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Air Circuit Breakers and Molded Case Circuit Breakers with UL Certification

Catalog
LV 18

Edition
04/2020

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Catalog LV 18 · 04/2020

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Refer to the Industry Mall for current prices
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The products and systems listed in this catalog are developed and manufactured using a certified quality management system in accordance with DIN EN ISO 9001:2008.

Technical data
The technical specifications are for general information purposes only. Always heed the operating instructions and notices on individual products during assembly, operation and maintenance.

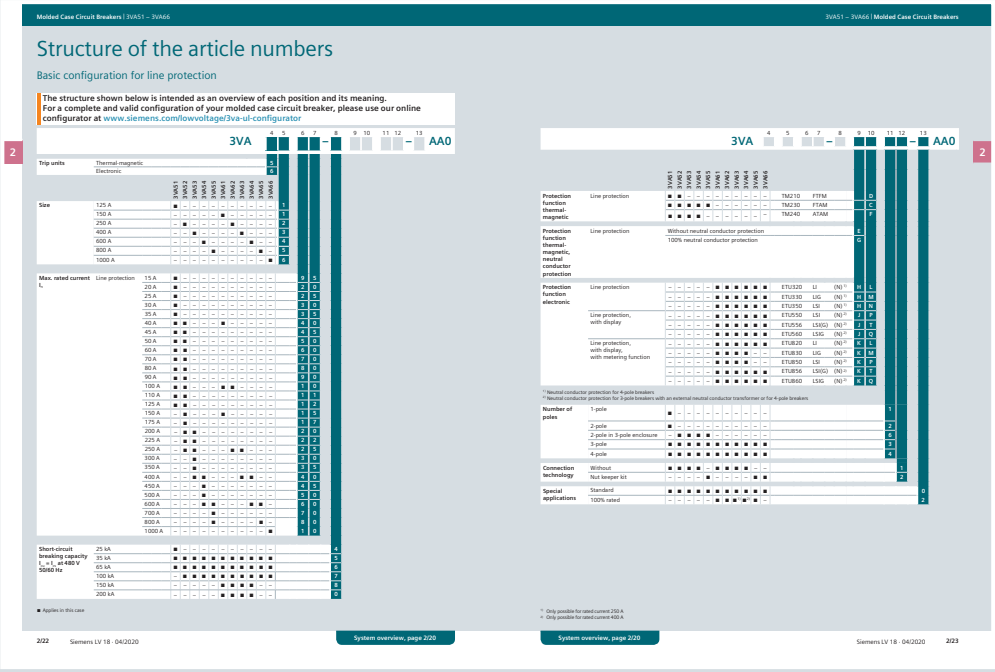
All illustrations are not binding.

Air Circuit Breakers and Molded Case Circuit Breakers with UL Certification

Protecting

The fast route to the product

Overview of configurable products for better understanding



Molded Case Circuit Breakers | 3VA51 – 3VA66

3VA51 – 3VA66 | Molded Case Circuit Breakers

Structure of the article numbers

Basic configuration for line protection

The structure shown below is intended as an overview of each position and its meaning.
For a complete and valid configuration of your molded case circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3va-ul-configurator

3VA … AA0

Trip units: Thermal-magnetic; Electronic

Size: 125 A; 150 A; 250 A; 400 A; 600 A; 800 A; 1000 A

Max. rated current I_n: Line protection; 15 A; 20 A; 25 A; 30 A; 35 A; 40 A; 45 A; 50 A; 60 A; 70 A; 80 A; 90 A; 100 A; 110 A; 125 A; 150 A; 175 A; 200 A; 225 A; 250 A; 300 A; 350 A; 400 A; 450 A; 500 A; 600 A; 700 A; 800 A; 1000 A

Short-circuit breaking capacity I_{cu} = I_{cs} at 480 V 50/60 Hz: 25 kA; 35 kA; 65 kA; 100 kA; 150 kA; 200 kA

■ Applies in this case

Protection function thermal-magnetic: Line protection; TM210 FTFM; TM230 FTAM; TM240 ATAM

Protection function thermal-magnetic, neutral conductor protection: Line protection; Without neutral conductor protection; 100% neutral conductor protection

Protection function electronic: Line protection; Line protection, with display; Line protection, with display, with metering function; ETU320 LI (N)[1]; ETU330 LIG (N)[1]; ETU350 LSI (N)[1]; ETU550 LSI (N)[2]; ETU556 LSI(G) (N)[2]; ETU560 LSIG (N)[1][2]; ETU820 LI (N)[2]; ETU830 LIG (N)[1][2]; ETU850 LSI (N)[1][2]; ETU856 LSI(G) (N)[1][2]; ETU860 LSIG (N)[1][2]

[1] Neutral conductor protection for 4-pole breakers
[2] Neutral conductor protection for 3-pole breakers with an external neutral conductor transformer or for 4-pole breakers

Number of poles: 1-pole; 2-pole; 2-pole in 3-pole enclosure; 3-pole; 4-pole

Connection technology: Without; Nut keeper kit

Special applications: Standard; 100% rated

[1] Only possible for rated current 250 A
[2] Only possible for rated current 400 A

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Configurable products

For products which are conveniently configurable online, the structure of the article numbers is clearly displayed. A link takes you directly to the configurator which permits complete and verified configuration.

Clickable article numbers

Direct forwarding to the individual products in the Industry Mall by clicking on the Article No. in the catalog

or by entering this web address incl. Article No.
www.siemens.com/product?Article No.

new Search function

Search for new products by entering new in the text field of the search function:

Reliable, versatile and perfectly integrated

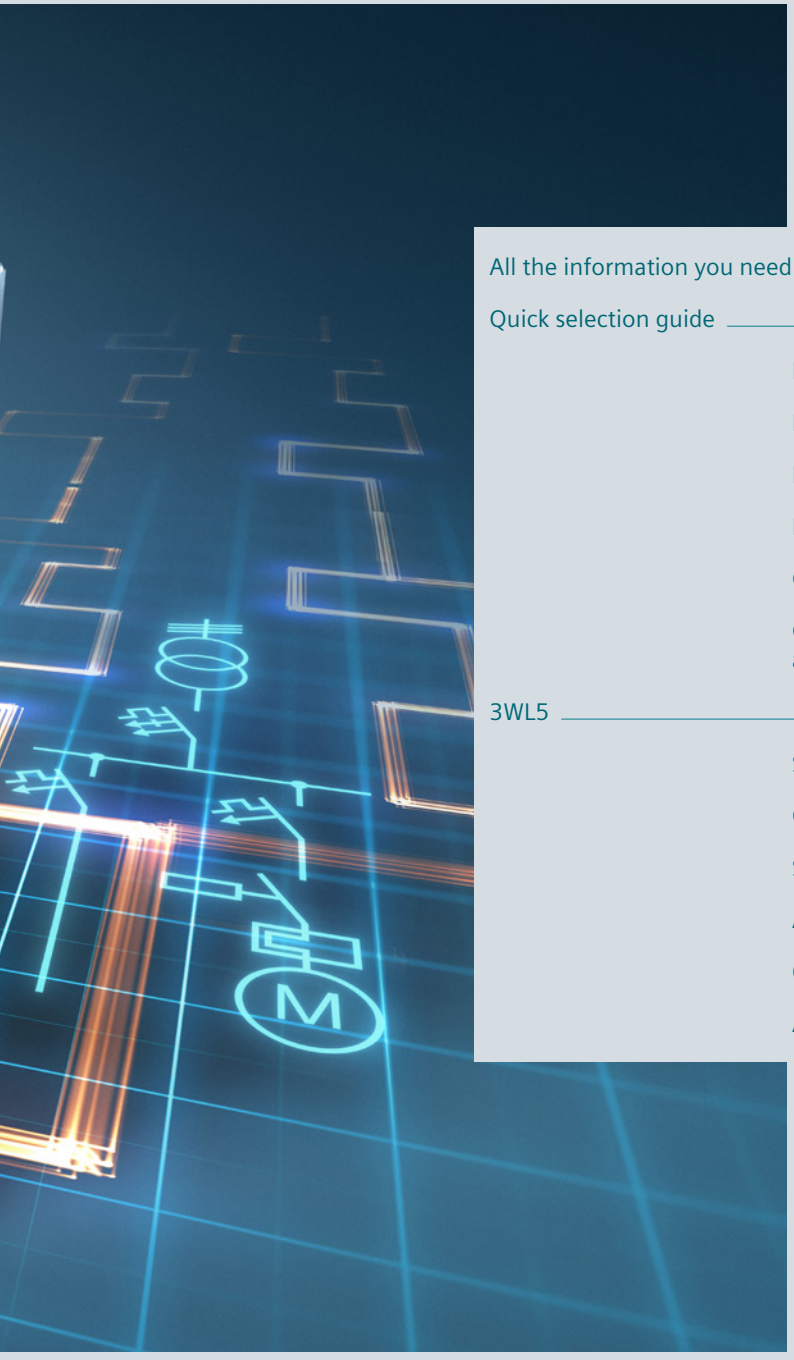
All power distribution systems rely on a secure infeed of electrical energy. The 3WL air circuit breakers reliably protect electrical equipment from damage or fire resulting from short circuit, ground fault or overload failures.

The 3WL air circuit breakers are used as incoming-feeder, tie, and outgoing-feeder circuit breakers in electrical installations in industry, buildings and infrastructure applications. They have the ability to communicate and can easily be integrated into higher-level control and energy management systems.

The 3WL air circuit breakers switch and protect motors, capacitors, generators, transformers, busbars and cables. The modular design and standardized range of accessories enable the circuit breakers to be adapted flexibly to different applications. UL 489-compliant versions are available for international use.

The 3WL air circuit breakers can optionally be equipped with a communication module and integrated into higher-level energy management systems. Auxiliary, signaling and position switches report status and fault diagnostics remotely to higher-level control systems.

Air Circuit Breakers



A multitude of additional information ...

Information + ordering

All the important things at a glance

Information to get you started

For information about air circuit breakers, please visit our website
www.siemens.com/3WL

Contact persons in your region

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You can find your local contacts at
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Siemens YouTube channel

Our video range

- 3WL air circuit breakers (general)
  bit.ly/2ZH1rXH

Everything you need for your order

Refer to the Industry Mall for an overview of your products

- 3WL air circuit breakers/non-automatic air circuit breakers for AC up to 5000 A, UL sie.ag/2ScRZK7

Direct forwarding to the individual products in the Industry Mall by clicking on the Article No. in the catalog or by entering this web address incl. Article No.
www.siemens.com/product?Article No.

Configurators

Exactly the right circuit breaker for your application

The configurator reduces the time and effort required in the planning and ordering process, and allows for individual adaptations. Configure your 3WL air circuit breaker at
www.siemens.com/lowvoltage/3wl-configurator

For your configured 3WL air circuit breaker, you can additionally find

- 3D views
- CAD data
- Unit wiring diagrams
- Dimension drawings

… can be found in our online services

Commissioning + operation

Configuration software

powerconfig

The combined commissioning and service tool for communication-capable measuring devices and circuit breakers from the SENTRON family.
www.siemens.com/powerconfig

Your product in detail

The Siemens Industry Online Support portal provides detailed technical information
www.siemens.com/lowvoltage/product-support

- Operating instructions
- Characteristic curves
- Certificates

Engineering data for CAD or CAE systems are available in the CAx Download Manager at
www.siemens.com/lowvoltage/cax

Training and tutorials

Our training courses can be found at
www.siemens.com/sitrain-lowvoltage

- Protection systems in low-voltage power distribution (WT-LVAPS)
- 3WL air circuit breakers (WT-LVA3WL)
- Communication with SENTRON components (LV-COM)
- Maintenance and operation of 3WL circuit breakers (LV-CBMAIN)

Video tutorial on the 3WL air circuit breaker – descriptive supplement to Operating Instructions
www.lowvoltage.siemens.com/wcms/3wl-tutorial

Manuals

Manuals are available for downloading in Siemens Industry Online Support at
www.siemens.com/lowvoltage/manuals

- Configuration manual – 3WL5 air circuit breakers / non-automatic air circuit breakers (109775570)
- System manual – 3WL/3VL circuit breakers with communication capability – Modbus (39850157)
- System manual – 3WL/3VL circuit breakers with communication capability – PROFIBUS (12560390)
- Communication manual – 3WL air circuit breakers via COM35 – PROFINET IO, Modbus TCP (109757987)

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www.siemens.com/service-catalog

Technical overview – Air circuit breakers

The fast way to get you to our online services

This page provides you with comprehensive information and links on air circuit breakers
www.siemens.com/lowvoltage/product-support (109766020)

Basic units for AC and DC

UL 489

AC

			3WL51		3WL52	
Basic data						
Rated voltage		V	600 Y / 347		600	
Rated currents		A	630 ... 1600		2000 ... 3200	
Size			1		2	
Installation type			Withdrawable	Fixed-mounted	Withdrawable	Fixed-mounted
Number of poles			3/4-pole	3/4-pole	3/4-pole	3/4-pole
Dimensions						
Width (3-pole | 4-pole)		mm	320|410	320|410	460|590	460|590
Height (standard | A05, A15, A16, DC greater than 600 V)		mm	465.5	434	465.5	434
Depth		mm	471	291	471	291
Approvals						
General product approvals			VDE, UL, CE, CCC, EAC, C-Tick, CSA		VDE, UL, CE, CCC, EAC, C-Tick, CSA	
Breaking capacity			S		H	
Short-circuit breaking capacity acc. to UL 489						
Short-circuit breaking capacity up to 480 V AC $I_{cu} = I_{cs}$		kA	65		100	
Short-circuit breaking capacity up to 600 Y V / 347 V AC $I_{cu} = I_{cs}$		kA	50		85 [1]	
Short-circuit breaking capacity up to 600 V AC $I_{cu} = I_{cs}$		kA	–		85	
Short-circuit breaking capacity acc. to IEC 60947-2						
Short-circuit breaking capacity up to 500 V AC $I_{cu} = I_{cs}$		kA	65		100	
Short-circuit breaking capacity I_{cm} at 500 V AC $I_{cu} = I_{cs}$		kA	143		220	
Short-circuit breaking capacity up to 690 V AC $I_{cu} = I_{cs}$		kA	50		85	
Short-circuit breaking capacity I_{cm} at 690 V AC $I_{cu} = I_{cs}$		kA	105		187	
Rated short-time withstand current I_{cw} acc. to UL 489						
Rated short-time withstand current I_{cw} at max. delay time t_{sd}	0.4 s	kA	65		85	
Rated short-time withstand current I_{cw} acc. to IEC 60947-2						
Rated short-time withstand current I_{cw} at max. delay time t_{sd}	0.5 s	kA	65		85	
	1 s	kA	50		80	
Rated short-circuit current I_{cc} of the non-automatic air circuit breakers						
Rated short-circuit current I_{cc} at 690 V DC		kA	–		–	
Rated short-circuit current I_{cc} at 1000 V DC		kA	–		–	

[1] Covered by 600 V AC (delta) test.

DC

3WL53		3WL5120		3WL5232	
Up to 600 Y / 347		1000 DC		690 DC	
4000 ... 5000		2000		3200	
3		1		2	
Withdrawable	Fixed-mounted	Withdrawable	Fixed-mounted	Withdrawable	Fixed-mounted
3/4-pole	3/4-pole	4-pole	4-pole	3-pole	3-pole
704|914	704|914	410	410	460	460
465.5	434	465.5	434	465.5	434
471	291	471	291	471	291
VDE, UL, CE, CCC, EAC, C-Tick, CSA		VDE, UL, CE, CCC, EAC, C-Tick, CSA		VDE, UL, CE, CCC, EAC, C-Tick, CSA	
H		**DC**		**DC**	
100		–		–	
85		–		–	
–		–		–	
100		–		–	
220		–		–	
85		–		–	
187		–		–	
85		–		–	
85		–		–	
80					
–		20		25	
–		20		–	

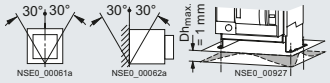
Breaking capacity

S Standard
H High
DC DC

Basic units for AC

UL 489

3WL51

			Up to 1000 A	1600 A
Rated current				
Isolating function acc. to EN 60947-2			Yes	
Utilization category			B	
Permissible ambient temperature	Operation	°C	–25 ... +55	
	Storage		–25 ... +70	
Mounting position				
Degree of protection	With cover		IP55	
	Without cover (with door sealing frame)		IP41	
Supply				
Voltage				
Rated operational voltage U_e at 50/60 Hz		V AC	600 Y / 347	
Permissible load at 50/60 Hz				
For main conductors	At 40 °C	A	Up to 1000	1600
	At 55 °C	A	1000	1600
	At 60 °C	A	1000	1600
Power loss at I_n				
With three-phase symmetrical load	Fixed-mounted circuit breaker	W	100	150
	Withdrawable circuit breaker	W	195	350
Switching cycles				
Switching times				
Make time		ms	35	
Opening time		ms	38	
Electrical make time (through activation solenoid) [1]		ms	80	
Electrical opening time (through shunt trip)		ms	73	
Electrical opening time (instantaneous undervoltage release)		ms	73	
Opening time due to ETU, instantaneous short-circuit release		ms	50	
Service life				
Mechanical	Without maintenance	Operating cycles	10000	
Electrical	Without maintenance	Operating cycles	4000	
Switching frequency				
Mechanical / electrical		1/h	60	
Minimum pauses				
Between tripping by the electronic trip unit and the next closure of the circuit breaker (only with automatic mechanical reset of the reclosing lockout)		ms	80	

[1] Make time through closing coil for synchronization purposes (short-time excited) 50 ms.

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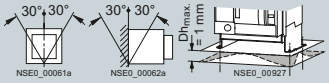
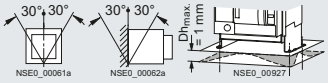
	3WL52			3WL53	
					
2000 A	**2500 A**	**3000 A**	**3200 A**	**4000 A**	**5000 A**
	Yes			Yes	
	B			B	
	–25 ... +55			–25 ... +55	
	–25 ... +70			–25 ... +70	
					
	IP55			IP55	
	IP41			IP45	
600	600	600	600	Up to 600 Y / 347	
2000	2500	3000	3200	4000	5000
2000	2500	3000	3200	4000	5000
2000	2500	3000	3200	4000	5000
180	270	410	410	520	630
320	520	710	710	810	1050
	35			35	
	34			34	
	100			100	
	73			73	
	73			73	
	50			50	
	10000			10000	
	4000			1000	
	60			60	
	80			80	

System overview, page 1/18

Basic units for AC

UL 489

3WL51

			Up to 1000 A	1600 A
Connection				
Main conductor minimum cross-sections				
Copper bars, bare		Unit, mm²	2× 6.4 × 76.2	
Auxiliary conductor (Cu) max. number of auxiliary conductors × cross-section (solid/stranded)				
Standard connection = screw	Without end sleeve		2× 0.5 ... 2× 1.5 mm² (AWG 20 ... 16); 1 × 2.5 mm² (AWG 14)	
	With end sleeve acc. to DIN 46228 Part 2 [1]		1× 0.5 ... 1× 1.5 mm² (AWG 20 ... 16)	
	With twin end sleeve		2× 0.5 ... 2× 1.5 mm² (AWG 20 ... 16)	
Screwless connection technology	Without end sleeve		2× 0.5 ... 2× 2.5 mm² (AWG 20 ... 14)	
	With end sleeve acc. to DIN 46228 Part 2		2× 0.5 ... 2× 1.5 mm² (AWG 20 ... 16)	
Minimum dimension of breaker compartment				
Width × height × depth	3-pole	mm	400 × 460 × 380	
	3-pole without A17	mm	–	
	3-pole with A17	mm	–	
	4-pole	mm	500 × 460 × 380	
Weights				
3-pole	Fixed-mounted circuit breaker	kg	43	
	Withdrawable circuit breaker	kg	45	
	Guide frames	kg	25	
4-pole	Fixed-mounted circuit breaker	kg	50	
	Withdrawable circuit breaker	kg	54	
	Guide frames	kg	30	

[1] Notice: Approval of end sleeves.

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	3WL52			3WL53	
					
2000 A	**2500 A**	**3000 A**	**3200 A**	**4000 A**	**5000 A**
2× 6.4 × 102	2× 6.4 × 127 or 4× 6.4 × 63.5	4× 6.4 × 102	4× 6.4 × 102	4× 10 × 120	
	2× 0.5 … 2× 1.5 mm² (AWG 20 … 16); 1 × 2.5 mm² (AWG 14)			2× 0.5 … 2× 1.5 mm² (AWG 20 … 16); 1 × 2.5 mm² (AWG 14)	
	1× 0.5 … 1× 1.5 mm² (AWG 20 … 16)			1× 0.5 … 1× 1.5 mm² (AWG 20 … 16)	
	2× 0.5 … 2× 1.5 mm² (AWG 20 … 16)			2× 0.5 … 2× 1.5 mm² (AWG 20 … 16)	
	2× 0.5 … 2× 2.5 mm² (AWG 20 … 14)			2× 0.5 … 2× 2.5 mm² (AWG 20 … 14)	
	2× 0.5 … 2× 1.5 mm² (AWG 20 … 16)			2× 0.5 … 2× 1.5 mm² (AWG 20 … 16)	
500 × 460 × 380	–	–	–	–	–
–	500 × 460 × 380	500 × 460 × 380	500 × 460 × 380	800 × 460 × 380	800 × 460 × 380
–	560 × 570 × 500	–	560 × 570 × 500	810 × 570 × 500	–
600 × 460 × 380	600 × 460 × 380	–	560 × 570 × 500	1000 × 460 × 380	1000 × 460 × 380
56	59	64	64	82	
60	63	68	–	88	
31	39	45	–	60	
67	71	77	77	99	
72	76	82	–	106	
37	47	54	–	84	

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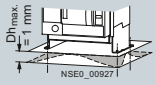
Basic units for DC

UL 489

			3WL5120	3WL5232
			1600 A	3200 A
Basic data				
Isolating function acc. to EN 60947-2			Yes	Yes
Utilization category			B	B
Permissible ambient temperature	Operation	°C	–25 ... +55	–25 ... +55
	Storage	°C	–25 ... +70	–25 ... +70
Mounting position			 NSE0_00061a and/or  NSE0_00062a	 NSE0_00927
Degree of protection	With cover		IP55	IP55
	Without cover (with door sealing frame)		IP41	IP41
Supply				
Voltage				
Rated operational voltage U_e		V DC	1000	690
Permissible load				
For main conductors, acc. to IEC 60947-2	At 40 °C	A	2000	3200
	At 55 °C	A	2000	3200
	At 60 °C	A	2000	3200
For main conductors, acc. to UL 489B	At 40 °C	A	1600	3200
	At 55 °C	A	1600	3200
	At 60 °C	A	1600	3200
Power loss at I_n				
With three-phase symmetrical load	Fixed-mounted circuit breaker	W	100	410
	Withdrawable circuit breaker	W	–	–
Switching cycles				
Switching times				
Make time		ms	35	35
Opening time		ms	38	34
Electrical make time (through activation solenoid) [1]		ms	80	100
Electrical opening time (through shunt trip)		ms	73	73
Electrical opening time (instantaneous undervoltage release)		ms	73	73
Opening time due to ETU, instantaneous short-circuit release		ms	50	50
Service life				
Mechanical	Without maintenance	Operating cycles	10000	10000
Electrical	Without maintenance	Operating cycles	1000	1000
Switching frequency				
Mechanical / electrical		1/h	60	60

[1] Make time through activation solenoid for synchronization purposes (short-time excited) 50 ms.

System overview, page 1/18

			3WL5120	3WL5232
			1600 A	3200 A
Connection				
Main conductor minimum cross-sections				
Copper bars, bare		Unit	2× 6.4 × 76.2	4× 6.4 × 102
Auxiliary conductor (Cu) max. number of auxiliary conductors × cross-section (solid/stranded)				
Standard connection = strain-relief clamp	Without end sleeve		2× 0.5 … 2× 1.5 mm² (AWG 20 … 16); 1 × 2.5 mm² (AWG 14)	2× 0.5 … 2× 1.5 mm² (AWG 20 … 16); 1 × 2.5 mm² (AWG 14)
	With end sleeve acc. to DIN 46228 Part 2 [2)]		1× 0.5 … 1× 1.5 mm² (AWG 20 … 16)	1× 0.5 … 1× 1.5 mm² (AWG 20 … 16)
	With twin end sleeve		2× 0.5 … 2× 1.5 mm² (AWG 20 … 16)	2× 0.5 … 2× 1.5 mm² (AWG 20 … 16)
Optional connection = tension spring	Without end sleeve		2× 0.5 … 2× 2.5 mm² (AWG 20 … 14)	2× 0.5 … 2× 2.5 mm² (AWG 20 … 14)
	With end sleeve acc. to DIN 46228 Part 2		2× 0.5 … 2× 1.5 mm² (AWG 20 … 16)	2× 0.5 … 2× 1.5 mm² (AWG 20 … 16)
Weights				
3-pole	Fixed-mounted circuit breaker	kg	50	64
Dimensions 3/4-pole				
Fixed-mounted	Width	mm	320/410	460/590
	Height	mm	434	434
	Depth	mm	291	291
Withdrawable	Height	mm	465.5	465.5
	Depth	mm	471	471

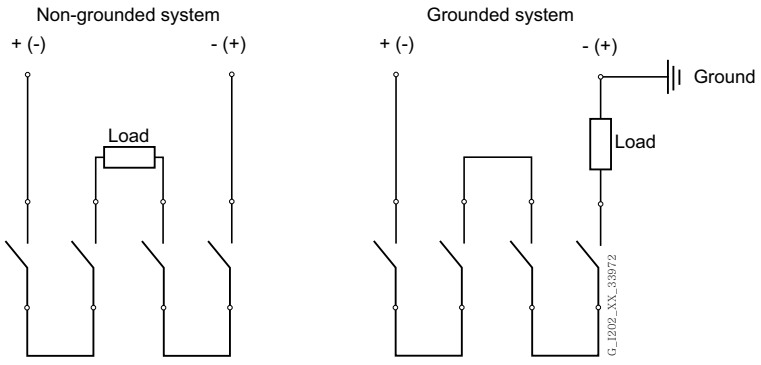
[2)] Notice: Approval of end sleeves.

System overview, page 1/18

Basic units for DC

Application examples size 1

Permissible interconnection circuit diagrams for size 1, 1000 V DC non-automatic air circuit breakers



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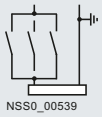
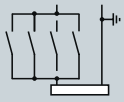
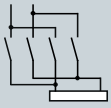
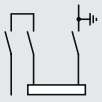
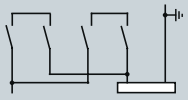
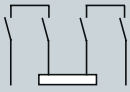
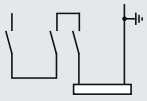
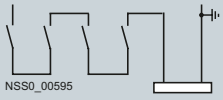
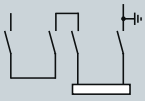
Application examples size 2

The connection to the circuit breakers is not dependent on direction and polarity; the circuit diagrams can be adapted accordingly. If the parallel or series connections are made directly to the connecting bars, for thermal reasons the continuous load on the circuit breakers must only be 80% of the permissible operational current. If the parallel or series connection is made at a distance of 1 m from the connecting bars, the circuit breaker can be used at full operational current load.

Required contact gaps at rated voltage	For 3-pole non-automatic air circuit breakers		For 4-pole non-automatic air circuit breakers	
	1-pole	2-pole	1-pole	2-pole
Rated operational voltage <300 V + 10%				
	 NSS0_00539 only with grounded system [2]		 only with grounded system [3]	
Rated operational voltage >300 V + 10% ... 600 V + 10%				
		 only with grounded system	 only with grounded system [2]	
Rated operational voltage >600 V + 10% ... 1000 V + 10% [4]				
	 only with grounded system		 NSS0_00595 only with grounded system	 only with grounded system

[1] Conducting paths series-connected
[2] 2 parallel conducting paths
[3] 3 parallel conducting paths
[4] Version for 1000 V required, order with "-Z" and order code A05
⊣ Grounded system
▭ Load

System overview, page 1/18

Electronic trip units ETU

Available for air circuit breakers

			ETU25B (LSI)	ETU45B (LSIG)
Basic protection functions				
L	Overload protection (L tripping operation)	Setting range of operating value $I_r = I_n \times ...$	0.4 | 0.45 | 0.5 | 0.55 | 0.6 | 0.65 | 0.7 | 0.8 | 0.9 | 1	0.4 | 0.45 | 0.5 | 0.55 | 0.6 | 0.65 | 0.7 | 0.8 | 0.9 | 1
		Switchable overload protection (from I^2t- to I^4t-dependent function)	–	■
		Setting range of delay t_r at I^2t (Reference point 6× I_n)	10 s fixed	2 | 3.5 | 5.5 | 8 | 10 | 14 | 17 | 21 | 25 | 30 s
		Setting range of delay t_r at I^4t (Reference point 6× I_n)	–	1 | 2 | 3 | 4 | 5 s
		Thermal memory can be switched on/off	–	■
		Phase failure sensitivity / asymmetry	At t_{sd} = 20 ms (M)	At t_{sd} = 20 ms (M)
S	Short-time delay short-circuit protection (ST tripping operation)	Setting range of operating value $I_{sd} = I_n \times ...$	1.25 | 1.5 | 2 | 2.5 | 3 | 4 | 6 | 8 | 10 | 12	1.25 | 1.5 | 2 | 2.5 | 3 | 4 | 6 | 8 | 10 | 12 | OFF
		Setting range of delay time t_{sd} at I^2t	–	100 | 200 | 300 | 400 ms
		Setting range of delay time t_{sd} (t = const.)	M (0.02 ms) | 100 | 200 | 300 | 400 ms	M (0.02 ms) | 100 | 200 | 300 | 400 ms
		ZSI function	–	by **Cubicle**BUS module
I	Instantaneous short-circuit protection (INST tripping operation)	Setting range 2 = $I_n \times ...$	Fixed at $I_i \geq 20 \times I_n$, max. 50 kA	OFF | 1.5 | 2.2 | 3 | 4 | 6 | 8 | 10 | 12 | 0.8 × I_{cs}
N	Neutral conductor protection	Neutral conductor setting range $I_N = I_n \times ...$	–	OFF | 50% | 100%
G	Ground-fault tripping operation (GF tripping operation) Detection of ground-fault current through summation current formation with internal or external N conductor transformer	Tripping function can be switched on/off	–	■
		Alarm function can be switched on/off	–	–
		Detection of ground-fault current through external current transformer	–	■
		Setting range of the operating current $I_g = I_n \times ...$	–	A [1] (100 / 400 A) | B [1] (300 / 600 A); C [1] (600 / 800 A) | D [1] (900 / 1000 A); E [1] (1200 / 1200 A)
		Setting range of the operating current I_g for alarm	–	A [1] (100 / 400 A); B [1] (300 / 600 A); C [1] (600 / 800 A); D [1] (900 / 1000 A); E [1] (1200 / 1200 A)
		Setting range of the delay time t_g	–	100 | 200 | 300 | 400 | 500 ms
		Switchable grounding protection characteristic (I^2t-dependent function)	–	■
		Setting range of delay time t_g at I^2t	–	100 | 200 | 300 | 400 | 500 ms
		ZSI-G function	–	by **Cubicle**BUS module

[1] Sizes 1 and 2 / size 3

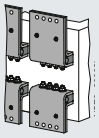
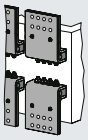
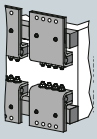
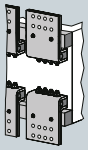
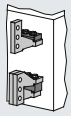
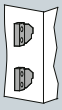
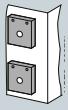
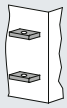
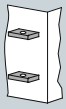
System overview, page 1/18

		ETU25B (LSI)	ETU45B (LSIG)
Parameter set changeover	Switchable between parameter set A and B	–	–
LCD		–	Optional
Voltage tap on top/bottom		–	Optional
Metering function		–	Metering function Plus
Tripping operation as a result of extended protection function: (including: phase asymmetry current/voltage, harmonic distortion current/voltage, under/overvoltage, phase rotation direction, active power in/opposite to normal direction, under/over-frequency, protection functions dependent on direction of power flow)		–	■
Mode of communication			
Communication PROFIBUS | PROFINET | Modbus RTU | Modbus TCP		–	■
Output modules			
Signals via relay: Overload warning, load shedding / load carrying, leading signal, overload tripping 200 ms, temperature alarm, phase asymmetry, instantaneous short-circuit release, short time-delayed short-circuit release, overload trip, neutral conductor trip, auxiliary relay, ETU faults, grounding protection tripping and grounding protection alarm (only with grounding protection module)		–	■

System overview, page 1/18

Connection

Main circuit connection

Connection	3WL5 Fixed-mounted		Withdrawable	
Front-mounted	 1-hole	 2-hole	 1-hole	 2-hole
Rear-mounted	 Vertical		 Vertical	 Flanges
	 Horizontal		 Horizontal	

Auxiliary circuit connections

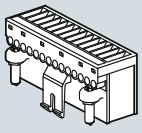
3WL5: Withdrawable version

- Connection of the internal auxiliary switches to the male connector on the switch side
- When fully inserted, connection with the sliding contact module in the guide frame

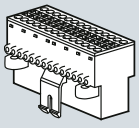
3WL5: Fixed-mounted version

- Engagement of the auxiliary supply connectors directly onto the circuit breaker

Coding pins on the connectors prevent them being inserted in the wrong slots



Screw connection (SIGUT) (standard)



Screwless connection (tension spring) (optional)

System overview, page 1/18

Operating mechanism, auxiliary release, auxiliary switch

Operating mechanism

The circuit breakers are available with various optional operating mechanisms:

- Manual operating mechanism with mechanical closing (standard design)
- Manual operating mechanism with mechanical and electrical closing
- Motorized operating mechanism with mechanical and electrical closing

The operating mechanisms with electrical closing are suitable for synchronization tasks.

	Available for air circuit breakers 3WL5
Closing coils (CC)	■
Undervoltage releases (UVR) / shunt trips (ST)	■
Shunt trips (ST)	■
Remote reset magnets (RR)	■
Motorized operating mechanism (MO)	■
Mechanical operating cycles counters	■

System overview, page 1/18

3WL5 system overview

UL 489 AC ..

For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wl-configurator

Basic units

Sizes 1 to 3

ETU

LSI

LSIN, LSING

Accessories

Communi-cation module

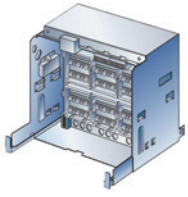
Rating plugs

Remote reset magnets

Breaker status sensors (BSS)

Ground-fault modules

Connection



Fixed-mounted, withdrawable versions

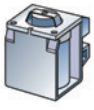
Main connection vertical, horizontal, front, flange

Accessories

Auxiliary conductor plug-in system

Operating mechanisms and auxiliary releases

Motorized operating mechanisms



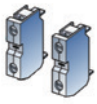
Auxiliary releases

Accessories

Closing coils

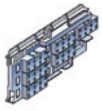
Note:
You will find a detailed range of accessories in the Accessories section.

Auxiliary switches



Auxiliary switches

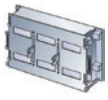
Accessories



Position signaling switches

Further accessories

Door sealing frames

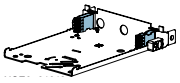


Shutters

EMERGENCY-OFF pushbuttons

Operating cycle counters

Support brackets



Grounding connections

Interlocking

Padlockable protective covers

Key operation

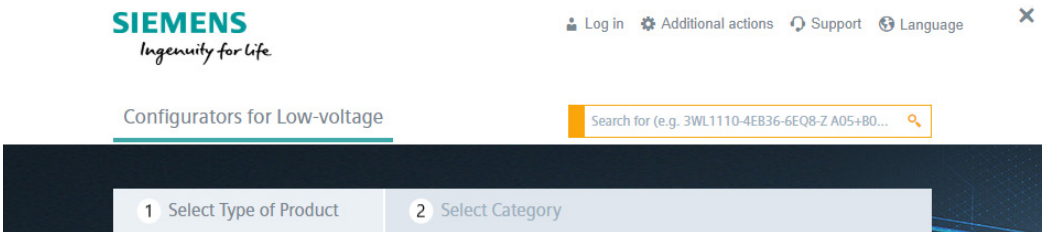
Note: You will find a detailed range of accessories in the Accessories section.

Online configurator highlights

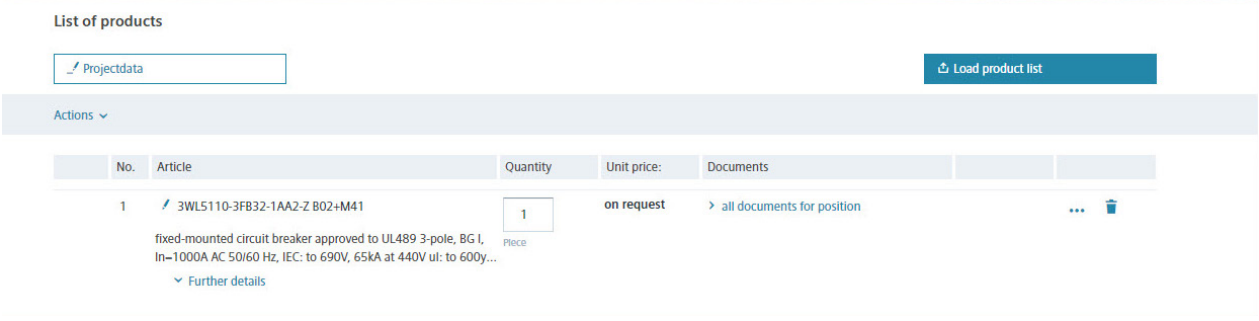
www.siemens.com/lowvoltage/configurators

Search function with global direct input

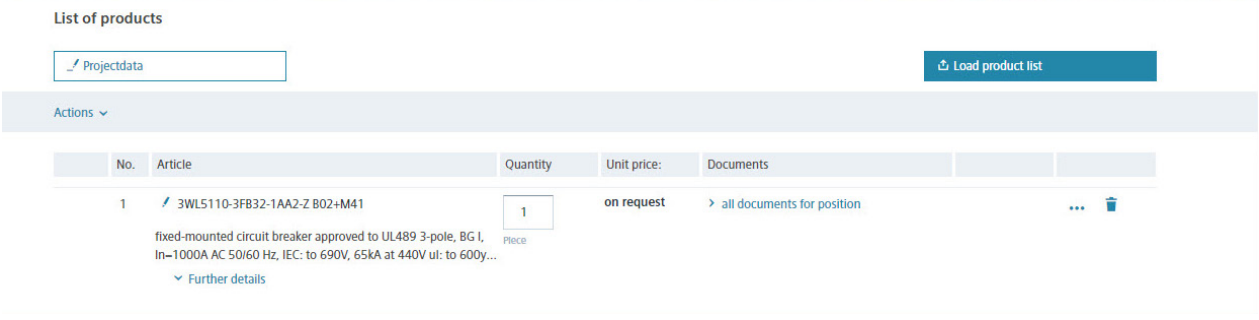
Searches for specific terms and jumps to MLFB based on input to the correct configurator



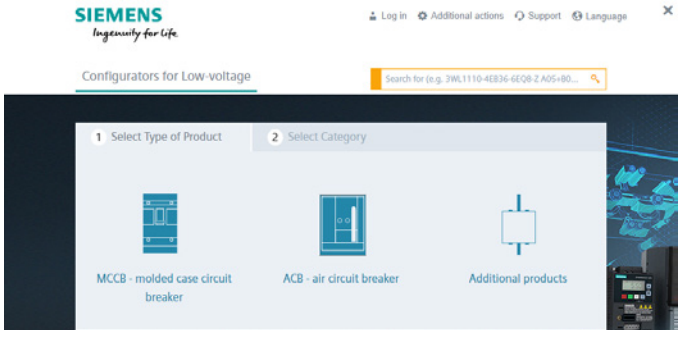
Product list stores multiple configurations and can transfer them collectively to the shopping cart



Recall of completed configurations for modification or additional configuration

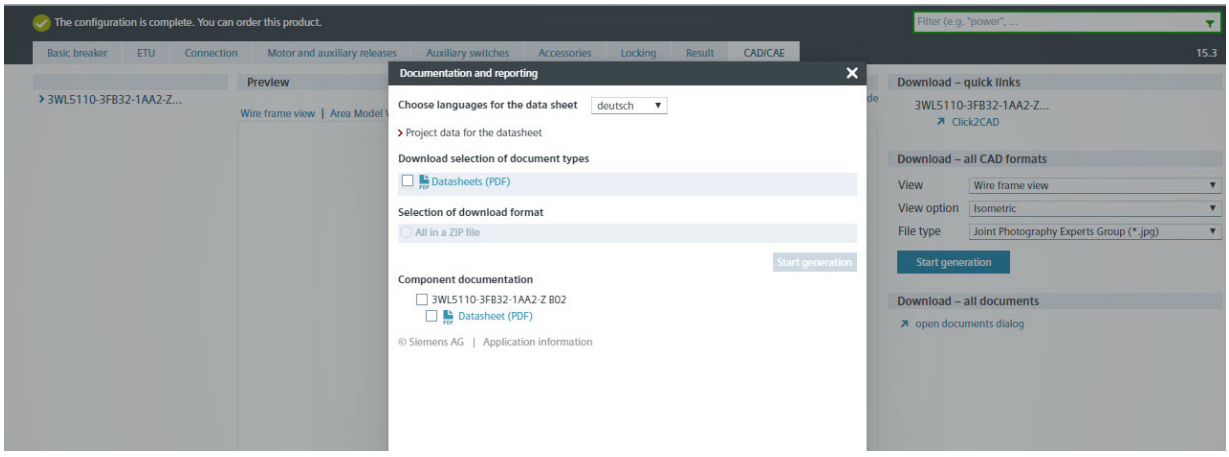


Responsive Design

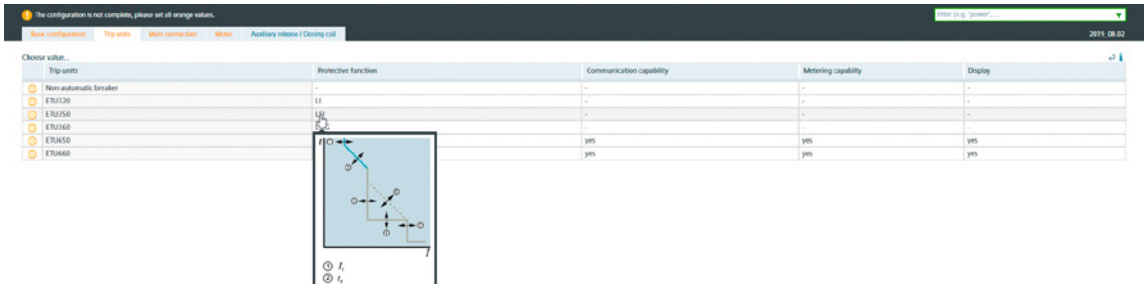


www.siemens.com/lowvoltage/3wl-configurator

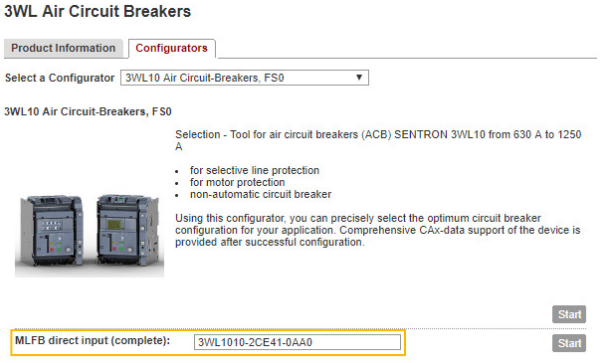
Download an ePlan Selector for 3WL5



Mouseover display of characteristic curves to show the protection function



Direct entry of an already known MLFB or parts of an MLFB



Structure of the article numbers

Basic configuration for AC circuit breakers

The structure shown below is intended as an overview of each position and its meaning.
For a complete and valid configuration of your air circuit breaker, please use our online configurator at
www.siemens.com/lowvoltage/3wl-configurator

	5	6	7		8	9	10	11	12		13	14	15	16
3WL5	■	■	■	–	■	■	■	■	■	–	□	□	□	□

Basic unit and ETU

		Position 5
Size	1	1
	2	2
	3	3

		SZ 1	SZ 2	SZ 3	Position 6	Position 7
Max. rated current I_n	1000 A	■	–	–	1	0
	1600 A	■	–	–	1	6
	2000 A	–	■	–	2	0
	2500 A	–	■	–	2	5
	3000 A	–	■	–	3	0
	3200 A	–	■ [1]	–	3	2
	4000 A	–	–	■	4	0
	5000 A	–	–	■	5	0

		SZ 1	SZ 2	SZ 3		Position 8
Short-circuit breaking capacity I_{cu} **at 480 V**	S Standard	■	–	–	Up to 65 kA	3
	H High	–	■	■	Up to 100 kA	4

					Position 9	Position 10
Trip units	Without communications interface	Without electronic trip unit			A	A
		Without ground-fault protection	ETU25B	LSI	C	B
		Without ground-fault protection	ETU45B	LSIN	E	B
			ETU45B (with display)	LSIN	F	B
			ETU45B	LSING	E	G
			ETU45B (with display)	LSING	F	G

		Position 11
Number of poles	3-pole	3
	4-pole	4

Connection

		SZ 1	SZ 2	SZ 3		Position 12
Installation type	Fixed-mounted	■	■	■	Vertical	1
		■	□ [2]	■	Horizontal	2
		■	□ [2]	□ [3]	Front single hole	3
		■	□ [2]	□ [3]	Front double hole	4
	Withdrawable	■	□ [2]	■	Without frame	5
		■	□ [2]	■	Rear horizontal connection	6
		■	□ [2]	■	Rear vertical connection	7
		■	□ [2]	□ [3]	Connecting flange	8

■ Applies in this case

[1] For fixed-mounted versions only
[2] Not available for rated current 3200 A
[3] Not available for rated current 5000 A

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				5	6	7		8	9	10	11	12	13	14	15	16
3WL5							–						–			

Motor

Stored energy mechanism	Manual recharging of the stored energy mechanism	With mechanical operation		1
		With mechanical and electrical closing, closing coil suitable for uninterrupted duty, 100% OP	110 V AC 50/60 Hz / 110 ... 125 V DC	2
			240 V AC 50/60 Hz / 220 V DC	3
	Motorized recharging	With mechanical and electrical closing, closing coil suitable for uninterrupted duty, 100% OP	208 ... 240 V AC 50/60 Hz / 220 ... 250 V DC	4
			110 ... 127 V AC 50/60 Hz / 110 ... 125 V DC	5
			24 V DC	6

1st auxiliary release	Without		A
	With shunt trip 100% OP	24 V DC	B
		30 V DC	C
		48 V DC	D
		60 V DC	E
		110 ... 127 V AC, 110 ... 125 V DC	F
		208 ... 240 V AC, 220 ... 250 V DC	G

2nd auxiliary release	Without		A
	With shunt trip 100% OP	24 V DC	B
		30 V DC	C
		48 V DC	D
		60 V DC	E
		110 ... 127 V AC 50/60 Hz / 110 ... 125 V DC	F
		208 ... 240 V AC 50/60 Hz / 220 ... 250 V DC	G
	With undervoltage release, instantaneous	24 V DC	J
		30 V DC	K
		48 V DC	L
		60 V DC	U
		110 ... 127 V AC 50/60 Hz / 110 ... 125 V DC	M
		208 ... 240 V AC 50/60 Hz / 220 ... 250 V DC	N
		380 ... 415 V AC 50/60 Hz	P
	With undervoltage release, delay 0.2 ... 3.2 s	48 V DC	Q
		110 ... 127 V AC 50/60 Hz / 110 ... 125 V DC	R
		208 ... 240 V AC 50/60 Hz / 220 ... 250 V DC	S
		380 ... 415 V AC 50/60 Hz	T

Auxiliary switches

1st auxiliary switch block	2 NO + 2 NC	2
1st + 2nd auxiliary switch block	4 NO + 4 NC	4
	6 NO + 2 NC	7
	5 NO + 3 NC	8

System overview, page 1/18

Structure of the article numbers

Basic configuration for DC circuit breakers

**The structure shown below is intended as an overview of each position and its meaning.
For a complete and valid configuration of your air circuit breaker, please use our online configurator at
www.siemens.com/lowvoltage/3wl-configurator**

3WL5	5	6	7	–	8	9	10	11	12	–	13	14	15	16

Basic unit and ETU

		SZ 1	SZ 2											
Size	1			**1**										
	2 [1]			**2**										
Max. rated current I_n	1600 A [2]	■	–		**2**	**0**								
	3200 A	–	■		**3**	**2**								
Short-circuit breaking capacity I_{cu}	20 kA at 1000V +10%	■	–				**8**							
	25 kA at 690V	–	■				**8**							
Non-automatic air circuit breaker	Without communications interface	Without electronic trip unit					**A**	**A**						
Number of poles	3-pole	–	■						**3**					
	4-pole	■	–						**4**					

Connection

		SZ 1	SZ 2											
Installation type	Fixed-mounted	■	■	Vertical						**1**				
		■	■							**2**				

■ Applies in this case

[1] Can also be used for variable frequencies of 0 ... 30 Hz. Z option A17 must always be ordered additionally.
[2] Acc. to IEC 60947-2, the rated current is 2000 A

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	5	6	7		8	9	10	11	12		13	14	15	16
3WL5				–						–				

Motor

				13
Stored energy mechanism	Manual recharging of the stored energy mechanism	With mechanical operation		1
		With mechanical and electrical closing, closing coil suitable for uninterrupted duty, 100% OP	110 V AC 50/60 Hz / 110 ... 125 V DC	2
			240 V AC 50/60 Hz / 220 V DC	3
	Motorized recharging	With mechanical and electrical closing, closing coil suitable for uninterrupted duty, 100% OP	208 ... 240 V AC 50/60 Hz / 220 ... 250 V DC	4
			110 ... 127 V AC 50/60 Hz / 110 ... 125 V DC	5
			24 V DC	6

			14
1st auxiliary release	Without		A
	With shunt trip 100% OP	24 V DC	B
		30 V DC	C
		48 V DC	D
		60 V DC	E
		110 ... 127 V AC, 110 ... 125 V DC	F
		208 ... 240 V AC, 220 ... 250 V DC	G

			15
2nd auxiliary release	Without		A
	With shunt trip 100% OP	24 V DC	B
		30 V DC	C
		48 V DC	D
		60 V DC	E
		110 ... 127 V AC 50/60 Hz / 110 ... 125 V DC	F
		208 ... 240 V AC 50/60 Hz / 220 ... 250 V DC	G
	With undervoltage release, instantaneous	24 V DC	J
		30 V DC	K
		48 V DC	L
		60 V DC	U
		110 ... 127 V AC 50/60 Hz / 110 ... 125 V DC	M
		208 ... 240 V AC 50/60 Hz / 220 ... 250 V DC	N
		380 ... 415 V AC 50/60 Hz	P
	With undervoltage release, delay 0.2 ... 3.2 s	48 V DC	Q
		110 ... 127 V AC 50/60 Hz / 110 ... 125 V DC	R
		208 ... 240 V AC 50/60 Hz / 220 ... 250 V DC	S
		380 ... 415 V AC 50/60 Hz	T

Auxiliary switches

		16
1st auxiliary switch block	2 NO + 2 NC	2
1st + 2nd auxiliary switch block	4 NO + 4 NC	4
	6 NO + 2 NC	7
	5 NO + 3 NC	8

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Accessory options

For a complete and valid configuration of your air circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3wl-configurator

1

To specify the options, add "-Z" to the complete Article No. and indicate the appropriate order code(s).

3WL....-.....-.... -Z

Accessories for basic configuration

IT-system capability at 690 V AC + 10% according to IEC 60947-2 Annex H

			Order code		
Rated voltage AC	Size 2	3WL5225-4..31-...	A	1	7
		3WL5225-4..32-...	A	1	7
		3WL5232-4..31-...	A	1	7
	Size 3	3WL5340-4..31-...	A	1	7
		3WL5340-4..32-...	A	1	7
		3WL5350-4..31-...	A	1	7
		3WL5350-4..32-...	A	1	7
Rated voltage DC	Size 2	3WL5232-8AA31-...	A	1	7
		3WL5232-8AA32-...	A	1	7

Accessories for electronic trip units ETU

Rating plugs

- Only one module is possible per circuit breaker.
- As standard, the electronic trip units are equipped with a rating plug which is equal to the maximum rated circuit breaker current ($I_{n\ max}$). The rated current of the selected rating plug must be less than $I_{n\ max}$.

Module	Sizes 1, 2	250 A	B	0	2
		315 A	B	0	3
		400 A	B	0	4
		500 A	B	0	5
		630 A	B	0	6
		800 A	B	0	8
		1000 A	B	1	0
	Sizes 1, 2, 3	1250 A	B	1	2
		1600 A	B	1	6
	Sizes 2, 3	2000 A	B	2	0
		2500 A	B	2	5
		3000 A	B	3	0
		3200 A	B	3	2
	Size 3	4000 A	B	4	0
		5000 A	B	5	0

Communication and metering function

Breaker status sensor (BSS)	For determining the statuses ON / OFF / Tripped	F	0	1
PROFIBUS DP communication port [1]	Including COM15 and breaker status sensor (BSS)	F	0	2
MODBUS RTU communication port [1]	Including COM16 and breaker status sensor (BSS)	F	1	2
PROFINET IO / Modbus TCP communication port [1] new	Including COM35 and breaker status sensor (BSS)	F	3	5
Metering function Plus [2]	Without communication module	F	0	5

[1] When ordering withdrawable circuit breaker and guide frame separately, specify order code "F02", "F12" or "F35" only for withdrawable circuit breaker.

[2] Additional voltage transformers are always required for connection of the metering function Plus.

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To specify the options, add "-Z" to the complete Article No. and indicate the appropriate order code(s).

3WL....-.....-.... -Z

			Order code		

Accessories for electronic trip units ETU

EMC filter

- 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.

EMC filter			F	3	1

Overload and short-circuit protection for neutral conductors

- Only possible with 4-pole circuit breaker with ETU45B

Internal current transformer for N conductor	Size 1		F	2	3
	Size 2		F	2	3
	Size 3		F	2	3

Remote resetting

Automatic reset of the reclosing lockout			K	0	1
• Remote reset for displays and reset buttons including automatic reset of the reclosing lockout					
Remote reset magnets	24 V DC		K	1	0
	48 V DC		K	1	1
	120 V AC 50/60 Hz / 125 V DC		K	1	2
	208 ... 250 V AC 50/60 Hz / 208 ... 250 V DC		K	1	3

Connection

Connection technology for main connections (fixed mounting)

Top:[1] horizontal Bottom: accessible from front, single hole	Size 1	Up to 1600 A	N	1	1
	Size 2	Up to 2000 A	N	1	1
		Up to 2500 A	N	1	1
		Up to 3200 A	N	1	1
	Size 3	Up to 4000 A	N	1	1
Top: vertical Bottom: horizontal	Size 1	Up to 1600 A	N	2	0
		Up to 2000 A	N	2	0
	Size 2	Up to 2000 A	N	2	0
		Up to 2500 A	N	2	0
		Up to 3200 A	N	2	0
	Size 3	Up to 4000 A	N	2	0
		Up to 5000 A	N	2	0
Top: horizontal Bottom: vertical	Size 1	Up to 1600 A	N	2	4
		Up to 2000 A	N	2	4
	Size 2	Up to 2000 A	N	2	4
		Up to 2500 A	N	2	4
		Up to 3200 A	N	2	4
	Size 3	Up to 4000 A	N	2	4
		Up to 5000 A	N	2	4

[1] Cannot be used for DC non-automatic air circuit breakers and circuit breakers with the Z option A17.

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Accessory options

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1

To specify the options, add "-Z" to the complete Article No. and indicate the appropriate order code(s).

3WL....-.....-.... -Z

Connection

Connection technology for main connections (withdrawable versions)

			Order code		
Top and bottom: accessible from front, single hole	Size 1	Up to 1600 A	P	0	0
	Size 2	Up to 2000 A	P	0	0
		Up to 2500 A	P	0	0
		Up to 3200 A	P	0	0
	Size 3	Up to 4000 A	P	0	0
Top and bottom: accessible from front, double hole	Size 1	Up to 1600 A	P	0	1
	Size 2	Up to 2000 A	P	0	1
		Up to 2500 A	P	0	1
		Up to 3200 A	P	0	1
	Size 3	Up to 4000 A	P	0	1
Top: horizontal Bottom: accessible from front, single hole	Size 1	Up to 1600 A	P	0	7
	Size 2	Up to 2000 A	P	0	7
		Up to 2500 A	P	0	7
		Up to 3200 A	P	0	7
	Size 3	Up to 4000 A	P	0	7

Connection technology for main connections (withdrawable versions)

Top: vertical Bottom: horizontal	Size 1	Up to 1600 A	P	1	8
	Size 2	Up to 2000 A	P	1	8
		Up to 2500 A	P	1	8
		Up to 3200 A	P	1	8
	Size 3	Up to 4000 A	P	1	8
		Up to 5000 A	P	1	8
Top: connecting flange Bottom: horizontal	Size 1	Up to 1600 A	P	1	9
	Size 2	Up to 2000 A	P	1	9
		Up to 2500 A	P	1	9
		Up to 3200 A	P	1	9
	Size 3	Up to 4000 A	P	1	9
Top: horizontal Bottom: vertical	Size 1	Up to 1600 A	P	2	3
	Size 2	Up to 2000 A	P	2	3
		Up to 2500 A	P	2	3
		Up to 3200 A	P	2	3
	Size 3	Up to 4000 A	P	2	3
		Up to 5000 A	P	2	3
Top: horizontal Bottom: connecting flange	Size 1	Up to 1600 A	P	2	8
	Size 2	Up to 2000 A	P	2	8
		Up to 2500 A	P	2	8
		Up to 3200 A	P	2	8
	Size 3	Up to 4000 A	P	2	8

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To specify the options, add "-Z" to the complete Article No. and indicate the appropriate order code(s).

3WL....-.....-.... -Z

			Order code		
Connection					
Connection technology for auxiliary conductors (for fixed-mounted and withdrawable versions)					
Connection technology for screwless terminals (tension spring)	Fixed-mounted		N	6	1
	Withdrawable		P	6	1
Operating mechanisms and auxiliary releases					
Motorized operating mechanisms	Only possible if the 13th digit of the Article No. = "1"	24 ... 30 V DC	M	0	1
		48 ... 60 V DC	M	0	3
		110 ... 127 V AC 50/60 Hz / 110 ... 125 V DC	M	0	5
		208 ... 240 V AC 50/60 Hz / 220 ... 250 V DC	M	0	6
Mechanical operating cycles counter, 5-digit [1]			C	0	1
Closing coils	• Suitable for uninterrupted duty, 100% OP • Only possible if the 13th digit of the Article No. = "1"	24 V DC	M	2	1
		30 V DC	M	2	2
		48 V DC	M	2	3
		60 V DC	M	2	4
		110 ... 127 V AC 50/60 Hz / 110 ... 125 V DC	M	2	5
		208 ... 240 V AC 50/60 Hz / 220 ... 250 V DC	M	2	6
	• Not suitable for uninterrupted duty, 5% OP, synchronizable [3] • Only possible if the 13th digit of the Article No. = "1"	24 V DC	M	3	1
		48 V DC	M	3	3
		110 ... 127 V AC 50/60 Hz / 110 ... 125 V DC	M	3	5
		208 ... 240 V AC 50/60 Hz / 220 ... 250 V DC	M	3	6
Opening coils (shunt trips) [2] [3]	Not suitable for uninterrupted duty, 5% OP, synchronizable	24 V DC	M	4	1
		48 V DC	M	4	3
		110 ... 127 V AC 50/60 Hz / 110 ... 125 V DC	M	4	5
		208 ... 240 V AC 50/60 Hz / 220 ... 250 V DC	M	4	6
Auxiliary switches and signaling switches					
Position signaling switches for guide frames		1 CO | 1 CO | 1 CO (connected | test | disconnected position)	R	1	5
		3 CO | 2 CO | 1 CO (connected | test | disconnected position)	R	1	6
Signaling switches	Ready-to-close signaling switches (S20)	1 NO contact	C	2	2
	Spring charged signaling switch [4] (S21)	1 NO contact	C	2	0
	For the first auxiliary release [5] (S22)	1 CO contact	C	2	6
	For the second auxiliary release [5] (S23)	1 CO contact	C	2	7
	1st tripped signaling switch [4] [6] (S24)	1 CO contact	K	0	7
	2nd tripped signaling switch [4] [5] [6] (S25)	1 NO contact	K	0	6

[1] Only possible with motorized operating mechanism.
[2] Only possible if the 14th digit of the Article No. for the circuit breaker is "A", i.e. "without 1st auxiliary release".
[3] Overexcited, i.e. switching time 50 ms (standard >80 ms).
[4] Not possible with "communications interface" option, order code "F02", "F12" or "F35".
[5] Only possible with option "K07".
[6] Not available for non-automatic air circuit breakers.

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Accessory options

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1

To specify the options, add "-Z" to the complete Article No. and indicate the appropriate order code(s).

3WL....-.....-.... -Z

			Order code		
Further accessories					
Pushbuttons / shutdown switches / closing lockouts					
EMERGENCY-OFF pushbuttons	Mushroom pushbutton instead of the mechanical OFF pushbutton		S	2	4
Electrical ON button S10 in the operator panel [1]	Possible only for circuit breakers with closing coil	With sealing cap	C	1	1
		With CES lock	C	1	2
Motor shutdown switch on operator panel [2] **(S12)**			S	2	5
Special packaging for increased transport requirements (moisture protection)					
Cardboard packaging with water-repellent coating on corrugated cardboard (moisture protection)			A	6	1
Shutters					
Shutter: 2-part, lockable, with padlocks [1]	3-pole, 4-pole	Sizes 1 / 2 / 3	R	2	1
Interlocking					
Mechanical interlocks					
• Interlocking module with Bowden cable 2 m					
Mutual mechanical interlockings		For fixed-mounted breakers	S	5	5
		For withdrawable circuit breakers with guide frame	R	5	5
		For guide frames (ordered separately)	R	5	6
		For withdrawable circuit breakers (ordered separately)	R	5	7
Locking devices (for fixed-mounted and withdrawable versions)					
• The disconnector unit fulfills the requirements for main circuit breakers according to EN 60204-1					
Locking devices	To prevent unauthorized activation in the operator panel	Made by CES	S	0	1
		Made by IKON	S	0	3
		Assembly kit FORTRESS or Castell [3]	S	0	5
		Assembly kit for padlocks [4]	S	0	7
		Made by Ronis	S	0	8
		Made by Profalux	S	0	9
Locking devices (for fixed-mounted and withdrawable versions)					
Locking devices	For operating mechanism handle with padlock [4]		S	3	3
Locking devices (for withdrawable version)					
• The disconnector unit fulfills the requirements for main circuit breakers acc. to EN 60204-1, consisting of a lock in the guide frame, active in the connected position, function is retained when circuit breaker is replaced.					
• Not possible in combination with order code "R81", "R85" or "R86".					
Locking devices	To prevent unauthorized activation in the operator panel	Made by CES	R	6	1
		Made by Ronis	R	6	8
		Made by Profalux	R	6	0

[1] Not possible with "communications interface" option, order code "F02", "F12" or "F35".

[2] Only for breakers with motorized operating mechanism, not possible with order codes "C11", "C12".

[3] Locks must be ordered from the manufacturer.

[4] Padlock not included in the scope of supply.

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To specify the options, add "-Z" to the complete Article No. and indicate the appropriate order code(s).

3WL....-.....-.... -Z

			Order code		
Interlocking					
Locking devices (for withdrawable version)					
• Safety lock for mounting onto the circuit breaker					
Locking devices	To prevent movement of withdrawable circuit breaker	Made by CES	S	7	1
		Made by Profalux	S	7	5
		Made by Ronis	S	7	6
Locking mechanisms					
• Not possible in combination with order code "R81", "R85" or "R86".					
For fixed-mounted circuit breakers	To prevent opening of the cabinet door in ON position		S	3	0
For withdrawable circuit breakers	To prevent opening of the cabinet door in connected position		R	3	0
	To prevent movement when the cabinet door is open		R	5	0
Locking mechanisms to prevent movement of the withdrawable circuit breakers in disconnected position					
• Consisting of Bowden cable and lock in the cabinet door					
• Not possible in combination with order code "R30", "R50", "R61", "R68" or "R60".					
Made by CES			R	8	1
Made by Profalux			R	8	5
Made by Ronis			R	8	6
Seals					
Door sealing frame for degree of protection IP41			T	4	0

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Guide frames for AC

The structure shown below is intended as an overview of each position and its meaning.
For a complete and valid configuration of your air circuit breaker, please use our online configurator at
www.siemens.com/lowvoltage/3wl-configurator

	5	6	7	8	9	10	11	12	13	14	15	16
3WL9	2	5		–					–		A	1

		SZ 1	SZ 2	SZ 3	
Size	1				1
	2				2
	3				3
Max. rated current I_n	1000 A	■	–	–	1
	1600 A	■	–	–	2
	2000 A	–	■	–	3
	2500 A	–	■	–	4
	3000 A	–	■	–	5
	4000 A	–	–	■	6
	5000 A	–	–	■	7
Number of poles	3-pole	■	■	■	A
	4-pole	■	■	■	B
Main connection	Front, single hole	■	■	□[1]	A
	Front, double hole	■	■	□[1]	B
	Horizontal	■	■	■	C
	Vertical	■	■	■	D
	Connecting flange	■	■	□[1]	E

[1] Not available for rated circuit breaker current 5000 A

Options

	5	6	7	8	9	10	11	12	13	14	15	16
3WL9	2	5		–					–		A	1

Number of auxiliary supply connectors	Without	0
	1 connector	1
	2 connectors	2
	3 connectors	3
	4 connectors	4
Type of auxiliary circuit connections	Without [2]	0
	With screw terminals (SIGUT, standard)	1
	With screwless terminals (tension spring)	2
Position signaling switches	Without	0
	1 CO | 1 CO | 1 CO (connected | test | isolated position)	1
	3 CO | 2 CO | 1 CO (connected | test | isolated position)	2
Shutters	Without	A
	With shutter, 2-part, lockable	B

[2] Can only be selected if the number of auxiliary supply connectors = without.

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Accessories and spare parts

Accessories for electronic trip units ETU

Protective devices with device holder and optional metering function

- For replacement in existing circuit breakers, please specify the circuit breaker ID No. when ordering.

Type	With protection function	Metering function	Article No.
ETU25B	LSI	Without	3WL9352-5AA00-0AA1
ETU45B (without display)	LSIN(G)	Without	3WL9354-5AA00-0AA1
		With metering function Plus	3WL9354-5AA20-0AA1

Rating plugs


NSE0_00992b

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

Size	Rated current I_n	Article No.
1, 2	250 A	3WL9111-2AA51-0AA0
	315 A	3WL9111-2AA52-0AA0
	400 A	3WL9111-2AA53-0AA0
	500 A	3WL9111-2AA54-0AA0
	630 A	3WL9111-2AA55-0AA0
	800 A	3WL9111-2AA56-0AA0
	1000 A	3WL9111-2AA57-0AA0
1, 2, 3	1250 A	3WL9111-2AA58-0AA0
	1600 A	3WL9111-2AA61-0AA0
2, 3	2000 A	3WL9111-2AA62-0AA0
	2500 A	3WL9111-2AA63-0AA0
	3000 A	3WL9111-2AA77-0AA0
	3200 A	3WL9111-2AA64-0AA0
3	4000 A	3WL9111-2AA65-0AA0
	5000 A	3WL9111-2AA66-0AA0

Ground-fault modules


NSE0_01027a

- Alarm and tripping
- For direct metering of the ground-fault current, e.g. in the star point of the transformer, a 1200 A/1 A current transformer, class 1, is required. The internal load of the 3WL 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.

Type	Accessory for	Article No.
GFM AT 45B	ETU45B	3WL9111-2AT53-0AA0

Display


NSE0_01609

For ETU	Version	Article No.
ETU45B	4-line	3WL9111-1AT81-0AA0

External current transformers for N conductor


NSE0_00990a


NSE0_00991a

ETU Release 2	Size	Article No.
–	1	3WL9111-0AA21-0AA0
	2	3WL9111-0AA22-0AA0
	3	3WL9111-0AA23-0AA0
✓	1	3WL9111-0AA31-0AA0
	2	3WL9111-0AA32-0AA0
	3	3WL9111-0AA33-0AA0

EMC filter

- 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.

Variants	Article No.
Only for ETU Release 2	3WL9111-0AK32-0AA0

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Accessories and spare parts

Accessories for electronic trip units ETU

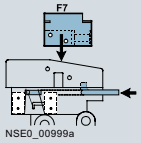
Sealable and lockable covers

Accessory for	Article No.
ETU15B and ETU45B	3WL9111-0AT45-0AA0

Automatic reset of the reclosing lockout

Version	Article No.
Spare part for option K01	3WL9111-0AK21-0AA0

Remote reset magnets



- For mechanical tripped indicator
- Spare part for options K10 to K13
- **Note:**
  - Automatic reset of the reclosing lockout 3WL9111-0AK21-0AA0 is also required

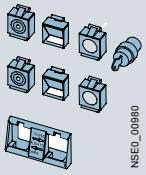
Voltage	Article No.
24 V DC	3WL9111-0AK03-0AA0
48 V DC	3WL9111-0AK04-0AA0
120 V AC / 125 V DC	3WL9111-0AK05-0AA0
208 ... 250 V AC / 208 ... 250 V DC	3WL9111-0AK06-0AA0

Retrofittable internal wiring

Purpose	Male connector	Accessory for	Article No.
Internal CubicleBUS wiring for connection to terminal X8	Without male connector for retrofitting the communication	ETU45B	3WL9111-0AK30-0AA0
For connection of the external N and G transformers to terminal X8	With male connector	Not for ETU Release 2	3WL9111-0AK31-0AA0

Locking devices and interlocks

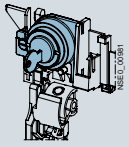
Padlockable protective covers ON / OFF



- Consisting of two transparent covers each for sealing or for attaching padlocks (padlocks not included in scope of supply)
- Cover with 6.35 mm hole (for tool actuation)
- Lock mount for safety lock for key operation

Version	Article No.
Without safety lock	3WL9111-0BA21-0AA0
Made by CES	3WL9111-0BA22-0AA0
Made by IKON	3WL9111-0BA24-0AA0

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 options S01 to S09

Variant	Scope of supply	Article No.
Assembly kit FORTRESS or Castell	Without locks, cylinders or keys	3WL9111-0BA31-0AA0
Made by Ronis	Locks, cylinders and keys included	3WL9111-0BA33-0AA0
Made by KIRK-Key	Without locks, cylinders or keys	3WL9111-0BA34-0AA0
Made by Profalux	Locks, cylinders and keys included	3WL9111-0BA35-0AA0
Made by CES	Locks, cylinders and keys included	3WL9111-0BA36-0AA0
Made by IKON	Locks, cylinders and keys included	3WL9111-0BA38-0AA0
Assembly kit for padlocks	Without padlock	3WL9111-0BA41-0AA0

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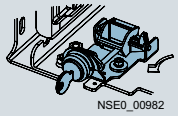
Locking devices and interlocks

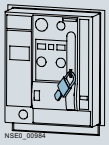
Locking devices against unauthorized closing, for withdrawable circuit breakers


NSE0_00982

- 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

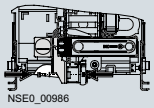
Variant	Scope of supply	Article No.
Made by CES	Locks, cylinders and keys included	3WL9111-0BA51-0AA0
Made by IKON	Locks, cylinders and keys included	3WL9111-0BA53-0AA0
Made by KIRK-Key [1]	Without locks, cylinders or keys	3WL9111-0BA57-0AA0
Made by Ronis	Locks, cylinders and keys included	3WL9111-0BA58-0AA0
Made by Profalux	Locks, cylinders and keys included	3WL9111-0BA50-0AA0

Locking devices for operating mechanism handle with padlock


NSE0_00984

Version	Scope of supply	Article No.
Spare part for option S33	Without padlock	3WL9111-0BA71-0AA0

Locking devices to prevent movement of the withdrawable circuit breakers


NSE0_00986

- Safety lock for mounting onto the circuit breaker
- Spare part for option S71, S75, S76

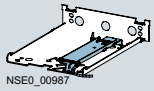
Variant	Scope of supply	Article No.
Made by CES	Locks, cylinders and keys included	3WL9111-0BA73-0AA0
Made by IKON	Locks, cylinders and keys included	3WL9111-0BA75-0AA0
Made by Profalux	Locks, cylinders and keys included	3WL9111-0BA76-0AA0
Made by Ronis	Locks, cylinders and keys included	3WL9111-0BA77-0AA0
Made by KIRK-Key [1]	Without locks, cylinders or keys	3WL9111-0BA80-0AA0

Interlocking systems

- 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

Variant	Article No.
Made by CES	3WL9111-0BA43-0AA0

Locking devices to prevent movement of the withdrawable circuit breakers in disconnected position


NSE0_00987

- Consisting of Bowden cable and lock in the cabinet door on the circuit breaker
- Spare part for option R81, R85, R86
- **Note:**
  - Not possible in combination with "Locking mechanism to prevent opening of the cabinet door" (order code "R30") or "Locking mechanism to prevent movement with the cabinet door open" (order code "R50").

Variant	Article No.
Made by CES	3WL9111-0BA81-0AA0
Made by IKON	3WL9111-0BA83-0AA0
Made by Profalux	3WL9111-0BA85-0AA0
Made by Ronis	3WL9111-0BA86-0AA0

Locking devices to prevent opening of the cabinet door in ON position


NSE0_00988

- Fixed-mounted
- Defeatable
- **Note:**
  - Not possible in combination with "Locking mechanism to prevent movement of the withdrawable circuit breakers in disconnected position" (order codes "R81", "R85" or "R86").

Version	Article No.
Spare part for option S30	3WL9111-0BB12-0AA0

[1] Locks, cylinders and keys must be ordered from the manufacturer.

System overview, page 1/18

Accessories and spare parts

Locking devices and interlocks

Locking devices to prevent opening of the cabinet door

- Guide frames
- Defeatable
- **Note:**
  - Not possible in combination with "Locking mechanism to prevent movement of the withdrawable circuit breakers in disconnected position" (order codes "R81", "R85" or "R86").

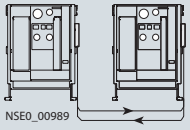
Version	Article No.
Spare part for option R30	3WL9111-0BB13-0AA0

Locking devices to prevent movement with the cabinet door open

- Guide frames
- **Note:**
  - Not possible in combination with "Locking mechanism to prevent movement of the withdrawable circuit breakers in disconnected position" (order codes "R81", "R85" or "R86").

Version	Article No.
Spare part for option R50	3WL9111-0BB15-0AA0

Mutual mechanical interlockings


NSE0_00989

- With Bowden cable 2000 mm (one required for each circuit breaker)

Type	When ordered separately	Spare part for	Article No.
Fixed-mounted circuit breaker	–	Option S55	3WL9111-0BB21-0AA0
Module for withdrawable circuit breakers with guide frame	–	Option R55	3WL9111-0BB24-0AA0
Module for guide frame	✓	Option R56	3WL9111-0BB22-0AA0
Module for withdrawable circuit breaker	✓	Option R57	3WL9111-0BB23-0AA0
Adapter for size 3 withdrawable circuit breaker	✓	–	3WL9111-0BB30-0AA0

Couplings on the circuit breaker (with ring) for mutual interlocking

- Can be used in all circuit breakers

Article No.
3WL9112-8AH47-0AA0

Bowden cables

Length	Article No.
2000 mm	3WL9111-0BB45-0AA0
3000 mm	3WL9111-0BB46-0AA0
4500 mm	3WL9111-0BB47-0AA0

Test devices

Manual tester, Release 2 for electronic trip units ETU25B to ETU45B

- For testing the electronic trip unit functions of all 3WL ETUs

Article No.
3WL9111-0AT32-0AA0

Function test unit

- For testing the tripping characteristics for electronic trip units ETU25B to ETU45B

Article No.
3WL9111-0AT44-0AA0

TD400 Kit IEC

- Commissioning/Service Tool for UL 3WL5 (ETU Release 1)
- With adapter, cable and case

Article No.
3VW9011-0AT41

TD400 adapter (spare part)

Version	Article No.
for 3VA	3VW9011-0AT43
for 3WL ETU Release 1	3VW9011-0AT44

System overview, page 1/18

Storage devices

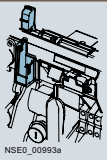
Capacitor storage devices

- For shunt trips
- Storage time 5 min
- Also suitable for 3VL circuit breakers
- **Note:**
  - Rated control supply voltage must match the rated control supply voltage of the shunt trips.

Rated control supply voltage/rated operational voltage		Article No.
50/60 Hz AC	DC	
220 ... 240 V	220 ... 250 V	3WL9111-0BA14-0AA0

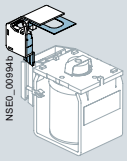
Indicators and control elements

Ready-to-close signaling switches (S20)


NSE0_00993a

Version	Contacts	Article No.
Spare part for option C22	1 NO contact	3WL9111-0AH01-0AA0

Signaling switch (S22 or S23).


NSE0_00994b

- Not possible with communication port, order code "F02", "F12" or "F35"
- Auxiliary supply connection X7 required for circuit breakers or guide frames. If this is not already available, please order additionally

Version	Contacts	Article No.
Spare part for options C26 to C27	1st or 2nd auxiliary release	3WL9111-0AH02-0AA0

1st tripped signaling switch (S24)

- Not possible with communication port, order code "F02", "F12" or "F35"
- Auxiliary supply connection X7 required for circuit breakers or guide frames. If this is not already available, please order additionally

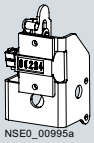
Version	Contacts	Article No.
Spare part for option K07	1 CO contact	3WL9111-0AH14-0AA0

2nd tripped signaling switch (S25)

- Not possible with communication port, order code "F02", "F12" or "F35"
- Auxiliary supply connection X7 required for circuit breakers or guide frames. If this is not already available, please order additionally
- Can only be used in combination with 1st tripped signaling switch

Version	Contacts	Article No.
Spare part for option K06	1 NO contact	3WL9111-0AH17-0AA0

Operating cycle counters


NSE0_00995a

- Only in conjunction with motorized operating mechanism.

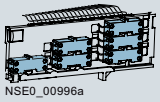
Variant	Version	Article No.
Spare part for option C01	Mechanical	3WL9111-0AH07-0AA0

Spring charged signaling switch

- Not possible with communication port, order code "F02", "F12" or "F35".
- Auxiliary supply connection X7 required for circuit breakers or guide frames. If this is not already available, please order additionally

Version	Contacts	Article No.
Spare part for option C20	1 NO contact	3WL9111-0AH08-0AA0

Position signaling switches for guide frames


NSE0_00996a

Version	Contacts	Article No.
Spare part for options R15 to R16	1st block (3 CO contacts)	3WL9111-0AH11-0AA0
	2nd block (6 CO contacts)	3WL9111-0AH12-0AA0

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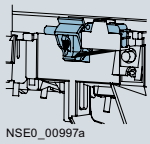
Accessories and spare parts

Indicators and control elements

Electrical ON button (S10) for operator panel


NSE0_00997a

- Not possible with communication port, order code "F02", "F12" or "F35"
- Not possible with motor shutdown switch
- Button + wiring (Auxiliary supply connection X7 required for circuit breakers or guide frames. If this is not already available, please order additionally)
- **Note:**
  - Possible only for circuit breakers with closing coil.

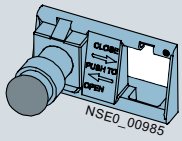
Version	Variant	Article No.
Spare part for options C11 to C12	With sealing cap C11	3WL9111-0AJ02-0AA0
	With CES assembly kit C12	3WL9111-0AJ03-0AA0
	With IKON assembly kit	3WL9111-0AJ05-0AA0

Motor shutdown switch (S12)

- Mounting onto operator panel
- Not possible with electrical ON button

Version	Article No.
Spare part for option S25	3WL9111-0AJ06-0AA0

EMERGENCY-OFF pushbuttons



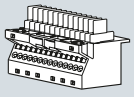
NSE0_00985

- Mushroom pushbutton instead of the mechanical OFF pushbutton

Variant	Article No.
Spare part for option S24	3WL9111-0BA72-0AA0

Auxiliary conductor connections

Male connectors for circuit breakers ①



	Article No.
	3WL9111-0AB01-0AA0

Extension for male connector

- Male connector must be ordered separately

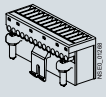
Version	Article No.
1000 V	3WL9111-0AB02-0AA0

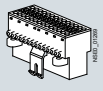
Male connectors and extension

Version	Article No.
1000 V	3WL9111-0AB10-0AA0

Auxiliary supply connection for circuit breakers or guide frames ②

Version	Article No.
Screw connection (SIGUT)	3WL9111-0AB03-0AA0
Screwless connection (tension spring)	3WL9111-0AB04-0AA0





Coding kits ③

Version	Article No.
For fixed-mounted X5 to X8	3WL9111-0AB07-0AA0

For a complete auxiliary current connection you must order:
Fixed-mounted version: ① + ② + ③
Withdrawable version: ① + ④ + ② or ① + ⑤

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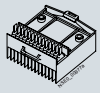
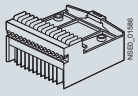
Auxiliary conductor connections

Sliding contact modules for guide frames ④



Article No.
3WL9111-0AB08-0AA0

One-part sliding contact modules for guide frames ⬤



Version	Article No.
Screw connection (SIGUT)	3WL9111-0AB18-0AA0

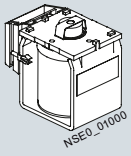
Blanking blocks for circuit breakers

Article No.
3WL9111-0AB12-0AA0

For a complete auxiliary current connection you must order:
Fixed-mounted version: ① + ② + ③
Withdrawable version: ① + ④ + ② or ① + ⑤

Auxiliary releases

Closing coils / shunt trips



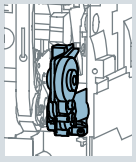
Version	Voltage	Article No.
100% OP	24 V DC	3WL9111-0AD01-0AA0
	30 V DC	3WL9111-0AD02-0AA0
	48 V DC	3WL9111-0AD03-0AA0
	60 V DC	3WL9111-0AD04-0AA0
	110 ... 125 V DC/110 ... 127 V AC	3WL9111-0AD05-0AA0
	220 ... 250 V DC/208 ... 240 V AC	3WL9111-0AD06-0AA0
5% OP Switching time 50 ms (standard >80 ms).	24 V DC	3WL9111-0AD11-0AA0
	48 V DC	3WL9111-0AD12-0AA0
	110 ... 125 V DC/110 ... 127 V AC	3WL9111-0AD13-0AA0
	220 ... 250 V DC/208 ... 240 V AC	3WL9111-0AD14-0AA0

Undervoltage release

Version	Voltage	Article No.
Instantaneous	24 V DC	3WL9111-0AE01-0AA0
	30 V DC	3WL9111-0AE02-0AA0
	48 V DC	3WL9111-0AE03-0AA0
	60 V DC	3WL9111-0AE07-0AA0
	110 ... 125 V DC/110 ... 127 V AC	3WL9111-0AE04-0AA0
	220 ... 250 V DC/208 ... 240 V AC	3WL9111-0AE05-0AA0
Delayed	48 V DC	3WL9111-0AE11-0AA0
	110 ... 125 V DC/110 ... 127 V AC	3WL9111-0AE12-0AA0
	220 ... 250 V DC/208 ... 240 V AC	3WL9111-0AE13-0AA0

Operating mechanism

Motorized operating mechanisms



- Auxiliary supply connection X5 required for circuit breakers or guide frames.
  If this is not already available, please order additionally

Voltage	Article No.
24 ... 30 V DC	3WL9111-0AF01-0AA0
48 ... 60 V DC	3WL9111-0AF02-0AA0
110 ... 125 V DC/110 ... 127 V AC	3WL9111-0AF03-0AA0
220 ... 250 V DC/208 ... 240 V AC	3WL9111-0AF04-0AA0

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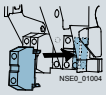
Accessories and spare parts

Auxiliary contacts

Auxiliary switch blocks



Contacts	Article No.
2 NO contacts + 2 NC contacts	3WL9111-0AG01-0AA0
2 NO contacts	3WL9111-0AG02-0AA0
1 NO contact + 1 NC contact	3WL9111-0AG03-0AA0

Door sealing frames, hoods, shutters

Door sealing frames

Version	Article No.
Spare part for option T40	3WL9111-0AP01-0AA0

Protective covers IP55

- Cannot be used in conjunction with door sealing frames
- Hood removable and can be opened on both sides

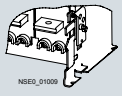
Article No.
3WL9111-0AP03-0AA0

Shutters

Version	Number of poles	Size	Breaking capacity	Article No.
Spare part for option R21	3-pole	1	N, S, H	3WL9111-0AP04-0AA0
		2	N, S, H	3WL9111-0AP06-0AA0
		3	H, C	3WL9111-0AP07-0AA0
	4-pole	1	N, S, H	3WL9111-0AP08-0AA0
		2	N, S, H	3WL9111-0AP11-0AA0
		3	H, C	3WL9111-0AP12-0AA0

Coding for withdrawable version

Coding for withdrawable version



- By customer, for 36 coding variants

Size	Article No.
1 and 2	3WL9111-0AR12-0AA0
3	3WL9111-0AR13-0AA0

Support brackets

Support brackets

- For mounting fixed-mounted circuit breakers on vertical plane
- Only for sizes 1 and 2 (1 set = 2 units)

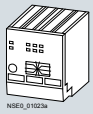
Article No.
3WL9111-0BB50-0AA0

System overview, page 1/18

CubicleBUS modules

- Each CubicleBUS module is supplied with a 0.2 m pre-assembled cable to connect the modules with each other. A longer pre-assembled cable is required for connection to the circuit breaker.
- All communication components, CubicleBUS modules and metering functions are available for the electronic trip units ETU45B.

CubicleBUS modules



Type	Article No.
Digital output modules with rotary coding switch, relay outputs	3WL9111-1AT26-0AA0
Digital output modules, configurable, relay outputs	3WL9111-1AT20-0AA0
Digital input module	3WL9111-1AT27-0AA0
Analog output module	3WL9111-1AT23-0AA0
ZSI module	3WL9111-1AT21-0AA0

Preassembled cables for CubicleBUS modules

For connection to 3WL	Length	Article No.
With COM15/COM16/COM35	0.2 m	3WL9111-0BC04-0AA0
	1 m	3WL9111-0BC02-0AA0
	2 m	3WL9111-0BC03-0AA0
Without COM15/COM16/COM35	2 m	3WL9111-0BC05-0AA0

Voltage transformers

- Required for 3WL circuit breakers with metering function Plus
- 380 ... 690 V/100 V, class 0.5

Number of poles	Metering function	Article No.
3-pole	With metering function Plus	3WL9111-0BB68-0AA0

Retrofitting and spare parts

- All communication components, CubicleBUS modules and metering functions are available for the electronic trip units ETU45B.

COM35 PROFINET IO / Modbus TCP modules new

Version	Article No.
For electronic trip units ETU45B	3WL9111-1AT66-0AA0

COM15 PROFIBUS module

Version	Article No.
For electronic trip units ETU45B	3WL9111-1AT65-0AA0

COM16 Modbus module

Version	Article No.
For electronic trip units ETU45B	3WL9111-1AT15-0AA0

Breaker status sensor (BSS)

Version	Article No.
For electronic trip units ETU45B	3WL9111-1AT16-0AA0

Metering function Plus

- A measuring accuracy of 3% is achieved if retrofitted.

Version	Article No.
Voltage transformer required	3WL9111-1AT03-0AA0

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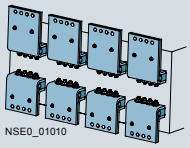
Accessories and spare parts

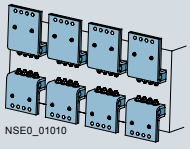
Main conductor connections, fixed-mounted versions (essential accessory)

Front-accessible main connections, single hole at top



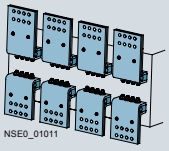
Size	Rated current I_n	Article No.
1	Up to 1000 A	3WL9111-0AL01-0AA0
	1250 ... 1600 A	3WL9111-0AL02-0AA0
2	Up to 2000 A	3WL9111-0AL03-0AA0
	Up to 2500 A	3WL9111-0AL04-0AA0
	Up to 3200 A	3WL9111-0AL05-0AA0
3	Up to 4000 A	3WL9111-0AL06-0AA0

Front-accessible main connections, single hole at bottom



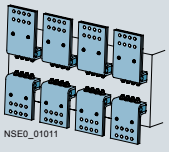
Size	Rated current I_n	Article No.
1	Up to 1000 A	3WL9111-0AL51-0AA0
	1250 ... 1600 A	3WL9111-0AL52-0AA0
2	Up to 2000 A	3WL9111-0AL53-0AA0
	Up to 2500 A	3WL9111-0AL54-0AA0
	Up to 3200 A	3WL9111-0AL55-0AA0
3	Up to 4000 A	3WL9111-0AL56-0AA0

Front-accessible main connections according to DIN 43673, double hole at top



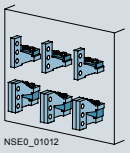
Size	Rated current I_n	Article No.
1	Up to 1000 A	3WL9111-0AL07-0AA0
	1250 ... 1600 A	3WL9111-0AL08-0AA0
2	Up to 2000 A	3WL9111-0AL11-0AA0
	Up to 2500 A	3WL9111-0AL12-0AA0
	Up to 3200 A	3WL9111-0AL13-0AA0
3	Up to 4000 A	3WL9111-0AL14-0AA0

Front-accessible main connections according to DIN 43673, double hole at bottom



Size	Rated current I_n	Article No.
1	Up to 1000 A [1]	3WL9111-0AL57-0AA0
	1250 ... 1600 A	3WL9111-0AL58-0AA0
2	Up to 2000 A	3WL9111-0AL61-0AA0
	Up to 2500 A	3WL9111-0AL62-0AA0
	Up to 3200 A	3WL9111-0AL63-0AA0
3	Up to 4000 A	3WL9111-0AL64-0AA0

Rear vertical main connections



Size	Rated current I_n	Article No.
1 [1]	Up to 1600 A	3WL9111-0AM01-0AA0
2 [2]	Up to 3200 A	3WL9111-0AM02-0AA0
3	Up to 6300 A	3WL9111-0AM03-0AA0

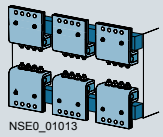
[1] In the case of vertical connection size 1 with breaking capacity N and S, up to 1000 A one 3WL9 111-0AM01-0AA0 vertical connection is required, up to 1600 A or with breaking capacity H two 3WL9 111-0AM01-0AA0 vertical connections are required.

[2] In the case of vertical connection size 2, 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.

System overview, page 1/18

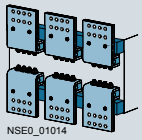
Main conductor connections, withdrawable versions (essential accessory)

Front-accessible main connections, single hole at top or at bottom [1)]



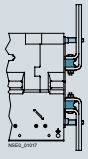
Size	Rated current I_n	Article No.
1	Up to 1000 A	3WL9111-0AN01-0AA0
	1250 ... 1600 A	3WL9111-0AN02-0AA0
2	Up to 2000 A	3WL9111-0AN03-0AA0
	Up to 2500 A	3WL9111-0AN04-0AA0
	Up to 3200 A	3WL9111-0AN05-0AA0
3	Up to 4000 A	3WL9111-0AN06-0AA0

Front-accessible main connections, according to DIN 43673, double hole at top or at bottom [1)]



Size	Rated current I_n	Article No.
1	Up to 1000 A	3WL9111-0AN07-0AA0
	1250 ... 1600 A	3WL9111-0AN08-0AA0
2	Up to 2000 A	3WL9111-0AN11-0AA0
	Up to 2500 A	3WL9111-0AN12-0AA0
	Up to 3200 A	3WL9111-0AN13-0AA0
3	Up to 4000 A	3WL9111-0AN14-0AA0

Supports for front and DIN connecting bars



Number of poles	Size	Article No.
3-pole for 3 bars	1	3WL9111-0AN41-0AA0
	2	3WL9111-0AN42-0AA0
	3	3WL9111-0AN43-0AA0
4-pole for 4 bars	1	3WL9111-0AN44-0AA0
	2	3WL9111-0AN45-0AA0
	3	3WL9111-0AN46-0AA0

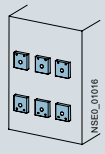
Rear vertical main connections

Size	Rated current I_n	Article No.
1	Up to 1000 A	3WL9111-0AN15-0AA0
	1250 ... 1600 A	3WL9111-0AN16-0AA0
2	Up to 2000 A	3WL9111-0AN17-0AA0
	Up to 2500 A	3WL9111-0AN18-0AA0
	Up to 3200 A	3WL9111-0AN21-0AA0
3	Up to 5000 A	3WL9111-0AN22-0AA0

Rear horizontal main connections

Size	Rated current I_n	Article No.
1	Up to 1000 A	3WL9111-0AN32-0AA0
	1250 ... 1600 A	3WL9111-0AN33-0AA0
1	Up to 2000 A	3WL9111-0AN34-0AA0
	Up to 2500 A	3WL9111-0AN35-0AA0
	Up to 3200 A	3WL9111-0AN36-0AA0
3	Up to 5000 A	3WL9111-0AN37-0AA0

Connecting flange



Size	Rated current I_n	Article No.
1	Up to 1000 A	3WL9111-0AN24-0AA0
	1250 ... 1600 A	3WL9111-0AN25-0AA0
2	Up to 2000 A	3WL9111-0AN26-0AA0
	Up to 2500 A	3WL9111-0AN27-0AA0
	Up to 3200 A	3WL9111-0AN28-0AA0
3	Up to 4000 A	3WL9111-0AN31-0AA0

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

System overview, page 1/18

Accessories and spare parts

Conversion kit

Conversion kit for converting fixed-mounted circuit breakers into withdrawable circuit breakers

- Only for AC circuit breakers/non-automatic air circuit breakers
- Guide frames and sliding contact modules must be ordered separately.

Number of poles	Size	Article No.
3-pole	1	3WL9111-0BC11-0AA0
	2	3WL9111-0BC12-0AA0
	3	3WL9111-0BC13-0AA0
4-pole	1	3WL9111-0BC14-0AA0
	2	3WL9111-0BC15-0AA0
	3	3WL9111-0BC16-0AA0

System overview, page 1/18

System overview, page 1/18

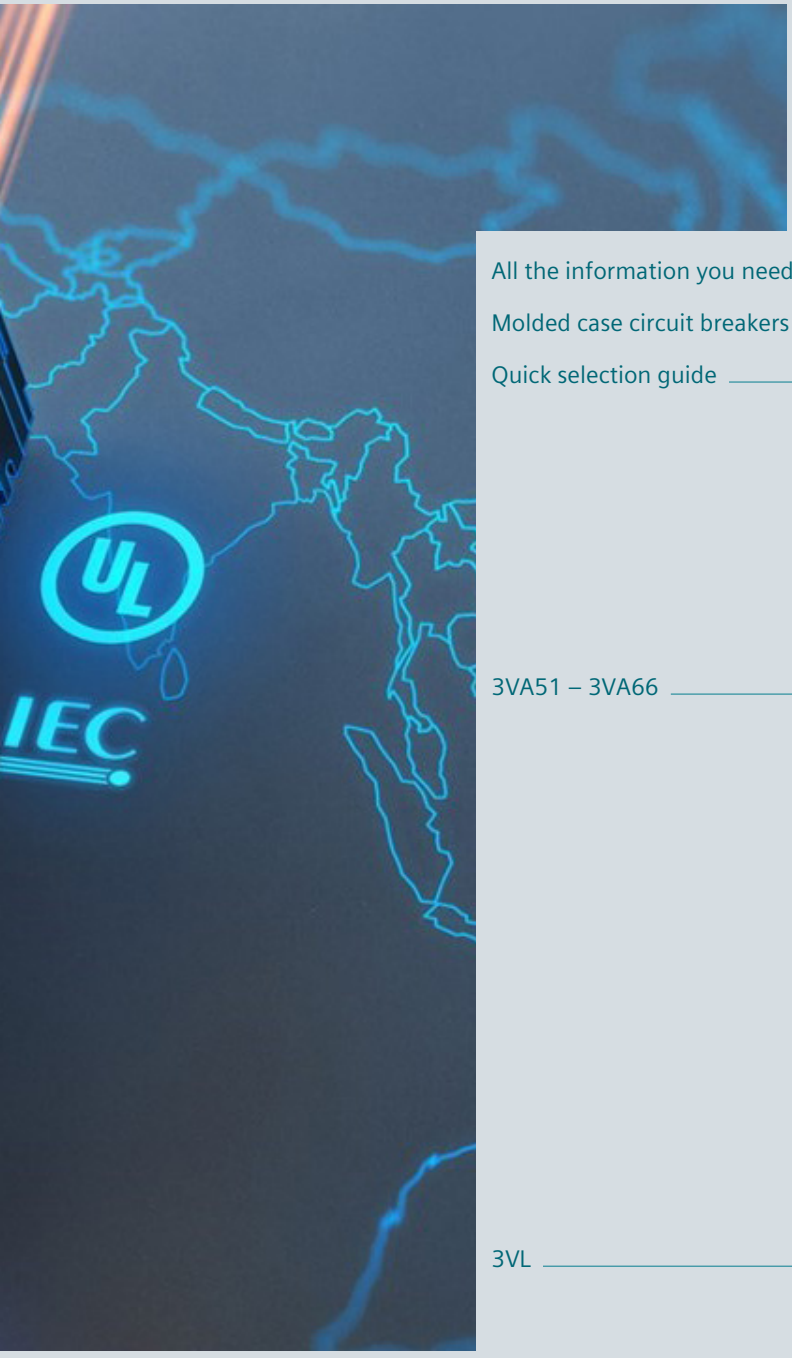
One system. For all applications

Requirements for cost- and energy-efficient operation of electrical power distribution are on the increase. Whether in industrial plants, in infrastructure or in buildings: As a modular, highly adaptable system, the 3VA series of molded case circuit breakers ensures fully reliable protection of personnel and plant, and supports every process phase – from planning to operation of electrical power distribution.

Comprehensively certified. Deployable worldwide.

3VA molded case circuit breakers are available in various ranges with IEC approval; other ranges are available that comply with standard IEC 60947 and standard UL 489. The system is therefore ideally suited for mechanical engineering companies and switchgear manufacturers. The full range of functionalities of molded case circuit breakers can be used for plant and equipment operating in Europe and North America, with absolute standards compliance assured.

Molded Case Circuit Breakers



A multitude of additional information ...

Information + ordering

All the important things at a glance

Information to get you started

For information about molded case circuit breakers, please visit our website
www.siemens.com/3VA

Contact persons in your region

We are there when you need us

You can find your local contacts at

www.siemens.com/lowvoltage/contact

Your product in detail

The Siemens Industry Online Support portal provides comprehensive information

www.siemens.com/lowvoltage/product-support

- Technical basic information – 3VA molded case circuit breakers (109766672)

The relevant tender specifications can be found at
www.siemens.com/lowvoltage/tenderspecifications

Use our conversion tool for quick and easy conversion to Siemens products

www.siemens.com/conversion-tool

Siemens YouTube channel

Our video range

- 3VA molded case circuit breakers (general)
  bit.ly/2xNxlFA

Everything you need for your order

Refer to the Industry Mall for an overview of your products

- 3VA molded case circuit breakers, UL / IEC
  sie.ag/2yPsA2e

Direct forwarding to the individual products in the Industry Mall by clicking on the Article No. in the catalog or by entering this web address incl. Article No.
www.siemens.com/product?Article No.

Configurators

Exactly the right circuit breaker for your application

The configurator reduces the time and effort required in the planning and ordering process, and allows for individual adaptations. Configure your 3VA molded case circuit breaker at
www.siemens.com/lowvoltage/3va-ul-configurator

For your configured 3VA molded case circuit breaker, you can additionally find

- 3D views
- CAD data
- Unit wiring diagrams
- Dimension drawings

… can be found in our online services

Commissioning + operation

Configuration software

powerconfig

The combined commissioning and service tool for communication-capable measuring devices and circuit breakers from the SENTRON family.
www.siemens.com/powerconfig

Your product in detail

The Siemens Industry Online Support portal provides detailed technical information
www.siemens.com/lowvoltage/product-support

- Operating instructions
- Characteristic curves
- Certificates

Engineering data for CAD or CAE systems are available in the CAx Download Manager at
www.siemens.com/lowvoltage/cax

Manuals

Manuals are available for downloading in Siemens Industry Online Support at
www.siemens.com/lowvoltage/manuals

- Configuration manual – 3VA selectivity (109743975)
- Communication manual – 3VA molded case circuit breakers with IEC and UL certification (98746267)
- Equipment manual – 3VA molded case circuit breakers with UL and IEC certification (109758561)

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You can find your local contacts at
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You can find further information on services at
www.siemens.com/service-catalog

Training and tutorials

Our training courses can be found at
www.siemens.com/sitrain-lowvoltage

- Protection systems in low-voltage power distribution (WT-LVAPS)
- 3VA molded case circuit breakers (WT-LVA3VA)
- Communication with SENTRON components (LV-COM)

Technical overview – Molded case circuit breakers

The fast way to get you to our online services

This page provides you with comprehensive information and links on molded case circuit breakers
www.siemens.com/lowvoltage/product-support (109767421)

Molded case circuit breakers for all applications

3VA51 ... 3VA55
molded case circuit breakers

Ideal for standard applications

The 3VA5 molded case circuit breaker is suitable for numerous applications in infrastructure and industrial plants - and this applies worldwide thanks to IEC and UL certification.

Its additional functionality is the perfect complement to the circuit breaker series - and it features a consistent design and wide range of accessories.

Special features

- Compact design
- AC/DC applications
- Universal platform of accessories
- 1-, 2-, 2 in 3-, 3- and 4-pole version
- Also available as a molded case switch and motor circuit protector

UL certificate

- 3VA5/6 molded case circuit breaker for line protection E364397 (CCN [1]: DIVQ)
- 3VA5/6 motor circuit protector: E482699 (CCN: DKPUZ)
- 3VA5/6 molded case switch: E482701 (CCN: WJAZ)
- Accessories: E354102

[1] CCN= UL Category Code Number

3VA61 ... 3VA66
molded case circuit breakers

Perfect for advanced applications

Whether in industry or infrastructure - the 3VA6 molded case circuit breaker can handle all tasks with ease. It can be easily integrated into higher-level energy management or automation systems.

It reliably signals plant conditions and measured values, helping you to increase plant availability and identify any potential for savings.

Special features

- Very good selective protection response
- AC applications
- Integrated metering function for current, voltage and energy values
- Connection to a communication system
- Various circuit breaker versions available as "100% rated" (uninterrupted current carrying)

UL certificate

- 3VA5/6 molded case circuit breaker for line protection E364397 (CCN [1]: DIVQ)
- 3VA5/6 motor circuit protector: E482699 (CCN: DKPUZ)
- 3VA5/6 molded case switch: E482701 (CCN: WJAZ)
- Accessories: E354102

[1] CCN= UL Category Code Number

Basic units and accessories

Protective functions	3VA51	3VA52	3VA53
Size	125 A	250 A	400 A
Molded case switch (MCS)			
with short-circuit release for intrinsic device protection	■	■	■
Thermal-magnetic			
Line protection	■	■	■
Protective circuit breaker for motor starter combinations, motor circuit protector (MCP)	■	■	■
Electronic			
Line protection	–	–	–
Line protection, with display	–	–	–
Line protection, with display and metering function	–	–	–
Protective circuit breaker for motor starter combinations, motor circuit protector (MCP)	–	–	–

Accessories

Size	125 A	250 A	400 A
Accessories			
Auxiliary switches and signaling switches	■	■	■
Auxiliary releases	■	■	■
Connection technology	■	■	■
Plug-in version	–	–	–
Draw-out version	–	–	–
Front rotary operator	■	■	■
Door mounted rotary operator	■	■	■
Side wall mounted rotary operator	■	■	–
Operating unit with Bowden cable/linkage	■	■	■
Motor operator MO 320 (mounted on front)	■	■	■
Motor operator with SEO520 stored energy operator	–	■	–
Locking, blocking and interlocking	■	■	■
Communications interface	–	–	–
EFB300	–	–	–
MMB300	–	–	–
TD300, TD400 and TD500	–	–	–
Cover frame	■	■	■





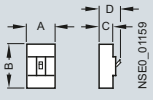



3VA54	3VA55 new	3VA61 new	3VA62 new	3VA63 new	3VA64 new	3VA65 new	3VA66 new
600 A	800 A	150 A	250 A	400 A	600 A	800 A	1000 A
■	■	–	–	–	–	–	–
■	■	–	–	–	–	–	–
■	■	–	–	–	–	–	–
–	–	■	■	■	■	■	■
–	–	■	■	■	■	■	■
–	–	■	■	■	■	■	■
–	–	■	■	■	■	■	■

600 A	800 A	150 A	250 A	400 A	600 A	800 A	1000 A
■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■
–	–	■	■	■	■	–	–
–	–	■	■	■	■	–	–
■	■	■	■	■	■	■	■
■	■	■	■	■	■	■	■
–	–	■	■	–	–	–	–
■	–	■	■	■	■	–	–
■	–	■	■	■	■	–	–
–	–	■	■	–	–	–	–
■	■	■	■	■	■	■	■
–	–	■	■	■	■	■	■
–	–	■	■	■	■	■	■
–	–	■	■	■	■	■	■
–	–	■	■	■	■	■	■
■	■	■	■	■	■	■	■

3VA5 basic units up to 800 A

Technical data

			3VA51			3VA51 new		
Basic data								
Number of poles			1-pole			2-pole		
Size			125 A			125 A		
Rated current I_n			15 ... 125 A			15 ... 125 A		
Frequency			0 ... 400 Hz			0 ... 400 Hz		
Electrical characteristics according to UL 489								
Rated operational voltage U_e 50/60 Hz AC			347 V			600 Y/347 V		
Electrical characteristics according to IEC 60947-2								
Rated operational voltage U_e 50/60 Hz AC			415 V			415 V		
Rated insulation voltage U_i			500 V			600 V		
Rated impulse withstand voltage U_{imp}			8 kV			8 kV		
Breaking capacity			S	M	H	S	M	H
UL breaker type			SEAS	MEAS	HEAS	SEAS	MEAS	HEAS
Short-circuit breaking capacity acc. to UL 489								
50/60 Hz AC	120 V	kA	65	85	100	–	–	–
	240 V	kA	–	–	–	65	85	150
	277 V	kA	25	35	50	–	–	–
	347 V	kA	14	18	18	–	–	–
	480 Y/277 V	kA	–	–	–	25	35	65
	480 V	kA	–	–	–	25	35	65
	600 Y/347 V	kA	–	–	–	14	18	25
	600 V	kA	–	–	–	–	–	–
DC	125 V	kA	14	25	30	14	25	30
	250 V	kA	–	–	–	50	85	100
	500 V	kA	–	–	–	–	–	–
	600 V	kA	–	–	–	–	–	–
	750 V	kA	–	–	–	–	–	–
	1000 V (4 switching poles)	kA	–	–	–	–	–	–
Short-circuit breaking capacity acc. to IEC 60947-2								
Rated ultimate short-circuit breaking capacity I_{CU} 50/60 Hz AC [1]	240 V	kA	25	36	55	55	85	150
	415 V	kA	5	5	5	36	55	70
	690 V	kA	–	–	–	–	–	–
Rated operational short-circuit breaking capacity I_{CS} 50/60 Hz AC [1]	240 V	kA	25	36	55	55	85	150
	415 V	kA	5	5	5	36	55	70
	690 V	kA	–	–	–	–	–	–
DC	125 V	kA	14	25	30	14	25	30
	250 V	kA	–	–	–	50	85	100
	500 V	kA	–	–	–	–	–	–
	600 V	kA	–	–	–	–	–	–
	750 V	kA	–	–	–	–	–	–
	1000 V (4 switching poles)	kA	–	–	–	–	–	–
Dimensions								
	A	mm	25.4			50.8		
	B	mm	140			140		
	C	mm	76.5			76.5		
	D	mm	93.4			93.4		

■ Available – Not available/not present * On request

[1] I_{cu} = rated ultimate short-circuit breaking capacity, rms value, according to IEC 60947-2. I_{cs} = rated operational short-circuit breaking capacity, rms value, according to IEC 60947-2.

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3VA51			3VA52 new			3VA53			3VA54			3VA55 new		
3/4-pole			2- in 3-pole, 3/4-pole			2- in 3-pole, 3/4-pole			2- in 3-pole, 3/4-pole			2- in 3-pole, 3/4-pole		
125 A			250 A			400 A			600 A			800 A		
15 ... 125 A			100 ... 250 A			200 ... 400 A			450 A, 500 A, 600 A			600 A, 700 A, 800 A		
0 ... 400 Hz			0 ... 400 Hz			0 ... 400 Hz			0 ... 400 Hz			0 ... 400 Hz		
600 Y/347 V			600 V			600 V			600 V			600 V		
690 V			690 V			690 V			690 V			690 V		
800 V			800 V			800 V			800 V			800 V		
8 kV			8 kV			8 kV			8 kV			8 kV		
S	M	H	M	H	C	M	H	C	M	H	C	M	H	C
SEAS	MEAS	HEAS	MFAS	HFAS	CFAS	MJAS	HJAS	CJAS	MLAS	HLAS	CLAS	MMAS	HMAS	CMAS
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
65	85	150	85	100	200	85	100	200	85	100	200	85	100	200
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
25	35	65	35	65	100	35	65	100	35	65	100	35	65	100
25	35	65	35	65	100	35	65	100	35	65	100	35	65	100
14	18	25	18	25	35	20	25	35	20	25	35	18	25	50
–	–	–	18	25	35	20	25	35	20	25	35	18	25	50
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
50	85	100	50	85	100	50	85	100	50	85	100	50	85	100
50	85	100	50	85	100	50	85	100	50	85	100	50	85	100
50	85	100	50	85	100	50	85	100	50	85	100	50	85	100
–	–	–	50	85	100	50	85	100	50	85	100	50	85	100
–	–	–	50	85	100	6	6	10	6	6	10	18	25	50
55	85	150	85	100	200	85	100	200	85	100	200	85	100	200
36	55	70	55	70	110 (3P) 85 (4P)	55	70	110	55	70	110	55	70	110
5	7	10	7	10	10	7	10	10	7	10	10	25	35	35
55	85	150	85	100	200	85	100	200	85	100	200	85	100	150
36	55	70	55	70	110 (3P) 85 (4P)	55	70	110	55	70	110	55	70	85
5	5	5	7	10	10	5	6	6	6	6	6	19	19	19
–	–	–	–	–	–	8	16	25	8	16	25	50	85	100
50	85	100	50	85	100	8	16	25	8	16	25	50	85	100
50	85	100	50	85	100	8	16	25	8	16	25	50	85	100
50	85	100	50	85	100	8	16	25	8	16	25	50	85	100
–	–	–	50	85	100	–	–	–	–	–	–	50	85	100
–	–	–	25	36	50	–	–	–	–	–	–	25	35	50
76.2			105			138			138			201		
140			185			210			210			328		
76.5			83			110			110			120		
93.4			107			137			137			253		

System overview, page 2/20

3VA5 basic units up to 800 A

Application

			3VA51	3VA51 new
Basic data				
Number of poles			1-pole	2-pole
Size			125 A	125 A
Rated current I_n			15 ... 125 A	15 ... 125 A
Frequency			0 ... 400 Hz	0 ... 400 Hz
3VA5 molded case circuit breakers for line protection				
Service life (operating cycles)				
Mechanical (NO contact – NC contact)			20000	20000
Electrical for U_e 480 V (UL 489) / 415 V (IEC 60947)			8000	8000
Trip units				
FTFM	TM210		■	■
FTAM	TM230		–	–
ATAM	TM240		–	–
3VA5 motor circuit protector (protective circuit breaker for motor starter combinations)				
Rated operational current I_n			–	–
Breaking capacity acc. to UL 489 without contactor at 480 V [1]			–	–
Approval acc. to IEC 60947-2 Annex O ICB			–	–
Integrated, instantaneous short-circuit release for intrinsic device protection				
AM	TM120M		–	–
3VA5 molded case switch				
Electrical characteristics according to UL 489				
Rated uninterrupted current I_n at 40 °C ambient temperature for short-circuit current rating (SCCR) [2]	Up to 65 kA at 480 V	A	–	100
	Up to 100 kA at 480 V	A	–	–
Approval acc. to IEC 60947-2 Annex L CBI-X			–	■
Integrated, instantaneous short-circuit release for intrinsic device protection				
FM	MCS110		–	■
Standards and specifications				
Standards and specifications			UL 489/CSA22.2, IEC 60947-2	UL 489/CSA22.2, IEC 60947-2
Direction of power flow and infeed			Top and bottom	Top and bottom
Standard connection technology			Without connection technology	Without connection technology

■ Available – Not available/not present * On request

[1] Breaking capacity in combinations with contactor (SCCR rating) may differ
[2] The breaking capacity (SCCR rating) is the maximum short-circuit current permissible at the location where the MCS is installed in conjunction with a suitable overload protection device

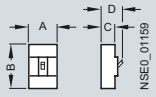
System overview, page 2/20

3VA51	3VA52 new	3VA53	3VA54	3VA55 new
3/4-pole	2- in 3-pole, 3/4-pole	2- in 3-pole, 3/4-pole	2- in 3-pole, 3/4-pole	2- in 3-pole, 3/4-pole
125 A	250 A	400 A	600 A	800 A
15 ... 125 A	100 ... 250 A	200 ... 400 A	450 A, 500 A, 600 A	600 A, 700 A, 800A
0 ... 400 Hz	0 ... 400 Hz	0 ... 400 Hz	0 ... 400 Hz	0 ... 400 Hz
20000	20000	20000	20000	10000
8000	8000	6000	3000	4800
■	■	–	–	–
■	■	■	■	■
■	■	■	■	–
15 ... 125 A	150 ... 200 A	250 A	400 A, 500 A, 600 A	600 A, 800 A
65 kA	65 kA / 100 kA	65 kA / 100 kA	65 kA / 100 kA	65 kA / 100 kA
■	■	■	■	■
■	■	■	■	■
100	150, 250	400	600	800
–	100, 150, 250	400	600	800
■	■	■	■	■
■	■	■	■	■
UL 489/CSA22.2, IEC 60947-2	UL 489/CSA22.2, IEC 60947-2	UL 489/CSA22.2, IEC 60947-2	UL 489/CSA22.2, IEC 60947-2	UL 489/CSA22.2, IEC 60947-2
Top and bottom	Top and bottom	Top and bottom	Top and bottom	Top and bottom
Without connection technology	Without connection technology	Without connection technology	Without connection technology	Nut keeper kit

System overview, page 2/20

3VA6 basic units up to 1000 A

Technical data

			3VA61 new				
Basic data							
Number of poles			3/4-pole				
Size			150 A				
Rated current I_n			40 ... 150 A				
Frequency			50 ... 60 Hz				
Electrical characteristics according to UL 489							
Rated operational voltage U_e 50/60 Hz AC			600 V				
Electrical characteristics according to IEC 60947-2							
Rated operational voltage U_e 50/60 Hz AC			690 V				
Rated insulation voltage U_i			800 V				
Rated impulse withstand voltage U_{imp}			8 kV				
Breaking capacity			**M**	**H**	**C**	**L**	**E**
UL breaker type			MDAE	HDAE	CDAE	LDAE	EDAE
Short-circuit breaking capacity acc. to UL 489							
50/60 Hz AC	120 V	kA	–	–	–	–	–
	240 V	kA	100	100	200	200	–
	277 V	kA	–	–	–	–	–
	347 V	kA	–	–	–	–	–
	480 Y/277 V	kA	35	65	100	150	200
	480 V	kA	35	65	100	150	200
	600 Y/347 V	kA	18	22	35	50	100
	600 V	kA	18	22	35	50	100
Short-circuit breaking capacity acc. to IEC 60947-2							
Rated ultimate short-circuit breaking capacity I_{CU} 50/60 Hz AC [1]	240 V	kA	85	110	150	200	–
	415 V	kA	55	85	110	150	200
	690 V	kA	2.5	2.5	2.5	2.5	3
Rated operational short-circuit breaking capacity I_{CS} 50/60 Hz AC [1]	240 V	kA	85	110	150	200	–
	415 V	kA	55	85	110	150	150
	690 V	kA	2.5	2.5	2.5	2.5	3
Dimensions							
	A	mm	105 (3P) | 140 (4P)				
	B	mm	198				
	C	mm	86				
	D	mm	107				

■ Available – Not available/not present * On request

[1] I_{cu} = rated ultimate short-circuit breaking capacity, rms value, according to IEC 60947-2.
I_{cs} = rated operational short-circuit breaking capacity, rms value, according to IEC 60947-2.

System overview, page 2/20

3VA62 new					3VA63 new					3VA64 new					3VA65 new			3VA66 new		
3/4-pole					3/4-pole					3/4-pole					3/4-pole			3/4-pole		
250 A					400 A					600 A					800 A			1000 A		
100 A, 250 A					250 A, 400 A					400 A, 600 A					600 A, 800 A			1000 A		
50 ... 60 Hz					50 ... 60 Hz					50 ... 60 Hz					50 ... 60 Hz			50 ... 60 Hz		
600 Y/347 V					600 V					600 V					600 V			600 V		
690 V					690 V					690 V					690 V			690 V		
800 V					800 V					800 V					800 V			800 V		
8 kV					8 kV					8 kV					8 kV			8 kV		
M	**H**	**C**	**L**	**E**	**M**	**H**	**C**	**L**	**E**	**M**	**H**	**C**	**L**	**E**	**M**	**H**	**C**	**M**	**H**	**C**
MFAE	HFAE	CFAE	LFAE	EFAE	MJAE	HJAE	CJAE	LJAE	EJAE	MLAE	HLAE	CLAE	LLAE	ELAE	MMAE	HMAE	CMAE	MMNAE	HMNAE	CMNAE
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
100	100	200	200	–	100	100	200	200	–	100	100	200	200	–	100	150	200	100	150	200
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
35	65	100	150	200	35	65	100	150	200	35	65	100	150	200	35	65	100	35	65	100
35	65	100	150	200	35	65	100	150	200	35	65	100	150	200	35	65	100	35	65	100
18	22	35	50	100	18	22	35	50	100	18	22	35	50	100	25	35	50	25	35	50
18	22	35	50	100	18	22	35	50	100	18	22	35	50	100	25	35	50	25	35	50
85	110	150	200	–	85	110	150	200	–	85	110	150	200	–	85	110	200	85	110	200
55	85	110	150	200	55	85	110	150	200	55	85	110	150	200	55	85	110	55	85	110
3	3	3	3	3	5	5	5	5	6	6	6	6	6	6	25	35	35	25	35	35
85	110	150	200	–	85	110	150	200	–	85	110	150	200	–	85	110	150	85	110	150
55	85	110	150	150	55	85	110	110	110	55	85	110	110	110	55	85	85	55	85	85
3	3	3	3	3	5	5	5	5	6	6	6	6	6	6	19	19	19	19	19	19
105 (3P) | 140 (4P)					138 (3P) | 184 (4P)					138 (3P) | 184 (4P)					210			210		
198					248					248					328			328		
86					110					110					120			120		
107					137					137					253			253		

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3VA6 basic units up to 1000 A

Application

		3VA61 new
Basic data		
Number of poles		3/4-pole
Size		150 A
Rated current I_n		40 ... 150 A
Frequency		50 ... 60 Hz
3VA6 molded case circuit breakers for line protection		
Service life (operating cycles)		
Mechanical (NO contact – NC contact)		25000
Electrical for U_e 480 V (UL 489) / 415 V (IEC 60947)		14000
Trip units		
LI	ETU320/ETU820	■
LIG	ETU330/ETU830	■
LSI	ETU350	■
LSI	ETU550/ETU850	■
LSI (G alarm, no G protection)	ETU556/ETU856	■
LSIG	ETU560/ETU860	■
Motor circuit protector (protective circuit breaker for motor starter combinations) 3VA6		
Rated operational current I_n		25 ... 100 A
Breaking capacity acc. to UL 489 without contactor at 480 V [1]		100 kA
Approval acc. to IEC 60947-2 Annex O ICB		■
Integrated, instantaneous short-circuit release for intrinsic device protection		
I	ETU310M	■
Standards and specifications		
Standards and specifications		UL 489/CSA22.2/ IEC 60947-2
Direction of power flow and infeed		Top and bottom
Standard connection technology		Without connection technology

■ Available – Not available/not present * On request

[1] Breaking capacity in combinations with contactor (SCCR rating) may differ
[2] The breaking capacity (SCCR rating) is the maximum short-circuit current permissible at the location where the MCS is installed in conjunction with a suitable overload protection device

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3VA62 new	**3VA63 new**	**3VA64 new**	**3VA65 new**	**3VA66 new**
3/4-pole	3/4-pole	3/4-pole	3/4-pole	3/4-pole
250 A	400 A	250 A	800 A	1000 A
100 A, 250 A	250 A, 400 A	600 A	600 A, 800 A	1000 A
50 ... 60 Hz	50 ... 60 Hz	50 ... 60 Hz	50 ... 60 Hz	50 ... 60 Hz
25000	20000	20000	10000	10000
12000	6000	4000	5100	4900
■	■	■	■	■
■	■	■	■	■
■	■	■	■	■
■	■	■	■	■
■	■	■	■	■
■	■	■	■	■
110 ... 200 A	200 A, 250 A	400 A, 500 A	800 A	–
100 kA	100 kA	100 kA	100 kA	–
■	■	■	■	–
■	■	■	■	–
UL 489/CSA22.2/ IEC 60947-2	UL 489/CSA22.2/ IEC 60947-2	UL 489/CSA22.2/ IEC 60947-2	UL 489/CSA22.2/ IEC 60947-2	UL 489/CSA22.2/ IEC 60947-2
Top and bottom	Top and bottom	Top and bottom	Top and bottom	Top and bottom
Without connection technology	Without connection technology	Without connection technology	Nut keeper kit	Nut keeper kit

System overview, page 2/20

Trip units

Protection system for 3VA molded case circuit breakers up to 600 A

Trip units	Thermal-magnetic	Electronic	Electronic with display	Electronic with display and metering function
				
	TM 2-series	**ETU 3-series**	**ETU 5-series**	**ETU 8-series**
Protection function				
Line protection	TM210, TM230, TM240	ETU320, ETU330, ETU350	ETU550, ETU556, ETU560	ETU820, ETU830, ETU850, ETU856, ETU860
Starter protection	TM120M	ETU310M	–	–
Integrated functions				
Parameterizing	Setting and reading the parameters • In A	Setting and reading the parameters • In A and s	Setting and reading the parameters • Via display and communi-cation • Fine setting of the parameters • Reading the measured values	Setting and reading the parameters • Via display and communication • Fine setting of the parameters • Reading the measured values
Status display	–	Indicating the ETU status via LEDs	Indicating the ETU status via LEDs	Indicating the ETU status via LEDs
Interface	–	Interface for test devices	Interface for test devices	Interface for test devices
Metering function	–	–	–	Metering function integrated
Optional expansions				
24 V module	–	–	 24 V module for continuous power supply (also without primary current through the molded case circuit breaker)	 24 V module for continuous power supply (also without primary current through the molded case circuit breaker)
External function box	–	 EFB300 external function box for connection to the ETU	 EFB300 external function box for connection to the ETU	 EFB300 external function box for connection to the ETU
Maintenance mode box	–	 MMB300 maintenance mode box for connection to the ETU	 MMB300 maintenance mode box for connection to the ETU	 MMB300 maintenance mode box for connection to the ETU
Communication module	–	–	 COM060 communication module	 COM060 communication module
Breaker data server	–	–	 COM800/COM100 breaker data server with interface to • PROFIBUS • PROFINET • Modbus RTU • Ethernet (Modbus TCP)	 COM800/COM100 breaker data server with interface to • PROFIBUS • PROFINET • Modbus RTU • Ethernet (Modbus TCP)
External display	–	–	 DSP800 external display for installing in the cubicle door	 DSP800 external display for installing in the cubicle door
Test device	–	 TD300/TD400/TD500 test device	 TD300/TD400/TD500 test device	 TD300/TD400/TD500 test device

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Protection functions of the 3VA5 with thermal-magnetic trip unit

	TM120M AM	TM210 FTFM	TM230 FTAM	TM240 ATAM
Protection				
Motor circuit protector	■	–	–	–
Line protection	–	■	■	■
Version available with				
1-pole breaker	–	■	–	–
2-pole breaker in 3-pole enclosure	–	■	■	–
3-pole breaker	■	■	■	■
4-pole breaker	–	■	■	■
Available protection parameters				
I_r adjustable	–	–	–	■
I_i adjustable	■	–	■	■
I_r fixed	–	■	■	–
I_i fixed	–	■	–	–

Protection functions of the 3VA6 with electronic trip unit

	ETU310M I	ETU320 LI	ETU330 LIG	ETU350 LSI	ETU550 LSI	ETU556 LSI (G alarm)	ETU560 LSIG	ETU820 LI	ETU830 LIG	ETU850 LSI	ETU856 LSI (G alarm)	ETU860 LSIG
Protection												
Motor circuit protector	■	–	–	–	–	–	–	–	–	–		–
Line protection	–	■	■	■	■	■	■	■	■	■	■	■
Version available with												
3-pole without external neutral conductor transformer	■	■	■	■	–	–	–	–	–	–	–	–
3-pole with external neutral conductor transformer	–	–	–	–	■	■	■	■	■	■	■	■
4-pole with protected neutral conductor transformer	–	■	■	■	■	■	■	■	■	■	■	■
Available protection parameters												
Characteristic in L range	I^2t	I^2t	I^2t	I^2t	I^2t	I^2t	I^2t	I^2t	I^2t	I^2t	I^2t	I^2t
I_r	–	■	■	■	■	■	■	■	■	■	■	■
t_r at 6 × I_r	–	■	■	■	■	■	■	■	■	■	■	■
Thermal image	■	■	■	■	■	■	■	■	■	■	■	■
Thermal image can be switched on/off	–	–	–	–	■	■	■	–	–	■	■	■
I_{sd}	–	–	–	■	■	■	■	–	–	■	■	■
t_{sd} at 8 × I_r	–	–	–	■	■	■	■	–	–	■	■	■
Characteristic in S range: I^2t_{sd}	–	–	–	■	■	■	■	–	–	■	■	■
Characteristic in S range: selectable I^2t_{sd} / t_{sd}	–	–	–	–	■	■	■	–	–	■	■	■
I_i	■	■	■	■	■	■	■	■	■	■	■	■
I_N [1]	–	■	■	■	■	■	■	■	■	■	■	■
I_g	–	–	■	–	–	–	■	–	■	–	–	■
t_g at 2 × I_g	–	–	■	–	–	–	■	–	■	–	–	■
Characteristic in G range: I^2t_g	–	–	–	–	–	–	■	–	■	–	–	■
Characteristic in G range: selectable I^2t_g / t_g	–	–	–	–	–	–	■	–	■	–	–	■
Ground-fault alarm function	–	–	–	–	–	■	■	–	–	–	■	■
ZSI	–	■	■	■	■	■	■	■	■	■	■	■
Arc fault mitigation mode	–	■	■	■	■	■	■	■	■	■	■	■

■ Available – Not available/not present

[1] Available for circuit breakers with an external current transformer for the neutral conductor and for 4-pole circuit breakers

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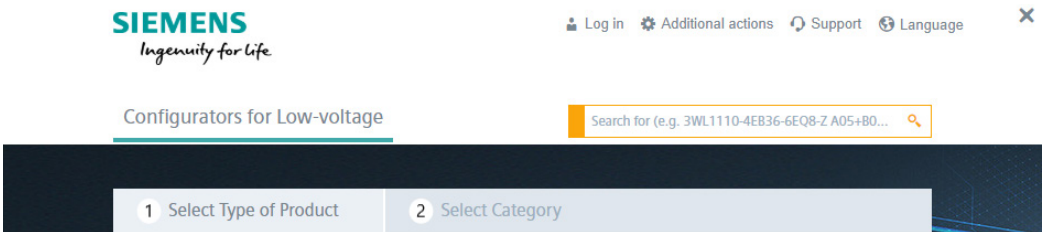
Online configurator highlights

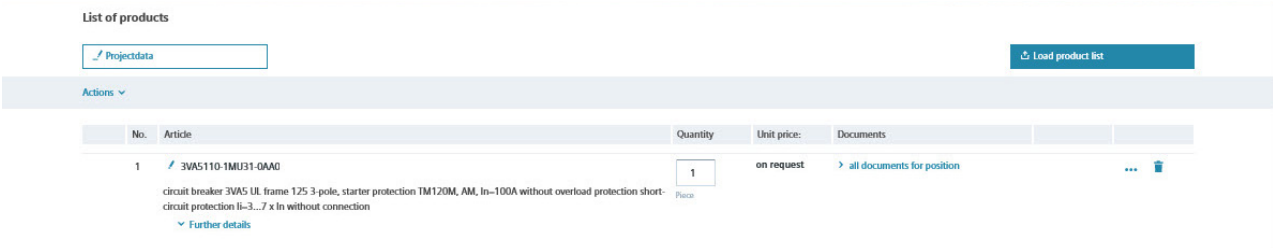
www.siemens.com/lowvoltage/configurators

Search function with global direct input

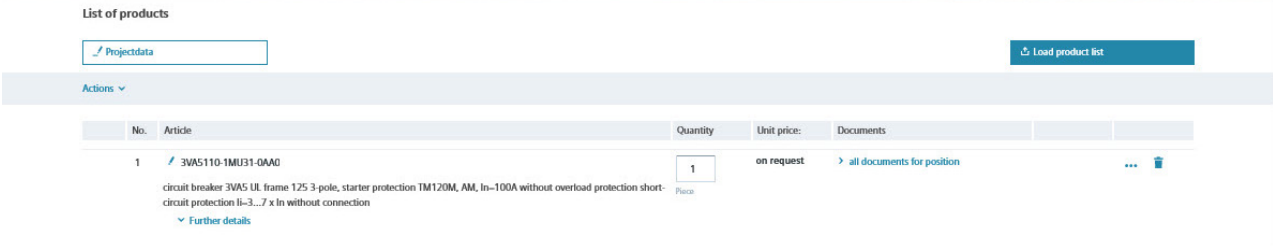
Searches for specific terms and jumps to MLFB based on input to the correct configurator



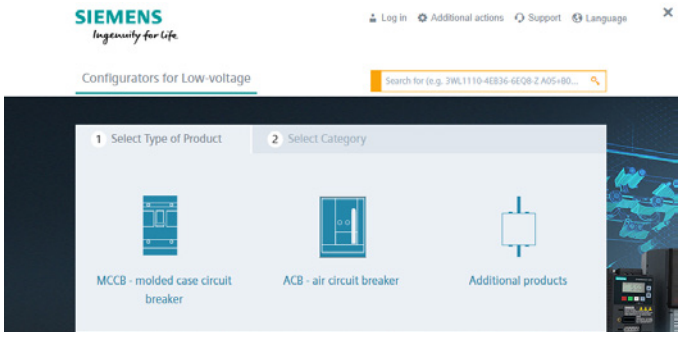
Product list stores multiple configurations and can transfer them collectively to the shopping cart



Recall of completed configurations for modification or additional configuration



Responsive Design



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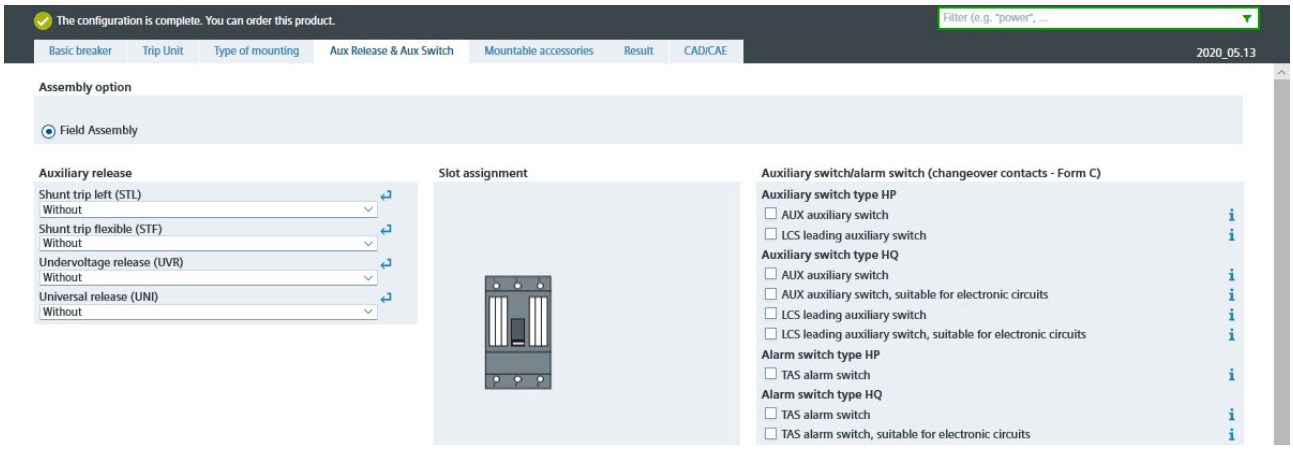
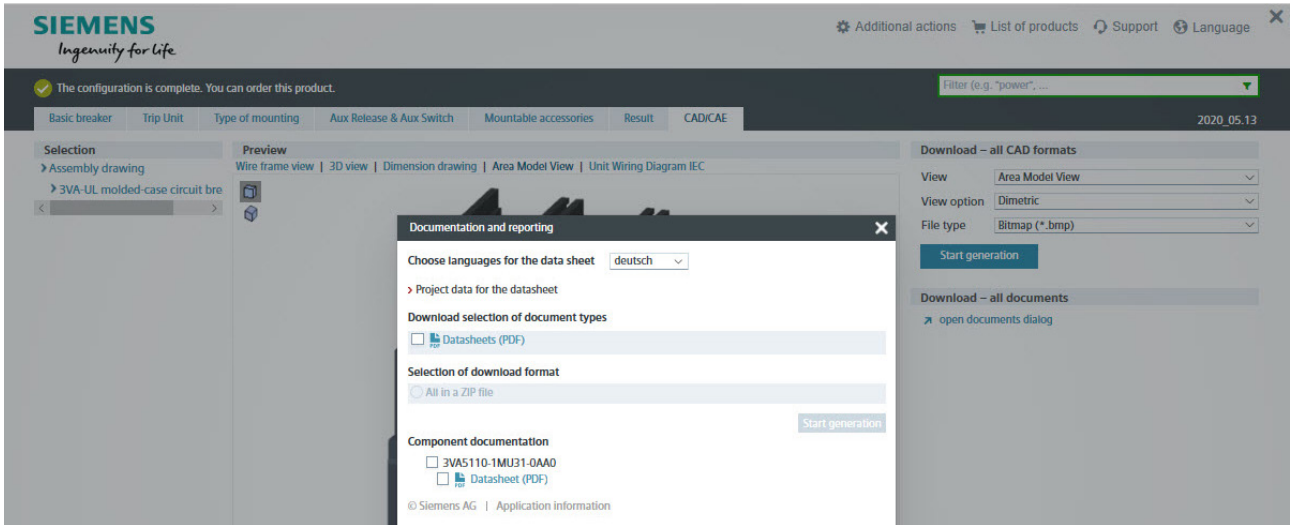
www.siemens.com/lowvoltage/3va-ul-configurator

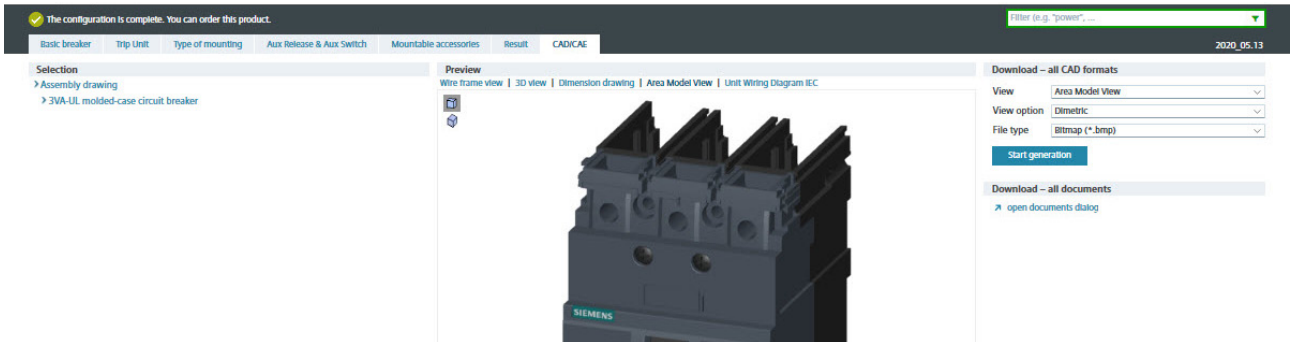
Visualization of the internally mountable accessories (slot assignment)



Download of the individual edz files for 3VA



Automatic generation of the 3D model, 2D dimension drawing and the internal circuit diagram according to IEC



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System overview

For a complete and valid configuration of your molded case circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3va-ul-configurator

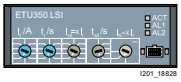
Basic units

3VA5 for standard applications

3VA6 for applications with more stringent requirements

Trip unit

Thermal-magnetic trip unit (TMTU)



Electronic trip unit (ETU)

Electronic trip unit (ETU) with display, and optionally with metering function

Trip unit accessories

24 V module

Communication module

Breaker data server

External display

Test device

Installation type

Fixed-mounted

Draw-out unit, complete kit

Plug-in unit, complete kit

Supplementary accessories

Auxiliary circuit connector

Door feedthrough

Position signaling switch

Cylinder lock adapter

Crank

Main conductor connections

Front bus connectors extended

Front bus connectors offset

Circular conductor terminal

Box terminal

Connection accessories

Insulation accessories

Note:
You will find a detailed range of accessories in the Accessories section.

Auxiliary releases/ auxiliary switches


Shunt trip STF/STL


Universal release UNI


Undervoltage release UVR

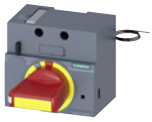

Auxiliary switch AUX


Trip alarm switch TAS


Leading changeover switch LCS


Electrical alarm switch EAS

Mountable accessories


Manual operator


Motorized operating mechanism


Operating unit with Bowden cable


Operating unit with linkage

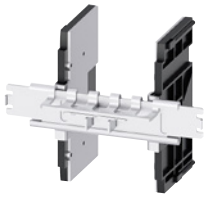
Additional circuit breaker accessories


Cover frame


Locking device


Cylinder lock

Mechanical interlocks


Sliding bar interlock


Interlocking with rod


Handle interlock using a Bowden cable

Note:
You will find a detailed range of accessories in the Accessories section.

Structure of the article numbers

Basic configuration for line protection

The structure shown below is intended as an overview of each position and its meaning. For a complete and valid configuration of your molded case circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3va-ul-configurator

			3VA51	3VA52	3VA53	3VA54	3VA55	3VA61	3VA62	3VA63	3VA64	3VA65	3VA66	4 5	6 7	8	9 10	11 12	13
														3VA			–		– AA0
Trip units	Thermal-magnetic													5					
	Electronic													6					
Size	125 A		■	–	–	–	–	–	–	–	–	–	–	1					
	150 A		–	–	–	–	–	■	–	–	–	–	–	1					
	250 A		–	■	–	–	–	–	■	–	–	–	–	2					
	400 A		–	–	■	–	–	–	–	■	–	–	–	3					
	600 A		–	–	–	■	–	–	–	–	■	–	–	4					
	800 A		–	–	–	–	■	–	–	–	–	■	–	5					
	1000 A		–	–	–	–	–	–	–	–	–	–	■	6					
Max. rated current I_n	Line protection	15 A	■	–	–	–	–	–	–	–	–	–	–		9	5			
		20 A	■	–	–	–	–	–	–	–	–	–	–		2	0			
		25 A	■	–	–	–	–	–	–	–	–	–	–		2	5			
		30 A	■	–	–	–	–	–	–	–	–	–	–		3	0			
		35 A	■	–	–	–	–	–	–	–	–	–	–		3	5			
		40 A	■	■	–	–	–	■	–	–	–	–	–		4	0			
		45 A	■	■	–	–	–	–	–	–	–	–	–		4	5			
		50 A	■	■	–	–	–	–	–	–	–	–	–		5	0			
		60 A	■	■	–	–	–	–	–	–	–	–	–		6	0			
		70 A	■	■	–	–	–	–	–	–	–	–	–		7	0			
		80 A	■	■	–	–	–	–	–	–	–	–	–		8	0			
		90 A	■	■	–	–	–	–	–	–	–	–	–		9	0			
		100 A	■	■	–	–	–	■	■	–	–	–	–		1	0			
		110 A	■	■	–	–	–	–	–	–	–	–	–		1	1			
		125 A	■	■	–	–	–	–	–	–	–	–	–		1	2			
		150 A	–	■	–	–	–	■	–	–	–	–	–		1	5			
		175 A	–	■	–	–	–	–	–	–	–	–	–		1	7			
		200 A	–	■	■	–	–	–	–	–	–	–	–		2	0			
		225 A	–	■	■	–	–	–	–	–	–	–	–		2	2			
		250 A	–	■	■	–	–	–	■	■	–	–	–		2	5			
		300 A	–	–	■	–	–	–	–	–	–	–	–		3	0			
		350 A	–	–	■	–	–	–	–	–	–	–	–		3	5			
		400 A	–	–	■	■	–	–	–	■	■	–	–		4	0			
		450 A	–	–	–	■	–	–	–	–	–	–	–		4	5			
		500 A	–	–	–	■	–	–	–	–	–	–	–		5	0			
		600 A	–	–	–	■	■	–	–	–	■	■	–		6	0			
		700 A	–	–	–	–	■	–	–	–	–	–	–		7	0			
		800 A	–	–	–	–	■	–	–	–	–	■	–		8	0			
		1000 A	–	–	–	–	–	–	–	–	–	–	■		1	0			
Short-circuit breaking capacity $I_{cu} = I_{cs}$ at 480 V 50/60 Hz	25 kA		■	–	–	–	–	–	–	–	–	–	–				4		
	35 kA		■	■	■	■	■	■	■	■	■	■	■				5		
	65 kA		■	■	■	■	■	■	■	■	■	■	■				6		
	100 kA		–	■	■	■	■	■	■	■	■	■	■				7		
	150 kA		–	–	–	–	–	■	■	■	■	–	–				8		
	200 kA		–	–	–	–	–	■	■	■	■	–	–				0		

■ Applies in this case

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3VA 4 5 6 7 – 8 9 10 11 12 – 13 **AA0**

		3VA51	3VA52	3VA53	3VA54	3VA55	3VA61	3VA62	3VA63	3VA64	3VA65	3VA66				9	10	11	12	13
Protection function thermal-magnetic	Line protection	■	■	–	–	–	–	–	–	–	–	–	TM210	FTFM			D			
		■	■	■	■	■	–	–	–	–	–	–	TM230	FTAM			C			
		■	■	■	■	–	–	–	–	–	–	–	TM240	ATAM			F			
Protection function thermal-magnetic, neutral conductor protection	Line protection	Without neutral conductor protection														E				
		100% neutral conductor protection														G				
Protection function electronic	Line protection	–	–	–	–	–	■	■	■	■	■	■	ETU320	LI	(N) [1]	H	L			
		–	–	–	–	–	■	■	■	■	■	■	ETU330	LIG	(N) [1]	H	M			
		–	–	–	–	–	■	■	■	■	■	■	ETU350	LSI	(N) [1]	H	N			
	Line protection, with display	–	–	–	–	–	■	■	■	■	■	■	ETU550	LSI	(N) [2]	J	P			
		–	–	–	–	–	■	■	■	■	■	■	ETU556	LSI(G)	(N) [2]	J	T			
		–	–	–	–	–	■	■	■	■	■	■	ETU560	LSIG	(N) [2]	J	Q			
	Line protection, with display, with metering function	–	–	–	–	–	■	■	■	■	■	■	ETU820	LI	(N) [2]	K	L			
		–	–	–	–	–	■	■	■	■	–	–	ETU830	LIG	(N) [2]	K	M			
		–	–	–	–	–	■	■	■	■	–	–	ETU850	LSI	(N) [2]	K	P			
		–	–	–	–	–	■	■	■	■	■	■	ETU856	LSI(G)	(N) [2]	K	T			
		–	–	–	–	–	■	■	■	■	■	■	ETU860	LSIG	(N) [2]	K	Q			
Number of poles	1-pole	■	–	–	–	–	–	–	–	–	–	–						1		
	2-pole	■	–	–	–	–	–	–	–	–	–	–						2		
	2-pole in 3-pole enclosure	–	■	■	■	■	–	–	–	–	–	–						6		
	3-pole	■	■	■	■	■	■	■	■	■	■	■						3		
	4-pole	■	■	■	■	■	■	■	■	■	■	■						4		
Connection technology	Without	■	■	■	■	–	■	■	■	■	–	–							1	
	Nut keeper kit	–	–	–	–	■	–	–	–	–	■	■							2	
Special applications	Standard	■	■	■	■	■	■	■	■	■	■	■								0
	100% rated	–	–	–	–	–	■	■	■ [1]	■ [2]	■	–								2

[1] Neutral conductor protection for 4-pole breakers
[2] Neutral conductor protection for 3-pole breakers with an external neutral conductor transformer or for 4-pole breakers

[1] Only possible for rated current 250 A
[2] Only possible for rated current 400 A

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Structure of the article numbers

Basic configuration for motor circuit protectors and molded case switches

The structure shown below is intended as an overview of each position and its meaning.
For a complete and valid configuration of your molded case circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3va-ul-configurator

Positions: 4 5 6 7 – 8 9 10 11 12 – 13

3VA ■ ■ ■ ■ – ■ □ □ □ □ – □ **AA0**

			3VA51	3VA52	3VA53	3VA54	3VA55	3VA61	3VA62	3VA63	3VA64	3VA65	4	5	6	7	8
Trip units	Thermal-magnetic												5				
	Electronic												6				
Size	125 A		■	–	–	–	–	–	–	–	–	–		1			
	150 A		–	–	–	–	–	■		–	–	–		1			
	250 A		–	■	–	–	–	–	■	–	–	–		2			
	400 A		–	–	■	–	–	–	–	■	–	–		3			
	600 A		–	–	–	■	–	–	–	–	■	–		4			
	800 A		–	–	–		■	–	–	–	–	■		5			
Max. rated current I_n	Motor circuit protector	1 A	■	–	–	–	–	–	–	–	–	–			8	1	
		2 A	■	–	–	–	–	–	–	–	–	–			0	2	
		3 A	■	–	–	–	–	–	–	–	–	–			0	3	
		5 A	■	–	–	–	–	–	–	–	–	–			0	5	
		7 A	■	–	–	–	–	–	–	–	–	–			0	7	
		10 A	■	–	–	–	–	–	–	–	–	–			9	1	
		15 A	■	–	–	–	–	–	–	–	–	–			9	5	
		25 A	■	–	–	–	–	■	–	–	–	–			2	5	
		30 A	■	–	–	–	–	■	–	–	–	–			3	0	
		40 A	■	–	–	–	–	■	–	–	–	–			4	0	
		50 A	■	–	–	–	–	■	–	–	–	–			5	0	
		70 A	■	–	–	–	–	■	–	–	–	–			7	0	
		80 A	■	–	–	–	–	■	–	–	–	–			8	0	
		90 A	■	–	–	–	–	■	–	–	–	–			9	0	
		100 A	■	–	–	–	–	■	–	–	–	–			1	0	
		110 A	■	–	–	–	–	–	■	–	–	–			1	1	
		125 A	■	–	–	–	–	–	■	–	–	–			1	2	
		150 A	–	■	–	–	–	–	■	–	–	–			1	5	
		200 A	–	■	–	–	–	–	■	–	–	–			2	0	
		250 A	–	■	■	–	–	–	–	■	–	–			2	5	
		400 A	–	–	–	■	–	–	–	■	■	–			4	0	
		500 A	–	–	–	■	–	–	–	–	■	–			5	0	
		600 A	–	–	–	■	■	–	–	–	–	–			6	0	
		800 A	–	–	–	–	■	–	–	–	–	■			8	0	
		1000 A	–	–	–	–	–	–	–	–	–	–			1	0	
	Molded case switch	100 A	■	■	–	–	–	■	■	–	–	–			1	0	
		150 A	–	■	–	–	–	■	–	–	–	–			1	5	
		250 A	–	■	■	–	–	–	■	■	–	–			2	5	
		400 A	–	–	■	■	–	–	–	■	■	–			4	0	
		600 A	–	–	–	■	■	–	–	–	■	■			6	0	
		700 A	–	–	–	–	■	–	–	–	–	–			7	0	
		800 A	–	–	–	–	■	–	–	–	–	■			8	0	
		1000 A	–	–	–	–	–	–	–	–	–	–			1	0	
Short-circuit breaking capacity $I_{cu} = I_{cs}$ at 480 V 50/60 Hz	Without, with SCCR rating as a combined device	65 kA	–	■	■	■	■	–	–	–	–	–					0
		100 kA	–	■	■	■	■	■	■	■	■	■					1
		65 kA	■	–	–	–	–	–	–	–	–	–					1

■ Applies in this case

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3VA 4 5 6 7 – 8 9 10 11 12 – 13 **AA0**

			3VA51	3VA52	3VA53	3VA54	3VA55	3VA61	3VA62	3VA63	3VA64	3VA65				9	10	11	12	13
Protection function thermal-magnetic	Motor circuit protector	Setting range I_i high	■	■	■	■	■	–	–	–	–	–		TM120M	AM	M	H			
		Setting range I_i low	■	■	■	■	■	–	–	–	–	–		TM120M	AM	M	U			
Protection function only intrinsic device protection	Molded case switch		■	■	■	■	■	–	–	–	–	–		MCS110	–	B	B			
Protection function electronic	Motor circuit protector		–	–	–	–	–	■	■	■	■	■		ETU310M	I	M	S			
Number of poles	Motor circuit protector		■	■	■	■	■	■	■	■	■	■		3-pole				3		
			■	■	■	■	■	■	■	■	■	■		4-pole				4		
	Molded case switch		■	–	–	–	–	–	–	–	–	–		2-pole				2		
			–	■	■	■	■	–	–	–	–	–		2-pole in 3-pole enclosure				6		
			■	■	■	■	■	■	■	■	■	■		3-pole				3		
Connection technology	Without		■	■	■	■	–	■	■	■	■	–							1	
	Nut keeper kit		–	–	–	–	■	–	–	–	–	■							2	

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Internal accessories

Auxiliary and alarm switches (changeover contacts)

For a complete and valid configuration of your molded case circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3va-ul-configurator

Auxiliary switches AUX

- Used to signal the position of the main contacts of the molded case circuit breaker
- The contacts of the auxiliary switch and the molded case circuit breaker close in unison

Type	Width	I_e	U_e AC/DC	Version	3VA51 3VA52 3VA53 3VA54 3VA55	3VA61 3VA62 3VA63 3VA64 3VA65 3VA66
HQ	7 mm (1 slot)	6 A	240 V/250 V	Standard	3VA9978-0AA12	
		0.3 A	24 V/24 V	Electronic-compatible	3VA9978-0AA13	
HP	14 mm (2 slots)	10 A	600 V/250 V	Standard	3VA9978-0AA11	

Leading changeover switches LCS

- Used for load shedding, for example
- Signal the opening of the main contacts with a lead time of 20 ms in advance of circuit breaker trips

Type	Width	I_e	U_e AC/DC	Version	3VA51 3VA52 3VA53 3VA54 3VA55	3VA61 3VA62 3VA63 3VA64 3VA65 3VA66
HQ	7 mm (1 slot)	6 A	240 V/250 V	Standard	3VA9978-0AA22	
		0.3 A	24 V/24 V	Electronic-compatible	3VA9978-0AA23	
HP	14 mm (2 slots)	10 A	600 V/250 V	Standard	3VA9978-0AA21	

Trip alarm switches TAS

- Signal every circuit breaker tripping operation
- Are actuated whenever the molded case circuit breaker switches to the TRIP position

Type	Width	I_e	U_e AC/DC	Version	3VA51 3VA52 3VA53 3VA54 3VA55	3VA61 3VA62 3VA63 3VA64 3VA65 3VA66
HQ	7 mm (1 slot)	6 A	240 V/250 V	Standard	3VA9978-0AB12	
		0.3 A	24 V/24 V	Electronic-compatible	3VA9978-0AB13	
HP	14 mm (2 slots)	10 A	600 V/250 V	Standard	3VA9978-0AB11	

Electrical alarm switches EAS

- Are actuated as soon as the main contacts of the molded case circuit breaker open in the event that the breaker is tripped by the ETU

Type	Width	I_e	U_e AC/DC	Version	3VA51 3VA52 3VA53 3VA54 3VA55	3VA61 3VA62 3VA63 3VA64 3VA65 3VA66
HQ	7 mm (1 slot)	6 A	240 V/250 V	Standard	–	3VA9978-0AB22
		0.3 A	24 V/24 V	Electronic-compatible	–	3VA9978-0AB23

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Auxiliary releases

For a complete and valid configuration of your molded case circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3va-ul-configurator

			3VA51 3VA52 3VA53 3VA54 3VA55	3VA61 3VA62 3VA63 3VA64	3VA65 3VA66
Shunt trips left STL					
• Used for remote-controlled tripping of the molded case circuit breaker • Have particularly low power consumption					
	**Version**	**U_e 50/60 Hz AC**	**U_e DC**		
	Standard	–	12 V	3VA9978-0BL10	
		24 V	24 ... 30 V	3VA9978-0BL30	
		48 ... 60 V	48 ... 60 V	3VA9978-0BL31	
		110 ... 127 V	110 ... 127 V	3VA9978-0BL32	
		208 ... 277 V	220 ... 250 V	3VA9978-0BL33	
		380 ... 600 V	–	3VA9978-0BL20	
Shunt trips flexible STF					
• Used for remote-controlled tripping of the molded case circuit breaker • Flexible installation					
	**Version**	**U_e 50/60 Hz AC**	**U_e DC**		
		24 V	–	– 3VA9978-0BA20	–
		48 ... 60 V	–	– 3VA9978-0BA21	–
		110 ... 127 V	–	– 3VA9978-0BA22	–
		208 ... 277 V	–	– 3VA9978-0BA23	–
		380 ... 500 V	–	– 3VA9978-0BA24	–
		600 V	–	– 3VA9978-0BA25	–
Universal releases UNI					
• Combination of shunt trip and undervoltage release					
	**Version**	**U_e 50/60 Hz AC**	**U_e DC**		
		–	12 V	3VA9978-0BD11	
		–	24 V	3VA9978-0BD12	
		–	48 V	3VA9978-0BD13	
Undervoltage releases UVR					
• Trip the molded case circuit breaker in the event that the rated voltage of a monitored circuit drops below a minimum permissible limit or fails altogether					
	**Version**	**U_e 50/60 Hz AC**	**U_e DC**		
		–	12 V	3VA9978-0BB10	
		–	24 V	3VA9978-0BB11	
		24 V	–	3VA9978-0BB20	
		–	48 V	3VA9978-0BB12	
		120 ... 127 V	–	3VA9978-0BB24	
		–	125 ... 127 V	3VA9978-0BB14	
		208 ... 230 V	–	3VA9978-0BB25	
		–	250 V	3VA9978-0BB16	
		440 ... 480 V	–	3VA9978-0BB27	
Time-delay devices for undervoltage releases					
	**Version**	**U_e 50/60 Hz AC**	**U_e DC**		
		230 V	230 V	3VA9978-0BF22	
		–	24 V	3VA9978-0BF23	

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Manual operators

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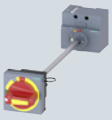
				3VA51	3VA52 3VA61 3VA62	3VA53 3VA54 3VA63 3VA64	3VA55 3VA65 3VA66
Front mounted rotary operators							
• Handle • Degree of protection IP30 • For 3-pole and 4-pole breakers							
Version	**Door open function**	**Illumination kit**	**Door interlock**				
 Standard (gray)	Without	Without	Without	3VA9137-0EK11	3VA9277-0EK11	3VA9447-0EK11	3VA9677-0EK11 new
			With	3VA9137-0EK21	3VA9277-0EK21	3VA9447-0EK21	3VA9677-0EK21 new
		With	Without	3VA9137-0EK13	3VA9277-0EK13	3VA9447-0EK13	–
			With	3VA9137-0EK23	3VA9277-0EK23	3VA9447-0EK23	–
	With	Without	With	3VA9137-0EK31	3VA9277-0EK31	3VA9447-0EK31	–
		With	With	3VA9137-0EK33	3VA9277-0EK33	3VA9447-0EK33	–
 EMERGENCY-OFF (red/yellow)	Without	Without	Without	3VA9137-0EK15	3VA9277-0EK15	3VA9447-0EK15	3VA9677-0EK15 new
			With	3VA9137-0EK25	3VA9277-0EK25	3VA9447-0EK25	3VA9677-0EK25 new
		With	Without	3VA9137-0EK17	3VA9277-0EK17	3VA9447-0EK17	–
			With	3VA9137-0EK27	3VA9277-0EK27	3VA9447-0EK27	–
	With	Without	With	3VA9137-0EK35	3VA9277-0EK35	3VA9447-0EK35	–
		With	With	3VA9137-0EK37	3VA9277-0EK37	3VA9447-0EK37	–
Door mounted rotary operator							
• Shaft 300 mm (325 mm for 1000 A) • With mounting tolerance compensation • Handle with masking plate 75 × 75 mm • Degree of protection IP65 • For 3-pole and 4-pole breakers • Enclosure types 1, 3R, 12, 4/4X							
Version	**Door open function**	**Illumination kit**	**Door interlock**				
 Standard (gray)	Without	Without	With	3VA9137-0FK21	3VA9277-0FK21	3VA9447-0FK21	3VA9677-0FK21 new
		With	With	3VA9137-0FK23	3VA9277-0FK23	3VA9447-0FK23	3VA9677-0FK23 new
	With	Without	With	3VA9137-0FK31	3VA9277-0FK31	3VA9447-0FK31	–
		With	With	3VA9137-0FK33	3VA9277-0FK33	3VA9447-0FK33	–
 EMERGENCY-OFF (red/yellow)	Without	Without	With	3VA9137-0FK25	3VA9277-0FK25	3VA9447-0FK25	3VA9677-0FK25 new
		With	With	3VA9137-0FK27	3VA9277-0FK27	3VA9447-0FK27	3VA9677-0FK27 new
	With	Without	With	3VA9137-0FK35	3VA9277-0FK35	3VA9447-0FK35	–
		With	With	3VA9137-0FK37	3VA9277-0FK37	3VA9447-0FK37	–
Door mounted rotary operators without handle							
 • Degree of protection IP30 • For 3-pole and 4-pole breakers							
Version	**Door open function**	**Illumination kit**	**Door interlock**				
With shaft stub (gray)	Without	–	Without	3VA9137-0GK00	3VA9277-0GK00	3VA9447-0GK00	3VA9677-0GK00 new

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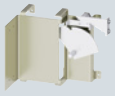
			3VA51	3VA52 3VA61 3VA62	3VA53 3VA54 3VA63 3VA64	3VA55 3VA65 3VA66
Side wall mounted rotary operators without mounting plates						
	• Rotary operator with shaft 300 mm • Handle with masking plate 75 × 75 mm • Degree of protection IP65 • For 3-pole and 4-pole breakers					
	Version	**Illumination kit**				
	Standard (gray)	Without	3VA9137-0PK11	3VA9277-0PK11	–	–
		With	3VA9137-0PK13	3VA9277-0PK13	–	–
	EMERGENCY-OFF (red/yellow)	Without	3VA9137-0PK15	3VA9277-0PK15	–	–
		With	3VA9137-0PK17	3VA9277-0PK17	–	–
Side wall mounted rotary operators with mounting plates						
	• Rotary operator with short shaft and mounting plate for mounting directly on the side wall • Handle with masking plate 75 × 75 mm • Degree of protection IP65 • For 3-pole and 4-pole breakers					
	Version	**Illumination kit**				
	Standard (gray)	Without	3VA9137-0PK51	3VA9277-0PK51	–	–
		With	3VA9137-0PK53	3VA9277-0PK53	–	–
	EMERGENCY-OFF (red/yellow)	Without	3VA9137-0PK55	3VA9277-0PK55	–	–
		With	3VA9137-0PK57	3VA9277-0PK57	–	–
Door interlock for side wall mounted rotary operators						
			3VA9177-0VF40	3VA9277-0VF40	–	–
Extended DIN rails for N/PE terminals						
	**Version**	**Rated current**				
	For mounting plate	Up to 250 A		3VA9987-0GL30		–
Supplementary handles for door mounted rotary operators (NFPA79)						
	• Mandatory according to NFPA79 • For operation when cabinet door is open					
	Version					
	Standard (gray)		3VA9137-0GC01	3VA9477-0GC01	3VA9477-0GC11	3VA9677-0GC01 new
	EMERGENCY-OFF (red/yellow)		3VA9137-0GC05	3VA9477-0GC05	3VA9477-0GC15	3VA9677-0GC05 new
Handles						
	• With masking plate					
	Version	**Door open function**	**Tolerance compensation**			
	Standard (gray)	Without	Without	8UD1721-0AB11	8UD1731-0AB11	8UD1741-0AB11
			With	8UD1721-0AB21	8UD1731-0AB21	8UD1741-0AB21
		With	Without	8UD1721-0AC11	8UD1731-0AC11	–
			With	8UD1721-0AC21	8UD1731-0AC21	–
	EMERGENCY-OFF (red/yellow)	Without	Without	8UD1721-0AB15	8UD1731-0AB15	8UD1741-0AB15
			With	8UD1721-0AB25	8UD1731-0AB25	8UD1741-0AB25
		With	Without	8UD1721-0AC15	8UD1731-0AC15	–
			With	8UD1721-0AC25	8UD1731-0AC25	–

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Manual operators

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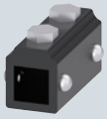
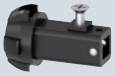
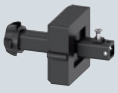
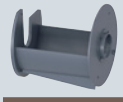
			3VA51	3VA52 3VA61 3VA62	3VA53 3VA54 3VA63 3VA64	3VA55 3VA65 3VA66
Handle extensions						
	• Note: The handle extension is already included in the scope of supply of the breakers.		–	–	3VA9487-0SC10	–
Shafts						
	**Variant**	**Length**				
	8 × 8 mm	300 mm		8UD1900-2WA00		–
		600 mm		8UD1900-2WB00		–
	12 × 12 mm	325 mm		–		8UD1900-4WA00
		600 mm		–		8UD1900-4WB00
Adapters for shafts						
	**Variant**	**Purpose**				
	8 × 8 mm	With door mounted rotary operator and side wall mounted rotary operator		8UD1900-2DA00		–
	12 × 12 mm	With door mounted rotary operator and side wall mounted rotary operator		–		8UD1900-4DA00
Door couplings						
	**Variant**					
	8 × 8 mm			8UD1900-2HA00		–
	12 × 12 mm			–		8UD1900-4HA00
Mounting tolerance compensations						
	**Variant**					
	8 × 8 mm			8UD1900-2GA00		–
	12 × 12 mm			–		8UD1900-4GA00
Fixing brackets for shafts						
			3VA9137-0GA80	3VA9477-0GA80		3VA9677-0GA80 new
Variable depth adapters						
	**Variant**					
	8 × 8 mm			3VA9487-0GB10		–
Interlocking module UL 508A						
	• Used when the handle is to remain on the circuit breaker when the door is open.			8UC9400		–

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			3VA51 3VA52 3VA53 3VA54	3VA61 3VA62 3VA63 3VA64	3VA55 3VA65 3VA66
Labeling plates for manual operators					
			3VA9087-0SX10		–
Illumination kits for manual operators					
	• 24 V DC voltage				
	Version	**Rated current**			
	Front rotary rotary operator	125 ... 250 A	8UD1900-0KA10	–	–
		150 ... 600 A	–	8UD1900-0KA20	–
	Door mounted rotary operator and side wall mounted rotary operator	125 ... 600 A	8UD1900-0KA20		–
		600 ... 1000 A	–		8UD1900-0KA30 new
Cylinder locks (type Kaba), standard masking plates					
	**Purpose**	**Door open function**	**Key**		
	For door mounted rotary operator and side wall mounted rotary operator (in the masking plate)	Without	1	8UD1900-0MB01	–
			2	8UD1900-0NB01	–
			3	8UD1900-0PB01	–
			4	8UD1900-0QB01	–
		With	1	8UD1900-0MC01	–
			2	8UD1900-0NC01	–
			3	8UD1900-0PC01	–
			4	8UD1900-0QC01	–
Cylinder locks (type Kaba), EMERGENCY-OFF masking plates					
	**Purpose**	**Door open function**	**Key**		
	For door mounted rotary operator and side wall mounted rotary operator (in the masking plate)	Without	1	8UD1900-0MB05	–
			2	8UD1900-0NB05	–
			3	8UD1900-0PB05	–
			4	8UD1900-0QB05	–
		With	1	8UD1900-0MC05	–
			2	8UD1900-0NC05	–
			3	8UD1900-0PC05	–
			4	8UD1900-0QC05	–
Cylinder locks (type Ronis)					
	• Includes a lock with 2 keys • For locking or interlocking • For installation in all rotary operators with shaft stub • For mounting in the adapter kit for the accessories compartment • **Note:** The cylinder lock adapter for rotary operators is also needed for locking or interlocking circuit breakers via rotary operators				
	Key				
	1		3VA9980-0VL10		–
	3		3VA9980-0VL30		–
	4		3VA9980-0VL40		–
Cylinder lock adapters for rotary operators					
	• To mount the cylinder lock in the rotary operator (also possible with door mounted rotary operator and side wall mounted rotary operator)				
			3VA9980-0LF20		–

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Manual operators

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				3VA51	3VA52 3VA61 3VA62	3VA53 3VA54 3VA63 3VA64
Operating units with Bowden cable (MaxFlex operator), plastic						
• Complete set, comprising: – Switching mechanism – Handle, plastic – Enclosure types 1, 3, 3R, 4, 12, 12K, black = OFF, red = ON – Bowden cable, length 36 inch (0.9 m)				3VA9137-0CK12	3VA9277-0CK12	3VA9477-0CK12
Operating units with Bowden cable (MaxFlex operator), steel						
						
• Complete set, comprising: – Switching mechanism – Handle, steel, epoxy-coated – Enclosure types 1, 3, 3R, 4, 12, 12K, black = OFF, red = ON – Bowden cable, length 36 inch (0.9 m)				3VA9137-0CK72	3VA9277-0CK72	3VA9447-0CK72
Switching mechanisms for operating unit with Bowden cable						
				3VA9137-0CB10	3VA9277-0CB10	3VA9477-0CB10
Handles for operating unit with Bowden cable						
	**Handle**	**Enclosure types**	**OFF**	**ON**		
	Plastic	1, 3, 3R, 4, 12, 12K	Black	Red	3VA9977-0CH12	
	Steel, epoxy-coated	1, 3, 3R, 4, 12, 12K	Black	Red	3VA9977-0CH72	
			Black	Black	3VA9977-0CH74	
	Stainless steel, chrome-plated	1, 2, 3, 3R, 4, 4X, 12, 12K, 13	Black	Red	3VA9977-0CH82	
			Black	Black	3VA9977-0CH84	
Bowden cables for operating unit with Bowden cable						
	**Length**					
	36 inch (0.9 m)				3VA9278-0CC10	3VA9578-0CC10
	48 inch (1.2 m)				3VA9278-0CC20	3VA9578-0CC20
	60 inch (1.5 m)				3VA9278-0CC30	3VA9578-0CC30
	72 inch (1.8 m)				3VA9278-0CC40	3VA9578-0CC40
	84 inch (2.1 m)				3VA9278-0CC50	3VA9578-0CC50
	96 inch (2.4 m)				3VA9278-0CC60	3VA9578-0CC60
	120 inch (3.0 m)				3VA9278-0CC70	3VA9578-0CC70
	144 inch (3.6 m)				3VA9278-0CC80	3VA9578-0CC80
Auxiliary switches for operating unit with Bowden cable						
	• Leading from ON to OFF					
	Variants					
	1 CO contact				3VA9478-0CX10	
	2 CO contacts				3VA9478-0CX20	
Operating units with linkage						
	• Complete set, comprising: – Switching mechanism – Handle • For mounting depths 200 to 400 mm					
	Handle	**Enclosure types**	**OFF**	**ON**		
	Steel, epoxy-coated	1, 12, 3R	Black	Red	3VA9138-0DK72	3VA9278-0DK72	3VA9478-0DK72
	Steel, chrome-plated	4/4X	Black	Red	3VA9138-0DK82	3VA9278-0DK82	3VA9478-0DK82
			Black	Black	3VA9138-0DK84	3VA9278-0DK84	3VA9478-0DK84

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Motor operators

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Motor operators without stored energy operators (MO320)

Addressable via control signals	Isolating features in accordance with IEC/EN 60947-1	Make time, typically for 3VA5	Make time, typically for 3VA6	Break time, typically for 3VA5	Break time, typically for 3VA6	Rated operational power
■	■	800 ... 1700 ms	1000 ... 1700 ms	800 ... 1400 ms	800 ... 1400 ms	250 W, max. 500 W (60 ms)

Motor operator with stored energy operator (SEO520) new

Addressable via control signals	Isolating features in accordance with IEC/EN 60947-1	Make time, typically for 3VA5	Make time, typically for 3VA6	Break time, typically for 3VA5	Break time, typically for 3VA6	Rated operational power
■	■	< 80 ms	< 80 ms	< 80 ms	< 80 ms	300 W, max. 500 W (60 ms)

Mechanical operating cycles counters (for installation in the SEO520)

Mounting	Article No.
For installation in the SEO520	3VA9987-0HX10

Cylinder lock adapters for SEO520

Mounting	Article No.
For installation of cylinder locks in the SEO520	3VA9980-0LF30

Cylinder locks (type Ronis)

- Includes a lock with 2 keys
- For locking the operating mode (Manual/Auto/Lock) of the SEO520

Key	Article No.
1	3VA9980-0VL10
3	3VA9980-0VL30
4	3VA9980-0VL40

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		3VA51	3VA52 3VA61 3VA62	3VA53 3VA54 3VA63 3VA64
Rated control supply voltage	**With communication**			
24 ... 60 V DC	–	3VA9137-0HA10	3VA9277-0HA10	3VA9447-0HA10
110 ... 230 V AC / 110 ... 250 V DC	–	3VA9357-0HA20	3VA9277-0HA20	3VA9447-0HA20
Rated control supply voltage	**With communication**			
24 V DC	–	–	3VA9277-0HC10	–
42 ... 60 V AC/DC	–	–	3VA9277-0HC20	–
110 ... 230 V AC / 110 ... 250 V DC	–	–	3VA9277-0HC30	–
24 V DC	Yes	–	3VA9277-0HC15	–
110 ... 230 V AC / 110 ... 250 V DC		–	3VA9277-0HC35	–

Reset mode

All motor operators have the following reset modes:
Reset mode 1: Automatic reset
Reset mode 2: Reset via OFF-signal

The motor operator with SEO520 stored energy operator additionally has:
Reset mode 3: Reset via OFF-signal with additional acknowledge signal

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Connection technology

❶ For mounting onto the circuit breaker
❷ For mounting onto draw-out and plug-in units

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Box terminals

	Number of poles	Connection options		Scope of supply	Copper cable cross-section, stranded, class B	
					Min.	Max.
	3	❶	❷	3 single terminals	AWG 14	3/0
					AWG 10	3/0
					AWG 4	350 kcmil
					1/0	500 kcmil
	4	❶	❷	4 single terminals	AWG 14	3/0
					AWG 10	3/0
					AWG 4	350 kcmil
					1/0	500 kcmil

Box terminal with auxiliary conductor terminal

	Number of poles	Connection options		Scope of supply	Copper cable cross-section, stranded, class B	
					Min.	Max.
	3	❶	❷	3 single terminals	AWG 14	3/0
					AWG 10	3/0
					AWG 4	350 kcmil
					1/0	500 kcmil
	4	❶	❷	4 single terminals	AWG 14	3/0
					AWG 10	3/0
					AWG 4	350 kcmil
					1/0	500 kcmil

Nut keeper kits

	Number of poles	Connection options		Scope of supply	Max. tap width		Max. tap thickness
	3	❶	❷	3 single terminals	17 mm	0.66 inch	6.5 mm
					25 mm	0.98 inch	8 mm
					35 mm	1.37 inch	10 mm
					50 mm	1.96 inch	28 mm
	4	❶	❷	4 single terminals	17 mm	0.66 inch	6.5 mm
					25 mm	0.98 inch	8 mm
					35 mm	1.37 inch	10 mm
					50 mm	1.96 inch	28 mm

Circular conductor terminals, 1 cable

	Number of poles	Connection options		Scope of supply	Copper/aluminum cable cross-section, stranded, class B	
					Min.	Max.
	3	❶	❷	3 single terminals	AWG 14	AWG 8
					AWG 14	1/0
					AWG 8	3/0
					AWG 6	350 kcmil
					AWG 1	600 kcmil
	4	❶	❷	4 single terminals	AWG 14	AWG 8
					AWG 14	1/0
					AWG 8	3/0
					AWG 6	350 kcmil
					AWG 1	600 kcmil

[1] Only permitted up to 400 A
[2] Maximum current-carrying capacity of copper cables 380 A
Maximum current-carrying capacity of aluminum cables 310 A

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3VA51	3VA52	3VA61 3VA62	3VA53 3VA54 3VA63 3VA64	3VA55 3VA65 3VA66
3VA9133-0JA11	–	–	–	–
–	3VA9233-0JA11	3VA9143-0JA12	–	–
–	3VA9233-0JA12	3VA9243-0JA12	–	–
–	–		3VA9473-0JA13 [1)]	–
3VA9134-0JA11	–	–	–	–
–	3VA9234-0JA11	3VA9144-0JA12	–	–
–	3VA9234-0JA12	3VA9244-0JA12	–	–
–	–		3VA9474-0JA13 [1)]	–
–	–	–	–	–
–	3VA9233-0JH11	3VA9143-0JH12	–	–
–	3VA9233-0JH12	3VA9243-0JH12	–	–
–	–		3VA9473-0JH13	–
–	–	–	–	–
–	3VA9234-0JH11	3VA9144-0JH12	–	–
–	3VA9234-0JH12	3VA9244-0JH12	–	–
–	–		3VA9474-0JH13	–
3VA9133-0QA00	–	–	–	–
–	3VA9233-0QA00	3VA9243-0QA00	–	–
–	–	–	3VA9473-0QA00	–
–	–	–	–	3VA9673-0QA00 new
3VA9134-0QA00	–	–	–	–
–	3VA9234-0QA00	3VA9244-0QA00	–	–
–	–	–	3VA9474-0QA00	–
–	–	–	–	3VA9674-0QA00 new
3VA9133-0JB10	–	–	–	–
–	3VA9233-0JB11	3VA9143-0JB11	–	–
3VA9133-0JB11	–	–	–	–
–	3VA9233-0JB12	3VA9243-0JB12	–	–
–	–	–	3VA9373-0JB13 [2)]	–
3VA9134-0JB10	–	–	–	–
–	3VA9234-0JB11	3VA9144-0JB11	–	–
3VA9134-0JB11	–	–	–	–
–	3VA9234-0JB12	3VA9244-0JB12	–	–
–	–	–	3VA9374-0JB13 [2)]	–

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Connection technology

❶ For mounting onto the circuit breaker
❷ For mounting onto draw-out and plug-in units

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Circular conductor terminals with auxiliary conductor terminals, 1 cable

	Number of poles	Connection options		Scope of supply	Copper/aluminum cable cross-section, stranded, class B	
					Min.	Max.
	3	❶	❷	3 single terminals	AWG 14	AWG 8
					AWG 14	1/0
					AWG 8	3/0
					AWG 6	350 kcmil
					AWG 1	600 kcmil
	4	❶	❷	4 single terminals	AWG 14	AWG 8
					AWG 14	1/0
					AWG 8	3/0
					AWG 6	350 kcmil
					AWG 1	600 kcmil

Copper circular conductor terminals, 1 cable

	Number of poles	Connection options		Scope of supply	Copper cable cross-section, stranded, class B	
					Min.	Max.
	3	❶	❷	3 single terminals	AWG 14	AWG 8
					AWG 14	2/0
					AWG 14	1/0
					AWG 6	350 kcmil
					AWG 1	600 kcmil
	4	❶	❷	4 single terminals	AWG 14	AWG 8
					AWG 14	2/0
					AWG 14	1/0
					AWG 6	350 kcmil
					AWG 1	600 kcmil

Copper circular conductor terminals with auxiliary conductor terminals, 1 cable

	Number of poles	Connection options		Scope of supply	Copper cable cross-section, stranded, class B	
					Min.	Max.
	3	❶	❷	3 single terminals	AWG 14	AWG 8
					AWG 14	2/0
					AWG 14	1/0
					AWG 6	350 kcmil
					AWG 1	600 kcmil
	4	❶	❷	4 single terminals	AWG 14	AWG 8
					AWG 14	2/0
					AWG 14	1/0
					AWG 6	350 kcmil
					AWG 1	600 kcmil

Auxiliary conductor terminals for busbars

	Version
	Fixed-mounted

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3VA51	3VA52	3VA61 3VA62	3VA53 3VA54 3VA63 3VA64	3VA55 3VA65 3VA66
3VA9133-0JG10	–	–	–	–
–	3VA9233-0JG11 new	3VA9143-0JG11	–	–
3VA9133-0JG11	–	–	–	–
–	3VA9233-0JG12	3VA9243-0JG12	–	–
–	–	–	3VA9373-0JG13	–
3VA9134-0JG10	–	–	–	–
–	3VA9234-0JG11 new	3VA9144-0JG11	–	–
3VA9134-0JG11	–	–	–	–
–	3VA9234-0JG12	3VA9244-0JG12	–	–
–	–	–	3VA9374-0JG13	–
3VA9133-0JD10	–	–	–	–
3VA9133-0JD11	–	–	–	–
–	3VA9233-0JD11 new	3VA9143-0JD11	–	–
–	3VA9233-0JD12	3VA9243-0JD12	–	–
–	–	–	3VA9373-0JD13	–
3VA9134-0JD10	–	–	–	–
3VA9134-0JD11	–	–	–	–
–	3VA9234-0JD11 new	3VA9144-0JD11	–	–
–	3VA9234-0JD12	3VA9244-0JD12	–	–
–	–	–	3VA9374-0JD13	–
3VA9133-0JK10	–	–	–	–
3VA9133-0JK11	–	–	–	–
–	3VA9233-0JK11 new	3VA9143-0JK11	–	–
–	3VA9233-0JK12	3VA9243-0JK12	–	–
–	–	–	3VA9373-0JK13	–
3VA9134-0JK10	–	–	–	–
3VA9134-0JK11	–	–	–	–
–	3VA9234-0JK11 new	3VA9144-0JK11	–	–
–	3VA9234-0JK12	3VA9244-0JK12	–	–
–	–	–	3VA9374-0JK13	–
–	3VA9270-0WC00		3VA9470-0WC00	–

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Connection technology

❶ For mounting onto the circuit breaker
❷ For mounting onto draw-out and plug-in units

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Rear connection studs flat

	Number of poles	Connection options		Scope of supply
	1P	❶	❷	1 short connection stud flat 1 long connection stud flat
	3P	❶	❷	2 short connection studs flat, 1 long connection stud flat
	4P	❶	❷	2 short connection studs flat, 2 long connection studs flat

Rear connection studs round

	Number of poles	Connection options		Scope of supply
	1P	❶	❷	1 short connection stud round 1 long connection stud round
	3P	❶	❷	1 long connection stud round, 2 short connection studs round
	4P	❶	❷	2 long connection studs round, 2 short connection studs round

Circular conductor terminals, large, 1 cable

	Number of poles	Connection options		Scope of supply	Copper/aluminum cable cross-section, stranded, class B	
					Min.	Max.
	1P	❶	–	2 single terminals, 1 extended terminal cover	AWG 4	300 kcmil
	3P	❶	–	3 single terminals, 1 extended terminal cover	AWG 4 AWG 2	300 kcmil 350 kcmil
	4P	❶	–	4 single terminals, 1 extended terminal cover	AWG 4 AWG 2	300 kcmil 350 kcmil

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3VA51	3VA52	3VA53 3VA54	3VA61 3VA62	3VA63 3VA64	3VA55 3VA65 3VA66
3VA9131-0QE10	3VA9231-0QE10	3VA9471-0QE10	3VA9241-0QE10	3VA9471-0QE10	–
3VA9131-0QE20	3VA9231-0QE20	3VA9471-0QE20	3VA9241-0QE20	3VA9471-0QE20	–
3VA9133-0QE00	3VA9233-0QE00	3VA9473-0QE00	3VA9243-0QE00	3VA9473-0QE00	–
3VA9134-0QE00	3VA9234-0QE00	3VA9474-0QE00	3VA9244-0QE00	3VA9474-0QE00	–
3VA9131-0QF10	3VA9231-0QF10	3VA9471-0QF10	3VA9241-0QF10	3VA9471-0QF10	–
3VA9131-0QF20	3VA9231-0QF20	3VA9471-0QF20	3VA9241-0QF20	3VA9471-0QF20	–
3VA9133-0QF00	3VA9233-0QF00	3VA9473-0QF00	3VA9243-0QF00	3VA9473-0QF00	–
3VA9134-0QF00	3VA9234-0QF00	3VA9474-0QF00	3VA9244-0QF00	3VA9474-0QF00	–
3VA9132-0JJ12	–	–	–	–	–
3VA9133-0JJ12	–	–	–	–	–
–	3VA9233-0JJ13	–	3VA9243-0JJ13	–	–
3VA9134-0JJ12	–	–	–	–	–
–	3VA9234-0JJ13	–	3VA9244-0JJ13	–	–

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Connection technology

❶ For mounting onto the circuit breaker
❷ For mounting onto draw-out and plug-in units

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Circular conductor terminals, large with auxiliary conductor terminals, 1 cable

	Number of poles	Connection options		Scope of supply	Copper/aluminum cable cross-section, stranded, class B	
					Min.	Max.
	2	❶	–	2 single terminals, 1 extended terminal cover	AWG 4	300 kcmil
	3	❶	–	3 single terminals, 1 extended terminal cover	AWG 4	300 kcmil
					AWG 2	350 kcmil
	4	❶	–	4 single terminals, 1 extended terminal cover	AWG 4	300 kcmil
					AWG 2	350 kcmil

Circular conductor terminals, 2 cables

	Number of poles	Connection options		Scope of supply	Copper/aluminum cable cross-section, stranded, class B	
					Min.	Max.
	3	❶	–	3 single terminals, 1 extended terminal cover	AWG 4	300 kcmil
					2/0	600 kcmil
					400 kcmil	750 kcmil
	4	❶	–	4 single terminals, 1 extended terminal cover	AWG 4	300 kcmil
					2/0	600 kcmil
					400 kcmil	750 kcmil

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3VA51	3VA52	3VA53 3VA54	3VA61 3VA62	3VA63 3VA64	3VA55 3VA65 3VA66
3VA9132-0JC12	–	–	–	–	–
3VA9133-0JC12	–	–	–	–	–
–	3VA9233-0JC13	–	3VA9243-0JC13	–	–
3VA9134-0JC12	–	–	–	–	–
–	3VA9234-0JC13	–	3VA9244-0JC13	–	–
–	3VA9233-0JJ22	–	3VA9243-0JJ22	–	–
–	–	3VA9473-0JJ23	–	3VA9473-0JJ23	–
–	–	–	–	–	3VA9673-0JJ24 new
–	3VA9234-0JJ22	–	3VA9244-0JJ22	–	–
–	–	3VA9474-0JJ23	–	3VA9474-0JJ23	3VA9674-0JJ24 new

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Connection technology

❶ For mounting onto the circuit breaker
❷ For mounting onto draw-out and plug-in units

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Circular conductor terminals with auxiliary conductor terminals, 2 cables

Number of poles	Connection options		Scope of supply	Copper/aluminum cable cross-section, stranded, class B	
				Min.	Max.
3	❶	–	3 single terminals, 1 extended terminal cover	AWG 4	300 kcmil
				2/0	600 kcmil
				400 kcmil	750 kcmil
4	❶	–	4 single terminals, 1 extended terminal cover	AWG 4	300 kcmil
				2/0	600 kcmil
				400 kcmil	750 kcmil

Circular conductor terminals, 3 cables new

Number of poles	Connection options		Scope of supply	Copper/aluminum cable cross-section, stranded, class B	
				Min.	Max.
3	❶	–	3 single terminals, 1 extended terminal cover	4/0	400 kcmil
4	❶	–	4 single terminals, 1 extended terminal cover	4/0	400 kcmil

Circular conductor terminals with auxiliary conductor terminals, 3 cables new

Number of poles	Connection options		Scope of supply	Copper/aluminum cable cross-section, stranded, class B	
				Min.	Max.
3	❶	–	3 single terminals, 1 extended terminal cover	4/0	400 kcmil
4	❶	–	4 single terminals, 1 extended terminal cover	4/0	400 kcmil

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3VA51	3VA52	3VA53 3VA54	3VA61 3VA62	3VA63 3VA64	3VA55 3VA65 3VA66
–	3VA9233-0JC22	–	3VA9243-0JC22	–	–
–	–	3VA9473-0JC23	–	3VA9473-0JC23	–
–	–	–	–	–	3VA9673-0JC24 new
–	3VA9234-0JC22	–	3VA9244-0JC22	–	–
–	–	3VA9474-0JC23	–	3VA9474-0JC23	–
–	–	–	–	–	3VA9674-0JC24 new
–	–	–	–	–	3VA9673-0JB32 new
–	–	–	–	–	3VA9674-0JB32 new
–	–	–	–	–	3VA9673-0JG32 new
–	–	–	–	–	3VA9674-0JG32 new

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Connection technology

❶ For mounting onto the circuit breaker
❷ For mounting onto draw-out and plug-in units

For a complete and valid configuration of your molded case circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3va-ul-configurator

2

Circular conductor terminals, 4 cables new

	Number of poles	Connection options		Scope of supply	Copper/aluminum cable cross-section, stranded, class B	
					Min.	Max.
	3	❶	–	3 single terminals, 1 extended terminal cover	4/0	500 kcmil
	4	❶	–	4 single terminals, 1 extended terminal cover	4/0	500 kcmil

Circular conductor terminals with auxiliary conductor terminals, 4 cables new

	Number of poles	Connection options		Scope of supply	Copper/aluminum cable cross-section, stranded, class B	
					Min.	Max.
	3	❶	–	3 single terminals, 1 extended terminal cover	4/0	500 kcmil
	4	❶	–	4 single terminals, 1 extended terminal cover	4/0	500 kcmil

Circular conductor terminals, 6 cables

	Number of poles	Connection options		Scope of supply	Copper/aluminum cable cross-section, stranded, class B	
					Min.	Max.
	2	❶	–	2 single terminals, 1 extended terminal cover	AWG 14	AWG 2
	3	❶	–	3 single terminals, 1 extended terminal cover	AWG 14	AWG 2
	4	❶	–	4 single terminals, 1 extended terminal cover	AWG 14	AWG 2

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3VA51	3VA52	3VA53 3VA54	3VA61 3VA62	3VA63 3VA64	3VA55 3VA65 3VA66
–	–	–	–	–	3VA9673-0JJ43 new
–	–	–	–	–	3VA9674-0JJ43 new
–	–	–	–	–	3VA9673-0JC43 new
–	–	–	–	–	3VA9674-0JC43 new
3VA9132-0JF60	–	–	–	–	–
3VA9133-0JF60	3VA9233-0JF60	–	3VA9243-0JF60	3VA9373-0JF60	–
3VA9134-0JF60	3VA9234-0JF60	–	3VA9244-0JF60	3VA9374-0JF60	–

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Connection technology

❶ For mounting onto the circuit breaker
❷ For mounting onto draw-out and plug-in units

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Copper circular conductor terminals, 2 cables

	Number of poles	Connection options		Scope of supply	Copper/aluminum cable cross-section, stranded, class B	
					Min.	Max.
	3	❶	–	3 single terminals, 1 extended terminal cover	2/0	600 kcmil
	4	❶	–	4 single terminals, 1 extended terminal cover	2/0	600 kcmil

Copper circular conductor terminals with auxiliary conductor terminals, 2 cables

	Number of poles	Connection options		Scope of supply	Copper/aluminum cable cross-section, stranded, class B	
					Min.	Max.
	3	❶	–	3 single terminals, 1 extended terminal cover	2/0	600 kcmil
	4	❶	–	4 single terminals, 1 extended terminal cover	2/0	600 kcmil

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3VA51	3VA52	3VA53 3VA54	3VA61 3VA62	3VA63 3VA64	3VA55 3VA65 3VA66
–	–	3VA9473-0JE23	–	3VA9473-0JE23	–
–	–	3VA9474-0JE23	–	3VA9474-0JE23	–
–	–	3VA9473-0JL23	–	3VA9473-0JL23	–
–	–	3VA9474-0JL23	–	3VA9474-0JL23	–

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Connection technology

❶ For mounting onto the circuit breaker
❷ For mounting onto draw-out and plug-in units

For a complete and valid configuration of your molded case circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3va-ul-configurator

Front bus connectors extended

	Number of poles	Connection options		Scope of supply	Max. tap width		Max. tap thickness	
	3P	❶	❷	3 single terminals, 2 phase barriers, 1 insulating plate	22 mm	0.9 inch	8 mm	0.3 inch
	4P	❶	❷	4 single terminals, 3 phase barriers, 1 insulating plate	22 mm	0.9 inch	8 mm	0.3 inch

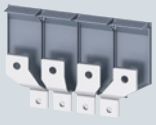
Front bus connectors extended, without phase barriers

- 3-pole and 4-pole front bus connectors extended only permitted if used with phase barriers!
- Phase barriers are part of the scope of supply of the circuit breaker or can be ordered as a spare part (3VA9...-.WA00).

	Number of poles	Connection options		Scope of supply	Max. tap width		Max. tap thickness	
	1P	❶	–	1 busbar connection piece	22 mm	0.9 inch	8 mm	0.3 inch
	3P	❶	❷	3 single terminals, 1 insulating plate	32 mm 40 mm	1.3 inch 1.6 inch	10 mm 12.5 mm	0.4 inch 0.5 inch
	4P	❶	❷	4 single terminals, 1 insulating plate	32 mm 40 mm	1.3 inch 1.6 inch	10 mm 12.5 mm	0.4 inch 0.5 inch

Front bus connectors offset

- 3-pole and 4-pole front bus connectors offset only permitted if used with phase barriers!
- Phase barriers are part of the scope of supply of the circuit breaker or can be ordered as a spare part (3VA9...-.WA00).

	Number of poles	Connection options		Scope of supply	Max. tap width		Max. tap thickness	
	3P	❶	❷	3 single terminals, 1 insulating plate	60 mm	2.4 inch	12.5 mm	0.5 inch
	4P	❶	❷	4 single terminals, 1 insulating plate	60 mm	2.4 inch	12.5 mm	0.5 inch

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3VA51	3VA52	3VA53 3VA54	3VA61 3VA62	3VA63 3VA64	3VA55 3VA65 3VA66
3VA9133-0QB00	–	–	–	–	–
3VA9134-0QB00 new	–	–	–	–	–
3VA9131-0QB00	–	–	–	–	–
–	3VA9273-0QB00	–	3VA9273-0QB00	–	–
–	–	3VA9473-0QB00	–	3VA9473-0QB00	–
–	–	–	3VA9274-0QB00	–	–
–	–	3VA9474-0QB00	–	3VA9474-0QB00	–
–	–	3VA9473-0QC00	–	3VA9473-0QC00	3VA9673-0QC00 new
–	–	3VA9474-0QC00	–	3VA9474-0QC00	3VA9674-0QC00 new

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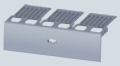
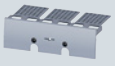
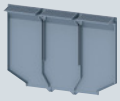
Connection technology

❶ For mounting onto the circuit breaker
❷ For mounting onto draw-out and plug-in units

For a complete and valid configuration of your molded case circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3va-ul-configurator

						3VA51
Terminal covers for fixed mounting, plug-in and draw-out units						
	Version	**Number of poles**	**Mounting location**			
	Short	1P	❶	–	–	3VA9131-0WD10
		3P	❶	–	–	3VA9131-0WD30
		4P	❶	–	–	3VA9131-0WD40 new
	Intermediate [1] new	3P	❶	–	–	–
		4P	❶	–	–	–
						
	Extended	2P	❶	–	–	3VA9131-0WF20
		3P	❶	–	–	3VA9131-0WF30
		4P	❶	–	–	3VA9131-0WF40
	Broadened	3P	❶	–	–	–
		4P	❶	–	–	–
Terminal covers for plug-in and draw-out units (spare part)						
	• To provide circuit breaker touch protection • For mounting to the molded case circuit breaker					
	Number of poles					
	3P					–
						
	4P					–
						
Insulating plates specially for fixed mounting						
	Version	**Number of poles**	**Mounting location**			
	Standard	2P	❶	–	–	3VA9131-0WJ20
		3P	❶	–	–	3VA9131-0WJ30
		4P	❶	–	–	3VA9131-0WJ40 new
	Broadened	3P	❶	–	–	–
		4P	❶	–	–	–
Phase barriers for fixed mounting, plug-in and draw-out units						
	Scope of supply					
	2 phase barriers					3VA9132-0WA00

[1] Suitable for circular conductor terminals 2/3/4 cables

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3VA52	3VA61 3VA62	3VA53 3VA54	3VA63 3VA64	3VA55 3VA65 3VA66
–	–	–	–	–
3VA9271-0WD30	3VA9271-0WD30	3VA9271-0WD30	3VA9271-0WD30	3VA9671-0WD30 new
3VA9271-0WD40	3VA9271-0WD40	3VA9271-0WD40	3VA9271-0WD40	3VA9671-0WD40 new
–	–	–	–	3VA9671-0WE30 new
–	–	–	–	3VA9671-0WE40 new
–	–	–	–	–
3VA9271-0WF30	3VA9271-0WF30	3VA9271-0WF30	3VA9271-0WF30	–
3VA9271-0WF40	3VA9271-0WF40	3VA9271-0WF40	3VA9271-0WF40	–
–	–	3VA9471-0WG30	3VA9471-0WG30	–
–	–	3VA9471-0WG40	3VA9471-0WG40	–
–	3VA9143-0KB01	–	3VA9343-0KB01	–
–	3VA9144-0KB01	–	3VA9344-0KB01	–
–	–	–	–	–
3VA9271-0WJ30	3VA9271-0WJ30	3VA9471-0WJ30	3VA9471-0WJ30	–
3VA9271-0WJ40	3VA9271-0WJ40	3VA9471-0WJ40	3VA9471-0WJ40	–
–	–	3VA9471-0WK30	3VA9471-0WK30	–
–	–	3VA9471-0WK40	3VA9471-0WK40	–
3VA9272-0WA00	3VA9272-0WA00	3VA9472-0WA00	3VA9472-0WA00	3VA9672-0WA00 new

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Plug-in and draw-out technology

The main differences between plug-in units and draw-out units are convenience of operation and the potential for functional expansion.

Thanks to plug-in and draw-out technology:

- Molded case circuit breakers can be replaced quickly and easily for overhauls or servicing
- Electrical isolation and clearly visible isolating distance
- The socket can be interlocked to prevent the 3VA molded case circuit breaker from being plugged in or moved in
- Identical connection technology for all molded case circuit breakers, whether they are plug-in, draw-out or fixed-mounted units

In addition, draw-out technology offers:

- Transmission of the position of the molded case circuit breaker via communication (CONNECT, TEST, DISCONNECT)
- The ability to test the auxiliary and control circuit connections in the test position of the draw-out unit, without contacted main conducting paths
- Transmission of the state of the molded case circuit breaker (ON, OFF, TRIP) via the COM060 communication module

Note:

Plug-in and draw-out technology are only available for the 3VA6 molded case circuit breaker with electronic trip units. The plug-in and draw-out bases of circuit breaker sizes 250 A to 400 A (3VA61, 3VA62 and 3VA63) can be equipped with all available terminal types.

For circuit breaker size 600 A (3VA64), special plug-in and draw-out bases are available. Broadened connecting bars are supplied for this purpose. For temperature reasons, only this connection technology can be used for this size of circuit breaker. 100% rated breakers can never be used with plug-in or draw-out technology for temperature reasons.

For a complete and valid configuration of your molded case circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3va-ul-configurator

		3VA61 3VA62	3VA63	3VA64
Draw-out units, complete kits				
	• Scope of supply: – Draw-out socket – Draw-out unit, conversion kit – Mounting screw kit • Note: The crank handle for the draw-out unit must be ordered separately.			
	Number of poles			
	3P	3VA9143-0KD00	3VA9343-0KD00	3VA9443-0KD00
	4P	3VA9144-0KD00	3VA9344-0KD00	3VA9444-0KD00
Draw-out units, conversion kits				
	• Scope of supply: – Screw-fastened terminal covers for molded case circuit breakers – Side panels – Plug-in contacts – Cable cages – Autotrip plunger			
	Number of poles			
	3P	3VA9143-0KD10	3VA9343-0KD10	
	4P	3VA9344-0KD10	3VA9344-0KD10	
Plug-in units, complete kits				
	• Scope of supply: – Plug-in base – Plug-in unit, conversion kit – Mounting screw kit			
	Number of poles			
	3P	3VA9143-0KP00	3VA9343-0KP00	3VA9443-0KP00
	4P	3VA9144-0KP00	3VA9344-0KP00	3VA9444-0KP00

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	3VA61 3VA62	3VA63	3VA64
Plug-in units, conversion kits			
 • Scope of supply: – Screw-fastened terminal covers for molded case circuit breakers – Plug-in contacts – Cable cages – Autotrip plunger			
Number of poles			
3P	3VA9143-0KP10	3VA9343-0KP10	
4P	3VA9344-0KP10	3VA9344-0KP10	
Cable cages for plug-in/draw-out units			
 • Cable duct for routing of the required cables from the internal accessories on the back of the circuit breaker			
Number of poles			
3P/4P	3VA9167-0KB02	–	–
Door feedthroughs			
 **Number of poles**			
3P/4P	3VA9147-0KT00	3VA9347-0KT00	
Spare part autotrip plunger			
 **Version**			
Plug-in unit	3VA9267-0KP81	3VA9457-0KP81	3VA9457-0KP81
Draw-out unit	3VA9267-0KD81	3VA9457-0KD81	3VA9457-0KD81

Accessories

Communication links for draw-out unit		
 **Scope of supply**		**Article No.**
Set of cables with three special position signaling switches, 3VA9987-0KC10 connecting cables		3VA9977-0KC00
Position signaling switches for draw-out unit and plug-in unit		
		**Article No.**
		3VA9977-0KB00
Connecting cables		
 **Purpose**		**Article No.**
Connection of position signaling switches for communication with COM060		3VA9987-0KC10

Crank handles for draw-out units		
 **Version**	**Scope of supply**	**Article No.**
Insulated	Including crank handle holder	3VA9987-0KD81
Auxiliary circuit connectors		
 • Each auxiliary circuit connector is designed for 4 cables.		
Version		**Article No.**
For all draw-out units		3VA9977-0KD80
For all plug-in units		3VA9977-0KP80

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Plug-in and draw-out technology

For a complete and valid configuration of your molded case circuit breaker, please use our online configurator at www.siemens.com/lowvoltage/3va-ul-configurator

Cylinder locks

- Scope of supply:
  - 1 lock with 2 keys
- For locking or interlocking
- For installation in all rotary operators with a shaft stub
- For mounting in the adapter kit for the accessories compartment

Key	Lock number	Article No.
1	1	3VA9980-0VL10
3	3	3VA9980-0VL30
4	4	3VA9980-0VL40

Cylinder lock adapters for draw-out units

- To prevent unauthorized withdrawal or insertion of the circuit breaker into the draw-out unit
- Circuit breaker can be locked in the CONNECT, TEST and DISCONNECT positions

Purpose	Article No.
For fitting a cylinder lock in the right-hand side wall of the draw-out unit	3VA9970-0LF40

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Communication

Metering function [1]			ETU 5-series	ETU 8-series	Display in ETU	Display DSP800	Communication COM800/ COM100
Current							
Phase and neutral conductor currents	I_1, I_2, I_3, I_N	A	■	■	□	□	■
Residual current to ground	I_g	A	■	■	□	□	■
Phase with highest load		A	■	■	□	□	■
Mean value over the three phase currents	$I_{leading\ axis} = (I_1 + I_2 + I_3)/3$	A	–	■	–	□	■
Asymmetry of the phase currents	I_{nba}	%	–	■	–	□	■
THD of the 3 phases	$THDI_1$, $THDI_2$, $THDI_3$	%	–	■	–	□	■
Voltage							
Phase voltages incl. mean value	U_{12}, U_{23}, U_{31}, U_{phavg}	V	–	■	□	□	■
Voltages to N conductor incl. mean value	U_{1N}, U_{2N}, U_{3N}, U_{Navg}	V	–	■	–	□	■
Voltage unbalance		%	–	■	–	□	■
THD phase/phase and phase/N	$THDI_1$, $THDI_2$, $THDI_3$	%	–	■	–	□	■
Power							
Active power, total and per phase	P_1, P_2, P_3, P_{tot}	kW	–	■	□ (P_{tot})	□	■
Apparent power, total and per phase	S_1, S_2, S_3, S_{tot}	kVA	–	■	–	□	■
Reactive power, total and per phase	Q_1, Q_2, Q_3, Q_{tot}	kVAr	–	■	□	□	■
Power factor of the fundamental	P_{F1}, P_{F2}, P_{F3}, P_{Favg}		–	■	□ (PF_{avg})	□	■
Energy							
Active energy, infeed and feedback	E_p	kWh	–	■	□	□	■
Reactive energy, infeed and feedback	E_q	kVArh	–	■	–	□	■
Apparent energy	E_s	kVAh	–	■	–	□	■
Frequency							
Present frequency	f	Hz	–	■	□	□	■
Maximum pointer function							
Min./max. current, voltage, power	With time stamp	–	–	–	–	–	■

[1] Depending on ETU version ■ Available □ Displayable – Not available

		3VA61 3VA62	3VA63 3VA64 3VA65 3VA66
COM060 communication modules			
	• For mounting in the right-hand accessories compartment of the 3VA6 molded case circuit breaker (including ETU power supply) • Including a T-connector		
	Purpose		
	Communication to the COM800/COM100 breaker data server via 3VA line	3VA9177-0TB10	3VA9377-0TB10
24 V modules			
	• 24 V DC • For mounting in the right-hand accessories compartment of the 3VA6		
	Purpose		
	Optional energy supply for the ETU, also includes continuous operation of the ETU display and the metering function of the ETU 8-series	3VA9177-0TB50	3VA9377-0TB50

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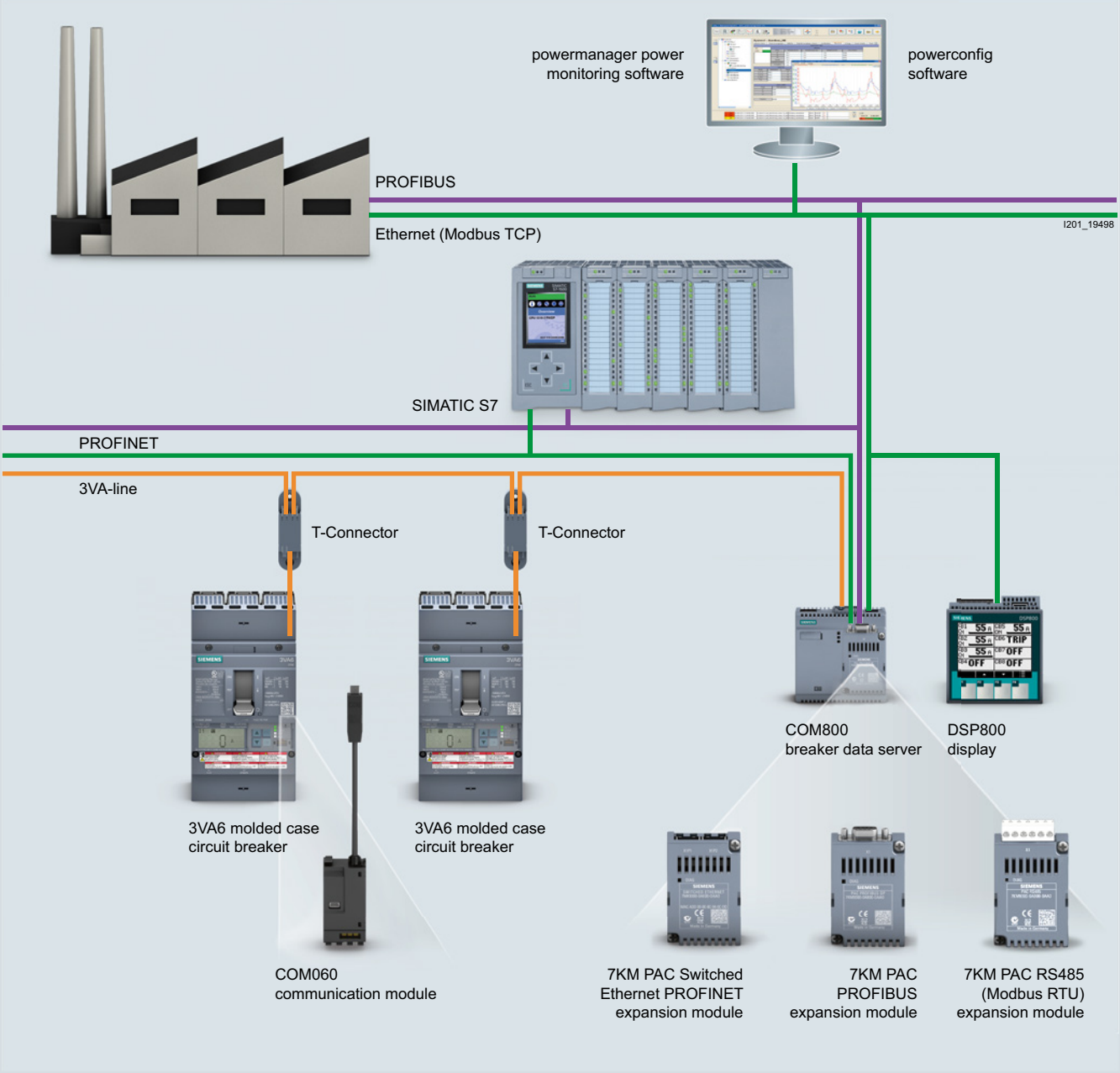
Communication



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Breaker data server

COM800 breaker data servers

Version	Article No.
Central communication module for connection of up to eight 3VA6 molded case circuit breakers via the 3VA line, Ethernet 10/100 Mbps interface, module socket for inserting an optional PROFIBUS DP, PROFINET or RS485 module, 2 terminating resistors	3VA9977-0TA10

COM100 breaker data servers

Version	Article No.
Central communication module for connection of a 3VA6 molded case circuit breaker via the 3VA line, Ethernet 10/100 Mbps interface, module socket for inserting an optional PROFIBUS DP, PROFINET or RS485 module, 2 terminating resistors	3VA9977-0TA20

7KM PAC PROFIBUS DP expansion modules

Purpose	Article No.
Used for connecting the COM800/COM100 breaker data server, and the 3VA molded case circuit breakers connected to it, to PROFIBUS DPV1. Supplies the state and measured variables of the 3VA molded case circuit breaker for the PROFIBUS DP master. Receives information (e.g. commands) from the PROFIBUS DP master and transmits them to the 3VA molded case circuit breaker.	7KM9300-0AB01-0AA0

7KM PAC Switched Ethernet PROFINET expansion modules

Purpose	Article No.
Used for connecting the COM800/COM100 breaker data server, and the connected 3VA molded case circuit breakers, to PROFINET via two Ethernet interfaces. Supplies the state and measured variables of the 3VA molded case circuit breakers to PROFINET via the PROFINET IO, PROFIenergy and Modbus TCP protocols.	7KM9300-0AE01-0AA0

7KM PAC RS485 Modbus RTU expansion modules

Purpose	Article No.
Used for connecting the COM800/COM100 breaker data server, and the 3VA molded case circuit breakers connected to it, to Modbus RTU. Supplies the state and measured variables of the 3VA molded case circuit breaker for the Modbus RTU master. Receives information (e.g. commands) from the Modbus RTU master and transmits them to the 3VA molded case circuit breaker.	7KM9300-0AM00-0AA0

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Communication

Accessories for communication

T-connectors (spare part)

Purpose	Article No.
Provides a stub connection to the COM060 and loops through to the next circuit breaker. Including connection adapter for mounting on the 3VA6 circuit breaker enclosure	3VA9987-0TG10

DIN rail adapters

Purpose	Article No.
For snapping the T-connector onto a DIN rail	3VA9987-0TG11

Prefabricated connecting cables, T-connector – T-connector or T-connector – COM800/COM100

Length	Article No.
0.4 m	3VA9987-0TC10
1 m	3VA9987-0TC20
2 m	3VA9987-0TC30
4 m	3VA9987-0TC40

Prefabricated connecting cables for extending the COM060 – T-connector stub connection

Length	Article No.
0.4 m	3VA9987-0TF20
0.8 m	3VA9987-0TF10

Additional bus terminating resistors

Article No.
3VA9987-0TE10

Voltage tap to external N conductors

Purpose	Article No.
Cable for connection of the star point for the metering function of the 8-series ETU, length 1.5 m	3VA9987-0UC10

External current transformers as straight-through transformers

Purpose	Rated current I_n	Article No.
Connection of an external current transformer for the neutral conductor for 3-pole 3VA6 molded case circuit breakers for 5-series and 8-series ETUs (ETU850, ETU856, ETU860), including connecting cables	25 ... 150 A	3VA9077-0NA10
	160 ... 350 A	3VA9177-0NA10
	400 ... 600 A	3VA9377-0NA10

Display

Display DSP800 for connection to COM800/COM100

Purpose	Article No.
For displaying status, measured values and parameters of up to 8 3VA6 molded case circuit breakers. Connection to the COM800/COM100 via Ethernet for displaying the information of the COM800/COM100 and the connected 3VA6 molded case circuit breakers.	3VA9977-0TD10

System overview, page 2/20

External function box

EFB300 external function boxes

- 4 digital outputs for information output
- 1 digital input
- ZSI functionality
- S0-Interface
- Including cable 1.5 m in length

Purpose	Article No.
For connection to the ETU of 3VA6 molded case circuit breakers	3VA9977-0UA10

Connecting cables for EFB300

Length	Purpose	Article No.
1.5 m		3VA9987-0UB10
3.0 m		3VA9987-0UB20

Maintenance mode box

MMB300 maintenance mode boxes

- 2 digital outputs
- 1 digital input
- 1 3VA-line interface
- Including cable 1.5 m in length

Purpose	Article No.
Series connection of up to eight 3VA6 molded case circuit breakers to one MMB300 maintenance mode box for activating the Dynamic Arc Sentry Mode (DAS Mode) of the molded case circuit breaker	3VA9977-0UF10

Test devices

TD300 test devices

Purpose	Connection	Article No.
For activation of the ETU and initiation of a test tripping operation	On the front interface of the ETU	3VA9977-0MA10

TD400 test devices

- Energy supply via batteries or the USB-C interface
- USB-C interface for connecting a PC with powerconfig
- Bluetooth interface for connection to a PC, smartphone or tablet
- ETU parameterization
- Including adapter and connecting cable to 3VA2 molded case circuit breaker and IEC 3WL (ETU Release 2)
- Including case

Purpose	Connection	Article No.
Initiation of a test tripping operation	On the front interface of the ETU (3VA and IEC 3WL ETU release 2)	3VW9011-0AT40

TD500 test devices

- USB interface for connecting a PC with powerconfig
- Including external power supply
- Including connecting cable to 3VA2 molded case circuit breaker

Purpose	Connection	Article No.
ETU parameterization Initiation of various test tripping operations (LSING)	On the front interface of the ETU	3VA9977-0MB10

External power supplies for TD500 (spare part)

Voltage	Article No.
110 ... 240 V AC	3VA9987-0MX10

Connecting cables for connecting TD500 to 3VA6 molded case circuit breakers (spare part)

	Article No.
	3VA9977-0MY10

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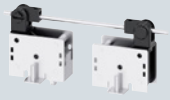
Locking, blocking and interlocking

		3VA51	3VA52	3VA61 3VA62
Locking				
• The locking devices make it possible to lock the 3VA molded case circuit breakers in either the OFF or the ON operating position.				
Version				
 Cylinder lock	Key 1 (lock number 1)		3VA9980-0VL10	
	Key 3 (lock number 3)		3VA9980-0VL30	
	Key 4 (lock number 4)		3VA9980-0VL40	
 Adapter kit for mounting the cylinder lock (type Ronis) in the accessories compartment of the molded case circuit breaker		3VA9137-0LF10	3VA9237-0LF10	3VA9147-0LF10
 Blocking device for handle		3VA9038-0LB10	3VA9378-0LB10	
Interlocking				
• Using interlocking technology, it is possible to mutually interlock two or more molded case circuit breakers. • The interlock system is designed to ensure that no more than one molded case circuit breaker can be operated at a time. • The following methods of interlocking can be used on 3VA molded case circuit breakers: – Front interlock – Rear interlock				
Version				
 Cylinder lock	Key 1 (lock number 1)		3VA9980-0VL10	
	Key 3 (lock number 3)		3VA9980-0VL30	
	Key 4 (lock number 4)		3VA9980-0VL40	
 Sliding bar interlock for interlocking 2 circuit breakers		3VA9138-0VF30	3VA9238-0VF30	3VA9148-0VF30
 Module for handle interlock using a Bowden cable	One module for handle interlock is required for each switching device. A Bowden cable must be ordered separately.	3VA9137-0VF10	3VA9237-0VF10	3VA9147-0VF10
Bowden cable	Length 0.6 m		3VA9980-0VC10	
	Length 1.0 m		3VA9980-0VC20	
	Length 1.5 m		3VA9980-0VC30	
 Rear interlock with rod	Circuit breaker, fixed-mounted		3VA9078-0VM10	
	Plug-in/draw-out technology		3VA9078-0VM30	
Mounting frame for rear interlock with rod for fixed-mounted version	Profile rails (2 units)		3VA9078-0VK10	
	Mounting plate	3VA9138-0VK20	3VA9238-0VK20	3VA9248-0VK20

[1] Contains mounting plate and profile rails

System overview, page 2/20

3VA53
3VA54 3VA55
3VA63 3VA65
3VA64 3VA66

Locking

		Use in	Locking in OFF position	Locking in ON position	Front mounting	Rear mounting	Interlocked breakers
3VA9980-0VL10 3VA9980-0VL30 3VA9980-0VL40		Breakers, motor operators, manual operators, draw-out technology	■	■	■	–	0
3VA9347-0LF10	3VA9577-0LF10 new	Circuit breaker	■	■	■	–	–
3VA9378-0LB10	3VA9578-0LB10 new	Circuit breaker	■	■	■	–	0

Interlocking

		Use in	Locking in OFF position	Locking in ON position	Front mounting	Rear mounting	Interlocked breakers
3VA9980-0VL10 3VA9980-0VL30 3VA9980-0VL40		Breakers, motor operators, manual operators, draw-out technology	■	■	■	–	0
3VA9348-0VF30	–	Circuit breaker	–	–	■	–	3
3VA9347-0VF10	3VA9577-0VF10 new	Circuit breaker	–	–	■	–	3
3VA9980-0VC10 3VA9980-0VC20 3VA9980-0VC30							
3VA9078-0VM10	3VA9578-0VM10 [1] new	Circuit breaker, fixed-mounted	–	–	–	■	2
3VA9078-0VM30	–	Plug-in/draw-out technology					
3VA9078-0VK10	–	Fixed-mounted	–	–	–	■	
3VA9448-0VK20	–						

System overview, page 2/20

Cover frame and mounting

Cover frames for door cutouts for molded case circuit breakers

Number of poles	Door cut-out with trip unit	3VA51
3P	No	3VA9033-0SB10
	Yes	3VA9033-0SB20
4P	No	3VA9034-0SB10
	Yes	3VA9034-0SB20

Cover frames for MO320 motor operators

Purpose	3VA51
MO320 motor operator	3VA9033-0SB10
Motor operator with SEO520 stored energy operator	–

Cover frames for front mounted rotary operators

3VA51
3VA9033-0SB10

Cover frames for door feedthroughs

3VA51
–

Labeling plates for cover frame

3VA51
3VA9087-0SX10

Adapters for 60 mm busbar system (8US)

- Busbar adapter systems with 60-mm spacing between busbars
- For mounting on the busbar adapter, box terminals for the infeed side must be ordered separately.
- The connection technology for the outgoing side can be chosen freely.

Number of poles	3VA51
3P	8US1211-4SS00

Mounting screw kits

Purpose	Number of poles	3VA51
For fixed-mounted breakers	1P	3VA9151-0SS10
	3P	3VA9126-0SS10
	4P	3VA9124-0SS10
	3P and 4P	–
For plug-in and draw-out technology	–	–

System overview, page 2/20

3VA52	3VA61 3VA62	3VA53 3VA54 3VA63 3VA64	3VA55 3VA65 3VA66
3VA9143-0SB10	3VA9143-0SB10	3VA9373-0SB10	3VA9583-0SB10 new
3VA9233-0SB20	3VA9143-0SB20	3VA9343-0SB20	3VA9583-0SB20 new
3VA9144-0SB10	3VA9144-0SB10	3VA9374-0SB10	3VA9584-0SB10 new
3VA9234-0SB20	3VA9144-0SB20	3VA9344-0SB20	3VA9584-0SB20 new
3VA9237-0SB30	3VA9237-0SB30	3VA9377-0SB30	–
3VA9147-0SB30	3VA9147-0SB30	–	–
3VA9143-0SB10	3VA9143-0SB10	3VA9373-0SB10	3VA9583-0SB50 new
3VA9233-0SB20	3VA9233-0SB20	3VA9333-0SB20	–
	3VA9087-0SX10		–
8US1213-4AP03	8US1213-4AP03	8US1213-4AH04	–
–	–	–	–
3VA9126-0SS10	3VA9126-0SS10	–	–
3VA9124-0SS10	3VA9124-0SS10	–	–
–	–	3VA9328-0SS10	–
–	3VA9124-0SS10	3VA9328-0SS10	–

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3VL up to 1600 A, according to UL 489

3VL molded case circuit breakers

Product Discontinuation

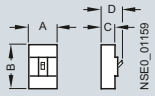
Documents available for downloading:
You can find comprehensive information on the 3VL molded case circuit breaker in the catalog extract

3VL molded case circuit breakers according to UL 489
(109778213)

VL150X UL, CG frame

VL150 UL, DG frame

VL250 UL, FG frame

Number of poles			3-pole			3-pole			3-pole		
Rated current I_n [1]			20 A ... 150 A			50 A ... 150 A			100 A ... 250 A		
Frequency			50/60 Hz			50/60 Hz			50/60 Hz		
Electrical characteristics according to UL 489											
Rated operational voltage U_e	50/60 Hz AC		480 V, 600 V/347 V			480 V, 600 V/347 V			480 V, 600 V/347 V		
	DC [2]		250 V			500 V			500 V		
Breaking capacity			**N**	**H**	**L**	**N**	**H**	**L**	**N**	**H**	**L**
Breaking capacity	Up to 240 V AC	kA	65	100	–	65	100	200	65	100	200
	Up to 480 V AC	kA	35	65	–	35	65	100	35	65	100
	Up to 600 V AC	kA	–	–	–	–	–	–	–	–	–
	Up to 600 Y/347 V AC	kA	10	10	–	18	18	18	18	18	18
	Up to 250 V DC [3]	kA	30	30	–	30	30	30	30	30	30
	Up to 500 V DC [3] [4]	kA	–	–	–	18	18	18	18	25	30
Breaking capacity I_{cu}/I_{cs} rms value according to IEC 60947-2	Up to 240 V AC	kA	65/65	10/75	–	65/65	100/75	200/150	65/65	100/75	200/150
	Up to 415 V AC	kA	40/40	70/70	–	40/40	70/70	100/75	40/40	70/70	100/75
	Up to 690 V AC	kA	8/4 [5]	10/5 [5]	–	12/6	12/6	12/6	12/6	12/6	12/6
	Up to 250 V DC [3]	kA	30/30	30/30	–	30/30	30/30	30/30	30/30	30/30	30/30
Dimensions											
	A	mm	105			105			105		
	B	mm	157			175			175		
	C	mm	81			81			81		
	D	mm	107			107			107		

[1] 80% rated current applications acc. to UL 489, 100% rated current applications acc. to IEC 60947-2.
[2] Rated DC voltage applies only to molded case circuit breakers with a thermal-magnetic trip unit.
[3] For switching DC, the maximum permissible direct voltage per conducting path must be considered.
[4] 500 V DC nominal / 600 V DC max. for use in ungrounded UPS DC applications (acc. to UL 489, Supplement SC)
[5] Rated current $I_n \geq 25$ A.

VL400 UL, JG frame			VL400X UL, LG frame			VL800 UL, MG frame			VL1200 UL, NG frame			VL1600 UL, PG frame		
3-pole			3-pole			3-pole			3-pole			3-pole		
250 A ... 400 A			400 A ... 600 A			600 A ... 800 A			800 A ... 1200 A			1200 A ... 1600 A		
50/60 Hz			50/60 Hz			50/60 Hz			50/60 Hz			50/60 Hz		
600 V			600 V			600 V			600 V			600 V		
500 V			500 V			500 V			500 V			500 V		
N	H	L	N	H	L	N	H	L	N	H	L	N	H	L
65	100	200	65	100	200	65	100	200	65	100	200	65	100	200
35	65	100	35	65	100	35	65	100	35	65	100	35	65	100
25	25	25	18	18	18	25	35	50	25	35	65	25	35	65
–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
30	30	30	30	30	30	22	25	42	22	25	42	22	25	42
25	35	35	25	35	35	35	50	65	35	50	65	35	50	65
65/65	100/75	200/150	65/65	100/75	200/150	65/65	100/75	200/150	65/35	100/50	200/100	65/35	100/50	200/100
45/45	70/70	100/75	45/45	70/70	100/75	50/50	70/70	100/75	50/25	70/35	100/50	50/25	70/35	100/50
12/6	15/8	15/8	12/6	15/8	15/8	20/10	20/10	20/10	20/10	30/15	35/17	20/10	30/15	35/17
30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30	30/30
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Appendix

Link directory

Catalog LV 18

General information

Information on low-voltage power distribution and electrical installation technology	www.siemens.com/lowvoltage
Tender specifications	www.siemens.com/lowvoltage/tenderspecifications
Conversion tool	www.siemens.com/conversion-tool
Image database	www.siemens.com/lowvoltage/picturedb
CAx download manager	www.siemens.com/lowvoltage/cax
Newsletter system	www.siemens.com/lowvoltage/newsletter
Siemens YouTube channel	www.youtube.com/Siemens
Brochures / catalogs	www.siemens.com/lowvoltage/catalogs
Operating instructions / manuals	www.siemens.com/lowvoltage/manuals
Siemens Industry Online Support	www.siemens.com/lowvoltage/product-support
Siemens Industry Online Support app	www.siemens.com/support-app
My Documentation Manager (MDM)	www.siemens.com/lowvoltage/mdm
Configurators	www.siemens.com/lowvoltage/configurators
Siemens Industry Mall – product catalog and online ordering system	www.siemens.com/industrymall
Direct forwarding to the Industry Mall	www.siemens.com/product?Article No.
Training	www.siemens.com/sitrain-lowvoltage
Local contacts	www.siemens.com/lowvoltage/contact
Technical Support	www.siemens.com/lowvoltage/support-request
Information on services	www.siemens.com/service-catalog
Manual for the generation, transmission and distribution of electrical energy	www.siemens.com/power-engineering-guide
Control panels for the North American market	www.siemens.com/northamerican-standards
Control panel building	www.siemens.com/controlpanel
Energy savings and amortization	www.automation.siemens.com/sinasave
Energy Suite	www.siemens.com/energysuite
SITOP power supplies	www.siemens.com/sitop
Power distribution with Totally Integrated Power	www.siemens.com/tip

Information + ordering

Technical overviews	
Air circuit breakers	www.siemens.com/lowvoltage/produkt-support (109766020)
Molded case circuit breakers	www.siemens.com/lowvoltage/produkt-support (109767421)
All the important things at a glance	
Air circuit breakers	www.siemens.com/3WL
Molded case circuit breakers	www.siemens.com/3VA
Your product in detail	
Technical basic information – 3VA molded case circuit breakers	www.siemens.com/lowvoltage/produkt-support (109766672)
Siemens YouTube channel	
3WL air circuit breakers (general)	bit.ly/2ZH1rXH
3VA molded case circuit breakers (general)	bit.ly/2xNxlFA
Everything you need for your order	
3WL air circuit breakers/non-automatic air circuit breakers for AC up to 5000 A, UL	sie.ag/2ScRZK7
3VA molded case circuit breakers, UL / IEC	sie.ag/2yPsA2e
Configurators	
3WL air circuit breakers	www.siemens.com/lowvoltage/3wl-configurator
3VA molded case circuit breakers	www.siemens.com/lowvoltage/3va-ul-configurator

Commissioning + operation

Tools / software	
powerconfig configuration software	www.siemens.com/powerconfig
Manuals	
Configuration manual – 3WL5 air circuit breakers / non-automatic air circuit breakers	www.siemens.com/lowvoltage/manuals (109775570)
System manual – 3WL/3VL circuit breakers with communication capability – Modbus	www.siemens.com/lowvoltage/manuals (39850157)
System manual – 3WL/3VL circuit breakers with communication capability – PROFIBUS	www.siemens.com/lowvoltage/manuals (12560390)
Communication manual – 3WL air circuit breakers via COM35 – PROFINET IO, Modbus TCP	www.siemens.com/lowvoltage/manuals (109757987)
Configuration manual – 3VA selectivity	www.siemens.com/lowvoltage/manuals (109743975)
Communication manual – 3VA molded case circuit breakers with IEC and UL certification	www.siemens.com/lowvoltage/manuals (98746267)
Equipment manual – 3VA molded case circuit breakers with UL and IEC certification	www.siemens.com/lowvoltage/manuals (109758561)
Training and tutorials	
Video tutorial on the 3WL air circuit breaker	www.lowvoltage.siemens.com/wcms/3wl-tutorial
Protection systems in low-voltage power distribution	www.siemens.com/sitrain-lowvoltage (WT-LVAPS)
3WL air circuit breakers	www.siemens.com/sitrain-lowvoltage (WT-LVA3WL)
3VA molded case circuit breakers	www.siemens.com/sitrain-lowvoltage (WT-LVA3VA)
Communication with SENTRON components	www.siemens.com/sitrain-lowvoltage (LV-COM)
Maintenance and operation of 3WL circuit breakers	www.siemens.com/sitrain-lowvoltage (LV-CBMAIN)

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Article number index

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Notes

Notes

Catalogs and further information

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Low-Voltage Power Distribution and Electrical Installation Technology
SENTRON • SIVACON • ALPHA

Protection, Switching, Measuring and Monitoring Devices, Switchboards and Distribution Systems

PDF (E86060-K8280-A101-B1-7600)
Print (E86060-K8280-A101-A6-7600)

LV 14
Power Monitoring Made Simple
SENTRON

PDF/Print (E86060-K1814-A101-A6-7600)

LV 18
Air Circuit Breakers and Molded Case Circuit Breakers with UL Certification
SENTRON

PDF (E86060-K8280-E347-A4-7600)

ET D1
Switches and Socket Outlets
DELTA

PDF

IC 10
Industrial Controls
SIRIUS

PDF/Print (E86060-K1010-A101-B1-7600)

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Siemens TIA Selection Tool
for the selection, configuration and ordering of TIA products and devices

www.siemens.com/tst

Training for Industry
SITRAIN

www.siemens.com/sitrain

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www.siemens.com/lowvoltage/catalogs

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