-0AB**		1	1 unit	143	0.463
 3NJ49 10-1AA00	**Grounding kit with connecting cable 25 mm²**	3NJ41 4 to 3NJ41 8		**3NJ49 10-1AA00**		1	1 unit	143	2.376

* You can order this quantity or a multiple thereof.

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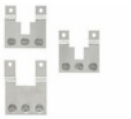
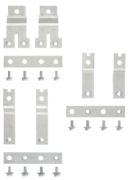
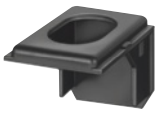
	Version	For in-line fuse switch disconnectors or dimensions	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
 3NJ49 11-3AA00	**Busbar terminals** For each fuse switch disconnector, 3 units are required	3NJ41 03 3NJ50 13 3NJ50 33	►	**3NJ49 11-3AA00**		1	1 unit	143	0.158
 3NJ49 11-3BA01	For rapid mounting of the in-line disconnectors onto the busbars (1 set = 3 units)	3NJ41 2 to 3NJ41 4	►	**3NJ49 11-3BA01**		1	1 unit	143	0.607
 3NJ49 11-4AA00	**Saddle terminals** connector Cu 1.5 ... 70 mm^2 (1 set = 3 units)	3NJ41 03		**3NJ49 11-4AA00**		1	1 unit	143	0.044
 3NJ49 11-1AA00	**Prism terminal assembly kits** connector Al/Cu 10 ... 70 mm^2 (1 set = 3 units)	3NJ41 03		**3NJ49 11-1AA00**		1	1 unit	143	0.097
 3NJ4911-2BQ00	**Box terminal assembly kits** Al/Cu terminal 95 ... 240 mm^2 (for connection to version with flat connector) (1 set = 3 units)	3NJ41 2 to 3NJ41 4		**3NJ49 11-2BQ00**		1	1 unit	143	0.959
	Busbar connection assembly kits for NH 1, 2, 3 with flat connector								
 3NJ49 11-5AA00	2 x 240 mm^2 With M12 screws	3NJ41 2 to 3NJ41 4		**3NJ49 11-5AA00**		1	1 unit	143	0.246
 3NJ49 11-5BA00	2 x 300 mm^2 / 3x 120 mm^2 With M12 screws	3NJ41 2 to 3NJ41 4		**3NJ49 11-5BA00**		1	1 unit	143	1.873
 3NJ49 11-5CA00	1 x 400 mm^2 With M16 screws	3NJ41 2 to 3NJ41 4		**3NJ49 11-5CA00**		1	1 unit	143	1.906

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* You can order this quantity or a multiple thereof.

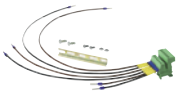
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Accessories

	Version	For in-line fuse switch disconnectors or dimensions	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
 3NJ49 11-6AA00	**Busbar connection assembly kits for NH3 as double in-line disconnectors** 3 x 300 mm^2 / 4 x 185 mm^2	3NJ41 3, 3NJ41 4		**3NJ49 11-6AA00**		1	1 unit	143	3.185
 3NJ49 11-6BA00	Mechanical coupling of operating handles, required in addition for coupling two switch disconnectors	3NJ41 3 3NJ41 4		**3NJ49 11-6CA00**		1	1 unit	143	0.051
 3NJ49 11-6BA00	**Busbar connection assembly kits for NH3 as double in-line disconnectors** 4 x 240 mm^2	3NJ41 3, 3NJ41 4		**3NJ49 11-6BA00**		1	1 unit	143	4.103
 3NJ49 11-6BA00	Mechanical coupling of operating handles, required in addition for coupling two switch disconnectors	3NJ41 3 3NJ41 4		**3NJ49 11-6CA00**		1	1 unit	143	0.051
 3NJ49 13-6AA02	**Auxiliary switch mounting kit** For sizes 00 to 3 with connecting cables, for 3-pole switchable switch disconnectors only	3NJ41 to 3NJ50		**3NJ49 13-1AA01**		1	1 unit	143	0.023
	Fuse 630 kVA 909 A Size NH 3 Specially for the protection of transformers (minimum order quantity 3 units)	3NJ41 8		**3NJ49 14-8AA00**		1	1 unit	143	1.341
 3NJ49 14-8BA00	**Isolating blades** Size NH 3, 1250 A			**3NJ49 14-8BA00**		1	1 unit	143	0.903
 3NJ49 18-1AA00	**Mounting hooks** (one per in-line disconnector required)			**3NJ49 18-1AA00**		1	1 unit	143	0.122
 3NJ49 15-1BA00	**Distance compensation**	3NJ41 03	▶	**3NJ49 15-1BA00**		1	1 unit	143	0.022
 3NJ49 15-2BA00	For fuse switch disconnectors, with integratable current transformers if no current transformer is built in.	3NJ41 2 to 3NJ41 4	▶	**3NJ49 15-2BA00**		1	1 unit	143	0.097

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	Version	For in-line fuse switch disconnectors or dimensions	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
									kg
	Terminal strips	3NJ41 03	▶	**3NJ49 15-1CA00**		1	1 unit	143	0.090
 3NJ49 15-1CA00		3NJ41 2 to 3NJ41 4	▶	**3NJ49 15-2CA00**		1	1 unit	143	0.111
 3NJ49 15-2CA00									
	Current transformers .../1 A								
 3NJ49 15-1FB20	100/1 A, Cl. 0.5, 1.5 VA	3NJ41 03		**3NJ49 15-1EA10**		1	1 unit	143	0.252
	100/1 A, Cl. 1, 2.0 VA	3NJ41 03		**3NJ49 15-1EA20**		1	1 unit	143	0.249
	150/1 A, Cl. 0.5, 2.5 VA	3NJ41 03		**3NJ49 15-1FA10**		1	1 unit	143	0.250
	150/1 A, Cl. 0.5 calibrated, 2.5 VA	3NJ41 03		**3NJ49 15-1FA11**		1	1 unit	143	0.250
	150/1 A, Cl. 1, 3.0 VA	3NJ41 03	▶	**3NJ49 15-1FA20**		1	1 unit	143	0.251
	75/1 A, Cl. 1, 1.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2DA20**		1	1 unit	143	0.216
	100/1 A, Cl. 0.5, 1.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2EA10**		1	1 unit	143	0.190
	100/1 A, Cl. 1, 2.0 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2EA20**		1	1 unit	143	0.204
	150/1 A, Cl. 0.5, 2.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2FA10**		1	1 unit	143	0.206
	150/1 A, Cl. 1, 2.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2FA20**		1	1 unit	143	0.223
	250/1 A, Cl. 0.5, 2.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2GA10**		1	1 unit	143	0.220
	250/1 A, Cl. 0.5 calibrated, 2.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2GA11**		1	1 unit	143	0.207
	250/1 A, Cl. 1, 5.0 VA	3NJ41 2 to 3NJ41 4	▶	**3NJ49 15-2GA20**		1	1 unit	143	0.223
	400/1 A, Cl. 0.5, 2.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2HA10**		1	1 unit	143	0.196
 3NJ49 15-2HA20	400/1 A, Cl. 0.5 calibrated, 2.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2HA11**		1	1 unit	143	0.202
	400/1 A, Cl. 1, 5.0 VA	3NJ41 2 to 3NJ41 4	▶	**3NJ49 15-2HA20**		1	1 unit	143	0.200
	500/1 A, Cl. 0.5, 2.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2JA10**		1	1 unit	143	0.190
	500/1 A, Cl. 1, 5.0 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2JA20**		1	1 unit	143	0.198
	600/1 A, Cl. 0.5, 2.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2KA10**		1	1 unit	143	0.195
	600/1 A, Cl. 0.5 calibrated, 2.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2KA11**		1	1 unit	143	0.218
	600/1 A, Cl. 1, 5.0 VA	3NJ41 2 to 3NJ41 4	▶	**3NJ49 15-2KA20**		1	1 unit	143	0.198

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Accessories


3NJ49 15-1FB20


3NJ49 15-2HB20

Version	For in-line fuse switch disconnectors or dimensions	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
								kg
Current transformers .../5 A								
100/5 A, Cl. 0.5, 1.0 VA	3NJ41 03		**3NJ49 15-1EB10**		1	1 unit	143	0.240
100/5 A, Cl. 1, 1.5 VA	3NJ41 03		**3NJ49 15-1EB20**		1	1 unit	143	0.247
150/5 A, Cl. 0.5, 1.5 VA	3NJ41 03		**3NJ49 15-1FB10**		1	1 unit	143	0.249
150/5 A, Cl. 0.5 calibrated, 1.5 VA	3NJ41 03		**3NJ49 15-1FB11**		1	1 unit	143	0.248
150/5 A, Cl. 1, 2.5 VA	3NJ41 03	►	**3NJ49 15-1FB20**		1	1 unit	143	0.248
75/5 A, Cl. 1, 1.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2DB20**		1	1 unit	143	0.209
100/5 A, Cl. 0.5, 1.0 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2EB10**		1	1 unit	143	0.208
100/5 A, Cl. 1, 2.0 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2EB20**		1	1 unit	143	0.208
150/5 A, Cl. 0.5, 1.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2FB10**		1	1 unit	143	0.199
150/5 A, Cl. 1, 2.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2FB20**		1	1 unit	143	0.202
250/5 A, Cl. 0.5, 2.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2GB10**		1	1 unit	143	0.203
250/5 A, Cl. 0.5 calibrated, 2.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2GB11**		1	1 unit	143	0.203
250/5 A, Cl. 1, 3.75 VA	3NJ41 2 to 3NJ41 4	►	**3NJ49 15-2GB20**		1	1 unit	143	0.202
400/5 A, Cl. 0.5, 2.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2HB10**		1	1 unit	143	0.197
400/5 A, Cl. 0.5 calibrated, 2.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2HB11**		1	1 unit	143	0.195
400/5 A, Cl. 1, 5.0 VA	3NJ41 2 to 3NJ41 4	►	**3NJ49 15-2HB20**		1	1 unit	143	0.195
500/5 A, Cl. 0.5, 2.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2JB10**		1	1 unit	143	0.197
500/5 A, Cl. 1, 5.0 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2JB20**		1	1 unit	143	0.197
600/5 A, Cl. 0.5, 2.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2KB10**		1	1 unit	143	0.201
600/5 A, Cl. 0.5 calibrated, 2.5 VA	3NJ41 2 to 3NJ41 4		**3NJ49 15-2KB11**		1	1 unit	143	0.209
600/5 A, Cl. 1, 5.0 VA	3NJ41 2 to 3NJ41 4	►	**3NJ49 15-2KB20**		1	1 unit	143	0.198

[1] With cable lugs and connection from above, the terminal cover can be extended by connecting two units together.

[2] Can be shortened (in exchange for short cover, included in the scope of supply of the in-line disconnector).

* You can order this quantity or a multiple thereof.

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Switching Devices

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7LF, 5TT3 timers

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For further technical product information:

Service&Support Portal:
www.siemens.com/lowvoltage/technical-support

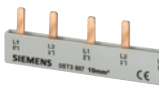
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Introduction

Overview

Devices		Page	Application	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
	**5TE8 control switches**	8/5	For the switching of lighting and other electrical devices up to 20 A. For use in control cabinets for the logical linking of functions.	IEC/EN 60947-3; IEC/EN 60669-1; GB14048.3-2002 CCC	✓	✓	✓
	**5TE4 pushbuttons**	8/8	To be used as pushbuttons in control systems, e.g. to switch on seal-in circuits or as pushbuttons with maintained-contact function for manual use, as control switches or for the switching of loads up to 20 A.	IEC/EN 60947-3; IEC/EN 60669-1; GB14048.3-2002 CCC	✓	--	✓
	**5TE5 light indicators**	8/11	Light indicators for signaling switching states or faults in systems.	DIN VDE 0710-1	✓	--	✓
	**5TE ON/OFF switches**	8/13	For the switching of lighting, motors and other electrical devices from 20 to 125 A.	16 A ... 25 A and 40 A ... 100 A: IEC/EN 60947-3; IEC/EN 60669-1, 32 A and 125 A: IEC/EN 60947-3; GB14048.3-2002 CCC	✓	✓	✓
	**5TE DC isolators**	8/20	The DC isolator is a switch disconnector specially designed for activating solar modules in photovoltaic systems according to DIN VDE 0100-712.	IEC/EN 60947-3, IEC/EN 60669-1	✓	✓	✓
	**Busbars for 5ST modular installation devices**	8/22	For fast and safe connection	IEC/EN 60439-1	✓	--	✓

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Devices		Page	Application	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
	**5TT4 remote control switches**	8/24	For the switching of lighting up to 16 A in rooms using several push-buttons and central ON/OFF switches.	IEC 60669-1 IEC 60669-2 IEC 60669-3 EN 60669 EN 60669-2-2 and EN 60669-2-2/A1	✓	✓	✓
	**5TT4 switching relays**	8/28	For the switching of small loads up to 16 A or as coupling devices in control systems.	EN 60947-5-1	✓	--	✓
5TT5 Insta contactors							
	**5TT5 Insta contactors, AC/DC technology**	8/30	Insta contactors 20 A, 25 A, 40 A and 63 A for the switching of heating, lighting, such as fluorescent lamps, incandescent lamps, ohmic or inductive loads.	IEC 60947-4-1 IEC 60947-5-1 IEC 61095 EN 60947-4-1 EN 60947-5-1 EN 61095 UL 508	✓	✓	✓
	**5TT5 Insta contactors, AC technology**	8/33	Insta contactors 20 A, 25 A, 40 A and 63 A for the switching of heating, lighting, such as fluorescent lamps, incandescent lamps, ohmic or inductive loads.	IEC 60947-4-1 IEC 60947-5-1, IEC 61095, EN 60947-4-1 EN 60947-5-1 EN 61095 NF C 61-480 (NF EN 61095)	✓	✓	✓
	**5TT3 soft-starting devices**	8/37	Protection of machines with transmission, belt or chain drives, conveyor belts, fans, pumps, compressors, packing machines or door operating mechanisms	EN 60947-4-2	--	--	✓

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Introduction

Devices		Page	Application	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
7LF, 5TT3 timers							
	**7LF4 digital time switches**	8/38	Minute-precise switching of devices and system components in day, week and year programs. Unique due to the wide variety of functions offered by the Mini and Top versions; for PC programming Astro, Profi and Expert	IEC 60730-1 and IEC 60730-2-7 EN 60730-1 and EN 60730-2-7	✓	✓	✓
	**7LF5 mechanical time switches**	8/42	Accurate and 15-minute switching accuracy. With automatic time setting during commissioning and automatic switching to daylight savings.	IEC 60730-1 and IEC 60730-2-7 EN 60730-1 and EN 60730-2-7 UL 60730	✓	✓	✓
	**7LF6 timers for buildings**	8/45	Lighting controls with stairwell lighting timers ensure the safe use of stairwells and save energy. Expanded applications for common rooms and garages, as well as the time switching of ventilators and fluorescent lamps.	IEC 60699 EN 60669, DIN 18015	✓	✓	
	**5TT3 timers for industry**	8/50	Multifunctional, delay, wiper, flashing and OFF-delay timers in control circuits expand the use of distribution boards in both small and large plants.	IEC 60255 EN 60255			✓

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Overview

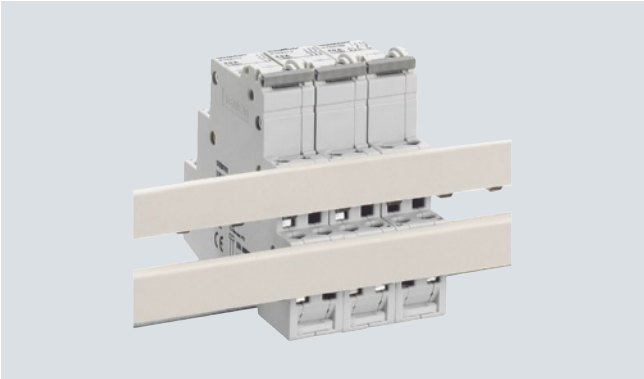
Two-way switches are used in control cabinets and distribution boards for switching small loads on/off or over.

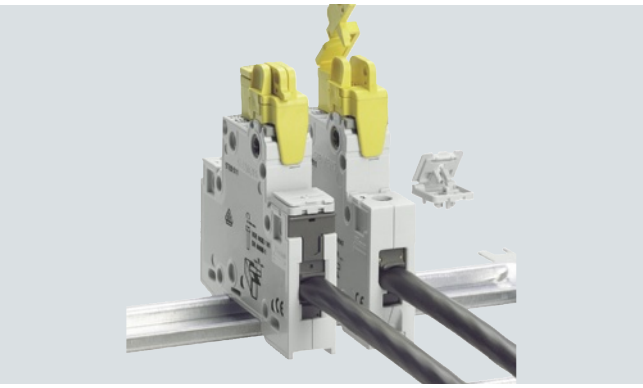
Group switches with center position permit the positions open/stop/closed, for example to control counter-clockwise rotation - Off - clockwise rotation.

Control switches in a range of contact versions have an integral control lamp for the ON setting.

The auxiliary switch (AS) signals the contact position of the switch. It has the same design as the auxiliary switch used for the miniature circuit breakers (see chapter "Miniature Circuit Breakers").

Benefits





- The control switches can be bus-mounted with each other or with 5TE4 8 pushbuttons, 5TE5 8 light indicators or 5TT4 1 remote control switches and 5TT4 2 switching relays
- For busbars, see page 8/22 ff.
- The handle locking device prevents undesired/inadvertent mechanical on/off switching
- The handle locking device is a universal accessory for all switches and miniature circuit breakers

Technical specifications

			5TE8 1
Standards			IEC/EN 60947-3; IEC/EN 60669-1
Approvals			EN 60669
Rated operational current I_e	Per conducting path	A	20
Rated operational voltage U_e	1-pole Multi-pole	V AC V AC	230 400
Rated power dissipation P_v	Contact per pole	VA	0.7
Conventional free-air thermal current I_{the}		A	20
Rated breaking capacity	At p.f. = 0.65	A	60
Rated making capacity	At p.f. = 0.65	A	60
Short-circuit withstand current In conjunction with fuse of the same rated operational current	EN 60269 gL/gG	kA	10
Rated impulse withstand voltage U_{imp}		kV	> 5
Clearances	Open contacts Between the poles	mm mm	2 × > 2 > 7
Creepage distances		mm	> 7
Mechanical service life	Switching cycles		25000
Electrical service life	Switching cycles		10000
Minimum contact load		V; mA	10; 300
Rated short-time currents Per conducting path at p.f. = 0.7 (The respective rated surge current can be calculated by multiplying by a factor of 1.5).	 up to 0.2 s up to 0.5 s up to 1 s up to 3 s	 A A A A	 650 400 290 170
Terminals Max. tightening torque	±screw (Pozidriv)	 Nm	1 1.2
Conductor cross-sections	Rigid Flexible, with end sleeve	mm^2 mm^2	1.5 ... 6 1 ... 6
Permissible ambient temperature		°C	-5 ... +40
Resistance to climate At 95 % relative humidity	Acc. to DIN 50015	°C	45

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5TE8 control switches

Selection and ordering data

	Version	I_e	U_e	Conductor cross-sections	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V AC	up to mm^2	MW							kg
	**Two-way switches (20 A)**											
	With sealable switch position, separate handle locking device can be retrofitted											
	Retroffitable auxiliary switch											
	1 NO + 1 NC	20	400	6	1	▶	**5TE8 151**		1	1 unit	029	0.075
	Auxiliary switch cannot be retrofitted											
	2 NO + 2 NC	20	400	6	1		**5TE8 152**		1	1 unit	029	0.095
	3 NO + 1 NC	20	400	6	1		**5TE8 153**		1	1 unit	029	0.094
	1 CO	20	230	6	1	▶	**5TE8 161**		1	1 unit	029	0.072
	2 CO	20	400	6	1	▶	**5TE8 162**		1	1 unit	029	0.090
	**Group switches with center position (20 A)**											
	With sealable switch position, separate handle locking device can be retrofitted											
	Auxiliary switch cannot be retrofitted											
	1 CO	20	230	6	1	▶	**5TE8 141**		1	1 unit	029	0.060
	2 CO	20	400	6	1	▶	**5TE8 142**		1	1 unit	029	0.091
	**Control switches (20 A)**											
	With fixed mounted glow lamp 230 V or diode 48 V, with replaceable, white transparent luminescent cap, with sealable switch position, separate handle locking device can be retrofitted											
	Auxiliary switch cannot be retrofitted											
	1 NO	20	230	6	1	▶	**5TE8 101**		1	1 unit	029	0.070
		20	48	6	1		**5TE8 101-3**		1	1 unit	029	0.056
	1 NO, for max. 150 m cable length	20	230	6	1		**5TE8 105**		1	1 unit	029	0.066
	2 NO	20	400	6	1		**5TE8 102**		1	1 unit	029	0.078
	3 NO	20	400	6	1		**5TE8 103**		1	1 unit	029	0.091
	With mounted auxiliary switch (1 NO, 1 NC)											
	3 NO	20	400	6	1.5		**5TE8 108**		1	1 unit	029	0.137

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* You can order this quantity or a multiple thereof.

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	Version	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		MW							kg
	**Auxiliary switches (AS)** For right-hand-side retrofitting with factory-fitted brackets, for further technical specifications, see also chapter "Miniature Circuit Breakers"								
	1 NO + 1 NC	0.5	►	**5ST3 010**		1	1 unit	020	0.066
	2 NO	0.5		**5ST3 011**		1	1 unit	020	0.055
	2 NC	0.5		**5ST3 012**		1	1 unit	020	0.055
	**Handle locking devices** For all 5TE8 switches, can be sealed against undesired/inadvertent mechanical ON/OFF switching, for padlock with max. 3 mm shackle			**5ST3 801**		1	1 unit	020	0.012
	**Spacers** Contour for modular devices with a mounting depth of 70 mm; can be snapped onto either side of the busbar, so that two spacers allow for convenient cable routing	0.5		**5TG8 240**		1	2 units	026	0.010
	**Cap sets** For manual changing of the luminous plates for 5TE8 10 control switches Cap set comprising 1 red, green, yellow, white and blue plate each			**5TG8 068**		1	1 set	029	0.006

For busbars for control switches, see page 8/22.

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5TE4 pushbuttons

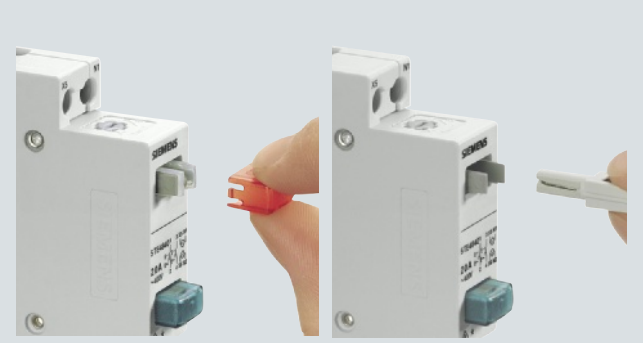
Overview

The pushbuttons are used in control systems, e.g. to switch on seal-in circuits or as pushbuttons with maintained-contact function for manual use, as control switches or for the switching of loads up to 20 A.

Benefits



- Pushbuttons with setting function for momentary-contact or maintained-contact operation can be changed over after installation and connection
- Pushbuttons and light indicators with separate infeed in one device. This means they can also be used for voltages other than the switching voltage.
- In the case of devices with two pushbuttons and two lamps, each pushbutton must be set separately



- Pilot lights and caps can also be safely replaced during operation without the use of tools. Functionality is quickly restored.
- A range of different-colored, transparent caps enable the signaling of plant states in compliance with IEC 60073. Three indications are possible for each device - this saves space

Technical specifications

			5TE4 8
Standards			IEC/EN 60947-3; IEC/EN 60669-1
Approvals			EN 60669-1
Rated operational current I_e	Per conducting path	A	20
Rated operational voltage U_e	1-pole Multi-pole	V AC V AC	230 400
Rated power dissipation P_v	Per pole	VA	0.6
Conventional free-air thermal current I_{the}		A	20
Rated breaking capacity	At p.f. = 0.65	A	60
Rated making capacity	At p.f. = 0.65	A	60
Rated impulse withstand voltage U_{imp}		kV	> 5
Clearances	Open contacts Between the poles	mm mm	2 x > 2 > 7
Creepage distances		mm	> 7
Mechanical service life	Switching cycles		25000
Minimum contact load		V; mA	10; 300
Rated short-time currents Per conducting path at p.f. = 0.7 (The respective rated surge current can be calculated by multiplying by a factor of 1.5).	 up to 0.2 s up to 0.5 s up to 1 s up to 3 s	 A A A A	 650 400 290 170
Terminals Max. tightening torque	±screw (Pozidriv)	 Nm	1 1.2
Conductor cross-sections	Rigid Flexible, with end sleeve	mm^2 mm^2	1.5 ... 6 1 ... 6
Permissible ambient temperature		°C	-5 ... +40
Resistance to climate At 95 % relative humidity	Acc. to DIN 50015	°C	45

Power loss of 5TG8 05.-. LEDs		**5TG8 05.-.**
Rated power dissipation P_v • LED	VA	0.4

	Color coding according to IEC 60073		
Color	Safety of people or environment	Process state	System state
Red	Danger	Emergency	Faulty
Yellow	Warning/Caution	Abnormal	
Green	Safety	Normal	
Blue	Stipulation		
White, Gray Black	No special significance assigned		

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Selection and ordering data

	Version	I_e	U_e	Conductor cross-sections	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V AC	up to mm^2	MW							kg
	**Pushbuttons without maintained-contact function**											
	1 NO + 1 NC											
	1 gray pushbutton	20	400	6	1	▶	**5TE4 800**		1	1 unit	029	0.073
	1 red pushbutton	20	400	6	1		**5TE4 805**		1	1 unit	029	0.074
	1 green pushbutton	20	400	6	1		**5TE4 806**		1	1 unit	029	0.067
	1 yellow pushbutton	20	400	6	1		**5TE4 807**		1	1 unit	029	0.074
	1 blue pushbutton	20	400	6	1		**5TE4 808**		1	1 unit	029	0.071
	1 NO, 1 NO											
	1 green pushbutton, 1 blue pushbutton	20	400	6	1		**5TE4 804**		1	1 unit	029	0.093
	Pushbuttons with maintained-contact function											
	1 NO + 1 NC											
	1 gray pushbutton	20	400	6	1		**5TE4 810**		1	1 unit	029	0.074
	2 NO											
	1 gray pushbutton	20	400	6	1		**5TE4 811**		1	1 unit	029	0.074
	3 NO + N											
	1 gray pushbutton	20	400	6	1		**5TE4 812**		1	1 unit	029	0.093
	4 NC											
	1 gray pushbutton	20	400	6	1		**5TE4 813**		1	1 unit	029	0.092
	2 CO											
	1 gray pushbutton	20	400	6	1		**5TE4 814**		1	1 unit	029	0.089
	**Control pushbuttons with maintained-contact function and/or momentary-contact function and lamp, 230 V for max. 5 m cable length**											
	1 NO + 1 NC											
	1 red pushbutton	20	400	6	1	▶	**5TE4 820**		1	1 unit	029	0.083
	1 NO											
	1 red pushbutton	20	230	6	1	▶	**5TE4 821**		1	1 unit	029	0.073
	2 NO											
	1 red pushbutton	20	400	6	1		**5TE4 823**		1	1 unit	029	0.084
	2 NC											
	1 red pushbutton	20	400	6	1		**5TE4 824**		1	1 unit	029	0.083
	Control pushbuttons with maintained-contact function and/or momentary-contact function and lamp, 230 V for max. 150 m cable length											
	1 NO											
	1 red pushbutton	20	230	6	1		**5TE4 822**		1	1 unit	029	0.074
	**Double pushbuttons with maintained-contact function and/or momentary-contact function**											
	1 NO and 1 NC, 1 green pushbutton, 1 red pushbutton	20	400	6	1		**5TE4 830**		1	1 unit	029	0.078
	1 NO, 1 NC and 1 NO, 1 NC 1 green pushbutton, 1 red pushbutton	20	400	6	1		**5TE4 831**		1	1 unit	029	0.095
	**Double pushbutton with maintained-contact function and/or momentary-contact function and two lamps, 230 V for max. 5 m cable length**											
	1 NO and 1 NO, 1 green pushbutton, 1 red pushbutton	20	400	6	1		**5TE4 840**		1	1 unit	029	0.094
	1 NO and 1 NC, 1 green pushbutton, 1 red pushbutton	20	400	6	1		**5TE4 841**		1	1 unit	029	0.094

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5TE4 pushbuttons

	Version	I_e	U_n	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mA	V							kg
	**LEDs for manual replacement**									
	White	0.4	12 ... 60 AC/DC		**5TG8 056-0**		1	5 units	029	0.005
	Red				**5TG8 056-1**		1	5 units	029	0.005
	Yellow				**5TG8 056-2**		1	5 units	029	0.005
	Green				**5TG8 056-3**		1	5 units	029	0.005
	Blue				**5TG8 056-4**		1	5 units	029	0.005
	White	0.4	115 AC/DC		**5TG8 057-0**		1	5 units	029	0.005
	Red				**5TG8 057-1**		1	5 units	029	0.005
	Yellow				**5TG8 057-2**		1	5 units	029	0.005
	Green				**5TG8 057-3**		1	5 units	029	0.005
	Blue				**5TG8 057-4**		1	5 units	029	0.005
	White	0.4	230 AC		**5TG8 058-0**		1	5 units	029	0.005
	Red				**5TG8 058-1**		1	5 units	029	0.005
	Yellow				**5TG8 058-2**		1	5 units	029	0.005
	Green				**5TG8 058-3**		1	5 units	029	0.005
	Blue				**5TG8 058-4**		1	5 units	029	0.005
	Cap sets, manually replaceable with colored caps with or without lamps									
	Gray, non-transparent (1 set = 5 units)				**5TG8 060**		1	1/10 sets	029	0.004
	Red, transparent (1 set = 5 units)				**5TG8 061**		1	1/10 sets	029	0.004
	Green, transparent (1 set = 5 units)				**5TG8 062**		1	1/10 sets	029	0.004
	Yellow, transparent (1 set = 5 units)				**5TG8 063**		1	1/10 sets	029	0.004
	Blue, transparent (1 set = 5 units)				**5TG8 064**		1	1/10 sets	029	0.004
	Black, non-transparent (1 set = 5 units)				**5TG8 065**		1	1/10 sets	029	0.004
	White, transparent (1 set = 5 units)				**5TG8 066**		1	1/10 sets	029	0.004
	Red and green (1 set contains 10 lamps per color), yellow, blue and white (1 set contains 5 lamps per color)				**5TG8 067**		1	1 set	029	0.011
	Red, green, yellow (1 set = 3 units)				**5TG8 070**		1	1 set	029	0.007

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* You can order this quantity or a multiple thereof.

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Overview

Light indicators are used to signal switching states or faults in systems.

They are available as single, double or triple light indicators.

Benefits



- Pilot lights and caps can also be safely replaced during operation without the use of tools
- A range of different-colored, transparent caps enable the signaling of plant states in compliance with IEC 60073. Three indications are possible for each device
- The lamps are mounted in a slotted base, which protects against polarity reversal. This ensures the correct polarization for all DC applications.
- The devices have preferred positions for the N terminals, so that it is possible to bus-mount several devices. This ensures fast and simple installation
- A light indicator with three lamps enables three-phase signaling and "traffic-light signaling" in a single modular width

Technical specifications

			5TE5 8
Standards			DIN VDE 0710-1
Rated operational voltage U_e	Max.	V AC	230 (for different voltages see 5TG8 lamps)
Rated power dissipation P_v		VA	See 5TG8 lamps
Clearances	Between the terminals	mm	> 7
Terminals Max. tightening torque	±screw (Pozidriv)	 Nm	1 1.2
Conductor cross-sections	Rigid Flexible, with end sleeve	mm^2 mm^2	1.5 ... 6 1 ... 6
Permissible ambient temperature		°C	-5 ... +40
Resistance to climate At 95 % relative humidity	Acc. to DIN 50015	°C	 45

		5TG8 05.
Rated power dissipation P_v • LED	VA	 0.4

Color coding according to IEC 60073

	Meaning		
Color	Safety of people and environment	Process state	System state
Red	Danger	Emergency	Faulty
Yellow	Warning/Caution	Abnormal	
Green	Safety	Normal	
Blue	Stipulation		
White	No special significance assigned		

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5TE5 light indicators

Selection and ordering data

	Version	U_e	Conductor cross-sections	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	up to mm^2	MW							kg
	**Light indicators for a max. cable length of up to 5 m**										
	With 1 red lamp	230	6	1	▶	**5TE5 800**		1	1/12 units	029	0.051
	With 2 lamps, green and red				▶	**5TE5 801**		1	1 unit	029	0.068
	With 3 green lamps				▶	**5TE5 802**		1	1 unit	029	0.076
	With 3 lamps, red, yellow and green				▶	**5TE5 803**		1	1 unit	029	0.076
	**Light indicators for a max. cable length of up to 250 m**										
	With 1 red lamp	230	6	1		**5TE5 804**		1	1 unit	029	0.063

		I_e	U_e	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mA	V							kg
	**LEDs for manual replacement**									
	White	0.4	12 ... 60		**5TG8 056-0**		1	5 units	029	0.005
	Red				**5TG8 056-1**		1	5 units	029	0.005
	Yellow				**5TG8 056-2**		1	5 units	029	0.005
	Green				**5TG8 056-3**		1	5 units	029	0.005
	Blue				**5TG8 056-4**		1	5 units	029	0.005
	White	0.4	115 AC/DC		**5TG8 057-0**		1	5 units	029	0.005
	Red				**5TG8 057-1**		1	5 units	029	0.005
	Yellow				**5TG8 057-2**		1	5 units	029	0.005
	Green				**5TG8 057-3**		1	5 units	029	0.005
	Blue				**5TG8 057-4**		1	5 units	029	0.005
	White	0.4	230 AC		**5TG8 058-0**		1	5 units	029	0.005
	Red				**5TG8 058-1**		1	5 units	029	0.005
	Yellow				**5TG8 058-2**		1	5 units	029	0.005
	Green				**5TG8 058-3**		1	5 units	029	0.005
	Blue				**5TG8 058-4**		1	5 units	029	0.005
	Cap sets for manual changing of colored caps									
	Red, transparent (1 set = 5 units)				**5TG8 061**		1	1/10 sets	029	0.004
	Green, transparent (1 set = 5 units)				**5TG8 062**		1	1/10 sets	029	0.004
	Yellow, transparent (1 set = 5 units)				**5TG8 063**		1	1/10 sets	029	0.004
	Blue, transparent (1 set = 5 units)				**5TG8 064**		1	1/10 sets	029	0.004
	White, transparent (1 set = 5 units)				**5TG8 066**		1	1/10 sets	029	0.004
	Red and green (1 set = 10 lamps per color), yellow, blue and white (1 set = 5 lamps per color)				**5TG8 067**		1	1 set	029	0.011
	Red, green, yellow (1 set = 3 units)				**5TG8 070**		1	1 set	029	0.007

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* You can order this quantity or a multiple thereof.

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Overview

The devices are used for the switching of lighting, motors and other electrical devices.

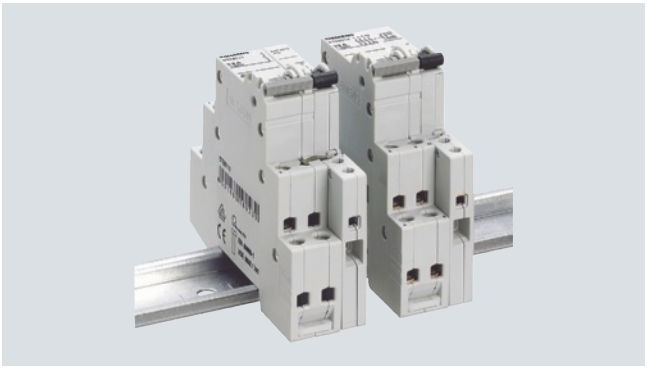
The rated currents of the range are 20 A to 125 A.
There is a compact series of space-saving devices with up to 4 NO contacts in a single MW available for rated currents 20 A and 32 A.

The ON/OFF switches in the rated currents 32 A to 125 A can be used as switch disconnectors according to IEC/EN 60947-3.

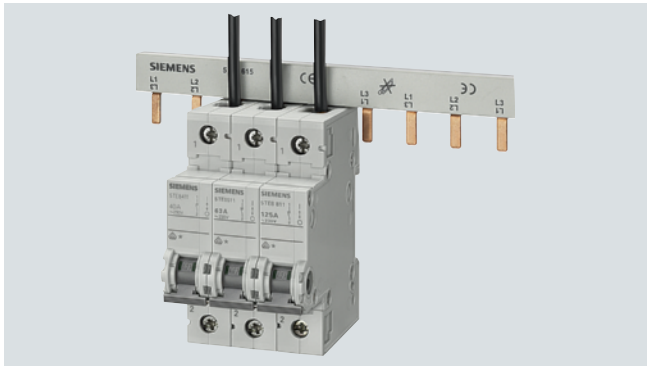
A special version of the ON/OFF switch with rated current 63 A is available for use in meter cabinets. This version can be locked in the "OFF" position using a special key. The clamping screws are mechanically covered so that they are no longer accessible.

In addition, the 5TE2 device versions can be used as switch disconnectors according to EN 60947-1 and serve as main control switches for the disconnection or isolation of plants according to EN 60204-1.

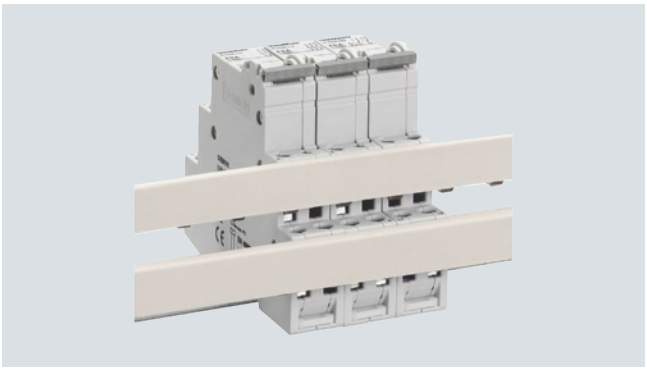
Benefits



- The switches can be retrofitted with auxiliary switches without the need for tools
- Uniform auxiliary switches for miniature circuit breakers and switches



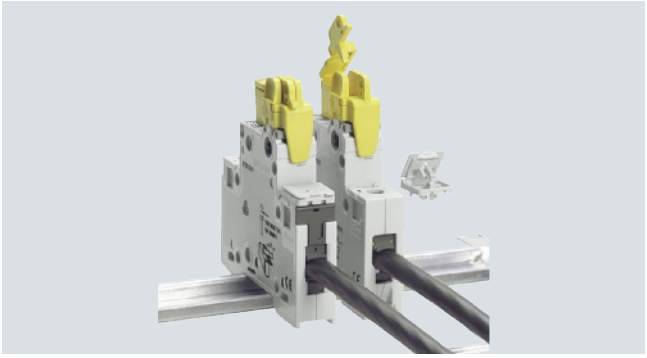
- Clear and visible conductor connection in front of the busbar for safe and easy mounting.
- Optional top or bottom infeed as the terminals are identical



- The 20 A and 32 A switches can be bus-mounted with each other or with 5TE4 8 pushbuttons, 5TE5 8 light indicators or 5TT4 1 remote control switches and 5TT4 2 switching relays
- For busbars, see page 8/22



- Spacers can be used as compensating elements and have a width of 0.5 MW. They come with an integrated wiring duct for the insertion of conductors.
- Two spacers installed on opposing side therefore offer space for large conductor cross-sections up to 15 mm in diameter



- The handle locking device prevents undesired/inadvertent mechanical on/off switching

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5TE ON/OFF switches

Technical specifications

			5TE8 1	5TE8 2
Standards			IEC/EN 60947-3, (VDE 0660-107); IEC/EN 60669-1	IEC/EN 60947-3, (VDE 0660-107)
Approvals			EN 60669-1	
Rated operational current I_e	Per conducting path	A	20	32
Rated operational voltage U_e	1-pole Multi-pole	V AC V AC	230 400	
Rated power dissipation P_v	Per pole, max.	VA	0.7	
Thermal rated current I_{th}		A	20	32
Rated breaking capacity	At p.f. = 0.65	A	60	96
Rated making capacity	At p.f. = 0.65	A	60	96
Rated short-circuit making capacity I_{cm} In conjunction with fuse of the same rated operational current	EN 60269 gL/gG	kA	10	
Rated impulse withstand voltage U_{imp}		kV	> 5	
Clearances	Open contacts Between the poles	mm mm	2 × > 2 > 7	
Creepage distances		mm	> 7	
Mechanical service life		Switching cycles	25000	
Electrical service life		Switching cycles	10000	
Minimum contact load		V; mA	10; 300	
Rated short-time withstand current I_{cw} Per conducting path at p.f. = 0.7 (The corresponding rated surge current can be established by multiplying by factor 1.5.)	up to 0.2 s up to 0.5 s up to 1 s up to 3 s	A A A A	650 400 290 170	1000 630 450 250
Terminals Max. tightening torque	±screw (Pozidriv)	 Nm	1 1.2	
Conductor cross-sections	Rigid Flexible, with end sleeve	mm^2 mm^2	1.5 ... 6 1 ... 6	
Permissible ambient temperature		°C	-5 ... +40	
Resistance to climate At 95 % relative humidity	Acc. to DIN 50015	°C	45	

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			5TE8 3	5TE8 4	5TE8 5	5TE8 6	5TE8 7	5TE8 8
Standards			IEC/EN 60947-3 (VDE 0660-107)					
			--	IEC/EN 60669-1 (VDE 0632-1)				--
Approvals			EN 60669-1					
Rated operational current I_e	Per conducting path	A	32	40	63	80	100	125
Rated operational voltage U_e	1-pole Multi-pole	V AC V AC	230 400					
Rated power dissipation P_v	Per pole, max.	VA	0.7	0.9	2.2	3.5	5.5	8.6
Thermal rated current I_{th}		A	32	40	63	80	100	125
Rated breaking capacity	At p.f. = 0.65	A	96	120	196	240	300	375
Rated making capacity	At p.f. = 0.65	A	96	120	196	240	300	375
Rated short-circuit making capacity I_{cm} In conjunction with fuse of the same rated operational current	EN 60269 gL/gG	kA	10					
Rated impulse withstand voltage U_{imp}		kV	> 5					
Clearances	Open contacts Between the poles	mm mm	> 7 > 7					
Creepage distances		mm	> 7					
Mechanical service life		Switching cycles	20000					
Electrical service life		Switching cycles	10000		5000	1000		
Minimum contact load		V; mA	24; 300					
Rated power Switching of resistive loads including moderate overload AC-21	1-pole 2-pole 3-/4-pole	kW kW kW	5 9 15	6.5 11 15	10 18 30	13 22 39	16 28 48	16 28 48
Rated short-time withstand current I_{cw} Per conducting path at p.f. = 0.7 (The corresponding rated surge current can be established by multiplying by factor 1.5.)	up to 0.2 s up to 0.5 s up to 1 s up to 3 s	A A A A	760 500 400 280	950 630 500 350	1500 1000 800 560	2700 1650 1350 800	3400 2100 1700 1000	3400 2100 1700 1000
Terminals Max. tightening torque	±screw (Pozidriv)	 Nm	2 3.5					
Conductor cross-sections	Rigid Flexible, with end sleeve	mm^2 mm^2	1 ... 35 1 ... 35			2.5 ... 50 2.5 ... 50		
Permissible ambient temperature		°C	-5 ... +40					
Resistance to climate At 95 % relative humidity	Acc. to DIN 50015	°C	45					

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5TE ON/OFF switches

			5TE2 4	5TE2 5	5TE2 8
Standards			IEC 60947-3, EN 60947-3 and IEC 60669-1, EN 60669-1		IEC 60947-3, EN 60947-3
Rated operational current I_e	Per conducting path	A	40	63	125
Rated operational voltage U_e	1-pole Multi-pole	V AC V AC	230 400	230 400	-- 400
Rated power dissipation P_v	Per pole, max.	W	3.4	4.4	10.9
Thermal rated current I_{th}		A	40	63	125
Rated breaking capacity	At p.f. = 0.65	A	120	196	375
Rated making capacity	At p.f. = 0.65	A	120	196	375
Short-circuit withstand current In conjunction with fuse of the same rated operational current		kA	10		
Rated impulse withstand voltage U_{imp}		kV	> 5		
Clearances	Open contacts Between the poles	mm mm	> 7 > 7		
Creepage distances		mm	> 7		
Mechanical service life	Switching cycles		20000		
Electrical service life	Switching cycles		10000	5000	5000
Minimum contact load		V; mA	24; 300		
Rated power Switching of resistive loads including moderate overload AC-21	1-pole 2-pole 3-/4-pole	kW kW kW	6.5 11 15	10 18 30	16 28 48
Rated short-time currents Per conducting path at p.f. = 0.7 (The corresponding rated current can be established by multiplying by factor 1.5.)	up to 0.2 s up to 0.5 s up to 1 s up to 3 s	A A A A	950 630 500 350	1500 1000 800 560	3400 2100 1700 1000
Terminals Max. tightening torque	±screw (Pozidriv)	 Nm	2 2.5 ... 3	2 2.5 ... 3	2 3 ... 3.5
Conductor cross-sections	Rigid Flexible, with sleeve, min.	mm^2 mm^2	0.75 ... 35 0.75 ... 25	0.75 ... 35 0.75 ... 25	0.75 ... 50 0.75 ... 35
Permissible ambient temperature		°C	-25 ... +45		
Resistance to climate At 95 % relative humidity	Acc. to DIN 50015	°C	45		

Selection and ordering data

	Version	I_e	U_e	Conductor cross-sections	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V AC	up to mm^2	MW							kg
	**ON/OFF switches (20 A and 32 A)**											
	With sealable switch position, separate handle locking device can be retrofitted											
	Retroffitable auxiliary switch											
	1 NO	20	230	6	1	▶	**5TE8 111**		1	1/12 units	029	0.068
		32					**5TE8 211**		1	1 unit	029	0.066
	2 NO	20	400	6	1	▶	**5TE8 112**		1	1 unit	029	0.075
		32				▶	**5TE8 212**		1	1 unit	029	0.076
	3 NO	20	400	6	1		**5TE8 113**		1	1 unit	029	0.086
		32					**5TE8 213**		1	1 unit	029	0.086
	Auxiliary switch cannot be retrofitted											
	3 NO + N	20	400	6	1		**5TE8 114**		1	1 unit	029	0.094
		32				▶	**5TE8 214**		1	1 unit	029	0.094
	With mounted auxiliary switch											
	3 NO + N	20	400	6	1.5		**5TE8 118**		1	1 unit	029	0.138
		32					**5TE8 218**		1	1 unit	029	0.143

* You can order this quantity or a multiple thereof.

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	Version	I_e	U_e	Conductor cross-sections	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V AC	up to mm²	MW							kg
	**ON/OFF switches (32 A to 125 A) can be used as switch disconnectors according to EN 60947-1**											
	With sealable switch position, separate handle locking device can be retrofitted, auxiliary switches can be retrofitted											
	1 NO, red handle	63	230	35	1		**5TE8 521**		1	1 unit	029	0.108
		100		50			**5TE8 721**		1	1 unit	029	0.110
	1 NO, gray handle	32		35			**5TE8 311**		1	1 unit	029	0.113
		40					**5TE8 411**		1	1 unit	029	0.113
		63					**5TE8 511**		1	1 unit	029	0.117
		80		50			**5TE8 611**		1	1 unit	029	0.124
		100					**5TE8 711**		1	1 unit	029	0.123
		125					**5TE8 811**		1	1 unit	029	0.124
	2 NO, red handle	63	400	35	2		**5TE8 522**		1	1 unit	029	0.195
		100		50			**5TE8 722**		1	1 unit	029	0.216
	2 NO, gray handle	32		35		▶	**5TE8 312**		1	1 unit	029	0.215
		40				▶	**5TE8 412**		1	1 unit	029	0.216
		63				▶	**5TE8 512**		1	1 unit	029	0.215
		80		50			**5TE8 612**		1	1 unit	029	0.237
		100					**5TE8 712**		1	1 unit	029	0.240
		125					**5TE8 812**		1	1 unit	029	0.229
	3 NO, red handle	63	400	35	3		**5TE8 523**		1	1 unit	029	0.321
		100		50			**5TE8 723**		1	1 unit	029	0.355
	3 NO, gray handle	32		35		▶	**5TE8 313**		1	1 unit	029	0.321
		40				▶	**5TE8 413**		1	1 unit	029	0.320
		63				▶	**5TE8 513**		1	1 unit	029	0.321
		80		50		▶	**5TE8 613**		1	1 unit	029	0.337
		100				▶	**5TE8 713**		1	1 unit	029	0.355
		125					**5TE8 813**		1	1 unit	029	0.357
	3 NO+ N, red handle	63	400	35	4		**5TE8 524**		1	1 unit	029	0.430
		100		50			**5TE8 724**		1	1 unit	029	0.476
	3 NO+ N, gray handle	32		35		▶	**5TE8 314**		1	1 unit	029	0.428
		40				▶	**5TE8 414**		1	1 unit	029	0.430
		63				▶	**5TE8 514**		1	1 unit	029	0.426
		80		50		▶	**5TE8 614**		1	1 unit	029	0.475
		100				▶	**5TE8 714**		1	1 unit	029	0.476
		125				▶	**5TE8 814**		1	1 unit	029	0.477
	4 NO, gray handle	32		35	4		**5TE8 315**		1	1 unit	029	0.424
		40					**5TE8 415**		1	1 unit	029	0.434
		63					**5TE8 515**		1	1 unit	029	0.436
		80		50			**5TE8 615**		1	1 unit	029	0.479
		100					**5TE8 715**		1	1 unit	029	0.481
		125					**5TE8 815**		1	1 unit	029	0.482
	**ON/OFF switches 63 A can be used as switch disconnectors according to EN 60947-1**											
	Terminal access from the bottom and off-position lockable with special key (exclusive power utility tool) Reduced lower terminal entry for conductors with approx. 7 mm diameter											
	3 NO	63	400	35	3		**5TE8 533**		1	1 unit	029	0.311
	**Auxiliary switches (AS)**											
	For all 5TE8 switches, for right-hand-side retrofitting with factory-fitted brackets, for further technical specifications, see chapter "Miniature Circuit Breakers"											
	1 NO + 1 NC				0.5	▶	**5ST3 010**		1	1 unit	020	0.066
	2 NO				0.5		**5ST3 011**		1	1 unit	020	0.055
	2 NC				0.5		**5ST3 012**		1	1 unit	020	0.055
	Auxiliary switches for low power											
	1 NO + 1 NC				0.5	▶	**5ST3 013**		1	1 unit	020	0.055
	2 NO				0.5		**5ST3 014**		1	1 unit	020	0.054
	2 NC				0.5		**5ST3 015**		1	1 unit	020	0.060

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* You can order this quantity or a multiple thereof.

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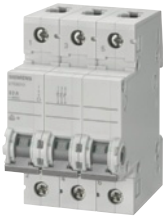
5TE ON/OFF switches

	Version	I_e	U_e	Conductor cross-sections	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V AC	up to mm²	MW							kg
	**Handle locking devices** For all 5TE8 switches, can be sealed against undesired/inadvertent mechanical ON/OFF switching, for padlock with max. 3 mm shackle						**5ST3 801**		1	1 unit	020	0.012
	**Terminal covers** For all 5TE8 5 to 5TE8 8 switches, in 1 MW per pole version, for covering screw openings, sealable					►	**5ST3 800**		1	10 units	020	0.002
	**Spacers** Contour for modular devices with a mounting depth of 70 mm; can be snapped onto either side of the busbar, so that two spacers allow for convenient cable routing				0.5		**5TG8 240**		1	2 units	026	0.010
	**Phase connectors** For easier wiring in various wiring versions and bus mountings or as a support terminal for conductors from 2.5 mm² to 50 mm²											
	1P	125	230	50	1		**5TE9 112**		1	1 unit	029	0.114
	**N conductor connectors** For easier wiring in various circuit versions and bus mountings or as a support terminal for N conductors from 2.5 mm² to 50 mm² with blue color marking											
	1P	125	230	50	1		**5TE9 113**		1	1 unit	029	0.114

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	Version	I_e	U_e	Conductor cross-sections	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V AC	up to mm^2	MW							kg
	ON/OFF switches (40 A to 125 A)											
	Manual quick-assembly and disassembly systems, without the use of tools,											
	separate switching position indication red/green, HS, FS, UR and ST can be retrofitted											
	1 NO	40	230		1		**5TE2 411-0**		1	1 unit	029	0.123
		63					**5TE2 511-0**		1	1 unit	029	0.138
	2 NO	40	400		2		**5TE2 412-0**		1	1 unit	029	0.260
		63					**5TE2 512-0**		1	1 unit	029	0.249
		125			3		**5TE2 812-0**		1	1 unit	029	0.482
	3 NO	40	400		3		**5TE2 413-0**		1	1 unit	029	0.382
		63					**5TE2 513-0**		1	1 unit	029	0.373
		125			4.5		**5TE2 813-0**		1	1 unit	029	0.721
	3 NO + N	40	400		4		**5TE2 414-0**		1	1 unit	029	0.499
		63					**5TE2 514-0**		1	1 unit	029	0.504
		125			6		**5TE2 814-0**		1	1 unit	029	0.967

* You can order this quantity or a multiple thereof.

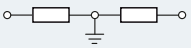
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5TE DC isolators

Benefits

- Switch disconnectors for isolating solar modules in photovoltaic systems acc. to DIN VDE 0100-712 (IEC 60364-7-712)
- Compact DIN rail device for applications up to 1000 V DC
- Separate switching position indication for unambiguous indication of the switching state
- Compatible with all miniature circuit breaker accessories - reduced stock-keeping
- The effective touch protection when grasping the device considerably exceeds the requirements of BGV A3.
- Manual snap-on fixing and release systems that require no tools enable fast assembly and disassembly of switch disconnectors
- Clear and visible conductor connection in front of the rear busbar facilitates controls

Technical specifications

			5TE2 515-1
Standards			IEC/EN 60947-3, IEC/EN 60669-1
Rated operational current I_e		A	63
Rated operational voltage U_e	For 4 poles in series	V DC	880
Rated power dissipation P_v	Per pole, max.	W	4.4
Rated short-circuit withstand current I_{cw}	1000 V DC, 4-pole	A	760
Rated short-circuit making capacity I_{cm}	1000 V DC, 4-pole	A	500
Rated impulse withstand voltage U_{imp}		kV	> 4
Max. operational voltage U_{max}		V DC	1000
Overvoltage category			II at U = 880 V ... 440 V  I at U = 1000 V 
Mechanical service life		Switching cycles	10000
Electrical service life		Switching cycles	5000
Utilization category			DC-21B
Minimum contact load		V; mA	24; 300
Terminals Max. tightening torque	±screw (Pozidriv)	 Nm	PZ 2 2.5 ... 3
Conductor cross-sections	Rigid Flexible, with end sleeve	mm^2 mm^2	0.75 ... 35 0.75 ... 25
Permissible ambient temperature		°C	-25 ... +45
Resistance to climate At 95 % relative humidity	Acc. to DIN 50015	°C	45

Selection and ordering data

	Version	I_e	U_e	Conductor cross-sections	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V AC	up to mm^2	MW							kg
	**DC isolators** 1000 V DC, can be used as switch disconnectors according to EN 60947-3, with sealable switch position, separate handle locking device can be retrofitted, auxiliary switch can be retrofitted											
	4 NO	63	--	35	4		**5TE2 515-1**		1	1 unit	029	0.672
	**Auxiliary switches (AS)** For 5TE2 DC isolators, for right-hand-side retrofitting with factory-fitted brackets, for further technical specifications, see chapter "Miniature Circuit Breakers"											
	1 NO + 1 NC				0.5	▶	**5ST3 010**		1	1 unit	020	0.066
	2 NO				0.5		**5ST3 011**		1	1 unit	020	0.055
	2 NC				0.5		**5ST3 012**		1	1 unit	020	0.055
	Auxiliary switches for low power											
	1 NO + 1 NC				0.5	▶	**5ST3 013**		1	1 unit	020	0.055
	2 NO				0.5		**5ST3 014**		1	1 unit	020	0.054
	2 NC				0.5		**5ST3 015**		1	1 unit	020	0.060

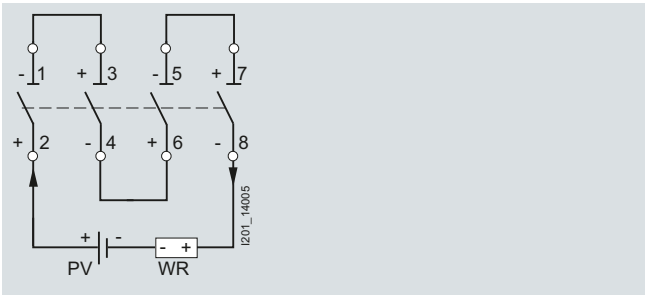
* You can order this quantity or a multiple thereof.

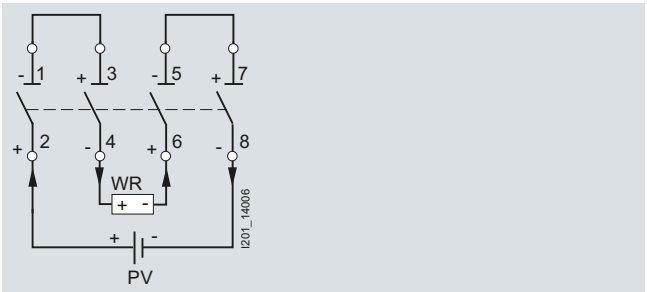
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Configuration

For DC voltages up to 1000 V, the four poles need to be connected in series. In contrast to normal flush-mounting switches, these devices are also fitted with arcing chambers and permanent solenoids to aid the positive quenching of the electric arc in direct currents.

For this reason it is essential to comply with the polarity specifications of the switches when connecting the conductor. Suitable precautions should be taken during plant configuration to ensure there can be no polarity reversal in DC operation (e.g. photovoltaic systems).





Legend:
PV: Photovoltaic
WR: Inverter

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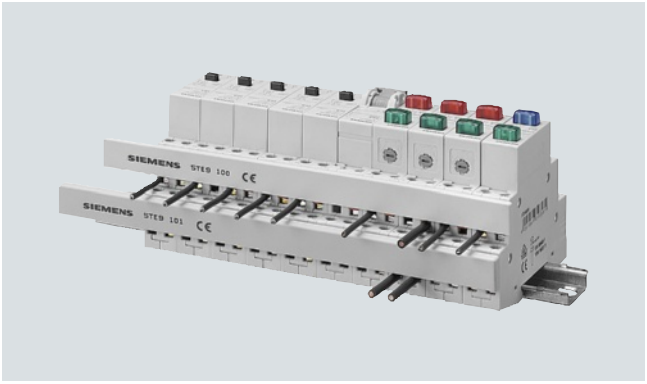
Busbars for 5ST modular installation devices

Overview

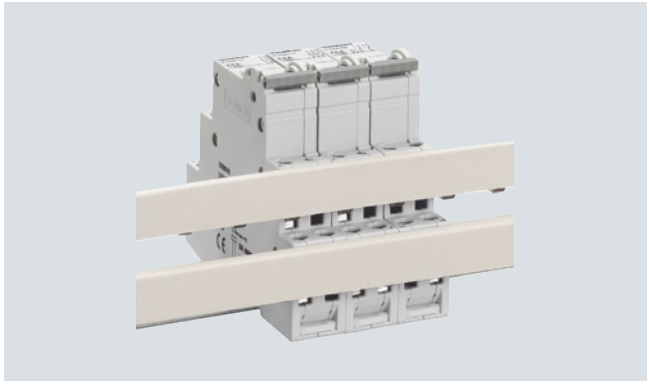
Siemens has developed a rail-mounting concept which makes the linking of switching devices just as easy as that of miniature circuit breakers.

The arrangement of the terminals on the devices is adapted to the bus mounting. With only two busbars, this saves considerable mounting time.

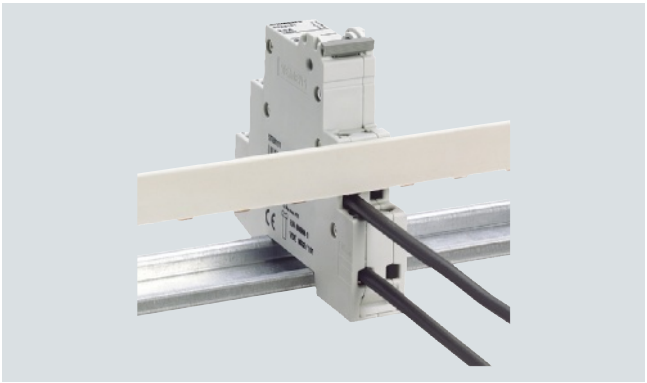
Benefits



- All 5TE8 switches (20 A and 32 A), 5TE4 8 pushbuttons, 5TE5 8 light indicators and 5TT4 1 remote control switches and 5TT4 2 switching relays can be bus-mounted



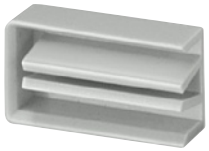
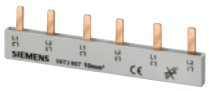
- All 5TE8 switches (20 A and 32 A) in 1 MW can be fed via the single or two-phase busbars. Thus 2 two-phase busbars support a 4-pole infeed



- Infeed: The phase busbar is fed in at the tunnel terminal for conductors up to 6 mm^2 up to 32 A. No additional feeder terminals required

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Selection and ordering data

	Version	Length mm	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	**Single-phase busbars** For all 5TE8, 20 A and 32 A switches In the 12 MW version for the cutting of unused terminal lugs to ensure insulation clearances if one device terminal is to be supplied separately despite being mounted on the bus, modular clearance = 1 MW Busbar infeed to unit terminal with conductor cross-section of 6 mm^2 up to 32 A Can be mounted top or bottom in the front or rear terminal area Note: An end cap is not required on single-phase busbars.	210		**5TE9 100**		1	10 units	029	0.034
	**Two-phase busbars** For all 5TE8, 20 A and 32 A switches In 12 MW version with 1 MW division, whereby the two busbars are offset by 0.5 MW Both copper conductors of the two-phase busbar are insulated together. Busbar infeed to unit terminal with conductor cross-section of 6 mm^2 up to 32 A Can be mounted from top or bottom, or in the front or rear terminal area, thus allowing realization of a 4-conductor connection using 2 two-phase busbars.	220		**5TE9 101**		1	10 units	029	0.076
	**End caps for two-phase busbars** End caps for 5TE9 101 two-phase busbars to maintain insulation clearances when the bar is being cut. 1 set = 10 units			**5TE9 102**		1	1 set	029	0.001
	**5ST3 6 and 5ST3 7 busbar systems** All busbars of the 5ST3 6 and 5ST3 7 busbar systems can also be used for all 5TE8 switches from 32 A to 125 A in 1 MW per pole versions (see chapter "Miniature Circuit Breakers").								

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* You can order this quantity or a multiple thereof.

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5TT4 remote control switches

Overview

Remote control switches are used in residential and non-residential buildings, as well as the switchgear engineering sector. They trip in the event of "current inrushes", i.e. pulses, and then electromechanically save the switching position, even in the event of a power failure.

All the devices have the VDE mark and can also be equipped with an additional auxiliary switch. All devices have a switching position indication and are operated manually. The switching noise is particularly quiet and meets the requirements of residential buildings.

Benefits

- Remote control switches with central/group switching support convenient and high feature applications
- High functional reliability due to electromechanical design without fault-prone electronics
- The devices have no standby losses
- All devices have a switching position indication and are operated manually
- The remote control switches can be bus-mounted on 5TE9 100 and 5TE9 101 busbars; e.g.: bus mounting of the N conductor and/or infeed.
- All the remote control switches can be fitted with an additional auxiliary switch

Central switching functions

Versions with central ON/OFF function allow the central switching of all connected remote control switches. This type of central switching can also be actuated using a time switch. All remote control switches can be switched to the ON or OFF switching state, regardless of their current switching state.

Contact sequences

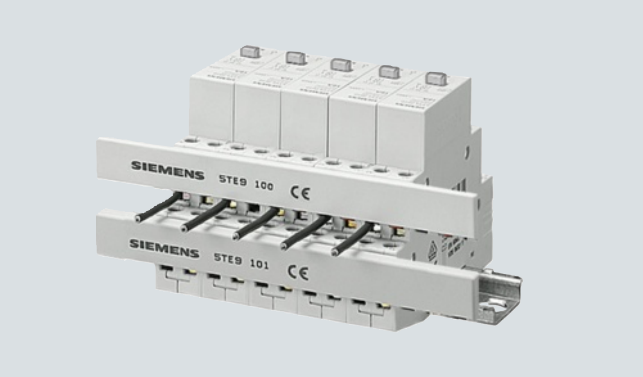
1 – 2 – 1+2 – 0 or **1 - 0 - 2 - 0** means:

0: No contact closed
1: Only contact 1 closed
2: Only contact 2 closed
1+2: Contact 1 and Contact 2 are closed

The contact positions are constantly changing with each push-button impulse.

Note:
Synchronous switching of the contacts cannot be guaranteed with parallel switching. Products with central/group switching must be used for the mutual control of several remote control switches.

Bus mounting



All 5TT4 1 remote control switches can be bus-mounted with each other.

Note:

Busbars to match the 5TT4 1 remote control switch can be found on page 8/22.

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Technical specifications

		Remote control switches				Auxiliary switches	
		5TT4 101 5TT4 102 5TT4 105 5TT4 111 5TT4 112 5TT4 115	**5TT4 103 5TT4 104**	**5TT4 12 5TT4 15**	**5TT4 13 5TT4 14**	**5TT4 900**	**5TT4 901**
Standards		IEC 60669-1, IEC 60669-2, IEC 60669-3, EN 60669, EN 60669-2-2, EN 60669-2-2/A1					
Approvals		VDE 0632 (EN 60669)					
Contact type		1 NO 2 NO 1 NO 1 NC	3 NO 4 NO	1 NO 2 NO 3 NO 1 NO 1 NC	Series Shutter/ blind	1 CO	1 CO
Manual operation		Yes				--	
Switching position indication		Yes			--		
Rated control voltage U_c	V AC V DC	8 ... 230 12 ... 110				-- --	
Primary operating range	× U_c	0.8 ... 1.1				--	
Rated frequency f_c (AC types)	Hz	50				--	
Rated impulse withstand voltage U_{imp}	kV	4				1	
Rated power dissipation P_v							
• Magnet coil, only pulse	W/VA	4.5/7	9/13	4.5/7		--	
• Per contact at 16 A	W	1.2				--	
Minimum contact load	V AC; mA	10; 100					5 AC/DC; 1
Rated operational current I_e at p.f. φ = 0.6 ... 1	A	16				5	0.1
Rated operational voltage U_e							
• 1 NO	V AC	250	--	250	--	250	30 AC/DC
• 2 NO	V AC	400	--	400	250	--	
• 3 NO	V AC	--	400	400	--	--	
• 4 NO	V AC	--	400	--	--	--	
• 1 NO + 1 NC	V AC	250	--	250	--	--	
Glow lamp load at 230 V	mA	5				--	
• With 1 5TT4 920 compensator	mA	25				--	
• With 2x 5TT4 920 compensators	mA	45				--	
Incandescent lamp load[2]	W	1200				--	
Different phases between magnet coil/contact		Permissible				--	
Contact gap	mm	> 1.2				< 1.2	
Safe separation Creepage distances and clearances between magnet coil/contact	mm	> 6					
Pushbutton malfunction Protected against continuous voltage, safe due to design		Yes	PTC	Yes[1]	Yes	--	
Minimum pulse duration	ms	50					
Electrical service life At I_e/U_e, p.f. = 0.6; incandescent lamp load 600 W	In switching cycles	50000					
Terminals ±screw (Pozidriv)		1					
Conductor cross-sections							
• Rigid	mm^2	1.5 ... 6				0.5 ... 4	
• Flexible, with end sleeve	mm^2	1 ... 6				0.75 ... 4	
Resistance to climate At 95 % relative humidity, Acc. to DIN 50015	°C	35					
Permissible ambient temperature	°C	-10 ... +40					
Degree of protection Acc. to EN 60529		IP20, with connected conductors					
Mounting position		Any					

1) For 2.5 MW 5TT4 123-0 devices with PTC.

2) For 15 000 switching cycles.

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5TT4 remote control switches

Selection and ordering data

	Contacts	U_e	I_e	U_c	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A AC	V AC	V DC	MW							kg
	**Remote control switches, auxiliary switches can be retrofitted**												
	1 NO	250	16	230		1	▶	**5TT4 101-0**		1	1/12 units	028	0.135
				115				**5TT4 101-1**		1	1 unit	028	0.138
				24			▶	**5TT4 101-2**		1	1 unit	028	0.134
				12				**5TT4 101-3**		1	1 unit	028	0.133
				8				**5TT4 101-4**		1	1 unit	028	0.128
	2 NO	400	16	230		1	▶	**5TT4 102-0**		1	1 unit	028	0.144
				115				**5TT4 102-1**		1	1 unit	028	0.150
				24			▶	**5TT4 102-2**		1	1 unit	028	0.144
				12				**5TT4 102-3**		1	1 unit	028	0.145
				8				**5TT4 102-4**		1	1 unit	028	0.141
	3 NO		16	230		2	▶	**5TT4 103-0**		1	1 unit	028	0.199
				24			▶	**5TT4 103-2**		1	1 unit	028	0.198
	4 NO		16	230		2	▶	**5TT4 104-0**		1	1 unit	028	0.211
				24			▶	**5TT4 104-2**		1	1 unit	028	0.210
	1 NO + 1 NC	250	16	230		1	▶	**5TT4 105-0**		1	1 unit	028	0.144
				115				**5TT4 105-1**		1	1 unit	028	0.151
				24			▶	**5TT4 105-2**		1	1 unit	028	0.144
				12				**5TT4 105-3**		1	1 unit	028	0.145
				8				**5TT4 105-4**		1	1 unit	028	0.140
	**Remote control switches DC applications**												
	1 NO		16		110	1	▶	**5TT4 111-1**		1	1 unit	028	0.126
					24		▶	**5TT4 111-2**		1	1 unit	028	0.126
					12		▶	**5TT4 111-3**		1	1 unit	028	0.126
	2 NO		16		110	1	▶	**5TT4 112-1**		1	1 unit	028	0.130
					24		▶	**5TT4 112-2**		1	1 unit	028	0.130
					12		▶	**5TT4 112-3**		1	1 unit	028	0.130
	1 NO + 1 NC	250	16		110	1	▶	**5TT4 115-1**		1	1 unit	028	0.144
					24		▶	**5TT4 115-2**		1	1 unit	028	0.147
					12		▶	**5TT4 115-3**		1	1 unit	028	0.144
	**Remote control switches with central ON/OFF switching, auxiliary switch cannot be retrofitted**												
	1 NO	250	16	230		1.5	▶	**5TT4 121-0**		1	1 unit	028	0.155
				24			▶	**5TT4 121-2**		1	1 unit	028	0.165
	2 NO	400	16	230		1.5	▶	**5TT4 122-0**		1	1 unit	028	0.163
				24			▶	**5TT4 122-2**		1	1 unit	028	0.175
	3 NO	400	16	230		2.5	▶	**5TT4 123-0**		1	1 unit	028	0.227
	1 NO + 1 NC	250	16	230		1.5	▶	**5TT4 125-0**		1	1 unit	028	0.163
	**Remote control switches, with central and group ON/OFF switching, auxiliary switch cannot be retrofitted**												
	1 NO	250	16	230		1.5	▶	**5TT4 151-0**		1	1 unit	028	0.145
				24		1.5	▶	**5TT4 151-2**		1	1 unit	028	0.144
	2 NO	400	16	230		1.5	▶	**5TT4 152-0**		1	1 unit	028	0.156
				24		1.5	▶	**5TT4 152-2**		1	1 unit	028	0.155
	**Series remote control switches Contact sequence 1 – 2 – 1+2 – 0 auxiliary switch cannot be retrofitted**												
	2 NO	250	16	230		1	▶	**5TT4 132-0**		1	1 unit	028	0.143
				12			▶	**5TT4 132-3**		1	1 unit	028	0.130
	**Blinds remote control switches Contact sequence 1 – 0 – 2 – 0 auxiliary switch cannot be retrofitted**												
	2 NO	250	16	230		1	▶	**5TT4 142-0**		1	1 unit	028	0.144
				24				**5TT4 142-2**		1	1 unit	028	0.145
				12				**5TT4 142-3**		1	1 unit	028	0.143

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* You can order this quantity or a multiple thereof.

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	Contacts	U_e	I_e	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A AC	MW							kg
	**Auxiliary switches** **One device can be retrofitted per remote control switch**										
	1 CO	250	5	0.5	►	**5TT4 900**		1	1 unit	028	0.049
	1 CO For small powers	30 AC/DC	0.1	0.5	►	**5TT4 901**		1	1 unit	028	0.050
	**Compensators** **for increasing the glow lamp load by 20 mA**										
		250	--	1	►	**5TT4 920**		1	1 unit	028	0.073

8

* You can order this quantity or a multiple thereof.

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5TT4 switching relays

Overview

Switching relays are used in residential, non-residential and industrial buildings for the purpose of contact multiplication. They can be used with safe isolation between coil voltage and contact.

With the 5TE9 100 and 5TE9 101 busbars, the switching relays can be mounted quickly and safely, e.g. by bus mounting the N conductor and/or infeed.

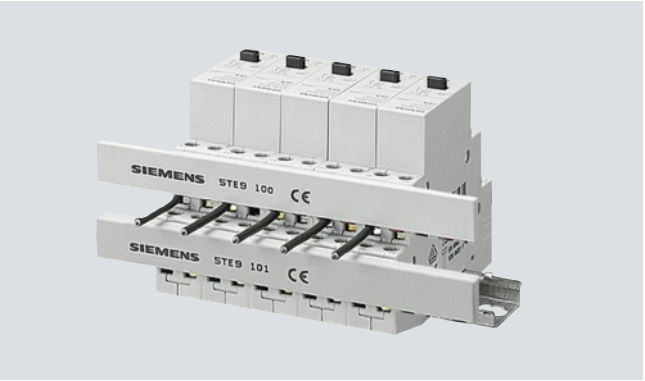
Note:

Busbars to match the 5TT4 2 switching relay can be found on page 8/22.

Benefits

- Easy installation due to busbar mounting
- Switching position indication when checking the plant for enhanced safety
- Manual intervention through manual operation

Bus mounting



All 5TT4 2 switching relays can be bus-mounted with each other.

Technical specifications

			5TT4 201-.	5TT4 202-.	5TT4 204-.	5TT4 205-.	5TT4 206-.	5TT4 207-.	5TT4 217-.
Standards			EN 60947-5-1, EN 60669-2-2						
Contact type			1 NO	2 NO	4 NO	1 NO + 1 NC	1 CO	2 CO	2 CO
Manual operation			Yes						
Rated control voltage U_c		V AC V DC	8 ... 230 --						-- 12 ... 110
Primary operating range		× U_c	0.8 ... 1.1						
Rated frequency f_c		Hz	50						
Rated impulse withstand voltage U_{imp}		kV	4						
Rated power dissipation P_v • Magnet coil • Per contact at 16 A		W/VA W	2.4/3.0 1.0	2.4/3.0	4.8/6.0	2.4/3.0	2.4/3.0	2.4/3.0	1.7
Minimum contact load		V AC; mA	10; 100						
Rated operational current I_e At p.f.φ = 0.6 ... 1		A	16						
Rated operational voltage U_e			250	400	400	400	250	400	400
Different phases Between magnet coil/contact			Permissible						
Contact gap		mm	> 1.2				< 1.2		
Safe separation		mm	> 6						
Electrical service life At I_e/U_e, p.f. = 0.6; incandescent lamp load 600 W		Switching cycles	50000						
Terminals	±screw (Pozidriv)		1						
Conductor cross-sections • Rigid • Flexible, with end sleeve		mm^2 mm^2	1.5 ... 6 1 ... 6						
Resistance to climate At 95 % relative humidity	Acc. to DIN 50015	°C	35						
Permissible ambient temperature		°C	-10 ... +40						
Degree of protection	Acc. to EN 60529		IP20, with connected conductors						
Mounting position			Any						

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Selection and ordering data

	Contacts	U_e	I_e	U_c	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A AC	V AC	V DC	MW							kg
	**Switching relays for AC voltage**												
	1 NO	250	16	230		1	▶	**5TT4 201-0**		1	1/12 units	028	0.130
				115				**5TT4 201-1**		1	1 unit	028	0.138
				24			▶	**5TT4 201-2**		1	1 unit	028	0.132
				12			▶	**5TT4 201-3**		1	1 unit	028	0.131
				8			▶	**5TT4 201-4**		1	1 unit	028	0.129
	2 NO	400	16	230		1	▶	**5TT4 202-0**		1	1 unit	028	0.143
				115				**5TT4 202-1**		1	1 unit	028	0.147
				24			▶	**5TT4 202-2**		1	1 unit	028	0.142
				12				**5TT4 202-3**		1	1 unit	028	0.142
				8				**5TT4 202-4**		1	1 unit	028	0.139
	4 NO	400	16	230		2	▶	**5TT4 204-0**		1	1 unit	028	0.266
				115				**5TT4 204-1**		1	1 unit	028	0.276
				24			▶	**5TT4 204-2**		1	1 unit	028	0.278
				12				**5TT4 204-3**		1	1 unit	028	0.262
				8				**5TT4 204-4**		1	1 unit	028	0.261
	1 NO + 1 NC	400	16	230		1	▶	**5TT4 205-0**		1	1 unit	028	0.142
				115				**5TT4 205-1**		1	1 unit	028	0.147
				24			▶	**5TT4 205-2**		1	1 unit	028	0.144
				12				**5TT4 205-3**		1	1 unit	028	0.142
				8				**5TT4 205-4**		1	1 unit	028	0.139
	1 CO	250	16	230		1	▶	**5TT4 206-0**		1	1 unit	028	0.135
				115				**5TT4 206-1**		1	1 unit	028	0.140
				24			▶	**5TT4 206-2**		1	1 unit	028	0.137
				12				**5TT4 206-3**		1	1 unit	028	0.136
				8				**5TT4 206-4**		1	1 unit	028	0.137
	2 CO	400	16	230		1	▶	**5TT4 207-0**		1	1 unit	028	0.149
				115				**5TT4 207-1**		1	1 unit	028	0.153
				24			▶	**5TT4 207-2**		1	1 unit	028	0.150
				12				**5TT4 207-3**		1	1 unit	028	0.145
				8				**5TT4 207-4**		1	1 unit	028	0.147
	**Switching relays for direct voltage**												
	2 CO	400	16		110	1	▶	**5TT4 217-1**		1	1 unit	028	0.150
					30		▶	**5TT4 217-6**		1	1 unit	028	0.135
					24		▶	**5TT4 217-2**		1	1 unit	028	0.152
					12		▶	**5TT4 217-3**		1	1 unit	028	0.145
	**Spacers**												
	In the case of higher ambient temperatures, we recommend placing a spacer after every second switching relay for better heat dissipation.					0.5		**5TG8 240**		1	2 units	026	0.010

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* You can order this quantity or a multiple thereof.

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5TT Insta contactors, AC/DC technology

Overview

The Insta contactors are the ideal switching device for controlling AC/DC control voltage in industrial applications and infrastructure.

In addition to their basic function, they can also be used for the ON/OFF switching of single-phase and three-phase electrical motors.
The 5TT5 0 Insta contactors meet the requirements of EN 60947 and are approved to UL 508.

The simultaneous switching of lamp loads at varying phases can be achieved with a single contactor, whereby it is essential to strive for/ensure a symmetrical load of the phases. Upstream short-circuit detection devices must disconnect at all poles or must be equipped with phase failure detection. Violations of the specified capacitor load limits may cause excessive inrush peak currents. The level of inrush peak currents is also affected by the following factors:

- Length and cross-section of the installed supply lines
- Type of electronic ballasts
- Brand/make of lamp

Benefits



- Insta contactors with O/I automatic function enable the testing of a plant via manual switch without the need to apply a control voltage



- Switching position indication for fast recognition of operating states offers greater safety when checking the plant

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Technical specifications

				5TT5 00 2-pole	5TT5 03 4-pole	5TT5 04 4-pole	5TT5 05 4-pole
Standards				EN 60947-4-1; EN 60947-5-1; EN 61095			
Approvals				UL 508; UL File No. E303328			
Rated frequency at AC f_n			Hz	50/60			
Rated control voltage U_c			V AC	24, 230	24, 115, 230	24, 230	
			V DC	24, 220	24, 110, 220	24, 230	
Primary operating range			× U_c	0.85 ... 1.1			
Rated operational voltage U_e			V	230	400		
Rated operational current I_e			at V AC	Acc. to UL 480; acc. to IEC 440			
• AC-1/AC-7a, NO contacts			A	20	25	40	63
• AC-1/AC-7a, NC contacts			A	20	25	40	63
• AC-3/AC-7b, NO contacts			A	9	8.5	22	30
• AC-3/AC-7b, NC contacts			A	6	8.5	22	30
Rated power dissipation P_v							
• Pick-up power (without manual switch or manual switch in "I" position)			VA/W	2.1/2.1	2.6/2.6	5/5	5/5
• Pick-up power (with manual switch in "AUTO" position)			VA/W	2.1/4.1	2.6/2.6	5/5	5/5
• Holding power			VA/W	2.1/2.1	2.6/2.6	5/5	5/5
• Per contact AC-1/AC-7a			VA	1.7	2.2	4	8
Switching times							
• Closing (NO contacts)			ms	15 - 45	15 - 45	15 - 20	
• Opening (NO contacts)			ms	20 - 50	20 - 70	35 - 45	
Rated impulse withstand voltage U_{imp}			kV	≤ 4			
Contact gap (S contacts) min.			mm	3.6			
Electrical service life							
At I_e and load	AC-1/AC-7a	For switching cycles		200000		100000	
	AC-3/AC-7b	For switching cycles		300000	500000		150000
Mechanical service life		For switching cycles		3 million			
Maximum switching frequency							
At load	AC-1/AC-7a	Switching cycles/h		600			
	AC-3/AC-7b	Switching cycles/h		600			
Switching of resistive loads AC-1			V AC	230	400		
for rated operational power P_s (NO contacts)							
• Single-phase			kW	4	5.4	8.7	13.3
• Three-phase			kW	--	16	26	40
Switching of three-phase asynchronous motors AC-3			V AC	230	400		
for rated operational power P_s (NO contacts)							
• Single-phase			kW	1.3/0.75	1.3/1.3	3.7/3.7	5/5
• Three-phase			kW	--	4	11	15
Minimum switching capacity			V; mA	≥ 17; 50			
Overload withstand capability							
Per conducting path (NO contacts only)	at 10 s		A	72	68	176	240
Short-circuit protection, according to coordination type 1							
Back-up fuse characteristic gL/gG			A	20	25	63	80
Terminals	±screw (Pozidriv)						
• Coil connection				1	1		
• Main connection				1	2		
Tightening torques							
• Coil connection			Nm	0.6	0.6		
• Main connection			Nm	1.2	3.5		
Conductor cross-sections							
• Coil connection							
- Solid			mm^2	1.0 ... 2.5			
- Stranded, with end sleeve			mm^2	1.0 ... 2.5			
- AWG cables			AWG	16 ... 10			
Tightening torques			lb.in	8			
• Main connection							
- Solid			mm^2	1.0 ... 10	1.5 ... 25		
- Stranded, with end sleeve			mm^2	1.0 ... 6	1.5 ... 16		
- AWG cables			AWG	16 ... 8	16 ... 4		
Tightening torques			lb.in	9	20		
Permissible ambient temperature							
• For operation			°C	-15 ... +55[1)]			
• For storage			°C	-50 ... +80			
Degree of protection	Acc. to EN 60529			IP 20, with connected conductors			
Acc. to UL 508	I_n		A	20	25	40	63
UL 508 General Use 240 V/480 V	FLA		A	20	25	40	63
UL 508 AC discharge lamps			A	20	25	30	40
UL 508 motor load 240 V	Power		hp	1	3	7.5	10
UL 508 motor load 480 V	Power		hp	--	5	15	20
UL 508 short circuit at 480 V	K5 fuses		A	20	25	60	70
			kA	5			

[1)] Contactors can be operated at ambient temperatures of between -25 °C and +70 °C, but only under special conditions. For more information, please contact Siemens Support

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5TT Insta contactors, AC/DC technology

Selection and ordering data

	Contacts	U_e	I_e	U_c		Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A AC	V AC	V DC	MW							kg
 5TT50 00-0	**Insta contactors** For AC or DC continuous operation, with switching position indication, with DC magnetic system												
	2 NO	230	20	230	220	1		**5TT5 000-0**		1	1 unit	028	0.141
				24	24			**5TT5 000-2**		1	1 unit	028	0.141
	1 NO + 1 NC	230	20	230	220	1		**5TT5 001-0**		1	1 unit	028	0.150
				24	24			**5TT5 001-2**		1	1 unit	028	0.150
	2 NC	230	20	230	220	1		**5TT5 002-0**		1	1 unit	028	0.150
				24	24			**5TT5 002-2**		1	1 unit	028	0.150
	4 NO	400	25	230	220	2		**5TT5 030-0**		1	1 unit	028	0.150
				115	110			**5TT5 030-1**		1	1 unit	028	0.150
				24	24			**5TT5 030-2**		1	1 unit	028	0.150
	3 NO + 1 NC	400	25	230	220	2		**5TT5 031-0**		1	1 unit	028	0.150
				24	24			**5TT5 031-2**		1	1 unit	028	0.150
	2 NO + 2 NC	400	25	230	220	2		**5TT5 032-0**		1	1 unit	028	0.150
				24	24			**5TT5 032-2**		1	1 unit	028	0.150
	4 NC	400	25	230	220	2		**5TT5 033-0**		1	1 unit	028	0.150
				24	24			**5TT5 033-2**		1	1 unit	028	0.150
	4 NO	400	40	230	220	3		**5TT5 040-0**		1	1 unit	028	0.150
				24	24			**5TT5 040-2**		1	1 unit	028	0.150
	3 NO + 1 NC	400	40	230	220	3		**5TT5 041-0**		1	1 unit	028	0.150
				24	24			**5TT5 041-2**		1	1 unit	028	0.150
	2 NO + 2 NC	400	40	230	220	3		**5TT5 042-0**		1	1 unit	028	0.150
				24	24			**5TT5 042-2**		1	1 unit	028	0.150
	4 NC	400	40	230	220	3		**5TT5 043-0**		1	1 unit	028	0.150
				24	24			**5TT5 043-2**		1	1 unit	028	0.150
	4 NO	400	63	230	220	3		**5TT5 050-0**		1	1 unit	028	0.150
				24	24			**5TT5 050-2**		1	1 unit	028	0.150
	3 NO + 1 NC	400	63	230	220	3		**5TT5 051-0**		1	1 unit	028	0.150
				24	24			**5TT5 051-2**		1	1 unit	028	0.150
	2 NO + 2 NC	400	63	230	220	3		**5TT5 052-0**		1	1 unit	028	0.150
				24	24			**5TT5 052-2**		1	1 unit	028	0.150
 5TT50 00-6	**Automatic Insta contactor** For AC or DC continuous operation, with switching position indication, with DC magnetic system												
	2 NO	230	20	230	220	1		**5TT5 000-6**		1	1 unit	028	0.150
				24	24			**5TT5 000-8**		1	1 unit	028	0.150
	1 NO + 1 NC	230	20	230	220	1		**5TT5 001-6**		1	1 unit	028	0.150
				24	24			**5TT5 001-8**		1	1 unit	028	0.150
	4 NO	400	25	230	220	2		**5TT5 030-6**		1	1 unit	028	0.150
				24	24			**5TT5 030-8**		1	1 unit	028	0.150
	3 NO + 1 NC	400	25	230	220	2		**5TT5 031-6**		1	1 unit	028	0.150
				24	24			**5TT5 031-8**		1	1 unit	028	0.150
 5TT5 910-0	**Auxiliary switches** For mounting on right-hand side Max. one auxiliary switch per Insta contactor												
	2 NO	230, AC-15	6	--	--	0.5	▶	**5TT5 910-0**		1	1 unit	028	0.045
	1 NO + 1 NC	230, AC-15	6	--	--		▶	**5TT5 910-1**		1	1 unit	028	0.046
	**Sealable terminal covers**												
	For Insta contactor 20 A					1		**5TT5 910-5**		1	2 units	028	0.002
	For Insta contactor 25 A					2		**5TT5 910-6**		1	2 units	028	0.003
	For Insta contactors 40 A and 63 A					3		**5TT5 910-7**		1	2 units	028	0.003

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* You can order this quantity or a multiple thereof.

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Overview

The 5TT5 8 Insta contactors are equipped with an AC magnetic system and are ideal for use under harsh conditions. The auxiliary switches can be mounted without tools. When equipped with terminal covers, the devices can also be sealed.

Insta contactors without manual switch

Insta contactors are ideal for a wide range of uses in industry, such as for motors where distribution technology plays a major role, e.g. in installations for heat pumps and air conditioning technology. In addition to their basic function, they can also be used for the ON/OFF switching of single-phase and three-phase electrical motors.

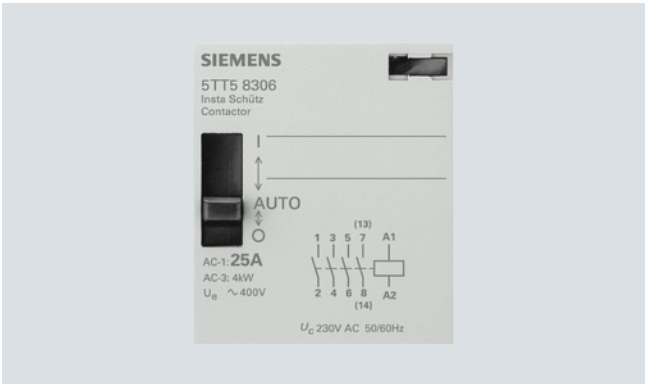
Insta contactors with manual switch

Insta contactors with manual operation can be switched on and off by hand.

Benefits



- Extremely long service life of 3 million switching cycles
- Safe cable routing through the cable entry funnel
- Insulated right through to the cable entry funnel.
- Auxiliary switches can be retrofitted on all versions - even on the 20 A type



- Insta contactors with O/I/Automatic function enable the testing of a plant by manual switch without the need to apply a control voltage
- Switching position indication for fast recognition of operating states offers greater safety when checking the plant

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5TT5 Insta contactors, AC technology

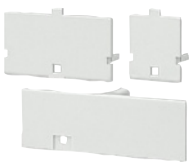
Technical specifications

			Insta contactors				Auxiliary switches
			5TT5 80.	5TT5 82., 5TT5 83.	5TT5 84.	5TT5 85.	5TT5 910
Standards			IEC 60947-4-1, IEC 60947-5-1, IEC 61095; EN 60947-4-1, EN 60947-5-1, EN 61095				
Approvals			VDE 0637				
Number of poles			2	4	4	4	2
Rated frequency at AC		Hz	50/60				
Rated control voltage U_c		V AC	24, 230	24, 115, 230	24, 230	24, 230	--
Primary operating range		$\times U_c$	0.85 ... 1.1				--
Rated operational voltage U_e		V AC	230	400			230/400
Rated operational current I_e		A	20	25	40	63	6/4 (230/400 V)
Rated power dissipation P_v							
• Pick-up power (without manual switch or manual switch in "I" position)		VA/W	6/3.8	10/5	15.4/6		--
• Pick-up power (with manual switch in "AUTO" position)		VA/W	12/10	33/25	62/50		--
• Holding power		VA/W	2.8/1.2	5.5/1.6	7.7/3		--
• Per contact		VA	1.7	2.2	4	8	--
Switching times							
• Closing (NO contacts)		ms	15 ... 25	10 ... 20	15 ... 20		--
• Opening (NO contacts)		ms	20	20	10		--
• Closing (NC contacts)		ms	20 ... 30	20 ... 30	5 ... 10		--
• Opening (NC contacts)		ms	10	10	10 ... 15		--
Rated impulse withstand voltage U_{imp}		kV	4				
Rated insulation voltage U_i		V	440		500		
Contact gap, minimum		mm	3.6		3.4		4
Electrical service life							
At I_e and load							
• AC-1/AC-7a		For switching cycles	200000		100000		--
• AC-3/AC-7b			300000	500000	150000		--
Mechanical service life		For switching cycles	3 million				
Maximum switching frequency							
At load		In switching cycles/h	600				
Switching of resistive loads AC-1/AC-7a							
For rated operational power P_s							
• Single-phase 230 V		kW	4	5.4	8.7	13.3	--
• Three-phase 400 V		kW	--	16	26	40	--
Switching of three-phase asynchronous motors AC-3/AC-7b							
For rated operational power P_s							
• Single-phase 230 V		kW	1.3[1)]	1.3	3.7	5	--
• Three-phase 400 V		kW	--	4	11	15	--
Minimum switching capacity		V; mA	17; 50				12; 5
Overload withstand capability							
Per conducting path (NO contacts only)	at 10 s	A	72	68	176	240	--
Short-circuit protection, according to coordination type 1							
Back-up fuse characteristic gL/gG		A	20	25	63	80	6
Terminals	±screw (Pozidriv)						
• Coil connection			1		1.2		--
• Main connection			1		3.5		1
Tightening torques							
• Coil connection		Nm	0.6				--
• Main connection		Nm	1.2		2		0.8
Conductor cross-sections							
• Coil connection	Rigid	mm^2	1.0 ... 2.5				--
	Flexible, with end sleeve	mm^2	1.0 ... 2.5				--
• Main connection	Rigid	mm^2	1.0 ... 10		1 ... 25		1 ... 2.5
	Flexible, with end sleeve	mm^2	1.0 ... 6		1 ... 16		1 ... 2.5
Permissible ambient temperature							
• For operation		°C	-5 ... +55				
• For storage		°C	-30 ... +80				
Degree of protection	Acc. to EN 60529		IP20, with connected conductors				

[1)] For NO contacts only.

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Selection and ordering data

	Version	U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A AC	V AC	MW							kg
	Insta contactors without manual switch											
	For alternating current continuous operation, with switching position indication, with AC magnetic system											
5TT5 800-0	2 NO	230	20	230	1	▶	**5TT5 800-0**		1	1 unit	028	0.143
				24		▶	**5TT5 800-2**		1	1 unit	028	0.141
	1 NO + 1 NC	230	20	230		▶	**5TT5 801-0**		1	1 unit	028	0.141
				24		▶	**5TT5 801-2**		1	1 unit	028	0.142
	2 NC	230	20	230		▶	**5TT5 802-0**		1	1 unit	028	0.143
				24		▶	**5TT5 802-2**		1	1 unit	028	0.141
	4 NO	400	25	230	2	▶	**5TT5 830-0**		1	1 unit	028	0.258
				115			**5TT5 830-1**		1	1 unit	028	0.274
				24		▶	**5TT5 830-2**		1	1 unit	028	0.272
	3 NO + 1 NC	400	25	230		▶	**5TT5 831-0**		1	1 unit	028	0.260
				115			**5TT5 831-1**		1	1 unit	028	0.274
				24			**5TT5 831-2**		1	1 unit	028	0.272
5TT5 830-0	4 NO For high capacitive loads up to 150 µF	400	25	230	2		**5TT5 820-0**		1	1 unit	028	0.230
	2 NO + 2 NC	400	25	230		▶	**5TT5 832-0**		1	1 unit	028	0.260
				24		▶	**5TT5 832-2**		1	1 unit	028	0.273
	4 NC	400	25	230		▶	**5TT5 833-0**		1	1 unit	028	0.258
				24			**5TT5 833-2**		1	1 unit	028	0.271
	4 NO	400	40	230	3	▶	**5TT5 840-0**		1	1 unit	028	0.393
				24		▶	**5TT5 840-2**		1	1 unit	028	0.389
	3 NO + 1 NC	400	40	230			**5TT5 841-0**		1	1 unit	028	0.387
				24			**5TT5 841-2**		1	1 unit	028	0.398
	2 NO + 2 NC	400	40	230			**5TT5 842-0**		1	1 unit	028	0.398
				24			**5TT5 842-2**		1	1 unit	028	0.388
	4 NC	400	40	230		▶	**5TT5 843-0**		1	1 unit	028	0.396
				24			**5TT5 843-2**		1	1 unit	028	0.396
5TT5 840-0	4 NO	400	63	230	3	▶	**5TT5 850-0**		1	1 unit	028	0.390
				24		▶	**5TT5 850-2**		1	1 unit	028	0.397
	3 NO + 1 NC	400	63	230		▶	**5TT5 851-0**		1	1 unit	028	0.391
				24			**5TT5 851-2**		1	1 unit	028	0.391
	2 NO + 2 NC	400	63	230			**5TT5 852-0**		1	1 unit	028	0.400
				24			**5TT5 852-2**		1	1 unit	028	0.388
	4 NC	400	63	230		▶	**5TT5 853-0**		1	1 unit	028	0.403
				24			**5TT5 853-2**		1	1 unit	028	0.396
	Auxiliary switches											
	For mounting on right-hand side Max. one auxiliary switch per Insta contactor											
5TT5 910-0	2 NO	230, AC-15	6	--	0.5	▶	**5TT5 910-0**		1	1 unit	028	0.045
	1 NO + 1 NC	230, AC-15	6	--		▶	**5TT5 910-1**		1	1 unit	028	0.046
	Sealable terminal covers											
	For Insta contactor 20 A				1		**5TT5 910-5**		1	2 units	028	0.002
	For Insta contactor 25 A				2		**5TT5 910-6**		1	2 units	028	0.003
	For Insta contactors 40 A and 63 A				3		**5TT5 910-7**		1	2 units	028	0.003

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* You can order this quantity or a multiple thereof.

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5TT5 Insta contactors, AC technology

	Version	U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A AC	V AC	MW							kg
 5TT5 800-6	**Insta contactors with manual switch 0/I/Automatic** For alternating current continuous operation, with switching position indication, with AC magnetic system											
	2 NO	230	20	230	1	▶	**5TT5 800-6**		1	1 unit	028	0.141
				24		▶	**5TT5 800-8**		1	1 unit	028	0.143
	1 NO + 1 NC	230	20	230			**5TT5 801-6**		1	1 unit	028	0.143
				24			**5TT5 801-8**		1	1 unit	028	0.148
 5TT5 830-6	4 NO	400	25	230	2	▶	**5TT5 830-6**		1	1 unit	028	0.261
				24		▶	**5TT5 830-8**		1	1 unit	028	0.261
	3 NO + 1 NC	400	25	230		▶	**5TT5 831-6**		1	1 unit	028	0.261
				24			**5TT5 831-8**		1	1 unit	028	0.263
 5TT5 840-6	4 NO	400	40	230	3	▶	**5TT5 840-6**		1	1 unit	028	0.399
				24			**5TT5 840-8**		1	1 unit	028	0.402
	3 NO + 1 NC	400	40	230			**5TT5 841-6**		1	1 unit	028	0.399
				24			**5TT5 841-8**		1	1 unit	028	0.406
	4 NO	400	63	230		▶	**5TT5 850-6**		1	1 unit	028	0.394
	**Auxiliary switches** For mounting on right-hand side Max. one auxiliary switch per Insta contactor											
	2 NO	230, AC-15	6	--	0.5	▶	**5TT5 910-0**		1	1 unit	028	0.045
	1 NO + 1 NC	230, AC-15	6	--		▶	**5TT5 910-1**		1	1 unit	028	0.046
	**Sealable terminal covers**											
	For Insta contactor 20 A				1		**5TT5 910-5**		1	2 units	028	0.002
	For Insta contactor 25 A				2		**5TT5 910-6**		1	2 units	028	0.003
	For Insta contactors 40 A and 63 A				3		**5TT5 910-7**		1	2 units	028	0.003

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* You can order this quantity or a multiple thereof.

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Overview

The soft-starting device is an electronic control unit for the soft startup of single-phase asynchronous machines. A phase control causes the current to rise steadily. This also increases the motor torque and the drive starts up smoothly. The starting current is minimized. There is no speed adjustment. There is no marked soft start behavior without a mechanically connected load.
If the power semiconductor is to be protected against short-circuits or ground faults during startup, a quick-acting fuse must be installed. In the case of high switching frequencies, we recommend installing a thermistor motor protection for monitoring the permissible motor temperature.

The soft-starting device must not be operated with capacitive load. It can be retrofitted in existing plants at any time.

Benefits

- On completion of startup, the power semiconductors are bridged, which prevents overheating in the case of frequent starting and inhibits premature wear and tear
- Separate setting of ramp-up time and starting torque enables optimum adaptation to the mechanical system
- The LEDs for startup and continuous operation provide constant information on the operating state

Technical specifications

			5TT3 440	5TT3 441
Standards			EN 60947-4-2 (VDE 0660-117)	
Supply/motor voltage		V AC	400	230
Primary operating range		$\times U_c$	0.8 ... 1.1	
Rated power		VA	3.5	1.4
Rated frequency		Hz	50/60	
Rated power dissipation P_v	Coil/drive Contact[1] per pole		3.5 4.6	1.7 0.7
Rated output of motor - Max. - Min.	 At 400 V At 400 V	 VA VA	 5500 300	 1500 100
Startup voltage		%	30 ... 70	20 ... 70
Starting ramp		s	0.1 ... 10	
Recovery time		ms	100	200
Switching frequency $3 \times I_N$, T_{AN} = 10 s, ν_u = 20 % $3 \times I_N$, T_{AN} = 10 s, ν_u = 20 %	 	 Switching cycles/h Switching cycles/h	 36 (up to 3 kW) 20 (from 3...5.5 kW)	 10 10
Semiconductor fuse	Quick-acting	A	35	20
Conductor cross-sections	Rigid Flexible, with end sleeve	max. mm² min. mm²	2 × 2.5 1 × 0.5	
Permissible ambient temperature		°C	-20 ... +60	-20 ... +55
Resistance to climate	Acc. to EN 60068-1		20/60/4	20/55/4

[1] For rated operational current.

Selection and ordering data

	Version	U_e	P_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	W	MW							kg
	**Soft-starting devices**										
	Single-phase	230	100 ... 1500	2		**5TT3 441**		1	1 unit		0.160
	**Soft-starting devices, mounting depth 55 mm**										
	Three-phase, 2-phase motor control	400	300 ... 5500	6		**5TT3 440**		1	1 unit		0.450

* You can order this quantity or a multiple thereof.

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7LF4 digital time switches

Overview

Top, Profi, Astro and Expert digital time switches

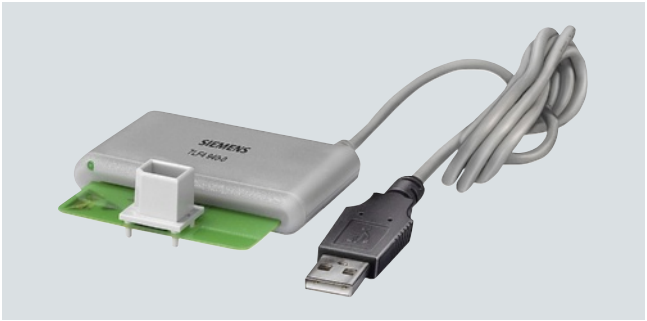
Text-assisted programming directly on the device.



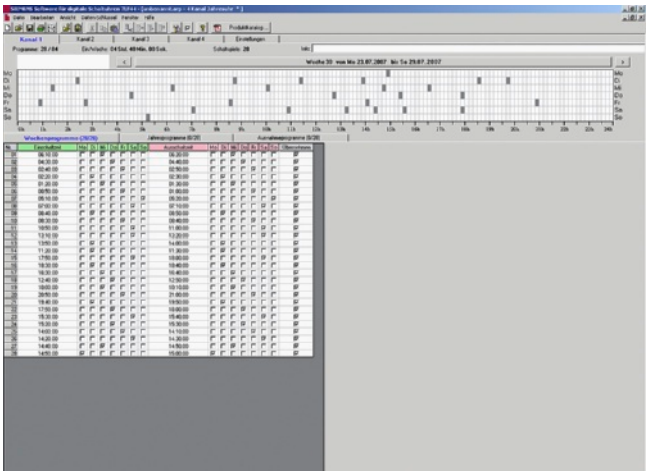


The Profi, Astro and Expert digital time switches support plug-in data keys.

USB adapters



The Profi, Astro and Expert time switches are easy to program at the PC using the data key with the USB adapter and software.



- Clear data on the annual ON time of the load enables a precise statement on the annual power consumption.
- You can create switching programs conveniently at the PC, store it on the data key and transfer it locally to the time switch.
- Time saving during program creation, commissioning and maintenance

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Technical specifications

			Mini 7LF4 401-5	Top 7LF4 411 7LF4 412	Profi 7LF4 421 7LF4 422	Astro 7LF4 431 7LF4 432	Expert 7LF4 444
Standards			EN 60730-1, -2-7; UL 60730				EN 60730-1, -2-7
Approvals			VDE, UL 60730-1,-2-7/UL 917 CSA C22.2 No. 14 and 177				VDE (EN)
Supply							
• Rated control supply voltage U_c		V AC V AC/DC	110 ... 240 --	120, 230 --	120, 230 24	230 --	120/230 24
- Primary operating range		× U_c	0.85 ... 1.1	0.85 ... 1.1	0.85 ... 1.1[1]	0.85 ... 1.1	80 .. 253 V[1]
- Frequency ranges		Hz	50 ... 60	50 ... 60	50 ... 60[2]	50 ... 60	50 ... 60[2]
• Rated power dissipation P_v		VA	0.035	2	2	2	2.5/4[3]
Channels/contacts							
• Switching channels			1	1 or 2			4
- Rated operational voltage U_e		V AC	250				
- Rated operational current I_e	At p.f. = 1	A	16				
	At p.f. = 0.6	A	10				
• Contacts			1 CO	1 or 2 CO			4 CO
- Mechanical switching cycles (in millions)			> 5	10			
- Electrical switching cycles	At p.f. = 1		6000 (20 A)	100000			
• Minimum contact load		V; mA	12; 100				
- Incandescent lamp load		A	5	8			
- Fluorescent lamp load	At 7 µF	VA	58	60			
	Uncorrected	VA	1400				
- Energy-saving lamp load		W	100				
Safety							
• Different phases permissible between actuator/contact			Yes				
• Rated impulse withstand voltage U_{imp}		kV	4				
- EMC: burst	Acc. to IEC 61000-4-4	kV	> 4.4				
- EMC: surge	Acc. to IEC 61000-4-5	kV	> 2.0				
- Electrostatic discharge	Acc. to IEC 61000-4-2	kV	> 8.0				
• Power reserve storage	Mains/battery	a	6/2	6		5	
- Battery type			Li primary cell				
• Program memory	Captive		--	Yes			
• Overvoltage category	Acc. to EN 61010-1		III				
Function							
• Minimum switching sequences			1 min				1 s
• Make and break cycles			1 min				1 s
• Clock errors per day	Typical	s/day	+0.3 ± 1[4]	± 0.86	± 0.2		
• Control input	Terminal S		--			Yes	
• Memory spaces							
- Programs[5]			28	56 (2 × 28)		28 (2 × 14)	4 × 3 × 28
- Pulse (alternatively)			--		84	--	
- Pulse cycle			--		1 s ... < 60 min	--	
Connections							
• Terminals ±screw (Pozidriv)			PZ 1				
• Conductor cross-sections of main current paths							
- Rigid, max.		mm²	4				
- Rigid, min.		mm²	1.5				
- Flexible with end sleeve	Max.	mm²	2.5				
Environmental conditions							
• Permissible ambient temperature		°C	-10 ... +55	-20 ... +55			
• Storage temperature		°C	-20 ... +60				
• Resistance to climate	Acc. to EN 60068-1		10/055/21	20/055/21			
• Degree of protection	Acc. to EN 60529		IP20, with connected conductors				
• Safety class	Acc. to EN 60730-1		II				

1) For 24 V devices (7LF4 421-2, 7LF4 422-2 and 7LF4 444-2): Tolerance -10/+10 %; operating range 0.9 ... 1.1 × U_c.

2) For 24 V devices (7LF4 421-2, 7LF4 422-2 and 7LF4 444-2): Frequency range 0 ... 60 Hz.

3) For 24 V device (7LF4 444-2): P_v = 4 VA.

4) At 25°C a clock error of +0.3s is assumed. Accuracy may deviate by a further ±1s around this value.

5) A program consists of an ON time, an OFF time and assigned ON and OFF days or day blocks.

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7LF4 digital time switches

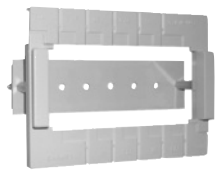
Selection and ordering data

	Contacts	U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A AC	V AC	MW							kg
	Mini digital time switches											
	• Weekly program • 1 channel											
	1 CO	250	16	110 ... 240	1	▶	**7LF4 401-5**		1	1 unit	025	0.156
	Top digital time switches											
	• Weekly program • With text-assisted programming concept languages: German, English, French, Italian, Dutch, Spanish • 1 channel • 56 programs											
	1 CO	250	16	230	2	▶	**7LF4 411-0**		1	1 unit	025	0.157
	1 CO	250	16	120	2	▶	**7LF4 411-1**		1	1 unit	025	0.159
	• 2 channels • 56 programs (28 per channel)											
	2 CO	250	16	230	2	▶	**7LF4 412-0**		1	1 unit	025	0.182
	2 CO	250	16	120	2	▶	**7LF4 412-1**		1	1 unit	025	0.181
	Profi digital time switches											
	• Weekly program • With text-assisted programming concept languages: German, English, French, Italian, Dutch, Spanish • Simple program creation by means of PC using the software included with the 7LF4 940-0 USB adapter • Vacation program • Random program • Operating hours counter, counting range: 65535 h											
	• 1 channel • 56 programs • Pulse function, 84 start times											
	1 CO	250	16	230	2	▶	**7LF4 421-0**		1	1 unit	025	0.195
	1 CO	250	16	120	2	▶	**7LF4 421-1**		1	1 unit	025	0.192
	1 CO	250	16	24 AC/DC	2	▶	**7LF4 421-2**		1	1 unit	025	0.189
	• 2 channels • 56 programs (28 per channel)											
	2 CO	250	16	230	2	▶	**7LF4 422-0**		1	1 unit	025	0.210
	2 CO	250	16	120	2	▶	**7LF4 422-1**		1	1 unit	025	0.209
	2 CO	250	16	24 AC/DC	2	▶	**7LF4 422-2**		1	1 unit	025	0.207
	Astro digital time switches											
	• Weekly program • Astro function • With text-assisted programming concept languages: German, English, French, Italian, Dutch, Spanish • Simple program creation by means of PC using the software included with the 7LF4 940-0 USB adapter • Vacation program • 1 h test • Input disable via PIN code • Operating hours counter, counting range: 65535 h											
	• 1 channel • 28 programs • With control input, delay time 0 min ... 23 h 59 min											
	1 CO	250	16	230	2	▶	**7LF4 431-0**		1	1 unit	025	0.206
	• 2 channels • 28 programs (14 per channel)											
	2 CO	250	16	230	2	▶	**7LF4 432-0**		1	1 unit	025	0.221

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* You can order this quantity or a multiple thereof.

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	Contacts	U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A AC	V AC	MW							kg
	Expert digital time switches											
	• Weekly program • Year program • Exception program (priority program) • Astro function • With text-assisted programming concept languages: German, English, French, Italian, Dutch, Spanish • Simple program creation by means of PC using the software included with the 7LF4 940-0 USB adapter • Cycle function for channel 1 • Vacation function • 1 h test • Input disable via PIN code • Operating hours counter, counting range: 65535 h • 84 programs per channel • With control input (only 1 channel), delay time 0 min ... 23 h 59 min • With Expert data key, Order No. 7LF4 940-2											
	• 4 channels											
	4 CO	250	16	120/230	6	►	**7LF4 444-0**		1	1 unit	025	0.460
	4 CO	250	16	24 AC/DC	6	►	**7LF4 444-2**		1	1 unit	025	0.450
	Data keys for digital time switches: Profi and Astro											
	• Programming at the PC (7LF4 940-0 USB adapter and software required) • Read-in of programs to the time switch • Writing of programs from the time switch • Transfer of programs - From PC to time switch and vice versa - From time switch to time switch					►	**7LF4 940-1**		1	1 unit	025	0.020
	Data keys for Expert digital time switch											
	• Programming at the PC (7LF4 940-0 USB adapter and software required) • Read-in of programs to the time switch • Writing of programs from the time switch • Transfer of programs - From PC to time switch and vice versa - From time switch to time switch					►	**7LF4 940-2**		1	1 unit	025	0.022
	USB adapter and software for digital time switches: Profi, Astro and Expert											
	• For the reading and writing of data keys at the PC • With programming software • With one data key for Profi, Astro Order No. 7FL4 940-1 • Can be connected over USB interface • System requirements: - Windows 7, Windows Vista, Windows 2000, Windows ME, Windows XP or Windows 98 Second Edition - USB connection - 40 MB free disk space					►	**7LF4 940-0**		1	1 unit	025	0.111
	Holders for front panel installation											
	Universal application for devices from 1 MW to 6 MW Cutout dimensions: Height $45^{+0.5}$ mm Width 23 mm, 41 mm, 59 mm, 77 mm, 95 mm or 113 mm						**7LF9 006**		1	1 unit	025	0.070

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* You can order this quantity or a multiple thereof.

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7LF5 mechanical time switches

Overview



Mechanical time switches with day disk



Mechanical time switches with week disk

Synchronous time switches without power reserve

The control gear is driven by a synchronous motor so it is dependent on the power supply frequency. If this frequency is unstable, the devices cannot be used. In the event of a power failure, the time switch will stop.

Quartz-clock time switches with power reserve

A quartz electronic circuit supplies the drive with a stabilized frequency so that the time switch is not dependent on the power supply frequency. In the event of a power failure, the time switch continues to operate on its power reserve.

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Technical specifications

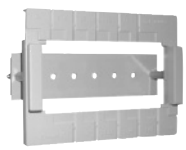
		Synchronous time switches without power reserve				Quartz-clock time switches with power reserve					
		7LF5 300-1	7LF5 300-5	7LF5 300-6	7LF5 301-0	7LF5 301-1	7LF5 301-4	7LF5 301-5	7LF5 301-6	7LF5 301-7	7LF5 305-0
Standards		EN 60730-1, -2-7, UL 917									
Approvals		UL 60730-1,-2-7/UL 917 CSA C22.2 No. 14 and 177									
Operating mode		Synchronous				Quartz					
• Time program		Day	Day	Week	Day	Day	Day	Week	Day	Week	Day
Supply											
• Rated control supply voltage U_c	V AC	230				230					
- Primary operating range	× U_c	0.85 ... 1.1				0.85 ... 1.1					
• Rated frequency	Hz	50				50					
- Frequency ranges	Hz	50				50/60					
• Rated power dissipation P_v	VA	1				1	0.2	0.2	1	1	1
Channels/contacts											
• Switching channels		1				1					
- Rated operational voltage U_e	V AC	250				250					
- Rated operational current I_e											
At p.f. = 1	A	16				16					
At p.f. = 0.6	A	4				4					
• Contacts		1 NO	1 CO	1 CO	1 CO	1 NO	1 CO	1 CO	1 CO	1 CO	1 CO
- Mechanical switching cycles	in millions	20				20					
- Electrical switching cycles at p.f. = 1		100000				100000					
• Minimum contact load	V; mA	4; 1				4; 1					
- Incandescent lamp load	A	5				5					
- Fluorescent lamps											
At 7 µA	VA	60				60					
Uncorrected	VA	1400				1400					
Safety											
• Different phases permissible between actuator/contact		Yes				Yes					
• Electrical isolation, creepage distances and clearances, actuator/contact	mm	8/6				8/6					
• Rated impulse withstand voltage U_{imp} drive/contact	kV	4				4					
- EMC: burst acc. to IEC 61000-4-4	kV	> 4.4				> 4.4					
- EMC: surge acc. to IEC 61000-4-5	kV	> 2.0				> 2.0					
- Electrostatic discharge according to IEC 61000-4-2	kV	> 8.0				> 8.0					
• Power reserve storage	a	--				100 h	6		100 h		
- Minimum loading time	h	--				48	--		48		
- Battery type		--				NiMH cell	Li primary cell		NiMH cell		
- Service life of battery											
At 20 °C	a	--				6	10		6		
At 40 °C	a	--				5					
• Overvoltage category acc. to EN 61010-1		III				III					
Function											
• Minimum switching sequences	min	30		240	30	30		240	30	240	30
• Make and break cycles	min	15		120	10	15		120	15	120	10
• Switching accuracy	min	± 5		± 30	± 5	± 5		± 30	± 5	± 30	± 5
• Clock errors per day		System-synchronized				± 2.5 s	± 60/year		± 2.5 s		
Connections											
• Terminals ±screw (Pozidriv)		PZ 1				PZ 1					
• Conductor cross-sections of main current paths											
- Rigid, max.	mm^2	4				4					
- Rigid, min.	mm^2	1.5				1.5					
- Flexible, with end sleeve	mm^2	2.5				2.5					
- Flexible, without end sleeve	mm^2	4				4					
Environmental conditions											
• Permissible ambient temperature	°C	-10 ... +55				-10 ... +55					
• Storage temperature	°C	-10 ... +60				-10 ... +60					
• Resistance to climate Acc. to EN 60068-1		10/055/21				10/055/21					
• Degree of protection Acc. to EN 60529		IP20, with connected conductors				IP20, with connected conductors					
• Safety class Acc. to EN 61140		II				II					

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7LF5 mechanical time switches

Selection and ordering data

	Contacts	U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A AC	V AC	MW							kg
	**Synchronous time switches without power reserve, 1 MW**											
	• Day disk											
	1 NO	250	16	230	1	▶	**7LF5 300-1**		1	1 unit	025	0.083
	**Synchronous time switches without power reserve, 3 MW**											
	• Day disk											
	1 CO	250	16	230	3	▶	**7LF5 300-5**		1	1 unit	025	0.151
	• Week disk											
	1 CO	250	16	230	3	▶	**7LF5 300-6**		1	1 unit	025	0.153
	**Synchronous time switches without power reserve, for wall mounting**											
	• Day disk											
	1 CO	250	16	230	--	▶	**7LF5 301-0**		1	1 unit	025	0.196
	**Quartz-clock time switches with power reserve**											
	• Day disk											
	1 NO	250	16	230	1	▶	**7LF5 301-1**		1	1 unit	025	0.088
	**Quartz-clock time switches with power reserve and automatic time setting for Central European time zone**											
	• Time set automatically during commissioning											
	• Automatic daylight savings											
	• With quartz clock mechanism											
	• Clock accuracy ± 0.2 s/day											
	• 5-year power reserve (time buffer in the event of a power failure)											
	• Day disk											
	1 CO	250	16	230	3	▶	**7LF5 301-4**		1	1 unit	025	0.182
	• Week disk											
	1 CO	250	16	230	3	▶	**7LF5 301-5**		1	1 unit	025	0.179
	Quartz-clock time switches with power reserve											
	Clock accuracy ± 2.5 s/day											
	• Day disk											
	1 CO	250	16	230	3	▶	**7LF5 301-6**		1	1 unit	025	0.157
	• Week disk											
	1 CO	250	16	230	3	▶	**7LF5 301-7**		1	1 unit	025	0.158
	**Quartz-clock time switches with power reserve, for wall mounting (surface mounting)**											
	• Day disk											
	1 CO	250	16	230	--	▶	**7LF5 305-0**		1	1 unit	025	0.205
	**Holders for front panel installation**											
	Universal use for devices from 1 to 6 MW											
	Cutout dimensions: Height $45^{+0.5}$ mm Width 23 mm, 41 mm, 59 mm, 77 mm, 95 mm or 113 mm						**7LF9 006**		1	1 unit	025	0.070

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* You can order this quantity or a multiple thereof.

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Overview

Siemens stairwell lighting timers enable the required time to be set precisely without tools using the push-to-lock knurling wheel. The stairwell lighting timers in four-wire installations can be switched back on again at any time by simply pressing the switch. A maintained light switch prevents the need for repeated pressing, for example when moving house. The various types are also available with warning of impending switch-off.

Benefits

- Durable switching of different illuminants thanks to patented contact design
- Suitable for energy-saving lamps
- Quiet switching of stairwell lighting timers
- Warning of impending switch-off in accordance with DIN 18015-2 for stairwell lighting in apartment blocks

Technical specifications

			7LF6 110	7LF6 111	7LF6 113	5TT1 303	7LF6 114	7LF6 115	7LF6 116	7LF6 112
Standards			IEC 60669, EN 60669							
Supply										
• Rated control supply voltage U_c		V AC	230							
- Primary operating range	At 50/60 Hz	× U_c	0.9 ... 1.1							
• Rated power dissipation P_v		VA	Approx. 5							
Setting range		min	0.5 ... 10			1 ... 10	0.5 ... 10	3 ... 60		0.5 ... 10
• Accuracy		s	± 30							
Manual switches	Automatic/permanent		Yes							
Minimum push duration		ms	30							
Voltage endurance	At pushbutton input (pushbutton malfunction)		Yes							
Short-circuit withstand current		A	700			--	700			
Channels/contacts										
• Switching channels										
- Rated operational voltage U_e		V AC	250							
- Rated operational current I_e	At p.f. = 1	A	16		--	10	16			
• Contact gap		mm	> 3			0.3	> 3			
• Minimum contact load		V; mA	10; 300							
Max. incandescent lamp load		W	2000			--	2000			--
Max. energy-saving lamp load 14 W		Unit(s)	20			--	20			--
Fluorescent lamp load 58 W										
- Uncorrected		Unit(s)	20			--	20			
- DUO circuit		Unit(s)	2 × 20			--	2 × 20			
- Siemens ECG	1 lamp	Unit(s)	10			6	10			
	2 lamps	Unit(s)	2 × 5			3	2 × 5			
Glow lamp load		mA	50			10	50			--
Max. fan load		VA	--							200
Connections										
• Terminals ±screw (Pozidriv)			PZ 1							
• Conductor cross-sections of main current paths										
- Rigid		mm^2	1.5 ... 6							
- Flexible, with end sleeve	Min.	mm^2	1							
Environmental conditions										
• Resistance to climate	Acc. to EN 60068-1	°C	-20 ... +50							
• Degree of protection	Acc. to EN 60529		IP20, with connected conductors							

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7LF6 timers for buildings

Selection and ordering data

	U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V AC	A AC	V AC	MW							kg
	Stairwell lighting timers										
	With switch for continuous light and push-to-lock knurling wheel setting, setting range 0.5 ... 10 minutes										
	For 3-wire circuit, L-momentary contact, not resettable										
	250	16	230	1	►	**7LF6 110**		1	1 unit	025	0.080
	For 4-wire circuit, L-momentary contact, resettable, or 3-wire circuit, N-momentary contact, resettable										
	250	16	230	1	►	**7LF6 111**		1	1 unit	025	0.088
	With warning by flashing prior to switching off, for 4-wire circuit, L-momentary contact, resettable, or 3-wire circuit, N-momentary contact, resettable										
	250	16	230	1	►	**7LF6 113**		1	1 unit	025	0.088
	Lighting timers										
	With switch for continuous light and push-to-lock knurling wheel setting, with warning by flashing prior to switch-off, setting range 0.5 ... 10 minutes, 4-fold extension of runtime by pressing the pushbutton for 1 second, for 4-wire circuit, L-momentary contact, or 3-wire circuit, N-momentary contact										
	250	16	230	1	►	**7LF6 114**		1	1 unit	025	0.088
	Energy-saving timers										
	With switches for continuous light and push-to-lock knurling wheel setting, setting range 3 ... 60 minutes, switch off by pressing pushbutton a second time briefly (< 1 s) as with remote control switch, reset by pressing pushbutton a second time for longer (> 1 s), for 4-wire circuit, L-momentary contact, resettable, or 3-wire circuit, N-momentary contact, resettable										
	250	16	230	1	►	**7LF6 116**		1	1 unit	025	0.071
	With switches for continuous light and push-to-lock knurling wheel setting, with warning by flashing prior to switch-off, setting range 3 ... 60 minutes, switch off by pressing pushbutton second time as with remote control switch, for 4-wire circuit, L-momentary contact, resettable, or 3-wire circuit, N-momentary contact, resettable										
	250	16	230	1	►	**7LF6 115**		1	1 unit	025	0.088
	Timers for fans up to 200 VA										
	With switch for continuous operation and push-to-lock knurling wheel setting, setting range 0.5 ... 10 minutes, for delayed switch-on of fan										
	250	16	230	1	►	**7LF6 112**		1	1 unit	025	0.082
	ECG control switches for ECG 1 ... 10 V										
	With transparent cap, with switch for continuous light and position indication, setting range 1 ... 10 minutes, with warning of switching off through dimming, direct voltage output 1 ... 10 V for controlling 20 ECG										
	250	10	230	2		**5TT1 303**		1	1 unit		0.143

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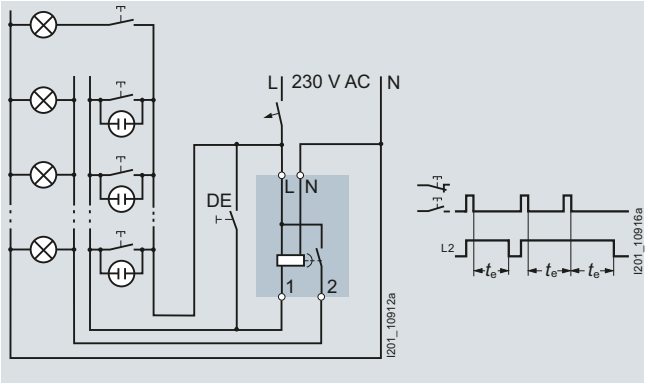
* You can order this quantity or a multiple thereof.

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Circuit diagrams

Circuit example: 7LF6 111 timer in 4-wire circuit, L-momentary contact, resettable

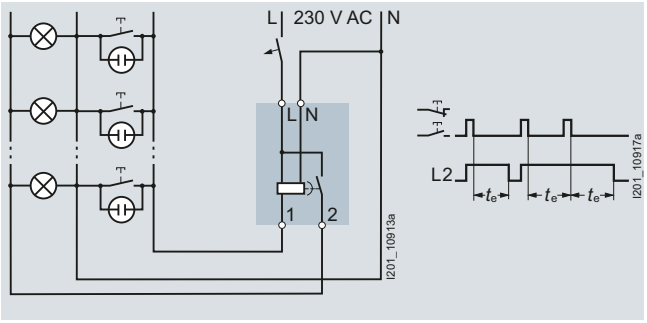
Usual circuit for new installation with separate cable routing for pushbuttons and lights. The additional DI switch allows external switching to continuous light or a time switch can also be used for this purpose. An additional attic circuit is also available, which operates independently of the timer, but on the same electrical circuit. The timer can be restarted before the set time expires.



t_e = runtime

Switching example: 7LF6 111 timer in 3-wire circuit, N-momentary contact, resettable

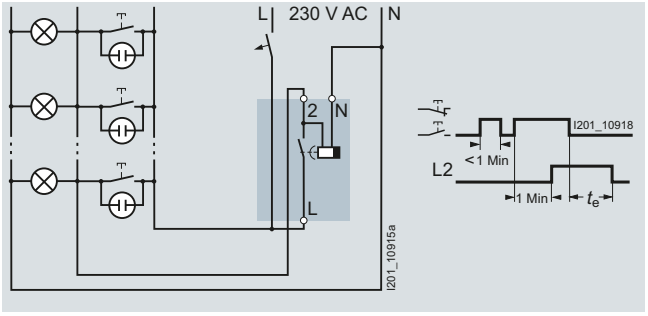
Can only be used with a limited number of wires. The timer can be restarted before the set time expires. While this 3-wire circuit with N-momentary contact is technically possible, it does not comply with DIN VDE 0100-460. However, it is used in old systems for replacement purposes.



t_e = runtime

Circuit example: 7LF6 112 timer for fans up to 200 VA

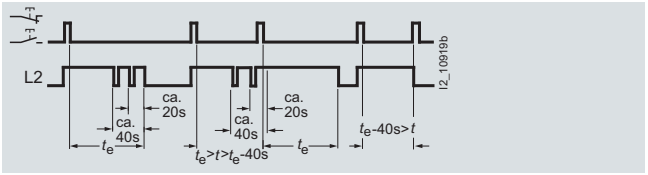
The switch switches the light on immediately, e.g. in a toilet. After a delay of approx. 1 minute, the fan is switched on. When the light is switched off, the fan continues to run for the time set at the timer.



t_e = runtime

Switching example: 7LF6 115 energy-saving timer with advance warning

The timer is connected in the same way as the 7LF6 111 timer in a 4-wire or 3-wire circuit. The energy-saving timer is activated at the first press of the button and deactivated at the second press. If it is not switched off manually, it is automatically switched off after the set time, max. 60 minutes. 20 and 40 seconds before expiry, the light flashes briefly twice (50 ms) to warn of the impending tripping. This allows time to reset the switch while the light is still on. Prior to the warning time, a push of the button ends the timing interval.



t_e = runtime

8

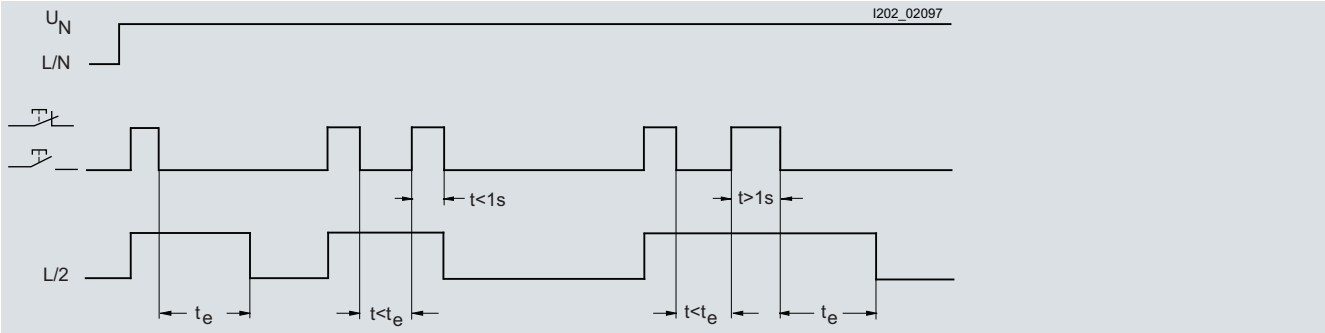
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7LF6 timers for buildings

Switching example: 7LF6 116 energy-saving timer

The timer is connected in the same way as the 7LF6 115 timer in a 4-wire or 3-wire circuit. The energy-saving timer switches on if pressed once and switches off when it is pressed again briefly (less than 1 second).

Resetting is possible by pressing a second time for longer (more than 1 second). If it is not switched off manually, it is automatically switched off after the set time, max. 60 minutes.



t_e = runtime

Lighting in ancillary rooms and corridors

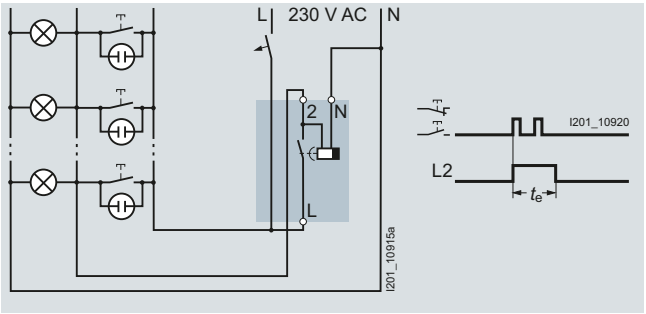
In rooms subject to less frequent use (basements, ironing rooms, attics, heating oil storerooms) there is a risk of the lighting remaining on unnecessarily for lengthy periods. In such cases, the 7LF6 115 and 7LF6 116 energy-saving timers can considerably reduce energy costs while increasing user-friendliness.

Occupants leaving a room can switch off the light by pushbutton, just like an installation with remote control switch. In the event that occupants are unable to switch the light off, or simply forget, it will go out automatically after a pre-set time.

The 7LF6 115 and 7LF6 116 energy-saving timers can also be used in corridors, e.g. as replacements for remote control switches. In this case they combine the familiar functionality of a remote control switch with the energy-saving features of a stairwell lighting timer.

Circuit example: 7LF6 110 timer in 3-wire circuit, L-momentary contact, not resettable

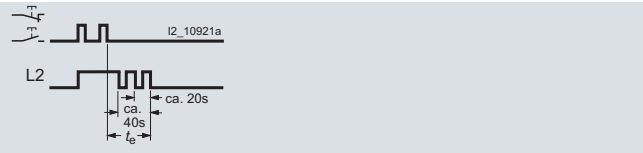
Circuit for new installation with shared cable routing for pushbuttons and lights. The timer can only be restarted after the set time expires.



t_e = runtime

Circuit example: 7LF6 113 timer with advance warning

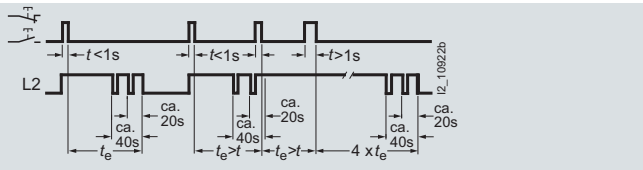
The timer is connected in the same way as the 7LF6 111 timer in a 4-wire or 3-wire circuit. 20 and 40 seconds before expiry, the light flashes briefly twice (50 ms) to warn of the impending tripping. This allows time to reset the switch while the light is still on.



t_e = runtime

Circuit example: 7LF6 114 lighting timer with advance warning

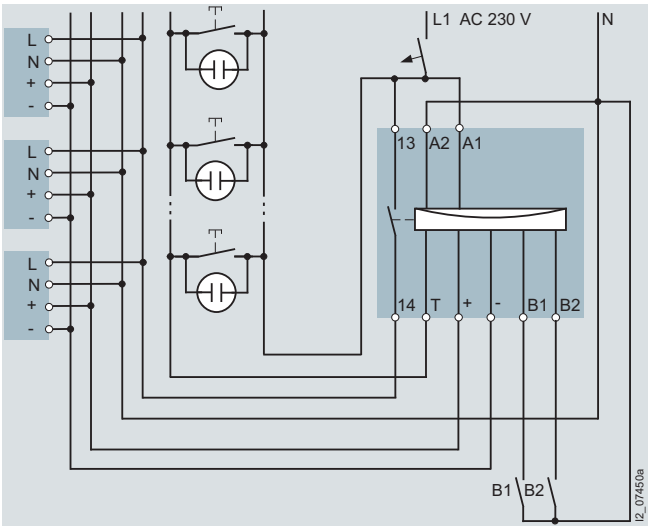
The timer is connected in the same way as the 7LF6 111 timer in a 4-wire or 3-wire circuit. When pressed, the lighting timer switches on for the set runtime, up to 10 minutes. If the switch is pressed for more than one second, the light is switched on for four times the set time, i.e. up to 40 minutes. The last press of the pushbutton is definitive. 20 and 40 seconds before expiry, the light flashes briefly twice (50 ms) to warn of the impending tripping. This allows time to reset the switch while the light is still on. The timing interval restarts each time the button is pressed.



t_e = runtime

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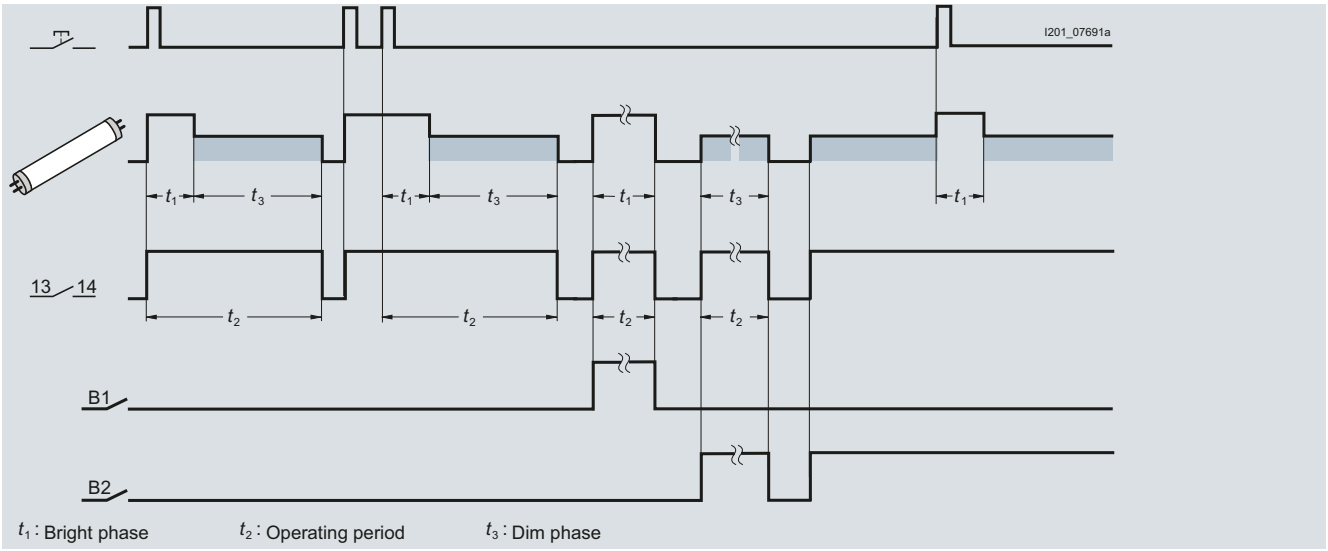
Switching example: 5TT1 303 ECG control switch



The device is fitted with a direct voltage input for the control of an ECG. When the pushbutton is actuated, the power supply is released and the ECG is brightened for up to 10 minutes, depending on the setting of the timer.

On expiry of this time, the ECG is dimmed according to the set dimmer level, if pressed again it brightens again. If no requests are made for 30 minutes (no buttons pressed), the lighting is fully deactivated. In addition to these functions, the dimming time and brightness period can also be controlled using a separate pushbutton or time switch over the control inputs B1 and B2.

Switching the ECG and the fluorescent lamp as little as possible extends the service life.



Hall lighting in nursing home

At meal times, from 5 to 7 p.m., the light in the corridors can be permanently switched on using a time switch (contact B1). Between 7 p.m. and 10 p.m., the lighting is dimmed using switch B2. Simply press the corridor pushbutton again to return the lighting to the bright setting at any time. After 10 p.m., the light is switched off. It can be switched back on at any time by pressing the corridor pushbutton.

Corridor lighting in hospitals

During the day – i.e. during peak periods, lunch times, visiting times, shift changes, doctor's rounds – the light is switched on. During quiet periods, i.e. afternoons and nights, the light is switched to a dimmed state. A patient can switch the light back to the bright setting at any time by pressing the corridor pushbutton. In emergencies, the nurse can use a B1 switch to switch to "emergency operation", i.e. permanently bright (no time limit of brightness period).

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5TT3 timers for industry

Overview

Time relays are primarily used in series applications where the use of PLC controls is too labor and cost-intensive. Multifunction relays with a range of functionalities and clear and intuitive operation are now market standard.

Benefits

- Suitable for universal use because the devices can be operated with 12 - 240 V AC/DC and work across a broad range from seconds to hours
- An off-delay without auxiliary power supports expanded application

Technical specifications

			5TT3 185	5TT3 181 5TT3 182 5TT3 183	5TT3 184
Standards			EN 60255; DIN VDE 0435-110		
Supply					
• Rated control supply voltage U_c		V AC V DC	12 ... 240 12 ... 240	220 ... 240 --	110 ... 240 110 ... 240
- Primary operating range		× U_c	0.8 ... 1.1		
• Rated frequency f_n		Hz	45 ... 400	50/60	
• Rated power dissipation P_v		VA	Approx. 1.5	Approx. 5	Approx. 1
Setting ranges			See setting ranges, timing intervals		
Recovery time		ms	15 ... 80	Approx. 40	Approx. 100
Contacts					
• Switching channels					
- Rated operational voltage U_e		V AC	250		
- Rated operational current I_e		A	4	8	5
• Contact gap		mm	µ contact		
- Minimum contact load		V; mA	10; 300		
Rated impulse withstand voltage U_{imp}	Input/output	kV	> 4		
Electrical service life	In switching cycles At AC-15	1 A	1.5×10^5 --	-- 1.5×10^5	1.5×10^5 --
Connections					
• Terminals ±screw (Pozidriv)			2		
• Conductor cross-sections of main current paths					
- Rigid, max.		mm^2	2 × 2.5		
- Flexible, with end sleeve, min.		mm^2	2 × 1.5		
Environmental conditions					
• Permissible ambient temperature		°C	-40 ... +60		
• Resistance to climate	Acc. to EN 60068-1		40/60/4		

Selection and ordering data

	Contacts	U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A AC	V	MW							kg
	**Multifunction timers** Programmable for: response delay; passing make contact function; delayed pulse generator; clock generator starting with impulse; off-delay; pulse converter; passing break contact function; response/off-delay											
	1 CO	250	4	12 ... 240 DC 12 ... 240 AC	1	►	**5TT3 185**		1	1 unit	025	0.085
	Delay timers											
	1 CO	250	8	220 ... 240 AC	1	►	**5TT3 181**		1	1 unit	025	0.090
	Wiper timers											
	1 CO	250	8	220 ... 240 AC	1		**5TT3 182**		1	1 unit	025	0.079
	Flashing timers Pulse time is equal to idle time											
	1 CO	250	8	220 ... 240 AC	1		**5TT3 183**		1	1 unit	025	0.084
	Off-delay timers											
	1 CO	250	5	110 ... 240 AC 110 ... 240 DC	1		**5TT3 184**		1	1 unit	025	0.077

* You can order this quantity or a multiple thereof.

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More information

5TT3 185 multifunction timers

Setting aids

The period of the flashing of the green LED 1 when set for a timing interval is 1 s ± 4%, which can therefore be used as a setting aid. This is particularly useful in the lower time setting range and for long delay times because of the accuracy of the multiplication factors between the individual time ranges.

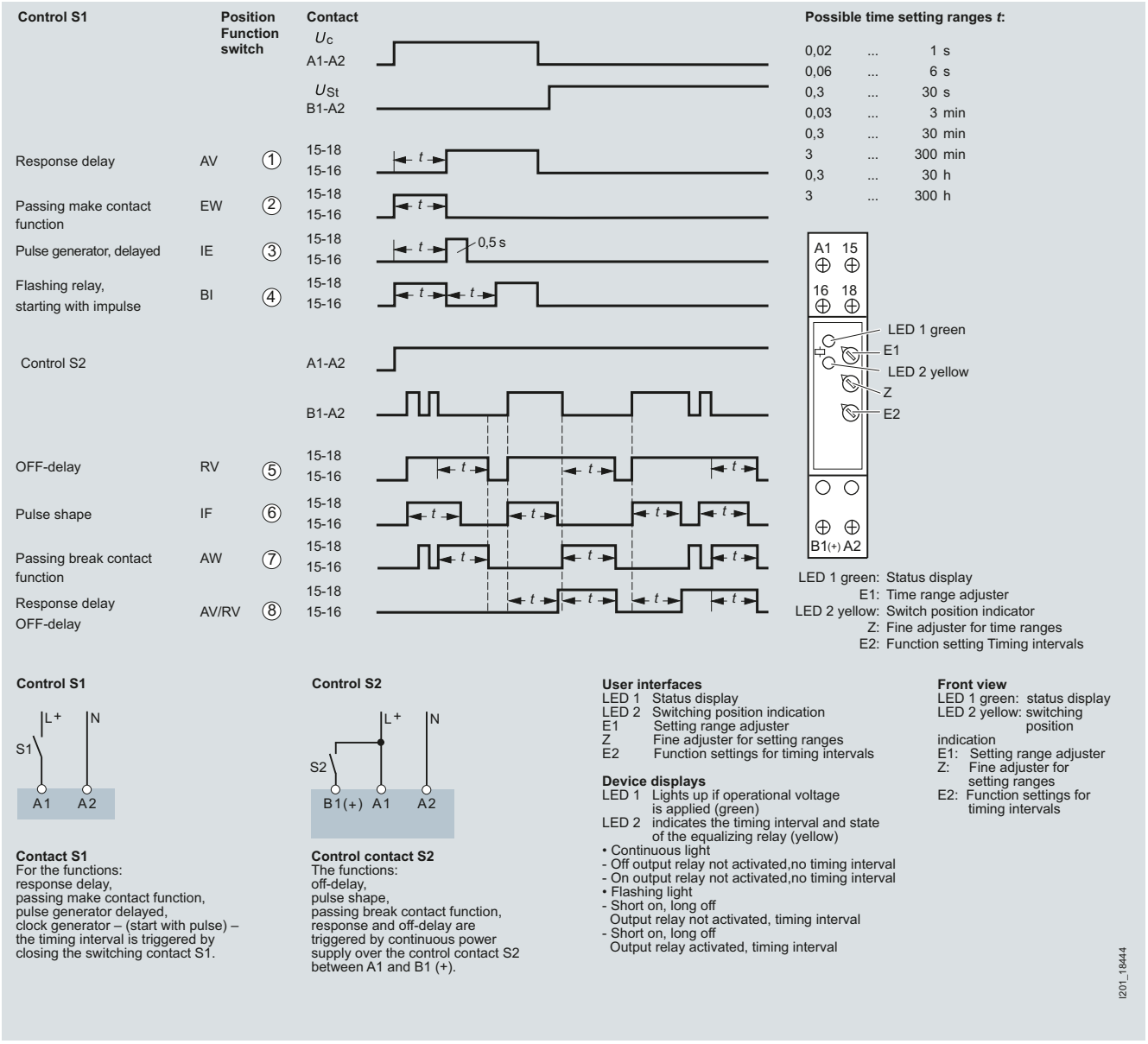
Example:
Delay time to be set: 40 min.
Using the fine setting, this delay time can be set within the setting range 3 ... 300 min. However, in this case it takes a long time to check the time and requires several operational sequences in realtime. To speed up the setting process, the setting range is switched to 0.03 ... 3 min. In this case, the required value corresponds to a delay time 0.4 min (= 24 s). The timing interval is triggered and the potentiometer is set to 24 flashing periods of the yellow LED 2. The device is then set back to the setting range 3 ... 300 min and the setting process is completed.

Time operation interruption/time addition

For the functions AV, EW, IE, BI, the timing interval can be interrupted at any time by activating B1 (+) and continued again by removing the control voltage (time addition).

Control input B1

The functions RV, IF, AW, AV/RV can be controlled using the control input B1 (+) with potential against terminal A2. The auxiliary voltage of terminal A1 - or any other voltage within the range 12 ... 240 V AC/DC - can be used for this purpose. The operation of parallel loads (e.g. contactors) from B1 (+) to A2 is also permissible.
If voltage is simultaneously applied to the control input B1 (+) and A1 for the IF function, an output pulse is triggered with the set time interval t_1.



Control S1

Contact S1
For the functions:
response delay,
passing make contact function,
pulse generator delayed,
clock generator – (start with pulse) –
the timing interval is triggered by
closing the switching contact S1.

Control S2

Control contact S2
The functions:
off-delay,
pulse shape,
passing break contact function,
response and off-delay are
triggered by continuous power
supply over the control contact S2
between A1 and B1 (+).

User interfaces
LED 1 Status display
LED 2 Switching position indication
E1 Setting range adjuster
Z Fine adjuster for setting ranges
E2 Function settings for timing intervals

Device displays
LED 1 Lights up if operational voltage is applied (green)
LED 2 indicates the timing interval and state of the equalizing relay (yellow)
• Continuous light
- Off output relay not activated,no timing interval
- On output relay not activated,no timing interval
• Flashing light
- Short on, long off
Output relay not activated, timing interval
- Short on, long off
Output relay activated, timing interval

Front view
LED 1 green: status display
LED 2 yellow: switching position indication
E1: Setting range adjuster
Z: Fine adjuster for setting ranges
E2: Function settings for timing intervals

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Notes

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Transformers, Power Supply Units and Socket Outlets

9



9/2 **Introduction**

9/3 **4AC3 bell transformers**

9/4 **4AC3 safety transformers**

9/5 **4AC2 power supply units**

9/6 **5TE6 REG socket outlets**

For further technical product information:

Service&Support Portal:
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→ Product List:
Technical specifications

→ Entry List:
Updates / Downloads / FAQs / Manuals / Operating instructions / Characteristic curves / Certificates

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Introduction

Overview

Devices		Page	Application	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
	**4AC3 2 bell transformers**	9/3	Power supply up to 18 VA as safety extra-low voltage (SELV) in residential buildings for the supply of gongs, buzzers, bells, door openers and remote control switches	EN 61558-1 EN 61558-2-8	✓	✓	--
	**4AC3 7 safety transformers**	9/4	Power supply up to 63 VA as safety extra-low voltage (SELV) for the supply of control circuits, switching relays and Insta contactors	EN 61558-1 EN 61558-2-6	✓	--	✓
	**4AC2 power supply units**	9/5	Direct voltage power supply up to 24 V DC and 2 A as safety extra-low voltage (SELV) for the supply of gongs, buzzers, bells, door openers, switching relays and Insta contactors	EN 61558-2-6	✓	✓	✓
	**5TE6 REG socket outlets**	9/6	For power supply during maintenance in distribution boards in DIN VDE, CEE 7, CEI 23-50 and UL 489 versions	DIN VDE 0620-1, CEE 7 standard sheet V, CEI 23-50, UL 498	✓	✓	✓

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Overview

A typical application for these bell transformers is short-time use, as occurs with bells, gongs, door openers or remote control switches in residential buildings.

Siemens bell transformers are protected against short-circuit or moderate overload by a PTC resistor. After a short circuit, the primary current must be briefly disconnected from the mains before restarting.

Higher output voltages will occur in the event of low-load or no-load operation.

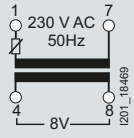
Technical specifications

			4AC3 208-0	4AC3 208-1	4AC3 214-0	4AC3 218-0
Standards			EN 61558-1:2005, EN 61558-2-8:2010			
Approvals						
Rated operational power P_s		VA	8	8	14	18
Rated operational voltage U_e		V AC	230			
Operating range at 50 Hz		$\times U_e$	1.04			
Rated frequency		Hz	50			
Rated secondary voltage U_{sec}						
		V AC	--	--	--	4
		V AC	8	8	8	8
		V AC	--	12	12	
		V AC	--	--	24	--
Rated secondary current I_{sec}						
• At 4 V		A AC	--	--	--	2.0
• At 8 V		A AC	1.0	1.0	2.0	2.0
• At 12 V		A AC	--	0.6	1.3	1.5
• At 24 V		A AC	--	--	0.6	--
Rated power dissipation P_V						
• In no-load operation		W	1.2	1.2	1.3	1.3
• At a rated voltage of 4 V		W	--	--	--	5.5
• At a rated voltage of 8 V		W	5.7	5.7	10.5	8.1
• At a rated voltage of 12 V		W	--	3.8	7.4	8.4
• At a rated voltage of 24 V		W	--	--	4.2	--
Safe separation						
• Creepage distances and clearances		mm	> 6			
Insulation class			E			
Test voltage, 50 Hz, 1 second						
• Primary against secondary winding		kV	4			
Conductor cross-sections						
• Rigid		mm^2	1 x 4 or 2 x 2.5			
• Flexible, with end sleeve		mm^2	1 x 2.5 or 2 x 1.5			
Permissible ambient temperature		°C	40	35	40	40
Permissible humidity		%	91			
Degree of protection	Acc. to EN 60629		IP20			
Safety class	Acc. to EN 61140		II			

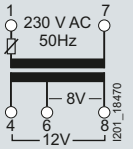
Selection and ordering data

	U_e	U_{sec}	I_{sec}	P_s	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V AC	V AC	A AC	VA	MW							kg
	Bell transformers											
	230	8	1.0	8	2		**4AC3 208-0**		1	1 unit	028	0.241
		8/12	1.0/0.6	8	2		**4AC3 208-1**		1	1 unit	028	0.266
		8/12/24	2.0/1.3/0.6	14	2		**4AC3 214-0**		1	1 unit	028	0.376
		8/12	2.0/1.5	18	2		**4AC3 218-0**		1	1 unit	028	0.358

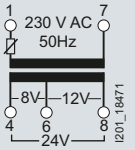
Circuit diagrams



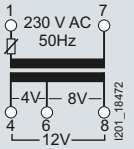
4AC3 208-0



4AC3 208-1



4AC3 214-0



4AC3 218-0

* You can order this quantity or a multiple thereof.

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4AC3 safety transformers

Overview

These transformers up to 63 VA provide a safety extra-low voltage for supplying control circuits, switching relays or Insta contactors in continuous operation as alternating voltage power supply for 8 V, 12 V, 16 V, 24 V and 32 V AC.

Higher output voltages will occur in the event of low-load or no-load operation. Siemens safety transformers are protected against short circuit or moderate overload by a PTC resistor. After a short circuit, the primary current must be briefly disconnected from the mains before restarting.

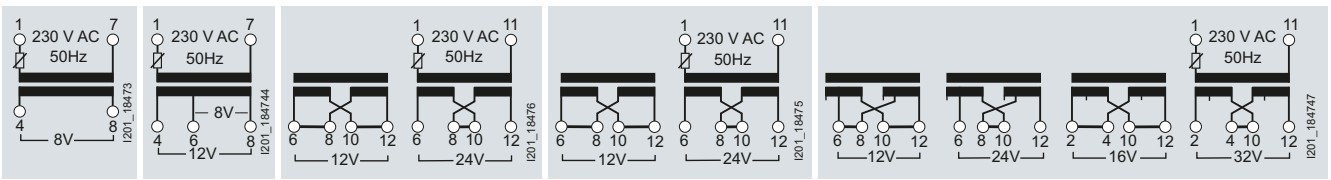
Technical specifications

			4AC3 716-0	4AC3 724-0	4AC3 740-0	4AC3 740-1	4AC3 763-0
Standards			EN 61558-1:2005, EN 61558-2-6:2009				
Rated operational power P_s		VA	16	24	40	40	63
Rated operational voltage U_e		V AC	230				
Operating range at 50 Hz		$\times U_e$	1.04				
Rated frequency		Hz	50				
Rated secondary voltage U_{sec}							
		V AC	8	8	--	--	--
		V AC	--	--	12	12	2 × 12
		V AC	--	12	--	--	--
		V AC	--	--	--	16	--
		V AC	--	--	24	24	24
		V AC	--	--	--	32	--
Rated secondary current I_{sec}							
• At 8 V		A AC	2.0	2.0	--	--	--
• At 12 V		A AC	--	2.0	3.3	3.3	5.2
• At 16 V		A AC	--	--	--	2.5	--
• At 24 V		A AC	--	--	1.6	1.6	2.6
• At 32 V		A AC	--	--	--	1.2	--
Rated power dissipation P_V							
• In no-load operation		W	1.1	1.1	3.5	3.9	3.9
• At a rated voltage of 8 V		W	6.8	4.6	--	--	--
• At a rated voltage of 12 V		W	--	7.6	7.1	7.5	13.2
• At a rated voltage of 16 V		W	--	--	--	7.7	--
• At a rated voltage of 24 V		W	--	--	7.7	8.1	13.5
• At a rated voltage of 32 V		W	--	--	--	7.6	--
Safe separation							
• Creepage distances and clearances		mm	> 6				
Insulation class			E		F		
Test voltage, 50 Hz, 1 second							
• Primary against secondary winding		kV	4				
Conductor cross-sections							
• Rigid		mm^2	1 x 4 or 2 x 2.5				
• Flexible, with end sleeve		mm^2	1 x 2.5 or 2 x 1.5				
Permissible ambient temperature		°C	25				
Permissible humidity		%	91				
Degree of protection	Acc. to EN 60629		IP20				
Safety class	Acc. to EN 61140		II				

Selection and ordering data

	U_e	U_{sec}	I_{sec}	P_s	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V AC	V AC	A AC	VA	MW							kg
	Safety transformers											
		8	2.0	16	2		**4AC3 716-0**		1	1 unit	028	0.413
		8/12	2.02.0	24	3		**4AC3 724-0**		1	1 unit	028	0.610
	230	12/16/24/32	3.3/2.5/1.6/1.2	40	5		**4AC3 740-1**		1	1 unit	028	1.220
		12/24	3.3/1.6	40	5		**4AC3 740-0**		1	1 unit	028	1.186
		2 x 12/24	5.2/2.6	63	5		**4AC3 763-0**		1	1 unit	028	1.321

Circuit diagrams



4AC3 716-0 | 4AC3 724-0 | 4AC3 740-1 | 4AC3 740-0 | 4AC3 763-0

* You can order this quantity or a multiple thereof.

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Overview

The electronic power supply unit provides a 24 V DC supply to systems with an operational voltage of 85 ... 265 V AC or 85 ... 300 V DC. The device operates in the lower class for minimum power supply with a safety extra-low voltage (SELV).

The electronic power supply unit is suitable for supplying the 5TT7 1 GSM alarm modules within a supply voltage range of 150 ... 230 V AC.

Technical specifications

			4AC2 402
Standards			EN 60068-2, EN 61558-1, EN 61000-4
Approvals			--
Rated operational power P_s		W	8.4
Rated operational voltage U_e		V AC V DC	85 ... 265 85 ... 300
Permissible operational voltage For the 5TT7 1 GSM alarm modules		V AC/DC	150 ... 265
Primary operating range	At 50/60 Hz	× U_e	--
Rated frequency		Hz	50/60
Operating frequency range		Hz	--
Rated secondary voltage U_{sec}		V DC	24 ± 5 %
Rated secondary current I_{sec}		A DC	0.35
Current limitation			Electronic overload protection
Residual ripple		mV	< 100
Rated power dissipation P_v	In no-load operation At rated load	W W	-- --
Hum-free	Core molded		--
Safe separation	Creepage distances and clearances	mm	> 5.5
Insulation class			--
Test voltage Primary against secondary winding	50 Hz, 1 min	kV	--
Insulation resistance		kV	4
Rated impulse withstand voltage/ degree of pollution	Acc. to IEC 60664-1		6 kV/2
Static discharge	Acc. to IEC/EN 61000-4-2	kV	8
RF irradiation	Acc. to IEC/EN 61000-4-3	V/m	10
Transient overvoltage (burst)	Acc. to IEC/EN 61000-4-4	kV	4
Transient overvoltage (surge) • Supply lines A1, A2 • A1/A2 and ground	Acc. to IEC/EN 61000-4-5	 kV kV	 1 2
RF, conducted disturbance	Acc. to IEC/EN 61000-4-6	V	10
Interference suppression to lower limit class	Acc. to EN 61000-6-3		Complied with
Terminals • Screw (slotted-head) • ±screw (Pozidriv)			 M2.5 --
Conductor cross-sections • Rigid • Flexible, with end sleeve, min.		 mm^2 mm^2	 0.5 ... 2.5 0.5 ... 1.5
Permissible ambient temperature		°C	-20 ... +60
Permissible humidity		%	
Resistance to climate	Acc. to IEC/EN 60068-1		20/045/04
Resistance to vibrations Frequency 10 ... 55 Hz	Acc. to IEC/EN 60068-2-6	mm	0.35 amplitude
Degree of protection	Acc. to EN 60529		IP20, with connected conductors
Safety class	Acc. to EN 61140		II

Selection and ordering data

	U_e		U_{sec}	I_{sec}	P_s	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V AC	V DC	V DC	A DC	W	MW							kg
	**Electronic power supply unit** SELV, short-circuit resistant												
	85 ... 265	85 ... 300	24 ± 5 %	0.35	8.4	2		**4AC2 402**		1	1 unit	028	0.081

* You can order this quantity or a multiple thereof.

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5TE6 REG socket outlets

Overview

The socket outlets for mounting in distribution boards to DIN 43880 and on standard mounting rails to DIN 60715 have since become standard in modern switchgear assemblies/distribution boards. The socket outlet range complies with a number of different standards and is available according to the standards of the following countries: VDE for Germany, CEE7 for Belgium/France, CEI for Italy and UL for USA.

In distribution boards with 55 mm mounting depth the socket outlet can only be used without the hinged lid. The lids can be retrofitted on all devices. In system components where equipment is still live, even after the main switch has been disconnected, this must be indicated according to EN 60204-1. Yellow socket outlets are used for these applications.

Technical specifications

		5TE6 800	5TE6 801	5TE6 810	5TE6 802	5TE6 803	5TE6 804
Standards		**VDE 0620-1**	**VDE 0620-1**	**VDE 0620-1**	**CEI 23-50**	**CEE 7 standard sheet V**	**UL 498**
Approvals		VDE 0620-1			--		UL File No. E258598/ CSA C22.2 No. 182.3M
Rated operational voltage U_e	V AC	230					125
Rated operational current I_e	A AC	16					15
Terminals ±screw (Pozidriv)		PZ1					
Terminal tightening torque, max.	N	1.2					
Stripped length	mm	10					
Conductor cross-sections							
• Rigid	mm^2	1.5 ... 6					
• Flexible, with end sleeve	mm^2	0.5 ... 4					
• Rigid	AWG	10 ... 14					
• Flexible	AWG	14					
Permissible ambient temperature	°C	-10 ... +55					
Degree of protection Acc. to EN 60529		IP20, with connected conductors					
Mounting position		Without cover: any, with cover: vertical or horizontal					

Selection and ordering data

	U_e	I_e	Conductor cross-section	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V AC	A	mm^2	MW							kg
	**SCHUKO® socket outlets according to DIN VDE 0620-1**										
	• Without hinged lid										
	230	16	6	2.5	▶	**5TE6 800**		1	1 unit	029	0.086
	**SCHUKO® socket outlets according to DIN VDE 0620-1**										
	• With hinged lid										
	230	16	6	2.5	▶	**5TE6 801**		1	1 unit	029	0.093

* You can order this quantity or a multiple thereof.

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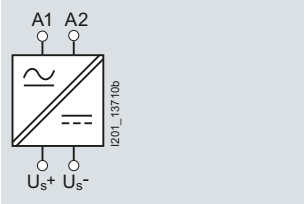
5TE6 REG socket outlets

	U_e	I_e	Conductor cross-section	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V AC	A	mm^2	MW							kg
	**SCHUKO® socket outlets according to DIN VDE 0620-1**										
	• Without hinged lid, yellow RAL 1018										
	230	16	6	2.5	►	**5TE6 810**		1	1 unit	029	0.089
	**Socket outlets according to CEI 23-50**										
	• With hinged lid										
	230	16	6	2.5	►	**5TE6 802**		1	1 unit	029	0.093
	**Socket outlets according to CEE 7 Standard sheet V**										
	• Without hinged lid, with grounding pin										
	230	16	6	2.5	►	**5TE6 803**		1	1 unit	029	0.089
	**UL 498 socket outlets**										
	• Without hinged lid										
	125	15	6	2.5	►	**5TE6 804**		1	1 unit	029	0.088
	**Hinged lids for 5TE6 socket outlets**			2.5		**5TE9 120**		1	1 unit	029	0.019

9

Circuit diagrams

Graphical symbols



4AC2 402

* You can order this quantity or a multiple thereof.

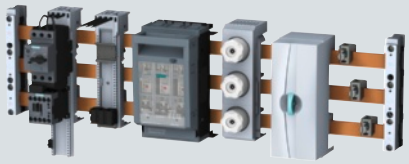
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Notes

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Busbar Systems

10



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10/3 **General data**

40 mm busbar systems
10/6 Introduction
10/7 Base assemblies up to 400 A

60 mm busbar systems
10/8 Introduction
10/9 Base assemblies up to 630 A
10/13 Base assemblies up to 1600 A
10/14 Infeed and connection methods
10/16 Busbar device adapters and device holders
10/23 Connector for 3NP1 fuse switch disconnectors
10/24 Accessories

10/26 **Distribution board components**

10/28 **Built-in components**

10

For further technical product information:

Service&Support Portal:
www.siemens.com/lowvoltage/technical-support

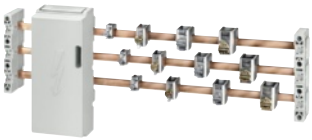
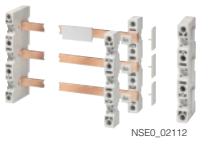
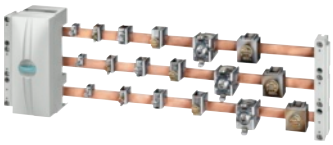
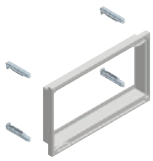
→ Product List:
Technical specifications

→ Entry List:
Updates / Downloads / FAQs / Manuals / Operating instructions / Characteristic curves / Certificates

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Introduction

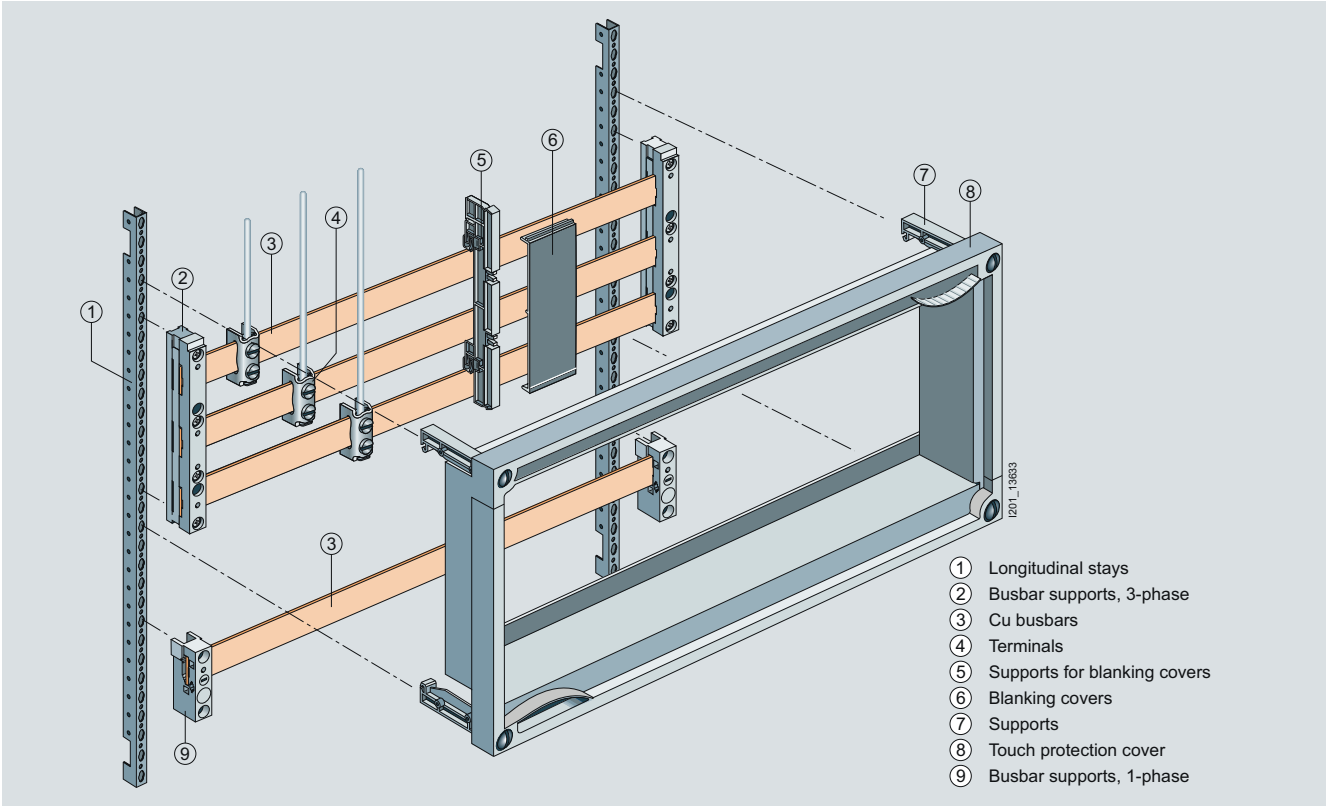
Overview

Devices		Page	Application	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
	**40 mm busbar systems**	10/6	Base assemblies up to 400 A, busbar supports, busbars, covers for the touch protection	EN 13601 IEC 60439-1 IEC 61439-2	✓	--	✓
	Base assemblies up to 400 A	10/7	Base assemblies up to 400 A, busbar supports, busbars, covers for the touch protection	EN 13601 IEC 60439-1 IEC 61439-2	✓	--	✓
	**60 mm busbar systems**	10/8	Base assemblies up to 630 A, overview with different devices	EN 13601 IEC 60439-1 IEC 61439-2 UL 508 A	✓	--	✓
	Base assemblies up to 630 A	10/9	Base assemblies up to 630 A, busbar supports, busbars, covers for the touch protection	EN 13601 IEC 60439-1 IEC 61439-2 UL 508 A	✓	--	✓
	Base assemblies up to 1600 A	10/13	Base assemblies up to 1600 A, busbar supports, busbars, covers for the touch protection	EN 13601 IEC 60439-1 IEC 61439-2 UL 508 A	✓	--	✓
	Infeed and connection methods	10/14	Infeed for busbar systems, terminals...	EN 13601 IEC 60439-1 IEC 61439-2 UL 508 A	✓	--	✓
	Busbar device adapters and device holders	10/16	Busbar device adapters and device holders for the assembly of load feeders 3RV2/3RT2	EN 13601 IEC 60439-1 IEC 61439-2 UL 508 A	✓	--	✓
	**Distribution board components**	10/26	Longitudinal stays, assembly kits, covers for the touch protection	IEC 60439-1 IEC 61439-3 VDE 0603-1	✓	--	✓
	**Built-in components**	10/28	3-pole NEOZED bus-mounting bases or DIAZED bus-mounting bases, NEOZED bus-mounting switch disconnectors, LV HRC fuse switch disconnectors and busbar device adapters.	IEC 60947-3 EN 60947-3 IEC 60269 EN 60269	✓	--	✓

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Overview

The use of busbar systems with their versatile rail-adaptable connection, switching and installation devices is an ideal and cost-effective electrotechnical enhancement of modern distribution boards due to their small footprint, compact design and quick assembly contacts. Mounting is implemented on longitudinal stays. The busbar spacing is 60 mm.



Benefits

Notable cost reduction compared to conventional installation in switchgear and control cabinets due to the following reasons:

- Mechanical fixing and electrical contacting in a single step
- No access wiring and fewer busbar terminals used
- Double use of the busbar space
- Clear arrangement
- Straightforward replacement of individual devices or whole combinations
- High operational safety through finger-safe cover of the adapters and device holders

All the above advantages are felt especially in cases where many tap-off units of the same performance range are required.

Application

8US busbar systems are used for the direct busbar-mounting of current-limiting devices (protective devices) such as fuse switch disconnectors and circuit breakers as well as complete load feeders.

8US busbar systems are designed for horizontal mounting of the busbars.

Design

8US busbar systems with 60 mm busbar center-to-center spacing as well as flat copper profiles have become firmly established on the world market.

The permissible busbar temperature is decisive when dimensioning the busbars. The busbar temperature is dependent on the current and the current distribution, on the busbar cross-section and the busbar surface, on the position of the busbars, convection and the ambient temperature. The values stated in the following table can only be considered as guide values because the conditions vary with each location. The values are based on continuous current over the whole busbar length.

The busbar runs prove most advantageous when the infeed is centrally located and the load is distributed symmetrically on both sides.

Function

Short-circuit strength

The short-circuit strength of the busbar system is dependent on the distance of the busbar supports and on the busbar cross-section.

The short-circuit strength of the whole system is dependent on the short-circuit strength of the busbars and of the adapters with circuit breakers or switch disconnectors. If one of these values is lower than the prospective short-circuit current at the installation site, a current-limiting protective device has to be mounted upstream of the 8US busbar system. This may also be mounted as a feeder circuit breaker on the busbar system itself.

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General data

Technical specifications

Continuous current for busbars, E-Cu bare, at 35 °C ambient temperature according to DIN 43671

Bar dimensions	System	Continuous current at a busbar temperature of		
		65 °C	85 °C	105 °C
mm	mm	A	A	A
12 × 5	40 + 60	188	248	295
15 × 5	40 + 60	222	293	349
20 × 5	60	274	362	430
25 × 5	60	327	432	513
30 × 5	60	379	500	595
12 × 10	40 + 60	302	398	474
20 × 10	60	427	564	670
30 × 10	60	573	756	900
Special profile up to 1600 A	60	1020	1020	1600

General technical specifications

Rated insulation voltage U_i	V AC	**1000**
Short-circuit strength		
Of 8US1 busbar device adapter		Current limitation due to associated motor starter protectors/circuit breakers/load feeders up to 50 kA
Of the busbar systems		see Characteristic Curves
Material of the 8US1 busbar supports, busbar device adapters and device holders		Glass-fiber reinforced polyamide
Color		RAL 7035, light gray
Thermal stability (minimum values)		
Busbar supports, busbar device adapters, device holders, infeed and caps	°C	120
AWG connecting cables	°C	105 / 150
Cover profiles	°C	110
Bases, partitions, edge profiles and blanking covers	°C	70
Machining of plastic profiles		Take care when machining that no cracks are formed. A cross-cut circular saw with the following characteristic values has proven successful in cutting cover profiles for busbars: • D = 300 mm, B 0 2.2 mm, • T = 120 R (5° negative replaceable tooth at a cutting rate of 50 ... 60 m/s, • tooth feed 0.05 ... 0.1 mm) The plastic parts are secured so that vibration is ruled out.
Approvals		
Busbar supports, busbar device adapters, device holders and terminals		UR, CSA, c UL us Listed

Technical specifications of the system components

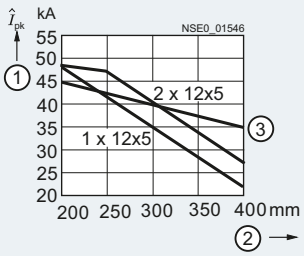
Infeed, connection modules, three-phase		5SH3 538	5SH3 535	8US19 21-1BA00	8US19 21-1AA00
Busbar center-to-center spacing	mm	60	60	60	60
Current carrying capacity of the terminal points The specified current carrying capacities reflect the thermal load capability of the terminal points under favorable conditions (with the largest conductors it is possible to connect). This does not invalidate the assignment of conductor cross-sections and current carrying capacities as defined in national and international specifications.	A	80	560	300	440
Tightening torques	Nm	--	30	8 ... 10	12 ... 15
Clamping space W × H	mm	--	--	10 × 15	15 × 15
Conductors that can be used	mm^2	1.5 ... 16 Cu, re, rm, f, f+AE (reduction of the maximum conductor cross-sections may be required)	150 ... 300 Cu, Al (connections with aluminum conductors are not maintenance free), rm, sm, f	6 ... 50 (70) Cu, rm, f, f+AE (reduction of the maximum conductor cross-sections may be required), la. Cu 6 × 9 × 0.8	35 ... 120 Cu, rm, f, f+AE (reduction of the maximum conductor cross-sections may be required), la. Cu 6/10 × 15.5 × 0.8

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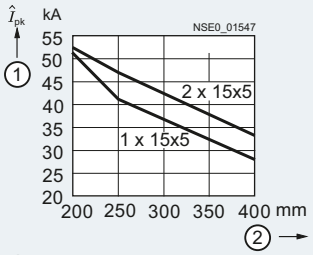
Characteristic curves

Characteristic curves as a function of rated peak withstand current

40 mm busbar systems

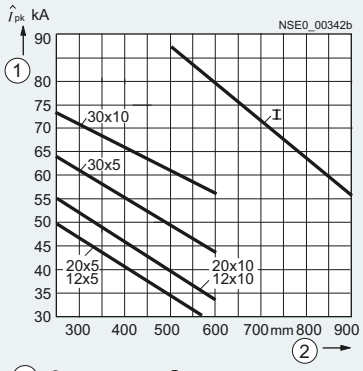


① Surge current I_{pk}
② Spacing of busbar supports
③ 5-pole busbar supports



① Surge current I_{pk}
② Spacing of busbar supports

60 mm busbar systems



① Surge current I_{pk}
② Spacing of busbar supports

Current-carrying capacity values for flat bars acc. to DIN 43671

According to DIN 43671, current-carrying capacity values for flat bars are defined as 35 °C ambient temperature and 65 °C busbar temperature.

If a higher bar temperature than 65°C is possible, the busbars can be operated with higher current values according to the following formula: $I = I_n * k_2$

Example

Under normal operating conditions (35°C ambient temperature and 65°C bar temperature), a 30 x10 mm busbar can handle loads up to 630 A. However, you want the busbar to handle a higher current, at the expense of an increased busbar temperature of max. 85 °C.

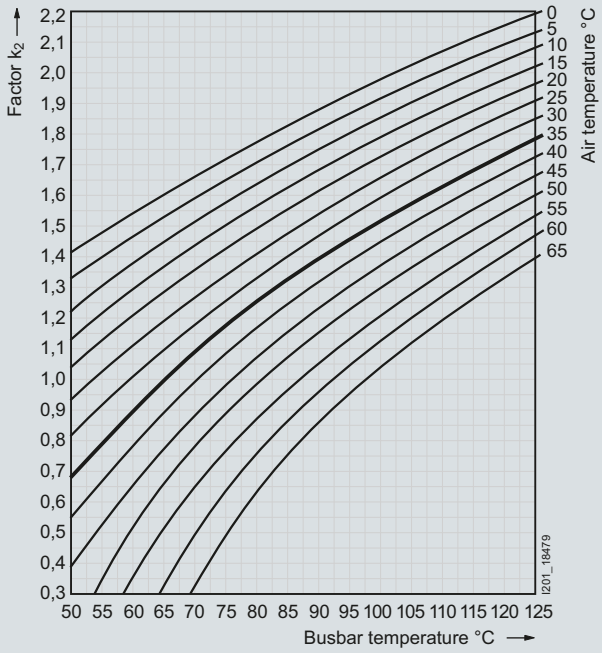
The following applies:

- Bar type: Busbar
- Busbar size: 30 x 10
- Max. bar temperature: 85 °C
- Ambient temperature: 35 °C

The figure on the right shows the correction factor k_2 = 1.3 for the current-carrying capacity.

This results in a higher value of 630 A * 1.3 = 819 A.

If the 30 x10 busbar is to be operated with a bar temperature of 85°C, it may be loaded with maximum 819 A.



Current-carrying capacity values for 30 x 10 mm flat bars acc. to DIN 43671, depending on ambient and bar temperature

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Introduction

Overview



The 40 mm busbar system for the lower performance range up to 400 A Terminals and covers for infeed and connection methods

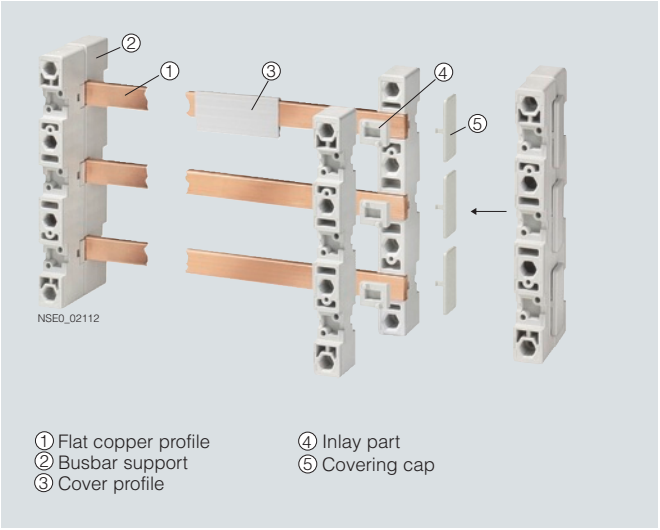
The 40 mm busbar system is used in machine engineering and distribution boards, in meter cabinets and in power distribution systems of the low performance range up to 400 A.

The busbar cross-sections are adapted to the rated currents and are available in the sizes 12 x 5 mm, 12 x 10 mm, 15 x 5 mm and 15 x 10 mm. The basic system is configured without covers. If touch protection is required, this is possible with busbar covers.

Terminals round off the product range of the 40 mm busbar system.

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Overview



40 mm busbar system: Base assembly up to 400 A

Selection and ordering data

	Description		DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	②④⑤ Busbar supports								
	End and intermediate holders for flat copper profiles								
 8US19 03-3AB00	12 mm x 5 mm, 12 mm x 10 mm, 15 mm x 5 mm, 15 mm x 10 mm 3-pole, with inside fixing (PU = 2 busbar supports including inlay parts for bar thickness 5 mm and lateral finger-safe covers)			**8US19 03-3AB00**		1	1 unit	143	0.183
 8US19 03-5AA00	5-pole, 12 mm x 5 mm and 12 mm x 10 mm with inside fixing	L1–L3 + N + PE/N		**8US19 03-5AA00**		1	1 unit	143	0.119
	① Flat copper profiles (flat profile, approx. 2.4 m long, bare, according to EN 12167)								
 8WC5	12 mm × 5 mm 15 mm × 5 mm			**8WC5 123** **8WC5 121**		1 1	1 unit 1 unit	143 143	1.100 1.550
	③ Cover profiles for busbars								
 8US19 22-2CA00	12 mm × 5 mm	1000 mm long		**8US19 22-2CA00**		1	10 units	143	0.058
	15 mm × 5 mm	1000 mm long		**8US19 22-2AA00**		1	10 units	143	0.150

10

* You can order this quantity or a multiple thereof.

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Introduction

Overview



The 60 mm busbar system for the medium and top performance range up to 1600 A, here for example with the 3NP1 switch disconnector, size 3

The 60 mm busbar system is used preferably in control cabinet installation, in motor control centers and in power distribution systems of the medium power range (630 A) and top performance range (1600 A, special profile).

The 60 mm busbar system can be configured as a basic system without covers. The busbar cross-sections are available in the sizes 12 x 5 mm to 30 x 10 mm and as a special profile.

Busbar adapters for SIRIUS, 3VL circuit breakers, 3KA and 3KL switch disconnectors, and 3NP1 and 3NP5 fuse switch disconnectors offer numerous options for configuring this busbar system. Infeed units, terminals and other accessories open up a large range of applications.

Busbars with a special profile are suitable for applications up to 1600 A. All components of the 60 mm busbar system can be fitted.

SIRIUS motor starter combinations

SIRIUS motor starter combinations can be configured with and without fuses.

The compact 3NW7 ... -1 cylindrical fuse holders for IEC fuses, size 10x38mm, or 3NW7... -1HG UL for Class CC fuses are suitable for use with fused motor starter combinations.

With a width of 45 mm, SIRIUS motor starter combinations are the same width as the majority of contactors.

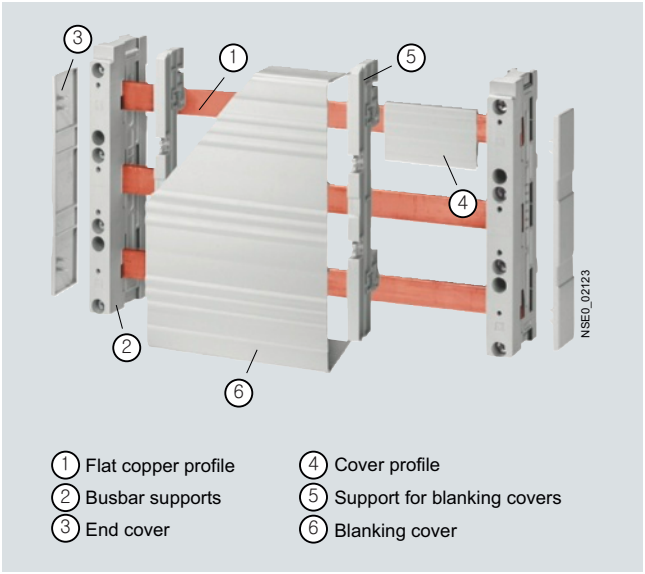
For further information and accessories, see chapter 5, "Fuse Systems" ➞ Cylindrical fuse systems ➞ Compact fuse holders for motor starter combinations.



Installation configuration of a cylindrical fuse holder and a SIRIUS contactor on busbar device adapter for the 60 mm busbar system

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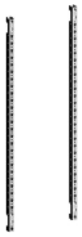
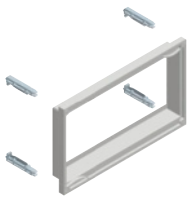
Overview



60 mm busbar system: Base assemblies up to 630 A

Selection and ordering data

Longitudinal stays and assembly kits for ALPHA distribution boards

	Description	Dimensions	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm							kg
	**Longitudinal stays** For mounting the assembly kits in unequipped distribution boards, two longitudinal stays are required for each assembly kit width								
		Height							
		600		**8GK4 851-4KK00**		1	1 set	039	1.000
		750		**8GK4 851-5KK00**		1	1 set	039	1.300
		900		**8GK4 851-6KK00**		1	1 set	039	1.500
		1050		**8GK4 851-7KK00**		1	1 set	039	1.800
		1200		**8GK4 851-8KK00**		1	1 set	039	2.080
		1350		**8GK4 852-8KK00**		1	1 set	039	2.340
	**Assembly kits** Comprising touch protection cover and 4 supports Cutout width for three-phase busbar systems								
	• 216 mm	300 × 250		**8GK4 801-2KK13**		1	1 unit	039	0.500
	• 466 mm	300 × 500		**8GK4 801-2KK23**		1	1 unit	039	0.700
	• 716 mm	300 × 750		**8GK4 801-2KK33**		1	1 unit	039	0.900
	• 216 mm	450 × 250		**8GK4 801-3KK13**		1	1 unit	039	0.650
	• 466 mm	450 × 500		**8GK4 801-3KK23**		1	1 unit	039	0.900
	• 716 mm	450 × 750		**8GK4 801-3KK33**		1	1 unit	039	1.150
	• 1 set = 2 stays								

* You can order this quantity or a multiple thereof.

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Base assemblies up to 630 A

Busbar support and end cover

	Description	Connections	Standard	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	② **Busbar supports**									
	End and intermediate holders for flat copper profiles 12, 15, 20, 25, 30 x 5, 10 mm									
	3-pole, with outside fixing	L1–L3			**8US19 23-2AA01**		1	10 units	143	0.160
 8US19 23-3AA01	3-pole, with inner fixing	L1–L3			**8US19 23-3AA01**		1	10 units	143	0.175
	4-pole, with inner fixing	L1–L3 + PE/N			**8US19 23-4AA00**		1	10 units	143	0.227
 8US19 23-5AA00	2-pole, with outside fixing				**8US19 23-5AA00**		1	10 units	143	0.098
	N/PE busbar supports 12, 20, 30 x 5, 10 mm									
 5SH3 540	1-pole, for flat copper profile for 5/10 mm busbars	PE/N			**5SH3 540**		1	1 unit	031	0.059
	N/PE busbar supports 6 x 6 mm 12, 15, 20, 25, 30 x 5, 10 mm									
 8US19 23-1AA01	1-pole, for copper profiles for mounting on 8US1923-2AA01 3-pole busbar supports or free standing	PE/N	UL508		**8US19 23-1AA01**		1	1 unit	143	0.039

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* You can order this quantity or a multiple thereof.

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	Description	Connections	Standard	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
 8US19 23-3UA01	**End and intermediate holders for flat copper profiles 5 mm x 20 mm, 10 mm x 20 mm, 10 mm x 30 mm**									
	3-pole, with inner fixing	L1–L3	UL 508[1)]		**8US19 23-3UA01**		1	10 units	143	0.126
 8US19 22-1AC00	③ **End covers**									
	For covering free busbar ends									
	• For 8US19 23-2AA01, 3AA01 and -3UA01	L1–L3	UL 508		**8US19 22-1AC00**		1	10 units	143	0.031

Covers, supports for blanking covers, flat copper profiles and busbar connection parts

	Description	Length	Width	Standard	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
		mm	mm								
	④ **Cover profiles for busbars**										
 8US19 22-2CA00	12 mm x 5 mm	1000				**8US19 22-2CA00**		1	10 units	143	0.058
 8US19 22-2AA00	15 mm x 5 mm, 20 mm x 5 mm, 25 mm x 5 mm, 30 mm x 5 mm	1000		UL 508		**8US19 22-2AA00**		1	10 units	143	0.150
	12 mm x 10 mm, 15 mm x 10 mm, 20 mm x 10 mm, 25 mm x 10 mm, 30 mm x 10 mm	1000		UL 508		**8US19 22-2BA00**		1	10 units	143	0.150
	⑤ **Supports for blanking covers**										
 8US19 22-2EA0.	Mounting on busbar, 32 mm depth (2 units per section of blanking cover)			UL 508		**8US19 22-2EA00**		1	4 units	143	0.500
	Mounting on busbar, 107 mm depth (2 units per section of blanking cover)			UL 508		**8US19 22-2EA01**		1	8 units	143	0.081
	⑥ **Blanking covers**										
 8US19 22-2EB00	Mounting on 8US1922-2EA.. support for blanking covers Height 195 mm, Depth 63 mm, Length 700 mm			UL 508		**8US19 22-2EB00**		1	2 units	143	0.700

[1)] Only with base plate 8US19 22-2UA01

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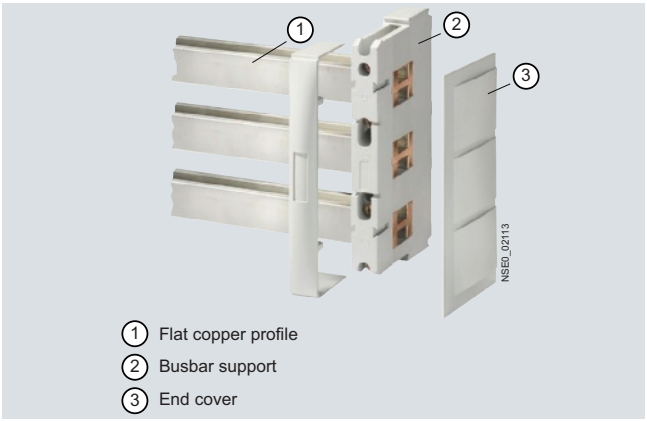
Base assemblies up to 630 A

	Description	Length	Cross-section	Standard	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	mm^2								kg
 8US19 22-2UA01	**Base plates**										
	For 3-pole system, width 230 mm	1100	--	UL 508		**8US19 22-2UA01**		1	2 units	143	0.575
	① **Flat copper profiles (flat profile, bare)**										
	Flat copper profiles for universal applications										
	• 12 x 5 mm, current intensity 200 A	2400	60	EN 12167		**8WC5 123**		1	1 unit	143	1.100
	• 15 x 5 mm, current intensity 250 A	2400	75	EN 12167		**8WC5 121**		1	1 unit	143	1.550
	• 20 x 5 mm, current intensity 320 A	2400	100	EN 12167		**8WC5 126**		1	1 unit	143	1.780
	• 20 x 5 mm, current intensity 400 A	1100	125	EN 12167		**8WC5 031-1AA00**		1	1 unit	143	2.240
	• 25 x 5 mm, current intensity 400 A	2400	125	EN 12167		**8WC5 131**		1	1 unit	143	2.240
	• 30 x 5 mm, current intensity 447 A	1100	150	EN 12167		**8WC5 033-1AA00**		1	1 unit	143	2.680
	• 30 x 5 mm, current intensity 447 A	2400	150	EN 12167		**8WC5 133**		1	1 unit	143	2.680
	• 20 x 10 mm, current intensity 520 A	2400	200	EN 12167		**8WC5 128**		1	1 unit	143	3.200
	• 30 x 10 mm, current intensity 630 A	2400	300	EN 12167		**8WC5 134**		1	1 unit	143	5.360
	Flat copper profile for ALPHA distribution boards										
	• 12 x 5 mm, current intensity 250 A	250	60	EN 12167		**8GK9 731-0KK10**		1	5 units	039	0.100
		500	60	EN 12167		**8GK9 731-0KK20**		1	5 units	039	0.330
		750	60	EN 12167		**8GK9 731-0KK30**		1	5 units	039	0.500
		1000	60	EN 12167		**8GK9 731-0KK40**		1	5 units	039	0.660
		1250	60	EN 12167		**8GK9 731-0KK50**		1	5 units	039	0.830
		500	60	EN 12167		**8GK9 733-0KK20**		1	5 units	039	0.570
		750	60	EN 12167		**8GK9 733-0KK30**		1	5 units	039	0.850
		1000	60	EN 12167		**8GK9 733-0KK40**		1	5 units	039	1.120
		1250	60	EN 12167		**8GK9 733-0KK50**		1	5 units	039	1.470
	• 20 x 5 mm, current intensity 320 A	250	100	EN 12167		**8GK9 733-0KK10**		1	5 units	039	0.290
	• 30 x 5 mm, current intensity 447 A	250	150	EN 12167		**8GK9 735-0KK10**		1	5 units	039	0.400
		500	150	EN 12167		**8GK9 735-0KK20**		1	5 units	039	0.750
		750	150	EN 12167		**8GK9 735-0KK30**		1	5 units	039	1.460
		1000	150	EN 12167		**8GK9 735-0KK40**		1	5 units	039	2.170
		1250	150	EN 12167		**8GK9 735-0KK50**		1	5 units	039	2.880
	• 30 x 10 mm, current intensity 630 A	250	300	EN 12167		**8GK9 736-0KK10**		1	5 units	039	0.750
		500	300	EN 12167		**8GK9 736-0KK20**		1	5 units	039	1.720
		750	300	EN 12167		**8GK9 736-0KK30**		1	5 units	039	2.600
		1000	300	EN 12167		**8GK9 736-0KK40**		1	5 units	039	3.400
		1250	300	EN 12167		**8GK9 736-0KK50**		1	5 units	039	4.600
	① **Flat copper profiles, tinned**										
	• 12 x 5 mm, current intensity 200 A	2000	60	EN 12167		**8WC5 051**		1	1 unit	143	1.100
	• 15 x 5 mm, current intensity 250 A	2000	75	EN 12167		**8WC5 052**		1	1 unit	143	1.550
	• 20 x 5 mm, current intensity 320 A	2000	100	EN 12167		**8WC5 053**		1	1 unit	143	1.780
	• 25 x 5 mm, current intensity 400 A	2000	125	EN 12167		**8WC5 054**		1	1 unit	143	2.240
	• 30 x 5 mm, current intensity 447 A	2000	150	EN 12167		**8WC5 055**		1	1 unit	143	2.680
	• 20 x 10 mm, current intensity 520 A	2000	200	EN 12167		**8WC5 063**		1	1 unit	143	3.200
	• 30 x 10 mm, current intensity 630 A	2000	300	EN 12167		**8WC5 065**		1	1 unit	143	5.360
 8JK3 20	**Extension terminals**	--	--	--		**8JK3 201**		1	10 set	046	0.020
	For busbars 12 mm x 5 mm, tightening torque 6.0 Nm (busbar not included, 1 set = 2 units)										
	Busbar connection pieces for bars										
 8US19 21-2BE00	For flat profiles (max. 630 A) 20 mm × 5 mm, 20 mm × 10 mm, 25 mm × 5 mm, 25 mm × 10 mm, 30 mm × 5 mm, 30 mm × 10 mm	40	--	--		**8US19 21-2BE00**		1	6 units	143	0.275
 8US19 21-2BF00	For flat profiles (max. 630 A) 12 mm × 5 mm, 12 mm × 10 mm, 15 mm × 5 mm, 15 mm × 10 mm, 20 mm × 5 mm, 20 mm × 10 mm	55	--	--		**8US19 21-2BF00**		1	12 units	143	0.216

* You can order this quantity or a multiple thereof.

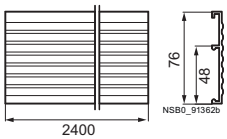
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Overview



60 mm busbar system: Base assembly up to 1600 A

Selection and ordering data

	Description		Standard	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
 8US19 43-3AA00	**Busbar supports**									
	3-pole, end and intermediate holder with finger-safe busbar cover (1 pack = 2 busbar supports + finger-safe end covers)	L1–L3	UL 508		**8US19 43-3AA00**		1	1 unit	143	1.140
 8US19 48-2AA00	**Flat copper profiles (approx. 2.4 m long, tinned)**									
	Special profile up to 1600 A, cross-section 720 mm^2				**8US19 48-2AA00**		1	1 unit	143	16.000
 8US19 48-2AA00	**Cover profiles**									
	For flat copper profiles, length 1000 mm				**8US19 22-2DA00**		1	5 units	143	0.400
 8US19 41-2BF00	**Busbar connection pieces**									
	For special profiles/TT profiles up to 1600 A				**8US19 41-2BF00**		1	3 units	143	1.116
 8US19 22-1JA00	**Partitions, closed** 76 mm wide, 2400 mm long For additional lateral touch protection at the top/bottom				**8US19 22-1JA00**		1	1 unit	143	0.500
 8US19 22-2EA0.	**Supports for blanking covers**									
	Mounting on busbar, 32 mm depth (2 units per section of blanking cover)		UL 508		**8US19 22-2EA00**		1	4 units	143	0.500
	Mounting on busbar, 107 mm depth (2 units per section of blanking cover)		UL 508		**8US19 22-2EA01**		1	8 units	143	0.081
 8US19 22-2EB00	**Blanking covers**									
	Mounting on 8US1922-2EA.. support for blanking covers, Height 195 mm, Depth 63 mm, Length 700 mm		UL 508		**8US19 22-2EB00**		1	2 units	143	0.700

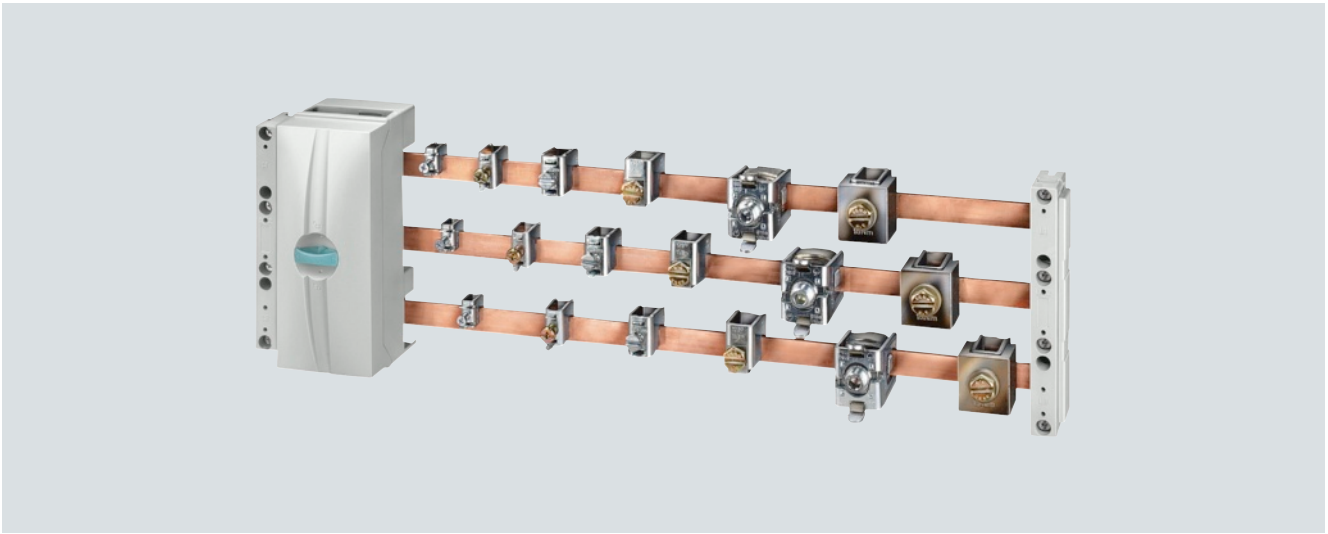
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Infeed and connection methods

Overview



60 mm busbar system: Terminals and covers for infeed and connection methods

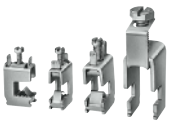
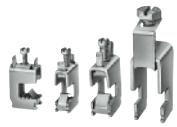
Selection and ordering data

	Description	Length	Width	max. current	Conductor cross-section	Standard	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	mm	A	mm^2								kg
 8US19 21-1AA00	**Infeeds**												
	Connecting terminal plate with cover												
	• 3-pole	200	20	80	1.5 ...16	UL 508		**5SH3 538**		1	5 units	031	0.181
	• 3-pole	200	54	300	6 ... 50	UL 508		**8US19 21-1BA00**		1	1 unit	143	0.386
	• 3-pole	200	81	400	35 ... 120	UL 508		**8US19 21-1AA00**		1	1 unit	143	0.507
	Outgoing modules for PE/N												
	Connection module for 4-pole (PE/N) up to 16 mm must be attached to an adapter/device holder	242	18	--				**8US12 00-0AA00**		1	1 unit	143	0.116
 5SH3 535	**SR60 connecting terminal plates**												
	3-pole with cover, suitable for aluminum conductors (shown without cover)			560	150 ... 300			**5SH3 535**		1	1 unit	031	1.608
 8US19 41-2AA03	**Terminal sets**												
	3-pole without cover for round cables suitable for aluminum conductors			560	120 ... 300			**8US19 41-2AA03**		1	1 unit	143	1.577

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Infeed and connection methods

	Description	Max. current	Conductor cross-section mm²	Stan-dard	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
 8US19 41-2AA04	**Terminal sets**										
	3-pole without cover for flat bars up to 32 x 20 mm	800		UL 508		**8US19 41-2AA04**		1	1 unit	143	1.377
 8US19 22-1GC00	Covers for 8US19 41-2AA03/04 terminal set					**8US19 22-1GC00**		1	1 unit	143	0.306
	Terminals for circular conductors										
	5 mm busbar thickness[1]										
 Terminals	12 mm × 5 mm,	180	1.5 ... 16	180	▶	**8US19 21-2AA00**		100	100 units	143	0.200
	15 mm × 5 mm,	270	4 ... 35	270	▶	**8US19 21-2AB00**		100	50 units	143	4.700
	20 mm × 5 mm,	400	16 ... 70	400	▶	**8US19 21-2AD00**		1	50 units	143	0.059
	25 mm × 5 mm,	440	16 ... 120	440	▶	**8US19 21-2AC00**		1	50 units	143	0.104
	30 mm × 5 mm	180	1.5 ... 16	180	▶	**8US19 21-2AA01**		1	15 units	143	0.021
		270	4 ... 35	270	▶	**8US19 21-2AB01**		1	15 units	143	0.045
		400	16 ... 70	400	▶	**8US19 21-2AD01**		1	15 units	143	0.072
		440	16 ... 120	440	▶	**8US19 21-2AC01**		1	15 units	143	0.105
	20 mm × 5 mm,	500	95 ... 185	500	▶	**8US19 41-2AA01**		1	6 units	143	0.304
	25 mm × 5 mm,	600	150 ... 300	600	▶	**8US19 41-2AA02**		1	3 units	143	0.411
	30 mm × 5 mm										
	10 mm bar thickness										
 Terminals	12 mm × 10 mm,[1]	180	1.5 ... 16	180	▶	**8US19 21-2BA00**		1	100 units	143	0.021
	15 mm × 10 mm,[1]	270	4 ... 35	270	▶	**8US19 21-2BB00**		1	50 units	143	0.033
	20 mm × 10 mm,	400	16 ... 70	400	▶	**8US19 21-2BD00**		1	50 units	143	0.071
	25 mm × 10 mm,	440	16 ... 120	440	▶	**8US19 21-2BC00**		1	50 units	143	0.102
	30 mm × 10 mm	180	1.5 ... 16	180	▶	**8US19 21-2BA01**		1	15 units	143	0.022
		270	4 ... 35	270	▶	**8US19 21-2BB01**		1	15 units	143	0.070
		400	16 ... 70	400	▶	**8US19 21-2BD01**		1	15 units	143	0.072
		440	16 ... 120	440	▶	**8US19 21-2BC01**		1	15 units	143	0.107
	20 mm × 10 mm,	500	95 ... 185	500	▶	**8US19 41-2AA01**		1	6 units	143	0.304
	25 mm × 10 mm,	600	150 ... 300	600	▶	**8US19 41-2AA02**		1	3 units	143	0.411
	30 mm × 10 mm										
	Terminal covers for circular conductors (fixing to busbar)										
 8US19 22-1GA00	For terminals up to 120 mm² 200 mm long, 84 mm wide				▶	**8US19 22-1GA00**		1	10 units	143	0.119
	For terminals up to 300 mm²[2] 200 mm long, 270 mm wide				▶	**8US19 22-1GA02**		1	1 unit	143	0.665
	Terminals										
 8US19 41-2AC00	For cable lugs up to 240 mm², 10 mm bar thickness (threaded bolts M10)	630		630		**8US19 41-2AC00**		1	6 units	143	0.356
 8US19 41-2BB00	For copper bars or laminated conductors 20 mm x 5 mm, 20 mm x 10 mm, 25 mm x 5 mm, 25 mm x 10 mm, 30 mm x 5 mm, 30 mm x 10 mm	750		750		**8US19 41-2BB00**		1	6 units	143	0.329
 8US1941-2BA00	For 2 x 40 mm x 10 mm for TT flat copper profile 30 x 10 profile for flat bars up to 40 x 25	1250		1250		**8US19 41-2BA00**		1	3 units	143	0.815

[1] Cannot be used on a special profile up to 1600 A.

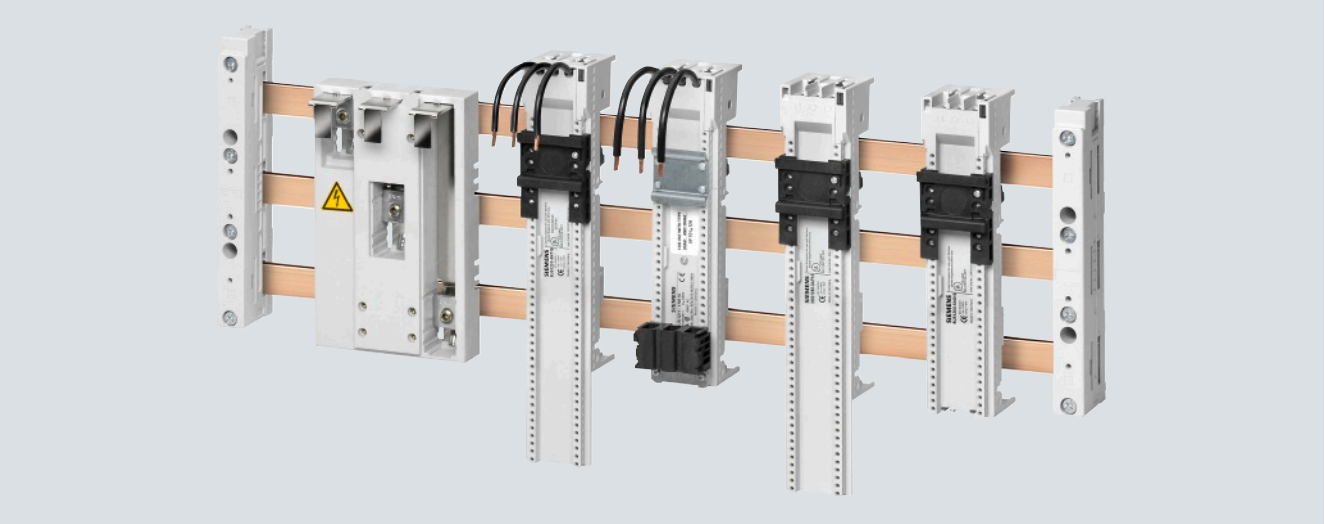
[2] Only for 20 mm × 5 mm, 20 mm × 10 mm, 25 mm × 5 mm, 25 mm × 10 mm, 30 mm × 5 mm and 30 mm × 10 mm.

* You can order this quantity or a multiple thereof.

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Busbar device adapters and device holders

Overview



60 mm busbar system: Busbar device adapters and device holders

All busbar device adapters and device holders are designed for copper busbars according to DIN 46433, width 12 to 30 mm, thickness 5 mm and 10 mm, and special profiles up to 1600 A.

Selection and ordering data

For SIRIUS 3RV2/3RT2 load feeders

Welded connecting cable resistant up to 150 °C

	Busbar device adapters for	Number of support rails (35 mm)	Adapter Length	Adapter Width	Connecting cable Cross-section	Connecting cable Temperature max.	Connecting cable Rated current	Connecting cable Rated voltage	Standard	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
			mm	mm	AWG	°C	A	V								kg
 Device holders with 3RA21 20	**Size S00 devices with screw connection**															
	Circuit breakers	1	200	45	12	150	25	690	UL 508	▶	**8US12 51-5DS10**		1	1 unit	143	0.310
	Direct-on-line starters	1	200	45	12	150	25	690	UL 508	▶	**8US12 51-5DS10**		1	1 unit	143	0.310
		1	260	45	12	150	25	690	UL 508	▶	**8US12 51-5DT10**		1	1 unit	143	0.324
	Reversing starters	1	200	45	12	150	25	690	UL 508	▶	**8US12 51-5DS10**		1	1 unit	143	0.310
	+ Device holders	1	200	45	--	--	--	--	UL 508	▶	+ **8US12 50-5AS10**		1	1 unit	143	0.219
 Device holders with 3RA21 20	**Size S00 devices with screw connection**															
	Circuit breakers	1	200	45	12	150	25	690	UL 508	▶	**8US12 51-5DS11**		1	1 unit	143	0.314
	Circuit breakers	1	260	45	12	150	25	690	UL 508	▶	**8US12 51-5DT11**		1	1 unit	143	0.324
	Direct-on-line starters	1	260	45	12	150	25	690	UL 508	▶	**8US12 51-5DT11**		1	1 unit	143	0.324
	Reversing starters	1	260	45	12	150	25	690	UL 508	▶	**8US12 51-5DT11**		1	1 unit	143	0.324
	+ Device holders	1	260	45	--	--	--	--	UL 508	▶	+ **8US12 50-5AT10**		1	1 unit	143	0.264

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Busbar device adapters and device holders

	Busbar device adapters for	Number of support rails (35 mm)	Adapter Length	Adapter Width	Connecting cable Cross-section	Connecting cable Temperature max.	Connecting cable Rated current	Connecting cable Rated voltage	Standard	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
			mm	mm	AWG	°C	A	V								kg
	Size S0 devices with screw connection															
 Device holders with 3RA22 20	Circuit breakers	1	260	45	10	150	32	690	UL 508	►	**8US12 51-5NT10**		1	1 unit	143	0.287
	Direct-on-line starters	1	260	45	10	150	32	690	UL 508	►	**8US12 51-5NT10**		1	1 unit	143	0.287
	Reversing starters	1	260	45	10	150	32	690	UL 508	►	**8US12 51-5NT10**		1	1 unit	143	0.287
	+ Device holders	1	260	45	--	--	--	--	UL 508	►	+ **8US12 50-5AT10**		1	1 unit	143	0.264
	Size S0 devices with spring-type terminals															
 Device holders with 3RA22 20	Circuit breakers	1	260	45	10	150	32	690	UL 508	►	**8US12 51-5NT11**		1	1 unit	143	0.400
	Direct-on-line starters	1	260	45	10	150	32	690	UL 508	►	**8US12 51-5NT11**		1	1 unit	143	0.400
	Reversing starters	1	260	45	10	150	32	690	UL 508	►	**8US12 51-5NT11**		1	1 unit	143	0.400
	+ Device holders	1	260	45	--	--	--	--	UL 508	►	+ **8US1250-5AT10**		1	1 unit	143	0.264

Lateral modules for busbar device adapters

	Description	Length	Width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	mm							kg
	Lateral modules									
	for extending busbar device adapters and device holders of the same length	200	9		**8US19 98-2BJ10**		1	1 unit	143	0.020

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Busbar device adapters and device holders

For SIRIUS 3RV1/3RT1 load feeders

	Busbar device adapters for	Number of support rails (35 mm)	Adapter Length	Adapter Width	Connecting cable Cross-section	Connecting cable Temperature max.	Connecting cable Rated current	Connecting cable Rated voltage	Standard	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
			mm	mm	AWG	°C	A	V								kg
 Reversing feeders	**Size S2 devices**															
	Circuit breakers	1	182	55	8	105	56	690		▶	**8US12 61-5FM08**		1	1 unit	143	0.279
	Contactors + overload relay	1	182	55	8	105	56	690		▶	**8US12 61-5FM08**		1	1 unit	143	0.279
	Direct-on-line starters	1	242	55	8	105	56	690		▶	**8US12 61-5FP08**		1	1 unit	143	0.293
	Reversing starter adapter	1	242	55	8	105	56	690		▶	**8US12 61-5FP08**		1	1 unit	143	0.293
	+										+					
 Connecting wedges	Device holders[1]	--	242	54	--	--	--	--	--	▶	**8US12 60-5AP00**		1	1 unit	143	0.182
	+										+					
	Connecting wedges (2 units needed for attachment)	--	--	--	--	--	--	--	--	▶	**8US19 98-1AA00**		100	100 units	143	0.100
 Device holders	**Size S3 devices with screw connection**															
	Circuit breakers	--	215	72	4	105	80	600	UR, CSA		**8US12 11-4TR00**		1	1 unit	143	0.623

[1] Spacer and fixing screw for reversing contactor are included in the scope of delivery.

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For motor starter protectors/circuit breakers and switch disconnectors which require busbar device adapters for mounting on busbars

	Busbar device adapters for	Adapter Length	Adapter Width	Connecting cable Type	Connecting cable Rated current	Connecting cable Rated voltage	Standard	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	mm		A	V								kg
 8US10 11-4SL01	**3VL molded case circuit breakers**[1]													
	3VL1[2]	175	108	Busbars	160	690			**8US12 11-4SL01**		1	1 unit	143	0.579
	3VL2[2]	175	108	Busbars	160	690			**8US12 11-4SL01**		1	1 unit	143	0.579
	3VL3[3]	175	108	Busbars	250	690			**8US12 11-4SL00**		1	1 unit	143	0.641
	3VL1 to 3VL4 and also with DI module[2] see chapter 2	320	184	M10 pin connector	400	690			**8US12 10-4AF00** + **8US19 27-4AF01**		1	1 unit	143	2.688
	3VL5	325	184	Tubular contacts	580	690			**8US12 13-4AF00**		1	1 unit	143	3.239
 8US12 13-4AQ01	**3VL UL circuit breakers**													
	VL150X UL CG frame	190	105	Tubular contacts	150	600	UL 508		**8US12 13-4AQ01**		1	1 unit	143	1.116
	VL150 UL DG frame	190	105	Tubular contacts	150	600	UL 508		**8US12 13-4AQ03**		1	1 unit	143	1.114
	VL250 UL FG frame	190	105	Tubular contacts	250	600	UL 508		**8US12 13-4AQ03**		1	1 unit	143	1.114
 8US12 13-4AH00	VL400 UL JG-Frame	296	140	Tubular contacts	400	600	UL 508		**8US12 13-4AH00**		1	1 unit	143	2.539
	VL400X UL LG-Frame	296	140	Tubular contacts	540	600	UL 508		**8US12 13-4AH00**		1	1 unit	143	2.539
	3KA and 3KL switch disconnectors													
	3KA52[4] 3KA53[4] 3KL52[4] 3KL53[4]	320	184	M10 pin connector	630	690			**8US12 10-4AF00**		1	1 unit	143	2.688
	3KA55[4] 3KA57[4] 3KA58[4] 3KL55[4] 3KL57[4]	320	250	M10 pin connector	630	690			**8US12 10-4AG00**		1	1 unit	143	2.926
	3NP5 fuse switch disconnectors													
	3NP50 60 (NH00)	175	108	Busbars	160	690			**8US12 91-4SB00**		1	1 unit	143	0.524
	3NP52[3] 3NP53[3] 3NP54[5]	320	250	M10 pin connector	630	690	UL 508		**8US12 10-4AG00**		1	1 unit	143	2.926

1) Observe the short-circuit strength of the busbar system. Short-circuit strength > 50 kA on request.

2) Usable only for 3VL circuit breakers with line-side box terminals.

3) Only for 3VL 250 A circuit breakers, for screw fixing with metric thread, for flat terminals.

4) Without connecting cables. The connecting cable between adapter and device should be manufactured in accordance with the rated current as a round cable, e.g. H07V-R with cable lug, or as a flat conductor for an M10 stud terminal.

5) Without connecting cables. The connecting cable between adapter and device should be manufactured in accordance with the rated current as a round cable, e.g. H07V-R, bared at both ends for tunnel terminals.

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Busbar device adapters and device holders

For SIRIUS 3RA6 compact feeders according to IEC and UL

Welded connecting cable resistant up to 105 °C

	Busbar device adapter for	Number of support rails (35 mm)	Adapter Length	Adapter Width	Connecting cable Cross-section	Connecting cable Temperature max.	Connecting cable Rated current	Connecting cable Rated voltage	Standard	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
			mm	mm	AWG	°C	A	V								kg
 Device holders	**Size equivalent to 3RA61**															
	Direct-on-line starters	1	200	45	10	105	32	690	UR, CSA	▶	**8US12 11-1NS10**		1	1 unit	143	0.300
 Device holders	**Size equivalent to 3RA62**															
	Reversing starters	1	200	45	10	105	32	690	UR, CSA	▶	**8US12 11-1NS10**		1	1 unit	143	0.300
	+										+					
	Device holders	1	200	45	--	--	--	--	UL 508	▶	**8US12 50-1AA10**		1	1 unit	143	0.278

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For universal device design

	Number of support rails (35 mm)	Adapter Length	Adapter Width	Connecting cable Cross-section	Connecting cable Temperature max.	Connecting cable Length	Rated current	Rated voltage	Standard	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	mm	AWG	°C	mm	A	V								kg
	Devices 45 mm wide															
	Device holder for side mounting onto busbar device adapter, no electrical contact															
 8US1250-1AA10	1	200	45	--	--	--	--	--	UL 508	▶	**8US12 50-1AA10**		1	1 unit	143	0.278
 8US1250-5AS10	1	200	45	--	--	--	--	--	UL 508	▶	**8US12 50-5AS10**		1	1 unit	143	0.219
 8US1250-5AT10	1	260	45	--	--	--	--	--	UL 508	▶	**8US12 50-5AT10**		1	1 unit	143	0.264
	Devices 45 mm and 72 mm wide															
	Busbar device adapter with connecting cables for contact with busbars, welded connecting cable resistant up to 150 °C															
 8US1251-5DS10	1	200	45	12	150	165	25	690	UL 508	▶	**8US12 51-5DS11**		1	1 unit	143	0.314
	1	200	45	12	150	99	25	690	UL 508	▶	**8US12 51-5DS10**		1	1 unit	143	0.310
	1	260	45	12	150	99	25	690		▶	**8US12 51-5DT10**		1	1 unit	143	0.324
	1	260	45	12	150	165	25	690	UL 508	▶	**8US12 51-5DT11**		1	1 unit	143	0.324
	1	260	45	10	150	99	32	690	UL 508	▶	**8US12 51-5NT10**		1	1 unit	143	0.287
 8US1211-4TR00	1	260	45	10	150	165	32	690	UL 508	▶	**8US12 51-5NT11**		1	1 unit	143	0.400
	1	200	45	10	105	118	32	690	UL 508	▶	**8US12 11-1NS10**		1	1 unit	143	0.300
	--	215	72	4	105	210	100	690	UR, CSA		**8US12 11-4TR00**		1	1 unit	143	0.623
	Lateral modules															
	for extending busbar device adapters and device holders of the same length															
 8US19 98-2BJ10	--	200	9	--	--	--	--	--			**8US19 98-2BJ10**		1	1 unit	143	0.020

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* You can order this quantity or a multiple thereof.

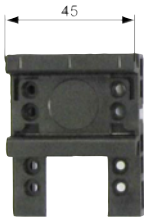
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Accessories for SIRIUS 3RV2/3RT2 load feeders

Selection and ordering data

Accessories for SIRIUS 3RV2/3RT2 load feeders are designed for:

- 8US 60-mm busbar system for Cu busbars according to DIN 46433
- Width 12 mm up to 30 mm, thickness 5 mm and 10 mm
- And special profiles up to 1600 A

	Description	Length	Width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	mm							kg
	Busbar connection pieces for bars									
	20 mm × 5 mm, 20 mm × 10 mm, 25 mm × 5 mm, 25 mm × 10 mm, 30 mm × 5 mm, 30 mm × 10 mm	40			**8US19 21-2BE00**		1	6 units	143	0.275
	12 mm × 5 mm, 12 mm × 10 mm, 15 mm × 5 mm, 15 mm × 10 mm, 20 mm × 5 mm, 20 mm × 10 mm	55			**8US19 21-2BF00**		1	12 units	143	0.216
8US19 21-2BE00 / 8US19 21-2BF00										
	Support rails (35 mm)									
	Support rails made of plastic with fixing screws		45		**8US19 98-7CB45**		1	10 units	143	0.014
	Support rails made of plastic with fixing screws		54		**8US19 98-7CB54**		1	10 units	143	0.016
	Support rails made of plastic with fixing screws		72		**8US19 98-7CB72**		1	10 units	143	0.030
	**Connecting elements**									
	For connecting busbar adapters and device holders			▶	**8US19 98-1AA10**		1	50 units	143	0.001
	**Spacers**									
	Fix the branch to the busbar adapter			▶	**8US19 98-1BA10**		1	10 units	143	0.005
	Vibration & shock kit			▶	**8US19 98-1CA10**		1	2 units	143	0.013
	**Lateral modules**									
	For extending busbar device adapters and device holders of the same length	200	9		**8US19 98-2BJ10**		1	1 unit	143	0.020

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Selection and ordering data

For snap connections to 60-mm-busbar systems

	Rated current I_u	LV HRC fuse links according to IEC 60269-1 DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A	Size						kg
For cover level 32 / 70 mm, with reach-around protection for 8US busbar system								
	Basic units							
 3NP1 133-1BC20	**Flat terminals**							
	160	00 / 000	**3NP1 133-1BC10**		1	1 unit	143	1.155
	250	1 and 0	**3NP1 143-1BC10**		1	1 unit	143	3.245
	400	2 and 1	**3NP1 153-1BC10**		1	1 unit	143	4.314
	630	3 and 2	**3NP1 163-1BC10**		1	1 unit	143	5.260
	Box terminals							
	160	000	**3NP1 123-1BC20**		1	1 unit	143	0.971
	160	00 / 000	**3NP1 133-1BC20**		1	1 unit	143	1.146
	250	1 and 0	**3NP1 143-1BC20**		1	1 unit	143	3.306
	400	2 and 1	**3NP1 153-1BC20**		1	1 unit	143	4.672
	630	3 and 2	**3NP1 163-1BC20**		1	1 unit	143	5.538
	With MFM electromechanical fuse monitoring							
 3NP1 133-1BC21	**Flat terminals**							
	160	00 / 000	**3NP1 133-1BC11**		1	1 unit	143	1.698
	250	1 and 0	**3NP1 143-1BC11**		1	1 unit	143	3.914
	400	2 and 1	**3NP1 153-1BC11**		1	1 unit	143	5.016
	630	3 and 2	**3NP1 163-1BC11**		1	1 unit	143	5.910
	Box terminals							
	160	00 / 000	**3NP1 133-1BC21**		1	1 unit	143	1.702
	250	1 and 0	**3NP1 143-1BC21**		1	1 unit	143	3.993
	400	2 and 1	**3NP1 153-1BC21**		1	1 unit	143	5.500
	630	3 and 2	**3NP1 163-1BC21**		1	1 unit	143	6.223
	With electronic EFM 10 fuse monitoring							
 3NP1 133-1BC22	**Flat terminals**							
	160	00 / 000	**3NP1 133-1BC12**		1	1 unit	143	1.394
	250	1 and 0	**3NP1 143-1BC12**		1	1 unit	143	3.564
	400	2 and 1	**3NP1 153-1BC12**		1	1 unit	143	4.666
	630	3 and 2	**3NP1 163-1BC12**		1	1 unit	143	5.555
	Box terminals							
	160	000	**3NP1 123-1BC22**		1	1 unit	143	1.109
	160	00 / 000	**3NP1 133-1BC22**		1	1 unit	143	1.406
	250	1 and 0	**3NP1 143-1BC22**		1	1 unit	143	3.650
	400	2 and 1	**3NP1 153-1BC22**		1	1 unit	143	5.014
	630	3 and 2	**3NP1 163-1BC22**		1	1 unit	143	5.826
	With electronic EFM 20 fuse monitoring and line monitoring							
 3NP1 133-1BC23	**Flat terminals**							
	160	00 / 000	**3NP1 133-1BC13**		1	1 unit	143	1.411
	250	1 and 0	**3NP1 143-1BC13**		1	1 unit	143	3.641
	400	2 and 1	**3NP1 153-1BC13**		1	1 unit	143	4.750
	630	3 and 2	**3NP1 163-1BC13**		1	1 unit	143	5.611
	Box terminals							
	160	000	**3NP1 123-1BC23**		1	1 unit	143	1.121
	160	00 / 000	**3NP1 133-1BC23**		1	1 unit	143	1.470
	250	1 and 0	**3NP1 143-1BC23**		1	1 unit	143	3.685
	400	2 and 1	**3NP1 153-1BC23**		1	1 unit	143	5.090
	630	3 and 2	**3NP1 163-1BC23**		1	1 unit	143	5.920
	Accessories							
	**Connection modules**							
	For 32-mm-cover level with box terminal 6 mm ... 70 mm^2		**3NP1 933-1BC00**		1	1 unit	143	0.193

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* You can order this quantity or a multiple thereof.

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Accessories

Selection and ordering data

Accessories are designed for:

- 8US 60-mm busbar system for Cu busbars according to DIN 46433
- Width 12 mm up to 30 mm, thickness 5 mm and 10 mm
- And special profiles up to 1600 A

Adapters and device holders for SIRIUS 3RV1/3RT1 load feeders (discontinued types)

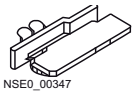
	Busbar device adapters	Number of support rails (35 mm)	Adapter Length	Adapter Width	Connecting cable Cross-section	Connecting cable Rated current	Connecting cable Rated voltage	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
			mm	mm	mm^2	A	V							kg
 8US12 50-5RM07	**Busbar device adapters with terminals (at top) for any arrangement of components**													
	--	1	182	45	1.5... 4	25	690		**8US12 50-5RM07**		1	1 unit	143	0.157
 8US19 50-1AM00	**Device holders for lateral mounting to busbar device adapters of the same length**													
	Device holders	1	182	45	--	--	--	▶	**8US12 50-5AM00**		1	1 unit	143	0.138
	Device holders	1	182	55	--	--	--	▶	**8US12 60-5AM00**		1	1 unit	143	0.223
	Device holders	--	242	54	--	--	--	▶	**8US12 60-5AP00**		1	1 unit	143	0.182
 Connecting wedges	Connecting wedges (2 units needed for attachment)	--	--	--	--	--	--	▶	**8US19 98-1AA00**		100	100 units	143	0.100
	Lateral modules for extending busbar device adapters and device holders of the same length													
 8US19 98-2BM00	Lateral modules	--	182	13.5	--	--	--		**8US19 98-2BM00**		1	4 units	143	0.034

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Other accessories for SIRIUS 3RV1/3RT1 load feeders (discontinued types)

	Description	Length	Width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm	mm							kg
	**Support rails (35 mm) – plastic with fixing screws**									
			45		**8US19 98-7CA15**		1	10 units	143	0.010
 Support rail			55		**8US19 98-7CA16**		1	10 units	143	0.001
			72		**8US19 98-4AA00**		1	10 units	143	0.014
			90		**8US19 98-7CA08**		1	10 units	143	0.020
			110		**8US19 98-7CA10**		1	10 units	143	0.019
 NSE0_00347 8US19 98-1DA00	**Connection holders** For fixing the circuit breaker to the support rail (for SIRIUS size S00/S0)				**8US19 98-1DA00**		100	20 units	143	0.100
 8US19 98-1CA00	**Screw holders** For supplementary screw mounting of the branch (for SIRIUS size S00/S0)				**8US19 98-1CA00**		100	20 units	143	0.300
 8US19 98-1BA00	**Spacers** Fix the branch to the busbar adapter (for SIRIUS size S00/S0)			►	**8US19 98-1BA00**		100	100 units	143	0.100
 Connecting wedges	**Connecting wedges** For mechanical linking of busbar device adapters and device holder (2 units per combination)			►	**8US19 98-1AA00**		100	100 units	143	0.100

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* You can order this quantity or a multiple thereof.

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Distribution board components

Overview

Material properties

Busbar supports and busbar-mounting fuse bases (see "Built-in components" from page 10/28) are manufactured from glass-fiber reinforced, thermoplastic polyester (color RAL 7035, light gray). The material ensures excellent mechanical, chemical and electrical properties. Furthermore, the material has an extremely low flammability and meets the requirements of UL 94 V0. This satisfies the load requirements of the busbar supports at rated operational voltage 500 V and rated currents at 200 A to 630 A, as well as the rated short-circuit strength 50 kA.

Ambient temperatures

When dimensioning the busbars based on rated currents, the ambient temperature and the Cu busbar temperature must also be taken into account.

The location of the busbar system and its ability to dissipate heat through convection also play a key role in this calculation. Because conditions can vary for each distribution board, the values in the following table serve as a guideline only. However, they must be applied to the entire busbar length.

Continuous currents depending on the Cu power rail dimensions and Cu busbar temperatures at 35°C ambient temperature

Cu busbar dimensions H × D	Continuous current for open busbar run – Ambient temperature 35 °C	Continuous current of fuse link Operational class gL/gG
mm × mm	A	A
12 × 5	200	200
12 × 10	360	315
15 × 5	250	250
15 × 10	447	400
20 × 5	320	315
20 × 10	520	500
25 × 5	400	400
25 × 10	580	500
30 × 5	447	400
30 × 10	630	630

As far as other types of upstream protective devices are concerned, please observe the permissible continuous current of the busbar.

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Dynamic rated short-circuit strength

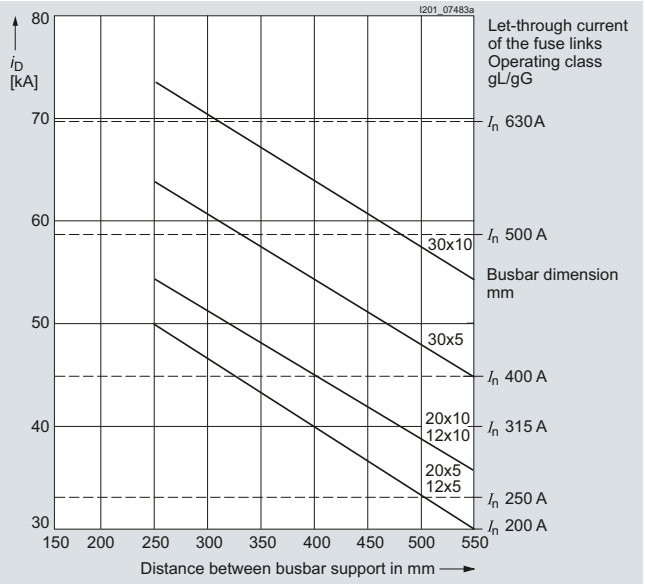
The electrodynamic load of the busbars depends on the level of short-circuit current, the length of the busbar section through which the current flows, the support spacing of the busbar supports and, of course, on the distance between the busbars themselves. This is because, for example, if an LV HRC fuse is connected upstream to the busbars in the protective device, the let-through current i_D is the maximum current to flow through this protective device. The value i_D depends on the maximum system short-circuit current and the current-limiting action of the protective device used. The permissible let-through values of the protective devices are specified by the manufacturers in the form of a current limitation diagram as a function of the so-called prospective short-circuit current (r.m.s. value of the possible rated short-circuit current for the system).

The current-limiting characteristics for the fuse links can be found in the Technical Information, see note on Technical Information at the beginning of the chapter.

For busbar supports with busbars of 12 mm x 5 mm to 20 mm x 5 mm, the distance between the holders of the support spacing should be adapted to suit the bars in the distribution board and, if possible, should not exceed 250 mm. When using busbars of 25 mm x 5 mm, 30 mm x 5 mm, 12 mm x 10 mm to 30 mm x 10 mm the distance can also be up to 500 mm. In the case of larger distances, subcarriers must be fitted, as increased support spacing reduces the dynamic stability.

It is essential to ensure that the permissible current carrying capacity of the individual busbars is not exceeded. A center infeed is required in the limit range. However, the infeed can also be carried out at both ends of the busbar.

Diagram of the dynamic short-circuit strength of the busbars



i_D: Let-through values (kA) of the LV HRC fuse links, operational class gL/gG with rated current 200 A to 630 A for a prospective short-circuit current I_p = 120 kA.

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Planning dimensions

	Width mm	MW
NEOZED bus-mounting bases D02		
Covers	27	1.5
Covers, extra wide	36	2.0
Covers, double width	54	3.0
DIAZED bus-mounting bases DII		
Covers	42	2.3
Covers, double width	84	4.7
DIAZED bus-mounting bases DIII		
Covers	57	3.2
Covers, double width	114	6.3
NEOZED bus-mounting switch disconnectors	27	1.5
LV HRC fuse switch disconnectors size 00	108	6

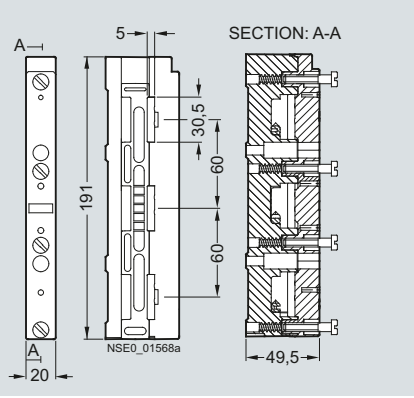
Number of built-in components that can be mounted

Height mm	Width mm	Cutout width mm	D02/63 A 5SH5 241 (27 mm width)	D02/63 A 5SH5 242 (36 mm width)	D02/63 A 5SH5 243 (54 mm width)	DII/25 A 5SH2 042 (42 mm width)	DIII/63 A 5SH2 242 (57 mm width)	5SG7 230 bus-mounting switch disconnectors D02 (26.8 mm width)
300	250	216	8	6	4	5	3	8
	500	466	17	12	8	11	8	17
	750	716	26	19	13	17	12	26
450	250	216	8	6	4	5	3	8
	500	466	17	12	8	11	8	17
	750	715	26	19	13	17	12	26

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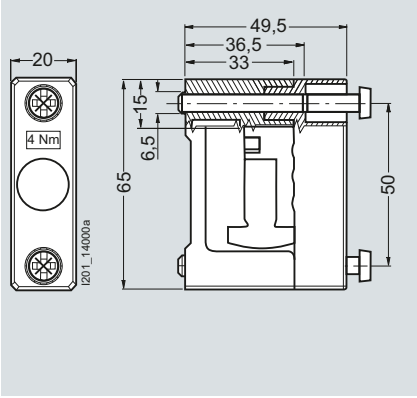
Dimensional drawings

8GK9 busbar support



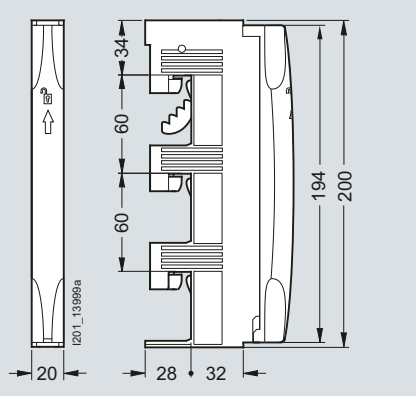
8GK9 711-0KK03

N/PE busbar support



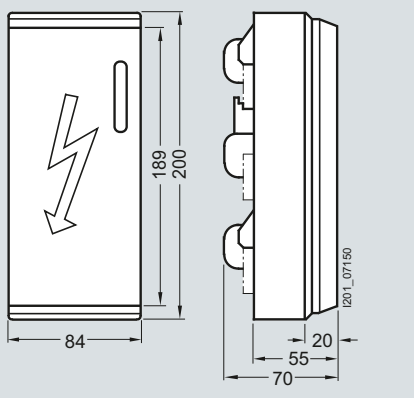
5SH3 540

Connection modules



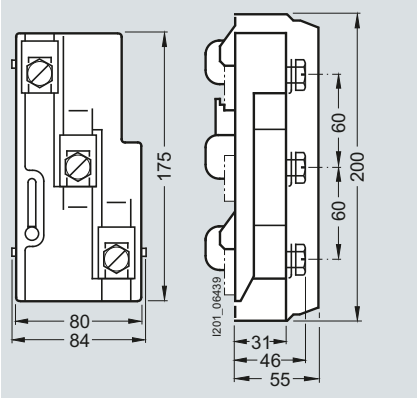
5SH5 538

Connection modules



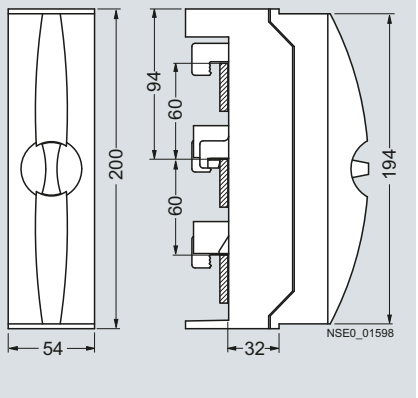
8US19 21-1AA00
shown closed

Connection modules



8US19 21-1AA00
shown opened

Connection modules



8US19 21-1BA00

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Built-in components

Overview

Rail-adaptable built-in components, such as NEOZED and DIAZED bus-mounting bases, adapters for modular installation devices, LV HRC fuse switch disconnectors and NEOZED bus-mounting fuse switch disconnectors are made of glass-fiber reinforced, thermoplastic polyester. The material ensures the required mechanical, chemical and electrical properties.

Efficient power distribution up to 630 A.
Users have several options for mounting the SR60 busbar system:

1. Mounting in distribution boards

The busbar supports are mounted on the longitudinal stays. Once the built-in components are mounted and connected, the touch protection cover (section cover) protects against accidental contact with live parts.

2. Installation in industrial control cabinets

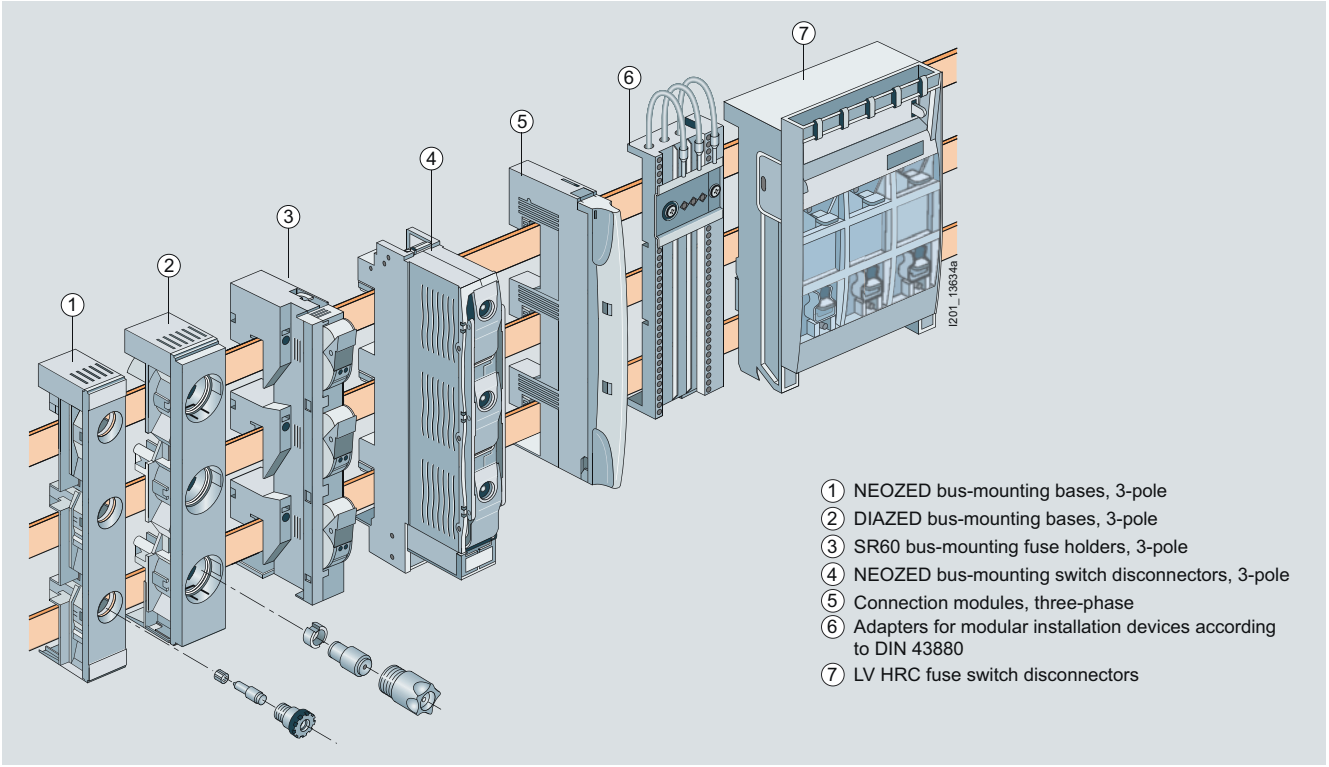
The demand for comprehensive touch protection has generated new solutions: built-in components, such as busbar fuse bases have integrated reach-through guards, enable the implementation of cost-effective overall solutions.

Previously two optional solutions were provided, which can now be replaced using new technology: touch protection over base and edges or touch protection over partitions.

Higher overall efficiency and cost savings in the plant engineering industry.

The fuse holders for cylindrical fuses, size 10 x 38 and for American fuses, Class CC, can be used in the international plant engineering industry. In addition, Siemens offers a broad range of UL-approved components for the design of switchgear assembly according to UL 508 A.
For further information, see chapter "BETA Devices according to UL Standards" in Catalog LV 16 · 2009.

Fuse holders are available with a connection module 16 mm² and screwless terminals; this offers users maximum safety and comfort.



1. NEOZED bus-mounting bases, 3-pole
2. DIAZED bus-mounting bases, 3-pole
3. SR60 bus-mounting fuse holders, 3-pole
4. NEOZED bus-mounting switch disconnectors, 3-pole
5. Connection modules, three-phase
6. Adapters for modular installation devices according to DIN 43880
7. LV HRC fuse switch disconnectors

Benefits

- The direct contact of the rail-adaptable switching and installation devices on the Cu busbars reduces distribution panels and mounting times
- Compared to conventional installation, the transfer resistance of the connections is drastically reduced This prevents unnecessary temperature rise.
- New built-in components with touch protection ensure comprehensive touch protection without the previously required partitions.
- International application due to UL-approved components.
- Enhanced effectiveness and increased safety due to screwless terminals.

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Technical specifications

		NEOZED SR60 bus-mounting bases 5SG6 202 5SG6 206 5SG6 207		DIAZED SR60 bus-mounting bases 5SF6 014 5SF6 015 5SF6 020	5SF6 214 5SF6 215 5SF6 220
		D01	D02	DII	DIII
Standards		IEC 60269-3			
Rated voltage	V AC/DC	400/250		500	690/600
Rated frequency	Hz	50			
Rated current	A	16 (with NEOZED retaining springs)	63	25	63
Rated conditional short-circuit current	kA AC kA DC	50 8		50 8	
For fuse links with power losses per phase	W	2.5	5.5	4	7
Busbar center-to-center spacing	mm	60		60	

		3NW7 431	3NW7 431-0HG 3NW7 432-0HG
Standards		IEC 60269-2, UL 512, CSA C22.2	UL 512, CSA C22.2
Approvals		, CSA	UL, CSA
Sizes		10 × 38	Class CC
Rated frequency	Hz	50/60	
Max. rated voltage U_e • IEC/EN • UL/CSA	 V AC V AC	 690 600	 -- 600
Max. rated operational current I_e (When several devices are used next to each other, it is essential to comply with the rated load factor according to EN 60439-1, Table 1.) • IEC/EN • UL/CSA	 A A	 32 30	 -- 30
Utilization categories • IEC/EN • UL/CSA		 AC-22B (500 V) AC-21B (690 V, 30 A) Can only be used as fuse holder	
Rated conditional short-circuit current (type-tested with fuse links, operational class gL/gG) • IEC/EN • UL/CSA	 kA kA	 100 (400 V, 500 V, 690 V) 50 (600 V)	 -- 200
For fuse links with power losses per phase	W	3	--
Screwless wire connections • IEC/EN • UL/CSA	 mm^2 AWG	 Cu 1.5 … 6 (f) 16 … 10 (str)	

		5SG7 230		3NW7 430
Standards		IEC 60269-3 IEC 60269-2		IEC 60269-3 IEC 60269-2
Approvals		VDE 0660-107, EN 60947-3, IEC 60947-3		VDE 0660-107, EN 60947-3, IEC 60947-3
Sizes		D01	D02	10 mm × 38 mm
Rated frequency	Hz	50/60		50/60
Rated voltage U_e	V AC V DC	400 110		690 --
Rated insulation voltage U_i	V	800		800
Rated impulse withstand voltage U_{imp}	kV	6		6
Rated operational current I_e	A	63[1)]		Up to 32
Utilization categories (Type-tested with 3-pole, switchable version)		AC-23 A (400 V) DC-21 B (48 V) – 1 Pole DC-21 B (110 V) – 2 Pole		AC-20 DC-20
Box terminals for wire connection	mm^2 mm^2 mm^2	Cu 1.5 … 6 (re) Cu 1.5 … 16 (f) Cu 1,.5 … 16 (f+AE)		Cu 1.5 … 6 (re) Cu 1.5 … 16 (f) Cu 1.5 … 16 (f+AE)
Signaling switches for the display of switching positions		1 CO		1 CO
Cable terminals		Bottom		Bottom
Busbar thickness	mm	Through combination foot for 5, 10 mm		
Rated conditional short-circuit current (type-tested with fuse links, operational class gL/gG)	kA AC kA DC	50 8		50 --
Permissible power loss of fuse links per phase For stand-alone operation without lateral modules or for group operation with lateral modules	W	5.5		3

[1)] In the case of permanent load over 35 A, we recommend the use of 5SH5 526 lateral modules. Please observe EN 60 439-1, Table 1.

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Built-in components

Selection and ordering data

	Sizes	Rated current	Rated voltage	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V	MW							kg
	**NEOZED SR60 bus-mounting bases with touch protection, 3P**										
	For 5/10 mm busbars										
	27 mm wide										
	D02	63	400	1.5		**5SG6 206**		1	4 units	031	0.175
	36 mm wide										
	D02	63	400	2		**5SG6 207**		1	4 units	031	0.188
	**NEOZED SR60 bus-mounting bases, 3P standard version**										
	For 5/10 mm busbars										
	D02	63	400	1.5		**5SG6 202**		1	4/104 units	031	0.141
	**NEOZED SR60 covers for standard version**										
	D02			1.5		**5SH5 241**		1	4/200 units	031	0.023
	Extra wide, with clearance for wiring										
	D02			2		**5SH5 242**		1	4/140 units	031	0.027
	With double width										
	For more clearance for wiring										
	D02			3		**5SH5 243**		1	4/120 units	031	0.039
	For use with DIAZED screw adapters										
	DII	25	500	2.3		**5SF6 020**		1	4 units	031	0.291
	DIII	63	500 V AC/DC (acc. to DIN VDE 0636-3 also 690 V AC/600 V DC)	3.2		**5SF6 220**		1	4 units	031	0.392

For NEOZED screw caps, adapter sleeves and fuse links, see chapter 5, "Fuse Systems", "NEOZED fuse systems".

* You can order this quantity or a multiple thereof.

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	Sizes	Rated current	Rated voltage	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		A	V	MW							kg
	**DIAZED SR60 bus-mounting bases, 3P standard version**										
	For 5/10 mm busbars										
	For use with DIAZED adapter rings										
	DII	25	500	2.3		**5SF6 014**		1	2/52 units	031	0.220
	DIII	63	500 V AC/DC (acc. to DIN VDE 0636-3 also 690 V AC/600 V DC)	3.2		**5SF6 214**		1	2/52 units	031	0.301
	For use with DIAZED screw adapters										
	DII	25	500	2.3		**5SF6 015**		1	2/52 units	031	0.210
	DIII	63	500 V AC/DC (acc. to DIN VDE 0636-3 also 690 V AC/600 V DC)	3.2		**5SF6 215**		1	2/52 units	031	0.288
	**DIAZED SR60 covers for standard version**										
	DII			2.3		**5SH2 042**		1	2/120 units	031	0.051
	DIII			3.2		**5SH2 242**		1	2/120 units	031	0.056
	DIAZED screw adapters with E27 thread										
	also for 5SF2 30 to 750 V										
	DII	2			▶	**5SH3 10**		1	25/1500 units	017	0.014
		4			▶	**5SH3 11**		1	25/1500 units	017	0.009
		6			▶	**5SH3 12**		1	25/1500 units	017	0.015
		10			▶	**5SH3 13**		1	25/1500 units	017	0.021
		16			▶	**5SH3 14**		1	25/1500 units	017	0.008
		20			▶	**5SH3 15**		1	25/1500 units	017	0.013
		25			▶	**5SH3 16**		1	25/1500 units	017	0.012
	**SR60 bus-mounting fuse holders, 3P**										
	For 5/10 mm busbars										
	with screwless terminals										
	For cylindrical fuses, 10 × 38 mm										
	--	30	690	1.5		**3NW7 431**		1	1 unit	031	0.185
	For UL fuses, class CC										
	--	30	600	1.5		**3NW7 431-0HG**		1	1 unit	031	0.186
	For UL fuses, class CC with LED signal detectors										
	--	30	600	1.5		**3NW7 432-0HG**		1	1 unit	031	0.188
	**NEOZED SR60 bus-mounting switch disconnectors, 3P**										
	For 5/10 mm busbars										
	D02	63*	400	1.5		**5SG7 230**		1	1/30 units	031	0.747
	*from 35 A load use 5SH5 526 lateral module										

For DIAZED screw caps, screw adapters and fuse links, see chapter 5, "Fuse Systems", "NEOZED fuse systems".

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Built-in components

	Version	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		MW							kg
 5SH5 525	**Auxiliary switches for signaling the switching state for NEOZED bus-mounting switch disconnectors bus-mounting disconnectors (for cylindrical fuses)** 1 CO	0.5		**5SH5 525**		1	1/50 units	031	0.007
 5SH5 526	**Lateral modules** For greater heat dissipation for loads from 35 A with NEOZED bus-mounting switch disconnectors	0.5		**5SH5 526**		1	5/50 units	031	0.051
 5SH5 527	**Reducers** For NEOZED fuse links D01 In SR60 bus-mounting switch disconnectors			**5SH5 527**		1	10/100 units	031	0.001
 3NH4 052	**SR60 LV HRC bus-mounting fuse bases, 3P, size 00** For 5/10 mm busbars With cover, connections at top Terminals up to 70 mm^2 Rated voltage 690 V AC With saddle-type terminal			**3NH4 052**		1	4 units	031	0.663

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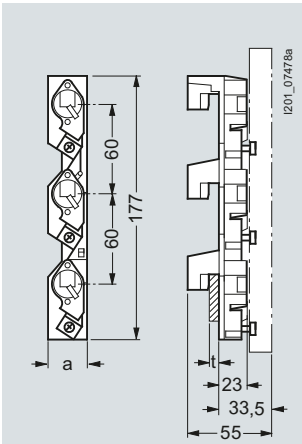
* You can order this quantity or a multiple thereof.

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Dimensional drawings

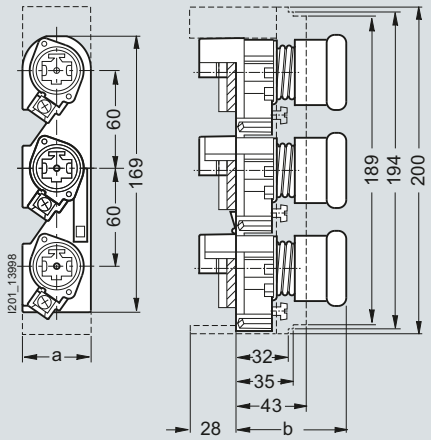
NEOZED SR60 bus-mounting bases

D02/63 A
(a = 27 mm t = busbar thickness)



5SG6 202 (t = 5 mm)

D02/63 A
(a = 27 mm, b = 50 mm)



D02/63 A
(a = 36 mm, b = 50 mm)

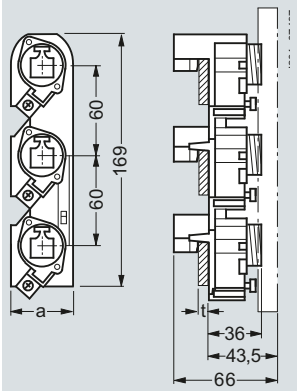
	a	b
E 18	27	50
E 18*	36	50
E 27	42	70
E 33 (500 V)	57	70
E 33 (690 V)	57	92
*1 1/3 wide version		

5SG6 206

5SG6 207

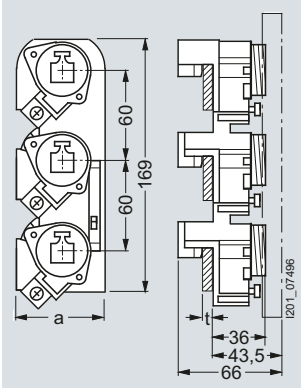
DIAZED SR60 bus-mounting bases

DII/25 A
(a = 42 mm)



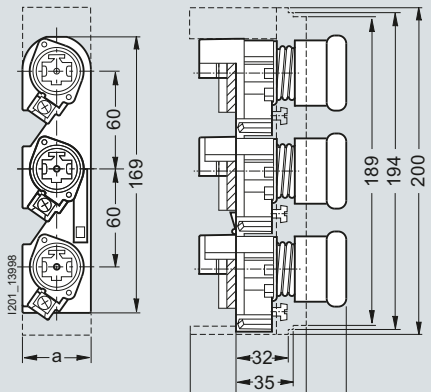
5SF6 014, 5SF6 015
(t = 5 mm)

DIII/63 A
(a = 57 mm)



5SF6 214, 5SF6 215
(t = 5 mm)

DII/25 A
(a = 42 mm)



DIII/63 A
(a = 57 mm)

	a	b
E 18	27	50
E 18*	36	50
E 27	42	70
E 33 (500 V)	57	70
E 33 (690 V)	57	92
*1 1/3 wide version		

5SF6 018, 5SF6 020
(t = 70 mm)

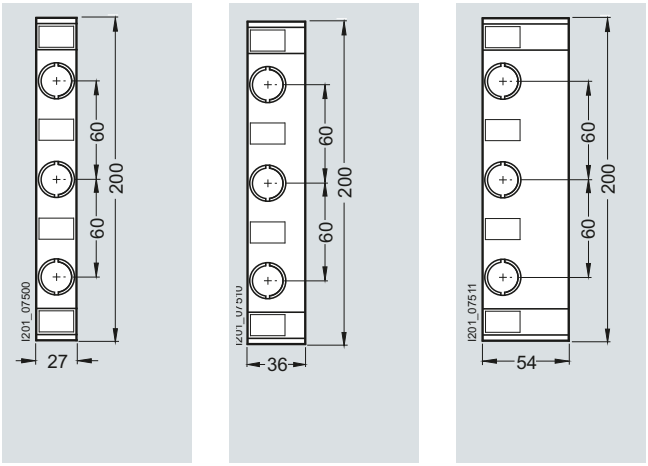
5SF6 218, 5SF6 220
(t = 70 mm)

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Built-in components

NEOZED SR60 covers

D02/63 A

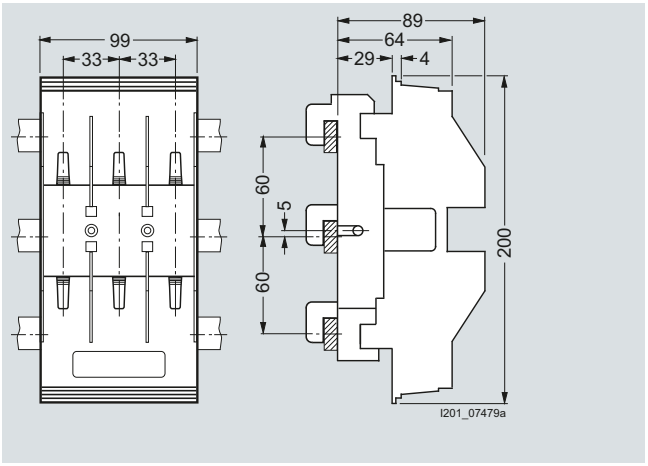


5SH5 241
1-fold

5SH5 242
1.33-fold

5SH5 243
2-fold

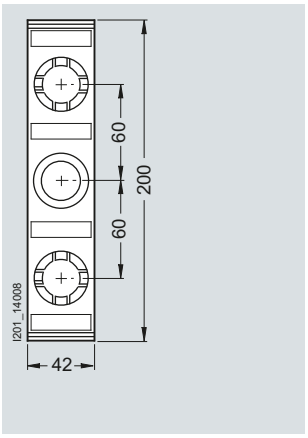
SR60 LV HRC bus-mounting fuse bases, 3P



3NH4 052

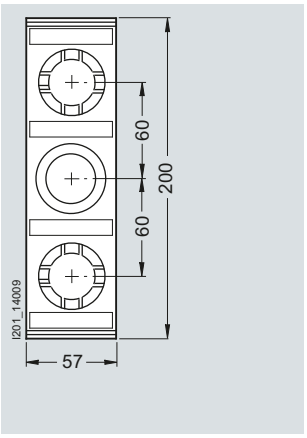
DIAZED SR60 covers

DII/25 A



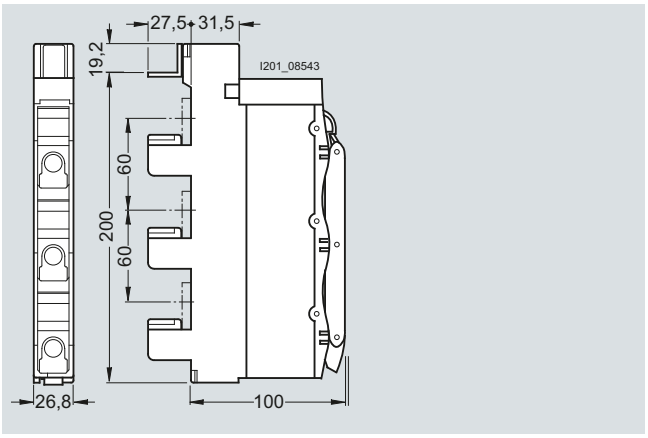
5SH2 042 (1-fold: a = 42 mm)

DIII/63 A



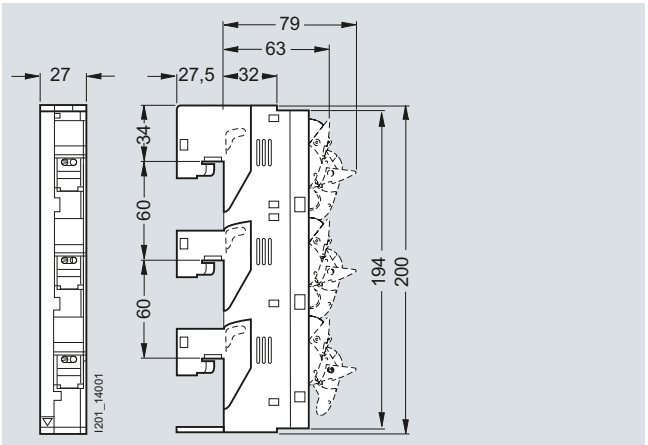
5SH2 242 (1-fold: a = 57 mm)

NEOZED SR60 bus-mounting switch disconnectors/ SR60 bus-mounting disconnectors



5SG7 230
3NW7 430

SR60 bus-mounting fuse holders for cylindrical fuses



3NW7 431
3NW7 431-0HG,
3NW7 432-0HG

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Measuring Devices and Power Monitoring

11



Power monitoring

11/2 PC-based power monitoring system
11/4 SIMATIC-based power data management system
Ch.13 SIMATIC powerrate
11/6 Hardware and software components
Ch.13 powermanager

Measuring devices

11/8 Introduction

7KM PAC measuring devices

11/11 7KM PAC3100 measuring devices
11/12 7KM PAC3200 measuring devices
11/14 7KM PAC4200 measuring devices
11/16 Accessories for 7KM PAC
11/17 7KM PAC expansion modules

7KT PAC measuring devices

11/19 7KT PAC1500 measuring devices, three-phase
11/21 7KT PAC1500 measuring devices, single-phase
11/22 7KT PAC expansion modules
11/23 7KT LAN couplers

Other measuring devices

11/25 Digital voltmeters and ammeters
11/26 Time and pulse counters for standard rail mounting
11/28 Time counters for front-panel mounting

Accessories

11/29 7KT1 2 current transformers
11/30 7KT9 0 measuring selector switches

For further technical product information:

Service&Support Portal:
www.siemens.com/lowvoltage/technical-support

→ Product List:
Technical specifications

→ Entry List:
Updates / Downloads / FAQs / Manuals / Operating instructions / Characteristic curves / Certificates

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PC-based power monitoring system

Overview



Components of the PC-based power monitoring system



User interface of powermanager

Power monitoring system with the SENTRON product family

The SENTRON product family offers the user not only power monitoring software in the form of the powermanager, but also the corresponding hardware in the form of 7KT/7KM PAC measuring devices and 3WL/3VL circuit breakers for implementing a complete power monitoring system.

The components are optimally coordinated with each other. For example, special drivers for the SENTRON devices are integrated in the powermanager software so that on the one hand, power data acquisition can take place without any great configuration effort and, on the other, the most important measured values or states are indicated by predefined displays.

This reduces the engineering work for the customer and gives the user the assurance of knowing that the device functions are optimally supported in the software.

Features of powermanager

The powermanager power monitoring software is the central feature of the PC-based power monitoring system and

- is an independent power monitoring software.
- can be operated using a PC and measuring devices with Ethernet connection.
- is expandable from the simple standard application to a fully flexible customer solution.
- is fully scalable with regard to the number of devices and the software's functions.
- ensures optimum integration of measuring devices from the 7KT/7KM PAC range, as well as 3WL/3VL circuit breakers and other Modbus devices.

Benefits

- Transparency of power flows
- Exact knowledge of the consumption profile
- Increased power efficiency
- Optimization of power supply contracts
- Compliance with contractual terms
- Allocation of power costs to cost centers
- Optimization of plant maintenance
- Identification of critical plant conditions
- Available languages:
  German, English, Spanish, Portuguese
- Support of the various device communication interfaces (Modbus RTU, Modbus TCP)
- Status display of devices

Application

Applications

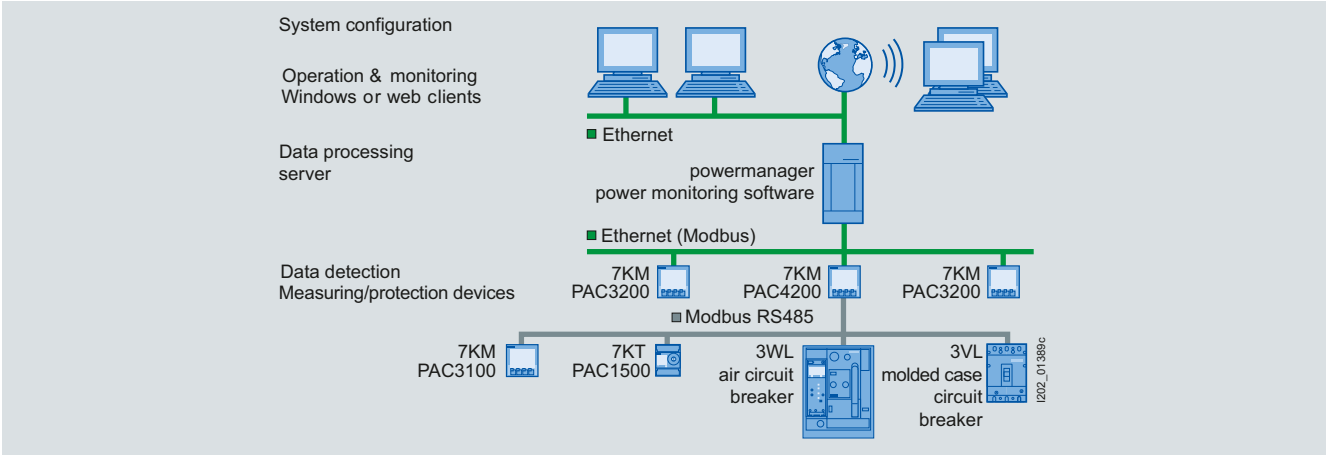
The product offers a standard power monitoring solution which provides the user with the following basic functions:

- Collection of measured quantities from the devices
- Presentation of the measured quantities from the devices in a predefined standard view for the 7KT PAC1500, 7KM PAC3100, 7KM PAC3200, 7KM PAC4200 measuring devices and 3WL/3VL circuit breakers
- Free presentation of measured quantities possible, including those from non-Siemens devices using generic Modbus drivers
- Archiving of measured quantities
- Monitoring of status and limits, with generation of corresponding signals
- Load curve display for visualizing the archived data and online data
- Cost center reports based on predefined tariffs and the archived consumption data
- OPC server
- Configuration of the system including user management
- Load monitoring for complying with power limits
- Virtual computation

This standard solution is designed with cost-efficiency and simple system commissioning in mind.

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PC-based power monitoring system



System overview

System configuration

- Integration of measuring devices by means of predefined device templates for the 7KT/7KM PAC measuring devices and the 3WL/3VL circuit breakers
- Easy integration of existing modbus-capable detecting devices
- Communication through Standard Ethernet
- Integration of devices with RS 485 interface (ModbusRTU) through Modbus gateway, e.g. the 7KM PAC4200 measuring device can be used as the gateway

Industries

The energy efficiency that can be achieved with consistent power monitoring and the derived optimization measures is crucial for all industries, e. g. the manufacturing industry, in non-residential buildings, in the field of services, and in infrastructure projects. This has a particular impact on competitiveness, particularly in view of rising energy prices.

More information

Components of the PC-based power monitoring system

The hardware components of the PC-based power monitoring system are

- 7KM PAC measuring devices, in this chapter
- 3WL air circuit breakers, see chapter 1
- 3VL molded case circuit breakers, see chapter 2

Software of the PC-based power monitoring system

The software of the PC-based power monitoring system is powermanager, see chapter 13.

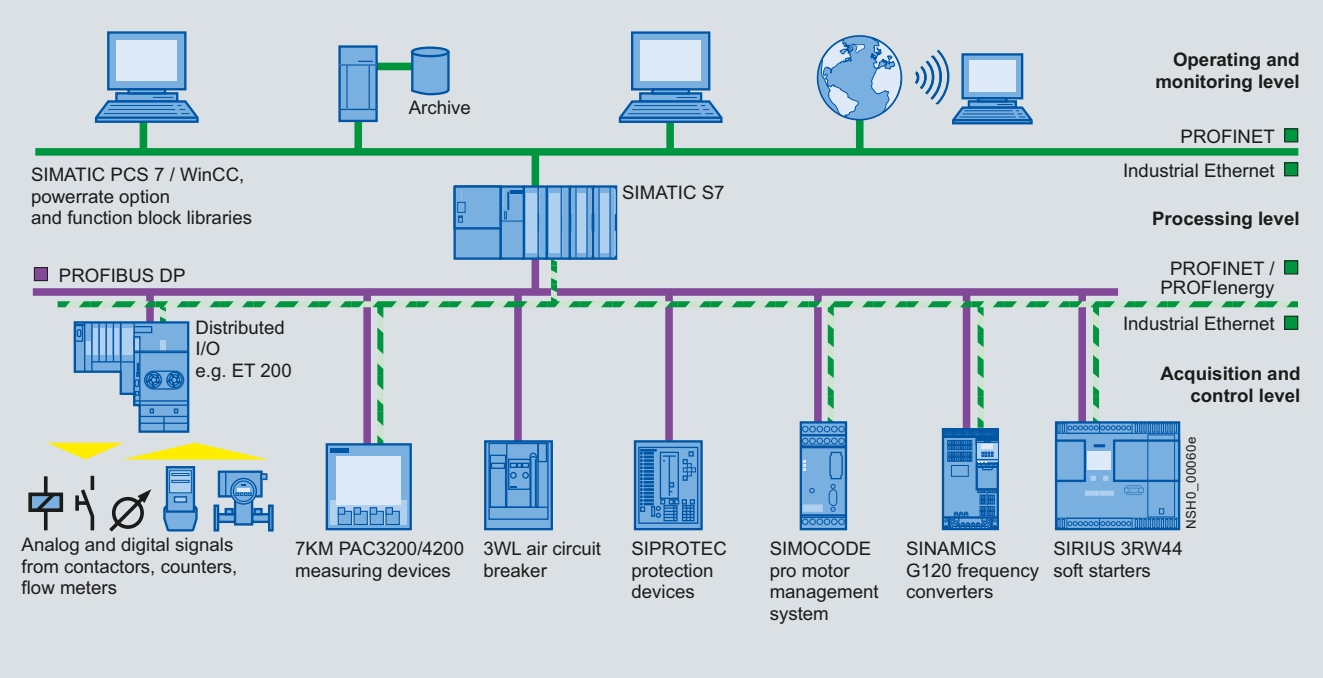
Internet

You can find more information on the Internet at:
www.siemens.com/lowvoltage/powermonitoring

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SIMATIC-based power data management system

Overview



SIMATIC-based solutions for the process and manufacturing industry

A key feature of the process and manufacturing industry is its very high power consumption. It therefore makes sense to integrate a power data management system in existing systems.

Communication through PROFIBUS DP

PROFIBUS DP enables integration of a wide range of devices:

- For the protection of distribution boards and loads: protective devices, such as circuit breakers
- For open-loop and closed-loop control: frequency converters, motor management systems and soft starters
- For detection
  - electrical measured quantities: via the 7KM PAC3200/4200 measuring devices
  - non-electrical measured quantities: via analog/digital converters

PROFINET and PROFIenergy

An increasing number of devices in automation technology offer PROFINET. An expansion module is also available for the 7KM PAC3200 and 7KM PAC4200 measuring devices 7KM PAC Switched Ethernet PROFINET.
PROFIenergy is a "Common Application Profile" from Profibus International. Thanks to PROFIenergy it is possible to create a power data management system with standardized device interfaces.

Function block libraries for SIMATIC PCS 7 and WinCC

The function block library for SIMATIC PCS 7 and WinCC ensures device integration as follows:

- Measured quantities and states can be connected via CFC.
- Structured display of measured quantities and protection parameters for the 3WL/3VL circuit breakers.
- Limit value violations are displayed, archived and acknowledged in the relevant communications system in the usual way
- Circuit breakers can be program-controlled or manually operated with the appropriate user authorization.

SIMATIC powerrate

SIMATIC powerrate forms the core of the SIMATIC-based power data management system in the form of a PCS 7 / WinCC option and

- ensures power consumption transparency
- continuously collects, archives and processes power data
- enables the evaluation of power consumption per batch
- prevents load peaks through active load management together with SIMATIC S7
- collects archived data, which can be exported to Excel and presented in various reports

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Benefits

- Increased energy efficiency due to precise knowledge of the load profile
- Optimization of power supply contracts
- Allocation of power costs to cost centers
- Optimization of plant maintenance
- Identification of critical plant conditions
- Reliable monitoring of the power limit through automatic load management

Application

The SIMATIC PCS 7 and WinCC function block libraries and powerrate are used in all industries where PCS 7 and WinCC are used and where the transparency and monitoring of power flows is crucial.

More information

Hardware components

The hardware components of the SIMATIC-based power data management system are

- 7KM PAC measuring devices in this chapter
- 3WL air circuit breakers, see chapter 1
- 3VL molded case circuit breakers, see chapter 2

Software components

The software components of the SIMATIC-based power data management system are

- SIMATIC powerrate for WinCC/PCS 7
- Library 7KM PAC3200 for SIMATIC PCS 7
- Library 3WL/3VL for SIMATIC PCS 7
- Library 7KM PAC3200 for SIMATIC WinCC

For more information on all software components, see chapter 13.

You can find more information on the Internet at: www.siemens.com/lowvoltage/powermonitoring

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Hardware and software components

Overview

7KT/7KM PAC measuring devices

	7KT PAC1500	7KM PAC3100	7KM PAC3200	7KM PAC4200
				
	The entry-level solution when it comes to energy measurement	The cost-effective solution for digital measurement	The specialist solution for precise energy measurement	The professional solution for communication and monitoring
Measuring range/connection				
• Max. input voltage L-L/L-N	400 V/230 V	480 V/276V	690 V/400 V[1]	690 V/400 V[1]
• Transformer connection version	x/5A	x/5A	x/1A/x/5A	x/1A/x/5A
• Direct connection version	80 A/125 A	–	–	–
• DC power supply unit with extra-low voltage version	–	–	22 ... 65 V	22 ... 65 V
• Single-phase counter version	3	–	–	–
Basic measured quantities				
• Voltage, current, power, frequency, power factor	✓[2]	✓	✓	✓
Energy measurement				
• Apparent, active, reactive energy	– I ✓ I ✓	– I ✓ I ✓	✓ I ✓ I ✓	✓ I ✓ I ✓
Extended measured quantities				
• Load profile record with time stamp and min/max values	–	–	–	✓
• Distortion factor THD (voltage, current)	–	–	✓	✓
• Harmonics (voltage, current)	–	–	–	3. - 31.
• Phase angle/phase chart	–	–	–	✓
Monitoring functions				
• Operating hours counter	–	–	✓	✓
• Limit monitoring	–	–	✓	✓
• Logic functions	–	–	✓	✓
• Event log	–	–	–	> 4000 events
• Gateway function	–	–	–	✓
System integration and communication				
• Digital inputs (DI)/digital outputs (DO)	–	2/2	1/1	2/2
• S0 interface	✓	✓	✓	✓
• 4DI/2DO expansion module	–	–	–	Optional
• M-Bus	Optional	–	–	–
• Instabus KNX	Optional	–	–	–
• Modbus RTU	Optional	✓	Optional	Optional
• Ethernet with Modbus TCP	–	–	✓	✓
• PROFIBUS DPV1	–	–	Optional	Optional
• PROFINET IO/ PROFIenergy	–	–	Optional	Optional
• Parameterization software	✓	powerconfig	powerconfig	powerconfig
• Integration in power monitoring system	powermanager	powermanager	powermanager, powerrate	powermanager, powerrate
General data				
• Measuring accuracy, active energy, reactive energy	1 I 2	1 I 2	0.5 S I 2	0.2 S I 2
• MID version	✓	–	–	–
• Installation	Standard mounting rail	Front mounting	Front mounting	Front mounting
• Dimensions (1 MW = 18 mm)	2 MW/4 MW/6 MW	96 × 96 × 56 mm	96 × 96 × 56 mm	96 × 96 × 82 mm

1) With the exception of devices with power supply units with extra-low voltage

2) On the display - energy values only. Additional measured quantities are transmitted via the optional expansion modules 7KT Modbus and 7KT M-Bus

✓ Available/possible

-- Not available/not possible

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Accessories for 7KT PAC measuring devices







	7KT PAC expansion modules				7KT LAN couplers
	M-Bus	Modbus RTU	RS485	KNX	Web servers
Specification	Up to 9,600 Baud	Up to 115,200 Baud	For connection to the 7KT LAN coupler	Up to 19,200 Baud	For up to 30 7KT PAC1500 measuring devices

Accessories for 7KM PAC measuring devices



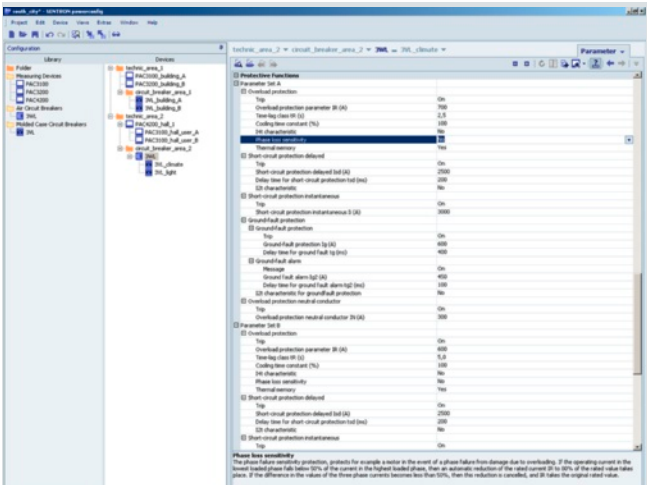




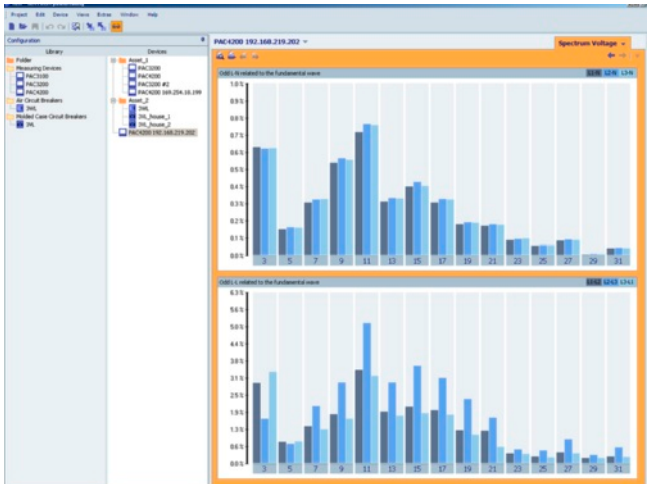
	7KM PAC expansion modules				Standards mounting rail adapter
	Switched Ethernet	PROFIBUS DP	RS485	4DI/2DO	7KM PAC TMP2
	For 7KM PAC3200, 7KM PAC4200	For 7KM PAC3200, 7KM PAC4200	For 7KM PAC3200, 7KM PAC4200	For 7KM PAC4200 (number of digital inputs/ outputs per module 4/2)	For 7KM PAC3100/3200/ 4200 for mounting on a standard mounting rail
Maximum number of modules that can be connected	1	1	1	2	
Protocol	PROFINET IO PROFIenergy Modbus TCP	DPV1	Modbus RTU	S0 interface	

The powerconfig software for commissioning

	Software tool for the efficient commissioning and diagnosis of communication-capable SENTRON components
License	Free use
Supported devices	7KM PAC3100/3200/4200 measuring devices, incl. expansion modules 3WL/3VL circuit breakers
General range of functions	The PC-based tool facilitates parameterization of the devices, resulting in substantial time savings, particularly when several devices have to be set up. The device settings can be stored in the PC and printed out. The tool enables monitoring of instantaneous measured quantities, which can be printed out if required. Execution of specific device functions, such as resetting of devices and setting of energy counters
Supported languages	English, German
Service functions	Firmware updates and switching of language packs for 7KM PAC measuring devices
Range of functions with 7KM PAC4200	Readout of data stored in the device (events; load profile history; daily energy counters), which are saved in csv format



Setting the parameters of a SENTRON device



Display of current measured variables (harmonics)

For more information on powerconfig, see page 13/19

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Introduction

Overview

Devices	Page	Application	Standards	Used in		
				Non-residential buildings	Residential buildings	Industry
7KM PAC measuring devices						
 **7KM PAC3100 measuring device** AC/DC wide-range power supply unit, screw connection	11/11	Control panel instrument with graphics display, integrated digital inputs and outputs and an RS485 interface for the transmission of measured values and configurations. Display of 30 electrical measured values and consumption values in switchgear assemblies, infeeds or outgoing feeders. International standards and multi-lingual displays for worldwide use.	IEC 61557-12	✓	--	✓
 **7KM PAC3200 measuring device** 3 versions: • AC/DC wide-range power supply unit, screw connection • DC power supply unit with extra-low voltage, screw connection • AC/DC wide-range power supply unit, ring cable lug connection	11/12	Control panel instrument with graphics display, integrated digital inputs and outputs and an integrated Ethernet interface for the transfer of measured values and configurations. Display of over 50 electrical measured values for switchgear assemblies, infeeds or outgoing feeders. Dual-tariff measuring devices for precise energy measurement for power import and feedback. The following components are available: • 7KM PAC Switched Ethernet PROFINET • 7KM PAC RS485 • 7KM PAC PROFIBUS DP	Measuring accuracy for energy acc. to IEC 62053-22/23 and IEC 61557-12	✓	--	✓
 **7KM PAC4200 measuring device** 3 versions: • AC/DC wide-range power supply unit, screw connection • DC power supply unit with extra-low voltage, screw connection • AC/DC wide-range power supply unit, ring cable lug connection	11/14	Control panel instrument with graphics display, user-defined displays, memory, clock and calendar function, digital inputs and outputs and an integrated Ethernet interface with gateway function to transfer measured values and configurations. Display of over 200 electrical measured values for switchgear assemblies, infeeds or outgoing feeders. Extensive functions for precise energy measurement for power import and feedback and assessment of the system quality. The following components are available: • 7KM PAC Switched Ethernet PROFINET • 7KM PAC RS485 • 7KM PAC PROFIBUS DP • 7KM PAC 4DI/2DO	Measuring accuracy for energy acc. to IEC 62053-22/23 and IEC 61557-12	✓	--	✓
 **7KM PAC expansion modules for measuring devices**	11/17	• The 7KM PAC Switched Ethernet PROFINET expansion module serves to connect the 7KM PAC3200 and 7KM PAC4200 measuring devices to Switched Ethernet PROFINET (PROFIenergy). • The 7KM PAC PROFIBUS DP expansion module is used to connect the 7KM PAC3200 and 7KM PAC4200 measuring devices to the PROFIBUS DPV1 • The 7KM PAC RS485 expansion module is used for connecting simple devices with RS485 interface, such as the 7KM PAC3100, and supports the Modbus RTU protocol. • The 7KM PAC 4DI/2DO expansion module is used to expand the 7KM PAC4200 measuring device to up to 10 digital inputs and 6 digital outputs.	IEC 62053-31	✓	--	✓

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Devices		Page	Application	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
7KT PAC measuring devices							
	**7KT PAC1500 measuring device, three-phase** 7KT1 54	11/19	Measurement of consumption data in three-phase systems of plant sections, offices or holiday apartments.	EN 50470-1, EN 50470-3 EN 62052-23, EN 62053-31	✓	✓	✓
	**7KT PAC1500 measuring device, single-phase** 7KT1 53	11/21	For the measurement of consumption data in single-phase systems, e.g. in industrial plants, offices and apartments in apartment blocks.	EN 50740-1, EN 50470-3, EN 62053-31	✓	✓	✓
	**7KT PAC expansion modules for measuring devices** 7KT1 9	11/22	Communication interfaces with IrDA infrared interface for 7KT PAC1500 measuring devices. Modules are available for the following bus systems: • M-Bus • Modbus RTU • RS485 (7KT1391 LAN coupler connection) • KNX/EIB	EN 13757 ISO/IEC 14543-3 EN 50090, EN 13321-1	✓	✓	✓
	**7KT LAN couplers**	11/23	Web server with 2 GB internal storage, for up to 30 7KT15.., 7KT13.. measuring devices Global view and Excel export of current consumption data via LAN or Internet using a web browser, such as Firefox	IEEE 802	✓	--	✓

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Introduction

Devices		Page	Application	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
Other measuring devices							
	**Digital measuring devices** 7KT1 11, 7KT1 12	11/25	Voltage and current measurement with large 3-digit LEDs for monitoring incoming/outgoing currents and device currents in order to prevent plant overload.	DIN 43751-1, DIN 43751-2	✓	--	✓
	**Time and pulse counters for standard rail mounting** 7KT5 8	11/26	For monitoring operating hours and starting operations for the planning of preventative maintenance tasks and preventing sudden shutdowns	IEC 60255-6, EN 60255-6, UL 94	✓	✓	✓
	**Time counters for front-panel mounting** 7KT5 5, 7KT5 6	11/28	For monitoring operating hours and starting operations for planning preventative maintenance tasks and preventing sudden shutdowns.	IEC 60255-6, EN 60255-6	✓	✓	✓
Accessories							
	**7KT1 2 current transformers**	11/29	Straight-through transformers for installation in distribution boards and non-contact measuring of primary currents. Ideal for combination with switch disconnectors, measuring devices and counters.	IEC 60044-1, EN 60044-1	✓	--	✓
	**7KT9 0 measuring selector switches**	11/30	For switching over the phases for voltmeters and ammeters		✓	--	✓

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Overview



The 7KM PAC measuring devices are used to measure and display all relevant system parameters in low-voltage power distribution. They can be used for both single-phase and multi-phase measurements in 3 and 4-conductor power supply systems (TN, TT, IT).

They record energy values for main distribution boards, electrical branches or individual loads precisely and reliably, and supply key measured values for assessment of the state of the plant and the quality of the power supply.

The 7KM PAC3100 measuring device is fitted with an integrated Modbus RTU interface via RS485, so no expansion module is required.

Benefits

- Simple mounting and commissioning
- High IP65 degree of protection (front side, when installed) permits usage in extremely dusty and wet environments
- Intuitive operation using 4 function buttons and multilingual plain text displays
- Easy adaptation to different systems using integrated and optional
  - Digital inputs and outputs
  - Communication interfaces
- Worldwide use
  - At least 8 languages
  - International approvals
  - Developed and tested to European and international standards
- Low mounting depth
- Free, intuitive configuration software powerconfig

Selection and ordering data

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
 7KM3 133-0BA00-3AA0	**7KM PAC3100 measuring device** Control panel instrument 96 mm x 96 mm screw connections for current and voltage connection AC/DC wide-range power supply unit U_{AUX}: 100 … 240 V AC ±10 %, 50/60 Hz 110 … 250 V DC ±10 % Measuring inputs U_e: max. 3 AC 480/277 V, 50/60 Hz I_e: /5 A		**Screw connection** ⏚ **7KM3 133-0BA00-3AA0**		1	1 unit	133	0.456

* You can order this quantity or a multiple thereof.

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7KM PAC3200 measuring devices

Overview



The 7KM PAC measuring devices are used to measure and display all relevant system parameters in low-voltage power distribution. They can be used for both single-phase and multi-phase measurements in 3 and 4-conductor power supply systems (TN, TT, IT).

They record energy values for main distribution boards, electrical branches or individual loads precisely and reliably, and supply key measured values for assessment of the state of the plant and the quality of the power supply.

Benefits

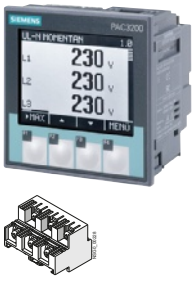
- Simple mounting and commissioning
- High IP65 degree of protection (front side, when installed) permits usage in extremely dusty and wet environments
- Intuitive operation using 4 function buttons and multilingual plain text displays
- Easy adaptation to different systems using integrated and optional
  - Digital inputs and outputs
  - Communication interfaces
- Worldwide use
  - At least 8 languages
  - International approvals
  - Developed and tested to European and international standards
- Low mounting depth

Additional performance characteristics of the 7KM PAC3200

- Precise energy measurement
- Versatile system integration
  - Integrated Ethernet interface
  - Optional communication modules available
  - Multifunctional digital inputs and outputs
  - Limit monitoring
- Can be connected directly to power supply systems up to 690 V AC (UL-L) and CATIII without voltage transformers (with the exception of devices with power supply units with extra-low voltage)
- Intuitive configuration software powerconfig included in the scope of delivery

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Selection and ordering data

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
 7KM2 112-0BA00-3AA0	**7KM PAC3200 measuring device** Control panel instrument 96 mm x 96 mm screw connections for current and voltage connection AC/DC wide-range power supply unit U_{AUX}: 95 … 240 V AC ±10 %, 50/60 Hz 110 … 340 V DC ±10 % Measuring inputs U_e: max. 3 AC 690/400 V, 50/60 Hz I_e: /1 A or /5 A		**Screw connection** **7KM2 112-0BA00-3AA0**		1	1 unit	133	0.476
 7KM2 111-1BA00-3AA0	**7KM PAC3200 measuring device** Control panel instrument 96 mm x 96 mm screw connections for current and voltage connection DC power supply unit with extra-low voltage U_{AUX}: 22 … 65 V DC ±10 % Measuring inputs U_e: max. 3 AC 500/289 V, 50/60 Hz I_e: /1 A or /5 A		**Screw connection** **7KM2 111-1BA00-3AA0**		1	1 unit	133	0.466
 7KM2 112-0BA00-2AA0	**7KM PAC3200 measuring device** Control panel instrument 96 mm x 96 mm Ring cable lug connections for current and voltage connection AC/DC wide-range power supply unit: U_{AUX}: 95…240 V AC ±10 %, 50/60 Hz 110…340 V DC ±10 % Measuring inputs U_e: max. 3 AC 690/400 V, 50/60 Hz I_e: /1 A or /5 A		**Ring cable lug connection** **7KM2 112-0BA00-2AA0**		1	1 unit	133	0.494

More information

For accessories and information on current transformers and software components see page 11/16

* You can order this quantity or a multiple thereof.

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7KM PAC4200 measuring devices

Overview



The 7KM PAC measuring devices are used to measure and display all relevant system parameters in low-voltage power distribution. They can be used for both single-phase and multi-phase measurements in 3 and 4-conductor power supply systems (TN, TT, IT).

They record energy values for main distribution boards, electrical branches or individual loads precisely and reliably, and supply key measured values for assessment of the state of the plant and the quality of the power supply.

Benefits

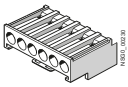
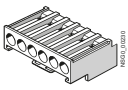
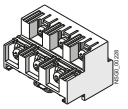
- Simple mounting and commissioning
- High IP65 degree of protection (front side, when installed) permits usage in extremely dusty and wet environments
- Intuitive operation using 4 function buttons and multilingual plain text displays
- Easy adaptation to different systems using integrated and optional
  - Digital inputs and outputs
  - Communication interfaces
- Worldwide use
  - At least 8 languages
  - International approvals
  - Developed and tested to European and international standards
- Low mounting depth

Additional performance characteristics of the 7KM PAC4200:

- Precise energy measurement
- Versatile system integration
  - Integrated Ethernet interface
  - Optional communication modules available
  - Multifunctional digital inputs and outputs
  - Limit monitoring
- Can be connected directly to power supply systems up to 690 V AC (UL-L) and CATIII without voltage transformers (with the exception of devices with power supply units with extra-low voltage)
- Intuitive configuration software powerconfig included in the scope of delivery
- Monitoring the plant status and the power supply quality
  - Basic information for evaluating the power supply quality
  - Logging of plant history in the form of operation, control and system-related events
- Recording of the power range through power averaging (load profile)
- Daily energy meters for apparent, active and reactive energy across 365 days for cut-off date assessment
- Detection of gas, water, compressed air or other energy sources via pulse counter to the digital inputs
- Can be expanded using modules to up to 10 digital inputs and 6 digital outputs
- Counters for apparent, active and reactive energy for the precise detection of the power consumption of a partial process or manufacturing process
- 10/100 Mbit/s Ethernet interface with gateway function for the easy connection of devices with serial RS485 interface via expansion module 7KM PAC RS485 to an Ethernet network
- Comprehensive user-friendly indicators, such as user-defined displays, bar and status indicators, phase diagram and list and histogram graphics
- Satisfies the accuracy requirements of class 0.2S high-precision meters used by power supply companies according to IEC 62053-22, which are normally reserved for exacting industrial applications

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Selection and ordering data

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
  7KM4 212-0BA00-3AA0	**7KM PAC4200 measuring device** Control panel instrument 96 mm x 96 mm screw connections for current and voltage connection AC/DC wide-range power supply unit U_{AUX}: 95 … 240 V AC ±10 %, 50/60 Hz 110 … 340 V DC ±10 % Measuring inputs U_e: max. 3 AC 690/400 V, 50/60 Hz I_e: /1 A or /5 A		**Screw connection** **7KM4 212-0BA00-3AA0**		1	1 unit	133	0.547
  7KM4 211-1BA00-3AA0	**7KM PAC4200 measuring device** Control panel instrument 96 mm x 96 mm screw connections for current and voltage connection DC power supply unit with extra-low voltage U_{AUX}: 22 … 65 V DC ±10 % Measuring inputs U_e: max. 3 AC 500/289 V, 50/60 Hz I_e: /1 A or /5 A		**Screw connection** **7KM4 211-1BA00-3AA0**		1	1 unit	133	0.537
  7KM4 212-0BA00-2AA0	**7KM PAC4200 measuring device** Control panel instrument 96 mm x 96 mm Ring cable lug connections for current and voltage connection AC/DC wide-range power supply unit: U_{AUX}: 95…240 V AC ±10 %, 50/60 Hz 110…340 V DC ±10 % Measuring inputs U_e: max. 3 AC 690/400 V, 50/60 Hz I_e: /1 A or /5 A		**Ring cable lug connection** **7KM4 212-0BA00-2AA0**		1	1 unit	133	0.544

More information

For accessories and information on current transformers and software components see page 11/16

* You can order this quantity or a multiple thereof.

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Accessories for 7KM PAC

Selection and ordering data

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
 7KM9 900-0XA00-0AA0	**7KM PAC TMP2 standard mounting rail adapter** Two-tier adapter for mounting a measuring device on a standard mounting rail • Front display • For manual intervention		**7KM9 900-0XA00-0AA0**		1	1 unit	133	0.401
 7KM9 900-0YA00-0AA0	**7KM PAC TMP mounting plate** Adapter for mounting a measuring device on standard mounting rail • Display faces backwards towards standard mounting rail • Readout and evaluation of measurements solely via mains operation		**7KM9 900-0YA00-0AA0**		1	1 unit	133	0.140

More information

Current transformers

Suitable current transformers can be found

- in chapter 2 "Molded Case Circuit Breakers"
- In the Industry Mall, section "Industry Automation and Drive Technologies --> "Low-Voltage Power Distribution and Electrical Installation Technology" --> "Protective Devices" --> "Molded Case Circuit Breakers" --> "3VL Molded Case Circuit Breakers" --> "3VL Molded Case Circuit Breakers up to 1600 A" --> "Accessories and Spare Parts"

Software components

For more information on software components see chapter 13 and visit the Internet at www.siemens.com/lowvoltage/powermonitoring

More information

More information is available on the Internet at: www.siemens.de/lowvoltage/powermonitoring

* You can order this quantity or a multiple thereof.

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Overview



Expansion modules are used as communication interfaces and for expanding the digital inputs/outputs for 7KM PAC measuring devices.

The expansion modules are plugged in at the back of the measuring device. The device identifies the module automatically and presents the relevant parameters for this module for selection in the parameterization menu.

The following expansion modules are available (shown from left to right in the figure on the left):

- 7KM PAC Switched Ethernet PROFINET expansion module
- 7KM PAC PROFIBUS DP expansion module
- 7KM PAC RS485 expansion module
- 7KM PAC 4DI/2DO expansion module

More information

For more information on software components see chapter 13 and visit the Internet at www.siemens.com/lowvoltage/powermonitoring

Expansion module	Use in 7KM		
	PAC3100	PAC3200	PAC4200
Expansion modules for 7KM PAC measuring devices			
 **7KM PAC Switched Ethernet PROFINET expansion module** The 7KM PAC Switched Ethernet PROFINET expansion module is a plug-in communication module for 7KM PAC3200 and 7KM PAC4200 measuring devices. It provides the following features: • Standardized PROFIenergy interface to the measured quantities. • The measured quantities can be individually selected using a GSDML file. This permits use of cost-effective S7 CPUs. • Easy parameter assignment using the device display and STEP 7. • Integrated Ethernet switching allows networking with short cables without additional switches. • Direct integration in production machine networks using IRT (IRT = Isochronous-Real-Time). • Full support of PROFINET IO (DHC, DNS, SNMP, SNTP). • Device replacement without PG in the PROFINET assembly using LLDP. • Deterministic reversing time through ring redundancy (MRP). • Modbus TCP communication • Communication with powermanager or powerconfig • 2 x Ethernet (RJ45) sockets. • Baud rates 10 and 100 Mbit/s. • Protocols PROFINET IO, PROFIenergy and Modbus TCP. • No external auxiliary power necessary • Additional display via the device display and via LEDs on the module All measured quantities from 7KM PAC3200 and 7KM PAC4200 can be individually selected and cyclically transmitted by means of the GSDML file. This enables optimum use of the process image of the PROFINET controller, e.g. CPU 315-2 PN/DP of SIMATIC S7. The measured quantities can be read out in acyclic mode using PROFIenergy, a PNO protocol profile. Thanks to PROFIenergy, it is possible to assemble a power monitoring system with devices from various manufacturers using PROFINET.	--	✓	✓
 **7KM PAC PROFIBUS DP expansion module** The 7KM PAC PROFIBUS DP expansion module has the following features: • Plug-in communication module for measuring devices for connection to PROFIBUS DPV1 • 7KM PAC3200 and 7KM PAC4200 • Configurable from the front of the device or using parameterization software • Using PROFIBUS DPV1, data can be transferred in both cyclic and acyclic modes • Easy engineering thanks to integration in SIMATIC STEP 7 and/or simple integration via GSD file for other programming systems • Optimum use of process image of a control system for selection of individual measured quantities for cyclical transfer • All baud rates from 9.6 kbit/s up to 12 Mbit/s are supported • Connection through 9-pole Sub-D connector according to IEC 61158 • No external auxiliary power necessary • Additional display via the device display and via LEDs on the module	--	✓	✓

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7KM PAC expansion modules

Expansion module	Use in 7KM		
	PAC3100	PAC3200	PAC4200
	--	✓	✓

7KM PAC RS485 expansion module

The 7KM PAC RS485 expansion module has the following features:

- Plug-in 7KM PAC RS485 communication module for 7KM PAC3200 and 7KM PAC4200 measuring devices
- Configurable from the front of the device or using parameterization software
- Support for the Modbus RTU protocol
- Plug and play
- Baud rates 4.8/9.6/19.2 and 38.4 kbit/s are supported
- Connection by means of 6-pole screw terminals
- No external auxiliary power necessary
- Status indication by LED on the module
- The 7KM PAC RS485 expansion module is required for the gateway function of the 7KM PAC4200 for communication with simple devices with RS485 interface, such as the 7KM PAC3100, via Ethernet (Modbus TCP).

	--	--	✓

7KM PAC 4DI/2DO expansion module

The 7KM PAC 4DI/2DO expansion module is used to expand the 7KM PAC4200 measuring device to up to 10 digital inputs and 6 digital outputs and offers the following features:

- Up to two 7KM PAC 4DI/2DO modules can be plugged onto a 7KM PAC4200.
- The 7KM PAC 4DI/2DO expansion modules mean that the internal digital inputs and outputs can be expanded by up to 8 inputs and 4 outputs.
- The 7KM PAC 4DI/2DO expansion modules can be configured locally at the front of the device or via the powerconfig parameterization software.
- The digital inputs can be used without the need for an external power supply as they are self-powered. This is particularly useful for the integration of non-electric measuring devices, such as water or compressed-air counters.
- All functions of the integrated multifunctional inputs/outputs on the 7KM PAC4200 are also available in the 7KM PAC 4DI/2DO expansion module.
- Inputs and outputs can be used as an S0 interface conforming to IEC 62053-31.
- The connection is made via a 9-pole screw terminal.
- No external auxiliary power supply is required.

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Selection and ordering data

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
 7KM9 300-0AE00-0AA0	**7KM PAC Switched Ethernet PROFINET expansion module** Expansion module for 7KM PAC3200 and 7KM PAC4200 (PROFIenergy)		**7KM9 300-0AE00-0AA0**		1	1 unit	133	0.077
 7KM9 300-0AB00-0AA0	**7KM PAC PROFIBUS DP expansion module** Expansion module for 7KM PAC3200 and 7KM PAC4200 (PROFIBUS DPV1)		**7KM9 300-0AB00-0AA0**		1	1 unit	133	0.078
 7KM9 300-0AM00-0AA0	**7KM PAC RS485 expansion module** Expansion module for 7KM PAC3200 and 7KM PAC4200 (Modbus RTU)		**7KM9 300-0AM00-0AA0**		1	1 unit	133	0.074
 7KM9 200-0AB00-0AA0	**7KM PAC 4DI/2DO expansion module** Expansion module for 7KM PAC4200		**7KM9 200-0AB00-0AA0**		1	1 unit	133	0.074

* You can order this quantity or a multiple thereof.

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7KT PAC1500 measuring devices, three-phase

Overview



7KT PAC1500 measuring devices, three-phase, for direct connection up to 80 A / 125 A

The measuring devices (power meters) are used to record the amount of electrical energy exported or imported. Siemens compact measuring devices are designed as modular devices for alternating current and can be mounted on standard mounting rails. They comply with the metering equipment standard EN 50470 (Part 1 and 3) and come with an LCD display.

The three-phase measuring devices for direct connection are available up to 125 A and in versions with transformer connections (…/5 A to 10000/5 A).

The measuring devices store active and reactive energy and all comply with accuracy class 1 (for active energy).

All measuring devices have a pulse output (S0) and are designed for 2-tariff measurements. The calibrated versions comply with the new Measuring Instruments Directive 2004/22/EC (MID).

The measuring devices also have an integrated optical interface (IrDA) for connecting communication modules, which enables their integration in a range of other systems, such as power management systems.

Technical specifications

7KT PAC1500 measuring device, three-phase			7KT1 540 7KT1 542	7KT1 543 7KT1 545	7KT1 546 7KT1 548
Standards			EN 50470-1, EN 50470-3, EN 62053-23, EN 62053-31		
Connection					
• Direct connection			--	80 A	125 A
• Transformer current connection			.../5 A	--	--
General data					
• Enclosures	Acc. to DIN 43880	MW (1 MW = 18 mm)	4	4	6
• Mounting	Acc. to EN 60715		35 mm		
• Mounting height		mm	70		
Function					
• Connection	Single-phase or three-phase	Number of conductors	4	2 ... 4	2 ... 4
• Storage of setting and counter reading	Via (EEPROM)		Yes	Yes	Yes
• Tariffs	For active and reactive energy		T1/T2	T1/T2	T1/T2
Supply (through measuring terminals)					
• Rated control supply voltage U_n		V AC	230		
• Voltage range		V	184 ... 276		
• Rated frequency f_n		Hz	50		
Measuring accuracy at (at 23 ±1 °C)	Based on nominal value				
• Active energy and active power	Acc. to EN 50470-3		Class B		
• Reactive energy and reactive power	Acc. to EN 62053-23		Class 2		
Measuring inputs					
• Connection type			Transformer TA-TC .../5 A	Direct	Direct
• Terminal capacitance, operational and main current paths	Rigid, min. (max.) Flexible min. (max.)	mm^2 mm^2	1.5 (6) 1.5 (6)	1.5 (35) 1.5 (35)	5 (50) 5 (50)
• Voltage U_n	Phase/phase Phase/N	V V	400 230		
• Operating range voltage	Phase/phase Phase/N	V V	319 ... 480 184 ... 276		
• Current I_{ref}		A	--	5	5
• Current I_n		A	5	--	--
• Current I_{min}		A	0.05	0.25	0.25
• Operating range current (A_{ct} … I_{max})	Direct connection Transformer connection	A A	-- 0.003 ... 6	0.015 ... 80 --	0.020 ... 125 --
• Transformer current	Primary current of the transformer Smallest input step	A A	5 ... 10000 5	-- --	-- --
• Input ripple form			Sinusoidal		
• Operational starting current I_{st}		mA	3	15	20
S0 interface	Acc. to EN 62053-31				
• Pulse outputs for absorbed active and reactive energy T1 + T2			Yes		
• Pulse count	For input current I_{max} Automatic for transformers	Pulses/kWh Pulses/kWh	-- 100 - 10 - 1	500 --	500 --
IR interface					
• At the side for connecting communication modules			M-Bus/Modbus RTU/RS485/KNX		

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7KT PAC1500 measuring devices, three-phase

Selection and ordering data

	U_n	I_{max}	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V AC	A AC	MW							kg
										
7KT PAC1500 measuring device, three-phase										
Digital measuring device										
• For transformer connection, double tariff	230	Transformer /5	4		**7KT1 540**		1	1 unit	047	0.289
• For transformer connection, double tariff, MID	230	Transformer /5	4		**7KT1 542**		1	1 unit	047	0.293
• For direct connection, double tariff	230	80	4		**7KT1 543**		1	1 unit	047	0.419
• For direct connection, double tariff, MID	230	80	4		**7KT1 545**		1	1 unit	047	0.419
• For direct connection, double tariff	230	125	4		**7KT1 546**		1	1 unit	047	0.678
• For direct connection, double tariff, MID	230	125	4		**7KT1 548**		1	1 unit	047	0.690

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7KT PAC1500 measuring device, single-phase

Overview



The 7KT PAC1500 single-phase measuring devices (power meters) are used to record the amount of electrical energy exported or imported. They comply with the metering equipment standard EN 50470 (Part 1 and 3) and come with an LCD display.

The 7KT PAC1500 single-phase measuring devices for direct connection are available up to 80 A. They store active and reactive energy, and all comply with accuracy class 1 (for active energy).

All measuring devices have a pulse output (S0) and are designed for 1-tariff or 2-tariff measurements, depending on the version.

The calibrated versions comply with the new Measuring Instruments Directive 2004/22/EC (MID). The measuring devices (with the exception of 7KT1 530) also have an integrated optical interface (IrDA) for connecting communication modules.

Technical specifications

7KT PAC1500 measuring device, single-phase direct connection up to 80 A			**7KT1 530**	**7KT1 531 7KT1 533**
Standards			EN 50470-1, EN 50470-3, EN 62053-23, EN 62053-31	
General data				
• Enclosures	Acc. to DIN 43880	MW	2	
• Mounting	Acc. to EN 60715		35 mm	
• Mounting height		mm	70	
Function				
• Operating mode	Single-phase loads	Conductors	2	
• Storage of setting and counter reading	Via (EEPROM)		Yes	
• Rate	For active energy For reactive energy		T1 T1	T1 + T2 T1 + T2
Supply (through measuring terminals)				
• Rated control supply voltage U_n		V AC	230	
• Voltage range		V	184 ... 276	
• Rated frequency f_n		Hz	50	
Measuring accuracy at (at 23 ±1 °C)	Based on nominal value			
• Active energy and active power	Acc. to EN 50470-3		Class B	
• Reactive energy and reactive power	Acc. to EN 62053-23		Class 2	
Measuring inputs				
• Connection type	Phase/N		Direct	
• Terminal capacitance, operational and main current paths	Rigid, min. (max.) Flexible min. (max.)	mm^2 mm^2	1.5 (35) 1.5 (35)	1.5 (35) 1.5 (35)
• Operating range voltage	Phase/N	V AC	184 ... 276	
• Current I_{ref}		A	15	
• Current I_{min}		A	0.75	
• Operating range current (A_{ct} ... I_{max})	Direct connection	A	0.025 ... 80	
• Current waveform			Sinusoidal	
• Operational starting current I_{st}		mA	25	
S0 interface	Acc. to EN 62053-31			
• Pulse outputs for absorbed active and reactive energy			Yes	
• Pulse count		Pulses/kWh	1000	
IR interface				
• At the side for connecting communication modules (M-Bus/Modbus RTU/RS485/KNX)			--	Yes

Selection and ordering data

		U_n	I_{max}	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A AC	MW							kg
	**7KT PAC1500 measuring device, single-phase** Digital measuring device										
	• For direct connection, single tariff	230	80	2		**7KT1 530**		1	1 unit	047	0.164
	• For direct connection, double tariff	230	80	2		**7KT1 531**		1	1 unit	047	0.164
	• For direct connection, double tariff, MID	230	80	2		**7KT1 533**		1	1 unit	047	0.190

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7KT PAC expansion modules

Overview



Expansion modules for 7KT PAC1500 measuring devices, from left to right: Expansion modules for M-Bus, Modbus RTU, RS485, Instabus KNX

Expansion modules are used as communication interfaces for 7KT PAC1500 measuring devices. They have the following features:

- The expansion modules can be selected independently of the measuring device. This means they can also be retrofitted in already installed measuring devices.
- Data transmission between the measuring devices and expansion modules is executed via the IrDA infrared interface.
- The expansion modules are placed alongside the measuring devices in the installation direction so that their IrDA interfaces are exactly opposite each other.

7KT PAC M-Bus (7KT1 908) expansion module

- Power supply through bus cable
- Baud rates: 300 to 9600 kbit/s
- Status indication by LED on the module
- Can be parameterized using M-Bus Master software

7KT PAC Modbus RTU (7KT1 907) expansion module

- Power supply: 230 V AC
- Baud rates: 4.8 / 9.6 / 19.2 and 38.4 kbit/s are supported.
- Status indication by LED on the module
- Configurable via RS485 master software

7KT PAC RS485 (7KT1 903) expansion module

- Power supply: 230 V AC
- Status indication by LED on the module

7KT PAC 7KNX (7KT1 900) expansion module

- Power supply through the KNX/EIB bus cable
- Status indication by LED on the module

Selection and ordering data

	Version	Mounting width DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		MW						kg
 7KT1 908	**7KT PAC M-Bus expansion module** For connecting 7KT PAC1500 measuring devices to M-Bus	1	**7KT1 908**		1	1 unit	047	0.050
 7KT1 907	**7KT PAC Modbus RTU expansion module** For connecting 7KT PAC1500 measuring devices to Modbus RTU	1	**7KT1 907**		1	1 unit	047	0.085
 7KT1 903	**7KT PAC RS485 expansion module** For connecting 7KT PAC1500 measuring devices via RS485 to 7KT1 391 LAN couplers	1	**7KT1 903**		1	1 unit	047	0.080
 7KT1 900	**7KT PAC KNX expansion modules** For connecting 7KT PAC1500 measuring devices to Instabus KNX	1	**7KT1 900**		1	1 unit	047	0.064

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Overview



7KT 391 LAN couplers

A LAN coupler supports worldwide data retrieval from 7KT PAC measuring devices, as long as there is a LAN link to the Internet.

Up to 30 devices can be linked to a LAN coupler via a Web browser, such as Firefox. In turn, the LAN coupler is connected to a LAN.

Data communication between the LAN coupler and the PC takes place using the TCP/IP protocol.

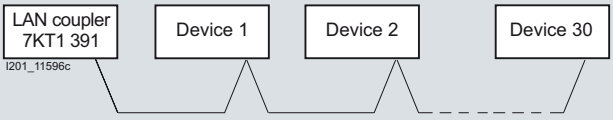
Application

Suitable 7KT PAC measuring devices

The following measuring devices can be connected to the LAN coupler:

	Order No.
Energy measuring devices	
7KT PAC1500 measuring device, three-phase	
• For direct connection 80 A, double tariff	7KT1 543
• For direct connection 80 A, double tariff, calibrated version	7KT1 545
• For transformer connection .../5 A, double tariff	7KT1 540
• For transformer connection .../5 A, double tariff, calibrated version	7KT1 542
• For direct connection 125 A, double tariff	7KT1 546
• For direct connection 125 A, double tariff, calibrated version	7KT1 548
• For direct connection 63 A, double tariff	7KT1 520
• For transformer connection .../5 A, double tariff	7KT1 521
• 7KT PAC1500 measuring device, single-phase	
• For direct connection 80 A, double tariff	7KT1 531
• For direct connection 80 A, double tariff, calibrated version	7KT1 533
7KT PAC3000 measuring devices	
• 7KT PAC3000, for direct connection	7KT1 340
• 7KT PAC3000, for transformer connection .../5 A	7KT1 341

Connecting several devices to a 7KT 391 LAN coupler



Technical specifications

			7KT1 391 LAN couplers
Standards			IEEE 802.3 AS, IEC 60950, EN 61000-6-2, EN 61000-6-3
General data			
• Enclosures	Acc. to DIN 43880		4 modules
• Mounting	Acc. to EN 60715		Mounting on standard mounting rail (35 mm)
• Mounting height		mm	70
Supply			
• Rated power dissipation P_v		VA	≤ 10
• Rated control supply voltage U_c		V AC	230
• Primary operating range		$\times U_c$	0.9 ... 1.10
• Rated frequency		Hz	50
• Frequency ranges		Hz	45 ... 65
Function			
• System start			Automatic upon switching on
• LAN server identification			Over the IP address of the PC
• Transmission rate	Limitation by LAN	Mbit/s	100
• Operating system			Windows XP/Vista/7
• Web browser			IE 7, 8; Mozilla Firefox 3.09 / 3.5.3 / 3.6; Opera 9.64 / 10 / 10.5; Safari 3.2.2 /4.0.5; Google Chrome 3.0.195.27.

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7KT LAN couplers

			7KT1 391 LAN couplers
LAN interface			
• HW interface			Connection RJ 45
• SW interface			TCP/IP
Interface to measuring devices			
• HW interface	RS485 terminals	Number	3 (+/-/shielded twisted pair)
• Line	Version		STP (shielded twisted pair)
	Minimum cross-section	mm^2	2 × 0.2 or 2 x AWG 24
	Maximum line capacitance	pF/m	< 50
	Impedance	W	100
	Maximum overall cable length	m	≤ 1200
	Type of installation		Serial
Measuring devices can be connected directly		Number	30
Environmental conditions			
• Temperatures	In operation	°C	-10 ... +55
	Storage and transport	°C	-25 ... +70
• Relative humidity	In operation	%	≤ 80
• Vibrations	Sinus amplitude at 50 Hz	mm	± 0.25
• Safety class	Acc. to IEC 60950		III
• Degree of protection	Installed device front side (terminals)		IP20

Selection and ordering data

	Version	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	MW							kg
	**LAN couplers** For connection of up to 30 devices over RS485	230	4		**7KT1 391**		1	1 unit	047	0.212

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Overview



Digital measuring devices: Left: 7KT1 voltmeter, right: 7KT1 ammeter

These devices for measuring voltages and currents can be used for monitoring incoming and outgoing currents or device currents in electric plants.

They are suitable for direct connection in a single-phase system or with measuring transducers in three-phase systems.

The measuring ranges of the ammeter are set locally at the device using a coding switch.

Benefits

- The ammeters have 14 measuring ranges from 0 A to 20 A and 0 A to 999 A, which can be set using a coding switch. This ensures universal application.

Technical specifications

			7KT1 110	7KT1 120
Standards			DIN 43751-1, -2	
Rated control supply voltage U_c		V AC	230	
Primary operating range		× U_c	0.9 ... 1.15	
Rated frequency		Hz	45 ... 65	
Measuring range				
• Voltage	Direct measurement	V AC	12 ... 600	--
• Current	Direct measurement	A AC	--	0.4 ... 20 direct
	Transformer measurement	A AC	--	0.1 ... 1000/5
Measuring accuracy	At 23 °C	%	±0.5 ±1 digit	
Overload capability				
• Voltage	Continuous	V	720	--
	Short-time for 1 s	V	780	--
• Current	Continuous, direct	A	--	22
	Continuous, transformer	A	--	5.5
	short-time for 1 s, direct	A	--	200
	short-time for 1 s, transformer	A	--	50
Terminals	±screw (Pozidriv)		1	
Conductor cross-sections	Rigid, max.	mm^2	1 × 6/2 × 4	
	Flexible, with end sleeve, min.	mm^2	0.75	
Degree of protection			IP20, with connected conductors	

Selection and ordering data

	Version	U_e	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	MW							kg
	**Digital voltmeters**									
	Measuring range AC 12 ... 600 V	230	2		**7KT1 110**		1	1 unit	033	0.214
	**Digital ammeters for direct and transformer connection**									
	Measuring range direct: 0.4 ... 20 A transformer: 0.1 ... 1000 A/5	230	2		**7KT1 120**		1	1 unit	033	0.219

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Time and pulse counters for standard rail mounting

Overview



Time counters: Left: electromechanical, right: Electronic

Time and pulse counters are used for the reliable monitoring of production and service times, which enables the exact planning and monitoring of production sequences, maintenance cycles and warranty times.

As well as the proven electromechanical time and pulse counters for mounting in distribution boards, we also supply digital time and pulse counters.

The fields of application for both counter types are very diverse, such as the recording of operating hours of machines, systems or building management systems, as well as pulse counting for general volume flow counting, registration of starting frequencies, starting cycles or production quantities in systems and machines.

Benefits

- Time and pulse counters help to plan maintenance intervals, which safeguard and ensure high plant availability
- Versions without zero position and with electric or manual zero position for all applications.
- Flexible application of the digital counters for power supplies of 12 V to 150 V DC and 24 V to 240 V AC in a single device.

Technical specifications

			7KT5 801	7KT5 802	7KT5 803	7KT5 804	7KT5 806	7KT5 807
Standards **Approvals**			EN 60255-6; UL 863 UL 863, UL File No. E300537, CSA C22.2 No. 6 and 55					
Rated control supply voltage U_c		V AC V DC	-- 12 ... 24	24 --	115	230	115	230
Primary operating range	At 50/60 Hz	× U_c	0.9 ... 1.1					
Rated frequency		Hz	--	50			60	
Rated power dissipation P_v		VA	< 1		< 2			
Method of operation	Counting of		Hours					
Display	Drum-type register	h	00000.00					
Terminals	± screw (Phillips)		1					
Conductor cross-sections	Rigid Flexible, with end sleeve, min.	mm^2 mm^2	1.5 0.75					
Permissible ambient temperature		°C	-10 ... +70					
Degree of protection	Acc. to EN 60529		IP20, with connected conductors					
Safety class	Acc. to EN 61140		II					
Permissible humidity		%	< 80					

			7KT5 811	7KT5 812	7KT5 814	7KT5 821	7KT5 822	7KT5 823	7KT5 833
Standards **Approvals**			EN 60255-6; UL 863 UL 863, UL File No. E300537, CSA C22.2 No. 6 and 55						
Rated control supply voltage U_c		V AC V DC	-- 12 ... 24	24 --	230 --	24 ... 240 12 ... 150			
Primary operating range	At 50/60 Hz	× U_c	0.9 ... 1.1						
Rated frequency		Hz	--	50/60					
Rated power dissipation P_v		VA	< 1		< 2	< 1			
Method of operation	Counting of		Pulses			Hours			Pulses
Display	Drum-type register LCD	⎍⎍ h ⎍⎍	0000000 -- --			-- 000000.0 --			-- -- 0000000
Counting frequency		Hz	10			--			10
Pulse duration		ms	50			--			50
Resetting	Electrical Mechanical		--				Yes		
			--					Yes	
Terminals	± screw (Phillips)		1						
Conductor cross-sections	Rigid Flexible, with end sleeve, min.	mm^2 mm^2	1.5 0.75						
Permissible ambient temperature		°C	-10 ... +70						
Degree of protection	Acc. to EN 60529		IP20, with connected conductors						
Safety class	Acc. to EN 61140		II						
Permissible humidity		%	< 80						

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Selection and ordering data

		U_c	Frequency	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V	Hz	MW							kg
	**Time counters**										
	Mechanical counting mechanism, display 00000.00 h without resetting										
		12 ... 24 DC	--	2		**7KT5 801**		1	1 unit	033	0.098
		24 AC	50			**7KT5 802**		1	1 unit	033	0.093
		115 AC				**7KT5 803**		1	1 unit	033	0.093
		230 AC				**7KT5 804**		1	1 unit	033	0.093
		115 AC	60			**7KT5 806**		1	1 unit	033	0.094
		230 AC				**7KT5 807**		1	1 unit	033	0.095
	Pulse counters										
	Mechanical counting mechanism, display 0000000 ⎍⎍ without resetting										
		12 ... 24 DC	--	2		**7KT5 811**		1	1 unit	033	0.095
		24 AC	50/60			**7KT5 812**		1	1 unit	033	0.089
		230 AC				**7KT5 814**		1	1 unit	033	0.096
	**Electronic time counters**										
	LCD 000000.0h without resetting										
		12 ... 150 DC, 24 ... 240 AC	-- 50/60	2		**7KT5 821**		1	1 unit	033	0.089
	With electrical resetting										
		12 ... 150 DC, 24 ... 240 AC	-- 50/60			**7KT5 822**		1	1 unit	033	0.085
	with electrical and mechanical resetting										
		12 ... 150 DC, 24 ... 240 AC	-- 50/60			**7KT5 823**		1	1 unit	033	0.089
	Electronic pulse counters										
	LCD 0000000 ⎍⎍										
	with electrical and mechanical resetting										
		12 ... 150 DC, 24 ... 240 AC	-- 50/60	2		**7KT5 833**		1	1 unit	033	0.089

More information

Time counters count the time in hours with an accuracy of two decimal places (hundredths of hours). The pulse counter adds the number of pulses, e.g. the making operations of devices.

A power supply is required at terminals 1 and 3 of the electronic counters so that the device can constantly display the measured values. Once terminal 3 is supplied with voltage (for DC "+"), the counting procedure starts. If terminal 4 is supplied short-time with voltage (for DC "+"), the counter is reset.

In the case of electronic counters, the counting result is saved indefinitely in the event of a power failure (EEPROM). On recovery of the power, the counting is continued from the saved value. As well as a modern design, the electronic counter has a 7-digit LCD, which can be reset electrically or manually.

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Time counters for front-panel mounting

Overview



Time counters: Left: Counting mechanism, right: Counting mechanism with front frame

Time and pulse counters for control cabinets, control systems and mechanical engineering are used, e.g. in boilers, machine tools or compressors. The pulse counters count the starting frequencies. This supports planning for preventative maintenance.

In-time and regular maintenance is the best protection against unexpected shutdowns.

Benefits

- Time and pulse counters help to plan maintenance intervals, which safeguard and ensure high plant availability.

Technical specifications

			7KT5 500	7KT5 501	7KT5 502	7KT5 503	7KT5 504	7KT5 505
Standards			EN 60255-6					
Rated control supply voltage U_c		V AC V DC	-- 10 ... 80	115 --	230	115	230	24
Rated frequency		Hz	--	50		60		50
Front-panel mounting	Switchboard cutout							
• Without masking frame 55 mm × 55 mm		mm × mm	$45.2 \times 45.2^{+0.3}$					
• With masking frame 55 mm × 55 mm		Ø mm	$50.2^{+0.3}$					

			7KT5 600	7KT5 601	7KT5 602	7KT5 603	7KT5 604
Standards			EN 60255-6				
Rated control supply voltage U_c		V AC V DC	-- 10 ... 50	115 --	230	115	230
Rated frequency		Hz	--	50		60	
Front-panel mounting	Switchboard cutout	mm × mm	$68^{+0.5} \times 68^{+0.5}$				

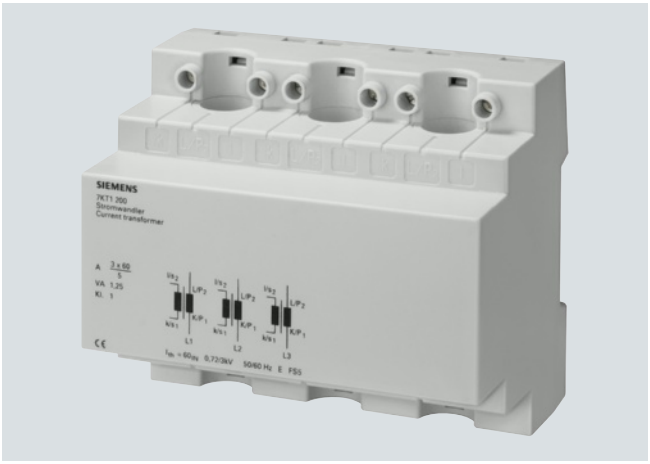
Selection and ordering data

		U_c	Frequency	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V	Hz	MW							kg
	**Time counters**										
	Mechanical counting mechanism, display 00000.00 h, for front-panel mounting, front frame 48 mm x 48 mm										
		10 ... 80 DC	–			**7KT5 500**		1	1 unit	033	0.059
		24 AC	50			**7KT5 505**		1	1 unit	033	0.056
		115 AC				**7KT5 501**		1	1 unit	033	0.058
		230 AC				**7KT5 502**		1	1 unit	033	0.057
		115 AC	60			**7KT5 503**		1	1 unit	033	0.058
		230 AC				**7KT5 504**		1	1 unit	033	0.058
	For front-panel mounting, front frame 72 mm x 72 mm with narrow frame according to DIN 43700										
		10 ... 50 DC	–	2		**7KT5 600**		1	1 unit	033	0.131
		115 AC	50			**7KT5 601**		1	1 unit	033	0.128
		230 AC				**7KT5 602**		1	1 unit	033	0.129
		115 AC	60			**7KT5 603**		1	1 unit	033	0.128
		230 AC				**7KT5 604**		1	1 unit	033	0.129
	Covers for 7KT5 5 time counters										
	55 mm × 55 mm					**7KT9 020**		1	1 unit	033	0.005
	Sealing rings for 7KT9 020 covers										
	IP43 installation in switchboards with smooth surfaces (1 set = 5 units)					**7KT9 000**		1	1 set	033	0.011
	Terminal covers for 7KT5 6 time counters										
	Degree of protection, IP20, with connected conductors					**7KT9 021**		1	1 unit	033	0.003

* You can order this quantity or a multiple thereof.

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Overview



7KT1 2 current transformers

The three-phase 7KT1 2 current transformer can be used in distribution boards according to DIN 43880. The measuring leads are routed vertically through the standard mounting rail.

This type of current transformer is suitable for infeeds or outgoing lines in connection with the installation of a 5TE8 switch or a 5TE1 disconnector, as the primary connecting leads do not have to be interrupted.

The current transformer is designed for cables of up to 13 mm in diameter, e.g. H07V-R with 50 mm^2 conductor cross-section.

Benefits

- The current transformer has accuracy class 1 acc. to EN 60044-1. This value is better than most measuring devices in this area of application
- The versions designed for a transformer ratio of 60/5 A, 100/5 A and 150/5 A enable an even broader range of applications.

Technical specifications

			7KT1 200	7KT1 201	7KT1 202
Standards			EN 60044-1		
Secondary rated current strength		A	5		
Accuracy class		Cl.	1		
Rated power		VA	1.25	2.5	3.75
Rated frequency f_n		Hz	50/60		
Thermal current limit I_{th}	Short-time	A	60 × I_e		
Thermal continuous current		A	1 × I_e		
Overcurrent limit factor		FS	5		
Rated impulse withstand voltage U_{imp}		kV	> 3		
Creepage distances and clearances		mm	> 3		
Rated operational voltage U_e		V AC	720		
Rated operational current I_e		A AC	3 × 60	3 × 100	3 × 150
Terminals ±screw (Pozidriv)			PZ 1		
Conductor cross-sections					
- Rigid		mm^2	0.5 ... 4		
- Flexible, with end sleeve		mm^2	0.5 ... 2.5		
Permissible ambient temperature		°C	-5 ... +60		
Resistance to climate	Acc. to EN 60068-1		20/60/4		

Selection and ordering data

		U_e	I_e	I_{sec}	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A AC	A AC	MW							kg
	**Current transformers**											
		720	3 × 60	5	6		**7KT1 200**		1	1 unit	033	0.499
			3 × 100				**7KT1 201**		1	1 unit	033	0.512
			3 × 150				**7KT1 202**		1	1 unit	033	0.510

* You can order this quantity or a multiple thereof.

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7KT9 0 measuring selector switches

Overview



Measuring selector switch (voltmeter selector switch)

Measuring selector switches are used as CO contacts of the phases for voltages and currents in three-phase systems for voltmeters and ammeters.

The design of these switches is adapted to match the modular installation devices. They support use in compliance with EN 60947-3.

Benefits

The devices have a rated insulation voltage of 660 V. This permits use in many systems.

Selection and ordering data

		U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A AC	V AC	MW							kg
	**Voltmeter selector switches**	400	12	6	3		**7KT9 010**		1	1/48 units	033	0.126
	**Ammeter selector switches for operation with current transformer**	400	12	6	3		**7KT9 011**		1	1 unit	033	0.128

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* You can order this quantity or a multiple thereof.

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Monitoring Devices



12/2 **Introduction**

Transfer switches
12/5 3KC ATC5300 transfer control devices

Monitoring devices for electrical values
12/9 5SV8 residual current monitors
12/12 5TT3 voltage relays
12/16 5TT3 current relays
12/18 5TT6 priority switches
12/19 5TT3 fuse monitors
12/20 5TT3 phase and phase sequence monitors
12/21 5TT3 insulation monitors for industrial applications
12/22 7LQ3 monitors for medical premises

Monitoring devices for plants and equipment
12/29 5TT3 fault signaling units
12/30 5TT5 EMERGENCY STOP modules
12/31 5TT3 level relays
12/33 5TT3 line circuit relays
12/34 5TT3 p.f. monitors
12/35 5TT3 motor protection relays

Charging infrastructure for electric vehicles
12/36 CM-100 charging controllers acc. to IEC 61851
12/38 CM-230 charging controllers acc. to IEC 61851
12/39 5TT3 charging units

For further technical product information:

Service&Support Portal:
www.siemens.com/lowvoltage/technical-support

→ Product List:
Technical specifications

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Updates / Downloads / FAQs / Manuals / Operating instructions / Characteristic curves / Certificates

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Introduction

Overview

Devices		Page	Application	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
Transfer switches							
	**3KC ATC5300 transfer control devices**	12/5	The 3KC ATC5300 transfer control device, equipped with two motor-driven circuit breakers, serves as a transfer system that automatically or manually switches between two power supply systems in low-voltage power distribution applications.	IEC 60947-6-1; DIN VDE 0660-114	✓	✓	✓
Monitoring devices for electrical values							
	**5SV8 residual current monitors**	12/9	To increase system availability and operating safety through continuous monitoring of residual current in electrical systems and signaling if a defined threshold is exceeded.	IEC 62020; EN 62020	✓	--	✓
	**5TT3 voltage relays**	12/12	Monitoring the voltage of emergency lighting in public buildings, short-time failures of 20 ms, for ensuring operational parameters for devices or system components or monitoring the neutral conductor for breaks.	IEC 60255; EN 62020	✓	--	✓
	**5TT3 current relays**	12/16	Monitoring of emergency and signal lighting and motors. All current relays can be short-time overloaded and connected either with direct measurement or through transformers.	IEC 60255	✓	--	✓
	**5TT6 priority switches**	12/18	For a reduction of the connection fee in accordance with German Federal Regulations on Tariffs when used in systems with electric storage heaters where the continuous-flow heaters are switched with priority.	IEC 60669; BTO § 6 Section 4	--	✓	--
	**5TT3 fuse monitors**	12/19	Monitoring of all types of low-voltage fuses. Can be used in asymmetric systems afflicted with harmonics and regenerative feedback motors.	IEC 60255	✓	--	✓

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Devices		Page	Application	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
	**5TT3 phase and phase sequence monitors**	12/20	For the visual signaling of phase failures or phase sequences in three-phase systems. The phase sequence is arbitrary. The device is also suitable for 1, 2 or 3-phase operation.	IEC 60255	--	--	✓
	**5TT3 insulation monitors for industrial applications**	12/21	To increase system availability and operating safety through continuous monitoring of the isolation resistance in non-grounded direct voltage or AC voltage systems.	IEC 60255; IEC 61557	--	--	✓
	**7LQ3 monitors for medical premises**	12/22	For the insulation monitoring of a medical IT system or the load current monitoring of an IT system transformer for a non-permissible temperature rise. Monitoring of the voltage supply with automatic switchover.	EN 61557-8; IEC 61557-8; DIN VDE 0100-710; IEC 60364-7-710	✓	--	--
Monitoring devices for plants and equipment							
	**5TT3 fault signaling units**	12/29	Evaluation and display of fault alarms and alarm signals for monitoring industrial plants and control systems. With 4 inputs and connections for 39 expansion fault signaling units.	IEC 60255	✓	--	✓
	**5TT5 EMERGENCY STOP modules**	12/30	For EMERGENCY-OFF switching in accordance with the Directive 98/37/EC on Safety of Machines. Safe types of circuits for machines, plants or test stations in industrial, commercial and private enterprise applications.	According to the Machinery Directive 98/37/EC; EN 954-1	✓	--	✓
	**5TT3 level relays**	12/31	Control of liquid levels in containers with 3 electrode connections for 1-step and 2-step level control. High immunity to interference of the measuring circuit isolated from the system.	IEC 60255, DIN VDE 0435	✓	--	✓
	**5TT3 line circuit relays**	12/33	For disconnecting the voltage of unused lines when loads are disabled.	IEC 60255, DIN VDE 0435	--	✓	--

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Introduction

Devices		Page	Application	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
	**5TT3 p.f. monitors**	12/34	For the monitoring of asynchronous motors for underload and no-load operation, e.g. fan monitoring in the case of V-belt breakage, filter blockages, pump monitoring in the event of valve closure or dry runs.	IEC 60255, IEC 61557	--	--	✓
	**5TT3 motor protection relays**	12/35	For the prevention of thermal motor overloads, e.g. due to high switching frequency, single-phasing, disabled cooling or excessive ambient temperatures. With detection of wire breaks in the sensor circuit.	IEC 60255, DIN VDE 0435	--	--	✓
Charging infrastructure for electric vehicles							
	**CM-100 / 230 charging controller acc. to IEC61851**	12/36	The CM-100 charging controller enables charging in charging mode 3 in accordance with the IEC standard. It communicates with the electric vehicle, controls and monitors the switching devices and identifies the charging cable. The charging controller thus ensures maximum safety for the charging operation. Communication with the electric vehicle via the charging cable is implemented via a pulse-width modulated signal acc. to IEC 61851-1 charging mode 3.	IEC 61851-1 IEC 61851-22	✓	✓	✓
	**5TT3 charging units**	12/39	The WB100A charging units can be used to charge electric vehicles in charging mode 3 acc. to IEC 61851. The charging cable type 1 or type 2 is fixed to the charging unit and is equipped with residual current and line protection.	IEC/EN 61851-1; IEC/EN 61851-22; IEC/EN 62196-1; IEC 62196-2; IEC 60439-3; DIN 43880	✓	✓	✓

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Overview



3KC ATC5300 transfer control devices

Automatic transfer control via the 3KC ATC5300 transfer control device

The 3KC ATC5300 transfer control device, equipped with two motor-driven circuit breakers, serves as a transfer system that automatically or manually switches between two power supply systems in low-voltage power distribution applications.

In particular, the 3KC ATC5300 transfer control device is deployed everywhere where a power failure is especially critical, e.g. distributed power supply systems with UPS supply (e.g. air-conditioning of control cabinets), in industrial processes and the emergency power supply of public buildings, such as hotels.

Mode of operation

The 3KC ATC5300 transfer control device controls the transfer between the main and standby power supplies fully automatically, while incorporating set limit values and delay times. It detects fluctuations occurring in the main power supply quickly and switches to the standby power supply. The control device only switches to the standby power supply after it has ensured that the standby supply is delivering the required power supply quality. The devices switches back to the main power supply taking into consideration the set parameters once the required power supply quality is available again. If the standby power supply and/or the main power supply is fed by a generator, the control device also offers a wide range of settings, such as a generator lead time, generator delay time, and generator start test at specified times.

The 3KC ATC5300 transfer control device can control air circuit breakers, molded case circuit breakers, switch disconnectors and contactors. The circuit breakers are controlled via the related motorized operating mechanisms.

Setting parameters and monitoring using SENTRON ATC software

In addition to operation and parameterization on-site, you can also monitor and set the parameters of the controller using the SENTRON ATC software. The software offers a high level of convenience and quick access to all device settings, e.g. complex settings which occur when connecting generators.

Measured quantities

The 3KC ATC5300 records and monitors the following measured quantities:

Measured quantity		Basic setting	Limit value setting	Delay time	Can be deactivated
Rated system voltage U_n	V AC	100 ... 690	70 % ... 98 % (75 % ... 100 %) [1]	0.1 s ... 900 s	--
			102 % ... 120 % (100 % ... 115 %) [1]	0.1 s ... 900 s	✓
Voltage asymmetry	%		1 % ... 20 %	0.1 s ... 900 s	✓
Phase failure	%		60 % ... 85 %	0.1 s ... 30 s	✓
Phase sequence		Left, right	--	--	✓
Frequency	Hz	50/60	80 % ... 100 %	0.1 s ... 900 s	✓
			101 % ... 120 %	0.1 s ... 900 s	✓
Battery voltage U_b	V DC	12/24/48	70 % ... 100 % [2]	0 ... 60 s	✓
			110 % ... 140 % [2]		✓

[1] Hysteresis value for enabling back-transfer

[2] Warning only, no switching

✓ yes

-- no

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3KC ATC5300 transfer control devices

Benefits

The advantages of the 3KC ATC5300 transfer control device at a glance:

- Controls molded case circuit breakers (MCCBs), air circuit breakers (ACBs), switch disconnectors (LBSs), or contactors
- Two measuring inputs for single-phase and multi-phase power supply systems
- Option for switching between system to system, generator to system, system to generator, and generator to generator configurations
- Direct measurement of three-phase industrial systems ranging up to 400 V AC_{L-N} or 690 V AC_{L-L} (converter costs, no assembly and installation costs for transformers)
- Has two voltage supply units to cover all standard AC/DC voltage supplies, alternative supply via main and standby system possible
- Low space requirements due to door installation and compact design
- Two displays for monitoring the normal/standby system and displaying the phase and interlinked cable voltages
- Setting control parameters for generator activation requirements
- Calendar clock
- 8 digital inputs, 6 of which are programmable and 7 relay outputs, 5 of which are programmable
- 4 selectable operating modes: off, manual, automatic, test
- Data, parameter and logged events (e.g. power failure, faults) remain accessible and unaltered even after a power failure or restarting a device
- Status display of the connected switches or contactors
- Logging and statistical processing of occurring events possible
- Easy system integration through integrated MODBUS interface (RTU and ASCII) for integrating e.g. into a power management system
- The illuminated LED display makes reading measured values and parameters easy, even in unfavorable lighting conditions
- The SENTRON ATC programming software saves considerable time when setting parameters and setting up the 3KC ATC5300 transfer control device
- Generator test run function for mandatory testing intervals
- Command option for switching to the second set of protection parameters in the ETU76B (air circuit breaker 3WL).

Integration

Implementation of an automatic transfer system

The 3KC ATC5300 transfer control device is used to automatically and manually switch from a main power supply to a standby power supply and vice versa. In the event that system faults occur, the 3KC ATC5300 transfer control device controls the switching operations fully automatically. This ensures a very high level of operational continuity.

The 3KC ATC5300 transfer control device allows the implementation of an automatic transfer control in conjunction with molded case circuit breakers (MCCBs), air circuit breakers (ACBs), switch disconnectors (LBSs), or contactors.

The following devices are ideally matched to the 3KC ATC5300 transfer control system:

- 3VL molded case circuit breakers
- 3WL air circuit breakers

Component interaction

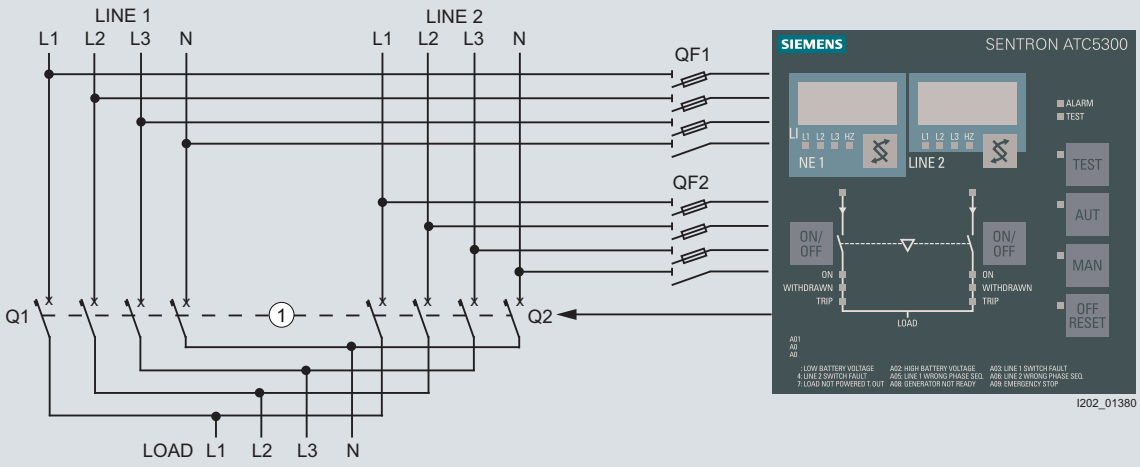
- Feed-in system line 1 (main system) and line 2 (standby system) are connected to the 3KC ATC5300 transfer control system.
- In case of system anomalies, the 3KC ATC5300 transfer control device activates components Q1 and Q2 accordingly.
- Q1 and Q2 can be implemented with molded case circuit breakers (MCCBs), air circuit breakers (ACBs), switch disconnectors (LBSs), or contactors

Q1 and Q2, configured with circuit breakers

All SENTRON circuit breakers connected to the 3KC ATC5300 transfer control device must be equipped with the following accessories:

- 3VL MCCBs
  The following is also required for each MCCB:
  - One motorized operating mechanism
  - One alarm switch
  - Two auxiliary switches 1 NO/1 NC
- 3WL ACBs
  The following is also required for each 3WL ACB:
  - One motorized operating mechanism
  - One closing solenoid
  - One auxiliary release (shunt release)
  - One tripped signal switch
  - One auxiliary switch block 2 NO/2 NC (standard fittings)

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(1) Electrical interlock

Implementation of an automatic transfer system

Technical specifications

		ATC5300
Auxiliary supply		
Rated voltage U_n		
• AC	V AC	220 ... 240
• DC	V DC	12/24/48
Operating range		
• AC	V AC	187 ... 264
• DC	V DC	9 ... 70
Frequency	Hz	45 ... 65
Max. power consumption at U_n = 240 V AC	VA	9
Max. power loss		
• At 240 V AC	W	6.3
• At 48 V DC	W	4.1
Max. power consumption		
• At 12 V DC	mA	300
• At 24 V DC	mA	180
• At 48 V DC	mA	90
Safety in the event of short interr.	ms	50
Measuring inputs		
Max. rated voltage U_n		
• Phase-phase	V AC	690
• Phase-neutral	V AC	400
Phase-phase measuring range	V AC	80 ... 800
Frequency ranges	Hz	45 ... 65
Measuring method		RMS value (true RMS)
Measuring input impedance		
• Phase-phase	MΩ	> 1.1
• Phase-neutral	MΩ	> 0.5
Connection method		Single-phase, two-phase, or three-phase system
Measuring errors		±0.25 %, value range ± 1 digit
Digital inputs		
Number of inputs		8, 6 of which are programmable
Type of input		Negative
Input current	mA	≤ 10
Input signal		
• Logic state "0"	V	≤1.5 (typical 2.9)
• Logic state "1"	V	≥ 5.3 (typical 4.3)
Input signal delay	ms	≥ 50
Relay outputs		
Number of outputs		7, 5 of which are programmable
Contact configuration		
• 2 relays with 1 NO contact		12 A, at 250 V AC (AC1)
• 3 relays with 1 NO contact		8 A, at 250 V AC (AC1)
• 2 relays with 1 CO contact		8 A, at 250 V AC (AC1)

		ATC5300
Reversing time of control device	s	1
Communication cables		
RS 232 serial interface	bit/s	1200 ... 38400
• With programmable baud rate		
• Connection through RJ6/6 connector		
RS485 serial interface	bit/s	1200 … 38400
• Optically insulated		
• With programmable baud rate		
• Connection through plug-in terminals		
Real-time clock		
Energy storage		Stored-energy capacitors
Oper. time without feeding voltage	Days	Approx. 12 ... 15
Insulation voltage		
Rated insulation voltage U_i	V	690
Ambient conditions		
Operating temperature	°C	-20 … +60
Storage temperature	°C	-30 … +80
Relative humidity	%	< 90
Max. pollution degree		3
Overvoltage category		3
Measuring category		CAT III
Connections		
Terminal type		Removable/pluggable
Cable cross-section	mm^2	0.2 ... 2.5 (24 ... 12 AWG)
Max. tightening torque	Nm	0.5 (4.5 lbf·in)
Enclosures		
Enclosure material		Thermoplastic LEXAN 3412R
Version		Door installation
Degree of protection		IP41 front, IP20 rear
Weight	g	950
Certificates and conformity		
ATS/ATSE standard		Complies with the ATS/ATSE standard IEC 60947-6-1, in combination with 3VL or 3WL[1)]
Environment classification		3K6 acc. to IEC 60721-3-3 3B2 acc. to IEC 60721-3-3 3C3 acc. to IEC 60721-3-3 3S2 acc. to IEC 60721-3-3 3M6 acc. to IEC 60721-3-3
EMC		Acc. to IEC 60947-6-1

1) For more information see manual at: www.siemens.com/lowvoltage/manual.

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3KC ATC5300 transfer control devices

Selection and ordering data

	Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx. kg
			Screw connection ⏚					
 3KC9 000-8TL30	**3KC ATC5300 transfer control devices** Control panel instrument 144 x 144 x 94 mm with the following features: • Screw terminal connection • AC/DC power supply unit • 220 … 240 V AC, 45 ... 60 Hz • 9 ... 70 V DC • Rated setting range: 100 AC…690 V		**3KC9 000-8TL30**		1	1 unit	143	1.004
 3KC9 000-8TL70	**SENTRON ATC software** Software for setting parameters and remote control operations, incl. connection cable from control device to PC, cable length 1.8 m • CD incl. software and manuals. • Minimum hardware and software requirements: - Pentium, 64 MB RAM - COM interface (serial RS 232) - CD drive - Windows 95/98/2000/XP/Vista/Windows 7		**3KC9 000-8TL70**		1	1 unit	143	0.209

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* You can order this quantity or a multiple thereof.

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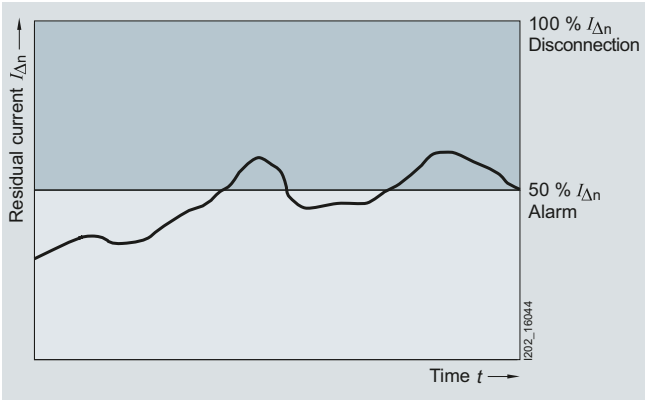
Overview

Plant safety and operating safety are becoming increasingly important alongside the protection of personnel. Shutdowns due to the unexpected tripping of protective devices cause high costs. It is possible to detect residual currents in the electrical installation before the protective device responds.

Residual current monitors (RCM) monitor residual current in electrical installations and issue a signal when the residual current exceeds a set value.

RCMs are used primarily in plants where a fault should result in a signal but not in disconnection. This enables plant operators to detect faults and eliminate their causes before the protective devices disconnect the installation, which increases plant and operating safety and cuts costs.

The summation current transformer detects all conductors required to conduct the current, i.e. including the neutral conductor where applicable. In a fault-free system, the magnetizing effects of the conductors through which current is flowing cancel each other out for the summation current transformer, i.e. the sum of all currents is zero. If a residual current is flowing due to an insulation fault, a residual magnetic field is left in the core of the transformer and produces a voltage. This voltage is evaluated using the electronics of the RCM. The switched contact can be used e.g. to operate an acoustic/optical signaling device, a higher-level control system or a circuit breaker.



Time characteristic of the rated residual current $I_{\Delta n}$

Benefits

- Higher plant availability and operating safety through permanent monitoring of residual currents
- Adjustable limit values for residual current and response time enable timely detection and signaling – plant shutdowns are often avoidable
- Devices for every application:
  The summation current transformers are available in various sizes, the RCMs can be used optionally for signaling and/or switching
- Additional fire protection can be implemented using the monitoring system

Technical specifications

		RCM analog	RCM digital	RCM digital, 4 channels
Standards		EN 62020, IEC 62020		
Approvals				UL
Rated operational voltage U_e	V AC	230		
• Frequency	Hz	50/60		
Rated residual current $I_{\Delta n}$				
• Type A	A	0.03 ... 3	0.03 ... 3	0.03 ... 3
• Type AC	A	3 ... 5	3 ... 30	3 ... 30
Response time t_v	s	0.02 ... 5	0.02 ... 10, INS, SEL[1)]	0.02 ... 10, INS, SEL[1)]
Relay contacts		1 × alarm	1 × alarm, 1 × tripping operation	1 × alarm, 4 × tripping operation
• Rated voltage	V AC	230	230	230
• Rated current	A	6	6	6
Summation current transformer	mm Ø	20 ... 210		
Maximum cable length RCM/CT (shielded cable)	m	10		
Conductor cross-section	mm^2	1.5		
Test/Reset		Yes/Yes		
External tripping operation/external reset		--/Yes	Yes/Yes	Yes/Yes
Mounting width	MW	2	3	3
Degree of protection				
• Contacts		IP20		
• Front		IP41		
Operating temperature	°C	-10 ... +50		

1) INS: instantaneous, SEL: selective.

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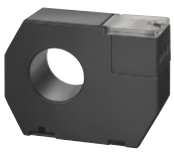
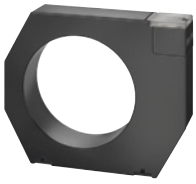
5SV8 residual current monitors

Selection and ordering data

	Rated operational voltage U_e	Rated residual current $I_{\Delta n}$	Response time t_v	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V AC	A	s	MW							kg
	**RCM analog**										
	230, 50/60 Hz	0.03 ... 3 (Type A) 3 ... 5 (Type AC)	0.02 ... 5	2		**5SV8 000-6KK**		1	1 unit	009	0.163
	**RCM digital**										
	230, 50/60 Hz	0.03 ... 3 (Type A) 3 ... 30 (Type AC)	0.02 ... 10, INS, SEL[1]	3		**5SV8 001-6KK**		1	1 unit	009	0.236
	**RCM digital, 4 channels**										
	230, 50/60 Hz	0.03 ... 3 (Type A) 3 ... 30 (Type AC)	0.02 ... 10, INS, SEL[1]	3		**5SV8 200-6KK**		1	1 unit	009	0.236

[1] INS: instantaneous, SEL: selective.

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		Internal diameter	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		mm							kg
	Summation current transformers								
	Including holder for standard mounting rail (UL)	20		**5SV8 700-0KK**		1	1 unit	009	0.076
		30		**5SV8 701-0KK**		1	1 unit	009	0.095
	Including holder for wall mounting[1] (UL)	35		**5SV8 702-0KK**		1	1 unit	009	0.161
		70		**5SV8 703-0KK**		1	1 unit	009	0.274
		105		**5SV8 704-0KK**		1	1 unit	009	0.545
	Including holder for wall mounting (UL)	140		**5SV8 705-0KK**		1	1 unit	009	1.222
		210		**5SV8 706-0KK**		1	1 unit	009	2.040
	**Holders for standard mounting rails** Suitable for summation current transformer with internal diameter of 20 mm, 30 mm, 35 mm, 70 mm and 105 mm			**5SV8 900-1KK**		1	2 units	009	0.004

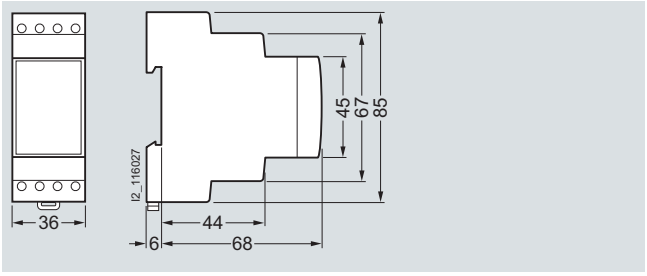
[1] Mounting on standard mounting rail with optional holder for standard mounting rail also possible.

* You can order this quantity or a multiple thereof.

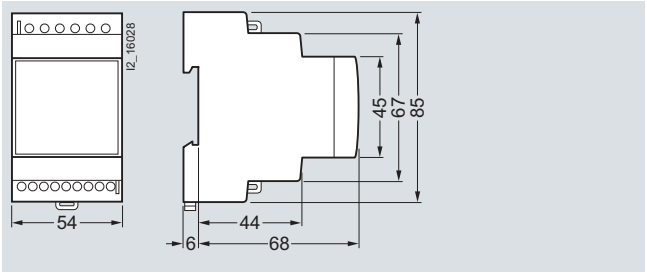
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Dimensional drawings

Residual current monitor

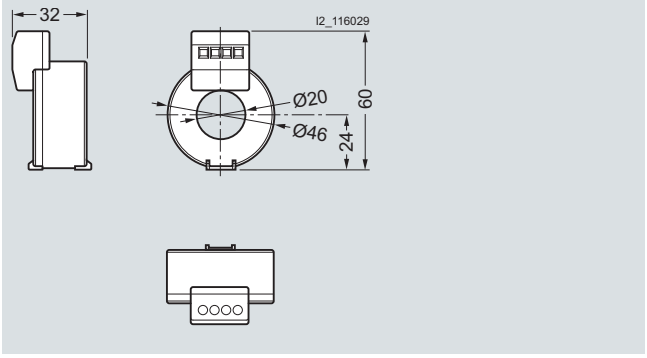


RCM analog, 5SV8 000-6KK

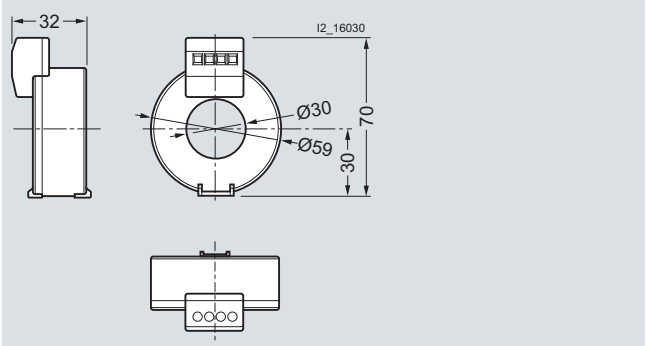


RCM digital, 5SV8 001-6KK, 5SV8 200-6KK

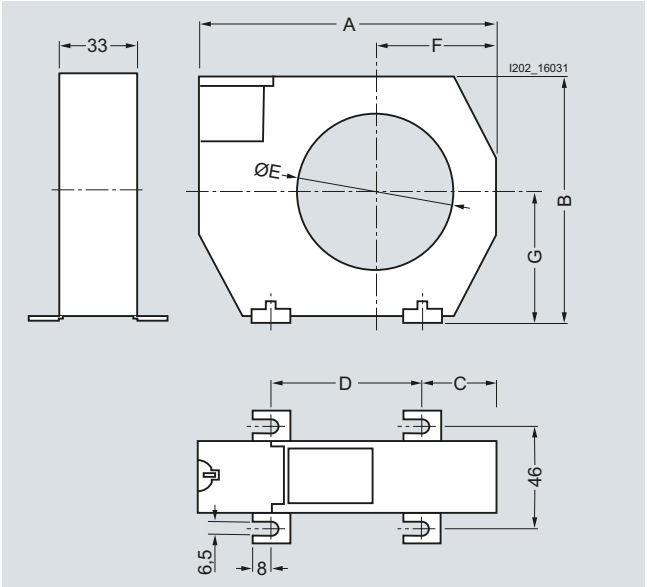
Summation current transformer



Summation current transformer, 5SV8 700-0KK



Summation current transformer, 5SV8 701-0KK



Summation current transformers, 5SV8 702-0KK, 5SV8 703-0KK, 5SV8 704-0KK, 5SV8 705-0KK, 5SV8 706-0KK

Type	Dimensions	A	B	C	D	E	F	G
5SV8 702-0KK		100	79	26	49	35	35	43
5SV8 703-0KK		130	110	32	66	70	52	57
5SV8 704-0KK		170	146	38	94	105	72	73
5SV8 705-0KK		230	196	49	123	140	97	98
5SV8 706-0KK		299	284	69	161	210	141	142

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5TT3 voltage relays

Overview

Voltage relays are used for device and plant protection, supplying safety light devices and the detection of N-conductor breaks and short-time voltage interruptions.

They are available as undervoltage, overvoltage and under/overvoltage relays. The devices are equipped with different functions, depending on their intended use, and comply with the pertinent regulations.

Benefits

- Complete voltage protection in a compact design for overvoltage and undervoltage monitoring in a single device
- Plants and devices are reliably and easily protected by phase-failure relays
- Overvoltages and consequential damage due to high voltages are prevented through N-conductor monitoring
- Asymmetry monitoring in the voltage relay also protects three-phase AC motors against operation with voltage skew

Technical specifications

			5TT3 400 5TT3 401 5TT3 402 5TT3 403	5TT3 404 5TT3 405	5TT3 406	5TT3 194	5TT3 195
Standards			IEC 60255; IEC 61810				
Rated control voltage U_c		V AC	230/400				400
Operating range (overload capability)		× U_c	1.1			1.35	
Rated frequency		Hz	50/60				
Response values	ON-switching OFF-switching	× U_c	0.9/0.95 0.7/0.85		4 % hysteresis 0.7 ... 0.95	0.9 ... 1.3	
Minimum contact load		V; mA	10; 100				
Phase asymmetry	Setting accuracy Repeat accuracy	% %	-- --	Approx. 5 ... 10 1		-- --	Approx. 5 ... 10 1
Phase failure detection	At L1 or L2 or L3	ms	100			--	
N-conductor monitoring			--	Yes		--	
Rated insulation voltage U_i	Between coil/contact	kV	4				
Contacts	μ contact (AC-11)	A	4				
Electrical isolation	Creepage distances and clearances Actuator/contact	mm	3	5.5			
Rated impulse withstand voltage U_{imp}	Actuator/contact	kV	> 2.5	> 4			
Terminals	±screw (Pozidriv)		1				
Conductor cross-sections • Rigid, max. • Flexible, with end sleeve, min.		 mm^2 mm^2	 2 × 2.5 0.5				
Permissible ambient temperature		°C	-20 ... +60				
Resistance to climate	Acc. to EN 60068-1		20/60/4				

			5TT3 196
Standards			IEC 60255
Rated control voltage U_c		V DC	24
Rated power dissipation P_v • Coil/drive • Contact[1] per pole		 VA VA	 0.6 0.8
Hysteresis		%	4
Response values × U_c • Undervoltage • Overvoltage			 0.82 1.18
Residual ripple tripping ΔU_c	Infinitely variable	%	0 ... 15
Overload capability	33 V DC 35 V DC 45 V DC	 ms ms	Continuous 500 10
Creepage distances and clearances		mm	4
Rated impulse withstand voltage U_{imp}	Input/output	kV	> 2.5
Minimum contact load		V/mA	24/300
Rated operational current I_e	-11 AC -1 AC	A A	1 4
Contacts			μ contact
Electrical service life	In switching cycles at I_e		5×10^5
Terminals	+/-screw (Pozidriv)		1
Conductor cross-sections • Rigid, max. • Flexible, with end sleeve, min.		 mm^2 mm^2	 2 × 2.5 1 × 0.5
Permissible ambient temperature		°C	-20 ... +60
Resistance to climate	Acc. to EN 60068-1		20/60/4

[1] For rated operational current.

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			5TT3 407	5TT3 408	5TT3 410
Standards			IEC 60255; IEC 61810		
Rated control voltage U_c		V AC	230/400		
Operating range (overload capability)		× U_c	1.1	1.35	1.2
Rated frequency		Hz	50/60		
Back-up fuse	terminals L1/L2/L3	A	2		
Response values	Overvoltage:				
	OFF-switching	× U_c	--	0.9 ... 1.3	--
	ON-switching		--	4 % hysteresis	--
	Undervoltage:				
	OFF-switching	× U_c	0.8	0.7 ... 1.1	--
	ON-switching		0.85	4 % hysteresis	--
Minimum contact load		V; mA	10; 100		
Phase asymmetry	Setting accuracy	%	Approx. 5 ... 10		
	Repeat accuracy	%	1		
Phase failure detection	At L1, L2 or L3	ms	≥ 20	100	--
OFF delay		s	--	0.1 ... 20	--
Automatic reclosing delay		s	0.2 ... 20	--	--
Rated insulation voltage U_i	Between coil/contact	kV	4		
Contacts	μ contact (AC-11)	A	3	1	4
Electrical isolation	Creepage distances and clearances				
	Contact/contact	mm	--	4	--
	Actuator/contact	mm	4		5.5
Rated impulse withstand voltage U_{imp}	Actuator/contact	kV	> 4		
Rated operational power P_s	AC operation:				
	230 V and p.f. = 1	VA	2000	--	--
	230 V and p.f. = 0.4	VA	1250	--	--
	DC operation:				
	U_e = 24 V and I_e = 6 A	W	max. 100	--	--
	U_e = 60 V and I_e = 1 A	W	max. 100	--	--
	U_e = 110 V and I_e = 0.6 A	W	max. 100	--	--
	U_e = 220 V and I_e = 0.5 A	W	max. 100	--	--
Terminals	±screw (Pozidriv)		1		
Conductor cross-sections					
• Rigid, max.		mm^2	2 × 2.5		
• Flexible, with end sleeve, min.		mm^2	0.5		
Permissible ambient temperature		°C	-20 ... +60		
Humidity class	Acc. to IEC 60068-2-30		F		

			5TT3 411	5TT3 412	5TT3 414	5TT3 415
Rated control voltage U_c		V AC	230	230/400		
Overload capability		× U_c	1.15	1.1	1.15	
Rated frequency		Hz	50/60			
Response values	ON-switching		2 % hysteresis	4 % hysteresis	5 %	
	OFF-switching	× U_c	0.9	0.9	0.85	
Minimum contact load		V/mA	10/100			
Phase failure detection	At L1, L2 or L3	ms	--	100	500	
N-conductor monitoring			--	Yes	--	
Rated insulation voltage U_i	Between coil/contact	kV	4		--	
Contacts	AC-15 NO contacts		3	2	--	
	AC-15 NC contacts		2	1	--	
	AC-15 CO contacts		--	1	1	2
Electrical service life in switching cycles	AC-15, 1 A, 230 V AC		5×10^5		1×10^5	
Rated impulse withstand voltage	Acc. to IEC 60664-1	kV	4		6	
Pollution degree			2		2	
Terminals	±screw (Pozidriv)		2		--	
	– screw (slot)		--		3.5	
Conductor cross-sections						
• Rigid		mm^2	2 × 2.5		1 x 4	
• Flexible, with end sleeve		mm^2	2 × 1.5		1 x 2.5	
Permissible ambient temperature		°C	-20 … +60		-25 … +60	
Resistance to climate	Acc. to EN 60068-1		20/060/04			

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5TT3 voltage relays

Selection and ordering data

	Contacts	U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A	V	MW							kg
	Overvoltage relays											
 5TT3 194	For the monitoring of 1, 2 or 3 phases against N, switching thresholds: 0.9 ... 1.3 × U_c, 4 % hysteresis, adjustable											
	2 CO	230	4	230/400 AC	2		**5TT3 194**		1	1 unit	027	0.132
	For the monitoring of 3 phases against N, with N-conductor monitoring, switching thresholds: 0.9 ... 1.3 × U_c, 4 % hysteresis, adjustable											
	2 CO	230	4	230/400 AC	2		**5TT3 195**		1	1 unit	027	0.132
	Direct voltage monitors											
 5TT3 196	for monitoring a 24-V direct voltage system; undervoltage U_{from} = 0.82 overvoltage U_{from} = 1.18 residual ripple 0 % ... 15 %, adjustable											
	1 NO and 1 NC,	230	5	24 DC	1		**5TT3 196**		1	1 unit	027	0.074
	Undervoltage relays											
 5TT3 400	For the monitoring of 1, 2 or 3 phases against N, with phase failure detection,											
	• Switching thresholds: 0.7 and 0.9 x U_c, not adjustable											
	1 CO	230	4	230/400 AC	1	►	**5TT3 400**		1	1 unit	027	0.081
	2 CO	230	4	230/400 AC	2	►	**5TT3 402**		1	1 unit	027	0.126
	• Switching thresholds: 0.9 ... 0.95 × U_c											
	2 CO	230	4	230/400 AC	2		**5TT3 403**		1	1 unit	027	0.126
	For the monitoring of 1, 2 or 3 phases against N, with phase failure detection, switching thresholds: 0.85 and 0.95 x U_c, not adjustable											
	1 CO	230	4	230/400 AC	1	►	**5TT3 401**		1	1 unit	027	0.079
 5TT3 402	For the monitoring of 3 phases against N, with asymmetry, reverse voltage and phase failure detection, with N-conductor monitoring											
	• Switching thresholds: 0.7 and 0.9 x U_c, not adjustable											
	2 CO	230	4	230/400 AC	2		**5TT3 404**		1	1 unit	027	0.130
	• Switching thresholds: 0.7 ... 0.95 × U_c, 5 % hysteresis, adjustable											
	2 CO	230	4	230/400 AC	2		**5TT3 406**		1	1 unit	027	0.131
 5TT4 404	For the monitoring of 3 phases against N, with asymmetry, reverse voltage and phase failure detection, with N-conductor monitoring, switching thresholds: 0.85 and 0.95 x U_c, not adjustable											
	2 CO	230	4	230/400 AC	2		**5TT3 405**		1	1 unit	027	0.128
 5TT3 414	For the monitoring of 1, 2 or 3 phases against N, switching thresholds: 0.85 x U_c, not adjustable response delay 0.5 s off-delay 60 s											
	1 CO	230	4	230/400 AC	1		**5TT3 414**		1	1 unit	027	0.070
	• with TEST pushbutton											
	2 CO	230	4	230/400 AC	1		**5TT3 415**		1	1 unit	027	0.080

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* You can order this quantity or a multiple thereof.

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	Contacts	U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A	V AC	MW							kg
 5TT3 407	**Short-time relays** For the monitoring of short-time failure detection ≥ 20 ms of 1, 2 or 3 phases against N, with phase failure detection and N-conductor monitoring, switching thresholds: 0.8 ... 0.85 × U_c, not adjustable											
	2 CO	230	4	230/400	2		**5TT3 407**		1	1 unit	027	0.133
 5TT3 408	**Undervoltage and overvoltage relays** For the monitoring of 3 phases against N, with asymmetry, reverse voltage and phase failure detection, with N-conductor monitoring and adjustable time delay of 0.1 ... 20 s, switching thresholds: Undervoltage: 0.7 ... 1.1 × U_c, 4 % hysteresis, adjustable overvoltage: 0.9 ... 1.3 × U_c, 4 % hysteresis, adjustable											
	2 CO	230	4	230/400	2		**5TT3 408**		1	1 unit	027	0.136
 5TT3 410	**N-conductor monitors** With asymmetry detection and N-conductor monitoring											
	2 CO	230	4	230/400	2		**5TT3 410**		1	1 unit	027	0.129
 5TT3 411	**Voltage relays for undervoltage monitoring of medical premises** Single-phase against N with test button, switching thresholds: 0.9 × U_n, 2 % hysteresis											
	2 NO + 2 NC	230	4	230	4		**5TT3 411**		1	1 unit	027	0.220
	Single, two or three-phase against N, with asymmetry, reverse voltage and phase failure detection, with N-conductor monitoring, and one test button each for the phases, switching thresholds: 0.9 × U_n, 4 % hysteresis											
	1 CO, 1 NO, 1 NC	230	4	230/400	4		**5TT3 412**		1	1 unit	027	0.230

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* You can order this quantity or a multiple thereof.

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5TT3 current relays

Overview

Current relays monitor single and three-phase systems for the flow of current, e.g. in emergency lighting installations, and the loading of motors. They are available as undercurrent, overcurrent and under/overcurrent relays.

Benefits

- Devices with an extremely broad range of applications of minimum 0.1 A to maximum 15 A without transformer
- Permanent overload capability up to 20 A or 30 A max. for up to 3 seconds, protect the function against uncontrolled plant states and increase plant availability
- Range changing enables the precise setting of current values through a high resolution
- Ultra compact current relays require only the smallest of space and save costs

Technical specifications

			5TT6 111	5TT6 112
Standards			IEC 60255	
Rated control current I_c		A	1 ... 10	
Rated control voltage U_c		V AC	230	
Primary operating range		$\times U_c$	0.9 ... 1.1	
Overload capability, continuous		A	15	
Overload capability, short-time	At 50 °C ambient temperature max. 3 s	A	20	
Rated frequency		Hz	50/60	
Response values	ON-switching OFF-switching		Infinitely variable permanent, 4 % hysteresis	
Switching delay t_v	Infinitely adjustable	s	0.1 ... 20	
Response time	Non-adjustable	ms	Current corresponds to the rated operational power of the continuous-flow heater	
Minimum contact load		V; mA	10; 100	
Rated insulation voltage U_i	Between coil/contact	kV	2.5	
Contacts				
µ contact (AC-15)	NO contacts	A	3	
	NC contacts	A	1	
Electrical isolation	Creepage distances Actuator/contact	mm	3	
Rated impulse withstand voltage U_{imp}	Actuator/contact	kV	> 4	
Terminals	±screw (Pozidriv)		1	
Conductor cross-sections	Rigid	max. mm^2	2 × 2.5	
	Flexible, with end sleeve	min. mm^2	1 × 0.5	
Permissible ambient temperature		°C	-20 ... +60	
Resistance to climate	Acc. to EN 60068-1		20/60/4	

			5TT6 113	5TT6 114	5TT6 115	5TT6 120
Standards			IEC 60255			
Rated control current I_c			4 ranges			1 range
		A	0.1 ... 1			0.5 ... 5
		A	0.5 ... 5			
		A	1 ... 10			
		A	1.5 ... 15			
Rated control voltage U_c		V AC	230			
Primary operating range		$\times U_c$	0.9 ... 1.1			
Overload capability, continuous		A	20			15
Overload capab. independ. of measuring range	max. 3 s	A	30			
Rated frequency		Hz	50/60			
Response values	ON-switching OFF-switching		Infinitely variable permanent, 4 % hysteresis			
Switching delay t_v	Infinitely adjustable	s	0.1 ... 20			
Response time	Non-adjustable	ms	see: www.siemens.com/lowvoltage/manual			
Minimum contact load		V; mA	10; 100			
Rated insulation voltage U_i	Between coil/contact	kV	2.5			
Contacts						
µ contact (AC-15)	NO contacts	A	5			
	NC contacts	A	1			
Electrical isolation	Creepage distances Actuator/contact	mm	3			
Rated impulse withstand voltage U_{imp}	Actuator/contact	kV	> 4			
Terminals	±screw (Pozidriv)		1			
Conductor cross-sections	Rigid	max. mm^2	2 × 2.5			
	Flexible, with end sleeve	min. mm^2	1 × 0.5			
Permissible ambient temperature		°C	-20 ... +60			
Resistance to climate	Acc. to EN 60068-1		20/60/4			

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Selection and ordering data

	Contacts	U_e	I_e	Measuring range	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A	A AC	MW							kg
	**Current relays for single-phase loads up to 230 V AC, auxiliary voltage and measuring circuit, not isolated**											
	Undervoltage monitoring, single-phase											
	1 CO	230	5	1 ... 10	1		**5TT6 111**		1	1 unit	027	0.084
	Overcurrent monitoring, single-phase											
	1 CO	230	5	1 ... 10	1		**5TT6 112**		1	1 unit	027	0.080
	**Current relays for single-phase loads up to 230 V AC, auxiliary voltage and measuring circuit, galvanically isolated**											
	Undervoltage monitoring, single-phase											
	2 CO	230	5	4 ranges 0.1 ... 1 0.5 ... 5 1 ... 10 1.5 ... 15	2		**5TT6 113**		1	1 unit	027	0.152
	Overcurrent monitoring, single-phase											
	2 CO	230	5	4 ranges 0.1 ... 1 0.5 ... 5 1 ... 10 1.5 ... 15	2		**5TT6 114**		1	1 unit	027	0.148
	Over/undervoltage monitoring, single-phase											
	2 CO	230	5	4 ranges 0.1 ... 1 0.5 ... 5 1 ... 10 1.5 ... 15	2		**5TT6 115**		1	1 unit	027	0.154
	**Current relays for three-phase loads for 3 × 400 V AC, separate signal with N-wire connection**											
	Over/undervoltage monitoring, three-phase											
	2 CO each for overcurrent/undercurrent respectively	230	5	0.5 ... 5	4		**5TT6 120**		1	1 unit	027	0.245

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* You can order this quantity or a multiple thereof.

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5TT6 priority switches

Overview

In the mixed operation of electric hot water and electric storage heaters, the priority switch interrupts the charging procedure of the storage heater if hot water is required during the low-tariff time, thus limiting the connected load in compliance with BTO § 6. The control circuit terminals must be sealable.

Benefits

Reduction of the connection fee, which depends on the maximum load to be supplied (BTO, German Federal Regulation on Tariffs § 6 Section 4), when used in systems with continuous-flow heaters and electric storage heaters where the continuous-flow heaters are switched with priority.

Technical specifications

				5TT6 101	5TT6 102	5TT6 103
Standards				EN 60669, BTO § 6 Section 4		
Rated control current I_c			A	40 (Current corresponds to the rated operational power of the continuous-flow heater).	54	6 ... 40
Rated frequency			Hz	50		
Response currents			A	13 (Continuous rise not permissible)	23	6
Rated operational power For continuous-flow heaters	Up to Up to 3 ×	230 V AC 230 V AC	kW kW	9 27	12 36	1.5 ... 9 4.5 ... 27
Rated impulse withstand voltage U_{imp}			kV	> 2.5		
Rated operational voltage U_e			V AC	250		
Rated operational current I_e	At U_e =	230 V AC	A	1		
Terminals	±screw (Pozidriv)			1		
Conductor cross-sections						
• Coil	For conductor cross-sections up to		mm^2	10		
• Contacts	For conductor cross-sections up to		mm^2	2 × 2.5		
Permissible ambient temperature			°C	-20 ... +40		
Resistance to climate	Acc. to DIN 50016			FW 24		

Selection and ordering data

	U_e	I_e	Response currents	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V AC	A	A	MW							kg
Priority switches											
For continuous-flow heaters up to 27 kW											
	230	40	13	1	►	**5TT6 101**		1	1 unit	027	0.113
For continuous-flow heaters up to 33 kW											
	230	54	23	1	►	**5TT6 102**		1	1 unit	027	0.092
For electronically controlled continuous-flow heaters up to 27 kW											
	230	40	6 ... 40	1	►	**5TT6 103**		1	1 unit	027	0.113



5TT6 101

* You can order this quantity or a multiple thereof.

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Overview

Fuse monitors serve to monitor all types and versions of melting fuses that cannot be equipped with a fault signal contact. This enables integration in fault signaling circuits or a central alarm in order to improve plant availability.

Benefits

- Increase in plant availability, because fuse failures – which could cause considerable damage to the plant – are detected in plenty of time.
- A fuse failure is detected even if the load is switched off. This ensures the highest level of plant availability

Technical specifications

			5TT3 170
Standards			IEC 60255; IEC 61810
Rated control voltage U_c		V	3 AC 380 ... 415
Primary operating range		× U_c	0.8 ... 1.1
Rated frequency		Hz	50 ... 400
Internal resistance of measuring paths		Ω/V	> 1000
Max. permissible rear feed		%	90
Response/release time		ms	< 50
Rated impulse withstand voltage U_{imp} Input/output		kV	> 4
Rated operational voltage U_e		V AC	250
Rated operational current I_e	-1 AC	A	4
Electrical service life	-11 AC	in switching cycles at 1 A	1.5×10^5
Terminals	±screw (Pozidriv)		1
Conductor cross-sections	Rigid, max. Flexible, with end sleeve, min.	mm^2 mm^2	2 × 2.5 1 × 0.5
Permissible ambient temperature		°C	-20 ... +45
Resistance to climate	Acc. to EN 60068-1		20/45/4

Selection and ordering data

	U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V AC	A	3 V AC	MW							kg
	**Fuse monitors** For all low-voltage fuse systems. Can be used in asymmetric systems afflicted with harmonics and regenerative feedback motors. Signal also for disconnected loads.										
	230	4	380 ... 415	2	►	**5TT3 170**		1	1 unit	027	0.153

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* You can order this quantity or a multiple thereof.

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5TT3 phase and phase sequence monitors

Overview

Phase monitors monitor the voltages in three-phase system and signal the power failure of one or more phases over a floating contact. Phase sequence monitors monitor the phase sequence in three-phase systems and signal any changes in the phase sequence – change of rotating field – over a floating changeover contact.

Benefits

- The three-phase LED display in the phase monitor and the LED display in the phase sequence monitors provide constant information on the switching state of the plant
- The compact design in 1 MW saves space

Technical specifications

			5TT3 421	5TT3 423
Standards			IEC 60255	
Rated control voltage U_c		V AC	230/400	400
Primary operating range		$\times U_c$	0.8 ... 1.1	
Rated frequency		Hz	50/60	
Rated power dissipation P_v	Electronics Contacts	VA VA	9 0.2	
Rated operational voltage U_e		V AC	250	
Rated operational current I_e		A	4	
Minimum contact load		V; mA	10; 100	
Rated insulation voltage U_i	Between coil/contact	kV	4	
Contacts	μ contact (AC-11)	A	3	
Electrical isolation	Creepage distances and clearances Actuator/contact	 mm	 4	
Rated impulse withstand voltage U_{imp}	Actuator/contact	kV	> 2.5	
Terminals	±screw (Pozidriv)		1	
Conductor cross-sections	Rigid, max. Flexible, with end sleeve, min.	mm^2 mm^2	2 × 2.5 --	
Degree of protection	Acc. to EN 60529		IP20, with connected conductors	
Safety class	Acc. to EN 61140/VDE 0140-1		II	
Permissible ambient temperature		°C	-20 ... +60	
Resistance to climate	Acc. to EN 60068-1		20/60/4	

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Selection and ordering data

	Contacts	U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A	V AC	MW							kg
	**Phase monitors** With 3 green LEDs for 3 phases											
	1 CO	250	4	230/400	1	►	**5TT3 421**		1	1 unit	027	0.080
	**Phase sequence monitors** With one green LED, which lights up for right-rotating field											
	1 CO	250	4	400	1	►	**5TT3 423**		1	1 unit	027	0.080

* You can order this quantity or a multiple thereof.

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Overview

Insulation monitors are used for protection of persons and against fire in non-grounded systems (IT systems). The insulation resistance of the system being monitored is measured against ground.

These types of measurements are specified according to DIN VDE 0100-410 – Power installations up to 1,000 V – Protection against electric shock.

Technical specifications

			5TT3 470	5TT3 471
Power supply U_c		V AC V DC	220 ... 240 --	-- --
Primary operating range	With AC supply For DC supply	$\times U_c$ V DC	0.8 ... 1.1 --	-- --
Frequency range for U_c		Hz	45 ... 400	--
Rated power dissipation P_v	 For DC supply	VA W	Approx. 2 --	-- Approx. 1
Rated impulse withstand voltage U_{imp}	Terminals A1 to A2 Terminals L to PU Terminals A1, A2 to L, PU Terminals against contacts	kV kV kV kV	< 4 < 4 < 4 < 6	< 4 < 4 < 3 < 6
Measuring circuit			For three-phase and AC systems	For direct voltage systems
Measurement voltage range U_{meas}		V AC V DC	0 ... 500 --	-- 12 ... 280
Primary operating range		$\times U_{meas}$	0 ... 1.1	0.9 ... 1.1
Frequency range for U_{meas}		Hz	10 ... 1000	--
Alarm values	Measuring shunt R_{AL}	kΩ	5 ... 100	5 ... 200
Setting of alarm value	On absolute scale		Infinitely variable	Infinitely variable
Alternating current internal resistance	Internal testing resistor	kΩ	> 250	--
Direct current internal resistance	Internal testing resistor L+ and L- to PU	kΩ kΩ	> 250 --	-- 75 each
Measurement voltage U_{meas}	Internal	V DC	Approx. 15	--
Max. measurement current I_{meas}	Short circuit	mA	< 0.1	0.2 ... 4 depending on the voltage
Direct interference voltage	Max. permissible	V DC	500	--
Response delay	at R_{AL} 50 kΩ and 1 µF and ∞ up to 0.9 x R_{meas} and R_{meas} from ∞ to 0 Ω	 s s	 < 1.3 < 0.7	 0.8 0.4
Switching hysteresis	at R_{meas} 50 kΩ	%	15	10 ... 15
Contacts	µ contact		2 CO	2 CO
Rated operational voltage U_e		V AC	230	230
Rated operational current I_s	Thermal current limit I_{th} DC-13 at 24 V DC DC-13 at 250 V DC AC-15 AC-15 NO contacts AC-15 NC contacts	A A A A A A	4 -- -- -- 5 2	4 2 0.2 3 -- --
Terminals	±screw (Pozidriv)		2	2
Conductor cross-sections	Rigid, max. Flexible, with end sleeve, min.	mm^2 mm^2	2 × 2.5 1 × 0.50	
Permissible ambient temperature		°C	-20 ... +60	
Degree of protection	Terminals (acc. to EN 60529) Enclosure (acc. to EN 60529)		IP20 IP40	
Resistance to climate	Acc. to EN 60068-1		20/060/04	

Selection and ordering data

	Contacts	U_c	U_e	Measuring range	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	V	kΩ	MW							kg
	**Insulation monitors**											
	for monitoring insulation resistance in non-grounded three-phase and AC systems from 10 ... 1000 Hz against ground											
	2 CO	230	0 ... 500 V AC	5 ... 100	2		**5TT3 470**		1	1 unit	026	0.184
	For monitoring the insulation resistance in non-grounded DC systems against ground											
	2 CO	--	12 ... 280 V DC	5 ... 200	2		**5TT3 471**		1	1 unit	026	0.149

* You can order this quantity or a multiple thereof.

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7LQ3 insulation monitors for medical premises

Overview

In areas that conform to Group 2 of DIN VDE 0100-710, any interruption to the examination and/or treatment of patients would place those patients at risk.

Limit monitoring

This is prevented through the use of changeover and monitoring units. These monitor the insulation resistance of the non-grounded IT system, the load current and the temperature of the transformer. If the limit value is exceeded, the insulation monitor gives out a warning signal.

Voltage monitoring

In addition, a special voltage relay monitors the voltage of the power supply and switches to a second power supply if it falls below the specified limit values.

Benefits

- TÜV-certified switchover device with increased functionality
- Plant state signal over contacts – No specific manufacturer's bus system
- Easy operation over potentiometers as the set limit value is always visible
- Easy to integrate in existing systems, including systems from other manufacturers

Technical specifications

			Switchover devices 7LQ3 361	7LQ3 362
Standards			IEC 60364-7-710; DIN VDE 0100-710	
Power supply U_v		V AC	230	230/400
Primary operating range		× U_v	0.9 … 1.1	
Supply frequency f_v		Hz	50 … 60	
Insulation coordination			IEC 60664-1	
Rated impulse withstand voltage		kV	4	
Pollution degree			3	
Power loss max. P_v		W	10.7	
Power section				
Contactors			Mechanically latched; mechanically and electrically locked	
Rated operational current acc. to DIN VDE 0100-710		A	51	32
Rated operational current AC-3		A	113	71
Short-circuit protection acc. to DIN VDE 0100-710 • Max. backup protection	 gG	 A	 63	
Switchover time		s	0.1 ... 10	
Measuring circuit insulation monitoring				
Response value R_{resp}		kΩ	50	
Response deviation			DIN VDE 61557-8	
Response time t_{on} at R_{on} = 50 kΩ, C_e = 1 µF	R_F from ∞ to 0.5 × R_{to} R_F from ∞ to 0 kΩ	s s	< 1.3 < 0.7	
Hysteresis		%	15	
Measurement voltage U_m		V DC	Approx. 15	
Measurement current $I_{m\ max}$ (at R_F = 0 Ω)		µA	< 50	
Internal resistance DC R_i		kΩ	> 250	
Impedance Z_i at 50 Hz		kΩ	> 250	
Permissible direct interference voltage U_{fg}		V DC	< 300	
Test button			External/internal	
Measuring circuit load current monitoring				
Response value, adjustable with external transformer 50/5 A, Class 1		A	5 … 50	
Hysteresis		%	4	
Temperature influence		%/°C	≤ 0.05	
Time delay t_v, adjustable		s	0.1 … 20	
Measuring circuit temperature monitoring				
Response value		kΩ	3.2 … 3.8	
Release value		kΩ	1.5 … 1.8	
PTC thermistor	Acc. to DIN 44081/44082	Unit(s)	1 … 6 in series	
Measuring circuit, voltage monitoring				
Response values	ON-switching OFF-switching	 × U_c	2 % hysteresis 0.9	4 % hysteresis 0.9
Phase failure detection	At L1, L2 or L3	ms	--	100
N-conductor monitoring			--	Yes

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			Switchover devices 7LQ3 361	7LQ3 362
Connection				
Terminals				
• Load circuit	Feeder terminals Output terminals	mm^2	4 ... 16	
• Communication	Status signals Fault indications	mm^2	2.5	
Environmental conditions				
Permissible ambient temperature		°C	-20 ... 45	
Mounting position			Vertical	

			Insulation monitors 7LQ3 354	7LQ3 355
Standards			EN 61557-8	
Power supply U_v		V AC	230	
Primary operating range		× U_v	0.9 … 1.1	
Supply frequency f_v		Hz	50 … 60	
Power loss max. P_v		VA	Approx. 7	
Rated system voltage U_n (measuring circuit)		V AC	0 … 300	
Rated frequency f_n		Hz	10 … 1000	
EMC immunity to interference			IEC 61000-6-2	
EMC emitted interference			IEC 61000-6-3	
Insulation coordination			IEC 60664-1	
Rated impulse withstand voltage		kV	4	
Pollution degree			3	
Flammability class			UL 94V-0	
Measuring circuit insulation monitoring				
Response value R_{resp}		kΩ	50	50 ... 500
Response deviation			DIN VDE 61557-8	
Response time t_{on} at R_{on} = 50 kΩ, C_e = 1 µF	R_F from ∞ to 0.5 × R_{on} R_F from ∞ to 0 kΩ	s s	< 1.3 < 0.7	
Hysteresis		%	15	
Measurement voltage U_m		V DC	Approx. 15	
Measurement current $I_{m\ max}$ (at R_F = 0 Ω)		µA	< 50	
Internal resistance DC R_i		kΩ	> 250	
Impedance Z_i at 50 Hz		kΩ	> 250	
Permissible direct interference voltage U_{fg}		V DC	< 300	
Measuring circuit load current monitoring				
Response value, adjustable with external transformer 50/5 A, Class 1		A	5 … 50	
Hysteresis		%	4	
Temperature influence		%/°C	≤ 0.05	
Time delay t_v, adjustable		s	0.1 … 20	
Measuring circuit temperature monitoring				
Response value		kΩ	3.2 … 3.8	
Release value		kΩ	1.5 … 1.8	
PTC thermistor	Acc. to DIN 44081/44082	Unit(s)	1 … 6 in series	
Display and control elements				
Operating error	Acc. to IEC 61557-8			
LED display				
• Current and temperature monitoring			One red and one green LED	
• Ready-to-run			Green	
• Insulation fault			Red	
• Line breakage monitoring of the isolation measuring circuit			Red	
• Display of current insulation resistance			--	11-step LED chain
Pushbuttons			Test and Reset	

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7LQ3 insulation monitors for medical premises

			Insulation monitors 7LQ3 354	7LQ3 355
Output relay				
Contacts for	Overtemperature Overload Insulation fault		2 CO 2 CO 2 CO	
Mode of operation			Working current	
Contacts	AC-15 NO contacts AC-15 NC contacts	A AC/V AC A AC/V AC	3/230 1/230	
Electrical service life	AC-15, 1 A, 230 V AC	Switching cycles	30000	
Thermal current		A AC	5	
Connection				
Terminals	±screw (Pozidriv)		2	
• Conductor cross-sections • Insulation fault	Rigid Flexible, with end sleeve	mm^2 mm^2	2 × 2.5 1 × 2.5	
Environmental conditions				
Permissible ambient temperature		°C	-20 … +60	
Resistance to climate	Acc. to EN 60068-1		20/060/04	
Degree of protection	Acc. to EN 60529		IP20, with connected conductors	
Mounting position			Any	
Vibration stress • Amplitude • Frequency	Acc. to IEC 60068-2-6	 mm Hz	 0.35 10 … 55	

			Test and signaling panels 7LQ3 356	7LQ3 357
Standards			DIN VDE 0100-710; IEC 60364-7-710	
Rated voltage U_n		V AC/DC	24	
Rated impulse withstand voltage	Acc. to IEC 60664-1	kV	4	
Voltage range		AC DC	0.8 ... 1.1 x U_n 0.9 ... 1.2 x U_n	
Rated current per input		mA	0.25	
Rated consumption		VA	6	
Rated operating mode			Continuous operation	
Pollution degree	Acc. to IEC 60664-1		2	
Degree of protection • Enclosures • Terminals	 Acc. to IEC/EN 60529 Acc. to IEC/EN 60529		 IP40 IP20	
Flammability class			UL 94V-0	
Vibration strain • Amplitude • Frequency	Acc. to IEC/EN 60068-2-6	 mm Hz	 0.35 10 … 55	
Resistance to climate	Acc. to IEC/EN 60068-1		20/045/04	
Terminal marking			EN 50005	
Wire connections				
• Solid		mm^2 mm^2	1 × 1.5 2 × 0.5	
• Strand		mm^2 mm^2	1 × 1 2 × 0.2	
• Strand with sleeve		mm^2	1 × 0.5	
Conductor mounting			Box terminals with wire protection	
Device dimensions		mm	80 × 160 × 57	82 × 150 × 57
Temperature range		°C	-20 ... +45	

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			Current transformers Class 1 7LQ3 358
Standards			IEC/EN 60044-1
Rated control voltage U_c		V AC	230
Rated frequency		Hz	50/60
Test voltage	50 Hz, 1 min	kV	3
Rated transmission ratio k_n		A	50/5
Primary rated current		A	50
Secondary rated current		A	5
Rated power		V/A	1.5
Class			1
Rated frequency		Hz	50 ... 60
Highest voltage at equipment / insulation level		kV	0.72/3
Overcurrent factor • Thermal rated short-time current • Thermal rated continuous current		 × I_n × I_n	FS5 60 1.2
Expanded current range		%	120
Permissible ambient temperature		°C	-20 … +60

			Test and signaling combination for insulation monitors 7LQ3 360
Standards			DIN VDE 0100-710; IEC 60364-7-710
Rated voltage U_n		V AC	24
Voltage range		AC	0.8 ... 1.1 × U_n
Connected load		W	0.5
Rated operating mode			Continuous operation
EMC • Static discharge • RF irradiation • Rapid transients • Surge voltage (surge)	 Acc. to IEC/EN 61000-4-2 Acc. to IEC/EN 61000-4-3 Acc. to IEC/EN 61000-4-4 Acc. to IEC/EN 61000-4-5	 kV V/m kV kV	 8 (air discharge) 10 2 1
Degree of protection			IP30
Amplitude		mm	0.35
Frequency		Hz	10 ... 55
Temperature range		°C	-5 ... +55
Resistance to climate	Acc. to IEC/EN 60068-1		05/055/04
Terminal marking			EN 50005
Wire connections • Solid • Strand with sleeve and plastic collar • Strand with sleeve and plastic collar • Strand with sleeve	 DIN 46228-1/-2/-3/-4 DIN 46228-1/-2/-3	 mm^2 mm^2 mm^2 mm^2	 1 × 4 1 × 2.5 2 × 1.5 2 × 2.5
Conductor mounting			Box terminals with wire protection
Device dimensions		mm	80 × 80 × 35

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7LQ3 insulation monitors for medical premises

			Voltage relays	
			5TT3 411	5TT3 412
Rated control voltage U_c		V AC	230	230/400
Overload capability		× U_c	1.15	1.1
Rated frequency		Hz	50/60	
Response values	ON-switching OFF-switching	 × U_c	2 % hysteresis 0.9	4 % hysteresis 0.9
Minimum contact load		V/mA	10/100	
Phase failure detection	At L1, L2 or L3	ms	--	100
N-conductor monitoring			--	Yes
Rated insulation voltage U_i	Between coil/contact	kV	4	
Contacts	AC-15 NO contacts AC-15 NC contacts		3 2	3 1
Electrical service life in switching cycles	AC-15, 1 A, 230 V AC		5×10^5	
Rated impulse withstand voltage	Acc. to IEC 60664-1	kV	4	
Pollution degree			2	
Terminals	±screw (Pozidriv)		2	
Conductor cross-sections • Rigid • Flexible, with end sleeve		 mm^2 mm^2	 2 × 2.5 2 × 1.5	
Permissible ambient temperature		°C	-20 … +60	
Resistance to climate	Acc. to EN 60068-1		20/060/04	

			IT line transformers 4AT3/4AT4
In the case of isolating transformers used to set up medical IT systems, overcurrent protective devices are only permissible as protection against short circuits. To protect the isolating transformers against overload they are fitted with monitoring devices that signal an excessive rise in temperature (e.g. 7LQ3 354 insulation monitors).			
Standards			EN 61558-2-15
Safety class			I
Static shield between primary and secondary winding			With insulated connection
Thermistor transformer protection			Warning in the event of thermal overload[1)]
Insulation monitoring			With center tap
Short-circuit voltage u_z		%	≤ 3
No-load supply current i_0 • Starting current (rush), max.		% x I_{1N}	≤ 3 8
Rated ambient temperature t_a /Thermal Class			55 °C/H

1) Tripping units must be ordered separately.

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Selection and ordering data

	Version	U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A	V AC	MW							kg
	**Switchover devices according to VDE 0100 710 for medical premises** 2-pole, for medical premises of Group 2, for switching over two redundant supply leads, monitoring of IT system and the IT line transformer, up to 8 kVA	230	51	230			**7LQ3 361**		1	1 unit	027	17.500
	4-pole, for use with symmetric loads	230	32	230/400			**7LQ3 362**		1	1 unit	027	17.500
	**Insulation monitors** with load current and temperature monitoring for medical premises			230	6		**7LQ3 354**		1	1 unit	027	0.396
	with load current and temperature monitoring of medical premises with adjustable response value of 50 … 500 kΩ and output for 7LQ3 360 test and signaling combination			230	8		**7LQ3 355**		1	1 unit	027	0.600
	Test and signaling panels For switchover devices, 24 V AC/DC, 50/60 Hz											
	surface mounting						**7LQ3 356**		1	1 unit	027	0.325
	Flush mounting						**7LQ3 357**		1	1 unit	027	0.220

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* You can order this quantity or a multiple thereof.

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7LQ3 insulation monitors for medical premises

	Version	U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A	V AC	MW							kg
	**Test and signaling combination for insulation monitors**											
	24 V AC 50/60 Hz						**7LQ3 360**		1	1 unit	027	0.105
	**Current transformers 50A/5A AC Class 1**											
	With base angle											
		230					**7LQ3 358**		1	1 unit	027	0.390
	**Voltage relays for undervoltage monitoring of medical premises**											
	Single-phase against N with test button, switching thresholds: 0.9 × U_n, 2 % hysteresis											
	2 NO + 2 NC	230	4	230	4		**5TT3 411**		1	1 unit	027	0.220
	Single, two or three-phase against N, with asymmetry, reverse voltage and phase failure detection, with N-conductor monitoring, and one test button each for the phases, switching thresholds: 0.9 × U_n, 4 % hysteresis											
	1 CO, 1 NO, 1 NC	230	4	230/400	4		**5TT3 412**		1	1 unit	027	0.230

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* You can order this quantity or a multiple thereof.

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Overview

Fault signaling units are used in small plants where the installation of complex fault signaling systems would be too labor-intensive and too expensive. In the event of a fault, they enable fast fault localization of all monitoring devices and limit monitors installed in a plant from a central location. This increases plant availability. With the correct sensor configuration, they also provide the option of preventative maintenance.

- 4 fault signal inputs with LED
- 1 LED as centralized fault indicator
- One unit each for centralized fault indication and acoustic signaling
- With acknowledgment for acoustic indicators
- Open-/closed-circuit principle to the 4 inputs can be adjusted via jumpers X1 - X2
- A maximum of 39 5TT3 461 expansion fault signaling units can be connected to the 5TT3 460 centralized fault signaling unit
- The maximum possible cable length between 5TT3 460 centralized fault signaling units and 5TT3 461 expansion fault signaling units is approx. 100 m with a conductor cross-section of 1.5 mm^2

Benefits

- Ultra compact device designs that only require the smallest of spaces in distribution boards
- The modular design means that it is easy to add devices as your system expands

Technical specifications

			5TT3 460	5TT3 461
Standards			IEC 60255; IEC 61810	
Rated control voltage U_c		V AC	230	
Primary operating range		× U_c	0.8 ... 1.1	
Rated frequency f_n		Hz	50/60	
Fault signaling inputs S1 ... S4		V AC	230	
Signal voltage to terminals S and H		V	7 ... 10	
Noise pulse duration		ms	≥ 100	
Acknowledgment pulse duration		ms	≥ 200	
Contacts				
• Rated operational voltage U_e		V AC	230	--
• Rated operational current I_e		A	5	--
• Minimum contact load		V; mA	10; 100	--
Connections				
• Terminals	±screw (Pozidriv)		PZ 1	
• Conductor cross-sections - Rigid, max. - Flexible, with end sleeve, min.		 mm^2 mm^2	 2 × 2.5 1 × 0.5	
Permissible ambient temperature		°C	-20 ... +60	
Humidity class	Acc. to IEC 60068-2-30		F	

Selection and ordering data

	U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V AC	A AC	V AC	MW							kg
	Centralized fault signaling units with transparent cap										
	230	5	230	2		**5TT3 460**		1	1 unit	026	0.149
	Expansion fault signaling units with transparent cap										
	230	--	--	2		**5TT3 461**		1	1 unit	026	0.124

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5TT5 EMERGENCY STOP modules

Overview

EMERGENCY STOP circuits are common safety measures in all laboratory equipment and industrial plants. The EMERGENCY STOP modules used here must meet the most rigorous demands with regard to functional reliability. Benchmark is the degree of self-monitoring.

Benefits

- The electrical isolation between electric circuit and control meets the requirements of the standard
- An LED for the operating and switching state provides constant information on the operating state

Technical specifications

				5TT5 200
Standards				**IEC 60204-1; EN 60204-1 (VDE 0113-1)**
Supply				
• Rated control voltage U_c			V AC	230
- Primary operating range			× U_c	0.8 ... 1.1
• Rated frequency f_n			Hz	50
• Rated power dissipation P_v	Coil/drive			3.5
	Contact per pole		VA	0.8
Control voltage	Terminal Y1		V AC/DC	24
Control current	Terminal Y1		mA DC	45
Recovery time			ms	500
Safety				
• Electrical isolation, creepage distances and clearances, actuator/contact			mm	3
• Rated impulse withstand voltage U_{imp} drive/contact			kV	> 4
Contacts				
• Contacts	NO contacts	AC-15	A	3
	NC contacts	AC-15	A	2
	NO contact/NC contact	AC-1	A	5
• Contact gap			mm	> 1
• Electrical service life	AC-15, 2 A, 230 V AC		Switching cycles	10^5
• Reliable switching frequency			Switching cycles/h	600
Vibration resistance				
Amplitude	Acc. to EN 60068-2-610	Up to 55 Hz	mm	0.35
Connections				
• Terminals	±screw (Pozidriv)			PZ 1
• Conductor cross-sections of main current paths				
- Rigid	Max.		mm^2	2 × 2.5
- Flexible, with end sleeve	Min.		mm^2	1 × 0.5
Permissible ambient temperature			°C	0 ... +50
Resistance to climate	Acc. to EN 60068-1			0/55/04

Selection and ordering data

		U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A AC	V AC	MW							kg
	**EMERGENCY STOP modules**											
		400	5	230	4		**5TT5 200**		1	1 unit	026	0.284

* You can order this quantity or a multiple thereof.

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Overview

Level relays are used for the monitoring and control of conductive, non-combustible liquids and powders. They ensure overflow and dry run protection. Due to their sensor performance, the devices can also be used for general resistance monitoring.

LED displays:

- Green LED: lights up when operational voltage is applied
- Yellow LED: lights up if MIN output relay is activated
- Red LED: lights up if MAX output relay is activated

Benefits

The measuring range up to 450 kΩ enables a differentiation between foam and liquid. It also increases the universal application for resistance measurements.

Due to its low-frequency, electrically isolated measuring circuit, the device has a high immunity to interference against system coupling, which enables cable lengths of up to 1500 m and suppresses the effects of electrolysis in the liquid

- The two outputs for minimum and maximum control can also be used for the advance warning and tripping of limit values
- 3 electrode connections for 1-step and 2-step level control
- All standard products can be used as electrodes
- High immunity to interference of the measuring circuit isolated from the system
- Programmable for open-circuit principle (with bridge X2 COM) or closed-circuit principle (without jumper)
- Separately adjustable delay times for $t_{v\,min}$ and $t_{v\,max}$, 0.2 s to 2 s

Technical specifications

			5TT3 435
Standards			IEC 60255; IEC 61810
Supply			
• Rated control voltage U_c		V AC	230
- Primary operating range		× U_c	0.8 ... 1.1
• Rated frequency f_n		Hz	50/60
Setting range of the liquid level		kΩ	2 ... 450
Switching point hysteresis of set value			
• At 450 kΩ		%	3
• At 2 kΩ		%	6
Voltage temperature influence	From set value	%	< 2
Max. cable length to the Electrodes at 100 µF/km	Set value kΩ		
	450	m	50
	100	m	200
	35	m	500
	10	m	1500
	5	m	3000
Electrode voltage	Max.	V AC	Approx. 10
Electrode current	Max.	mA AC	Approx. 1.5
Response delay	adjustable	s	0.2 ... 20
OFF-delay	adjustable	s	0.2 ... 20
Rated operational voltage U_e		V	250
Rated operational current I_e		A	5
Test voltage			
	Input/auxiliary circuit	kV	4
	Input/output circuit	kV	4
	Auxiliary/output circuit	kV	4
Connections			
• Terminals	±screw (Pozidriv)		PZ 2
• Conductor cross-sections			
- Rigid	Max.	mm^2	2 × 2.5
- Flexible, with end sleeve	Min.	mm^2	1 × 0.5
Permissible ambient temperature		°C	-20 ... +60
Resistance to climate	Acc. to EN 60068-1		20/60/4

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5TT3 level relays

Selection and ordering data

		U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A AC	V AC	MW							kg
	**Level relays**	230	4	230	2		**5TT3 435**		1	1 unit	027	0.188
	**Immersion electrodes** • Made of stainless steel, with PG13 sealing cap • Temperature range 0 ... 60 °C • Suitable for pure water in open containers With terminal connection						**5TG8 223**		1	1/24 units	026	0.087

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* You can order this quantity or a multiple thereof.

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Overview

Line circuit relays are used to interrupt circuits and prevent electromagnetic fields in circuits where there are currently no active loads.
If the loads are disconnected, and the line circuit relay measures a usage of only 2 to 20 VA - adjustable - it disconnects the cable to the supply voltage and switches over to extra-low voltage. As soon as loads are reconnected, the line circuit relay detects the increase in usage and switches back to the supply voltage.
While the line circuit relay switches off any unnecessary system components, it is not a device for ensuring isolation in the sense of safe disconnection.

The line circuit relay is unable to detect consumers with electronic power supply units, e.g. electronically controlled vacuum cleaners. It is expedient to connect such devices to a base load resistor (PTC resistor) so that the line circuit relay is reset to supply voltage.

Benefits

- High availability to a wide range of loads, as all resistive, capacitive and inductive loads are detected
- Adjustable from 2 VA to 20 VA
- With status display for contact adjustment
- With switch continuously ON
- With safety information on stickers for socket outlets and distribution boards

Technical specifications

			5TT3 171
Standards			IEC 60255; IEC 61810
Rated control voltage U_c		V AC	230
Primary operating range		× U_c	0.85 ... 1.15
Rated frequency		Hz	50/60
Rated power dissipation P_v	Electronics Contacts	VA VA	5 2.6
Monitoring voltage		V	3
Response value	adjustable	VA	2 ... 20
Release value	% of the response value		70
Rated impulse withstand voltage U_{imp}	Input/output	kV	> 4
Rated operational voltage U_e		V AC	250
Rated operational current I_e	-1 AC -11 AC	A A	16 3
Contacts			μ contact
Electrical service life	in switching cycles at 3 A	-11 AC	5×10^5
Terminals	+/-screw (Pozidriv)		PZ 1
Conductor cross-sections			
• Rigid • Flexible, with end sleeve	Max. Min.	mm^2 mm^2	2 × 2.5 1 × 0.5
Permissible ambient temperature		°C	-20 ... +45
Degree of protection	Acc. to IEC/EN 60529		IP20, with connected conductors
Safety class	Acc. to EN 61140/VDE 0140-1		II
Humidity class	Acc. to IEC 60068-2-30		F

Selection and ordering data

	Contacts	U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A AC	V AC	MW							kg
	**Line circuit relays**											
	For disconnecting the voltage of electrical systems even when loads are disabled											
	1 NC	250	16	230	1		**5TT3 171**		1	1 unit	027	0.087
	Base load resistors for electronic devices											
	With 15-cm connection wires, end sleeves and shrink sleeving						**5TG8 222**		1	1 unit	026	0.006

* You can order this quantity or a multiple thereof.

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5TT3 p.f. monitors

Overview

The p.f. monitors monitor the phase displacement between current and voltage. Because the phase displacement angle changes with the load of the motor, this measurement method is ideal for the monitoring of asynchronous motors for underload and no-load operation, independent of size. However, in some cases, the p.f. barely changes if the load of the motor changes, e.g. in the case of relatively minor load changes on large-scale motors or single-phase split-pole motors or collector motors.

The p.f. monitor monitors single and three-phase asynchronous motors up to approx. 5 A (without current transformer) for underload and no-load operation. This is phase-sequence-independent and increases plant availability. Typical applications are fan monitoring in the case of V-belt breakage, pump monitoring in the event of valve closure or dry runs. A current transformer is used for higher rated currents.

If the lower p.f. value set at the p.f. monitor is violated for the duration of the set response delay, the output relay switches to the alarm state and the red LED lights up. If the higher p.f. value is violated, the output relay switches back without any significant delay.

- Adjustable p.f. response value, from 0 to 0.97
- Current range up to 8 A
- LED display for operation and alarm
- Automatic resetting of alarm

Benefits

- The ultra compact p.f.monitor requires only the smallest of spaces and saves costs

Technical specifications

			5TT3 472
Standards			IEC/EN 60255, VDE 0435
Rated control voltage U_c		3 V AC	400
Primary operating range	With AC supply	× U_c	0.8 ... 1.1
Frequency range f_n		Hz	45 ... 65
Rated power dissipation P_v		VA	Approx. 11
Rated impulse withstand voltage U_{imp}	Against contacts	kV	< 4
Current measuring circuits			For AC systems
Current measuring range I_{meas}		A AC	0.4 ... 8
Short-time load carrying capacity	For 2 s For 0.5 s	A A	20 40
Current transformer, Class 3 or better	Secondary current	A	1 or 5
Setting range	adjustable	p.f.	0 ... 0.97
Response delay	adjustable	s	1 ... 100
Short-circuit strength	fuse 4 A gL	A	4
Contacts	μ contact		1 CO
• Rated operational voltage U_e		V AC	250
• Rated operational current I_e	Thermal current AC-15 NO contacts AC-15 NC contacts AC-13 at 24 V DC	A A A A	4 3 1 1
• Minimum contact load		V; mA	10; 100
Connections			
• Terminals	±screw (Pozidriv)		PZ 2
• Conductor cross-sections - Rigid - Flexible, with end sleeve	 Max. Min.	 mm^2 mm^2	 2 × 2.5 1 × 0.5
Permissible ambient temperature		°C	-20 ... +60
Resistance to climate	Acc. to EN 60068-1		20/60/4
Degree of protection	Acc. to EN 60529		IP20, with connected conductors

Selection and ordering data

	Contacts	U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
		V AC	A AC	V AC	MW							kg
	**p.f. monitors** For monitoring of the underload of motors up to approx. 5 A AC by making p.f. measurements, setting range p.f. from 0 ... 0.97											
	1 CO	4	3 × 400	0.4 ... 8	1		**5TT3 472**		1	1 unit	026	0.081

* You can order this quantity or a multiple thereof.

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Overview

Thermistor motor protection relays monitor the thermistors wound in motors. This helps to prevent thermal motor overloads, e.g. due to high switching frequency, single-phasing, disabled cooling or excessive ambient temperatures. Up to 6 thermistors in series can be monitored. A conductor break in the sensor conductor will immediately trip the device. The device can also be used for monitoring wound quick-break switches - e.g. bimetal thermostats. This offers all-round motor protection.

- For the detection of
  - Violation of upper temperature limits
  - Wire breaks in sensor circuits
- 1 input for 1 to 6 thermistors
- With 2 LEDs green/red for ready-to-run and fault
- Response value: 3.2 to 3.8 kΩ
- Release value: 1.5 to 1.8 kΩ
- Max. cable length of sensor supply cable NYM 2 × 1.5 is 100 m
- Remote Reset: over A1/A2 (NC contact) or over X1/X2 (NO contact)

LED displays:

- Green LED: lights up when operational voltage is applied
- Red LED: lights up in the event of overtemperatures or an interruption in the sensor circuit

Benefits

- The test button for the diagnosis of the devices ensures high functional reliability for users
- The ultra compact thermistor motor protection relay requires only the smallest of spaces. This saves costs
- A remote reset enables the device to be switched back on again centrally at any time. This increases system availability

Technical specifications

			5TT3 431 5TT3 432
Standards			IEC 60255; IEC 61810
Rated control voltage U_c		V AC	230
Primary operating range		$\times U_c$	0.9 ... 1.1
Rated frequency		Hz	50/60
Response value		kΩ	3.2 ... 3.8
Release value		kΩ	1.5 ... 1.8
Minimum contact load		V; mA	10; 100
Rated insulation voltage U_i	Between coil/contact	kV	4
Rated impulse withstand voltage U_{imp}	Actuator/contact	kV	> 2.5
Contacts	μ contact (AC-11)	A	3
• Rated operational voltage U_e		V AC	230
• Rated operational current I_e		A	5
	Actuator/contact	mm	4
Connections			
• Terminals	±screw (Pozidriv)		PZ 1
• Conductor cross-sections			
- Rigid	Max.	mm^2	2 x 2.5
- Flexible, with end sleeve	Min.	mm^2	1 x 0.5
Permissible ambient temperature		°C	-20 ... +60
Resistance to climate	Acc. to EN 60068-1		20/60/4

Selection and ordering data

	U_e	I_e	U_c	Mounting width	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V AC	A AC	V AC	MW							kg
	Thermistor motor protection relays										
	230	5	230	2		**5TT3 431**		1	1 unit	027	0.167
	With fault storage, reset pushbutton and remote reset										
	230	5	230	2		**5TT3 432**		1	1 unit	027	0.172

* You can order this quantity or a multiple thereof.

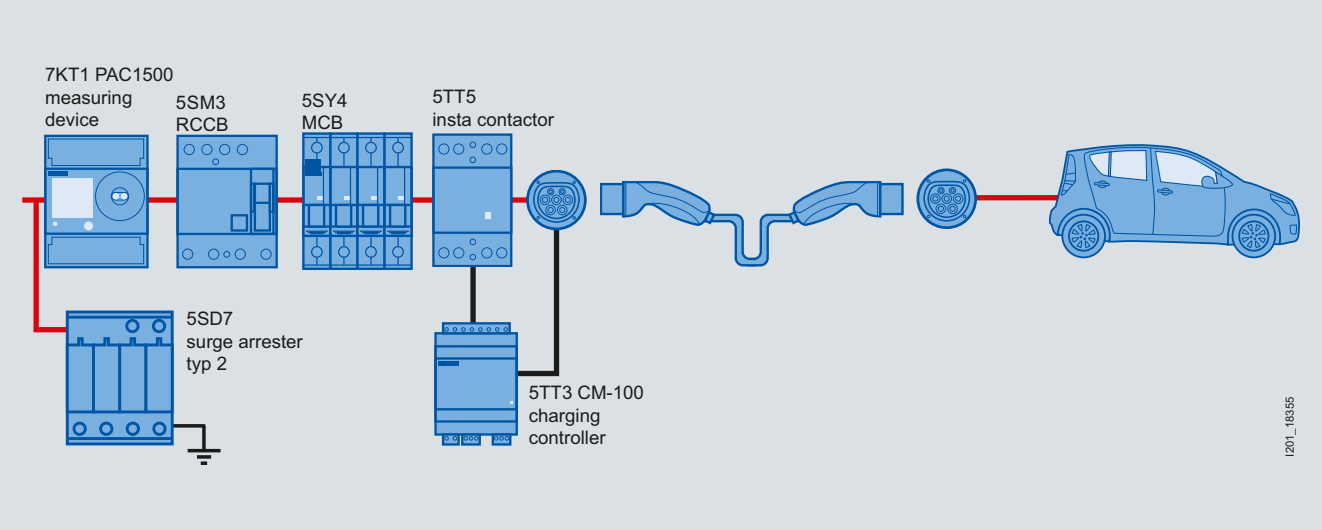
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CM-100 charging controllers acc. to IEC 61851

Overview



IEC 61851 describes the safety requirements which must be met by conductive charging systems for electric vehicles. Standard-compliant AC charging in operating mode 3 requires the SIPLUS ECC1000 CM-100 charging controller, which is permanently installed in a charging station in order to communicate with the electric vehicle via the charging cable. It identifies whether the correct charging cable is connected. If yes, the plug interlock will be activated and a feedback signal sent to the charging controller. A further enable signal, e.g. via a key-operated switch, actuates the 5TT5 Insta contactor for the charging current circuit and the charging operation can begin.



Dimension drawings and terminal connection plans can be found in the Service & Support Portal at: www.siemens.com/lowvoltage/support.

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Technical specifications

Charging controllers		5TT3 200-1KK20	5TT3 200-2KK20	5TT3 200-3KK20	5TT3 200-4KK20	5TT3 200-6KK20	5TT3 200-2KK30
Standard		Acc. to IEC/EN 61851 Mode 3					
Vehicle communication • Charging mode • Number of charging interfaces		3 acc. to IEC 61851-1 1					
Operational voltage	V AC V DC	110 ... 230 --			110 ... 230 --	110 ... 230 --	-- 18 ... 28
Rated frequency	Hz	50/60					
Rated charging current	A	13	16	20	32	13/32, switchable	16
Maximum power loss	W	6					
Surge strength	kV	4					
Degree of protection		IP20					
Pollution degree		3 acc. to IEC/EN 61010-1					
Overvoltage category		II					
Ambient operating temperature	°C	-25 ... +60					
Storage temperature	°C	-25 ... +70					
Relative humidity	%	≤ 95					
Terminals		Removable screw terminals					
Conductor cross-sections • Rigid • Flexible, with end sleeve	 mm^2 mm^2	 0.5 … 2.5 0.5 … 2.5					
Relay outputs • Number • Maximum contact load • Electrical service life	 NO contacts A A Switching cycles	 4 0.75 at 110/230 V AC 1 at 24 V DC 80,000 at 1 A, inductive load					
Digital inputs • Number • Input voltage	 V	 2 0 ... 5					
Display		1 status LED					
Mounting / mounting position		Vertical, on horizontal mounting rail					

Selection and ordering data

	Operational voltage V AC	Operational voltage V DC	Rated charging current A	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
	SIPLUS ECC1000 CM-100 charging controller									
	110 ... 230	--	13		**5TT3 200-1KK20**		1	1 unit	050	0.249
	110 ... 230	--	16		**5TT3 200-2KK20**		1	1 unit	050	0.249
	110 ... 230	--	20		**5TT3 200-3KK20**		1	1 unit	050	0.249
	110 ... 230	--	32		**5TT3 200-4KK20**		1	1 unit	050	0.249
	110 ... 230	--	13/32, switchable		**5TT3 200-6KK20**		1	1 unit	050	0.249
	--	18 ... 28	16		**5TT3 200-2KK30**		1	1 unit	050	0.223

* You can order this quantity or a multiple thereof.

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CM-230 charging controllers acc. to IEC 61851

Overview



CM-230 stand-alone version

This charging controller with Ethernet connection is used for home and public charging applications.

A web interface lets you change the parameters of the controller and call up information on the current status of the charging operation.

CM-230 managed version

This charging controller with Ethernet connection is used for complex public charging applications. The controller is typically used as a remote I/O module in combination with further charging controllers that are integrated via Ethernet in a higher-level control system. The managed version offers system integrators/operators greater flexibility, such as the individual control of free I/O modules.

A function block (FB) is available for connecting to SIMATIC controllers.

Technical specifications

Charging controllers			6FE1 021-3CM10-1AA0 Managed version	6FE1 021-3CM10-2AA0 Stand-alone version
Standards	Acc. to IEC/EN 61851		Mode 3	
Vehicle communication			Ethernet	
Operational voltage		V DC	24	
Rated charging current		A	6 ... 80 (adjustable via web interface)	
Support of load management			Yes	
Integrated sensors			Yes; temperature and humidity	
Degree of protection			IP20	
Pollution degree	Acc. to IEC/EN 61010-1		3	
Ambient temperature		°C	-25 ... +55	
Terminals			Removable screw terminals	
Conductor cross-sections • Rigid • Flexible, with end sleeve		 mm^2 mm^2	 0.5 … 2.5 0.5 … 2.5	
Mounting / mounting position			Vertical, on horizontal mounting rail	

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Selection and ordering data

	Operational voltage	Rated charging current	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	V DC	A							kg
	SIPLUS ECC2000 CM-230 charging controllers								
	24	6 ... 80 (adjustable via web interface)		**6FE1 021-3CM10-1AA0**		1	1 unit	477	0.250
	24			**6FE1 021-3CM10-2AA0**		1	1 unit	477	0.250

* You can order this quantity or a multiple thereof.

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Overview



IEC/EN 61851 describes the safety requirements that must be met by conductive charging systems for electric vehicles. Standard-compliant AC charging in charging mode 3 requires a charging station with safety-related components. WB100A charging units are based on protection, switching and monitoring devices from the service-proven SENTRON range, hand-picked by experienced application engineers and system-tested in conjunction with the charging cable and plug. Whether you require a 16 A or 32 A version, single-phase or three-phase for 230/400 V, with plug type 1 or 2 according to IEC/EN 62196, we offer great flexibility of choice.

Application

The WB100A charging unit is a system-tested CE-compliant unit for charging electric vehicles in charging mode 3 according to IEC/EN 61851 and IEC/EN 62196 for indoor and outdoor use, such as carports, garages, workshops, underground car parks or multistory car parks.

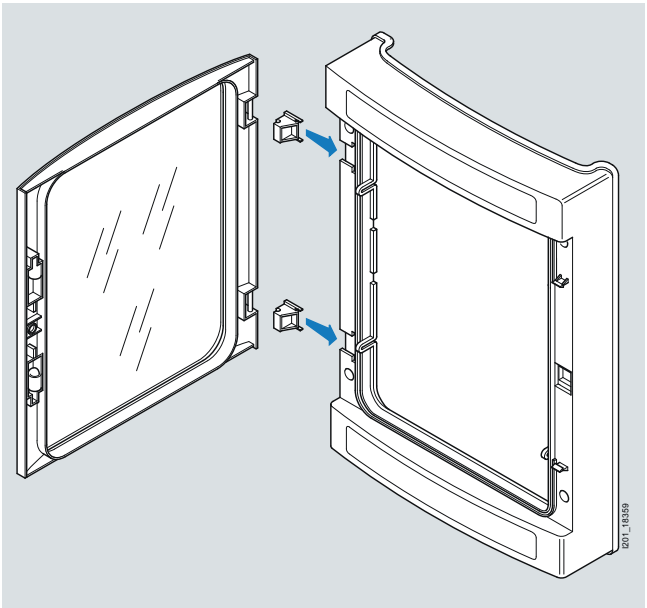
Design

Features

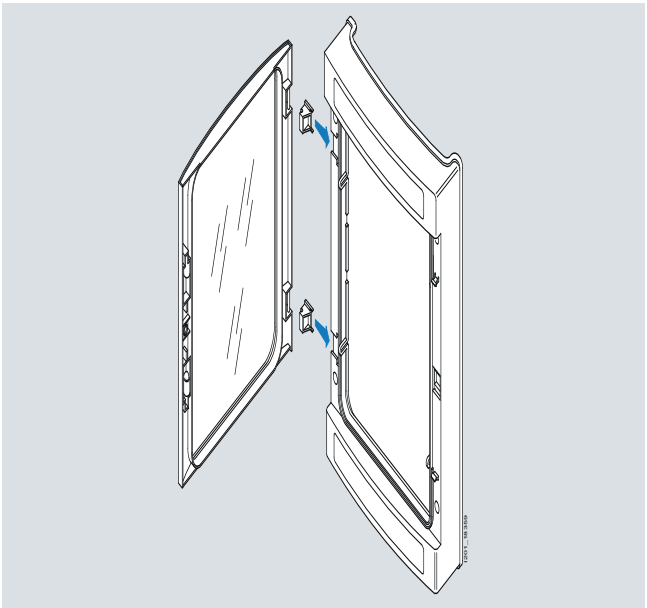
Each WB100A charging unit comes with a miniature circuit breaker which is dimensioned and tested according to the rated current of the charging cable, an RCCB from the SENTRON range and a CM-100 charging controller from the SIPLUS range. The 3-phase charging units offer enhanced protection against both pulsating and smooth DC residual currents, as they are equipped with type B universal current-sensitive RCCBs from the SIQUENCE range. A cable holder is included in the scope of delivery for stowing the charging cable when it is not is use.

Enclosure data

- Plastic: UV-resistant
- Color: RAL 7035 (light gray)
- Transparent door: recyclable plastic
- Door opening angle: 180 degrees
- Overvoltage category: III
- Rated impulse withstand voltage U_{imp}: 4 kV
- Protective measures: Safety class 2 (total insulation)
- Pollution degree: 2
- Compliance to standards: IEC 60439-3, DIN 43880, CEI 23-48, CEI 23-49



- The transparent door can be hinged right or left, with no tools required for mounting



- The metal safety cylinder lock can be ordered as an accessory

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5TT3 charging units

NEW

Technical specifications

WB100A charging unit with charging cable and plug		5TT3 201-1KK11	5TT3 201-1KK12	5TT3 201-1KK13	5TT3 201-1KK31	5TT3 201-1KK32	5TT3 201-1KK33
Standards		IEC/EN 61851-1; IEC/EN 61851-22; IEC/EN 62196-1; IEC 62196-2; IEC 60439-3; DIN 43880					
Operational voltage	V AC	230		230/400	230		230/400
Rated frequency	Hz	50/60					
Rated current	A	16			32		
Degree of protection		IP54					
Safety class		II					
Touch protection according to EN 50274		Finger and back-of-hand safe					
Ambient conditions							
• Ambient temperature	°C	-25 ... +40					
• Storage temperature	°C	-25 ... +70					
• Relative humidity	%	≤ 95					
• Installation location		Suitable for interior and exterior use					
Mains connection		Bottom					
Conductor cross-sections	mm^2	0.14 ... 6		0.2 ... 10			0.5 ... 16
Enclosures							
• Material		Plastic					
• Color		RAL 7035 (light gray)					
• Dimensions (H x W x D)	mm	285 x 410 x 140		420 x 298 x 140	285 x 410 x 140		420 x 298 x 140
• Weight	kg	4.3		6			7.3
• Door		Transparent door, plastic					
• Lock		Mechanical interlocking in the frame					
Charging outlet							
• Charging mode according to IEC 61851-1		3					
• Connection type according to IEC 62192		C, charging cable with plug type 1	C, charging cable with plug type 2		C, charging cable with plug type 1	C, charging cable with plug type 2	
Charging outlet contactor							
• Rated operating current	A	24			40		
• Number of poles		4 NO					
Residual current protective device							
• RCCBs		RCBO, type A super resistant		Type B, super resistant	Type A, super resistant		Type B, super resistant
• Version		1P+N		3P+N	1P+N		3P+N
• Rated current	A	20		25	40		
• Rated residual current	mA	30					
Conductor protection							
• Miniature circuit breaker		RCBO 1P+N		3P+N	1P+N		3P+N
• Tripping characteristic		C					
• Rated current	A	20			32		
• Rated breaking capacity	kA	10					
Displays		Indicator light, red, yellow, green					

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Selection and ordering data

	Rated current	Plug type	Rated operational voltage	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
	A		V AC							kg
	**WB100A charging unit with charging cable and plug[1)]**									
	16	1	230		**5TT3 201-1KK11**		1	1 unit	050	6.900
	16	2	230		**5TT3 201-1KK12**		1	1 unit	050	6.900
	32	1	230		**5TT3 201-1KK31**		1	1 unit	050	8.600
	32	2	230		**5TT3 201-1KK32**		1	1 unit	050	8.600
	3 x 16	2	230/400		**5TT3 201-1KK13**		1	1 unit	050	8.600
	3 x 32	2	230/400		**5TT3 201-1KK33**		1	1 unit	050	9.900
	**Safety cylinder locks**									
	Metal version				**8GB2 055-0**		1	10 units	032	0.045

[1)] Cable holder included in scope of supply.

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Notes

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Software

13



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For further product information:

Service&Support portal:
www.siemens.com/lowvoltage/technical-support

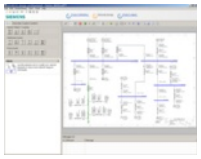
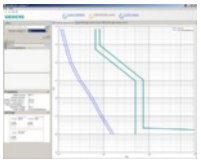
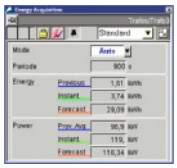
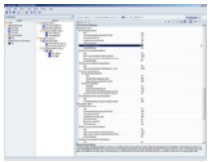
→ Product List:
Technical specifications

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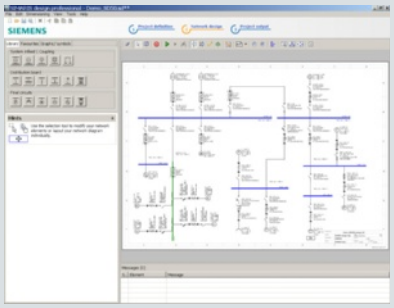
Introduction

Overview

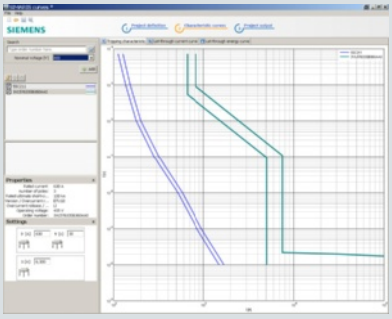
	Order No.	Page
Planning the Power Distribution System with SIMARIS		
 **SIMARIS design** SIMARIS design supports the electrical planner in network calculations and the dimensioning of the electrical power distribution.	--	13/4
 **SIMARIS project** SIMARIS project supports the electrical planner in the calculation of space requirements and the electrical power distribution budget. Specifications for the systems planned for a specific project can be generated automatically.	--	13/5
 **SIMARIS curves** SIMARIS curves visualizes tripping characteristics and let-through current and let-through power characteristics of low-voltage protective equipment and fuses (IEC).	--	13/6
ALPHA SELECT engineering and project management software		
 ALPHA SELECT software assists installation engineers, control cabinet engineers, electrical wholesalers and planners in the planning and configuration of distribution boards and meter cabinets.	--	13/7
Configuring, Visualizing and Controlling with SIMATIC		
 **SIMATIC powerrate for SIMATIC WinCC/PCS 7** SIMATIC powerrate is an optional add-on to PCS 7 and WinCC which throws light on power consumption from the infeed to the load.	6AV6	13/10
 **Library 7KM PAC3200 for SIMATIC WinCC / Library 7KM PAC3200 for SIMATIC PCS 7** The function block libraries enable the seamless integration of the 7KM PAC3200 / 4200 measuring devices into the PSC 7 process world or into WinCC.	3ZS2	13/12
 **Library 3WL/3VL for SIMATIC PCS 7** The 3WL/3VL function block library enables the seamless integration of the 3WL/3VL circuit breaker in the PSC 7 process world.	3ZS2	13/13
Configuring, Visualizing and Controlling with SENTRON		
 **powermanager** Power monitoring software for the SENTRON-based power monitoring system with the following main points: • to identify savings potential • to reduce power costs • to ensure power availability	3ZS2	13/4
 **powerconfig** Commissioning and service tool for communication-capable SENTRON measuring devices and circuit breakers with the following main points: • Parameterization, documentation, operation and monitoring of 3WL, 3VL circuit breakers and 7KM PAC3100 / 3200 / 4200 measuring devices using various communication interfaces	--	13/4

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Overview







SIMARIS design

Software tool for quick and effective network calculations and the dimensioning of power distribution for non-residential and industrial buildings from the medium-voltage supply to the load:

- Dimensioning of electrical networks on the basis of real products according to acknowledged rules of technology and the applicable standards (VDE, IEC)
- Automatic selection of the appropriate components from the integrated product database
- Possibility of storing frequently used modules in the favorites library
- High planning reliability combined with flexibility in the planning and realization process
- Possibility of automatic selectivity evaluation with the professional version: in addition to the time/current characteristic curve and the respective envelope curves, selectivity limits are automatically displayed

SIMARIS project

Software tool for fast calculation of space requirements and electrical power distribution budgets for non-residential and industrial buildings, and for preparing specifications:

- Automatic selection and placement of the appropriate systems based on the parameters entered
- Fast overview of space requirements and budget
- Thorough planning from the medium voltage supply to the distribution board
- Easy adaptation of project planning possible not only at the time of implementation, but also in the event of changes in use or expansions
- Storing of planned systems in the favorites library for further use in similar projects
- Automatic generation of specifications for the planned systems

SIMARIS curves

Software tool for visualizing and evaluating characteristic curves of low-voltage protection equipment and fuses (IEC), including the possibility of simulating instrument settings:

- Visualization of tripping characteristics and let-through current and let-through power characteristics
- Device selection via order number or by entering known technical specifications using the selection aid
- Storing of frequently used devices as favorites
- Saving of several characteristic curves including selected settings as a complete project

More information about SIMARIS

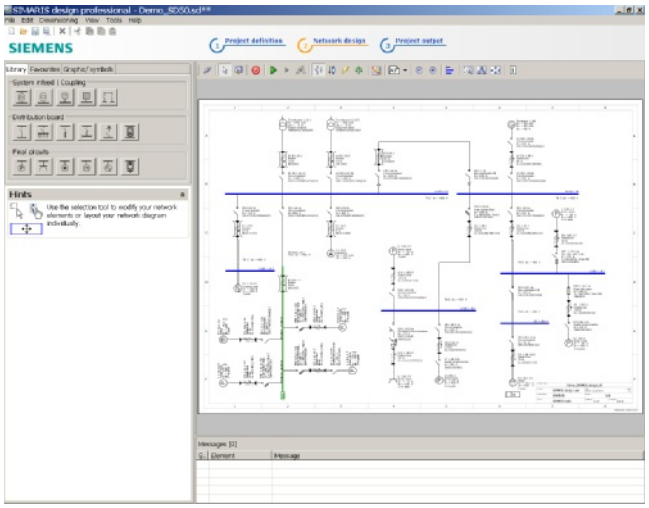
You can find more information and downloads on the Internet at:

www.siemens.com/simaris

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SIMARIS design

Overview



SIMARIS design is a software tool for quick, effective network calculations and dimensioning of electrical power distribution for non-residential and industrial buildings.

As early as the planning phase, the complete circuit required for the project to be handled can be structured and dimensioned on the basis of real products. The network structure is first assembled from the stored modules for feeder units, couplings, distribution boards and branch circuits. It is also possible to re-use stored favorites, such as those developed in previous, similar projects. Exactly the right components and distribution systems for the case in question are then selected automatically from the product database stored in SIMARIS design, based on the parameters and technical specifications selected specifically for the project. This avoids any additional costs which might be generated by uncoordinated systems in the implementation phase before they are incurred.

Every time an electrical power distribution system is configured, changes and the adaptations they require occur in both the planning and the implementation phases. SIMARIS design makes it easy to incorporate such changes into the supply concept and automatically check its reliability with regard to the acknowledged rules of technology and the standards currently applicable.

Even an analysis of selectivity, which is essential for safety power supply elements for example, can be carried out easily with SIMARIS design professional, a program version with additional useful functions which is available for a fee.

The wide range of output options allow the project structure and the data gathered to be documented precisely in each phase of the project.

Benefits

- Reduction in workloads for projects
- Dimensioning of electrical networks on the basis of real products according to acknowledged rules of technology and the applicable standards (VDE, IEC)
- Automatic selection of the appropriate components from the integrated product database, from the medium voltage supply to connection of loads, so no detailed knowledge of products and systems is required
- Calculation of short-circuit current, load flow, voltage drop and energy balance
- Provision for the necessary personal, short-circuit and overload protection
- Possibility of providing for the necessary lightning and overvoltage protection
- Displaying and dimensioning of the cables and busbar trunking systems for power conveyance and distribution
- High planning reliability combined with flexibility in the planning and realization process
- Changes can be tracked by means of a change index
- Easy adaptation in the event of changes in use or expansion
- Possibility of storing frequently used modules in the favorites library
- Output of the network plan developed, together with detailed parts and data lists
- Country-specific product ranges taken into account
- Comprehensive documentation of planning results with simple data transfer (Office, CAD etc.)

Application

SIMARIS design is suitable for network calculations and dimensioning of electrical power distribution systems in all non-residential and industrial buildings. Whether you are planning a shopping mall, a hospital or a production building, with SIMARIS design it is possible to considerably reduce the amount of work required for the overall planning of power distribution systems and hence the time spent on selecting and dimensioning the necessary equipment.

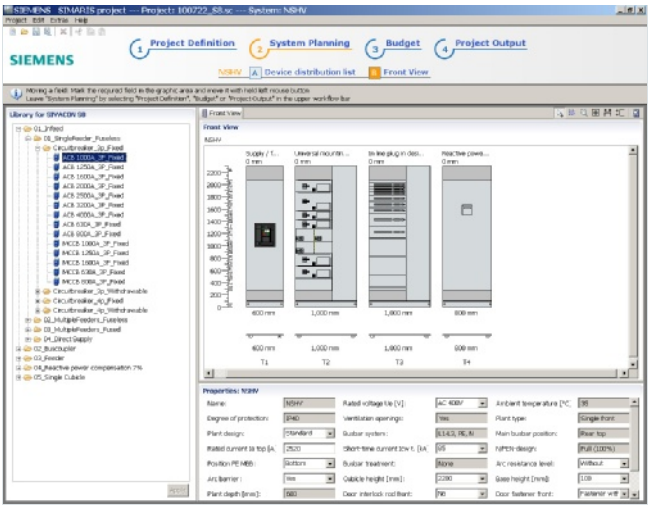
More information

You can find more information and downloads on the Internet at:

www.siemens.com/simarisdesign

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Overview



SIMARIS project is a software tool for fast calculation of space requirements and electrical power distribution budgets for non-residential and industrial buildings, and for generating specifications automatically.

The following is determined in SIMARIS project based on the pre-defined project structure and the basic technical specifications selected:

- For medium-voltage switchboards: selection of the required system and the required fields, then presentation of a front view with dimensions.
- For transformers: selection of the required system and then the required quantity. Selected transformers are presented as a parts list.
- For low-voltage switchboards and distribution boards: selection of the required protection devices and switching devices per system. The most suitable distribution system is determined automatically based on the list of distribution devices thus created, is equipped with the devices and presented graphically in an automatically generated front view including dimensions.
- For busbar trunking systems: selection of the required system, then specification of the length and selection of the additionally required components, e.g. infeeds, junction units and tap-off units. All the resulting components are listed in a parts list.

Detailed information about Siemens units or their order numbers are not needed because SIMARIS project makes the selection automatically on the basis of the parameters entered. For each item of switchboard or each distribution board, SIMARIS project takes the wiring, control and measurement etc. into account.

A system plan drawn up professionally in SIMARIS design can also be imported into SIMARIS project, which means that selecting devices becomes redundant and SIMARIS project builds up the project structure automatically.

Convenient output variants are available to document the results, including the automatic generation of specifications for the planned systems.

Typical versions of a system planned with SIMARIS project can be saved and imported continually into new projects from the favorites library. Automatically created systems can also be subsequently optimized or changed. This is particularly relevant if planning becomes more detailed and the budget needs to be reinforced as a result.

For detailed calculation of costs - on an up-to-date and regional basis - and for more project support please contact your Siemens representative.

Benefits

- Intuitive and easy to operate
- Automatic selection and placement of matching distribution systems
- Fast calculation of space requirements and budget for electrical power distribution systems
- Seamless planning, from the medium-voltage switchboard through transformers, low-voltage switchboards and busbar trunking systems to the distribution boards
- Easy adaptation of planning as requirements become more concrete in the course of a project, and also in the event of changes in use or expansion of the systems
- Saving planned systems for similar projects individually in the favorites library and importing them from there into new projects
- Convenient output types for documentation purposes, such as graphic views, lists and specifications
- Importing of a project drawn up in SIMARIS design professional

Application

SIMARIS project is suitable for quickly establishing space requirements and budget, and for preparing specifications for electrical power distribution systems in non-residential and industrial buildings. From shopping malls to hospitals and production buildings – with SIMARIS project it is possible to considerably reduce the amount of work required for the overall planning of power distribution systems and hence the time spent on selecting and dimensioning the necessary equipment.

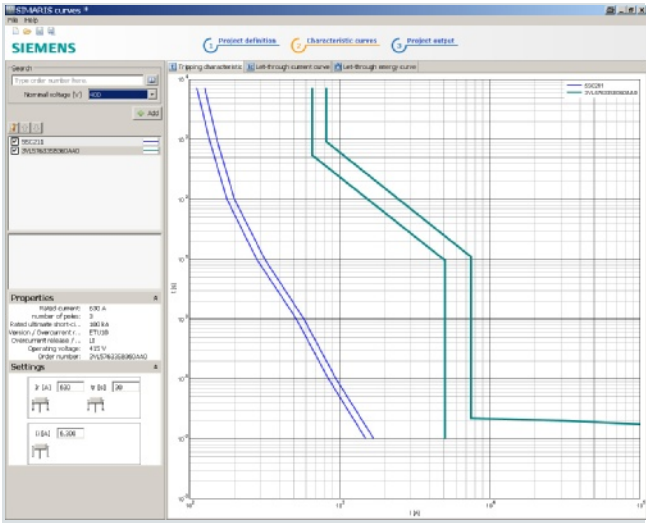
More information

You can find more information and downloads on the Internet at:
www.siemens.com/simarisproject

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SIMARIS curves

Overview



SIMARIS curves is a software tool for visualizing and evaluating characteristic curves of Siemens low-voltage protection equipment and fuses (IEC) quickly and easily, including the possibility of simulating instrument settings.

With SIMARIS curves it is possible to simulate parameter settings on protective devices. The respective characteristic curve is selected by direct entry of the Siemens order number, or with the aid of a user-friendly selection tool by entering known technical specifications. Individual products with default attributes can be stored as favorites and called up again.

In addition to simply displaying tripping characteristics with tolerance ranges, it is also possible to simulate parameter settings for the subsequent setting of the devices. In addition, the associated let-through current and let-through power characteristics can be displayed. A printout summary documents the characteristic curves selected and each of their settings.

Benefits

- Visualization and evaluation of tripping characteristics of low-voltage protection equipment and fuses (IEC), including the possibility of simulating instrument settings
- Visualization of let-through current and let-through power characteristics
- Clear product selection using order numbers or with the aid of technical specifications in the selection tool
- Saving of selected devices as favorites
- Saving of several characteristic curves including settings as complete project
- Country-specific product ranges taken into account
- User-friendly documentation.

Application

SIMARIS curves is suitable for displaying tripping characteristics, let-through current and let-through power characteristics of Siemens low-voltage protective equipment and fuses.

From shopping malls through hospitals to production buildings – SIMARIS curves lets you call up the devices required and their characteristic curves quickly and documents them accordingly.

More information

You can find more information and downloads on the Internet at:

www.siemens.com/simariscurves

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Overview

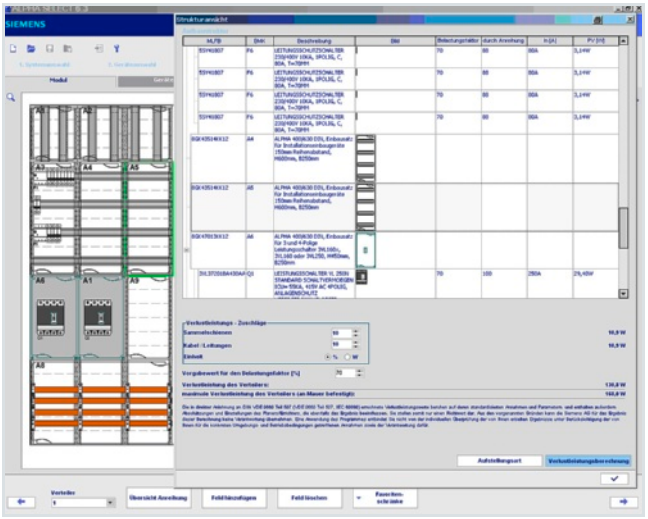
ALPHA SELECT software assists installation engineers, control cabinet engineers, electrical wholesalers and planners in the planning and configuration of distribution boards and meter cabinets. Easy-to-use, intuitive functions guide you step-by-step through the entire project, from planning to installation.
ALPHA SELECT prevents configuration errors by means of collision checks and configuration rules stored in the program.

ALPHA SELECT comprises:
- ALPHA SIMBOX small distribution boards
- ALPHA 400-ZS meter cabinets
- ALPHA distribution boards
- ALPHA 8HP molded-plastic distribution systems
- ALPHA BOX IEC wall-mounted distribution boards

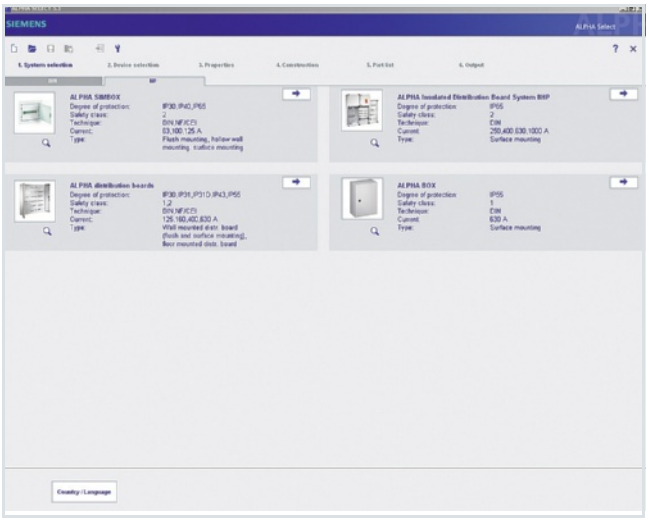
In addition, BETA low-voltage circuit protection products, GAMMA *instabus* products (for building management) and many other items from the Siemens Industry product selection are available in the electronic catalogs (EGH selection catalog and CA 01).

More information

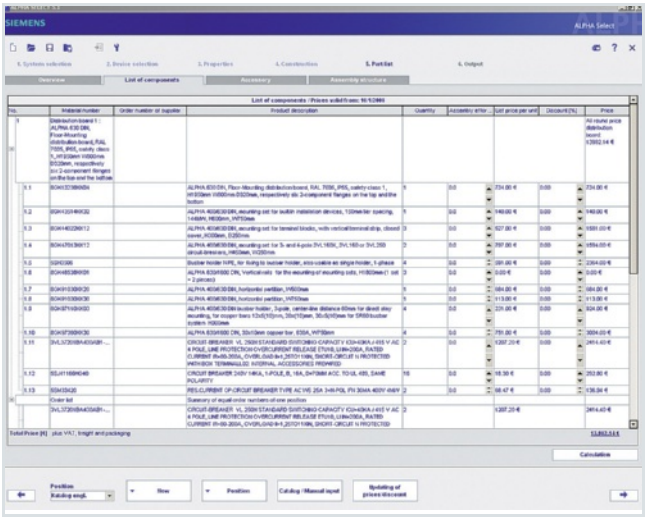
For more information, please visit our Website at
www.siemens.com/alpha-select
Support for planning and configuration is available from:
www.siemens.com/lowvoltage/technical-support
Tel.:+49 (0)9 11 8 95 72 22



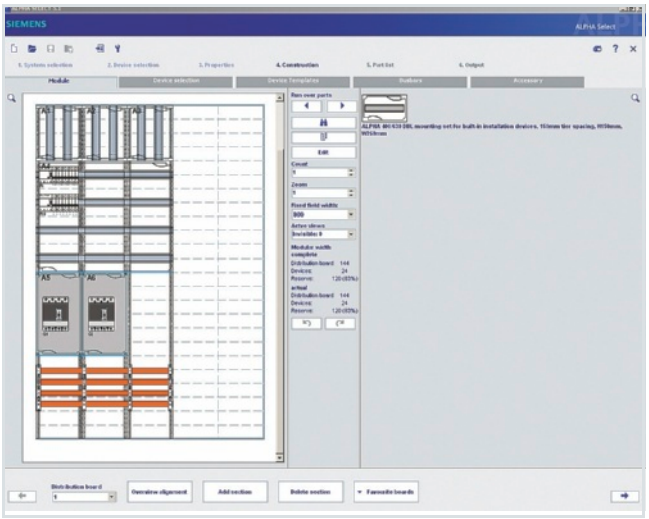
Calculation of power loss



Selection of the ALPHA distribution system



Parts list with calculation



Distribution board equipment, front view

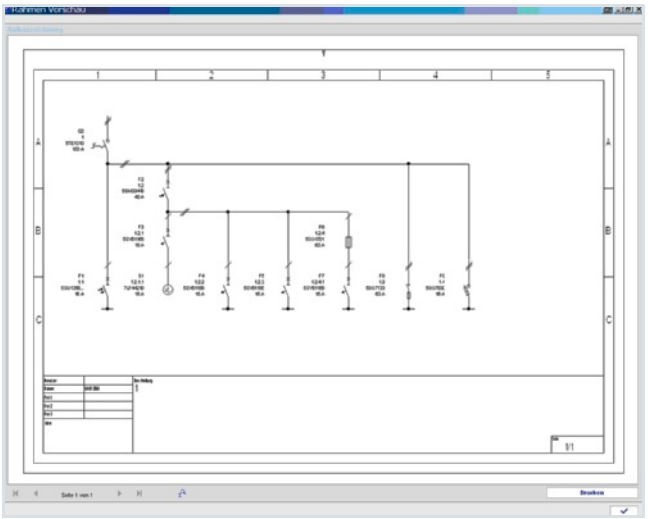


Illustration of the device structure as single-pole circuit diagram

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ALPHA SELECT Engineering and Project Management Software

General data

Start with the selection of a suitable distribution system and distribution board by selecting the required degree of protection, safety class and dimensions. You can then just drag & drop the required assembly kits, devices and accessories of your choice. Essential accessories are determined automatically. When selecting the devices, customer specifications can be prepared using either item numbers or in accordance with the electrical structure. In case 2 a graphical representation in the form of a 1-pole circuit diagram has been available since the launch of Version 6.0.

The graphic representation of the structure enables individual levels, such as doors, covers, equipment racks or devices, to be visualized, rendered transparent and hidden in order to provide users with a constant overview of already configured components.

There is also an integrated option for power loss calculation which enables comparison of the calculated power loss values of the devices installed in the distribution board with the thermal rating of the distribution board, giving due consideration to the point of installation and the permissible overtemperature (related to 35 °C ambient temperature).

Frequently required components can be saved as favorites for integration in other projects at any time.

Used in conjunction with existing calculation aids, users are able to tailor parts lists, assembly drawings and assembly structures to individual requirements and output as both a hard copy and in electronic form.

In addition to planning and calculation in the program, users are also able to produce parts lists and graphic documentation to accompany customer quotations or for ordering the required components.

The workshop version, which comprises a structured list of the distribution boards and the respectively installed parts and graphical representation of the different user-defined layers, directly supports the building of distribution boards configured using ALPHA SELECT.

www.siemens.com/alpha-select

Benefits

- Cabinet selection: simple selection of cabinet system, degree of protection, safety class and dimensions
- Selection of equipment using technical specifications
- Alternative structuring of the devices according to
  - Electrical structure and graphic output as 1-pole circuit diagram
  - Item numbers in the customer specifications
- Positioning of assembly kits and devices using drag & drop
- Automatic determination of key accessories
- Numbering of assembly kits in the assembly drawing
- Automatic issue of item codes for devices
- Calculation of power loss
- Differentiated calculation options, including allowance made for assembly work
- Listing in the assembly structure of devices placed in the assembly kits, including numbering of the assembly kits and the item codes of the devices
- Easy drawing up of quotations for projects: Clearly arranged output selection for parts lists, assembly drawing and assembly structure
- Clearly arranged calculation aids. Calculations for individual items and assembly, for material surcharges, shipment costs, discounts and miscellaneous extras are easy to perform in the parts list. Standard discounts for each price group can also be saved in the memory.
- Option for quotations with individual company logo
- Update over the web with quick download times
- Manual available as a download

Application

System requirements

- Processor: from 1 GHz
- Main memory: minimum 512 MB
- Operating system: Windows 7/VISTA/XP/2000
- Free hard disk space: 100 ... 500 MB
  (depending on the number of modules installed)
- Display resolution: minimum 1024×768 with 16-bit color intensity

More information

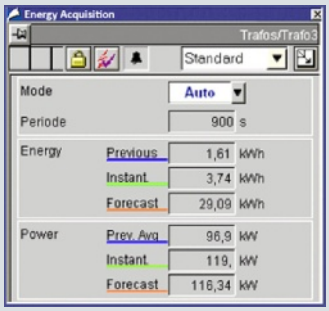
Support for planning and configuration is available from:

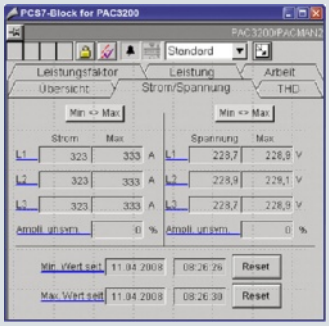
www.siemens.com/lowvoltage/technical-support

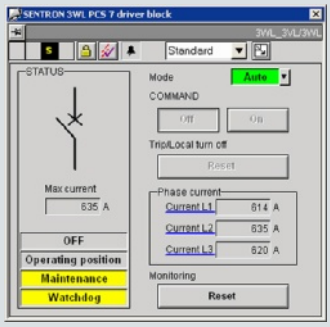
and by calling: +49 (0)9 11 8 95 72 22

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Overview







SIMATIC powerrate for SIMATIC WinCC/PCS 7

SIMATIC powerrate is a power data management software, which as an optional add-on to PCS 7 and WinCC throws light on power consumption from the infeed to the load.

- Identification of power-intensive consumer devices and processes in order to introduce measures for improving power efficiency
- Comparison of consumption profiles for greater efficiency of process design
- Optimizing the company according to energy parameters based on an assessment of consumption and costs
- Complying with the contractually agreed power limit, thus preventing higher power supply costs or penalty payments.

Library 7KM PAC3200 for SIMATIC WinCC
Library 7KM PAC3200 for SIMATIC PCS 7

The function block libraries enable the seamless integration of the 7KM PAC3200 / 4200 measuring devices into the PSC 7 process world or into WinCC.

Library 3WL/3VL for SIMATIC PCS 7

The 3WL/3VL function block library enables the seamless integration of the 3WL/3VL circuit breaker in the PSC 7 process world.

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SIMATIC powerrate for SIMATIC WinCC/PCS7

Overview



The power data management software SIMATIC powerrate is an optional add-on to PCS 7 and WinCC which throws light on power consumption from the infeed to the load. Power data are continuously collected, archived and processed further. With an exact knowledge of the consumption profile, it is possible to identify savings potential, optimize your power supply conditions and hence, lower your power costs. Monitoring the contractually agreed power limit helps on the one hand to prevent unnecessarily high power prices or penalties and on the other hand to make full use of the fixed power limit.

Batch-related consumption recording enables the exact recording and evaluation of power consumption per batch.

The integration of switches through digital inputs/outputs enables the monitoring or indication of switch status and, with suitable authorization, remote switching. If connection is through DPV1 or PROFINET selected measured values and messages from the 7KM PAC3200 and 7KM PAC4200 measuring devices can be displayed online.

Data recorded and archived by SIMATIC powerrate for WinCC/PCS 7 can be exported to Excel, and they can also be presented in different reports.

Support for the WinCC Web Navigator means that the SIMATIC powerrate functionality is also available over the Web.
Full integration in PCS 7 and WinCC makes it easy to use standard interfaces or standard functionalities from PCS 7 or WinCC.

Components

SIMATIC powerrate is made up of the following components:

- Function blocks for the acquisition and processing of power data
- Faceplates for the presentation and processing of power data
- Components for implementing load management (calculating trends, monitoring limits, enabling/disabling loads)
- Function blocks for batch-related consumption recording
- Function blocks for the integration of measuring devices and switches
- Other components, for example, for time synchronization, data buffering or data exchange with archives
- Faceplates for presenting results and for entering values (e.g. for configuration or from manual measured values)
- Excel-based reports for allocating power data to cost centers, for batch-related evaluation and for determining and presenting the duration curve
- Exporting data to Excel

System requirements

The SIMATIC powerrate library is released for the following PCS 7 versions:

- SIMATIC PCS 7 V8.0
- SIMATIC PCS 7 V7.1 SP3

The library is released for the following WinCC version with the associated STEP 7 versions:

- SIMATIC WinCC V7.0 SP3

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Benefits

- Identification of power-intensive consumer devices and processes in order to introduce measures for improving power efficiency
- Comparison of consumption profiles for greater efficiency of process design
- Optimizing the company according to energy parameters based on an assessment of consumption and costs
- Complying with the contractually agreed power limit, thus preventing higher power supply costs or penalty payments
- Integration of the 7KM PAC3200 and 7KM PAC4200 measuring devices, with a quick overview of selected measured values and signals
- Integration of switches, with an overview of switch status and switching possibilities
- Exact assignment and comparison of the consumption data of certain work processes through batch-related consumption recording

Application

SIMATIC powerrate is used in all areas in which PCS 7 or WinCC is used and energy efficiency considerations play a major role. Full integration into PCS 7 or WinCC means that there is no need for a special system environment. Predefined modules and symbols give you the assurance of building on tested and certified product components, with interfaces which enable customized expandability.

Selection and ordering data

Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
SIMATIC powerrate V4.0 SP1							
Trial license Limited 30 day Engineering/Runtime license		**6AV6 372-1DE04-0AX7**		1	1 unit	276	0.100
Unlimited Engineering and AS Runtime license[1)] Also includes: • License for user/archive • Library 7KM PAC3200 for SIMATIC WinCC / PCS7 (can also be used for 7KM PAC4200) • Library 3WL / 3VL for SIMATIC PCS 7		**6AV6 372-1DE04-0AX0**		1	1 unit	276	0.100
SIMATIC powerrate V4.0 SP1 upgrade from V3.0 to V 4.0 SP1							
Unlimited Engineering and AS Runtime license[1)] Also includes: • License for user/archive • Library 7KM PAC3200 for SIMATIC WinCC / PCS7 (can also be used for 7KM PAC4200) • Library 3WL / 3VL for SIMATIC PCS 7		**6AV6 372-1DE04-0AX4**		1	1 unit	276	0.100

1) For operation on one WinCC / PCS 7 OS (single workstation system or server) and any number of automation systems (AS). A license is required for each WinCC / PCS 7 single workstation system or server if using additional WinCC single workstation systems or servers.

More information

Information about using SIMATIC powerrate is available from
Siemens AG, Technical Support
Tel.: +49 (0) 911 895 7 222
Fax.: +49 (0) 911 895 7 223
www.siemens.com/automation/support-request

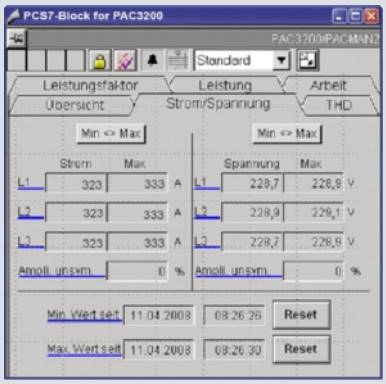
You can find further general information on the Internet at:
www.siemens.com/lowvoltage/powermonitoring

* You can order this quantity or a multiple thereof.

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Library 7KM PAC3200 for SIMATIC PCS 7

Overview



Library 7KM PAC3200 for SIMATIC PCS 7 is a function block library for the 7KM PAC3200 and 7KM PAC4200 measuring devices. It enables the seamless integration of the measuring devices into the PCS 7 process world.

Library 7KM PAC3200 for SIMATIC PCS 7 comprises a driver block, a diagnostics block and the faceplates. The blocks in the SIMATIC S7 supply energy data to the faceplates in the user interface of the process control system, generate signals and guarantee connection to the maintenance system of PCS 7.

Faceplates

Faceplates serve as a user interface for operating and monitoring and enable technologically important values and functions of the 7KM PAC3200 / 4200 measuring device to be displayed and performed as a PCS 7 object.

Both between the faceplates and the function blocks and between the function blocks and the 7KM PAC3200 / 4200 measuring device, on the system side there are bidirectional communication connections that support the display of values in the faceplates and the forwarding of input data to the device.

This transforms the 7KM PAC3200 / 4200 measuring device into an integral component of PCS 7.

The operating systems supported are the same as those for the SIMATIC PCS 7.

Benefits

- Full integration of the 7KM PAC3200/4200 measuring devices into the PCS 7 process control system through PROFIBUS DPV1 using a certified PCS 7 optional add-on
- Reading out and displaying device data
- Inputting limit values for monitoring through the driver block
- Resetting values on the device (min/max values)

Application

Library 7KM PAC3200 for SIMATIC PCS 7 is used in all areas in which PCS 7 is used. Full integration in PCS 7 means that there is no need for a special system environment. Predefined modules and symbols give you the assurance of building on tested and certified product components.

For challenging measurements the 7KM PAC4200 can also be used in the functional scope of the 7KM PAC3200.

In addition to the cyclic connection, there is also an acyclic connection for pure visualization tasks. The process image of the SIMATIC CPUs can be used more efficiently with the acyclic connection.

Selection and ordering data

SIMATIC PCS 7 V 8.0
SIMATIC PCS 7 V 7.0 and V7.1

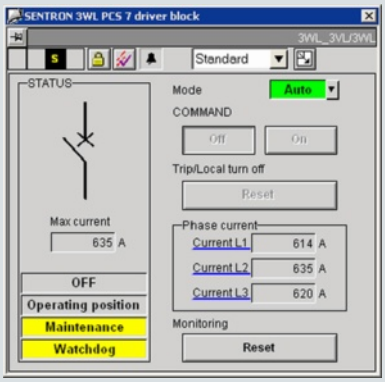
Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Library 7KM PAC3200 for SIMATIC PCS 7 [1]							
Engineering license • For operation on one PCS 7 OS (single workstation system or server) and an automation system (AS). • When using additional PCS 7 OS devices, you need an engineering license for each PCS 7 OS.		**3ZS2 781-1CC11-0YG0**		1	1 unit	133	0.210
Runtime license • For operation on an additional AS		**3ZS2 781-1CC10-6YH0**		1	1 unit	133	0.011

[1] Can also be used for 7KM PAC4200
Currently supported SIMATIC PCS 7 versions see http:/support.automation.siemens.com

* You can order this quantity or a multiple thereof.

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Overview



Library 3WL / 3VL for SIMATIC PCS 7 is a function block library for the 3WL and 3VL circuit breakers It enables the seamless integration of the circuit breakers into the PCS 7 process world.

Library 3WL / 3VL for SIMATIC PCS 7 comprises a driver block, a diagnostics block and the faceplates. The blocks in the SIMATIC S7 supply current, power and energy data to the faceplates in the user interface of the process control system, generate signals and guarantee connection to the maintenance system of PCS 7.

Faceplates

Faceplates serve as a user interface for operating and monitoring and make it easy for the circuit breaker to be displayed and operated as a PCS 7 object.

Library 3WL / 3VL for SIMATIC PCS 7 provides for continual plant transparency. Critical plant states are recognized quickly and costs owing to outages avoided. System availability is permanently increased

This transforms the circuit breaker into an integral component of PCS 7.

The operating systems supported are the same as those for the SIMATIC PCS 7.

Benefits

- Full integration of the 3WL/3VL circuit breakers into the PCS 7 process control system through PROFIBUS DPV1 using a certified PCS 7 optional add-on
- Remote switching and monitoring
- Reading out of maintenance information
- Automatic information in case of overload, short-circuit and faults
- Reading out and displaying device data
- Limit monitoring through the driver block
- Resetting values on the device (min/max values)

Application

Library 3WL / 3VL for SIMATIC PCS 7 is used in all areas in which PCS 7 is used. Full integration in PCS 7 means that there is no need for a special system environment. Predefined modules and symbols give you the assurance of building on tested and certified product components.

13

Selection and ordering data

SIMATIC PCS 7 V 8.0
SIMATIC PCS 7 V 7.0 and V7.1

Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
							kg
Library 3WL / 3VL for SIMATIC PCS 7[1)]							
Engineering license • For operation on one PCS 7 OS (single workstation system or server) and an automation system (AS). • When using additional PCS 7 OS devices, you need an engineering license for each PCS 7 OS.		**3ZS2 782-1CC10-0YG0**		1	1 unit	133	0.208
Runtime license • For operation on an additional AS		**3ZS2 782-1CC10-6YH0**		1	1 unit	133	0.010

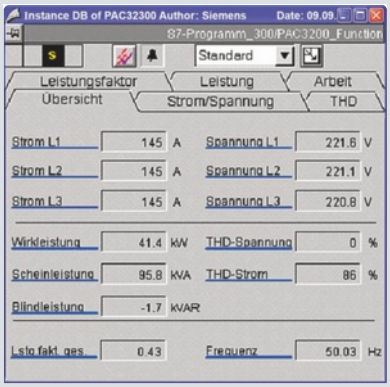
1) Can also be used for 7KM PAC4200
Currently supported SIMATIC PCS 7 versions see http://support.automation.siemens.com

* You can order this quantity or a multiple thereof.

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Library 7KM PAC3200 for SIMATIC WinCC

Overview



Library 7KM PAC3200 for SIMATIC WinCC is a function block library for the 7KM PAC3200 and 7KM PAC4200 measuring devices. It enables the seamless integration of the measuring devices into the WinCC process world.

Library 7KM PAC3200 for SIMATIC WinCC comprises a driver block, a diagnostics block and the faceplates. The blocks in the SIMATIC S7 supply energy data to the faceplates in the user interface of WinCC, generate signals and guarantee connection to the maintenance system of WinCC.

Faceplates

Faceplates serve as a user interface for operating and monitoring and enable technologically important values and functions of the 7KM PAC3200 / 4200 measuring device to be displayed and performed in WinCC.

Both between the faceplates and the function blocks and between the function blocks and the 7KM PAC3200/4200 measuring devices, on the system side there are bidirectional communication connections that support the display of values in the faceplates and the forwarding of input data to the device.

This makes the 7KM PAC3200/4200 measuring devices an integral component of WinCC.

System requirements

Library 7KM PAC3200 for SIMATIC WinCC is released for WinCC V 7.0

WinCC options AS-OS Engineering and Basic Process Control must be installed. The function block library is available for S7-300, S7-400 and WinAC RTX.

At least one S7 CPU317-2DP is required for use in the S7-300 area. At least one S7 CPU414-2 is required for use in the S7-400 area.

Supported operating systems are the same as for SIMATIC WinCC.

Benefits

- Full integration of the 7KM PAC3200/4200 measuring devices in SIMATIC WinCC through PROFIBUS DPV1 The library is a certified optional add-on for WinCC.
- Reading out and displaying device data
- Inputting limit values for monitoring through the driver block
- Resetting values on the device (min/max values)

Application

Library 7KM PAC3200 for SIMATIC WinCC is used in all areas in which WinCC is used. Predefined function blocks and symbols give you the assurance of building on tested and certified product components.

In addition to the cyclic connection, there is also an acyclic connection for pure visualization tasks. The process image of the SIMATIC CPUs can be used more efficiently with the acyclic connection.

13

Selection and ordering data

SIMATIC WinCC V 7.0

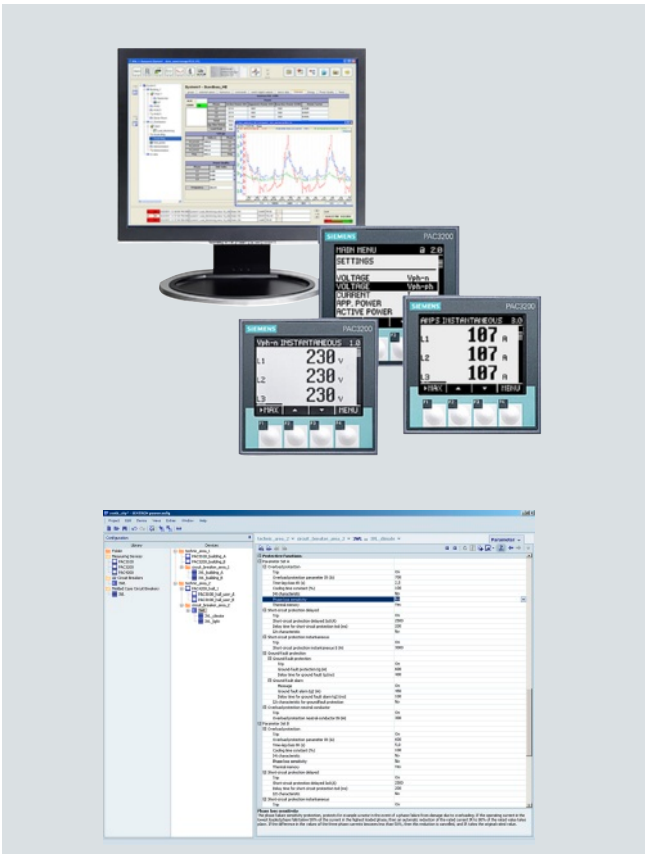
Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx. kg
Library 7KM PAC3200 for SIMATIC WinCC [1]							
Engineering license • For operation on one WinCC OS (single workstation system or server) and an automation system (AS). • When using additional WinCC OS devices, you need an engineering license for each WinCC OS.		**3ZS2 791-1CC11-0YG0**		1	1 unit	133	0.211
Runtime license • For operation on an additional AS		**3ZS2 791-1CC10-6YH0**		1	1 unit	133	0.011

[1] Can also be used for 7KM PAC4200
Currently supported SIMATIC WinCC versions see http://support.automation.siemens.com

* You can order this quantity or a multiple thereof.

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Overview



powermanager

Power monitoring software for the SENTRON-based power monitoring system with the following main points:

- to identify savings potential
- to reduce power costs
- to ensure power availability

powerconfig

Commissioning and service tool for communication-capable measuring devices and circuit breakers from the SENTRON product family with the following main points:

- Facilitates parameterization of the devices, resulting in considerable time savings, particularly when several devices have to be set up.
- With powerconfig, the 3WL and 3VL circuit breakers and the 7KM PAC3100 / 3200 / 4200 measuring devices can be parameterized, documented, operated and monitored using various communication interfaces.

More information

You can find more information on the Internet at:

www.siemens.com/lowvoltage/powermonitoring

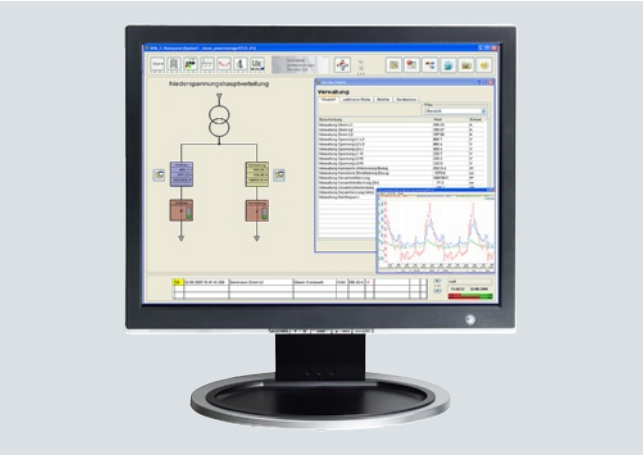
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powermanager

Overview



Components of the PC-based power monitoring system



User interface of powermanager

Power monitoring system with the SENTRON product family

The SENTRON product family offers the user not only power monitoring software in the form of SENTRON powermanager but also the corresponding hardware in the form of 7KT/7KM PAC measuring devices and 3WL/3VL circuit breakers for implementing a plant power monitoring system.

The components are optimally coordinated with each other. For example, special drivers for the SENTRON devices are integrated in the powermanager software so that on the one hand, power data acquisition can take place without any great configuration effort and, on the other, the most important measured values or states are indicated by predefined displays.

This reduces the engineering work for the customer and gives the user the assurance of knowing that the device functions are optimally supported in the software.

Features of powermanager

The powermanager power monitoring software is the central feature of the PC-based power monitoring system and

- is an independent power monitoring software.
- can be operated using a PC and measuring devices with Ethernet connection.
- is expandable from the simple standard application to a fully flexible customer solution.
- is fully scalable with regard to the number of devices and to the software's functions.
- ensures the optimum integration of measuring devices from the 7KT/7KM PAC range as well as 3WL/3VL circuit breakers and other Modbus devices.

Standard package and options packages

Even in the standard package, powermanager covers the normal requirements. This package provides users with easy-to-operate power monitoring software which enables the data detected by the measuring devices to be read out, displayed, archived, monitored and processed in basic analyses, such as cost center allocation, consumption comparison, and duration curve presentation.

The "Expert" option package gives users full flexibility for the presentation of graphical interfaces (e.g. single line presentations) in order to integrate their own images and devices.

The "Web" option package enables the user to display data and images using a standard Web browser, with no installation.

With the "Distributed Systems" option package it is possible to connect several distributed powermanager servers to form one complete system. This means, firstly, that distributed sites can be managed from a single location and, secondly, that the number of usable devices can thus be increased.

The system is, of course, expandable to the extent that it allows the customer to begin with the basic functionality of the powermanager and then add the "Expert" option package at a later date. Existing data and configurations can still be used after upgrading.

The same also applies as regards the number of devices, which can be increased at any time.

Benefits

- Transparency of power flows
- Exact knowledge of the consumption profile
- Increased power efficiency
- Optimization of power supply contracts
- Compliance with contractual terms
- Allocation of power costs to cost centers
- Optimization of plant maintenance
- Identification of critical plant conditions
- Available languages:
  German, English, Spanish, Portuguese
- Support of the various device communication interfaces (Modbus RTU, Modbus TCP)
- Status display of devices

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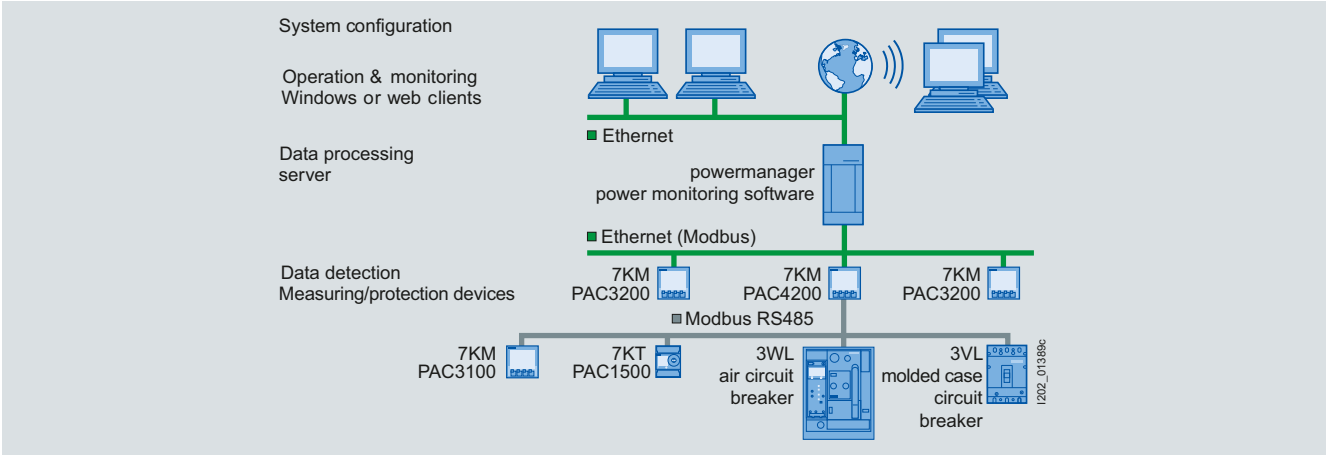
Application

Applications

The product offers a standard power monitoring solution which provides the user with the following basic functions:

- Collection of measured quantities from the devices
- Presentation of the measured quantities from the devices in a predefined standard view for the 7KT PAC1500, 7KM PAC3100, 7KM PAC3200, 7KM PAC4200 measuring devices and 3WL/3VL circuit breakers
- Free presentation of measured quantities possible, including those from non-Siemens devices using generic Modbus drivers
- Archiving of measured quantities
- Monitoring of status and limits, with generation of corresponding signals
- Load curve display for visualizing the archived data and online data
- Cost center reports based on predefined tariffs and archived consumption data
- OPC server
- Configuration of the system including user management
- Load monitoring for complying with power limits
- Virtual computation

This standard solution is designed with cost-efficiency and simple system commissioning in mind.



System configuration

- Integration of measuring devices by means of predefined device templates for the 7KT/7KM PAC measuring devices and the 3WL/3VL circuit breakers
- Easy integration of existing modbus-capable measuring devices
- Communication through Standard Ethernet
- Integration of devices with RS485 interface (ModbusRTU) through Modbus gateway, e.g. the 7KM PAC4200 can be used as the gateway

Industries

The energy efficiency that can be achieved with consistent power monitoring and the derived optimization measures is crucial for all industries, e.g. in the manufacturing industry, in non-residential buildings, in the field of services, and in infrastructure projects. This has a particular impact on competitiveness, especially in view of rising energy prices.

System requirements

Hardware requirements

- Processor: Intel core 2 (or better)
- RAM: at least 2 GB
- Hard disk: at least 10 GB free
- Graphics: VGA with at least 1280 x 1024 pixels and 16-bit color intensity

Supported operating systems

- Windows XP: XP with SP3 (32 bit)
- Windows 2003: Professional SP3 (32 bit)
- Windows 7: Professional (32/64 bit)
- Windows Server 2008: Enterprise SP2 (32/64 bit)

Supported Excel versions (required for reporting)

Excel 2003, Excel 2007, Excel 2010

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powermanager

Selection and ordering data

Version	DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS*/ P. unit	PG	Weight per PU approx.
							kg
powermanager V 3.0							
• **Trial license** up to 10 devices inc. "Expert" and "Web" option packages full product license limited to 30 days		**3ZS2 711-0CC30-0YA7**		1	1 unit	133	0.217
• **Basic package** full product license up to 10 devices, installation for client/server		**3ZS2 711-0CC30-0YA0**		1	1 unit	133	0.230
• **Device Pack (50)** device expansion license for 50 devices		**3ZS2 712-0CC30-0YD0**		1	1 unit	133	0.147
• **Device Pack (100)** device expansion license for 100 devices		**3ZS2 713-0CC30-0YD0**		1	1 unit	133	0.147
• **Device pack (200)** device expansion license for up to 200 devices		**3ZS2 714-0CC30-0YD0**		1	1 unit	133	0.147
• **Device pack (500)** device expansion license for up to 500 devices		**3ZS2 715-0CC30-0YD0**		1	1 unit	133	0.148
• **Device pack (1000)** device expansion license for up to 1000 devices		**3ZS2 716-0CC30-0YD0**		1	1 unit	133	0.147
• **Update license** from V2.0 Lean to V3.0 (10)		**3ZS2 711-0CC30-0YE0**		1	1 unit	133	0.229
• **Update license** from V 2.0 Standard to V 3.0 (50)		**3ZS2 712-0CC30-0YE0**		1	1 unit	133	0.235
• **Update license** from V 2.0 Advanced to V 3.0 (100)		**3ZS2 713-0CC30-0YE0**		1	1 unit	133	0.229
• **Update license** from V 2.0 Maximum to V 3.0 (200)		**3ZS2 714-0CC30-0YE0**		1	1 unit	133	0.231
powermanager V 2.0							
• **Upgrade license** from Lean to Standard		**3ZS2 712-0CC20-0YD0**		1	1 unit	133	0.144
• **Upgrade license** from Standard to Advanced		**3ZS2 713-0CC20-0YD0**		1	1 unit	133	0.143
• **Upgrade license** from Advanced to Maximum		**3ZS2 714-0CC20-0YD0**		1	1 unit	133	0.141
Option packages							
• **Option package "Expert"** Option for creating/presenting any number of freely configured images		**3ZS2 710-2CC20-0YH0**		1	1 unit	133	0.142
• **Option package "Web"** Option for access over the Web (e.g. Internet Explorer) for up to 10 clients		**3ZS2 710-1CC20-0YH0**		1	1 unit	133	0.142
• **Option package "Client (5)"** expansion for up to 5 clients		**3ZS2 710-3CC00-0YD0**		1	1 unit	133	0.139
• **Option package "Distributed Systems (2)"** Option for the connection of 2 autonomous powermanager systems for the exchange of measured values and alarms		**3ZS2 718-1CC00-0YH0**		1	1 unit	133	0.145
• **Option package "Distributed Systems (5)"** Option for the connection of 5 autonomous powermanager systems for the exchange of measured values and alarms		**3ZS2 718-2CC00-0YH0**		1	1 unit	133	0.140
• **Option package "Distributed Systems (10)"** Option for the connection of 10 autonomous powermanager systems for the exchange of measured values and alarms		**3ZS2 718-3CC00-0YH0**		1	1 unit	133	0.145

More information

Components of the PC-based power monitoring system

The hardware components of the PC-based power monitoring system are as follows:

- 7KM PAC measuring devices, see chapter 11
- 3WL air circuit breakers, see chapter 1
- 3VL molded case circuit breakers, see chapter 2

Software of the PC-based power monitoring system

The software of the PC-based power monitoring system is powermanager as described in this chapter.

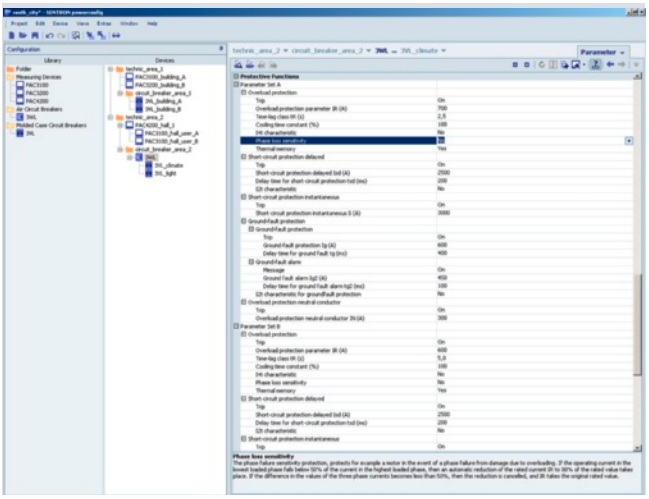
Internet

You can find more information on the Internet at:
www.siemens.com/lowvoltage/powermonitoring

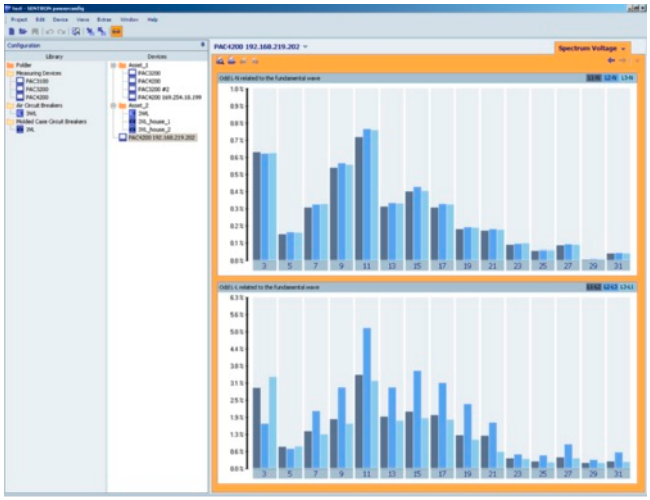
* You can order this quantity or a multiple thereof.

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Overview



Setting the parameters of a SENTRON device



Display of current measured variables (harmonics)

The powerconfig software is the new combined commissioning and service tool for communication-capable measuring devices and circuit breakers from the SENTRON product family.

The PC-based tool facilitates parameterization of the devices, resulting in substantial time savings, particularly when several devices have to be set up.

With powerconfig, the 3WL and 3VL circuit breakers and the 7KM PAC 3100 / 3200 / 4200 measuring devices with expansion modules can be parameterized, documented, operated, and monitored using various communication interfaces.

Benefits

- Parameterization, documentation, operation and monitoring in one software
- User-friendly documentation of measured values and settings
- Clear presentation of the available parameters including validity testing of the inputs
- Display of the available device statuses and measured values in standardized views
- Project-oriented storage of device data
- Consistent operation and usability
- Support of the various device communication interfaces (Modbus RTU, Modbus TCP, PROFIBUS, PROFINET)
- Supported languages: English and German
- Read-out and saving of device recordings (device-dependent)
- Update of the device firmware and loading of language packs (device-dependent)
- No programming knowledge required for operation
- Calling powerconfig from STEP7 ≥ V5.5 SP1 and communication with devices through PROFIBUS/PROFINET (7KM PAC3200 / 4200 and PROFIBUS available soon)

Application

System requirements

Hardware requirements

- Processor: Intel Pentium III, 1 GHz (or better)
- RAM: at least 512 MB
- Hard disk: at least 1 GB free
- Color monitor with a minimum resolution of 1024 x 768 pixels

Supported operating systems

- Windows XP: XP with SP3 (32 bit)
- Windows 7 Professional SP1 (32 bit, 64 bit)
- Windows 7 Ultimate SP1 (32 bit, 64 bit)
- Windows 2008 Server (32 bit)

Required framework:

- Microsoft .NET V3.5 SP1

More information

powerconfig is available free of charge at
http://support.automation.siemens.com/WW/view/en/50241697
You can find more information on the Internet at:
www.siemens.com/sentron

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Notes

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Appendix



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20/8	**Quality management**
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20/37	**Software licenses**
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20/46	**Order number index incl. export markings**
20/60	**Conditions of sale and delivery**

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Catalog notes

Overview

Trademarks

All product designations may be registered trademarks or product names of Siemens AG or supplier companies whose use by third parties for their own purposes may violate the rights of the owner.

Amendments

All technical data, dimensions and weights are subject to change without notice unless otherwise specified on the pages of this catalog.

Dimensions

All dimensions are in mm.

Images

The illustrations are not binding.

Technical data

The technical data in the catalog are for general information. The instruction manuals and the operating instructions on the products must be observed during assembly, operation and maintenance.

Further technical information is available at
www.siemens.com/lowvoltage/support

- under Product List:
  - Technical specifications
- under Entry List:
  - Updates
  - Downloads
  - FAQ
  - Manuals
  - Operating instructions
  - Characteristic curves
  - Certificates

Configurators can be found at
www.siemens.com/lowvoltage/configurators

Assembly, operation and maintenance

The instruction manuals and the operating instructions on the products must be observed during assembly, operation and maintenance.

Symbols

The symbols used in this catalog are listed below. These symbols are used in conjunction with an orange background to mark special selection criteria (e.g. connections, types of coordination, etc.).

Connections	
	Screw connection
	Ring cable lug connection
Breaking capacity of 3WL air circuit breakers	
N	ECO breaking capacity (I_{cu} up to 55/66 kA at 500 V)
S	Standard breaking capacity (I_{cu} up to 66/80 kA at 500 V)
H	High breaking capacity (I_{cu} up to 85/100 kA at 500 V)
C	Very high breaking capacity (I_{cu} up to 150 kA (3-pole)/130 kA (4-pole) at 500 V)
DC	Breaking capacity for DC current
Breaking capacity of 3VL molded case circuit breakers	
N	Standard breaking capacity (I_{cu} up to 55 kA at 415 V)
H	High breaking capacity (I_{cu} up to 70 kA at 415 V)
L	Very high breaking capacity (I_{cu} up to 100 kA at 415 V)

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Logistics

General

With regard to delivery service, communications and environmental protection, our logistics service ensures "quality from the moment of ordering right through to delivery". By designing our infrastructure according to customer requirements and implementing electronic order processing, we have successfully optimized our logistics processes.

We are proud of our personal consulting service, on-time deliveries and 1-day transport within Germany.

To this end, we supply the preferred types marked with ► ex works.

We regard the DIN ISO 9001 certification and consistent quality checks as an integral part of our services.

Electronic order processing is fast, cost-efficient and error-free. Please contact us if you want to benefit from these advantages.

Packaging, packing units

The packaging in which our equipment is dispatched provides protection against dust and mechanical damage during transport, thus ensuring that all our products arrive in perfect condition.

We select our packaging for maximum environmental compatibility and reusability (e.g. crumpled paper instead of polystyrene chips for protection during transport in packages up to 32 kg) and, in particular, with a view to reducing waste.

With our multi-unit packaging and reusable packaging, we offer you specific types of packaging that are both kind to the environment and tailored to your requirements:

Your advantages at a glance:

- Lower order costs.
- Cost savings through uniform-type packaging: low/no disposal costs.
- Reduced time and cost thanks to short unpacking times.
- "Just-in-time" delivery directly to the production line helps reduce stock: cost savings through reduction of storage area.
- Fast assembly thanks to supply in sets.
- Standard Euro boxes - corresponding to the Euro pallet modular system - suitable for most conveyor systems.
- Active contribution to environmental protection.

Unless stated otherwise in the "Selection and ordering data" of this catalog, our products are supplied individually packed.

For small parts/accessories, we offer you economical packaging units as standard packs containing more than one item, e.g. 5, 10, 50 or 100 units. It is essential that whole number multiples of these quantities be ordered to ensure satisfactory quality of the products and problem-free order processing.

The products are delivered in a neutral carton. The label includes warning notices, the CE mark, the open arrow recycling symbol, and product description information in English and German. In addition to the Order No. (MLFB) and the number of items in the packaging, the Instr. Order No. is also specified for the operating instructions. It can be obtained from your local Siemens representative (you will find a list of your local Siemens representatives at www.siemens.com/automation/partner).

The device Order No. of most devices can also be acquired through the EAN barcode to simplify ordering and storage logistics.

The Order Nos. and EAN codes are assigned electronically in the master data of the products for low-voltage power distribution and electrical installation.

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Ordering notes

Overview

Ordering special versions

When ordering products that differ from the standard versions listed in the catalog, **"–Z"** must be added to the Order No. indicated and the required features must be specified using alphanumeric order codes or plain text.

Ordering very small quantities

When small orders are placed, the costs associated with order processing are greater than the order value. We therefore recommend that you combine several small orders. Where this is not possible, we regret that we are obliged to make a small processing charge: for orders with a net goods value of less than € 250 we charge an € 20 supplement to cover our order processing and invoicing costs.

Explanations on the Selection and Ordering Data

Delivery time class (DT)

DT	Meaning
►	Preferred type
A	Two workdays
B	One week
C	Three weeks
D	Six weeks
X	On request

Preferred types are device types that can be delivered immediately ex works, i.e. they are dispatched within 24 hours.

If ordered in normal quantities, the products are usually delivered within the specified delivery times, calculated from the date we receive your order.

In exceptional cases, delivery times may vary from those specified.

The delivery times are valid ex works from Siemens AG (products ready for dispatch).

Shipping times depend on the destination and the method of shipping. The standard shipping time for Germany is one day.

The specified delivery times are correct at the time of going to print and are subject to constant optimization. Up-to-date information can be found at www.siemens.com/industrymall.

Price units (PU)

The price unit defines the number of units, sets or meters to which the specified price and weight apply.

PS/P. unit (packaging size/packaging unit)

The packaging size / packaging unit defines the number, e.g. of units, sets or meters, for outer packaging:

- The **first digit** in the PS/P. unit column (packaging size/packaging unit) indicates the minimum order quantity. You can only order this specified quantity or a multiple thereof.
- The **second digit** in the PS/P. unit column (packaging size/packaging unit) specifies the number of units contained in larger packaging (e.g. in a carton). You must order this quantity or a multiple thereof if you want the item to be delivered in a larger packaging quantity.

Examples:

PS/P. unit	Meaning
1 unit	You can order one item or a multiple thereof.
5 units	For example, five units are packed in a bag. Because the bags cannot be opened, you can only order a multiple of the quantity contained in the bag: 5, 10, 15, 20 etc.
5/100 units	One carton contains (for example) 20 bags, each containing 5 units, i. e. a total of 100 units. If only cartons are available for delivery, you need to order a multiple of the carton quantity: 100, 200, 300, etc. Ordering a quantity of 220 units, would result in the following delivery: two cartons, each containing 100 units (= 200 units) and 4 bags, each containing 5 units (= 20 units).
1 set	A set comprises a defined number of different parts.

Price groups (PG)

Each product is allocated to a price group.

Weight

The defined weight is the net weight in kg and refers to the price unit (PU).

Examples

DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS/ P. unit	PG
►	**5SW3 300**		1	1/10 units	008

DT: Preferred type
PU: One unit (on which price is based)
PS/P. unit: 1 = minimum order quantity / 10 = quantity per carton
PG: 008

DT	Order No.	Price per PU	PU (UNIT, SET, M)	PS/ P. unit	PG
►	**5TG8 068**		1	1 set*	027

DT: Preferred type
PU: One set* (on which price is based)
PS/P. unit: The minimum order quantity is one set*
PG: 027
* The selection and ordering data specify the parts that make up a set.

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Low-voltage power distribution and electrical installations technology. The secrets of UL. You have our support.

Our products for low-voltage power distribution and electrical installation are designed not only for the IEC market. Numerous devices have both UL and IEC approval. This makes it easier for manufacturers of switchgear and controlgear assemblies to enter the North American market.

Exports to North America require special approvals which differ from the IEC directives. On the IEC market, directives define only the essential functions of a system. The technical details are not listed. By contrast, directives on the American market go into the details of how to carry out the installation work etc.

For OEMs and machine manufacturers it is important to know the main differences between the two technical worlds and to work together respectively with manufacturers and suppliers who have the right products and know-how.

Siemens is a strong partner in this case. Our know-how extends from the production of UL-approved devices to the wiring of control cabinets according to UL regulations.

These UL requirements are already taken into account when designing our devices for low-voltage power distribution and electrical installation. They are developed not only for the IEC market but also for the UL market.

We have been working with UL (Underwriters Laboratories Inc.®), the leading technical certification company in the USA, since 1969. We are also glad to share our knowledge with you in the form of training courses.

With our UL-certified products for low-voltage power distribution and electrical installation you are on the safe side and can build control cabinets according to UL standard easily and quickly.

This catalog contains UL-certified devices and systems from the SENTRON and ALPHA product families.





In addition to looking in this catalog you should also check out our Catalog LV 16 "Switching Devices and Components for Applications according to UL" for UL-specific products:

- SIRIUS 3RV17 and 3RV18 Circuit Breakers
- SENTRON protection, switching, measuring and monitoring devices
- ALPHA 8HP molded-plastic distribution systems
- ALPHA FIX Terminal Blocks

Take a look at our range of products and convince yourself. Or simply click on

www.siemens.com/lowvoltage/ul-europa

Here, you will find information on for example UL standards, UL classification and a number of technical particularities of UL.

Under "UL Overview/Standards and Approvals" we provide a summary of the available products and product groups. A table lists the UL standards to which the products conform and contains links to the corresponding UL reports.

Under "Portfolio" we round off with a list of our most relevant products for low-voltage power distribution and electrical installation as well as for low-voltage controls (including links to the respective Internet product pages).

Simply click on the navigation bar and go on a UL discovery tour!

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ATEX explosion protection

Overview

In many industries the production, processing, transport and storage of combustible substances are accompanied by escaping gases, vapor or spray which find their way into the environment. Other processes result in combustible dust. Together with the oxygen in the air, the result can be an explosive atmosphere which will explode if ignited.

Serious injury to persons and damage to property can result particularly in the chemical and petrochemical industry, mineral oil and natural gas production, mining, mills (e. g. grain, solid materials) and many other sectors.

To guarantee the maximum possible safety in these areas, the legislators of most countries have drawn up requirements in the form of laws, regulations and standards. In the course of globalization, great progress has been made with regard to uniform directives for explosion protection.

With Directive 94/9/EC, the European Union laid the foundations for complete harmonization by requiring that all new devices as from 1st July 2003 have to be approved in accordance with this directive.

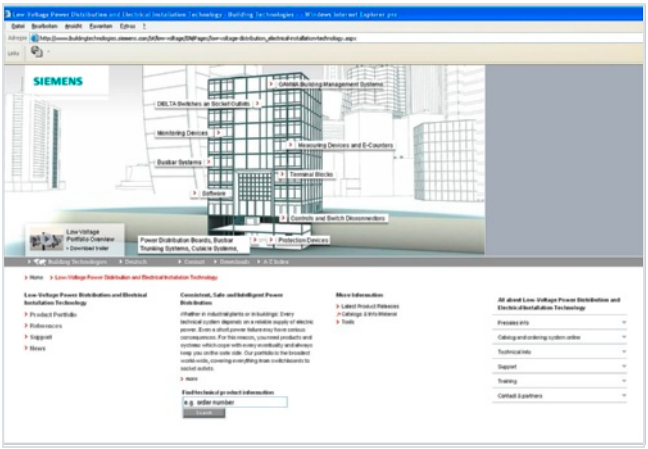
In this catalog, special attention is drawn to devices which comply with the ATEX Directive. However, it does not replace intensive study of the relevant fundamentals and directives when planning and installing electrical systems.





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Overview



We regard product support as just as important as the products and systems themselves.

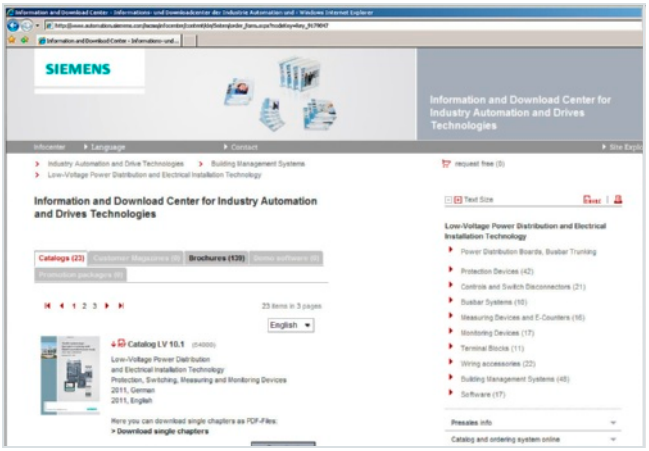
Visit our site on the Internet for a comprehensive offering of support for low-voltage power distribution and electrical installation products, such as

- Operating instructions and manuals for direct download
- Online registration for seminars and events
- Up-to-date answers to your queries and problems
- Software upgrades and updates for fast download
- Telephone assistance in more than 190 countries
- Photos and graphics for external use

and much more - all conveniently and easily accessible.

Address:

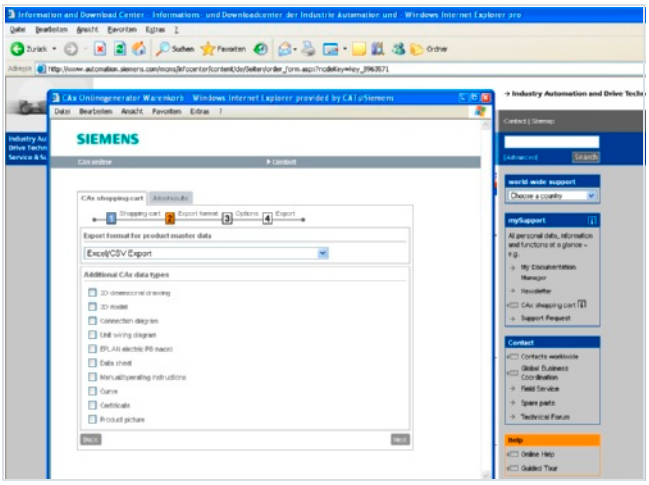
www.siemens.com/lowvoltage



You will find regularly updated information material such as catalogues, customer magazines, brochures and trial versions of software for low-voltage power distribution and electrical installation on the Internet at:

www.siemens.com/lowvoltage/infomaterial

Here, you can order your copy of the available documentation or download it in common file formats (PDF, ZIP).



For your configuration systems we can provide technical and graphic data in electronic form for the range of low-voltage power distribution and electrical installation products:

CAx online generator

For the further processing of low-voltage power distribution and electrical installation products in CAE/CAD systems the online generator provides:

- Technical product master data in CSV and Excel format
- Graphic product data
  - 2D dimensional drawings in DXF format (other formats optional)
  - 3D models in STEP format
  - Internal circuit diagrams
  - EPLAN electric P 8 macros
- Documentation in the form of PDF files
  - Product data sheets
  - Manuals
  - Operating instructions
  - Characteristic curves
  - Certificates
- Product photos
- Texts for tenders in GAEB and Text format.

www.siemens.com/cax

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Quality management

Overview

The quality management system of our IC LMV LV Business Unit complies with the international standard EN ISO 9001.

The products and systems listed in this catalog are marketed using a VDE-approved quality management system according to ISO 9001.

VDE certificate

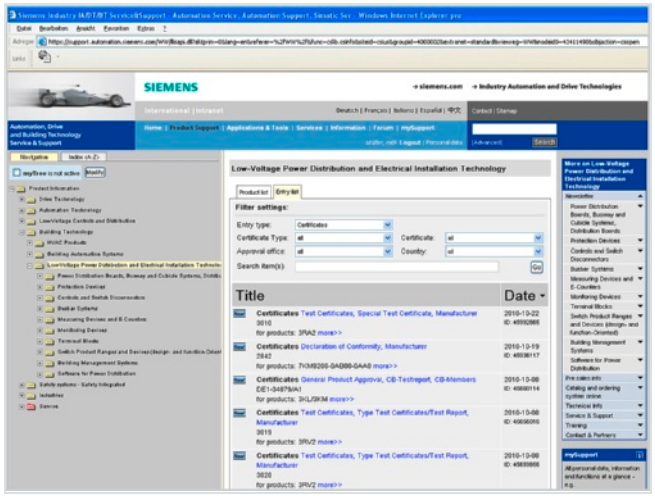
Siemens AG
Infrastructure & Cities Sector
Low and Medium Voltage Division
Low Voltage
Reg. No.: 40017/QM/03.06

Certificates

Information on the certificates available (CE, UL, CSA, FM, shipping authorizations) for low-voltage power distribution and electrical installation products can be found on the Internet at:

www.siemens.com/lowvoltage/support

In the Entry List you can use the certificate type (general product approval, explosion protection, test certificates, shipbuilding,...) as a filter criterion.



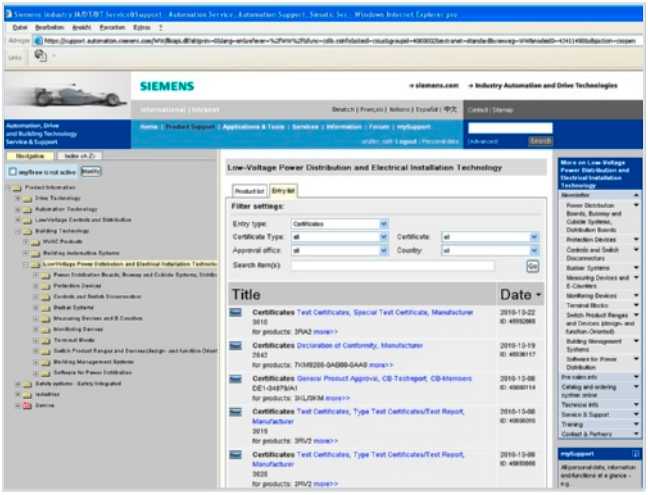
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Overview

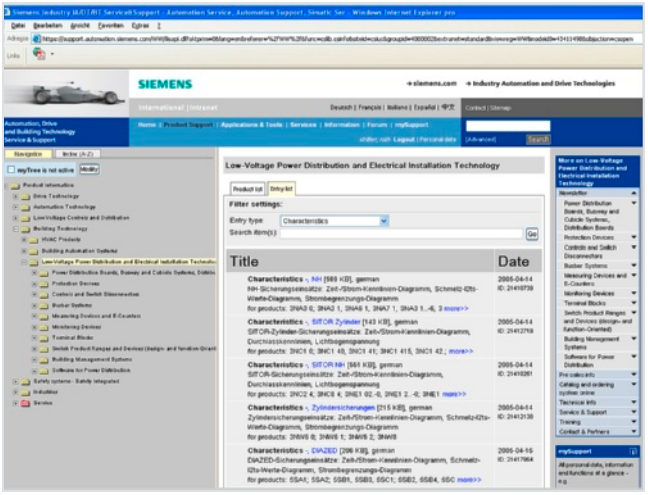
Approvals, test certificates, characteristic curves

An overview of the certificates available for low-voltage power distribution and electrical installation products along with more technical documentation can be consulted daily on the Internet at:

www.siemens.com/lowvoltage/support



Product support: Approvals / Certificates



Product support: Characteristic curves

Product standards (excerpt)

IEC	EN	DIN VDE	Title
60044-1	60044-1	--	Instrument Transformers - Part 1: Current Transformers
60050-441	--	--	International Electrotechnical Vocabulary. Switchgear, controlgear and fuses
60076-11	60076-11	--	Power transformers - Part 11: Dry-type transformers
60079-14	60079-14	--	Explosive atmospheres - Part 14: Electrical installations design, selection and erection
60079-2	60079-2	--	Explosive atmospheres - Part 2: Equipment protection by pressurized enclosures "p"
60204-1	60204-1	--	Safety of machinery - Electrical equipment of machines - Part 1: General requirements
		--	Low-voltage fuses
60269-1	60269-1		• Part 1: General requirements
60269-4	60269-4	--	• Part 4: Supplementary requirements for fuse-links for the protection of semiconductor devices
		--	Low-voltage switchgear and controlgear assemblies
60439-1	60439-1		• Part 1: Type-tested and partially type-tested assemblies
60439-3	60439-3	--	• Part 3: Particular requirements for low-voltage switchgear and controlgear assemblies intended to be installed in places where unskilled persons have access for their use - Distribution boards
60664-1	60664-1	--	Insulation coordination for equipment within low-voltage systems - Part 1: Principles, requirements and tests
		--	Low-voltage switchgear and controlgear
60947-1	60947-1		• Part 1: General rules
60947-2	60947-2	--	• Part 2: Circuit-breakers
60947-3	60947-3	--	• Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units
60947-4-1	60947-4-1	--	• Part 4-1: Contactors and motor-starters - Electromechanical contactors and motor-starters
60947-4-2	60947-4-2	--	• Part 4-2: Contactors and motor-starters - AC semiconductor motor controllers and starters
60947-4-3	60947-4-3	--	• Part 4-3: Contactors and motor-starters - AC semiconductor controllers and contactors for non-motor loads
60947-5-1	60947-5-1	--	• Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices
60947-5-2	60947-5-2	--	• Part 5-2: Control circuit devices and switching elements - Proximity switches
60947-5-3	60947-5-3	--	• Part 5-3: Control circuit devices and switching elements - Requirements for proximity devices with defined behaviour under fault conditions
60947-5-5	60947-5-5	--	• Part 5-5: Control circuit devices and switching elements - Electrical emergency stop device with mechanical latching function
60947-5-6	60947-5-6	--	• Part 5-6: Control circuit devices and switching elements - DC interface for proximity sensors and switching amplifiers (NAMUR)
60947-5-7	60947-5-7	--	• Part 5-7: Control circuit devices and switching elements - Requirements for proximity devices with analogue output
60947-5-8	60947-5-8	--	• Part 5-8: Control circuit devices and switching elements - Three-position enabling switches
60947-5-9	60947-5-9	--	• Part 5-9: Control circuit devices and switching elements - Flow rate switches
60947-6-1	60947-6-1	--	• Part 6-1: Multiple function equipment - Transfer switching equipment
60947-6-2	60947-6-2	--	• Part 6-2: Multiple function equipment - Control and protective switching devices (or equipment) (CPS)
60947-7-1	60947-7-1	--	• Part 7-1: Ancillary equipment - Terminal blocks for copper conductors
60947-7-2	60947-7-2	--	• Part 7-2: Ancillary equipment - Protective conductor terminal blocks for copper conductors
60947-7-3	60947-7-3	--	• Part 7-3: Ancillary equipment - Safety requirements for fuse terminal blocks
60947-8	60947-8	--	• Part 8: Control units for built-in thermal protection (PTC) for rotating electrical machines
60999-1	60999-1	--	Connecting devices - Electrical copper conductors - Safety requirements for screw-type and screwless-type clamping units - Part 1: General requirements and particular requirements for clamping units for conductors from 0.2 mm^2 up to 35 mm^2 (included)

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Standards and approvals

IEC	EN	DIN VDE	Title
		--	Electromagnetic compatibility (EMC)
61000-4-1	61000-4-1		• Part 4-1: Testing and measurement techniques - Overview of IEC 61000-4 series
61000-6-3	61000-6-3	--	• Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments
61000-6-4	61000-6-4	--	• Part 6-4: Generic standards - Emission standard for industrial environments
61140	61140	--	Protection against electric shock - Common aspects for installation and equipment
			Low-voltage switchgear and controlgear assemblies
61439-1	61439-1	0660-600-1	• Part 1: General rules
61439-2	61439-2	0660-600-2	• Part 2: Power switchgear and controlgear assemblies
			Safety of power transformers, power supplies, reactors and similar products
61558-1	61558-1	0570-1[1)]	• Part 1: General requirements and tests
61558-2-1	61558-2-1	0570-2-1[1)]	• Part 2-1: Particular requirements and tests for separating transformers and power supplies incorporating separating transformers for general applications
61558-2-2	61558-2-2	0570-2-2[1)]	• Part 2-2: Particular requirements and tests for control transformers and power supplies incorporating control transformers
61558-2-4	61558-2-4	0570-2-4[1)]	• Part 2-4: Particular requirements and tests for isolating transformers and power supply units incorporating isolating transformers
61558-2-6	61558-2-6	0570-2-6[1)]	• Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers
61558-2-9	61558-2-9	0570-2-9[1)]	• Part 2-9: Particular requirements and tests for transformers and power supply units for class III handlamps for tungsten filament lamps
61558-2-12	61558-2-12	0570-2-12[1)]	• Part 2-12: Particular requirements and tests for constant voltage transformers and power supply units for constant voltage
61558-2-13	61558-2-13	0570-2-13[1)]	• Part 2-13: Particular requirements and tests for auto transformers and power supply units incorporating auto transformers
61558-2-15	61558-2-15	0570-2-15[1)]	• Part 2-15: Particular requirements and tests for isolating transformers for the supply of medical locations
61558-2-20	61558-2-20	0570-2-20[1)]	• Part 2-20: Particular requirements and tests for small reactors
61641	--	--	Enclosed low-voltage switchgear and controlgear assemblies - Guide for testing under conditions of arcing due to internal fault
61810-1	61810-1	--	Electromechanical elementary relays - Part 1: General requirements
61812-1	61812-1	--	Time relays for industrial and residential use - Part 1: Requirements and tests
62026-2	50295	--	Low-voltage switchgear and controlgear - Controller-device interfaces (CDIs) - Part 2: Actuator sensor interface (AS-i)
62041	62041	0570-10[1)]	Safety of transformers, reactors, power supply units and combinations thereof - EMC requirements
--	50178	--	Equipment of electrical power installations with electronic equipment
--	50274	--	Low-voltage switchgear assemblies - Protection from electric shock - Protection from accidental touching of dangerous active parts
--	--	0552	Standards for variable-ratio transformers with moving contacts perpendicular to the coiling direction

[1)] VDE classification.

UL	CSA C22.2	ASME	JIS	Title
506	--	--	--	Specialty transformers
508	--	--	--	Industrial control equipment
489	--	--	--	Molded case circuit breakers, molded case switches and circuit breaker enclosures
1012	--	--	--	Power units other than CLASS 2
1561	--	--	--	Dry-type general purpose and power transformers
5085	--	--	--	Low-voltage transformers
60601-1	--	--	--	Medical electrical equipment, Part 1: General requirements for safety (IEC 60601, EN 60601, VDE 0750-1)
1604	--	--	--	Electrical equipment for use in CLASS I and II, Division 2 and CLASS III hazardous (Classified) locations
1059	--	--	--	Terminal blocks
486A-486B	--	--	--	Wire connectors
486E	--	--	--	Equipment wiring terminals for use with aluminum and/or copper conductors
50	--	--	--	Enclosures for electrical equipment. Non-environmental considerations
--	No. 66	--	--	Specialty transformers
--	No. 14	--	--	Industrial control equipment
--	No. 5	--	--	Molded case circuit breakers, molded case switches and circuit breaker enclosures
--	No. 107-1	--	--	General use power supplies
--	--	A17.5 / B 44.1	--	Elevator and escalator electrical equipment
--	--	--	C 8201-4-1	Low-voltage switchgear and controlgear; Contactors and motor-starters

Approval requirements valid in different countries

Siemens low-voltage switchgear and controlgear are designed, manufactured and tested according to the relevant German standards (DIN and VDE), IEC publications and European standards (EN) as well as CSA and UL standards. The standards assigned to the single devices are stated in the relevant parts of this catalog.

As far as is economically viable, in addition to the pertinent VDE, EN and IEC standards, the requirements of the various regulations valid in other countries are also taken into account in the design of the equipment.

In some countries (see table below), an approval is required for certain low-voltage switchgear and controlgear components. Depending on the market requirements, these devices have been submitted for approval to the authorized testing institutes.

In some cases, CSA for Canada and UL for the USA only approve special switchgear versions. Such special versions are listed separately from the standard versions in the individual parts of this catalog.

For this equipment, partial limitations of the maximum permissible voltages, currents and rated outputs can be imposed, or special approval and, in some cases, special identification is required.

For use on board ship, the specifications of the marine classification societies must be observed (see table below). In some cases, they require type tests of the components to be approved.

The present state of approval is shown in the "Type overview of approved devices" tables on 20/13 to 20/31.

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Testing bodies, approval identification and approval requirements

	Canada[1)]	USA[1)]	China
Government-appointed or private, officially recognized testing bodies	CSA UL (USA)	UL	CQC
Approval symbol	c UL c FL c FL US c UL US	UL FL c FL US c UL US	CCC
Approval requirements	+	+	+
Remarks	UL and CSA are authorized to grant approvals according to Canadian or US regulations. Please note: these approvals are frequently not recognized and additional approval often has to be obtained from the national testing authority.		CCC

For more information about UL and CSA see 20/11.

1) For guide numbers and file numbers for the approvals, visit our website at www.siemens.com/lowvoltage/support

Marine classification societies

	Germany	United Kingdom	France	Norway	CIS	Italy	Poland	USA
Name	Germanischer Lloyd	Lloyds Register of Shipping	Bureau Veritas	Det Norske Veritas	Russian Maritime Register of Shipping	Registro Italiano Navale	Polski Rejestre Statków	American Bureau of Shipping
Codes	GL	LRS	BV	DNV	RMRS	RINA	PRS	ABS

CE marking

Manufacturers of products which fall within the scope of EC directives must identify their products, operating instructions or packaging with a CE mark.

The CE mark confirms that a product fulfills the appropriate basic requirements of all pertinent directives. The mark is a mandatory requirement for putting products into circulation throughout the EC.

All the products in this catalog are in conformance with the EC directives and bear the CE mark.

- Low-voltage directive
- EMC directive
- Machinery directive
- Ex protection directive

The CE mark of conformity: CE.

Accident prevention

Test certificates and approvals from the BIA (German statutory industrial accident insurance institution in Bonn) and from SUVA (Swiss institute for accident prevention) are available for some devices in safety control systems. For details, see the respective product descriptions.

Special standards, for example the USA and Canada

In the USA and Canada, for machine tools and processing machines in particular, supply lines are laid using rubber insulated cable enclosed in heavy-duty steel piping similar to that used for gas or water pipe systems.

The tubing system must be completely watertight and electrically conductive (especially sleeving and elbows). Since the tubing system can also be grounded, the cable entries of enclosed units equipped with heavy-gauge or metric threads must be fitted with metal adapters between these threads and the tube thread. The necessary adapters are specified for the switchgear as accessories; they should be ordered separately unless otherwise specified.

Low-voltage switchgear and controlgear for auxiliary circuits (e.g. contactor relays, commanding and signaling devices and auxiliary switches/auxiliary contacts in general) are generally only approved by CSA and UL for **"Heavy Duty"** or **"Standard Duty"** and are identified either with these specifications in addition to the maximum permissible voltage or by using an abbreviation.

The abbreviations are harmonized with IEC 60947-5-1 Appendix 1 Table A.1 and correspond to the stated utilization categories.

For various switching devices detailed in the catalog, a note has been included to the effect that, above a certain voltage, the auxiliary switches/auxiliary contacts can only be used if they have the same polarity. This means that the input terminals can only be connected to the same pole of the control voltage, e.g. "600 V AC above 300 V AC same polarity".

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Standards and approvals

Different features of UL approvals (for USA and Canada)

Recognized Component	Listed Product
Devices are identified on the rating plate using the "UL recognition mark": USA: , c US Canada: c , c US	Devices are identified using the "UL listing mark" on the rating plate e.g. USA: LISTED 165 C IND. CONT. EQ. Canada: c LISTED 165 C IND. CONT. EQ. (165 C stands for: Siemens, I IA CD Division, Amberg plant)
Devices are approved as modules for "factory wiring", i.e.: as devices for installation in control systems, which are selected, installed, wired and tested entirely by trained personnel in factories, workshops or elsewhere, **according to the operating conditions**.	Devices are approved for "field wiring", i.e.: • As devices for installation in control systems, which are completely wired by trained personnel in factories, workshops or elsewhere. • As single devices for sale in retail outlets in the USA/Canada.
If devices are or c approved as "listed products", they are also approved as or c "recognized components".	

For more information about UL and CSA see 20/10.

Special standards, for example Russia, Australia and China

GOST approval for Russia

A GOST approval is required for all products that are to be sold in Russia. The GOST mark has been obligatory on the packaging of all devices since mid-1998.

All devices delivered to any part of the Russian Federation must have this customs certification.

C-Tick approval for Australia

The C-Tick approval is required for marketing Siemens devices in Australia. Electronic devices must provide proof of EMC clearance in Australia, similar to the CE mark of conformity laid down by the EMC directive applicable in the EC and bear the "C-Tick" mark. These requirements have been in force since October 1st, 1999.

CCC approval

Since August 1, 2003, CCC approval is required for many products that are marketed in China.

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Type overview of approved devices

Chapter 1 · Air Circuit Breakers

	Approvals								
	Canada [1) 2)]		USA [1)]		[1)]	China	Australia	Russia	
		c US		c US		CCC	C-Tick	GOST	TR
3WL air circuit breakers up to 6300 A (ACB)									
3WL1	+[3)]	--	--	--	--	+	+	+	+
UL/CSA version									
3WL5	--	--	+	+	--	+	+	+	+

+ Standard version approved.
-- Not yet submitted for approval.

Further certifications and approvals available on request.

[1)] For guide numbers and file numbers for the approvals, visit our website at www.siemens.com/lowvoltage/support.
[2)] c and c approvals are available in accordance with US approval.
[3)] CSA attestation according to IEC 60947-2.

	Marine classifications							
	Germany	Great Britain	France	Norway	CIS	Italy	Poland	USA
	GL	LRS	BV	DNV	RMRS	RINA	PRS	ABS
3WL air circuit breakers up to 6300 A (ACB)								
3WL1	+	+	+	+	--	--	+	+
UL/CSA version								
3WL5	--	--	--	--	--	--	--	--

+ Standard version approved.
-- Not yet submitted for approval.

Further certifications and approvals available on request.

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Standards and approvals

Chapter 2 · Molded Case Circuit Breakers

	Approvals								
	Canada [1) 2)]		USA [1)]		[1)]	China	Australia	Russia	
		c UL us		c UL us		CCC	C-Tick	GOST	TR
3VL molded case circuit breakers up to 1600 A (MCCB)									
IEC version									
3VL....-.DA	--	--	--	--	--	+	--	+	+
3VL....-.DC	--	--	--	--	--	+	--	+	+
3VL....-.DD	--	--	--	--	--	+	--	+	+
3VL....-.DE	--	--	--	--	--	+	--	+	+
3VL....-.DK	--	--	--	--	--	+	--	+	+
3VL....-.EA	--	--	--	--	--	+	--	+	+
3VL....-.EC	--	--	--	--	--	+	--	+	+
3VL....-.EE	--	--	--	--	--	+	--	+	+
3VL....-.EH	--	--	--	--	--	+	--	+	+
3VL....-.EJ	--	--	--	--	--	+	--	+	+
3VL....-.EM	--	--	--	--	--	+	--	+	+
3VL....-.LA	--	--	--	--	--	+	--	+	+
3VL....-.LB	--	--	--	--	--	+	--	+	+
3VL....-.LE	--	--	--	--	--	+	--	+	+
3VL....-.LF	--	--	--	--	--	+	--	+	+
3VL....-.MCB	--	--	--	--	--	+	--	+	+
3VL....-.MB	--	--	--	--	--	+	--	+	+
3VL....-.ME	--	--	--	--	--	+	--	+	+
3VL....-.MF	--	--	--	--	--	+	--	+	+
3VL....-.MG	--	--	--	--	--	+	--	+	+
3VL....-.MH	--	--	--	--	--	+	--	+	+
3VL....-.ML	--	--	--	--	--	+	--	+	+
3VL....-.MP	--	--	--	--	--	+	--	+	+
3VL....-.MS	--	--	--	--	--	+	--	+	+
3VL....-.NA	--	--	--	--	--	+	--	+	+
3VL....-.NB	--	--	--	--	--	+	--	+	+
3VL....-.NE	--	--	--	--	--	+	--	+	+
3VL....-.NF	--	--	--	--	--	+	--	+	+
3VL....-.NH	--	--	--	--	--	+	--	+	+
3VL....-.NN	--	--	--	--	--	+	--	+	+
3VL....-.SB	--	--	--	--	--	+	--	+	+
3VL....-.SE	--	--	--	--	--	+	--	+	+
3VL....-.SF	--	--	--	--	--	+	--	+	+
3VL....-.SG	--	--	--	--	--	+	--	+	+
3VL....-.SH	--	--	--	--	--	+	--	+	+
3VL....-.SL	--	--	--	--	--	+	--	+	+
3VL....-.SP	--	--	--	--	--	+	--	+	+
3VL....-.SS	--	--	--	--	--	+	--	+	+
3VL....-.TA	--	--	--	--	--	+	--	+	+
3VL....-.TB	--	--	--	--	--	+	--	+	+
3VL....-.TE	--	--	--	--	--	+	--	+	+
3VL....-.TF	--	--	--	--	--	+	--	+	+
3VL....-.TH	--	--	--	--	--	+	--	+	+
3VL....-.TN	--	--	--	--	--	+	--	+	+
3VL....-.UH	--	--	--	--	--	+	--	+	+
3VL....-.UJ	--	--	--	--	--	+	--	+	+
3VL....-.UL	--	--	--	--	--	+	--	+	+
3VL....-.UM	--	--	--	--	--	+	--	+	+
3VL....-.UN	--	--	--	--	--	+	--	+	+
3VL....-.UP	--	--	--	--	--	+	--	+	+

+ Standard version approved.

-- Not yet submitted for approval.

Further certifications and approvals available on request.

1) For guide numbers and file numbers for the approvals, visit our website at www.siemens.com/lowvoltage/support.

2) c UL and c FM approvals are available in accordance with US approval.

3) Not all versions are approved. Request required.

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	Marine classifications							
	Germany	Great Britain	France	Norway	CIS	Italy	Poland	USA
	GL	LRS	BV	DNV	RMRS	RINA	PRS	ABS
3VL molded case circuit breakers up to 1600 A (MCCB)								
IEC version								
3VL....-.DA	+	+	+	+	--	--	--	+
3VL....-.DC	+	+	+	+	--	--	--	+
3VL....-.DD	+	+	+	+	--	--	--	+
3VL....-.DE	+	+	+	+	--	--	--	+
3VL....-.DK	+	+	+	+	--	--	--	+
3VL....-.EA	+	+	+	+	--	--	--	+
3VL....-.EC	+	+	+	+	--	--	--	+
3VL....-.EE	+	+	+	+	--	--	--	+
3VL....-.EH	+	+	+	+	--	--	--	+
3VL....-.EJ	+	+	+	+	--	--	--	+
3VL....-.EM	--	--	+	--	--	--	--	+
3VL....-.LA	+	+	+	+	--	--	--	+
3VL....-.LB	+	+	+	+	--	--	--	+
3VL....-.LE	+	+	+	+	--	--	--	+
3VL....-.LF	+	+	+	+	--	--	--	+
3VL....-.MCB	+	+	+	+	--	--	--	+
3VL....-.MB	--	--	+	--	--	--	--	+
3VL....-.ME	--	--	+	--	--	--	--	+
3VL....-.MF	--	--	+	--	--	--	--	+
3VL....-.MG	--	--	+	--	--	--	--	+
3VL....-.MH	--	--	+	--	--	--	--	+
3VL....-.ML	--	--	+	--	--	--	--	+
3VL....-.MP	--	--	+	--	--	--	--	+
3VL....-.MS	--	--	+	--	--	--	--	+
3VL....-.NA	--	--	+	--	--	--	--	+
3VL....-.NB	--	--	+	--	--	--	--	+
3VL....-.NE	--	--	+	--	--	--	--	+
3VL....-.NF	--	--	+	--	--	--	--	+
3VL....-.NH	--	--	+	--	--	--	--	+
3VL....-.NN	--	--	+	--	--	--	--	+
3VL....-.SB	--	--	+	--	--	--	--	+
3VL....-.SE	--	--	+	--	--	--	--	+
3VL....-.SF	--	--	+	--	--	--	--	+
3VL....-.SG	--	--	+	--	--	--	--	+
3VL....-.SH	--	--	+	--	--	--	--	+
3VL....-.SL	--	--	+	--	--	--	--	+
3VL....-.SP	--	--	+	--	--	--	--	+
3VL....-.SS	--	--	+	--	--	--	--	+
3VL....-.TA	--	--	+	--	--	--	--	+
3VL....-.TB	--	--	+	--	--	--	--	+
3VL....-.TE	--	--	+	--	--	--	--	+
3VL....-.TF	--	--	+	--	--	--	--	+
3VL....-.TH	--	--	+	--	--	--	--	+
3VL....-.TN	--	--	+	--	--	--	--	+
3VL....-.UH	--	--	+	--	--	--	--	--
3VL....-.UJ	--	--	+	--	--	--	--	--
3VL....-.UL	--	--	+	--	--	--	--	--
3VL....-.UM	--	--	+	--	--	--	--	--
3VL....-.UN	--	--	+	--	--	--	--	--
3VL....-.UP	--	--	+	--	--	--	--	--

+ Standard version approved.

-- Not yet submitted for approval.

Further certifications and approvals available on request.

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Standards and approvals

Chapter 3 · Miniature Circuit Breakers

	Approvals										
	Germany, Europe	Belgium	France	Italy	Russia		USA				China
	VDE	CEBEC	LCIE (NF)	IMQ	GOST	TR		c US		c US	CCC
Miniature circuit breakers											
5SL	+[1)2)]	+	--	+	+	+	--	--	--	--	--
5SY4	+[1)2)]	--	--	+	+	+	+	+	+	--	+
5SY7	+	--	--	+	+	+	+	+	+	--	+
5SY8	--	--	--	--	+	+	+	+	+	--	--
5SY5, universal current	+	--	--	--	+	+	--	+	+	--	+
5SP4	+	--	--	--	+	+	+	--	--	--	+
5SP5	+	--	--	--	+	+	--	--	--	--	--
Miniature circuit breakers with plug-in terminal											
5SJ6 . . .-.KS	+	--	--	--	+	--	--	--	--	--	--
Miniature circuit breakers 1+N											
5SY6 0. .	+	--	+	+	+	+	--	+	+	--	+
Miniature circuit breakers according to UL 489 and IEC											
5SJ4 . . .-.HG40	+	--	--	--	+	--	--	--	+	+	+
5SJ4 . . .-.HG41	+	--	--	--	+	--	--	--	+	+	+
5SJ4 . . .-.HG42	+	--	--	--	+	--	--	--	+	+	+
Additional components											
5ST3 01.	+	--	--	--	+	+	+	--	--	--	+
5ST3 02.	+	--	--	--	+	+	+	--	--	--	+
5ST3 0. .-0HG	--	--	--	--	--	+	--	--	+	--	--
Main miniature circuit breakers											
5SP3	+	--	--	--	+	+	--	--	--	--	--
Circuit breaker terminals											
5SK9	--	--	--	--	+	+	--	--	--	--	--

\+ Standard version approved.

-- Not yet submitted for approval.

[1)] Characteristic A, VDE-tested.

[2)] All types with rated current $I_n \leq 63$ A.

Further certifications and approvals available on request.

	Marine classifications														
	Germany			France			Great Britain			Italy			Norway		
	GL			BV			LRS			RINA			DNV		
Miniature circuit breakers															
Characteristic	B	C	D	B	C	D	B	C	D	B	C	D	B	C	D
5SY4	+	+	--	+[1)]	+[1)]	+[1)]	+[1)]	+[1)]	--	+[1)]	+[1)]	+[1)]	+[1)]	+[1)]	+[1)]
5SY7	+	+	--	+	+	+	+	+	--	+	+	+	+	+	+
5SP4	+	+	+	--	--	--	+	+	+	--	--	--	--	--	--

\+ Standard version approved.

-- Not yet submitted for approval.

Further certifications and approvals available on request.

[1)] All types with rated current $I_n \leq 63$ A.

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Chapter 4 · Residual Current Protective Devices

	Approvals								
	Germany, Europe	Belgium	France	Italy	Austria	Spain	Russia		China
	VDE	CEBEC	LCIE (NF)	IMQ	ÖVE	AENOR	GOST	TR	CCC
RCCBs, type A, 2-pole									
5SM3 ...-6									
5SM3 111-6	+	+	--	+	+	+	+	+	+
5SM3 311-6	+	+	--	+	+	+	+	+	+
5SM3 312-6	+	+	--	+	+	+	+	+	+
5SM3 314-6	+	+	--	+	+	+	+	+	+
5SM3 316-6	+	+	--	+	+	+	+	+	+
5SM3 317-6	+	+	--	+	+	+	+	+	+
5SM3 412-6	+	+	--	+	+	+	+	+	+
5SM3 414-6	+	+	--	+	+	+	+	+	+
5SM3 416-6	+	+	--	+	+	+	+	+	+
5SM3 417-6	+	+	--	+	+	+	+	+	+
5SM3 612-6	+	+	--	+	+	+	+	+	+
5SM3 614-6	+	+	--	+	+	+	+	+	+
5SM3 616-6	+	+	--	+	+	+	+	+	+
5SM3 617-6	+	+	--	+	+	+	+	+	+
5SM3 416-8	+	--	--	--	+	+	+	+	--
5SM3 417-8	+	--	--	--	--	--	+	+	--
5SM3 614-8	+	+	--	--	+	--	+	+	--
5SM3 616-8	+	--	--	--	+	+	+	+	--
5SM3 617-8	+	--	--	--	--	+	+	+	--
5SM3 ...-6KK									
5SM3 315-6KK	+	--	--	--	--	+	+	+	--
5SM3 318-6KK	+	--	--	--	--	+	+	+	--
5SM3 415-6KK	+	--	--	--	--	+	+	+	--
5SM3 418-6KK	+	--	--	--	--	+	+	+	--
5SM3 615-6KK	+	--	--	--	--	--	+	+	--
5SM3 618-6KK	+	--	--	--	--	--	+	+	--
5SM3 ...-6KK01									
5SM3 312-6KK01	+	--	--	+	--	+	+	+	+
5SM3 314-6KK01	+	--	--	+	--	+	+	+	+
5SM3 316-6KK01	+	--	--	--	--	+	+	+	--
5SM3 317-6KK01	+	--	--	--	--	--	+	+	--
5SM3 616-6KK01	+	--	--	--	--	+	+	+	--
5SM3 617-6KK01	+	--	--	--	--	--	+	+	--
5SM3 ...-6KK12									
5SM3 312-6KK12	+	+	--	+	--	--	+	+	+
5SM3 314-6KK12	+	+	--	+	--	--	+	+	--
5SM3 316-6KK12	+	--	--	+	--	--	+	+	+
5SM3 317-6KK12	+	--	--	+	--	--	+	+	+
5SM3 ...-6KL									
5SM3 111-6KL	+	--	+	--	--	--	+	+	--
5SM3 311-6KL	+	--	+	--	--	--	+	+	--
5SM3 312-6KL	+	--	+	--	--	--	+	+	--
5SM3 314-6KL	+	--	+	--	--	--	+	+	--
5SM3 316-6KL	+	--	+	--	--	--	+	+	--
5SM3 317-6KL	+	--	--	--	--	--	+	+	--
5SM3 412-6KL	+	--	--	--	--	--	+	+	--
5SM3 414-6KL	+	--	+	--	--	--	+	+	--
5SM3 416-6KL	+	--	+	--	--	--	+	+	--
5SM3 417-6KL	+	--	--	--	--	--	+	+	--
5SM3 612-6KL	+	--	+	--	--	--	+	+	--
5SM3 614-6KL	+	--	+	--	--	--	+	+	--
5SM3 616-6KL	+	--	+	--	--	--	+	+	--
5SM3 617-6KL	+	--	--	--	--	--	+	+	--
5SM3 61.-8KL									
5SM3 614-8KL	+	--	--	--	+	--	+	+	--
5SM3 616-8KL	+	--	--	--	+	--	+	+	--

+ Standard version approved.

-- Not yet submitted for approval.

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Standards and approvals

	Approvals								
	Germany, Europe	Belgium	France	Italy	Austria	Spain	Russia		China
	VDE	CEBEC	LCIE (NF)	IMQ	ÖVE	AENOR	GOST	TR	CCC
RCCBs, type A, 4-pole									
5SM3 ...-6									
5SM3 342-6	+	+	--	+	+	+	+	+	+
5SM3 344-6	+	+	--	+	+	+	+	+	+
5SM3 345-6	--	--	--	--	--	--	+	+	--
5SM3 346-6	+	+	--	+	+	+	+	+	+
5SM3 347-6	+		--	--	+	--	+	+	--
5SM3 348-6	--		--	--	--	--	+	+	--
5SM3 444-6	+	+	--	+	+	+	+	+	+
5SM3 445-6	--		--	--	--	--	+	+	--
5SM3 446-6	+	+	--	+	+	+	+	+	+
5SM3 448-6	--	--	--	--	--	--	+	+	--
5SM3 642-6	+	+	--	+	+	+	+	+	+
5SM3 644-6	+	+	--	+	+	+	+	+	+
5SM3 645-6	--	--	--	--	--	--	+	+	--
5SM3 646-6	+	+	--	+	+	+	+	+	+
5SM3 647-6	+	--	--	--	+	+	+	+	--
5SM3 648-6	--	--	--	--	--	--	+	+	--
5SM3 742-6	+	+	--	+	+	+	+	+	+
5SM3 744-6	+	+	--	+	+	+	+	+	+
5SM3 745-6	--		--	--	--	+	+	+	--
5SM3 746-6	+	+	--	+	+	+	+	+	+
5SM3 748-6	--	--	--	--	--	--	+	+	
5SM3 ...-8									
5SM3 444-8	+	--	--	--	+	+	+	+	--
5SM3 446-8	+	--	--	--	+	+	+	+	--
5SM3 644-8	+	--	--	--	+	+	+	+	--
5SM3 645-8	--	--	--	--	--	+	+	+	--
5SM3 646-8	+	--	--	--	+	+	+	+	--
5SM3 647-8	+	--	--	--	--	--	+	+	--
5SM3 648-8	--	--	--	--	--	--	+	+	--
5SM3 745-8	--	--	--	--	--	+	+	+	--
5SM3 748-8	--	--	--	--	--	--	+	+	--
5SM3 846-8	+	--	--	--	--	--	+	+	--
5SM3 ...-6KK									
5SM3 342-6KK01	+	--	--	--	--	+	+	+	--
5SM3 344-6KK01	+	--	--	--	--	+	+	+	--
5SM3 346-6KK01	+	--	--	--	--	--	+	+	--
5SM3 446-6KK01	+	--	--	--	--	--	+	+	--
5SM3 644-6KK01	+	--	--	--	--	--	+	+	--
5SM3 646-6KK01	+	--	--	--	--	--	+	+	--
5SM3 647-6KK01	+	--	--	--	--	+	+	+	--
5SM3 342-6KK03	--	--	--	--	--	--	+	+	--
5SM3 344-6KK03	--	--	--	--	--	--	+	+	--
5SM3 342-6KK12	+	+	--	+	--	--	+	+	+
5SM3 344-6KK12	+	+	--	+	--	--	+	+	+
5SM3 346-6KK12	+	+	--	+	--	--	+	+	+
5SM3 347-6KK12	+	--	--	--	--	--	+	+	--
5SM3 644-6KK12	+	+	--	+	--	--	+	+	+
5SM3 646-6KK12	+	+	--	+	--	--	+	+	+
5SM3 ...-8KK									
5SM3 646-8KK12	+	--	--	--	--	--	+	+	--
5SM3 ...-6KL									
5SM3 342-6KL	+	--	+	--	+	--	+	+	--
5SM3 344-6KL	+	--	+	--	+	--	+	+	--
5SM3 346-6KL	+	--	+	--	+	--	+	+	--
5SM3 347-6KL	+	--	+	--	+	--	+	+	--
5SM3 642-6KL	+	--	+	--	+	--	+	+	--
5SM3 644-6KL	+	--	+	--	+	--	+	+	--
5SM3 646-6KL	+	--	+	--	+	--	+	+	--
5SM3 647-6KL	+	--	+	--	+	--	+	+	--
5SM3 746-6KL	+	--	--	--	--	--	+	+	--
5SM3 ...-8KL									
5SM3 646-8KL	+	--	--	--	+	--	+	+	--

+ Standard version approved.

-- Not yet submitted for approval.

Further certifications and approvals available on request.

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	Approvals								
	Germany, Europe	Belgium	France	Italy	Austria	Spain	Russia		China
	VDE	CEBEC	LCIE (NF)	IMQ	ÖVE	AENOR	GOST	TR	CCC
RCCBs, type A, 500 V									
5SM3 352-6	--	--	--	--	--	--	+	+	--
5SM3 354-6	--	--	--	--	--	--	+	+	--
5SM3 356-6	--	--	--	--	--	--	+	+	--
5SM3 652-6	--	--	--	--	--	--	+	+	--
5SM3 654-6	--	--	--	--	--	--	+	+	--
5SM3 656-6	--	--	--	--	--	--	+	+	--
RCCBs, type A, 50 ... 400 Hz									
5SM3 342-6KK03	--	--	--	--	--	--	+	+	--
5SM3 344-6KK03	--	--	--	--	--	--	+	+	--
RCCBs, type B									
5SM3 ...-4									
5SM3 321-4	+	--	--	--	--	--	+	+	--
5SM3 322-4	+	--	--	--	--	--	+	+	--
5SM3 324-4	+	--	--	--	--	--	+	+	--
5SM3 326-4	+	--	--	--	--	--	+	+	--
5SM3 342-4	+	--	--	--	--	--	+	+	--
5SM3 344-4	+	--	--	--	--	--	+	+	--
5SM3 346-4	+	--	--	--	--	--	+	+	--
5SM3 347-4	+	--	--	--	--	--	+	+	--
5SM3 621-4	+	--	--	--	--	--	+	+	--
5SM3 622-4	+	--	--	--	--	--	+	+	--
5SM3 624-4	+	--	--	--	--	--	+	+	--
5SM3 626-4	+	--	--	--	--	--	+	+	--
5SM3 642-4	+	--	--	--	--	--	+	+	--
5SM3 644-4	+	--	--	--	--	--	+	+	--
5SM3 646-4	+	--	--	--	--	--	+	+	--
5SM3 647-4	+	--	--	--	--	--	+	+	--
5SM3 746-4	+	--	--	--	--	--	+	+	--
5SM3 747-4	+	--	--	--	--	--	+	+	--
5SM3 ...-5									
5SM3 646-5	+	--	--	--	--	--	+	+	--
5SM3 647-5	+	--	--	--	--	--	+	+	--
5SM3 746-5	+	--	--	--	--	--	+	+	--
5SM3 747-5	+	--	--	--	--	--	+	+	--
RCCBs, type B+									
5SM3 ...-4KK14									
5SM3 321-4KK14	+	--	--	--	--	--	+	+	--
5SM3 322-4KK14	+	--	--	--	--	--	+	+	--
5SM3 324-4KK14	+	--	--	--	--	--	+	+	--
5SM3 326-4KK14	+	--	--	--	--	--	+	+	--
5SM3 342-4KK14	+	--	--	--	--	--	+	+	--
5SM3 344-4KK14	+	--	--	--	--	--	+	+	--
5SM3 346-4KK14	+	--	--	--	--	--	+	+	--
5SM3 347-4KK14	+	--	--	--	--	--	+	+	--
5SM3 621-4KK14	+	--	--	--	--	--	+	+	--
5SM3 622-4KK14	+	--	--	--	--	--	+	+	--
5SM3 624-4KK14	+	--	--	--	--	--	+	+	--
5SM3 626-4KK14	+	--	--	--	--	--	+	+	--
5SM3 642-4KK14	+	--	--	--	--	--	+	+	--
5SM3 644-4KK14	+	--	--	--	--	--	+	+	--
5SM3 646-4KK14	+	--	--	--	--	--	+	+	--
5SM3 647-4KK14	+	--	--	--	--	--	+	+	--
5SM3 ...-5KK14									
5SM3 646-5KK14	+	--	--	--	--	--	+	+	--
5SM3 647-5KK14	+	--	--	--	--	--	+	+	--
RCBOs, type B									
5SU1 ...-. AK8.									
5SU1 374-7AK81	+	--	--	--	--	--	+	+	--
5SU1 374-7AK82	+	--	--	--	--	--	+	+	--
5SU1 674-7AK81	+	--	--	--	--	--	+	+	--
5SU1 674-7AK82	+	--	--	--	--	--	+	+	--
5SU1 374-8AK81	+	--	--	--	--	--	+	+	--
5SU1 674-8AK81	+	--	--	--	--	--	+	+	--
5SU1 ...-. BK8.									
5SU1 674-7BK82	+	--	--	--	--	--	+	+	--
5SU1 874-7BK82	+	--	--	--	--	--	+	+	--
5SU1 674-8BK81	+	--	--	--	--	--	+	+	--
5SU1 874-8BK81	+	--	--	--	--	--	+	+	--

+ Standard version approved.

-- Not yet submitted for approval.

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Standards and approvals

	Approvals								
	Germany, Europe	Belgium	France	Italy	Austria	Spain	Russia		China
	VDE	CEBEC	LCIE (NF)	IMQ	ÖVE	AENOR	GOST	TR	CCC
RCBOs, type B (continued)									
5SU1 ...-. CK8.									
5SU1 674-7CK81	+	--	--	--	--	--	+	+	--
5SU1 674-7CK82	+	--	--	--	--	--	+	+	--
RCBOs, type B+									
5SU1 ...-. DK8.									
5SU1 374-7DK81	--	--	--	--	--	--	+	+	--
5SU1 374-7DK82	--	--	--	--	--	--	+	+	--
5SU1 674-7DK81	--	--	--	--	--	--	+	+	--
5SU1 674-7DK82	--	--	--	--	--	--	+	+	--
5SU1 374-8DK81	--	--	--	--	--	--	+	+	--
5SU1 674-8DK81	--	--	--	--	--	--	+	+	--
5SU1 ...-. EK8.									
5SU1 674-8EK81	--	--	--	--	--	--	+	+	--
5SU1 674-7FK81	--	--	--	--	--	--	+	+	--
5SU1 674-7FK82	--	--	--	--	--	--	+	+	--
RCBOs, type A, up to 40A									
5SU1 324-6FA..	+	--	--	+	--	--	+	+	--
5SU1 324-7FA..	+	--	--	+	--	--	+	+	--
5SU1 .5.-6KK..	+	--	--	+	+	--	+	+	+
5SU1 .5.-7KK..	+	--	--	+	+	--	+	+	+
5SU1 353-7KL..	+	--	--	--	+	--	+	+	--
5SU1 354-7VK..	+	--	--	+	--	--	+	+	--
RCBOs, 125A, type A									
5SU1 .24-6KK82	+	--	--	--	--	--	+	+	--
5SU1 .24-7KK82	+	--	--	--	--	--	+	+	--
5SU1 .44-6KK82	--	--	--	--	--	--	+	+	--
5SU1 .44-7KK82	--	--	--	--	--	--	+	+	--
5SU1 624-6WK82	+	--	--	--	--	--	+	+	--
5SU1 624-7WK82	+	--	--	--	--	--	+	+	--
5SU1 .44-6WK82	--	--	--	--	--	--	+	+	--
5SU1 .44-7WK82	--	--	--	--	--	--	+	+	--
RC units, up to 63A, type A									
5SM2 ...-6									
5SM2 121-6	+	--	--	--	--	--	+	+	+
5SM2 322-6	+	--	--	--	--	--	+	+	+
5SM2 325-6	+	--	--	--	--	--	+	+	+
5SM2 332-6	+	--	--	--	--	--	+	+	+
5SM2 335-6	+	--	--	--	--	--	+	+	+
5SM2 342-6	+	--	--	--	--	--	+	+	+
5SM2 345-6	+	--	--	--	--	--	+	+	+
5SM2 425-6	+	--	--	--	--	--	+	+	+
5SM2 435-6	+	--	--	--	--	--	+	+	+
5SM2 445-6	+	--	--	--	--	--	+	+	+
5SM2 622-6	+	--	--	--	--	--	+	+	+
5SM2 625-6	+	--	--	--	--	--	+	+	+
5SM2 632-6	+	--	--	--	--	--	+	+	+
5SM2 635-6	+	--	--	--	--	--	+	+	+
5SM2 642-6	+	--	--	--	--	--	+	+	+
5SM2 645-6	+	--	--	--	--	--	+	+	+
5SM2 725-6	+	--	--	--	--	--	+	+	+
5SM2 735-6	+	--	--	--	--	--	+	+	+
5SM2 745-6	+	--	--	--	--	--	+	+	+
5SM2 ...-6KK01									
5SM2 322-6KK01	+	--	--	--	--	--	+	+	+
5SM2 325-6KK01	+	--	--	--	--	--	+	+	+
5SM2 332-6KK01	+	--	--	--	--	--	+	+	+
5SM2 335-6KK01	+	--	--	--	--	--	+	+	+
5SM2 342-6KK01	+	--	--	--	--	--	+	+	+
5SM2 345-6KK01	+	--	--	--	--	--	+	+	+

+ Standard version approved.

-- Not yet submitted for approval.

Further certifications and approvals available on request.

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	Approvals								
	Germany, Europe	Belgium	France	Italy	Austria	Spain	Russia		China
	VDE	CEBEC	LCIE (NF)	IMQ	ÖVE	AENOR	GOST	TR	CCC
RC units, up to 63A, type A (continued)									
5SM2 ...-8									
5SM2 622-8	+	--	--	--	--	--	+	+	+
5SM2 625-8	+	--	--	--	--	--	+	+	+
5SM2 635-8	+	--	--	--	--	--	+	+	+
5SM2 645-8	+	--	--	--	--	--	+	+	+
5SM2 735-8	+	--	--	--	--	--	+	+	+
5SM2 745-8	+	--	--	--	--	--	+	+	+
5SM2 822-8	+	--	--	--	--	--	+	+	+
5SM2 825-8	+	--	--	--	--	--	+	+	+
5SM2 832-8	+	--	--	--	--	--	+	+	+
5SM2 835-8	+	--	--	--	--	--	+	+	+
5SM2 842-8	+	--	--	--	--	--	+	+	+
5SM2 845-8	+	--	--	--	--	--	+	+	+
RC units, up to 100A, type A									
5SM2 ...-6									
5SM2 327-6	+	--	--	--	--	--	+	+	--
5SM2 347-6	--	--	--	--	--	--	+	+	--
5SM2 627-6	+	--	--	--	--	--	+	+	--
5SM2 647-6	--	--	--	--	--	--	+	+	--
5SM2 ...-8									
5SM2 627-8	+	--	--	--	--	--	+	+	--
5SM2 647-8	--	--	--	--	--	--	+	+	--
5SM2 827-8	+	--	--	--	--	--	+	+	--
5SM2 847-8	--	--	--	--	--	--	+	+	--
Additional components									
5ST3 051	--	--	--	--	--	--	+	+	--
5SW3 300	+	--	--	--	--	--	+	+	--
5SW3 301	+	--	--	--	--	--	+	+	--
5SW3 302	+	--	--	--	--	--	+	+	--
5SW3 330	+	--	--	--	--	--	+	+	--

+ Standard version approved.

-- Not yet submitted for approval.

Further certifications and approvals available on request.

Chapter 5 · Fuse Systems

	Approvals							
	Germany, Europe	Germany	Netherlands	Austria	Russia	Canada, USA		China
	VDE	GL	KEMA	ÖVE	GOST	UL	CSA	CCC
NEOZED fuse systems								
5SE2								
5SE2 013-2A	+	--	--	--	+	--	--	--
5SE2 280	+	--	--	--	+	--	--	--
5SE2 300	+	--	--	--	+	--	--	--
5SE2 302	+	--	--	+	+	--	--	--
5SE2 304	+	--	--	+	+	--	--	--
5SE2 306	+	--	--	+	+	--	--	--
5SE2 31.	+	--	--	+	+	--	--	--
5SE2 32.	+	--	--	+	+	--	--	--
5SE2 332	+	--	--	--	+	--	--	--
5SE2 335	+	--	--	+	+	--	--	--
5SE2 340	+	--	--	--	+	--	--	--
5SE2 350	+	--	--	+	+	--	--	--
5SE2 363	+	--	--	+	+	--	--	--
5SG1								
5SG1 .01	+	--	--	--	+	--	--	--
5SG1 .30	+	--	--	--	+	--	--	--
5SG1 ..2	--	--	--	--	+	--	--	--
5SG1 ..4	--	--	--	--	+	--	--	--
5SG1 ..5	+	--	--	--	+	--	--	--
5SG1 331	--	--	--	--	+	--	--	--
5SG1 553	+	--	--	--	+	--	--	--
5SG1 590	+	--	--	--	+	--	--	--
5SG1 650	+	--	--	--	+	--	--	--
5SG1 653	+	--	--	--	+	--	--	--
5SG1 693	+	--	--	--	+	--	--	--
5SG1 731	+	--	--	--	+	--	--	--
5SG1 81.	--	--	--	--	+	--	--	--

+ Standard version approved.

-- Not yet submitted for approval.

Further certifications and approvals available on request.

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Standards and approvals

	Approvals							
	Germany, Europe	Germany	Netherlands	Austria	Russia	Canada, USA		China
	VDE	GL	KEMA	ÖVE	GOST	UL	CSA	CCC
NEOZED fuse systems (continued)								
5SG5								
5SG5 ..0	+	--	--	--	+	--	--	--
5SG5 .01	+	--	--	--	+	--	--	--
5SG5 ..3	+	--	--	--	+	--	--	--
5SG5 .30	+	--	--	--	+	--	--	--
5SG5 555	--	--	--	--	+	--	--	--
5SG1 655	+	--	--	--	+	--	--	--
5SG1 695	+	--	--	--	+	--	--	--
5SG7								
5SG7 1..	+	+	--	--	+	--	--	--
5SG7 133-8BA..	+	--	--	--	+	--	--	--
5SG7 6..	+	--	--	--	+	--	--	--
5SH4								
5SH4 1..	+	--	--	--	+	--	--	--
5SH4 316	+	--	--	--	+	--	--	--
5SH4 317	--	--	--	--	+	--	--	--
5SH4 362	--	--	--	--	+	--	--	--
5SH4 363	+	--	--	--	+	--	--	--
5SH5								
5SH5 0..	--	--	--	--	+	--	--	--
5SH5 1..	+	--	--	--	+	--	--	--
5SH5 2..	--	--	--	--	+	--	--	--
5SH5 4..	--	--	--	--	+	--	--	--
DIAZED fuse systems								
5SA1 ..	--	--	--	--	+	--	--	--
5SA2 ..	+	--	--	--	+	--	--	--
5SB1 ..	--	--	--	--	+	--	--	--
5SB2 ..	+	+	+	+	+	--	--	--
5SB3 ..	--	--	--	--	+	--	--	--
5SB4 010	+	--	--	--	+	--	--	--
5SB4 .1	+	+	+	+	+	--	--	--
5SC1 ..	--	--	--	--	+	--	--	--
5SC2 ..	--	+	--	--	+	--	--	--
5SD6 ..	+	--	--	--	+	--	--	--
5SD8 ...	--	--	--	--	+	--	--	--
5SF1 005	+	+	+	--	+	--	--	--
5SF1 01	+	--	--	--	+	--	--	--
5SF1 012	+	--	--	--	+	--	--	--
5SF1 024	+	+	+	--	+	--	--	--
5SF1 060	--	--	--	--	+	--	--	--
5SF1 205	+	+	--	--	+	--	--	--
5SF1 214	--	+	--	--	+	--	--	--
5SF1 215	--	+	+	--	+	--	--	--
5SF1 224	+	+	--	--	+	--	--	--
5SF1 260	--	--	--	--	+	--	--	--
5SF1 401	--	+	--	--	+	--	--	--
5SF4 ...	--	--	--	--	+	--	--	--
5SF5 066	+	--	--	--	+	--	--	--
5SF5 067	+	--	--	--	+	--	--	--
5SF5 068	--	--	--	--	+	--	--	--
5SF5 2..	--	--	--	--	+	--	--	--
5SF6 ...	+	--	--	--	+	--	--	--
5SH1 11	--	--	--	--	+	--	--	--
5SH1 12	+	+	--	--	+	--	--	--
5SH1 13	+	+	--	--	+	--	--	--
5SH1 141	--	+	--	--	+	--	--	--
5SH1 161	--	--	--	--	+	--	--	--
5SH1 170	--	--	--	--	+	--	--	--
5SH1 22	--	--	--	--	+	--	--	--
5SH1 221	--	--	--	--	+	--	--	--
5SH1 23	--	--	--	--	+	--	--	--
5SH1 231	--	--	--	--	+	--	--	--
5SH2 ..	--	--	--	--	--	--	--	--
5SH3 ..	--	--	--	--	+	--	--	--
5SH3 703	--	--	--	--	--	--	--	--

+ Standard version approved.

-- Not yet submitted for approval.

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	Approvals								
	Germany, Europe	Germany	Netherlands	Austria	Russia	Canada, USA			China
	VDE	GL	KEMA	ÖVE	GOST	UL	cULus	CSA	CCC
Cylindrical fuse systems									
Cylindrical fuse links and cylindrical fuse holders									
3NW6 ...-1	--	--	--	--	+	--	--	--	--
3NW7 0..	--	--	--	--	+	--	+	--	--
3NW7 1..	--	--	--	--	+	--	+	--	--
3NW7 2..	--	--	--	--	+	--	--	--	--
3NW7 3..	--	--	--	--	+	--	--	--	--
3NW8 ...-1	--	--	--	--	+	--	--	--	--
Compact fuse holders for motor starter combinations									
3NW7 03.-1	--	--	--	--	--	+	--	+	--
3NW7 53.-1HG	--	--	--	--	--	--	+	+	--
3NW7 903-1	--	--	--	--	--	--	+	+	--
Class CC fuse system									
3NW1 ...-0HG	--	--	--	--	+	+	--	+	--
3NW2 ...-0HG	--	--	--	--	+	+	--	+	--
3NW3 ...-0HG	--	--	--	--	+	+	--	+	--
3NW7 5.3-0HG	--	--	--	--	+	+	--	+	--
LV HRC fuse systems									
LV HRC fuse links									
3NA3									
3NA3 0..	+	+	+	--	+	--	--	--	--
3NA3 1..	+	+	+	--	+	--	--	--	+
3NA3 1..-6	--	--	--	--	+	--	--	--	+
3NA3 2..	+	+	+	--	+	--	--	--	+
3NA3 250	+	+	--	--	+	--	--	--	+
3NA3 254	+	+	--	--	+	--	--	--	+
3NA3 2..-6	--	--	--	--	+	--	--	--	+
3NA3 34.	+	+	+	--	+	--	--	--	+
3NA3 350	--	+	--	--	+	--	--	--	+
3NA3 352	+	+	+	--	+	--	--	--	+
3NA3 354	+	+	--	--	+	--	--	--	+
3NA3 360	+	+	+	--	+	--	--	--	+
3NA3 362	--	--	--	--	+	--	--	--	+
3NA3 365	+	--	+	--	+	--	--	--	+
3NA3 372	+	--	+	--	+	--	--	--	+
3NA3 4..	+	--	--	--	+	--	--	--	--
3NA3 6..	+	--	--	--	+	--	--	--	+
3NA3 8..	+	+	+	--	+	--	--	--	--
3NA3 8..-6	--	--	--	--	+	--	--	--	--
3NA3 8..-7	+	+	+	--	+	--	--	--	--
3NA3 8..-8	--	--	--	--	+	--	--	--	--
3NA6 1									
3NA6 10.	+	--	+	--	+	--	--	--	--
3NA6 110	+	--	+	--	+	--	--	--	--
3NA6 114	+	--	+	--	+	--	--	+	--
3NA6 117	+	--	+	--	+	--	--	+	--
3NA6 12.	+	--	+	--	+	--	--	+	--
3NA6 13.	+	--	+	--	+	--	--	+	--
3NA6 14.	+	--	+	--	+	--	--	+	--
3NA6 1..-4	+	--	--	--	+	--	--	--	--
3NA6 1..-6	--	--	--	--	+	--	--	--	--
3NA6 2									
3NA6 214	+	--	+	--	+	--	--	--	--
3NA6 220	+	--	+	--	+	--	--	--	--
3NA6 222	+	--	+	--	+	--	--	--	--
3NA6 224	+	--	+	--	+	--	--	+	--
3NA6 23.	+	--	+	--	+	--	--	+	--
3NA6 24.	+	--	+	--	+	--	--	+	--
3NA6 25.	+	--	+	--	+	--	--	+	--
3NA6 260	+	--	+	--	+	--	--	+	--
3NA6 22.-4	+	--	--	--	+	--	--	--	--
3NA6 23.-4	+	--	--	--	+	--	--	--	--
3NA6 24.-4	+	--	--	--	+	--	--	--	--
3NA6 250-4	--	--	--	--	+	--	--	--	--
3NA6 252-4	+	--	--	--	+	--	--	--	--
3NA6 254-4	--	--	--	--	+	--	--	--	--
3NA6 260-4	+	--	--	--	+	--	--	--	--
3NA6 2..-6	--	--	--	--	+	--	--	--	--

+ Standard version approved.

-- Not yet submitted for approval.

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Standards and approvals

	Approvals							
	Germany, Europe	Germany	Netherlands	Austria	Russia	Canada, USA		China
	VDE	GL	KEMA	ÖVE	GOST	UL	CSA	CCC
LV HRC fuse systems								
LV HRC fuse links (continued)								
3NA6 8								
3NA6 80.	+	--	+	--	+	--	--	--
3NA6 810	+	--	+	--	+	--	--	--
3NA6 812	+	--	+	--	+	--	+	--
3NA6 814	+	--	+	--	+	--	+	--
3NA6 817	+	--	+	--	+	--	+	--
3NA6 82.	+	--	+	--	+	--	+	--
3NA6 830	+	--	+	--	+	--	+	--
3NA6 832	+	--	+	--	+	--	+	--
3NA6 836	+	--	+	--	+	--	--	--
3NA6 8..-4	+	--	--	--	+	--	--	--
3NA6 8..-4KK	+	--	--	--	+	--	--	--
3NA6 8..-6	--	--	--	--	+	--	--	--
3NA6 8..-7	+	--	+	--	+	--	+	--
3NA7 1								
3NA7 10.	+	+	+	--	+	--	--	--
3NA7 110	+	+	+	--	+	--	--	--
3NA7 114	+	+	+	--	+	--	+	--
3NA7 117	+	+	+	--	+	--	+	--
3NA7 12.	+	+	+	--	+	--	+	--
3NA7 13.	+	+	+	--	+	--	+	--
3NA7 14.	+	+	+	--	+	--	+	--
3NA7 1..-6	--	--	--	--	+	--	--	--
3NA7 2								
3NA7 214	+	+	+	--	+	--	--	--
3NA7 220	+	+	+	--	+	--	--	--
3NA7 222	+	+	+	--	+	--	--	--
3NA7 224	+	+	+	--	+	--	+	--
3NA7 23.	+	+	+	--	+	--	+	--
3NA7 24.	+	+	+	--	+	--	+	--
3NA7 252	+	+	+	--	+	--	+	--
3NA7 260	+	+	+	--	+	--	+	--
3NA7 2..-6	--	--	--	--	+	--	--	--
3NA7 8								
3NA7 80.	+	+	+	--	+	--	--	--
3NA7 810	+	+	+	--	+	--	--	--
3NA7 812	+	+	+	--	+	--	+	--
3NA7 814	+	+	+	--	+	--	+	--
3NA7 817	+	+	+	--	+	--	+	--
3NA7 82.	+	+	+	--	+	--	+	--
3NA7 830	+	+	+	--	+	--	+	--
3NA7 832	+	+	--	--	+	--	+	--
3NA7 836	+	+	--	--	+	--	--	--
3NA7 8..-6	--	--	--	--	+	--	--	--
3NA7 8..-7	+	+	--	--	+	--	--	--
3ND1								
3ND1-...	--	--	--	--	+	--	--	--
3ND2								
3ND2-...	--	--	--	--	+	--	--	--
LV HRC signal detectors								
3NX1 0..	--	--	--	--	+	--	--	--
5TT3 170	--	--	--	--	+	--	--	--

+ Standard version approved.

-- Not yet submitted for approval.

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	Approvals								
	Germany, Europe	Germany	Netherlands	Austria	Russia	Canada, USA			China
	VDE	GL	KEMA	ÖVE	GOST	UL			CCC
LV HRC fuse systems									
LV HRC sockets and accessories									
3NH3									
3NH3 030	--	+	+	--	+	--	+	--	--
3NH3 031	--	+	+	--	+	--	--	--	--
3NH3 032	--	+	+	--	+	--	--	--	--
3NH3 035	--	+	+	--	+	--	--	--	--
3NH3 036	--	--	+	--	+	--	--	--	--
3NH3 037	--	--	+	--	+	--	--	--	--
3NH3 038	--	--	+	--	+	--	--	--	--
3NH3 050	--	+	+	--	+	--	--	--	--
3NH3 051	--	+	--	--	+	--	--	--	--
3NH3 052	--	+	--	--	+	--	--	--	--
3NH3 053	--	+	--	--	+	--	--	--	--
3NH3 1..	--	+	+	--	+	--	+	--	--
3NH3 2..	--	+	+	--	+	--	+	--	--
3NH3 3..	--	+	+	--	+	--	+	--	--
3NH3 4..	--	+	+	--	+	--	+	--	--
3NH3 5..	--	--	+	--	+	--	--	--	--
3NH4									
3NH4 030	--	+	+	--	+	--	+	--	--
3NH4 031	--	+	+	--	+	--	--	--	--
3NH4 032	--	+	+	--	+	--	--	--	--
3NH4 035	--	+	+	--	+	--	--	--	--
3NH4 037	--	--	+	--	+	--	--	--	--
3NH4 045	--	--	+	--	+	--	--	--	--
3NH4 230	--	+	+	--	+	--	+	--	--
3NH7									
3NH7 ...	--	--	--	--	+	--	--	--	--
SITOR semiconductor fuses									
SITOR LV HRC design									
3NC									
3NC2 4..	--	--	--	--	+	--	--	--	--
3NC3 2..-1	--	--	--	--	+	+	--	--	--
3NC3 2..-6	--	--	--	--	+	+	--	--	--
3NC3 3..-1	--	--	--	--	+	+	--	--	--
3NC3 3..-6	--	--	--	--	+	+	--	--	--
3NC3 4..-1	--	--	--	--	+	--	--	--	--
3NC3 4..-6	--	--	--	--	+	--	--	--	--
3NC5 ...	--	--	--	--	+	--	--	--	--
3NC7 ...	--	--	--	--	+	--	--	--	--
3NC8 4..	--	--	--	--	+	--	--	--	--
3NE1									
3NE1 0..-0	--	--	--	--	+	+	--	--	+
3NE1 0..-2	--	--	--	--	+	+	--	--	+
3NE1 224-0	--	--	--	--	+	--	--	--	+
3NE1 225-0	--	--	--	--	+	+	--	--	+
3NE1 230-0	--	--	--	--	+	+	--	--	+
3NE1 2..-2	--	--	--	--	+	+	--	--	+
3NE1 2..-3	--	--	--	--	+	+	--	--	+
3NE1 3..-0	--	--	--	--	+	+	--	--	+
3NE1 331-2	--	--	--	--	+	+	--	--	+
3NE1 332-2	--	--	--	--	+	--	--	--	+
3NE1 333-2	--	--	--	--	+	+	--	--	+
3NE1 334-2	--	--	--	--	+	+	--	--	+
3NE1 331-3	--	--	--	--	+	+	--	--	+
3NE1 332-3	--	--	--	--	+	--	--	--	+
3NE1 333-3	--	--	--	--	+	+	--	--	+
3NE1 334-3	--	--	--	--	+	+	--	--	+
3NE1 435-0	--	--	--	--	+	+	--	--	--
3NE1 436-0	--	--	--	--	+	+	--	--	--
3NE1 437-0	--	--	--	--	+	--	--	--	--
3NE1 438-0	--	--	--	--	+	--	--	--	--
3NE1 4..-1	--	--	--	--	+	+	--	--	+
3NE1 4..-2	--	--	--	--	+	+	--	--	+
3NE1 4..-3	--	--	--	--	+	+	--	--	+
3NE1 8..-0	--	--	--	--	+	+	--	--	+

+ Standard version approved.

-- Not yet submitted for approval.

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Standards and approvals

	Approvals							
	Germany, Europe	Germany	Netherlands	Austria	Russia	Canada, USA		China
	VDE	GL	KEMA	ÖVE	GOST	UL	CSA	CCC
SITOR semiconductor fuses								
SITOR LV HRC design *(continued)*								
3NE3								
3NE3 2..	--	--	--	--	+	+	--	+
3NE3 3..	--	--	--	--	+	+	--	+
3NE3 4..-0C	--	--	--	--	+	--	--	--
3NE3 6..-0C	--	--	--	--	+	--	--	--
3NE3 6..-1C	--	--	--	--	+	--	--	--
3NE3 6..-6	--	--	--	--	+	--	--	--
3NE4								
3NE4 1..	--	--	--	--	+	+	--	+
3NE4 1..-5	--	--	--	--	+	--	--	--
3NE4 337	--	--	--	--	+	--	--	--
3NE4 3..-0B	--	--	--	--	+	--	--	--
3NE4 3..-6	--	--	--	--	+	--	--	--
3NE4 3..-6B	--	--	--	--	+	--	--	--
3NE5								
3NE5 4..-0C	--	--	--	--	+	--	--	--
3NE5 6..-0C	--	--	--	--	+	--	--	--
3NE6								
3NE6 ...	--	--	--	--	+	--	--	--
3NE7								
3NE7 4..-0C	--	--	--	--	+	+	--	--
3NE7 6..-0C	--	--	--	--	+	+	--	--
3NE7 6..-1C	--	--	--	--	+	+	--	--
3NE8								
3NE8 0..	--	--	--	--	+	--	--	+
3NE8 7..	--	--	--	--	+	+	+	--
3NE9								
3NE9 ...	--	--	--	--	+	--	--	--
SITOR, cylindrical fuse design								
3NC1								
3NC1 003	--	--	--	--	+	--	--	--
3NC1 006	--	--	--	--	+	+	+	--
3NC1 008	--	--	--	--	+	+	+	--
3NC1 01.	--	--	--	--	+	+	+	--
3NC1 02.	--	--	--	--	+	+	+	--
3NC1 032	--	--	--	--	+	+	+	--
3NC1 038-.	--	--	--	--	+	--	+	--
3NC1 09.	--	--	--	--	+	+	+	--
3NC1 40.	--	--	--	--	+	+	+	--
3NC1 41.	--	--	--	--	+	+	+	--
3NC1 42.	--	--	--	--	+	+	+	--
3NC1 43.	--	--	--	--	+	+	+	--
3NC1 440	--	--	--	--	+	+	+	--
3NC1 450	--	--	--	--	+	--	+	--
3NC1 49.	--	--	--	--	+	+	+	--
3NC1 451-1	--	--	--	--	+	--	--	--
3NC1 4..-5	--	--	--	--	+	+	+	--
3NC2								
3NC2 200	--	--	--	--	+	+	+	--
3NC2 22.	--	--	--	--	+	+	+	--
3NC2 232	--	--	--	--	+	+	+	--
3NC2 240	--	--	--	--	+	+	+	--
3NC2 250	--	--	--	--	+	+	+	--
3NC2 263	--	--	--	--	+	+	+	--
3NC2 280	--	--	--	--	+	+	+	--
3NC2 29.	--	--	--	--	+	+	+	--
3NC2 258-1	--	--	--	--	+	--	--	--
3NC2 2..-5	--	--	--	--	+	+	--	--
NEOZED and DIAZED, SILIZED design								
5SD4 ...	--	--	--	--	+	--	--	--
5SE1 ...	--	--	--	--	+	--	--	--

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Chapter 6 · Overvoltage Protection Devices

	Approvals		
	Germany, Europe	Netherlands	Russia
	VDE	KEMA	GOST
Lightning arresters, type 1			
5SD7 41.-1	--	--	+
Combination surge arresters, type 1 and type 2			
5SD7 44.-1	--	--	+
Surge arresters, type 2			
5SD7 42.-.	--	+	+
5SD7 46.-.	--	--	+
5SD7 47.-.	--	--	+
5SD7 48.-.	--	--	+
Surge arresters, type 3			
5SD7 432-1, 5SD7 432-2	--	+	+
5SD7 432-3, 5SD7 432-4	--	--	+
5SD7 434-1	--	+	+
Accessories for surge arresters			
5SD7 418-0	--	+	+
5SD7 418-1	--	--	+
5SD7 428-.	--	+	+
5SD7 437-., 5SD7 438-.	--	+	+
5SD7 448-1	--	+	+
5SD7 468-1	--	--	+
5SD7 488-.	--	+	+
5SD7 498-.	--	--	+
Link rails			
5SD7 490-.	--	+	+
Surge arresters for measuring and control technology			
5SD7 5..-.	--	--	+

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Chapter 7 · Switch Disconnectors

	Approvals				Marine classifications			
	Canada[1)2)]	USA[1)]	China	Russia	Germany	Great Britain	Norway	Poland
	cULus	cULus	CCC	GOST	GL	LRS	DNV	PRS
3LD Main control and EMERGENCY-STOP Switches up to 250 A								
3LD20	+	+	+	+	+	+	+	+
3LD21	+	+	+	+	+	+	+	+
3LD22	+	+	+	+	+	+	--	+
3LD23	+	+	+	+	--	--	+[3)]	+
3LD24	+	+	+	+	--	--	+[3)]	+
3LD25	+	+	+	+	+	+	+	+
3LD27	+	+	+	+	+	+	+	+
3LD28	+	+	+	+	+	+	+	+

+ Standard version approved.

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1) For guide numbers and file numbers for the approvals, visit our website at www.siemens.com/lowvoltage/support

2) cUL and cUL approvals are available in accordance with US approval.

3) Available soon.

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Standards and approvals

	Germany, Europe VDE	France LCIE (NF)	Russia GOST	USA UL	China CCC
5TE1 switch disconnectors up to 200 A					
5TE1 2.0	--	+	+	--	--
5TE1 310	--	+	+	--	--
5TE1 315	--	+	+	--	--
5TE1 320	--	+	+	+	--
5TE1 325	--	+	+	--	--
5TE1 330	--	+	+	+	--
5TE1 335	--	+	+	--	--
5TE1 340	--	+	+	+	--
5TE1 345	--	+	+	--	--
5TE1 410	--	+	+	--	--
5TE1 415	--	+	+	--	--
5TE1 420	--	+	+	+	--
5TE1 425	--	+	+	--	--
5TE1 430	--	+	+	+	--
5TE1 435	--	+	+	--	--
5TE1 440	--	+	+	+	--
5TE1 445	--	+	+	--	--
5TE1 6.0	--	+	+	--	--

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	Approvals					Marine classifications					
	Canada, USA[1]			China	Russia	Germany	France	Great Britain	CIS	Norway	Poland
	c UL us	c UL us	UL us	CCC	GOST	GL	BV	LRS	RMRS	DNV	PRS
3KA, 3KE switch disconnectors up to 1000 A											
3KA50	--	--	--	--	+	+	+	--	--	--	+
3KA51	--	--	--	--	+	--	--	--	--	--	+
3KA52 30, 3KA53 30	--	+	--	--	+	+	--	--	--	--	+
3KA55	--	--	--	--	+	+	--	--	--	--	+
3KA55 30	--	+	--	--	+	+	--	--	--	--	+
3KA57	--	--	--	+	+	+	--	--	--	--	+
3KA57 30	--	+	--	+	+	+	--	--	--	--	+
3KA58	--	--	--	+	+	--	--	--	--	--	+
3KA58 30	--	+	--	+	+	--	--	--	--	--	+
3KE42	--	--	--	--	+	--	--	--	--	--	+
3KE43	--	--	--	--	+	--	--	--	--	--	+
3KE44	--	--	--	--	+	--	--	--	--	--	+
3KE45	--	--	--	+	+	--	--	--	--	--	+
3KL switch disconnectors with fuses up to 800 A											
3KL50	--	--	--	+	+	+[2]	+	+	--	--	+
3KL52 30	+	--	--	+	+	+	+	+	--	--	+
3KL52 40	--	--	--	+	+	+	+	+	--	--	+
3KL53 30	+	--	--	+	+	--	--	+	--	--	+
3KL53 40	--	--	--	+	+	--	--	+	--	--	+
3KL55 30	+	--	--	+	+	+	+	+	--	--	+
3KL55 40	--	--	--	+	+	+	+	+	--	--	+
3KL57 30	+	--	--	+	+	+	+	--	--	--	+
3KL57 40	--	--	--	+	+	+	+	--	--	--	+
3KL58 30	--	+	--	--	+	--	--	--	--	--	--
3KL61 30	--	--	--	+	+	+	--	+[2]	--	--	+
3KL61 30-1AB02	+	--	--	+	+	+	--	+[2]	--	--	+
3KL61 40	--	--	--	+	+	+	--	+[2]	--	--	+
3KL62 30	--	--	--	+	+	+	--	+[2]	--	--	+
3KL62 30-1AB02	+	--	--	+	+	+	--	+[2]	--	--	+
3KM switch disconnectors with fuses and isolating plug connector up to 400 A											
3KM50	--	--	--	--	+	+	+	+	--	--	+
3KM52	--	--	--	--	+	+	+	+	--	--	+
3KM53	--	--	--	--	+	--	--	--	--	--	+
3KM55	--	--	--	--	+	+	+	+	--	--	+
3KM57	--	--	--	--	+	+	+	--	--	--	+
3NJ62 in-line switch disconnectors with fuses up to 630 A											
3NJ62	--	--	--	+[3]	+	--	--	--	--	+[2]	--
3NP1 fuse switch disconnectors up to 630 A											
3NP11 2	+	--	--	+	+	+	--	+	--	+[3]	--
3NP11 3	+	--	--	+	+	+	--	+	--	+[3]	--
3NP11 4	+	--	--	+	+	+	--	+	--	+[3]	--
3NP11 5	+	--	--	+	+	+	--	+	--	+[3]	--
3NP11 6	+	--	--	+	+	+	--	+	--	+[3]	--
3NP19	+	--	--	+	+	+	--	+	--	+[3]	--
3NP5 fuse switch disconnectors up to 630 A											
3NP5	--	--	--	+	+	--	--	--	--	--	+
3NJ4, 3NJ5 in-line fuse switch disconnectors up to 2000 A											
3NJ41 03	--	--	--	+[2]	+	--	--	--	--	--	--
3NJ41 21	--	--	--	+[2]	+	--	--	--	--	--	--
3NJ41 23	--	--	--	+[2]	+	--	--	--	--	--	--
3NJ41 31	--	--	--	+[2]	+	--	--	--	--	--	--
3NJ41 33	--	--	--	+[2]	+	--	--	--	--	--	--
3NJ41 41	--	--	--	+[2]	+	--	--	--	--	--	--
3NJ41 43	--	--	--	+[2]	+	--	--	--	--	--	--
3NJ50 13	--	--	--	+[2]	+	--	--	--	--	--	--

+ Standard version approved.

-- Not yet submitted for approval.

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[1] For guide numbers and file numbers for the approvals, visit our website at www.siemens.com/lowvoltage/support.

[2] Not all versions are approved. Request required.

[3] Available soon.

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Standards and approvals

Chapter 8 · Switching Devices

	Approvals						
	Germany, Europe	France	Netherlands	Russia	USA, Canada		China
	VDE	LCIE (NF)	KEMA	GOST	UL	cULus	CCC
Control switches							
5TE8 101	+	--	--	+	--	--	+
5TE8 101-3	--	--	--	+	--	--	+
5TE8 102	+	--	--	+	--	--	+
5TE8 103	+	--	--	+	--	--	+
5TE8 105	--	--	--	+	--	--	+
5TE8 108	+	--	--	+	--	--	--
5TE8 14.	+	--	--	+	--	--	--
5TE8 15.	+	--	--	+	--	--	+
5TE8 16.	+	--	--	+	--	--	--
Pushbuttons							
5TE4 8..	+	--	--	+	--	--	+
Light indicators							
5TE5 800	+	--	--	+	--	--	--
5TE5 801	+	--	--	+	--	--	--
5TE5 802	+	--	--	+	--	--	--
5TE5 803	--	--	--	+	--	--	--
5TE5 8004	+	--	--	+	--	--	--
ON/OFF switches							
5TE8 .11	+	--	--	+	--	--	+
5TE8 .12	+	--	--	+	--	--	+
5TE8 .13	+	--	--	+	--	--	+
5TE8 .14	+	--	--	+	--	--	+
5TE8 .15	--	--	--	+	--	--	+
5TE8 118	+	--	--	+	--	--	--
5TE8 218	--	--	--	+	--	--	--
5TE8 52.	+	--	--	+	--	--	+
5TE8 533	+	--	--	+	--	--	--
5TE8 72.	+	--	--	+	--	--	--
Remote control switches							
5TT4 1..	+	--	--	+	--	--	--
Switching relays							
5TT4 2..	+	--	--	+	--	--	+
Insta contactors (DC technology)							
5TT5 7..	--	--	--	+	+	--	--
Insta contactors (AC technology)							
5TT5 80.	--	+	--	+	--	--	--
5TT5 820-0	--	--	--	+	--	--	--
5TT5 83.	--	+	--	+	--	--	--
5TT5 84.	--	+	--	+	--	--	--
5TT5 85.	--	+	--	+	--	--	--
Soft-starting devices							
5TT3 4..	--	--	--	+	--	--	--
Timers							
Digital time switches							
7LF4 40.	+	--	--	+	--	+	--
7LF4 41.	+	--	--	+	+	--	--
7LF4 42.	+	--	--	+	+	--	--
7LF4 43.	+	--	--	+	+	--	--
7LF4 44.	+	--	--	+	--	--	--
Mechanical time switches							
7LF5 300-1	+	--	--	+	--	--	--
7LF5 300-5	+	--	--	+	--	--	--
7LF5 300-6	+	--	--	+	--	--	--
7LF5 300-7	+	--	--	+	--	--	--
7LF5 301-.	+	--	--	+	--	--	--
7LF5 305-0	+	--	--	+	--	--	--
Timers for buildings							
7LF6 1..	--	--	--	+	--	--	--
Timers for industrial applications							
5TT3 18.	--	--	--	+	--	--	--

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-- Not yet submitted for approval.

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Chapter 9 · Transformers, Power Supply Units and Socket Outlets

	Approvals			
	Germany, Europe	Italy	Russia	USA, Canada
	VDE	IMQ	GOST	cULus
Bell transformers				
4AC3 006	--	+	+	--
4AC3 008	+	+	+	--
4AC3 016	+	+	+	--
4AC3 1..	+	+	+	--
Transformers for permanent loads				
4AC3 4..	--	+	+	--
4AC3 5..	--	+	+	--
4AC3 6..	--	+	+	--
Power supply units				
4AC2 400	--	+	+	--
4AC2 401	--	+	+	--
4AC2 402	--	--	+	--
Bells and buzzers				
7LQ2 ...	--	--	+	--
REG socket outlets				
5TE6 800	+	--	+	--
5TE6 801	+	--	+	--
5TE6 802	--	--	+	--
5TE6 803	--	--	+	--
5TE6 804	--	--	+	+
5TE6 810	+	--	+	--

+ Standard version approved.

-- Not yet submitted for approval.

Further certifications and approvals available on request.

Chapter 10 · Busbar Systems

	Approvals			
	Canada		USA	
	CSA	cULus	cULus	UL
40 mm busbar systems				
8US	+	+	+	+
60 mm busbar systems				
8US	+	+	+	+

+ Standard version approved.

-- Not yet submitted for approval.

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Chapter 11 · Measuring Devices and Power Monitoring

	Approvals		
	USA, Canada	Russia	Australia
	cULus	GOST	C-Tick
PAC 3100			
7KM31	+	+	+
PAC 3200			
7KM2	+	+	+
PAC 4200			
7KM42	+	+	+

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More information

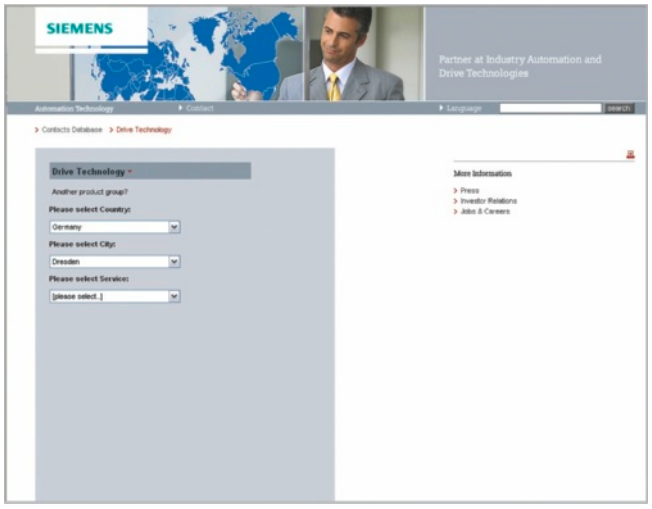
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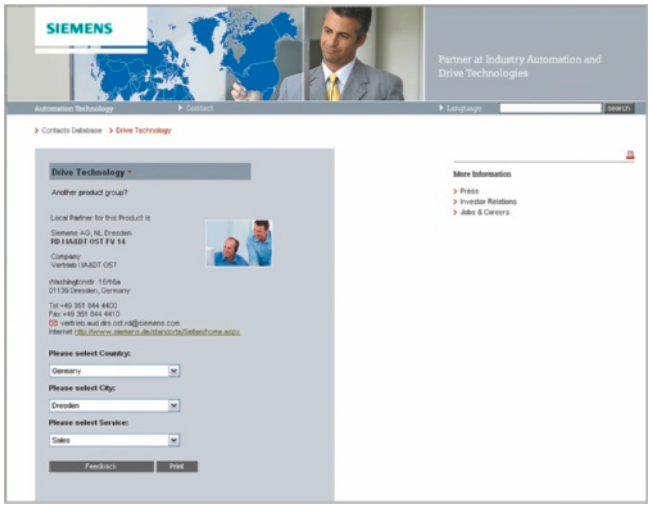
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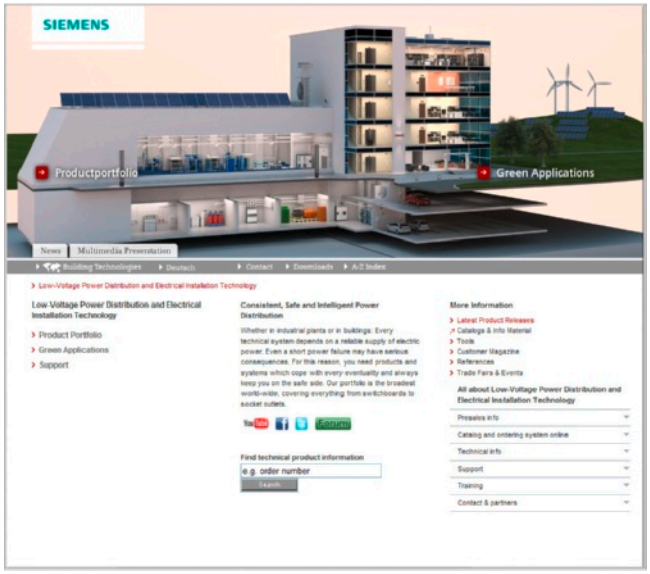
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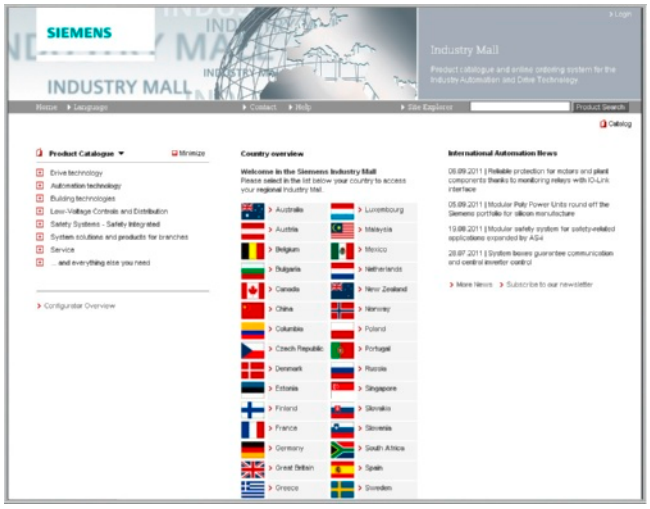
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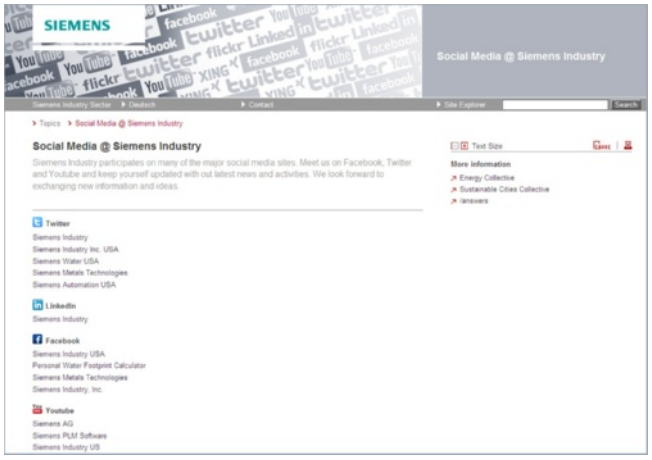
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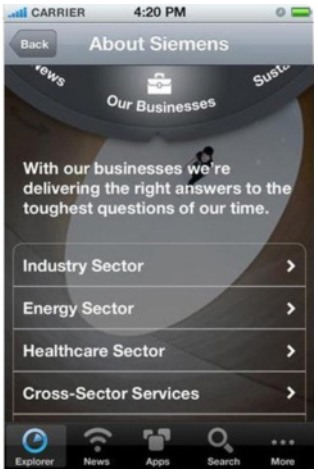
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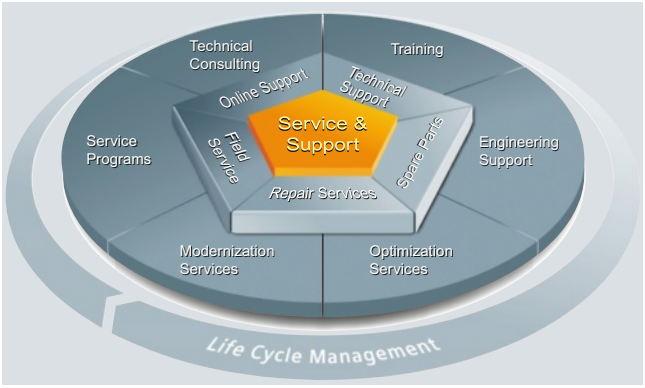




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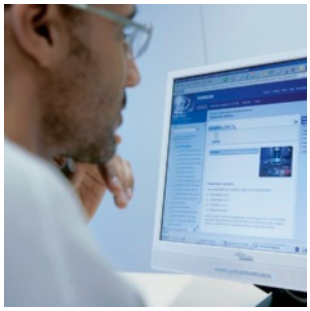
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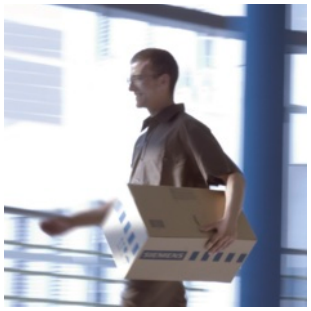
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Overview

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Product information/product & system selection	
Information and Download Center	Current catalogs, customer magazines, brochures, demo software and promotion packages: www.siemens.com/lowvoltage/infomaterial
Industry Mall	Comprehensive information and order platform for the Siemens Industry Basket: www.siemens.com/lowvoltage/mall
Product & system engineering	
SIMARIS software tools	Support in planning and configuration the electrical power distribution: www.siemens.com/simaris
ALPHA SELECT engineering software	Simple and fast configuration for distribution boards and metre cabinets with products from the Siemens Industry Basket: www.siemens.com/alpha-select
Product documentation	
Service & Support portal	Comprehensive technical information - from planning to configuration and operation: www.siemens.com/lowvoltage/support
CAx Data	Collation of commercial and technical master product data: www.siemens.com/cax
Image database	Collection of product photographs and graphics, such as dimensional drawings and internal circuit diagrams: www.siemens.com/lowvoltage/bilddb
Product training	
SITRAIN portal	Comprehensive training program about our products, systems and engineering tools: www.siemens.com/lowvoltage/training
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Overview

Software types

Software requiring a license is categorized into types.
The following software types have been defined:

- Engineering software
- Runtime software

Engineering software

This includes all software products for creating (engineering) user software, e.g. for configuring, programming, parameterizing, testing, commissioning or servicing.

Data generated with engineering software and executable programs can be duplicated for your own use or for use by third-parties free-of-charge.

Runtime software

This includes all software products required for plant/machine operation, e.g. operating system, basic system, system expansions, drivers, etc.

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License types

Siemens Industry Automation & Drive Technologies offers various types of software license:

- Floating license
- Single license
- Rental license
- Rental floating license
- Trial license
- Demo license
- Demo floating license

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The software may be installed for internal use on any number of devices by the licensee. Only the concurrent user is licensed. The concurrent user is the person using the program. Use begins when the software is started.
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Unlike the floating license, a single license permits only one installation of the software per license.

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Rental floating license

The rental floating license corresponds to the rental license, except that a license is not required for each installation of the software. Rather, one license is required per object (for example, user or device).

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Software is constantly being updated.
The following delivery versions

- PowerPack
- Upgrade

can be used to access updates.

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PowerPack

PowerPacks can be used to upgrade to more powerful software. The licensee receives a new license agreement and CoL (Certificate of License) with the PowerPack. This CoL, together with the CoL for the original product, proves that the new software is licensed.
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Software Licenses

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3VL27 06-3..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL27 06-3D	2/15, 2/33	EAR99	N
3VL27 06-3E	2/37, 2/41	EAR99	N
3VL27 06-3U	2/23, 2/27, 2/31, 2/47, 2/49	EAR99	N
3VL27 08	2/14 ... 15, 2/36 ... 37, 2/40 ... 41	EAR99	N
3VL27 10-1..3	2/14, 2/16, 2/18, 2/20, 2/24, 2/28	a.Anfr.	a.Anfr.
3VL27 10-1..4	2/42, 2/44, 2/50, 2/52	a.Anfr.	a.Anfr.
3VL27 10-1D	2/14, 2/32	EAR99	N
3VL27 10-1E	2/36, 2/40, 2/54	EAR99	N
3VL27 10-1U	2/22, 2/26, 2/30, 2/46, 2/48	EAR99	N
3VL27 10-2..3	2/15, 2/17, 2/19, 2/21, 2/25, 2/29	a.Anfr.	a.Anfr.
3VL27 10-2..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL27 10-2D	2/15, 2/33	EAR99	N
3VL27 10-2E	2/37, 2/41, 2/55	EAR99	N
3VL27 10-2U	2/23, 2/27, 2/31, 2/47, 2/49	EAR99	N
3VL27 10-3..3	2/15, 2/17, 2/19, 2/21, 2/25, 2/29	a.Anfr.	a.Anfr.
3VL27 10-3..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL27 10-3D	2/15, 2/33	EAR99	N
3VL27 10-3E	2/37, 2/41, 2/55	EAR99	N
3VL27 10-3U	2/23, 2/27, 2/31, 2/47, 2/49	EAR99	N
3VL27 12	2/14 ... 15, 2/36 ... 37, 2/40 ... 41	EAR99	N
3VL27 16-1..3	2/14, 2/16, 2/18, 2/20, 2/24, 2/28	a.Anfr.	a.Anfr.
3VL27 16-1..4	2/42, 2/44, 2/50, 2/52	a.Anfr.	a.Anfr.
3VL27 16-1D	2/14, 2/32	EAR99	N
3VL27 16-1E	2/36, 2/40, 2/54	EAR99	N
3VL27 16-1U	2/22, 2/26, 2/30, 2/46, 2/48	EAR99	N
3VL27 16-2..3	2/15, 2/17, 2/19, 2/21, 2/25, 2/29	a.Anfr.	a.Anfr.
3VL27 16-2..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL27 16-2D	2/15, 2/33	EAR99	N
3VL27 16-2E	2/37, 2/41, 2/55	EAR99	N
3VL27 16-2U	2/23, 2/27, 2/31, 2/47, 2/49	EAR99	N
3VL27 16-3..3	2/15, 2/17, 2/19, 2/21, 2/25, 2/29	a.Anfr.	a.Anfr.
3VL27 16-3..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL27 16-3D	2/15, 2/33	EAR99	N
3VL27 16-3E	2/37, 2/41, 2/55	EAR99	N
3VL27 16-3U	2/23, 2/27, 2/31, 2/47, 2/49	EAR99	N
3VL37 20-1..3	2/14, 2/16, 2/18, 2/20, 2/24, 2/28	a.Anfr.	a.Anfr.
3VL37 20-1..4	2/42, 2/44, 2/50, 2/52	a.Anfr.	a.Anfr.
3VL37 20-1D	2/14	EAR99	N
3VL37 20-1E	2/36, 2/40	EAR99	N
3VL37 20-1U	2/22, 2/26, 2/30, 2/46, 2/48	EAR99	N
3VL37 20-2..3	2/15, 2/17, 2/19, 2/21, 2/25, 2/29	a.Anfr.	a.Anfr.
3VL37 20-2..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL37 20-2D	2/15	EAR99	N
3VL37 20-2E	2/37, 2/41	EAR99	N
3VL37 20-2U	2/23, 2/27, 2/31, 2/47, 2/49	EAR99	N
3VL37 20-3..3	2/15, 2/17, 2/19, 2/21, 2/25, 2/29	a.Anfr.	a.Anfr.
3VL37 20-3..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL37 20-3D	2/15	EAR99	N
3VL37 20-3E	2/37, 2/41	EAR99	N
3VL37 20-3U	2/23, 2/27, 2/31, 2/47, 2/49	EAR99	N
3VL37 25-1..3	2/14, 2/16, 2/18, 2/20, 2/24, 2/28	a.Anfr.	a.Anfr.
3VL37 25-1..4	2/42, 2/44, 2/50, 2/52	a.Anfr.	a.Anfr.
3VL37 25-1D	2/14, 2/32	EAR99	N
3VL37 25-1E	2/36, 2/40, 2/54	EAR99	N
3VL37 25-1U	2/22, 2/26, 2/30, 2/46, 2/48	EAR99	N
3VL37 25-2..3	2/15, 2/17, 2/19, 2/21, 2/25, 2/29	a.Anfr.	a.Anfr.
3VL37 25-2..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL37 25-2D	2/15, 2/33	EAR99	N
3VL37 25-2E	2/37, 2/41, 2/55	EAR99	N
3VL37 25-2U	2/23, 2/27, 2/31, 2/47, 2/49	EAR99	N
3VL37 25-3..3	2/15, 2/17, 2/19, 2/21, 2/25, 2/29	a.Anfr.	a.Anfr.
3VL37 25-3..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL37 25-3D	2/15, 2/33	EAR99	N
3VL37 25-3E	2/37, 2/41, 2/55	EAR99	N
3VL37 25-3U	2/23, 2/27, 2/31, 2/47, 2/49	EAR99	N
3VL47 2	2/14 ... 15, 2/32 ... 33, 2/36 ... 37, 2/40 ... 41	EAR99	N
3VL47 31-1..3	2/14, 2/16, 2/18, 2/20, 2/24, 2/28	a.Anfr.	a.Anfr.
3VL47 31-1..4	2/42, 2/44, 2/50, 2/52	a.Anfr.	a.Anfr.
3VL47 31-1D	2/14, 2/32	EAR99	N
3VL47 31-1E	2/36, 2/40	EAR99	N
3VL47 31-1U	2/22, 2/26, 2/30, 2/46, 2/48	EAR99	N
3VL47 31-2..3	2/15, 2/17, 2/19, 2/21, 2/25, 2/29	a.Anfr.	a.Anfr.
3VL47 31-2..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL47 31-2D	2/15, 2/33	EAR99	N
3VL47 31-2E	2/37, 2/41	EAR99	N
3VL47 31-2U	2/23, 2/27, 2/31, 2/47, 2/49	EAR99	N
3VL47 31-3..3	2/15, 2/17, 2/19, 2/21, 2/25, 2/29	a.Anfr.	a.Anfr.
3VL47 31-3..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL47 31-3D	2/15, 2/33	EAR99	N
3VL47 31-3E	2/37, 2/41	EAR99	N
3VL47 31-3U	2/23, 2/27, 2/31, 2/47, 2/49	EAR99	N
3VL47 40-1..3	2/14, 2/16, 2/18, 2/20, 2/24	a.Anfr.	a.Anfr.
3VL47 40-1..4	2/42, 2/44, 2/50, 2/52	a.Anfr.	a.Anfr.
3VL47 40-1D	2/14, 2/32	EAR99	N
3VL47 40-1E	2/36, 2/40, 2/54	EAR99	N
3VL47 40-1U	2/22, 2/26, 2/46, 2/48	EAR99	N
3VL47 40-2..3	2/15, 2/17, 2/19, 2/21, 2/25	a.Anfr.	a.Anfr.
3VL47 40-2..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL47 40-2D	2/15, 2/33	EAR99	N
3VL47 40-2E	2/37, 2/41, 2/55	EAR99	N
3VL47 40-2U	2/23, 2/27, 2/47, 2/49	EAR99	N
3VL47 40-3..3	2/15, 2/17, 2/19, 2/21, 2/25	a.Anfr.	a.Anfr.
3VL47 40-3..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL47 40-3D	2/15, 2/33	EAR99	N
3VL47 40-3E	2/37, 2/41, 2/55	EAR99	N
3VL47 40-3U	2/23, 2/27, 2/47, 2/49	EAR99	N

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3VL57 3	2/14 ... 15, 2/32 ... 33, 2/36 ... 37, 2/40 ... 41	EAR99	N
3VL57 4	2/14 ... 15, 2/36 ... 37, 2/40 ... 41	EAR99	N
3VL57 50-1.	2/28	a.Anfr.	a.Anfr.
3VL57 50-1DC	2/14	EAR99	N
3VL57 50-1DK	2/32	N	N
3VL57 50-1E	2/36, 2/40	EAR99	N
3VL57 50-1U	2/30	EAR99	N
3VL57 50-2.	2/29	a.Anfr.	a.Anfr.
3VL57 50-2DC	2/15	EAR99	N
3VL57 50-2DK	2/33	N	N
3VL57 50-2E	2/37, 2/41	EAR99	N
3VL57 50-2U	2/31	EAR99	N
3VL57 50-3.	2/29	a.Anfr.	a.Anfr.
3VL57 50-3DC	2/15	EAR99	N
3VL57 50-3DK	2/33	N	N
3VL57 50-3E	2/37, 2/41	EAR99	N
3VL57 50-3U	2/31	EAR99	N
3VL57 63-1..3	2/14, 2/16, 2/18, 2/20, 2/24	a.Anfr.	a.Anfr.
3VL57 63-1..4	2/42, 2/44, 2/50, 2/52	a.Anfr.	a.Anfr.
3VL57 63-1D	2/14, 2/32	EAR99	N
3VL57 63-1E	2/36, 2/40, 2/54	EAR99	N
3VL57 63-1U	2/22, 2/26, 2/46, 2/48	EAR99	N
3VL57 63-2..3	2/15, 2/17, 2/19, 2/21, 2/25	a.Anfr.	a.Anfr.
3VL57 63-2..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL57 63-2D	2/15, 2/33	EAR99	N
3VL57 63-2E	2/37, 2/41, 2/55	EAR99	N
3VL57 63-2U	2/23, 2/27, 2/47, 2/49	EAR99	N
3VL57 63-3..3	2/15, 2/17, 2/19, 2/21, 2/25	a.Anfr.	a.Anfr.
3VL57 63-3..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL57 63-3D	2/15, 2/33	EAR99	N
3VL57 63-3E	2/37, 2/41, 2/55	EAR99	N
3VL57 63-3U	2/23, 2/27, 2/47, 2/49	EAR99	N
3VL67 80-1..3	2/14, 2/16, 2/18, 2/20, 2/24	a.Anfr.	a.Anfr.
3VL67 80-1..4	2/42, 2/44, 2/50, 2/52	a.Anfr.	a.Anfr.
3VL67 80-1D	2/32	EAR99	N
3VL67 80-1E	2/54	EAR99	N
3VL67 80-1U	2/22, 2/26, 2/46, 2/48	EAR99	N
3VL67 80-2..3	2/15, 2/17, 2/19, 2/21, 2/25	a.Anfr.	a.Anfr.
3VL67 80-2..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL67 80-2D	2/33	EAR99	N
3VL67 80-2E	2/55	EAR99	N
3VL67 80-2U	2/23, 2/27, 2/47, 2/49	EAR99	N
3VL67 80-3..3	2/15, 2/17, 2/19, 2/21, 2/25	a.Anfr.	a.Anfr.
3VL67 80-3..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL67 80-3D	2/33	EAR99	N
3VL67 80-3E	2/55	EAR99	N
3VL67 80-3U	2/23, 2/27, 2/47, 2/49	EAR99	N
3VL77 10-1..3	2/14, 2/16, 2/18, 2/20, 2/24	a.Anfr.	a.Anfr.
3VL77 10-1..4	2/42, 2/44, 2/50, 2/52	a.Anfr.	a.Anfr.
3VL77 10-1U	2/22, 2/26, 2/46, 2/48	EAR99	N
3VL77 10-2..3	2/15, 2/17, 2/19, 2/21, 2/25	a.Anfr.	a.Anfr.
3VL77 10-2..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL77 10-2U	2/23, 2/27, 2/47, 2/49	EAR99	N
3VL77 10-3..3	2/15, 2/17, 2/19, 2/21, 2/25	a.Anfr.	a.Anfr.
3VL77 10-3..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL77 10-3U	2/23, 2/27, 2/47, 2/49	EAR99	N
3VL77 12-1..3	2/14, 2/16, 2/18, 2/20, 2/24	a.Anfr.	a.Anfr.
3VL77 12-1..4	2/42, 2/44, 2/50, 2/52	a.Anfr.	a.Anfr.
3VL77 12-1D	2/32	EAR99	N
3VL77 12-1E	2/54	EAR99	N
3VL77 12-1U	2/22, 2/26, 2/46, 2/48	EAR99	N
3VL77 12-2..3	2/15, 2/17, 2/19, 2/21, 2/25	a.Anfr.	a.Anfr.
3VL77 12-2..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL77 12-2D	2/33	EAR99	N
3VL77 12-2E	2/55	EAR99	N
3VL77 12-2U	2/23, 2/27, 2/47, 2/49	EAR99	N
3VL77 12-3..3	2/15, 2/17, 2/19, 2/21, 2/25	a.Anfr.	a.Anfr.
3VL77 12-3..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL77 12-3D	2/33	EAR99	N
3VL77 12-3E	2/55	EAR99	N
3VL77 12-3U	2/23, 2/27, 2/47, 2/49	EAR99	N
3VL87 16-1..3	2/14, 2/16, 2/18, 2/20, 2/24	a.Anfr.	a.Anfr.
3VL87 16-1..4	2/42, 2/44, 2/50, 2/52	a.Anfr.	a.Anfr.
3VL87 16-1D	2/32	EAR99	N
3VL87 16-1E	2/54	EAR99	N
3VL87 16-1U	2/22, 2/26, 2/46, 2/48	EAR99	N
3VL87 16-2..3	2/15, 2/17, 2/19, 2/21, 2/25	a.Anfr.	a.Anfr.
3VL87 16-2..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL87 16-2D	2/33	EAR99	N
3VL87 16-2E	2/55	EAR99	N
3VL87 16-2U	2/23, 2/27, 2/47, 2/49	EAR99	N
3VL87 16-3..3	2/15, 2/17, 2/19, 2/21, 2/25	a.Anfr.	a.Anfr.
3VL87 16-3..4	2/43, 2/45, 2/51, 2/53	a.Anfr.	a.Anfr.
3VL87 16-3D	2/33	EAR99	N
3VL87 16-3E	2/55	EAR99	N
3VL87 16-3U	2/23, 2/27, 2/47, 2/49	EAR99	N
3VL9 000-4	2/72 ... 77	EAR99	N
3VL9 000-8AP	2/86 ... 90	EAR99	N
3VL9 000-8AQ	2/93	EAR99	N
3VL9 000-8AU	2/93	N	N
3VL9 000-8AV	2/93	EAR99	N
3VL9 000-8L	2/85 ... 90	EAR99	N
3VL9 100-3	2/68	N	N
3VL9 100-4	2/72, 2/79	EAR99	N
3VL9 112	2/78	EAR99H	N
3VL9 115	2/79	EAR99	N
3VL9 116	2/79	EAR99	N
3VL9 20	2/73, 2/79 ... 80	EAR99	N
3VL9 210	2/92	N	N
3VL9 215	2/80	EAR99	N
3VL9 216-4	2/79 ... 80	EAR99	N
3VL9 216-5GC3	2/78	N	N
3VL9 216-5GC4	2/78	EAR99H	N
3VL9 216-5GD	2/78	EAR99H	N
3VL9 216-8	2/92	N	N
3VL9 28	2/92	N	N
3VL9 300-3A	2/64	EAR99	N
3VL9 300-3H	2/64, 2/85 ... 87	EAR99	N
3VL9 300-3MA	2/68	N	N
3VL9 300-3MC	2/68	N	N
3VL9 300-3MD	2/68	N	N

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		ECCN	AL
3VL9 300-3ME	2/68	N	N
3VL9 300-3MJ	2/68	EAR99	N
3VL9 300-3ML	2/68	EAR99	N
3VL9 300-3MN	2/68	EAR99	N
3VL9 300-3MQ	2/68	EAR99	N
3VL9 300-3MS	2/68	EAR99	N
3VL9 300-3T	2/81	EAR99	N
3VL9 300-4E	2/81	EAR99	N
3VL9 300-4P	2/72 ... 73	EAR99	N
3VL9 300-4R	2/81	EAR99	N
3VL9 300-4TA	2/81	N	N
3VL9 300-4TC	2/81	EAR99	N
3VL9 300-4TD	2/81	EAR99	N
3VL9 300-4W	2/73	EAR99	N
3VL9 300-8B	2/85 ... 87, 2/94 ... 95	EAR99	N
3VL9 300-8CA3	2/79 ... 81	N	N
3VL9 300-8CA4	2/79 ... 81	EAR99	N
3VL9 300-8CB	2/79 ... 81	EAR99	N
3VL9 300-8CE	2/79 ... 81	N	N
3VL9 300-8L	2/85 ... 87	EAR99	N
3VL9 300-8S	2/85 ... 87	EAR99	N
3VL9 320	2/92	N	N
3VL9 321	2/85 ... 87	EAR99	N
3VL9 324	2/81	EAR99	N
3VL9 325-5GE3	2/78	N	N
3VL9 325-5GE4	2/78	EAR99H	N
3VL9 325-5GF	2/78	EAR99H	N
3VL9 325-8	2/92	N	N
3VL9 400-1S	2/61	N	N
3VL9 400-1UD	2/61	N	N
3VL9 400-1UG	2/61	N	N
3VL9 400-1UH	2/61	N	N
3VL9 400-1UJ	2/61	N	N
3VL9 400-1UK	2/61	N	N
3VL9 400-1UL	2/61	N	N
3VL9 400-1UM	2/61	N	N
3VL9 400-1UN	2/61	EAR99	N
3VL9 400-1UP	2/61	EAR99	N
3VL9 400-1UQ	2/61	N	N
3VL9 400-1UR	2/61	EAR99	N
3VL9 400-1US	2/61	N	N
3VL9 400-1UU	2/61	EAR99	N
3VL9 400-1UV	2/61	EAR99	N
3VL9 400-2	2/61, 2/63	EAR99	N
3VL9 400-3A	2/65	EAR99	N
3VL9 400-3H	2/65, 2/68, 2/87	EAR99	N
3VL9 400-3MA	2/68	N	N
3VL9 400-3MC	2/68	N	N
3VL9 400-3MD	2/68	N	N
3VL9 400-3ME	2/68	N	N
3VL9 400-3MJ	2/68	N	N
3VL9 400-3ML	2/68	EAR99	N
3VL9 400-3MN	2/68	EAR99	N
3VL9 400-3MQ	2/68	EAR99	N
3VL9 400-3MS	2/68	EAR99	N
3VL9 400-3T	2/81 ... 83	EAR99	N

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		ECCN	AL
3VL9 400-4	2/74, 2/81	EAR99	N
3VL9 400-8B	2/87, 2/94	EAR99	N
3VL9 400-8CA	2/81	EAR99	N
3VL9 400-8CB3	2/81	N	N
3VL9 400-8CB4	2/81	EAR99	N
3VL9 400-8L	2/87	EAR99	N
3VL9 440-5GG	2/78	N	N
3VL9 440-5GH	2/78	EAR99	N
3VL9 440-8	2/92	EAR99	N
3VL9 46	2/81	EAR99	N
3VL9 50	2/65, 2/75, 2/82, 2/87 ... 88	EAR99	N
3VL9 56	2/92	N	N
3VL9 600-3A	2/65 ... 66	EAR99	N
3VL9 600-3HA	2/65 ... 66	EAR99	N
3VL9 600-3HC	2/65 ... 66	EAR99	N
3VL9 600-3HE	2/65 ... 66	N	N
3VL9 600-3HF	2/65 ... 66	N	N
3VL9 600-3HG	2/65 ... 66	EAR99	N
3VL9 600-3HL	2/88 ... 89	EAR99	N
3VL9 600-3HN	2/68	EAR99	N
3VL9 600-3HP	2/65 ... 66	EAR99	N
3VL9 600-3MA	2/68	N	N
3VL9 600-3MC	2/68	N	N
3VL9 600-3MD	2/68	N	N
3VL9 600-3ME	2/68	N	N
3VL9 600-3MJ	2/68	EAR99	N
3VL9 600-3ML	2/68	EAR99	N
3VL9 600-3MN	2/68	EAR99	N
3VL9 600-3MQ	2/68	EAR99	N
3VL9 600-3MS	2/68	EAR99	N
3VL9 600-4	2/75, 2/83	EAR99	N
3VL9 600-8B	2/88, 2/95	EAR99	N
3VL9 600-8CA	2/82 ... 83	EAR99	N
3VL9 600-8CB	2/82 ... 83	EAR99	N
3VL9 600-8CE	2/81 ... 83	N	N
3VL9 600-8L	2/88 ... 89	EAR99	N
3VL9 600-8S	2/89	EAR99	N
3VL9 68	2/92	N	N
3VL9 700-4	2/83	EAR99	N
3VL9 700-8	2/86 ... 90	N	N
3VL9 712	2/92	N	N
3VL9 715	2/85 ... 90	EAR99	N
3VL9 800-1S	2/62	N	N
3VL9 800-1UD	2/62	N	N
3VL9 800-1UG	2/62	N	N
3VL9 800-1UH	2/62	N	N
3VL9 800-1UJ	2/62	N	N
3VL9 800-1UK	2/62	EAR99	N
3VL9 800-1UL	2/62	N	N
3VL9 800-1UM	2/62	N	N
3VL9 800-1UN	2/62	N	N
3VL9 800-1UP	2/62	N	N
3VL9 800-1UQ	2/62	N	N
3VL9 800-1UR	2/62	N	N
3VL9 800-1US	2/62	N	N
3VL9 800-1UU	2/62	N	N

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		ECCN	AL
3VL9 800-1UV	2/62	N	N
3VL9 800-2	2/62	EAR99	N
3VL9 800-3AS	2/67	N	N
3VL9 800-3AT	2/67	N	N
3VL9 800-3AU	2/67	EAR99	N
3VL9 800-3AW	2/67	EAR99	N
3VL9 800-3H	2/67 ... 68, 2/89 ... 90	EAR99	N
3VL9 800-3MJ	2/68	EAR99	N
3VL9 800-3ML	2/68	EAR99	N
3VL9 800-3MN	2/68	EAR99	N
3VL9 800-3MQ	2/68	N	N
3VL9 800-3MS	2/68	EAR99	N
3VL9 800-4	2/76 ... 77, 2/83 ... 84	EAR99	N
3VL9 800-8	2/83 ... 84, 2/89 ... 90, 2/96 ... 97	EAR99	N
3VL9 816-2	2/63	EAR99	N
3VL9 816-8	2/92	N	N
3VT1 716-2D	7/46	a.Anfr.	a.Anfr.
3VT1 716-2E	7/46	N	N
3VT2 725-2D	7/51	a.Anfr.	a.Anfr.
3VT2 725-2E	7/51	N	N
3VT3 763-2D	7/57	a.Anfr.	a.Anfr.
3VT3 763-2E	7/57	N	N
3VT4	7/63	N	N
3VT5	7/64	N	N
3VT9 100-1	7/46	N	N
3VT9 100-2	7/46	N	N
3VT9 100-3H	7/47, 7/50	N	N
3VT9 100-3MA	7/48	EAR99	N
3VT9 100-3MB	7/48	EAR99	N
3VT9 100-3MD	7/48	EAR99	N
3VT9 100-3ME	7/48	EAR99	N
3VT9 100-3MF	7/48	N	N
3VT9 100-4	7/49 ... 50	N	N
3VT9 100-8	7/48, 7/50	N	N
3VT9 2	7/52 ... 56, 7/62	N	N
3VT9 3	7/51 ... 53, 7/56 ... 62	N	N
3VT9 4	7/66	N	N
3VT9 5	7/64 ... 67	N	N
3W			
3WL11 06-2	1/9 ... 10, 1/16 ... 17, 1/23 ... 24, 1/30 ... 31	EAR99	N
3WL11 06-3	1/11 ... 12, 1/18 ... 19, 1/25 ... 26, 1/32 ... 33	EAR99	N
3WL11 06-4	1/13 ... 14, 1/20 ... 21, 1/27 ... 28, 1/34 ... 35	EAR99	N
3WL11 08-2	1/9 ... 10, 1/16 ... 17, 1/23 ... 24, 1/30 ... 31	EAR99	N
3WL11 08-3	1/11 ... 12, 1/18 ... 19, 1/25 ... 26, 1/32 ... 33	EAR99	N
3WL11 08-4	1/13 ... 14, 1/20 ... 21, 1/27 ... 28, 1/34 ... 35	EAR99	N
3WL11 10-2	1/9 ... 10, 1/16 ... 17, 1/23 ... 24, 1/30 ... 31	EAR99	N
3WL11 10-3	1/11 ... 12, 1/18 ... 19, 1/25 ... 26, 1/32 ... 33	EAR99	N
3WL11 10-4	1/13 ... 14, 1/20 ... 21, 1/27 ... 28, 1/34 ... 35	EAR99	N
3WL11 12-2	1/9 ... 10, 1/16 ... 17, 1/23 ... 24, 1/30 ... 31	EAR99	N
3WL11 12-3	1/11 ... 12, 1/18 ... 19, 1/25 ... 26, 1/32 ... 33	EAR99	N
3WL11 12-4	1/13 ... 14, 1/20 ... 21, 1/27 ... 28, 1/34 ... 35	EAR99	N
3WL11 16-2	1/9 ... 10, 1/16 ... 17, 1/23 ... 24, 1/30 ... 31	EAR99	N
3WL11 16-3	1/11 ... 12, 1/18 ... 19, 1/25 ... 26, 1/32 ... 33	EAR99	N
3WL11 16-4	1/13 ... 14, 1/20 ... 21, 1/27 ... 28, 1/34 ... 35	EAR99	N
3WL11 20-2	1/9 ... 10, 1/16 ... 17, 1/23 ... 24, 1/30 ... 31	EAR99	N
3WL11 20-3	1/11 ... 12, 1/18 ... 19, 1/25 ... 26, 1/32 ... 33	EAR99	N
3WL11 20-4	1/13 ... 14, 1/20 ... 21, 1/27 ... 28, 1/34 ... 35	EAR99	N
3WL12 08-2	1/9 ... 10, 1/16 ... 17, 1/23 ... 24, 1/30 ... 31	EAR99	N
3WL12 08-3	1/11 ... 12, 1/18 ... 19, 1/25 ... 26, 1/32 ... 33	EAR99	N
3WL12 08-4	1/13 ... 14, 1/20 ... 21, 1/27 ... 28, 1/34 ... 35	EAR99	N
3WL12 10-2	1/9 ... 10, 1/16 ... 17, 1/23 ... 24, 1/30 ... 31	EAR99	N
3WL12 10-3	1/11 ... 12, 1/18 ... 19, 1/25 ... 26, 1/32 ... 33	EAR99	N
3WL12 10-4	1/13 ... 14, 1/20 ... 21, 1/27 ... 28, 1/34 ... 35	EAR99	N
3WL12 10-8	1/66 ... 68	EAR99	N
3WL12 12-2	1/9 ... 10, 1/16 ... 17, 1/23 ... 24, 1/30 ... 31	EAR99	N
3WL12 12-3	1/11 ... 12, 1/18 ... 19, 1/25 ... 26, 1/32 ... 33	EAR99	N
3WL12 12-4	1/13 ... 14, 1/20 ... 21, 1/27 ... 28, 1/34 ... 35	EAR99	N
3WL12 16-2	1/9 ... 10, 1/16 ... 17, 1/23 ... 24, 1/30 ... 31	EAR99	N
3WL12 16-3	1/11 ... 12, 1/18 ... 19, 1/25 ... 26, 1/32 ... 33	EAR99	N
3WL12 16-4	1/13 ... 14, 1/20 ... 21, 1/27 ... 28, 1/34 ... 35	EAR99	N
3WL12 20-2	1/9 ... 10, 1/16 ... 17, 1/23 ... 24, 1/30 ... 31	EAR99	N
3WL12 20-3	1/11 ... 12, 1/18 ... 19, 1/25 ... 26, 1/32 ... 33	EAR99	N
3WL12 20-4	1/13 ... 14, 1/20 ... 21, 1/27 ... 28, 1/34 ... 35	EAR99	N
3WL12 20-8	1/66 ... 68	EAR99	N
3WL12 25-2	1/9 ... 10, 1/16 ... 17, 1/23 ... 24, 1/30 ... 31	EAR99	N
3WL12 25-3	1/11 ... 12, 1/18 ... 19, 1/25 ... 26, 1/32 ... 33	EAR99	N
3WL12 25-4	1/13 ... 14, 1/20 ... 21, 1/27 ... 28, 1/34 ... 35	EAR99	N
3WL12 32-2	1/9 ... 10, 1/16 ... 17, 1/23 ... 24, 1/30 ... 31	EAR99	N
3WL12 32-3	1/11 ... 12, 1/18 ... 19, 1/25 ... 26, 1/32 ... 33	EAR99	N
3WL12 32-4	1/13 ... 14, 1/20 ... 21, 1/27 ... 28, 1/34 ... 35	EAR99	N
3WL12 40-2	1/9, 1/17, 1/23, 1/31	EAR99	N
3WL12 40-3	1/11, 1/19, 1/25, 1/33	EAR99	N
3WL12 40-4	1/13, 1/21, 1/27, 1/35	EAR99	N
3WL12 40-8	1/66 ... 68	EAR99	N
3WL13 40-4	1/13 ... 14, 1/20 ... 21, 1/27 ... 28, 1/34 ... 35	EAR99	N
3WL13 40-5	1/15, 1/22, 1/29, 1/36	EAR99	N

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3WL13 50-5	1/15, 1/22, 1/29, 1/36	EAR99	N
3WL13 63-4	1/13, 1/20 ... 21, 1/27, 1/34 ... 35	EAR99	N
3WL13 63-5	1/15, 1/22, 1/29, 1/36	EAR99	N
3WL9 111-0AA	1/51	EAR99	N
3WL9 111-0AB	1/56	EAR99	N
3WL9 111-0AD	1/57	EAR99	N
3WL9 111-0AE	1/57	EAR99	N
3WL9 111-0AF	1/57	EAR99	N
3WL9 111-0AG	1/57	EAR99	N
3WL9 111-0AH	1/55	EAR99	N
3WL9 111-0AJ	1/55	EAR99	N
3WL9 111-0AK	1/51 ... 52	EAR99	N
3WL9 111-0AL	1/61	EAR99	N
3WL9 111-0AM	1/61, 1/63	EAR99	N
3WL9 111-0AN	1/62	EAR99	N
3WL9 111-0AP	1/58	EAR99	N
3WL9 111-0AR	1/58	EAR99	N
3WL9 111-0AS	1/58	EAR99	N
3WL9 111-0AT	1/51 ... 52, 1/54, 1/59 ... 60	EAR99	N
3WL9 111-0BA	1/52 ... 55, 1/59, 2/61 ... 62	EAR99	N
3WL9 111-0BB	1/53 ... 54, 1/59 ... 60	EAR99	N
3WL9 111-0BC	1/59 ... 60, 1/63	EAR99	N
3WL9 111-0BD	1/64	EAR99	N
3WL9 112	1/54	EAR99	N
3WL9 2	1/45, 1/47 ... 48, 1/50, 1/69 ... 70	EAR99	N
3WL9 3	1/51	EAR99	N
3Z			
3ZS2 71	13/18	EAR99S	N
3ZS2 781-1CC10	13/12	N	N
3ZS2 781-1CC11	13/12	5D992	N
3ZS2 782	13/13	5D992	N
3ZS2 791-1CC10	13/14	N	N
3ZS2 791-1CC11	13/14	5D992	N
4A			
4AC	9/3 ... 5	N	N
4N			
4NC	2/99 ... 100	N	N
5S			
5SA	5/13	N	N
5SB	5/13	N	N
5SC	5/13	N	N
5SD	5/13 ... 14, 5/65, 6/4, 6/6, 6/8 ... 11, 6/16	N	N
5SE	5/7, 5/65	N	N
5SF	5/14 ... 15, 10/30 ... 31	N	N
5SG	5/8 ... 9, 10/30 ... 31	N	N
5SH1	5/15	N	N
5SH2	5/16, 10/31	N	N
5SH3	5/16 ... 17, 5/32, 10/10, 10/14, 10/31	N	N
5SH4	5/11	N	N
5SH5	5/8, 5/10 ... 11, 5/31 ... 32, 10/30, 10/32	N	N

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5SJ	3/28, 3/63 ... 67	N	N
5SL	3/6 ... 9	N	N
5SM1 92	4/33	N	N
5SM1 93	4/16	EAR99H	N
5SM2 1	3/36, 4/18 ... 19	N	N
5SM2 322-0	4/18	N	N
5SM2 322-3	4/21	EAR99H	N
5SM2 322-6	3/36, 4/19	N	N
5SM2 322-6K	3/37, 4/20	EAR99H	N
5SM2 325-0	4/18	N	N
5SM2 325-3	4/21	EAR99H	N
5SM2 325-6	3/36, 4/19	N	N
5SM2 325-6K	3/37, 4/20	EAR99H	N
5SM2 327	3/36, 4/18 ... 19	EAR99H	N
5SM2 332-0	4/18	N	N
5SM2 332-6	3/36, 4/19	N	N
5SM2 332-6K	3/37, 4/20	EAR99H	N
5SM2 335-0	4/18	N	N
5SM2 335-6	3/36, 4/19	N	N
5SM2 335-6K	3/37, 4/20	EAR99H	N
5SM2 342-0	4/18	N	N
5SM2 342-6	3/36, 4/19	N	N
5SM2 342-6K	3/37, 4/20	EAR99H	N
5SM2 345-0	4/18	N	N
5SM2 345-6	3/36, 4/19	N	N
5SM2 345-6K	3/37, 4/20	EAR99H	N
5SM2 347	3/36, 4/18 ... 19	EAR99H	N
5SM2 4	3/36, 4/19	N	N
5SM2 622-0	4/18	N	N
5SM2 622-2	4/18	EAR99H	N
5SM2 622-6	3/36, 4/19	N	N
5SM2 622-8	3/37, 4/20	EAR99H	N
5SM2 625-0	4/18	N	N
5SM2 625-2	4/18	EAR99H	N
5SM2 625-6	3/36, 4/19	N	N
5SM2 625-8	3/37, 4/20	EAR99H	N
5SM2 627-0	4/18	EAR99H	N
5SM2 627-6	3/36, 4/19	EAR99H	N
5SM2 627-8	3/37, 4/21	N	N
5SM2 632	3/36, 4/18 ... 19	N	N
5SM2 635-0	4/18	N	N
5SM2 635-6	3/36, 4/19	N	N
5SM2 635-8	3/37, 4/20	EAR99H	N
5SM2 642	3/36, 4/18 ... 19	N	N
5SM2 645-0	4/18	N	N
5SM2 645-2	4/18	EAR99H	N
5SM2 645-6	3/36, 4/19	N	N
5SM2 645-8	3/37, 4/20	EAR99H	N
5SM2 647	3/36 ... 37, 4/18 ... 19, 4/21	EAR99H	N
5SM2 72	3/36, 4/18 ... 19	EAR99H	N
5SM2 735-0	4/18	N	N
5SM2 735-6	3/36, 4/19	N	N
5SM2 735-8	3/37, 4/20	EAR99H	N
5SM2 745-0	4/18	N	N
5SM2 745-6	3/36, 4/19	N	N
5SM2 745-8	3/37, 4/20	EAR99H	N

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5SM2 822	4/20	EAR99H	N
5SM2 825-0	4/18	N	N
5SM2 825-8	4/20	EAR99H	N
5SM2 827	4/21	EAR99H	N
5SM2 83	3/37, 4/20	EAR99H	N
5SM2 84	3/37, 4/18, 4/20 ... 21	EAR99H	N
5SM3 1	4/5, 4/7	N	N
5SM3 311	4/5, 4/7, 4/10	N	N
5SM3 312-0	4/5 ... 6	N	N
5SM3 312-3	4/10	N	N
5SM3 312-6	4/7	N	N
5SM3 312-6KK0	4/8, 4/10	N	N
5SM3 312-6KK1	4/9	EAR99H	N
5SM3 312-6KL	4/7	N	N
5SM3 312-6KL0	4/8	N	N
5SM3 312-6KL1	4/9	EAR99H	N
5SM3 314-0	4/5 ... 6	N	N
5SM3 314-3	4/10	N	N
5SM3 314-6	4/7	N	N
5SM3 314-6KK0	4/8	N	N
5SM3 314-6KK1	4/9	EAR99H	N
5SM3 314-6KL	4/7	N	N
5SM3 314-6KL0	4/8	N	N
5SM3 314-6KL1	4/9	EAR99H	N
5SM3 315	4/5, 4/7	N	N
5SM3 316-0	4/5	N	N
5SM3 316-3	4/10	EAR99H	N
5SM3 316-6	4/7	N	N
5SM3 316-6KK	4/8 ... 9	EAR99H	N
5SM3 316-6KL	4/7	N	N
5SM3 316-6KL0	4/8	EAR99H	N
5SM3 317-0	4/5	N	N
5SM3 317-6	4/7	N	N
5SM3 317-6K	4/9	EAR99H	N
5SM3 318	4/5, 4/7	N	N
5SM3 32	4/12	EAR99H	N
5SM3 342-0	4/5 ... 6	N	N
5SM3 342-3	4/10	N	N
5SM3 342-4	4/12	EAR99H	N
5SM3 342-6	4/7	N	N
5SM3 342-6KK01	4/8	N	N
5SM3 342-6KK03	4/10	EAR99H	N
5SM3 342-6KK1	4/9	N	N
5SM3 342-6KL	4/8	N	N
5SM3 344-0	4/5 ... 6	N	N
5SM3 344-3	4/10	N	N
5SM3 344-4	4/12	EAR99H	N
5SM3 344-6	4/7	N	N
5SM3 344-6KK01	4/8	N	N
5SM3 344-6KK03	4/10	EAR99H	N
5SM3 344-6KK1	4/9	N	N
5SM3 344-6KL	4/8	N	N
5SM3 345	4/5, 4/7	N	N
5SM3 346-0	4/5 ... 6	N	N
5SM3 346-3	4/10	N	N
5SM3 346-4	4/12	EAR99H	N
5SM3 346-6	4/7 ... 9	N	N
5SM3 347-0	4/5 ... 6	N	N
5SM3 347-4	4/12	EAR99H	N
5SM3 347-6	4/7 ... 9	N	N
5SM3 348	4/5, 4/7	N	N
5SM3 35	4/10	N	N
5SM3 412	4/5 ... 7	N	N
5SM3 414	4/5 ... 7	N	N
5SM3 415	4/5, 4/7	N	N
5SM3 416-0	4/5	N	N
5SM3 416-6	4/7	EAR99H	N
5SM3 416-8	4/9	EAR99H	N
5SM3 417-0	4/5	N	N
5SM3 417-6	4/7	EAR99H	N
5SM3 418	4/5, 4/7	N	N
5SM3 442	4/5 ... 6	N	N
5SM3 444-0	4/5 ... 6	N	N
5SM3 444-6	4/7	N	N
5SM3 444-8	4/9	EAR99H	N
5SM3 445	4/5, 4/7	N	N
5SM3 446-0	4/5 ... 6	N	N
5SM3 446-6	4/7 ... 8	N	N
5SM3 446-8	4/9	EAR99H	N
5SM3 448	4/5, 4/7	N	N
5SM3 612	4/5, 4/7	N	N
5SM3 614-0	4/5	N	N
5SM3 614-6	4/7	N	N
5SM3 614-8	4/9	EAR99H	N
5SM3 615	4/5, 4/7	N	N
5SM3 616-0	4/5	N	N
5SM3 616-6	4/7	N	N
5SM3 616-6KK	4/8	EAR99H	N
5SM3 616-6KL	4/7	N	N
5SM3 616-6KL0	4/8	EAR99H	N
5SM3 616-8	4/9	EAR99H	N
5SM3 617-0	4/5	N	N
5SM3 617-6	4/7	N	N
5SM3 617-8	4/9	EAR99H	N
5SM3 618	4/5, 4/7	N	N
5SM3 62	4/12	EAR99H	N
5SM3 642-0	4/5 ... 6	N	N
5SM3 642-4	4/12	EAR99H	N
5SM3 642-6	4/7 ... 8	N	N
5SM3 644-0	4/5 ... 6	N	N
5SM3 644-4	4/12	EAR99H	N
5SM3 644-6	4/7 ... 9	N	N
5SM3 644-8	4/9	N	N
5SM3 645	4/5, 4/7, 4/9	N	N
5SM3 646-0	4/5 ... 6	N	N
5SM3 646-4	4/12	EAR99H	N
5SM3 646-5	4/12	EAR99H	N
5SM3 646-6	4/7 ... 9	N	N
5SM3 646-8	4/9	N	N
5SM3 646-8KK	4/10	EAR99H	N
5SM3 646-8KL	4/9	N	N
5SM3 647-0	4/5 ... 6	N	N

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5SM3 647-4	4/12	EAR99H	N
5SM3 647-5	4/12	EAR99H	N
5SM3 647-6	4/7 ... 8	N	N
5SM3 647-8	4/9	N	N
5SM3 648	4/5 ... 7, 4/9	N	N
5SM3 65	4/10	N	N
5SM3 742	4/5, 4/7	N	N
5SM3 744	4/5, 4/7	N	N
5SM3 745	4/5, 4/7, 4/9	N	N
5SM3 746-0	4/5	N	N
5SM3 746-4	4/12	EAR99H	N
5SM3 746-5	4/12	EAR99H	N
5SM3 746-6	4/7 ... 8	N	N
5SM3 747	4/12	EAR99H	N
5SM3 748	4/5, 4/7	N	N
5SM3 8	4/9	EAR99H	N
5SM6	4/38	EAR99H	N
5SP	3/18, 3/71 ... 72	N	N
5ST1	3/72	N	N
5ST2	3/38 ... 39, 3/56, 3/59, 4/32, 4/34, 5/25, 5/31 ... 32	N	N
5ST3 01	3/35, 3/67, 5/8, 8/7, 8/17, 8/20	N	N
5ST3 02	3/35, 3/67	N	N
5ST3 03	3/35, 3/67	N	N
5ST3 04	3/35	EAR99H	N
5ST3 05	3/35, 4/16	N	N
5ST3 6	3/32, 3/43 ... 44, 3/52, 3/68, 4/31 ... 32, 5/32 ... 33	N	N
5ST3 7	3/32, 3/44 ... 46, 3/52, 4/31 ... 32, 4/38, 5/30 ... 31, 5/33	N	N
5ST3 8	3/38, 3/68, 4/16, 4/29, 8/7, 8/18	N	N
5SU1 1	4/27	EAR99H	N
5SU1 324-0	4/25	EAR99H	N
5SU1 324-1	4/25	EAR99H	N
5SU1 324-6F	4/28	N	N
5SU1 324-6K	4/28	EAR99H	N
5SU1 324-7F	4/28	N	N
5SU1 324-7K	4/28	EAR99H	N
5SU1 344-0	4/25	N	N
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5SU1 35	4/24 ... 28	N	N
5SU1 37	4/13	EAR99H	N
5SU1 624-0	4/25	N	N
5SU1 624-1	4/25	N	N
5SU1 624-6K	4/28	EAR99H	N
5SU1 624-6W	4/28	N	N
5SU1 624-7K	4/28	EAR99H	N
5SU1 624-7W	4/28	N	N
5SU1 64	4/25, 4/28	N	N
5SU1 653-1	4/24	N	N
5SU1 653-7	4/26	EAR99H	N
5SU1 654	4/25, 4/27	N	N
5SU1 656-0	4/24	N	N
5SU1 656-1	4/24	N	N
5SU1 656-6KK0	4/26	N	N
5SU1 656-6KK1	4/26	EAR99H	N
5SU1 656-6KK2	4/26	EAR99H	N
5SU1 656-6KK3	4/26	EAR99H	N
5SU1 656-6KK4	4/26	EAR99H	N
5SU1 656-7	4/26	EAR99H	N
5SU1 67	4/13	EAR99H	N
5SU1 8	4/28	N	N
5SU14	4/25	N	N
5SV	12/10	N	N
5SW	3/39, 4/16, 4/34	N	N
5SY3	3/30	N	N
5SY4	3/14 ... 17	N	N
5SY5	3/19 ... 20	N	N
5SY6	3/12 ... 13, 3/31	N	N
5SY7	3/21 ... 23	N	N
5SY8	3/24 ... 25	N	N
5SZ	4/33	N	N
5T			
5TE1	7/28	N	N
5TE2	8/19 ... 20	N	N
5TE4	8/9	N	N
5TE5	8/12	N	N
5TE6	9/6 ... 7	N	N
5TE8	8/6, 8/16 ... 17	N	N
5TE9	4/16, 7/29, 8/18, 8/23, 9/7	N	N
5TG	3/38, 8/7, 8/10, 8/12, 8/18, 8/29, 12/32 ... 33	N	N
5TT1	8/46	N	N
5TT3	5/44, 8/37, 8/50, 12/14 ... 15, 12/19 ... 21, 12/28 ... 29, 12/32 ... 35, 12/37, 12/41	N	N
5TT4 10	8/26	N	N
5TT4 11	8/26	N	N
5TT4 121	8/26	EAR99H	N
5TT4 122	8/26	EAR99H	N
5TT4 123	8/26	N	N
5TT4 125	8/26	EAR99H	N
5TT4 13	8/26	N	N
5TT4 14	8/26	N	N
5TT4 15	8/26	EAR99H	N
5TT4 2	8/29	N	N
5TT4 9	8/27	N	N
5TT5	8/32, 8/35 ... 36, 12/30	N	N
5TT6	12/17 ... 18	N	N
6A			
6AV	13/11	N	N
6F			
6FE	12/38	EAR99H	N
7K			
7KM2	11/13	5D992	N
7KM3	11/11	EAR99APP	N
7KM4	11/15	5D992	N
7KM9 2	11/18	EAR99H	N
7KM9 300-0AB	11/18	N	N

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7KT5	11/27 ... 28	N	N
7KT9 00	11/28	N	9I999
7KT9 01	11/30	N	N
7KT9 02	11/28	N	N
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7LF	3/39, 8/40 ... 41, 8/44, 8/46	N	N
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8GB	3/39, 12/41	N	N
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8HP	7/40	N	N
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8JH	5/32	N	N
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8UC60 8	2/69, 7/41 ... 43, 7/73 ... 74, 7/80 ... 81, 7/88	N	N
8UC70	2/69, 7/88	N	N
8UC71	2/69, 2/71, 7/16, 7/35, 7/41, 7/71, 7/73, 7/79 ... 80, 7/87 ... 88	N	N
8UC72	2/69, 2/71, 7/16, 7/35, 7/41, 7/71, 7/74, 7/79 ... 80, 7/87 ... 88	N	N
8UC73	2/69, 2/71, 7/35, 7/37, 7/39, 7/41 ... 43, 7/71, 7/74, 7/79, 7/81, 7/87 ... 88	N	N
8UC74	7/42 ... 43, 7/71, 7/74, 7/87 ... 88	N	N
8UC9	7/37 ... 39, 7/42 ... 43, 7/71, 7/74, 7/88 ... 89	N	N
8US10	2/91	N	N
8US12 0	10/14	N	N
8US12 1	2/92, 7/144, 10/18 ... 21	N	N
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8US12 51-5DT	5/25, 10/16, 10/21	N	N
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8US12 6	10/18, 10/24	N	N
8US12 9	7/144, 10/19	N	N
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8US19 4	10/13 ... 15	N	N
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8US19 98-2	10/17, 10/21 ... 22, 10/24	N	N
8US19 98-4	10/25	N	N
8US19 98-7CA	10/25	N	N
8US19 98-7CB	5/25, 10/22	EAR99	N
8W			
8WC	10/7, 10/12	N	N
XP			
XPT	7/114	N	N

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Appendix

Notes

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Appendix

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Subject to change without prior notice
Order No. E86060-K8250-A101-A3-7600
MP.R3.LP.0000.00.3.19 / Dispo 18301
KG 0213 4. PES 776 En
Printed in Germany
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