For further technical product information:

Configuration Manual

Residual Current Protective Devices / Arc Fault Detection Devices (AFDDs)
Article No.: 3ZW1012-5SM33-0AC1

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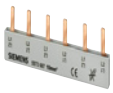
Overview

Devices		Page	Application	Standards	Used in		
					Non-residential buildings	Residential buildings	Industry
	**5SV RCCBs**	4/4	Personnel, material and fire protection, as well as protection against direct contact. SIGRES with active condensation protection for use in harsh environments. Super resistant and selective versions	IEC/EN 61008 ÖVE EN 61008 ÖVE/ÖNORM E 8601 IEC/EN 62423	✓	✓	✓
	**5SM3 RCCBs**	4/14	Personnel, material and fire protection, as well as protection against direct contact	IEC/EN 61008 ÖVE EN 61008 ÖVE/ÖNORM E 8601 IEC/EN 62423	✓	✓	✓
	**SIQUENCE 5SM3/5SU1 universal current-sensitive RCCBs, type B and type B+**	4/17	SIQUENCE, the technology of universal current-sensitive residual current protective devices	VDE 0664-100 VDE 0664-200 VDE V 0664-110	✓	--	✓
	**Additional components**	4/22	Remote controlled mechanisms, auxiliary switches for all residual current operated circuit breakers Leakage current measurement device for fault locating and optimum selection of RCCBs	IEC/EN 62019	✓	--	✓
	**5SM2 RC units**	4/33	The freely selectable combination of RC units with miniature circuit breakers permits the flexible configuration of RCBO combinations	IEC/EN 61009	✓	--	✓
	**5SU1 RCBOs**	4/41	The ideal protection combination for all electrical circuits due to the compact device versions of RCCBs and miniature circuit breakers in a single device	IEC/EN 61009	✓	✓	✓
	**5SM6 AFD units**	4/50	Enhanced fire protection through the detection and isolation of arcing faults	IEC/EN 62606	✓	✓	--
	**5ST busbars for modular installation devices**	4/54	Busbars in 10 mm^2 and 16 mm^2 save space in the distribution board and time during mounting	--	✓	✓	✓
	**5SM1 and 5SZ9 RCCB socket outlets**	4/57	For retrofitting in existing installations	VDE 0664	✓	✓	✓
	**Accessories**	4/58	Locking devices, covers – everything you need for mounting	--	✓	✓	✓
	**5SV8 residual current monitors**	Ch. 13	For monitoring of residual currents in electrical plants with indication if a specified limit value is exceeded see chapter "Monitoring Devices" —> Monitoring devices for electrical values —> Residual current monitors"	IEC 62020 EN 62020	✓	--	✓

Minimum order quantity (PS) or a multiple thereof can be ordered.

SIGRES

SIGRES RCCBs were developed for use in harsh ambient conditions, such as swimming baths as protection against chlorine and ozone, in the agricultural sector (ammonia), on building sites and in the chemical industry (nitrogen oxide, sulfur dioxide, solvents), in the food processing industry (hydrogen sulfide) and in unheated rooms (dampness). The patented active condensation protection requires a continuous power supply and bottom infeed if the RCCB is switched off.

When used in ambient conditions as defined in product standard EN 61008-1, the operation interval for pressing the test button can be extended to once a year.

Super resistant K

Super resistant (short-time delayed) RCCBs meet the maximum permissible break times for instantaneous devices. However, by implementing a short-time delay they prevent unnecessary tripping operations, and thus plant faults, when pulse-shaped leakage currents occur – as is the case when capacitors are switched on.

Selective S

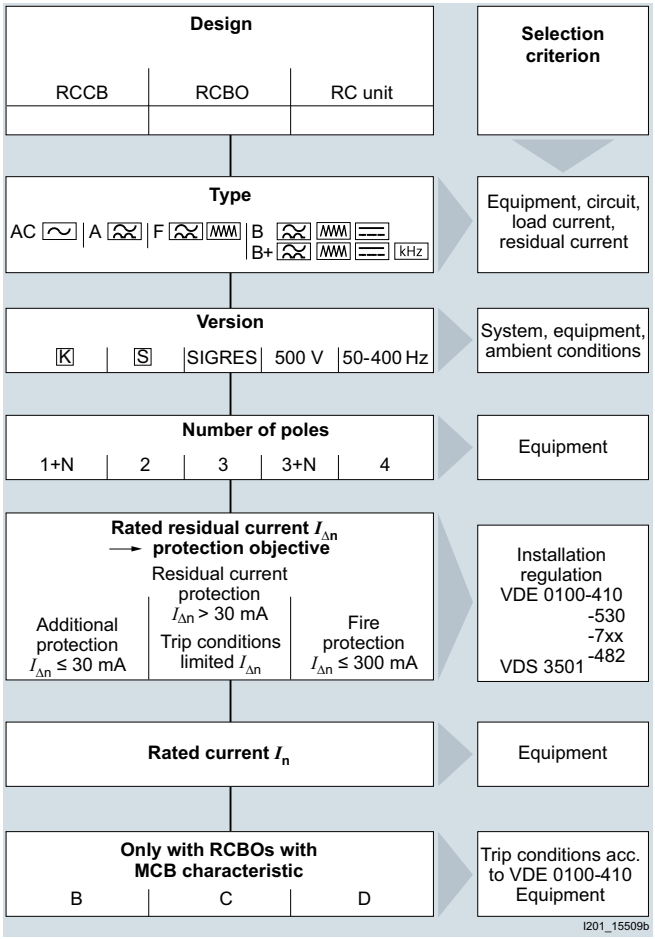
Can be used as upstream group switch for selective tripping contrary to downstream, instantaneous or short-time delayed RCCBs.

Short-time delayed G

If installations/equipment whose inadvertent tripping could lead to personal injury or material damage (such as freezers, computers) are protected by residual current protective devices, the tripping time of these devices must be at least 10 ms as defined according to ÖVE/ÖNORM E 8001-1.

Note:

You will find further information on the subject of residual current protective devices in the technology primer "Residual Current Protective Devices", Article No.: E10003-E38-2B-G0090 and in the Configuration Manual "Residual Current Protective Devices/Arc Fault Detection Devices (AFDDs)" at: www.siemens.com/lowvoltage/manuals.



Selection aid for finding the appropriate residual current protective device

Overview

RCCBs are used in all systems up to 240/415 V AC. Devices of type AC trip in the event of sinusoidal AC residual currents, type A also trips in the event of pulsating DC residual currents.

In addition, RCCBs type F also detect residual currents with mixed frequencies up to 1 kHz.

RCCBs with a rated residual current of maximum 30 mA are used for personnel, material and fire protection, as well as for protection against direct contact. RCCBs with a rated residual current of 10 mA are primarily used in areas that represent an increased risk for personnel.

Since the introduction of DIN VDE 0100-410, all socket outlet current circuits up to 20 A must also be fitted with residual current protective devices with a rated residual current of max. 30 mA. This also applies to outdoor electrical circuits up to 32 A for the connection of portable equipment.

Devices with a rated residual current of maximum 300 mA are used as preventive fire protection in case of insulation faults. RCCBs with a rated residual current of 100 mA are primarily used in European countries outside Germany.

Benefits

- Instantaneous residual current operated circuit breakers with the N connection on the left or right-hand side enable simple bus mounting with standard pin busbars with miniature circuit breakers installed on the right-hand side.
- Instantaneous type A devices have a surge current withstand capability with current waveform 8/20 µs of more than 1 kA, super resistant devices of more than 3 kA and selective devices of more than 5 kA. This ensures safe operation.
- SIGRES has an extremely long service life due to patented active condensation protection, and identical dimensions enable the quick and easy replacement of existing instantaneous RCCBs.
- Super resistant devices increase system availability, as unnecessary tripping is prevented in power supply systems with short-time glitches.
- Selective RCCBs increase system availability as a staggered tripping time enables the selective tripping of RCCBs connected in series in the event of a fault.
- Auxiliary switches, fault signal contacts, undervoltage releases and shunt trips are also available as additional components.
- By means of internal contacts, effective touch protection is provided when grasping and manually operating the latching slide.
- To facilitate entry of pin busbars with connection cables up to 35 mm^2, the devices are equipped with rectangular terminals for the accommodation of funnel-shaped cable entries.
- By means of standardized clearances of the terminals in modular width dimensions, the RCCBs and MCBs can be optionally connected to busbars on the top or on the bottom.

Minimum order quantity (PS) or a multiple thereof can be ordered.

Technical specifications

			Instantaneous	SIGRES	Super resistant	Selective
Standards			IEC/DIN EN 61008-1 (VDE 0664-10); IEC/EN 61008-2-1 (VDE 0664-11); IEC/EN 61543 (VDE 0664-30); IEC/EN 62423 (VDE 0664-40)			
Surge current withstand capability						
• Type A with current waveform 8/20 µs	Acc. to EN 60060-2 (VDE 0432-2)	kA	> 1		> 3	> 5
• Type F with current waveform 8/20 µs	Acc. to EN 60060-2 (VDE 0432-2)	kA	--	--	> 3	--
Minimum operational voltage for test function operation						
• 30-mA devices		V AC	195			
• Non-30-mA devices		V AC	100			
• 24-V devices		V AC	20			
Test cycles			1/2 year	1 year	1/2 year	
Insulation coordination • Overvoltage category			III			
Pollution degree			2			
Terminal conductor cross-sections						
• 1-wire						
- Solid (≤ 10 mm^2) / stranded (≥ 16 mm^2)		mm^2	0.75 ... 35			
- Finely stranded with non-insulated end sleeve		mm^2	0.75 ... 25			
- Finely stranded with insulated end sleeve		mm^2	0.75 ... 25			
- Finely stranded without end sleeve		mm^2	1 ... 35			
• 2-wire, same cross-section, same conductor type						
- Solid (≤ 10 mm^2) / stranded (≥ 16 mm^2)		mm^2	0.75 ... 10			
- Finely stranded with non-insulated end sleeve		mm^2	0.75 ... 4			
- Finely stranded with insulated end sleeve		mm^2	0.75 ... 4			
- Finely stranded without end sleeve		mm^2	1 ... 4			
• 1-wire + busbar (pin thickness 1.5 mm)						
- Solid (≤ 10 mm^2) / stranded (≥ 16 mm^2)		mm^2	10 ... 25			
- Finely stranded with non-insulated end sleeve		mm^2	6 ... 25			
- Finely stranded with insulated end sleeve		mm^2	6 ... 16			
Terminal tightening torque						
• Up to I_n = 80 A		Nm	2.5			
• At I_n = 100 A, 125 A		Nm	3.0 ... 3.5			
Mains connection			Optionally top or bottom (top for the SIGRES function to also be effective in the deactivated state)			
Rated frequency		Hz	50	50	50/60	50/60
Mounting position (on a standard mounting rail)			Any			
Degree of protection	Acc. to EN 60529 (VDE 0470-1)		IP20, if the distribution board is installed, with connected conductors			
Touch protection	Acc. to EN 50274 (VDE 0660-514)		Finger and back-of-hand safe			
Service life	Average number of operating cycles Test cycle acc. to IEC/EN 61008		> 10000			
Storage temperature		°C	-40 ... +75			
Ambient temperature		°C	-25 ... +45, marked with -25			
Resistance to climate	Acc. to IEC 60068-2-30		28 cycles (55 °C; 95% rel. air humidity)			
CFC and silicone-free			Yes			

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Minimum order quantity (PS) or a multiple thereof can be ordered.

5SV RCCBs

Thermal overload protection (only relevant for Austria)

According to ÖVE/ÖNORM E 8001-1 § 12.1.4, RCCBs must be protected against thermal overload.

Rated current I_n of residual current protective device	Minimum wiring cross-section	Maximum rated current I_n of back-up fuse for overload protection	
		Miniature circuit breakers	Melting fuses
A	mm^2	A	A
5SM3 standard types			
16	1.5	10	10
	2.5	16	16
25	2.5	16	16
	4.0	25	25
40	6.0	25	25
	10.0	32	35
63	10.0	40	40
	16.0	50	50
80	16.0	63	50
	25.0	80	63
100	35.0	80	80
	50.0	100	100
125	35.0	80	80
	50.0	100	100
5SM3 ...-.LA special types, can be protected against overload with rated current			
40	6.0	32	35 (25 at 2 MW mounting width)
	10.0	40	40 (35 at 2 MW mounting width)
63	10.0	50	50
	16.0	63	63

Rated current I_n of residual current protective device	Minimum wiring cross-section	Maximum rated current I_n of back-up fuse for overload protection	
		Miniature circuit breakers	Melting fuses
A	mm^2	A	A
5SV standard types			
16	1.5	10	10
	2.5	16	16
25	2.5	16	16
	4.0	25	25
40	6.0	25	25
	10.0	32	35
63	10.0	40	40
	16.0	50	50
80	16.0	63	63
	25.0	63	63
5SV ...-.LA special types, can be protected against overload with rated current			
40	6.0	32	35
	10.0	40	40
63	10.0	50	50
	16.0	63	63

System dimensioning (e.g. taking into account rated load factors) must be such that the rated current of the RCCB is not exceeded by a continuous load.

The specified protective devices for thermal overload protection are designed to protect the RCCB against damage in unforeseen and non-permissible plant states.

Application

- Personnel, material and fire protection
  - $I_{\Delta n} \leq$ 30 mA: additional protection in case of direct contact
  - $I_{\Delta n} \leq$ 300 mA: preventive fire protection in the case of ground fault currents
- Product standards: ÖVE/ÖNORM EN 61008; ÖVE/ÖNORM E 8601
- U_n 230/400 V; 50 to 60 Hz; for use in systems up to: 240/415 V AC
- G G type: at least 10 ms trip delay. High surge current withstand capability: > 3 kA.

Minimum order quantity (PS) or a multiple thereof can be ordered.

Selection and ordering data

(Type AC)	Rated residual current	Rated current	Max. permissible short-circuit back-up fuse	Mounting width	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	$I_{\Delta n}$	I_n	10000							
	mA	A	A	MW	d					
RCCBs, type AC, instantaneous										
	1P+N; 230 V AC									
	N connection, right									
	10	16	63	2		**5SV4111-0**		1	1 unit	1AI
	30	16	63	2		**5SV4311-0**		1	1 unit	1AI
		25				**5SV4312-0**		1	1 unit	1AI
			Bulk packaging 36 units			**5SV4312-0GV01**		1	36 units	1AI
		40	63			**5SV4314-0**		1	1 unit	1AI
			Bulk packaging 36 units			**5SV4314-0GV01**		1	36 units	1AI
		63	80			**5SV4316-0**		1	1 unit	1AI
		80				**5SV4317-0**		1	1 unit	1AI
	100	25	63	2		**5SV4412-0**		1	1 unit	1AI
		40				**5SV4414-0**		1	1 unit	1AI
		63	80			**5SV4416-0**		1	1 unit	1AI
		80				**5SV4417-0**		1	1 unit	1AI
	300	25	63	2		**5SV4612-0**		1	1 unit	1AI
		40				**5SV4614-0**		1	1 unit	1AI
		63	80			**5SV4616-0**		1	1 unit	1AI
		80				**5SV4617-0**		1	1 unit	1AI
	3P+N; 400 V AC									
	N connection, right									
	30	25	80	4		**5SV4342-0**		1	1 unit	1AI
			Bulk packaging 18 units			**5SV4342-0GV01**		1	18 units	1AI
		40	80			**5SV4344-0**		1	1 unit	1AI
			Bulk packaging 18 units			**5SV4344-0GV01**		1	18 units	1AI
		63	100			**5SV4346-0**		1	1 unit	1AI
		80				**5SV4347-0**		1	1 unit	1AI
	100	25	80	4		**5SV4442-0**		1	1 unit	1AI
		40				**5SV4444-0**		1	1 unit	1AI
		63	100			**5SV4446-0**		1	1 unit	1AI
		80				**5SV4447-0**		1	1 unit	1AI
	300	25	80	4		**5SV4642-0**		1	1 unit	1AI
		40				**5SV4644-0**		1	1 unit	1AI
		63	100			**5SV4646-0**		1	1 unit	1AI
		80				**5SV4647-0**		1	1 unit	1AI
	500	25	80	4		**5SV4742-0**		1	1 unit	1AI
		40				**5SV4744-0**		1	1 unit	1AI
		63	100			**5SV4746-0**		1	1 unit	1AI
		80				**5SV4747-0**		1	1 unit	1AI
	1P+N; 230 V AC									
	N connection, left									
	10	16	63	2		**5SV4111-0KL**		1	1 unit	1AI
	30	16	63	2		**5SV4311-0KL**		1	1 unit	1AI
		25				**5SV4312-0KL**		1	1 unit	1AI
		40				**5SV4314-0KL**		1	1 unit	1AI
			Bulk packaging 36 units			**5SV4314-0GV02**		1	36 units	1AI
		63	80			**5SV4316-0KL**		1	1 unit	1AI
		80				**5SV4317-0KL**		1	1 unit	1AI
	100	40	63	2		**5SV4414-0KL**		1	1 unit	1AI
		63	80			**5SV4416-0KL**		1	1 unit	1AI
	300	25	63	2		**5SV4612-0KL**		1	1 unit	1AI
		40				**5SV4614-0KL**		1	1 unit	1AI
		63	80			**5SV4616-0KL**		1	1 unit	1AI
		80				**5SV4617-0KL**		1	1 unit	1AI
	3P+N; 400 V AC									
	N connection, left									
	30	25	80	4		**5SV4342-0KL**		1	1 unit	1AI
		40				**5SV4344-0KL**		1	1 unit	1AI
		63				**5SV4346-0KL**		1	1 unit	1AI
		80				**5SV4347-0KL**		1	1 unit	1AI
	300	25	80	4		**5SV4642-0KL**		1	1 unit	1AI
		40				**5SV4644-0KL**		1	1 unit	1AI
		63				**5SV4646-0KL**		1	1 unit	1AI
		80				**5SV4647-0KL**		1	1 unit	1AI

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Minimum order quantity (PS) or a multiple thereof can be ordered.

5SV RCCBs

(Type AC)	Rated residual current	Rated current	Max. permissible short-circuit back-up fuse	Mounting width	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	$I_{\Delta n}$	I_n	10000							
	mA	A	A	MW	d					
RCCBs, type AC, instantaneous High surge current withstand capability: > 1 kA (only available in Austria)[1)]										
	**1P+N; 230 V AC**									
	N connection, right									
	30	40	63	2		**5SV4314-0LA**		1	1 unit	1AI
	**3P+N; 400 V AC**									
	N connection, right									
	30	40	80	4		**5SV4344-0LA**		1	1 unit	1AI
		63	100			**5SV4346-0LA**		1	1 unit	1AI
	100	40	80			**5SV4444-0LA**		1	1 unit	1AI
		63	100			**5SV4446-0LA**		1	1 unit	1AI
RCCBs, type AC, short-time delayed G										
	**1P+N; 230 V AC**									
	N connection, right									
	30	40	63	2		**5SV4314-0LA01**		1	1 unit	1AI
	**3P+N, 400 V AC**									
	N connection, right									
	30	40	100	4		**5SV4344-0LA01**		1	1 unit	1AI
		63				**5SV4346-0LA01**		1	1 unit	1AI
	100	40				**5SV4444-0LA01**		1	1 unit	1AI
		63				**5SV4446-0LA01**		1	1 unit	1AI

[1)] Thermal overload protection according to ÖVE/ÖNORM E 8001 possible up to rated current of the RCCB (40 A, 63 A).

Minimum order quantity (PS) or a multiple thereof can be ordered.

(Type A)	Rated residual current	Rated current	Max. permissible short-circuit back-up fuse	Mounting width	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	$I_{\Delta n}$	I_n	10000							
	mA	A	A	MW	d					
RCCBs, type A, instantaneous										
	1P+N; 230 V AC									
	N connection, right									
	10	16	63	2		**5SV3111-6**		1	1 unit	1AH
	30	16	63	2		**5SV3311-6**		1	1 unit	1AH
			Bulk packaging 36 units			**5SV3311-6GV01**		1	36 units	1AH
		25	63			**5SV3312-6**		1	1 unit	1AH
			Bulk packaging 36 units			**5SV3312-6GV01**		1	36 units	1AH
		40	63			**5SV3314-6**		1	1 unit	1AH
			Bulk packaging 36 units			**5SV3314-6GV01**		1	36 units	1AH
		40 [1]	63			**5SV3314-6LA**		1	1 unit	1AH
		63	80			**5SV3316-6**		1	1 unit	1AH
		80				**5SV3317-6**		1	1 unit	1AH
	100	25	63	2		**5SV3412-6**		1	1 unit	1AH
		40				**5SV3414-6**		1	1 unit	1AH
		63	80			**5SV3416-6**		1	1 unit	1AH
		80				**5SV3417-6**		1	1 unit	1AH
	300	25	63	2		**5SV3612-6**		1	1 unit	1AH
		40				**5SV3614-6**		1	1 unit	1AH
		63	80			**5SV3616-6**		1	1 unit	1AH
		80				**5SV3617-6**		1	1 unit	1AH
	3P+N; 400 V AC									
	N connection, right									
	30	25	80	4		**5SV3342-6**		1	1 unit	1AH
			Bulk packaging 18 units			**5SV3342-6GV01**		1	18 units	1AH
		40	80			**5SV3344-6**		1	1 unit	1AH
			Bulk packaging 18 units			**5SV3344-6GV01**		1	18 units	1AH
		40 [1]	80			**5SV3344-6LA**		1	1 unit	1AH
		63	100			**5SV3346-6**		1	1 unit	1AH
			Bulk packaging 18 units			**5SV3346-6GV01**		1	18 units	1AH
		63 [1]	80			**5SV3346-6LA**		1	1 unit	1AH
		80	100			**5SV3347-6**		1	1 unit	1AH
	100	25	80	4		**5SV3442-6**		1	1 unit	1AH
		40				**5SV3444-6**		1	1 unit	1AH
		40 [1]	80			**5SV3444-6LA**		1	1 unit	1AH
		63	100			**5SV3446-6**		1	1 unit	1AH
		63 [1]	100			**5SV3446-6LA**		1	1 unit	1AH
		80				**5SV3447-6**		1	1 unit	1AH
	300	25	80	4		**5SV3642-6**		1	1 unit	1AH
		40				**5SV3644-6**		1	1 unit	1AH
		63	100			**5SV3646-6**		1	1 unit	1AH
		80				**5SV3647-6**		1	1 unit	1AH
	500	25	80	4		**5SV3742-6**		1	1 unit	1AH
		40				**5SV3744-6**		1	1 unit	1AH
		63	100			**5SV3746-6**		1	1 unit	1AH
			Bulk packaging 18 units			**5SV3746-6GV01**		1	18 units	1AH
		80				**5SV3747-6**		1	1 unit	1AH
	1P+N; 230 V AC									
	N connection, left									
	10	16	63	2		**5SV3111-6KL**		1	1 unit	1AH
	30	16	63	2		**5SV3311-6KL**		1	1 unit	1AH
		25				**5SV3312-6KL**		1	1 unit	1AH
		40				**5SV3314-6KL**		1	1 unit	1AH
		63	80			**5SV3316-6KL**		1	1 unit	1AH
		80				**5SV3317-6KL**		1	1 unit	1AH
	100	25	63	2		**5SV3412-6KL**		1	1 unit	1AH
		40				**5SV3414-6KL**		1	1 unit	1AH
		63	80			**5SV3416-6KL**		1	1 unit	1AH
		80				**5SV3417-6KL**		1	1 unit	1AH
	300	25	63	2		**5SV3612-6KL**		1	1 unit	1AH
		40				**5SV3614-6KL**		1	1 unit	1AH
		63	80			**5SV3616-6KL**		1	1 unit	1AH
		80				**5SV3617-6KL**		1	1 unit	1AH

[1] Thermal overload protection according to ÖVE/ÖNORM E 8001 possible up to rated current of the RCCB (40 A, 63 A).
These products are only available in Austria!

5SV RCCBs

(Type A)	Rated residual current	Rated current	Max. permissible short-circuit back-up fuse	Mounting width	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	$I_{\Delta n}$	I_n	10000							
	mA	A	A	MW	d					
	**3P+N; 400 V AC**									
	N connection, left									
	30	25	80	4		**5SV3342-6KL**		1	1 unit	1AH
		40				**5SV3344-6KL**		1	1 unit	1AH
		Bulk packaging 18 units				**5SV3344-6GV02**		1	18 units	1AH
		63	80			**5SV3346-6KL**		1	1 unit	1AH
		80				**5SV3347-6KL**		1	1 unit	1AH
	300	25	80	4		**5SV3642-6KL**		1	1 unit	1AH
		40				**5SV3644-6KL**		1	1 unit	1AH
		63				**5SV3646-6KL**		1	1 unit	1AH
		80				**5SV3647-6KL**		1	1 unit	1AH
	500	63	80	4		**5SV3746-6KL**		1	1 unit	1AH
RCCBs, type A, short-time delayed G (only available in Austria)[1]										
	**2P, 125 ... 230 V AC**									
	N connection, right									
	30	40[1]	63	2		**5SV3314-6LA01**		1	1 unit	1AH
	**4P, 230 ... 400 V AC**									
	N connection, right									
	30	40[2]	100	4		**5SV3344-6LB01**				
		40[1]				**5SV3344-6LA01**		1	1 unit	1AH
		63[2]				**5SV3346-6LB01**				
		63[1]				**5SV3346-6LA01**		1	1 unit	1AH
	100	40[2]	100	4		**5SV3444-6LB01**				
		40[1]				**5SV3444-6LA01**		1	1 unit	1AH
		63[2]				**5SV3446-6LB01**				
		63[1]				**5SV3446-6LA01**		1	1 unit	1AH
RCCBs, type A, super resistant K										
	**1P+N; 230 V AC**									
	N connection, right									
	30	25	63	2		**5SV3312-6KK01**		1	1 unit	1AH
		40				**5SV3314-6KK01**		1	1 unit	1AH
		63	80			**5SV3316-6KK01**		1	1 unit	1AH
		80				**5SV3317-6KK01**		1	1 unit	1AH
	300	25	63	2		**5SV3612-6KK01**		1	1 unit	1AH
		40				**5SV3614-6KK01**		1	1 unit	1AH
		63	80			**5SV3616-6KK01**		1	1 unit	1AH
		80				**5SV3617-6KK01**		1	1 unit	1AH
	**3P+N; 400 V AC**									
	N connection, right									
	30	25	100	4		**5SV3342-6KK01**		1	1 unit	1AH
		40				**5SV3344-6KK01**		1	1 unit	1AH
		63				**5SV3346-6KK01**		1	1 unit	1AH
		80				**5SV3347-6KK01**		1	1 unit	1AH
	300	25	100	4		**5SV3642-6KK01**		1	1 unit	1AH
		40				**5SV3644-6KK01**		1	1 unit	1AH
		63				**5SV3646-6KK01**		1	1 unit	1AH
		80				**5SV3647-6KK01**		1	1 unit	1AH
RCCBs, type A, selective S										
	**1P+N; 230 V AC**									
	N connection, right									
	100	63	80	2		**5SV3416-8**		1	1 unit	1AH
	300	25	63	2		**5SV3612-8**		1	1 unit	1AH
		40				**5SV3614-8**		1	1 unit	1AH
		63	80			**5SV3616-8**		1	1 unit	1AH
		80				**5SV3617-8**		1	1 unit	1AH

[1] Thermal overload protection according to ÖVE/ÖNORM E 8001 possible up to rated current of the RCCB (40 A, 63 A).
These products are only available in Austria!

[2] Start of delivery scheduled for 1st quarter 2018

(Type A) ÖVE	Rated residual current	Rated current	Max. permissible short-circuit back-up fuse	Mounting width	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	$I_{\Delta n}$	I_n	10000							
	mA	A	A	MW	d					
	**3P+N; 400 V AC**									
	N connection, right									
	100	40	100	4		**5SV3444-8**		1	1 unit	1AH
		40 [1]				**5SV3444-8LA**		1	1 unit	1AH
		63				**5SV3446-8**		1	1 unit	1AH
		63 [1]				**5SV3446-8LA**		1	1 unit	1AH
	300	25	100	4		**5SV3642-8**		1	1 unit	1AH
		40				**5SV3644-8**		1	1 unit	1AH
		40 [1]				**5SV3644-8LA**		1	1 unit	1AH
		63				**5SV3646-8**		1	1 unit	1AH
		63 [1]				**5SV3646-8LA**		1	1 unit	1AH
		80				**5SV3647-8**		1	1 unit	1AH
	1000	63	100	4		**5SV3846-8**		1	1 unit	1AH
	**1P+N; 230 V AC**									
	N connection, left									
	300	40	63	2		**5SV3614-8KL**		1	1 unit	1AH
		63	80			**5SV3616-8KL**		1	1 unit	1AH
	**3P+N; 400 V AC**									
	N connection, left									
	300	63	80	4		**5SV3646-8KL**		1	1 unit	1AH
RCCBs, type A, SIGRES, instantaneous										
	**1P+N; 230 V AC**									
	N connection, right									
	30	16	63	2		**5SV3311-6KK12**		1	1 unit	1AH
		25				**5SV3312-6KK12**		1	1 unit	1AH
		40				**5SV3314-6KK12**		1	1 unit	1AH
		63	80			**5SV3316-6KK12**		1	1 unit	1AH
	**3P+N; 400 V AC**									
	N connection, right									
	30	25	100	4		**5SV3342-6KK12**		1	1 unit	1AH
		40				**5SV3344-6KK12**		1	1 unit	1AH
		63				**5SV3346-6KK12**		1	1 unit	1AH
		80				**5SV3347-6KK12**		1	1 unit	1AH
	300	25	100	4		**5SV3642-6KK12**		1	1 unit	1AH
		40				**5SV3644-6KK12**		1	1 unit	1AH
		63				**5SV3646-6KK12**		1	1 unit	1AH
		80				**5SV3647-6KK12**		1	1 unit	1AH
RCCBs, type A, SIGRES, selective S										
	3P+N; 400 V AC									
	N connection, right									
	300	63	100	4		**5SV3646-8KK12**		1	1 unit	1AH

[1] Thermal overload protection according to ÖVE/ÖNORM E 8001 possible up to rated current of the RCCB (40 A, 63 A).
These products are only available in Austria!

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Selection and ordering data

(Type F)	Rated residual current	Rated current	Max. permissible short-circuit back-up fuse	Mounting width	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	$I_{\Delta n}$	I_n	10000							
	mA	A	A	MW	d					
RCCBs, type F, super resistant K										
	**1P + N; 230 V AC**									
	N connection, right									
	30	25	63	2		**5SV3312-3**		1	1 unit	1AH
		40				**5SV3314-3**		1	1 unit	1AH
		63	80			**5SV3316-3**		1	1 unit	1AH
		80				**5SV3317-3**		1	1 unit	1AH
	300	25	63	2		**5SV3612-3**		1	1 unit	1AH
		40				**5SV3614-3**		1	1 unit	1AH
		63	80			**5SV3616-3**		1	1 unit	1AH
		80				**5SV3617-3**		1	1 unit	1AH
	**3P + N; 400 V AC**									
	N connection, right									
	30	25	100	4		**5SV3342-3**		1	1 unit	1AH
		40				**5SV3344-3**		1	1 unit	1AH
		63				**5SV3346-3**		1	1 unit	1AH
		80				**5SV3347-3**		1	1 unit	1AH
	300	25	100	4		**5SV3642-3**		1	1 unit	1AH
		40				**5SV3644-3**		1	1 unit	1AH
		63				**5SV3646-3**		1	1 unit	1AH
		80				**5SV3647-3**		1	1 unit	1AH
RCCBs, type F, selective S										
	**1P + N; 230 V AC**									
	N connection, right									
	300	40	63	2		**5SV3614-7**		1	1 unit	1AH
		80	80			**5SV3617-7**		1	1 unit	1AH
	**3P + N; 400 V AC**									
	N connection, right									
	300	40	100	4		**5SV3644-7**		1	1 unit	1AH
		80				**5SV3647-7**		1	1 unit	1AH

Minimum order quantity (PS) or a multiple thereof can be ordered.

(Type A)	Rated residual current	Rated current	Max. permissible short-circuit back-up fuse	Mounting width	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	$I_{\Delta n}$	I_n	10000							
	mA	A	A	MW	d					
RCCBs, type A, instantaneous										
	**1P+N; 24 ... 125 V AC**									
	N connection, right									
	30	16	63	2		**5SV3311-6KK13**		1	1 unit	1AH
	30	25		2		**5SV3312-6KK13**		1	1 unit	1AH
	30	40		2		**5SV3314-6KK13**		1	1 unit	1AH
	30	63	80	2		**5SV3316-6KK13**		1	1 unit	1AH
	**3P+N; 500 V AC**									
	N connection, right									
	30	25	63	4		**5SV3352-6**		1	1 unit	1AH
	30	40		4		**5SV3354-6**		1	1 unit	1AH
	30	63		4		**5SV3356-6**		1	1 unit	1AH
	30	80	80	4		**5SV3357-6**		1	1 unit	1AH
	300	25	63	4		**5SV3652-6**		1	1 unit	1AH
	300	40		4		**5SV3654-6**		1	1 unit	1AH
	300	63		4		**5SV3656-6**		1	1 unit	1AH
	300	80	80	4		**5SV3657-6**		1	1 unit	1AH
	3P+N; 230 V AC; 400 Hz									
	N connection, right									
	30	25	80	4		**5SV3342-6KK03**		1	1 unit	1AH
	30	40		4		**5SV3344-6KK03**		1	1 unit	1AH

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Overview

RCCBs are used in all systems up to 240/415 V AC. Devices of type AC trip in the event of sinusoidal AC residual currents, type A also trips in the event of pulsating DC residual currents.

In addition, RCCBs type F also detect residual currents with mixed frequencies up to 1 kHz.

RCCBs with a rated residual current of maximum 30 mA are used for personnel, material and fire protection, as well as for protection against direct contact. RCCBs with a rated residual current of 10 mA are primarily used in areas that represent an increased risk for personnel.

Since the introduction of DIN VDE 0100-410, all socket outlet current circuits up to 20 A must also be fitted with residual current protective devices with a rated residual current of max. 30 mA. This also applies to outdoor electrical circuits up to 32 A for the connection of portable equipment.

Devices with a rated residual current of maximum 300 mA are used as preventive fire protection in case of insulation faults. RCCBs with a rated residual current of 100 mA are primarily used in European countries outside German.

Benefits

- Instantaneous RCCBs with the N connection on the left-hand side enable simple bus mounting with standard pin busbars with miniature circuit breakers installed on the right-hand side.
- Instantaneous RCCBs with the N connection on the right-hand side can be bus-mounted with miniature circuit breakers using a special pin busbar.
- Instantaneous type A devices have a surge current withstand capability with current waveform 8/20 µs of more than 1 kA, super resistant devices of more than 3 kA and selective devices of more than 5 kA. This ensures safe operation.
- Super resistant devices increase system availability, as unnecessary tripping is prevented in power supply systems with short-time glitches.
- Selective RCCBs increase system availability as a staggered tripping time enables the selective tripping of RCCBs connected in series in the event of a fault.

Technical specifications

			Instantaneous	Selective
Standards			IEC/DIN EN 61008-1 (VDE 0664-10); IEC/EN 61008-2-1 (VDE 0664-11); IEC/EN 61543 (VDE 0664-30); IEC/EN 62423 (VDE 0664-40)	
Surge current withstand capability				
• Type A with current waveform 8/20 µs	Acc. to EN 60060-2 (VDE 0432-2)	kA	> 1	> 5
Minimum operational voltage for test function operation		V AC	195	
Test cycles			1/2 year	
Insulation coordination				
• Overvoltage category			III	
Pollution degree			2	
Terminal conductor cross-sections				
• 2 MW	I_n = 100 A, 125 A	mm^2	1.5 ... 50	
• 4 MW	I_n = 100 A, 125 A	mm^2	2.5 ... 50	
Terminal tightening torque				
• I_n = 100 A, 125 A		Nm	3.0 ... 3.5	
Mains connection			Top or bottom	
Mounting position (on a standard mounting rail)			Any	
Degree of protection	Acc. to EN 60529 (VDE 0470-1)		IP20, if the distribution board is installed, with connected conductors	
Touch protection	Acc. to EN 50274 (VDE 0660-514)		Finger and back-of-hand safe	
Service life	Average number of switching cycles		> 10000	
Storage temperature		°C	-40 ... +75	
Ambient temperature		°C	-25 ... +45, marked with -25	
Resistance to climate	Acc. to IEC 60068-2-30		28 cycles (55 °C; 95% rel. air humidity)	
CFC and silicone-free			Yes	

Minimum order quantity (PS) or a multiple thereof can be ordered.

Selection and ordering data

(Type AC)	Rated residual current	Rated current	Max. permissible short-circuit back-up fuse	Mounting width	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	$I_{\Delta n}$	I_n	10000							
	mA	A	A	MW	d					
RCCBs, type AC, instantaneous										
	1P+N; 230 V AC									
	N connection, right									
	30	100	125	2		**5SM3318-0KK**		1	1 unit	1AI
		125				**5SM3315-0KK**		1	1 unit	1AI
	100	100	125			**5SM3418-0KK**		1	1 unit	1AI
		125				**5SM3415-0KK**		1	1 unit	1AI
	300	100	125			**5SM3618-0KK**		1	1 unit	1AI
		125				**5SM3615-0KK**		1	1 unit	1AI
	3P+N; 400 V AC									
	N connection, right									
	30	100	100	4		**5SM3348-0**		1	1 unit	1AI
		125	125			**5SM3345-0**		1	1 unit	1AI
	100	100	100		►	**5SM3448-0**		1	1 unit	1AI
		125	125			**5SM3445-0**		1	1 unit	1AI
	300	100	100			**5SM3648-0**		1	1 unit	1AI
		125	125			**5SM3645-0**		1	1 unit	1AI
	500	100	100		►	**5SM3748-0**		1	1 unit	1AI
		125	125			**5SM3745-0**		1	1 unit	1AI
RCCBs, type AC, selective										
	3P+N, 400 V AC									
	N connection, right									
	300	100	100	4		**5SM3648-2**		1	1 unit	1AI

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Minimum order quantity (PS) or a multiple thereof can be ordered.

5SM3 RCCBs

(Type A)	Rated residual current	Rated current	Max. permissible short-circuit back-up fuse	Mounting width	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	$I_{\Delta n}$	I_n	10000							
	mA	A	A	MW	d					
RCCBs, type A, instantaneous										
	**1P+N; 230 V AC; 50 Hz**									
	N connection, right									
	30	100	125			**5SM3318-6KK**		1	1 unit	1AH
		125				**5SM3315-6KK**		1	1 unit	1AH
	100	100	125			**5SM3418-6KK**		1	1 unit	1AH
		125				**5SM3415-6KK**		1	1 unit	1AH
	300	100	125			**5SM3618-6KK**		1	1 unit	1AH
		125				**5SM3615-6KK**		1	1 unit	1AH
	**3P+N, 400 V AC; 50 Hz**									
	N connection, right									
	30	100	100		▶	**5SM3348-6**		1	1 unit	1AH
		125	125			**5SM3345-6**		1	1 unit	1AH
	100	100	100		▶	**5SM3448-6**		1	1 unit	1AH
		125	125			**5SM3445-6**		1	1 unit	1AH
	300	100	100		▶	**5SM3648-6**		1	1 unit	1AH
		125	125			**5SM3645-6**		1	1 unit	1AH
	500	100	100		▶	**5SM3748-6**		1	1 unit	1AH
		125	125			**5SM3745-6**		1	1 unit	1AH
RCCBs, type A, selective S										
	**3P+N, 400 V AC; 50 Hz**									
	N connection, right									
	300	100	100	4		**5SM3648-8**		1	1 unit	1AH
		125	125			**5SM3645-8**		1	1 unit	1AH
	500	125	125	4		**5SM3745-8**		1	1 unit	1AH

Minimum order quantity (PS) or a multiple thereof can be ordered.

Overview

Frequency converters, medical devices and UPS systems are seeing increasing use in industry. Smooth DC residual currents or currents with low residual ripple may occur in the event of faults on these devices.

Type A residual current protective devices are unable to detect these smooth DC residual currents. Furthermore, such smooth DC residual currents make type A devices increasingly insensitive to AC residual currents and pulsating DC residual currents. If a fault occurs, there is therefore no tripping and the desired protective function is no longer assured.

UC-sensitive residual current protective devices of types B and B+ have an additional transformer which is supplied with a control signal. This enables an evaluation of the change of the transformer's operating range caused by smooth DC residual currents, thus ensuring the desired protective function.

The residual current protective devices of type B are suitable for use in three-phase current systems before input circuits with rectifiers. They are not intended for use in DC systems and in networks with operating frequencies other than 50 Hz or 60 Hz.

The devices in this series are designed as residual current operated circuit breakers (RCCBs) up to 80 A and as residual current circuit breakers with integral overcurrent protection (RCBOs) for 100 A or 125 A in Characteristics C or D.

Type B+ residual current protective devices also offer enhanced, preventive fire protection. In these versions, the tripping value is limited to a maximum of 420 mA up to 20 kHz.

All universal current-sensitive RCCBs, type B or B+ are now also available in a SIGRES version, meaning they are also ideal for use in harsh ambient conditions.

When used in ambient conditions as defined in product standard EN 61008-1, the operation interval for pressing the test button can be extended to once a year.

Benefits

- Universal current-sensitive residual current protective devices detect not only AC residual currents and pulsating DC residual currents, but also smooth DC residual currents, thus ensuring the desired protective function with all types of residual current
- With type B, the tripping characteristic is adapted to suit the increase of leakage currents at higher frequencies in systems with capacitive impedances, thus ensuring greater operating safety
- Type B+ versions offer enhanced preventive fire protection and correspond to the prestandards DIN V VDE V 0664-110 and/or DIN V VDE V 0664-210 and VdS Directive 3501
- The RCBO is a compact device for up to 125 A. It provides not only personnel, material and fire protection but also overload and short-circuit protection for cables. This reduces wiring and mounting outlay
- The RCBOs offer external remote tripping over terminals Y1/Y2. This supports implementation of central OFF circuits

Technical specifications

		SIQUENCE, 5SM3 RCCBs, type B and type B+		SIQUENCE, 5SU1 RCBOs type B and type B+
Standards		IEC/EN 62423 (VDE 0664-40); IEC/EN 61543 (VDE 0664-30); additionally applicable for type B+ DIN VDE 0664-400		IEC/EN 62423 (VDE 0664-40); IEC/EN 61543 (VDE 0664-30); additionally applicable for type B+ DIN VDE 0664-401
Versions		1P+N	3P+N	4P
Tripping characteristic		--	--	C, D
Surge current withstand capability With current waveform 8/20 µs acc. to EN 60060-2 (VDE 0432-2)				
• Super resistant	kA	> 3	> 3	> 3
• Selective	kA	--	> 5	> 5
Minimum operational voltage for test function operation	V AC	195	195	195
Rated voltages U_n	V AC	230	400	400, 480
Rated frequency f_n	Hz	50 ... 60		
Rated currents I_n	A	16, 25, 40, 63	25, 40, 63, 80	100, 125
Rated residual currents $I_{\Delta n}$	mA	30, 300	30, 300, 500	30, 300
Rated breaking capacity				
• I_m	A	800		--
• I_{cn}	kA	--		10
Insulation coordination				
• Overvoltage category		III		
Conductor cross-sections				
• Solid and stranded	mm^2	1.5 ... 25		6 ... 50
• Finely stranded, with end sleeve	mm^2	1.5 ... 16		6 ... 35
Terminal tightening torque For all devices	Nm	2.5 ... 3.0		3.0 ... 3.5
Mains connection		Optionally top or bottom (bottom for the SIGRES function to also be effective in the deactivated state)		
Mounting position (on a standard mounting rail)		Any		
Degree of protection according to EN 60529 (VDE 0470-1)		IP20, if the distribution board is installed, with connected conductors		
Touch protection Acc. to EN 50274 (VDE 0660-514)		Finger and back-of-hand safe		
Service life Average number of switching cycles		> 10000 switching cycles		
Storage temperature	°C	-40 ... +75		
Ambient temperature	°C	-25 ... +45, marked with 		
Resistance to climate acc. to IEC 60068-2-30		28 cycles (55 °C; 95% rel. air humidity)		
CFC and silicone-free		Yes		

For details of I^2 characteristics, see Configuration Manual "Residual Current Protective Devices/Arc Fault Detection Devices (AFDDs)" at: www.siemens.com/lowvoltage/manuals

Power losses per conducting path under rated current load

Note:
0.4 W per unit must be added for SIGRES versions.

Number of poles	Rated current	Rated residual current $I_{\Delta n}$ [mA]	Power losses per conducting path P_v [W]
2/4	16	30/300	0.17
	25	30/300	0.42
	40	30/300	1.09
	63	30/300/500	2.7
	80	30/300/500	4.35

Minimum order quantity (PS) or a multiple thereof can be ordered.

Selection and ordering data

(Type B/type B+)	Rated residual current	Rated current	Max. permissible short-circuit back-up fuse	Mounting width	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	$I_{\Delta n}$	I_n	10000							
	mA	A	A	MW	d					
SIQUENCE RCCBs, type B, super resistant K										
	**1P+N; 230 V AC; 50 ... 60 Hz**									
	30	16	100	4		**5SM3321-4**		1	1 unit	1AJ
		25				**5SM3322-4**		1	1 unit	1AJ
		40				**5SM3324-4**		1	1 unit	1AJ
		63				**5SM3326-4**		1	1 unit	1AJ
	300	16	100	4		**5SM3621-4**		1	1 unit	1AJ
		25				**5SM3622-4**		1	1 unit	1AJ
		40				**5SM3624-4**		1	1 unit	1AJ
		63				**5SM3626-4**		1	1 unit	1AJ
	**3P+N; 230 ... 400 V AC; 50 ... 60 Hz**									
	30	25	100	4		**5SM3342-4**		1	1 unit	1AJ
		40				**5SM3344-4**		1	1 unit	1AJ
		63				**5SM3346-4**		1	1 unit	1AJ
		80				**5SM3347-4**		1	1 unit	1AJ
	300	25	100	4		**5SM3642-4**		1	1 unit	1AJ
		40				**5SM3644-4**		1	1 unit	1AJ
		63				**5SM3646-4**		1	1 unit	1AJ
		80				**5SM3647-4**		1	1 unit	1AJ
	500	63	100	4		**5SM3746-4**		1	1 unit	1AJ
		80				**5SM3747-4**		1	1 unit	1AJ
SIQUENCE RCCBs, type B, selective S										
	**3P+N; 230 ... 400 V AC; 50 ... 60 Hz**									
	300	63	100	4		**5SM3646-5**		1	1 unit	1AJ
		80				**5SM3647-5**		1	1 unit	1AJ
	500	63	100	4		**5SM3746-5**		1	1 unit	1AJ
		80				**5SM3747-5**		1	1 unit	1AJ
SIQUENCE RCCBs, type B+, super resistant K										
	**1P+N; 230 V AC; 50 ... 60 Hz**									
	30	16	100	4		**5SM3321-4KK14**		1	1 unit	1AJ
		25				**5SM3322-4KK14**		1	1 unit	1AJ
		40				**5SM3324-4KK14**		1	1 unit	1AJ
		63				**5SM3326-4KK14**		1	1 unit	1AJ
	300	16	100	4		**5SM3621-4KK14**		1	1 unit	1AJ
		25				**5SM3622-4KK14**		1	1 unit	1AJ
		40				**5SM3624-4KK14**		1	1 unit	1AJ
		63				**5SM3626-4KK14**		1	1 unit	1AJ
	**3P+N; 230 ... 400 V AC; 50 ... 60 Hz**									
	30	25	100	4		**5SM3342-4KK14**		1	1 unit	1AJ
		40				**5SM3344-4KK14**		1	1 unit	1AJ
		63				**5SM3346-4KK14**		1	1 unit	1AJ
		80				**5SM3347-4KK14**		1	1 unit	1AJ
	300	25	100	4		**5SM3642-4KK14**		1	1 unit	1AJ
		40				**5SM3644-4KK14**		1	1 unit	1AJ
		63				**5SM3646-4KK14**		1	1 unit	1AJ
		80				**5SM3647-4KK14**		1	1 unit	1AJ
SIQUENCE RCCBs, type B+, selective S										
	**3P+N; 230 ... 400 V AC; 50 ... 60 Hz**									
	300	63	100	4		**5SM3646-5KK14**		1	1 unit	1AJ
		80				**5SM3647-5KK14**		1	1 unit	1AJ

4

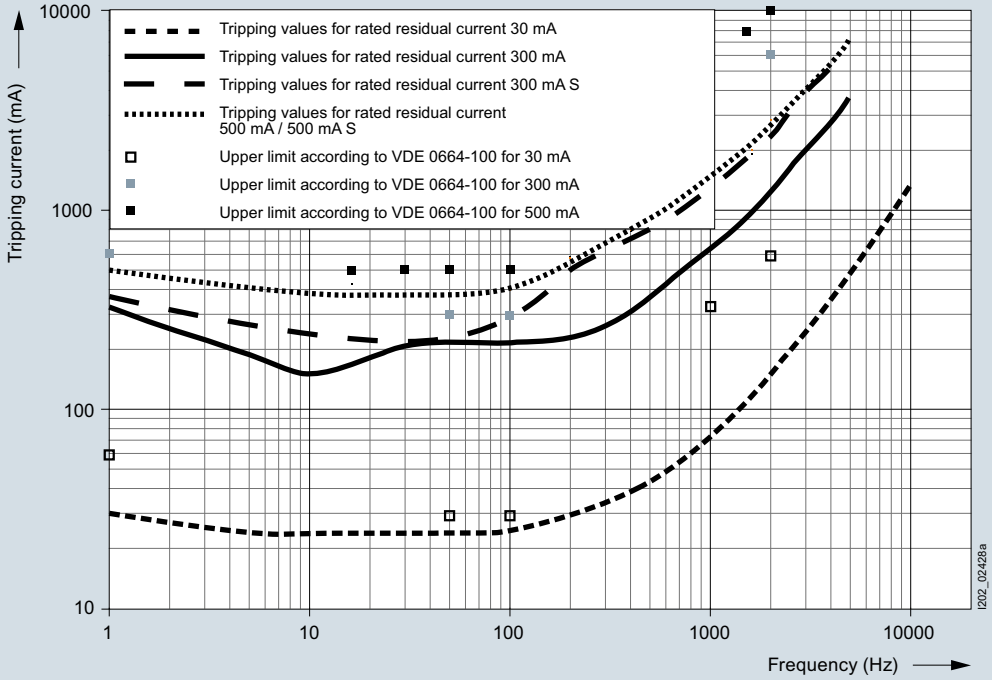
Minimum order quantity (PS) or a multiple thereof can be ordered.

SIQUENCE 5SM3/5SU1 universal current-sensitive RCCBs, type B and type B+

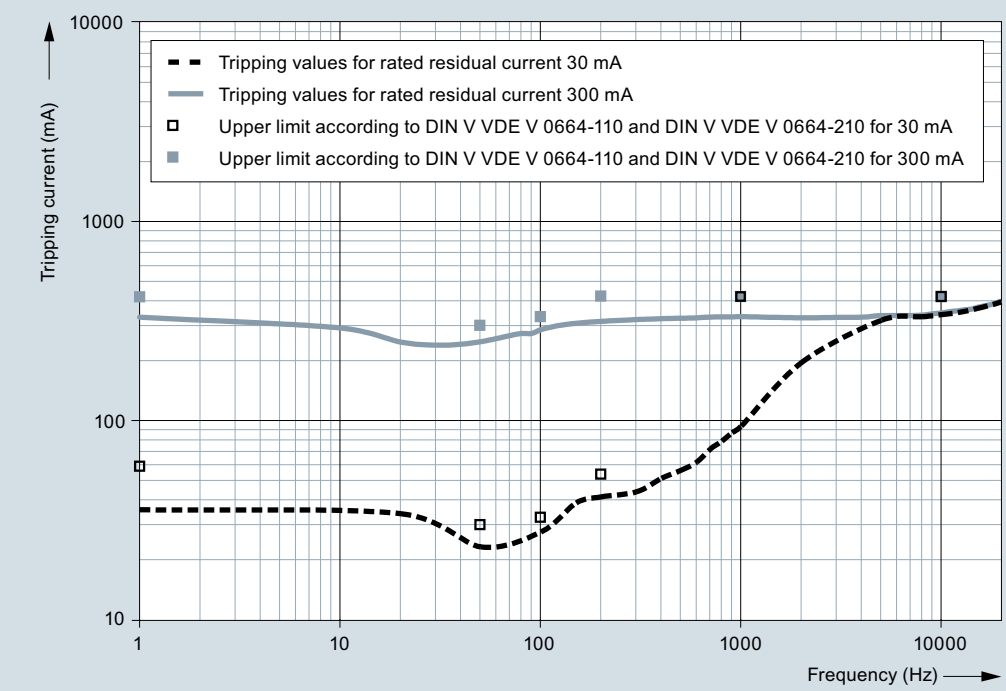
(Type B/type B+)	Rated residual current	Rated current	Max. permissible short-circuit back-up fuse	Mounting width	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	$I_{\Delta n}$	I_n	10000							
	mA	A	A	MW	d					
SIQUENCE RCBOs, type B, super resistant K, rated breaking capacity 10 kA										
	**4P, 400 V AC, 50 ... 60 Hz**									
	Characteristic C									
	30	100	--	11		**5SU1374-7AK81**		1	1 unit	1BD
		125				**5SU1374-7AK82**		1	1 unit	1BD
	300	100	--	11		**5SU1674-7AK81**		1	1 unit	1BD
		125				**5SU1674-7AK82**		1	1 unit	1BD
	Characteristic D									
	30	100	--	11		**5SU1374-8AK81**		1	1 unit	1BD
	300	100	--	11		**5SU1674-8AK81**		1	1 unit	1BD
	4P, 480 V AC, 50 ... 60 Hz									
	Characteristic C									
	300	100	--	11		**5SU1674-7CK81**		1	1 unit	1BD
		125				**5SU1674-7CK82**		1	1 unit	1BD
SIQUENCE RCBOs, type B, selective S, rated breaking capacity 10 kA										
	**4P, 400 V AC, 50 ... 60 Hz**									
	Characteristic C									
	300	125	--	11		**5SU1674-7BK82**		1	1 unit	1BD
	Characteristic D									
	300	100	--	11		**5SU1674-8BK81**		1	1 unit	1BD
SIQUENCE RCBOs, type B+, super resistant K, rated breaking capacity 10 kA										
	**4P, 400 V AC, 50 ... 60 Hz**									
	Characteristic C									
	30	100	--	11		**5SU1374-7DK81**		1	1 unit	1BD
		125				**5SU1374-7DK82**		1	1 unit	1BD
	300	100	--	11		**5SU1674-7DK81**		1	1 unit	1BD
		125				**5SU1674-7DK82**		1	1 unit	1BD
	Characteristic D									
	30	100	--	11		**5SU1374-8DK81**		1	1 unit	1BD
	300	100	--	11		**5SU1674-8DK81**		1	1 unit	1BD
	4P, 480 V AC, 50 ... 60 Hz									
	Characteristic C									
	300	100	--	11		**5SU1674-7FK81**		1	1 unit	1BD
		125				**5SU1674-7FK82**		1	1 unit	1BD
SIQUENCE RCBOs, type B+, selective S, rated breaking capacity 10 kA										
	**4P, 400 V AC, 50 ... 60 Hz**									
	Characteristic C									
	300	125	--	11		**5SU1674-7EK82**		1	1 unit	1BD
	Characteristic D									
	300	100	--	11		**5SU1674-8EK81**		1	1 unit	1BD

Minimum order quantity (PS) or a multiple thereof can be ordered.

Characteristic curves



Tripping current as a function of frequency for type B



Tripping current as a function of frequency for type B+

4

Overview

Auxiliary switches (AS)

The auxiliary switch (AS) always signals the contact position, regardless of whether the RCCB was tripped manually or as the result of a fault. An additional version is also available for the switching of small currents and voltages for the control of programmable control systems (PLCs) according to EN 61131-2. The auxiliary switch with test button enables the testing of control circuits without the need to switch the RCCB.

Fault signal contacts (FC)

The fault signal contact (FC) signals automatic breaking in the event of a fault. If the fault signal contact is activated, the contact position does not change if the RCCB is tripped manually. Fault signal contacts with TEST and RESET buttons enable testing of control circuits without the need to trip the RCCB. The red RESET button integrated in the handle also indicates automatic tripping of the RCCB. The signal can be acknowledged manually using the RESET button.

Shunt trips (ST)

Shunt trips are used for the remote tripping of RCCBs.

Undervoltage releases (UR)

Undervoltage releases are integrated (e.g. in EMERGENCY-STOP loops), thus ensuring tripping in the event of an emergency, which, in turn, ensures disconnection of the control circuit according to EN 60204. In the event that the voltage is interrupted or too low, it also trips, i.e. prevents activation of the RCCB.

Remote controlled mechanisms (RC) NEW

Remote controlled mechanisms are used for the remote ON/OFF switching of miniature circuit breakers with or without RC unit, residual current operated circuit breakers, RCBOs or isolators and also enable local manual switching of these devices.
A tripped combination must be acknowledged prior to switching back on.

The device combination with the automatic restart device (ARD) types tries up to three times to switch on again in the event of a fault. If a fault continues to exist, the combination remains switched off. The remote controlled mechanism has a mode selector switch with the functions: "Locked", "Manual" and "Remote Switching".

Selector switch position:
OFF (for the 177 - 270 V devices): The remote controlled mechanism Power is switched off, blocked mechanically and can be sealed and/or locked.
RC OFF: Only manual operation is possible.
RC ON: Both manual and remote operation are possible (except for in the case of the basic 12 - 48 V devices).

In the event that a device is tripped by a fault, the handle of the basic device and remote controlled mechanism switches to the OFF position. If, depending on the device version, the combination has switched off, an attempt can be made either via ARD or remotely to switch on again. If a fault continues to exist, the combination is switched off and can only be switched on again locally manually.

Matching adapters have to be ordered additionally to enable the remote controlled mechanisms to be combined with the residual current operated circuit breakers, miniature circuit breakers, RCBOs and on/off switches.

Minimum order quantity (PS) or a multiple thereof can be ordered.

Benefits

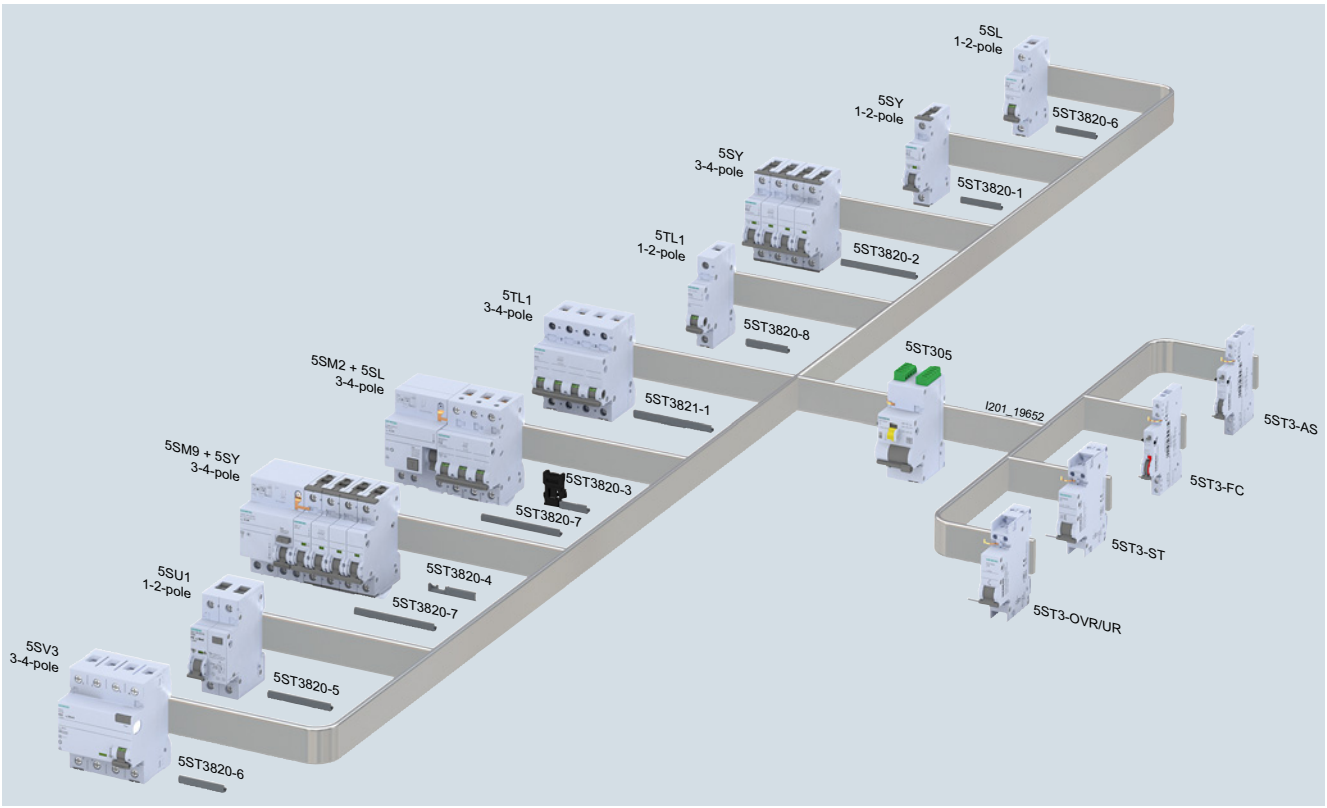
Can be universally retrofitted with all additional components

- Captive metal brackets on the additional components ensure the quick and easy mounting of devices without the need for tools.
- Fault signal contacts with TEST and RESET button enable simple testing of auxiliary circuits and, in the event of a fault, acknowledgement of the fault over the RESET button without the need to switch the RCCBs.
- The auxiliary switches with TEST button enable simple manual testing of control circuits during operation of the entire installation without the need to switch the RCCBs.
- Bus systems, such as *instabus* KNX, AS-Interface bus or PROFIBUS, can be integrated in the communication over binary inputs
- The leakage current measurement device enables the systematic selection of the rated residual current, thus preventing inadvertent tripping of an RCCB.

Remote controlled mechanisms NEW

- Remote controlled mechanisms with ARD and Power have integrated auxiliary switches and fault signal contacts.
- More 5ST3... additional components, such as AS, FC, ST and UR, can be added to the right-hand side of the remote controlled mechanism in line with the Siemens mounting concept.
- The remote controlled mechanisms with ARD and Power have an LED display on the front of the device to show the switching state and for diagnostics.

Portfolio overview



Combination options remote controlled mechanism – adapter – mount-on device

		5SL6/4 1-2-pole	5SL6/4 3-4-pole	5SY4/5/6/7/8 1-2-pole	5SY4/5/6/7/8 3-4-pole	5SY60	5SU1	5SM2 + 5SL 1-2-pole
								
	**RC mech. basic (1.5 MW) – 5ST3053** 12 V - 30 V AC 12 V - 48 V DC	 Adapter 5ST3820-6	 Adapter 5ST3820-7	 Adapter 5ST3820-1	 Adapter 5ST3820-2	 Adapter 5ST3820-1	 up to 3 MW Adapter 5ST3820-5	not compatible
	**RC mech. basic (2 MW) – 5ST3054** 230 V AC	 Adapter 5ST3820-6	 Adapter 5ST3820-7	 Adapter 5ST3820-1	 Adapter 5ST3820-2	 Adapter 5ST3820-1	 up to 3 MW Adapter 5ST3820-5	not compatible
	**RC mech. power (2 MW) – 5ST3055** 12 V - 30 V AC 12 V - 48 V DC	 Adapter 5ST3820-6	 Adapter 5ST3820-7	 Adapter 5ST3820-1	 Adapter 5ST3820-2	 Adapter 5ST3820-1	 Adapter 5ST3820-5	 Adapter 5ST3820-3 add'l 5ST3820-6
	**RC mech. power (2 MW) – 5ST3056** 230 V AC	 Adapter 5ST3820-6	 Adapter 5ST3820-7	 Adapter 5ST3820-1	 Adapter 5ST3820-2	 Adapter 5ST3820-1	 Adapter 5ST3820-5	 Adapter 5ST3820-3 add'l 5ST3820-6
	**RC mech. ARD* (2 MW) – 5ST3057** 12 V - 30 V AC 12 V - 48 V DC	 Adapter 5ST3820-6	 Adapter 5ST3820-7	 Adapter 5ST3820-1	 Adapter 5ST3820-2	 Adapter 5ST3820-1	 Adapter 5ST3820-5	 Adapter 5ST3820-3 add'l 5ST3820-6
	**RC mech. ARD* (2 MW) – 5ST3058** 230 V AC	 Adapter 5ST3820-6	 Adapter 5ST3820-7	 Adapter 5ST3820-1	 Adapter 5ST3820-2	 Adapter 5ST3820-1	 Adapter 5ST3820-5	 Adapter 5ST3820-3 add'l 5ST3820-6

* ARD = Auto Reclose Device

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Additional components

Combination options remote controlled mechanism – adapter – mount-on device (continued)

5SM2 + 5SL 3-4-pole	5SM2 + 5SY 1-2-pole	5SM2 + 5SY 3-4-pole	5SM9 + LS 5SY..CC 1-2-pole	5SM9 + LS 5SY..CC 3-4-pole	5SV3	5TL1 1-2-pole	5TL1 3-4-pole
							
not compatible	not compatible	not compatible	not compatible	not compatible	not compatible	 Adapter 5ST3820-8	 Adapter 5ST3821-1
not compatible	not compatible	not compatible	not compatible	not compatible	not compatible	 Adapter 5ST3820-8	 Adapter 5ST3821-1
 Adapter 5ST3820-3 add'l 5ST3820-7	 Adapter 5ST3820-3 add'l 5ST3820-1	 Adapter 5ST3820-3 add'l 5ST3820-2	 Adapter 5ST3820-4 add'l 5ST3820-6	 Adapter 5ST3820-4 add'l 5ST3820-7	 Adapter 5ST3820-6	 Adapter 5ST3820-8	 Adapter 5ST3821-1
 Adapter 5ST3820-3 add'l 5ST3820-7	 Adapter 5ST3820-3 add'l 5ST3820-1	 Adapter 5ST3820-3 add'l 5ST3820-2	 Adapter 5ST3820-4 add'l 5ST3820-6	 Adapter 5ST3820-4 add'l 5ST3820-7	 Adapter 5ST3820-6	 Adapter 5ST3820-8	 Adapter 5ST3821-1
 Adapter 5ST3820-3 add'l 5ST3820-7	 Adapter 5ST3820-3 add'l 5ST3820-1	 Adapter 5ST3820-3 add'l 5ST3820-2	 Adapter 5ST3820-4 add'l 5ST3820-6	 Adapter 5ST3820-4 add'l 5ST3820-7	 Adapter 5ST3820-6	 Adapter 5ST3820-8	 Adapter 5ST3821-1
 Adapter 5ST3820-3 add'l 5ST3820-7	 Adapter 5ST3820-3 add'l 5ST3820-1	 Adapter 5ST3820-3 add'l 5ST3820-2	 Adapter 5ST3820-4 add'l 5ST3820-6	 Adapter 5ST3820-4 add'l 5ST3820-7	 Adapter 5ST3820-6	 Adapter 5ST3820-8	 Adapter 5ST3821-1

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Minimum order quantity (PS) or a multiple thereof can be ordered.

Technical specifications

		Remote controlled mechanisms NEW					
		5ST3053	**5ST3054**	**5ST3055**	**5ST3056**	**5ST3057**	**5ST3058**
Standards		IEC/EN 62606					
Rated voltages U_n	V AC	12 ... 30	177 ... 270	12 ... 30	177 ... 270	12 ... 30	177 ... 270
	V DC	12 ... 48		12 ... 48		12 ... 48	
• Rated frequency f_n	Hz	50 ... 60					
Rated power dissipation	VA	≤ 1 in standby					
Ambient temperature	°C	-25 ... +45					
Storage temperature	°C	-40 ... +55					
Degree of protection		IP20					
Service life, on average, with rated load		20 000 actuations					
Conductor cross-sections	mm^2 AWG	0.1… 2.5 14 … 30					
Terminals							
• Terminal tightening torque	Nm lb/in	0.2 2.0					
Cable length in the control circuit	m	≤ 1500					
Switching frequency		2 switching cycles per minute					
Number of automatic reclose attempts		--				3	
Integrated auxiliary switches		--		1 NO + 1 NC, 2 A, 250 V			
Integrated fault signal contact		--		1 NO + 1 NC, 2 A, 250 V			
Locking device		No	Yes	Yes	Yes	Yes	Yes

4

4

Selection and ordering data

		Rated voltage	Mounting width MW	SD d	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	**Remote controlled mechanisms (RC mech.)** NEW								
	• Remote controlled mechanisms Basic	12 ... 30 V AC 12 ... 48 V DC	1.5		**5ST3053**		1	1 unit	1AD
		177 ... 270 V AC	2		**5ST3054**		1	1 unit	1AD
	• Remote controlled mechanisms Power	12 ... 30 V AC 12 ... 48 V DC	2		**5ST3055**		1	1 unit	1AD
		177 ... 270 V AC			**5ST3056**		1	1 unit	1AD
	• Remote controlled mechanisms Power with automatic reclose function	12 ... 30 V AC 12 ... 48 V DC	2		**5ST3057**		1	1 unit	1AD
		177 ... 270 V AC			**5ST3058**		1	1 unit	1AD
	Note Matching adapters must be ordered separately.								
	**Accessories for remote controlled mechanisms** NEW								
	• Adapters for 5SY MCBs 1-2-pole				**5ST3820-1**		1	1 unit	1AD
	• Adapters for 5SY MCBs 3-4-pole				**5ST3820-2**		1	1 unit	1AD
	• Adapters for 5SM2 RC units				**5ST3820-3**		1	1 unit	1AD
	• Adapters for 5SU1 RCBOs				**5ST3820-5**		1	1 unit	1AD
	• Adapters for 5SL MCBs 1-2-pole, 5SV3 residual current switches				**5ST3820-6**		1	1 unit	1AD
	• Adapters for 5SL MCBs, 3-4-pole				**5ST3820-7**		1	1 unit	1AD
	• Adapters for 5TL1 ON/OFF switches 1-2-pole				**5ST3820-8**		1	1 unit	1AD
	• Adapters for 5TL1 ON/OFF switches 3-4-pole				**5ST3821-1**		1	1 unit	1AD

Minimum order quantity (PS) or a multiple thereof can be ordered.

Technical specifications

		Auxiliary switches (AS) 5SW330.	Auxiliary switches (AS) 5SW3330
Standards		EN 62019	
Terminals			
• Conductor cross-section	mm^2	0.75 ... 2.5	
• Tightening torque	Nm	0.5	
Short-circuit protection		B6 or C6 or gL/gG 6 A fuse	
Min. contact load		50 mA/24 V	
Max. contact load			
• 230 V AC, AC-12	A	6	5
• 230 V AC, AC-14	A	3.6	--
• 220 V DC, DC-12	A	1	0.5

			Auxiliary switches (AS)		Fault signal contacts (FC)
			5ST3010, 5ST3010-2 5ST3011, 5ST3011-2 5ST3012, 5ST3012-2	5ST3013, 5ST3013-2 5ST3014, 5ST3014-2 5ST3015, 5ST3015-2	5ST3020, 5ST3020-2 5ST3021, 5ST3021-2 5ST3022, 5ST3022-2
Standards			EN 62019; IEC/EN 60947-5-1; UL 1077; CSA C22.2 No. 235		
Approvals			see chapter "Appendix"		
Short-circuit protection			Miniature circuit breakers or gG 6 A fuse		
Contact load					
• Min. • Max.			50 mA, 24 V --	1 mA/5 V DC 50 mA/30 V DC	50 mA, 24 V --
• 400 V AC, AC-14, NO • 230 V AC, AC-14, NO • 400 V AC, AC-13, NC • 230 V AC, AC-13, NC		A A A A	2 6 2 6	-- -- -- --	2 6 2 6
• 220 V DC, DC-13, NO + NC • 110 V DC, DC-13, NO + NC • 60 V DC, DC-13, NO + NC • 24 V DC, DC-13, NO + NC		A A A A	1 1 3 6	-- -- -- --	1 1 3 6
Service life, on average, with rated load			20000 actuations	20000 actuations	20000 actuations
Conductor cross-sections		mm^2 AWG	0.5 ... 2.5 22 ... 14	0.5 ... 2.5 22 ... 14	0.5 ... 2.5 22 ... 14
Terminals					
• Terminal tightening torque		Nm lb/in	0.5 4.5	0.5 4.5	0.5 4.5
Mounting position			Any	Any	Any
Ambient temperature		°C	-25 ... +55	-25 ... +55	-25 ... +55
Storage temperature		°C	-40 ... +75	-40 ... +75	-40 ... +75
Resistance to climate	Acc. to IEC 60068-2-30	Cycles	28		
Shock	Acc. to IEC 60068-2-27	m/s	50 at 11 ms half-sine		
Resistance to vibrations	Acc. to IEC 60068-2-6	m/s^2	50 at 10 ... 150 Hz		

Additional components

			Undervoltage releases (UR)	Shunt trips (ST)	
			5ST304.	5ST3030	5ST3031
Standards			EN 60947-1		
Rated voltages U_n		V AC	230	110 ... 415	24 ... 48
		V DC	24, 110	110	24 ... 48
• Operating range U_n			0.85 ... 1.1 x U_n	0.7 ... 1.1 x U_n	
• Rated frequency f_n		Hz	--	50 ... 60	
Response limits					
• Tripping			< 0.35 ... 0.7 × U_n	--	
Short-circuit protection			Miniature circuit breakers B/C 6 A or fuse gG 6 A		
Minimum contact load			50 mA, 24 V	50 mA, 24 V	
Tripping operations			max. 2000	max. 2000	
Service life, on average, with rated load			20000 actuations	20000 actuations	
Conductor cross-sections		mm^2 AWG	0.5 ... 2.5 22 ... 14	0.5 ... 2.5 22 ... 14	
Terminals					
• Terminal tightening torque		Nm lb/in	0.8 6.8	0.8 6.8	
Mounting position			Any	Any	
Ambient temperature		°C	-25 ... +55	-25 ... +55	
Storage temperature		°C	-40 ... +75	-40 ... +75	
Resistance to climate	Acc. to IEC 60068-2-30	Cycles	28		
Shock	Acc. to IEC 60068-2-27	m/s	50 at 11 ms half-sine		
Resistance to vibrations	Acc. to IEC 60068-2-6	m/s^2	50 at 10 ... 150 Hz		
Switching frequency			--		
Switching duration		s	--		
Minimum command duration		s	--		
Rated power dissipation		VA	--		
Behavior in the event of control voltage failure			--		

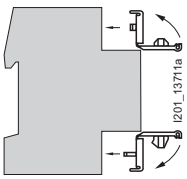
Minimum order quantity (PS) or a multiple thereof can be ordered.

Selection and ordering data

	Rated voltage	Mounting width MW	SD d	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	**Auxiliary switches (AS)**							
	For 5SM3 residual current protective devices up to 80 A							
	1 NO + 1 NC	0.5	▶	**5SW3300**		1	1 unit	1BE
	2 NC	0.5		**5SW3301**		1	1 unit	1BE
	2 NO	0.5		**5SW3302**		1	1 unit	1BE
	**Auxiliary switches (AS)**							
	For 5SM3 residual current protective devices, 100 ... 125 A, 3P+N							
	1 NO + 1 NC	0.5		**5SW3330**		1	1 unit	1BE
	**Auxiliary switches (AS)**							
	For 5SL, 5SY, 5SP miniature circuit breakers, 5SU1 RCBOs, for 5SV residual current protective devices and 5TE8 switches (for 5SU1 the 5ST3805-1 handle coupler is required)							
	1 NO + 1 NC	0.5	▶	**5ST3010**		1	1 unit	1AD
	For low power		▶	**5ST3013**		1	1 unit	1AD
	2 NO			**5ST3011**		1	1 unit	1AD
	For low power			**5ST3014**		1	1 unit	1AD
	2 NC			**5ST3012**		1	1 unit	1AD
	For low power			**5ST3015**		1	1 unit	1AD
	**Auxiliary switches (AS) with TEST button**							
	For 5SL, 5SY, 5SP miniature circuit breakers, 5SU1 RCBOs, for 5SV residual current protective devices and 5TE8 switches (for 5SU1 the 5ST3805-1 handle coupler is required)							
	1 NO + 1 NC	0.5		**5ST3010-2**		1	1 unit	1AD
	For low power			**5ST3013-2**		1	1 unit	1AD
	2 NO			**5ST3011-2**		1	1 unit	1AD
	For low power			**5ST3014-2**		1	1 unit	1AD
	2 NC			**5ST3012-2**		1	1 unit	1AD
	For low power			**5ST3015-2**		1	1 unit	1AD
	**Fault signal contacts (FC)**							
	For 5SL, 5SY, 5SP miniature circuit breakers, 5SU1 RCBOs, and for 5SV residual current protective devices (for 5SU1 the 5ST3805-1 handle coupler is required)							
	1 NO + 1 NC	0.5	▶	**5ST3020**		1	1 unit	1AD
	2 NO			**5ST3021**		1	1 unit	1AD
	2 NC			**5ST3022**		1	1 unit	1AD
	**Fault signal contacts (FC) with TEST and ACKNOWLEDGE button**							
	For 5SL, 5SY, 5SP miniature circuit breakers, 5SU1 RCBOs, and for 5SV residual current protective devices (for 5SU1 the 5ST3805-1 handle coupler is required)							
	1 NO + 1 NC	0.5	▶	**5ST3020-2**		1	1 unit	1AD
	2 NO			**5ST3021-2**		1	1 unit	1AD
	2 NC			**5ST3022-2**		1	1 unit	1AD

Minimum order quantity (PS) or a multiple thereof can be ordered.

Additional components

	Rated voltage	Mounting width MW	SD d	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	**Undervoltage releases (UR)**							
	For 5SY, 5SP miniature circuit breakers, 5SV residual current protective devices and 5SU1 RCBOs (for 5SU1 the 5ST3805-1 handle coupler is required)							
With integrated auxiliary switch	230 AC	1	▶	**5ST3040**		1	1 unit	1AD
	110 DC			**5ST3041**		1	1 unit	1AD
	24 DC			**5ST3042**		1	1 unit	1AD
Without integrated auxiliary switch	230 AC	1	▶	**5ST3043**		1	1 unit	1AD
	110 DC			**5ST3044**		1	1 unit	1AD
	24 DC			**5ST3045**		1	1 unit	1AD
	**Shunt trips (ST)**							
	For 5SY, 5SP miniature circuit breakers, 5SV residual current protective devices and 5SU1 RCBOs (for 5SU1 the 5ST3805-1 handle coupler is required)							
	110 ... 415 V AC	1	▶	**5ST3030**		1	1 unit	1AD
	24 ... 48 V AC/DC	1	▶	**5ST3031**		1	1 unit	1AD
	**Covers for connection terminals**							
	For 5SM3 RCCBs up to 80 A, sealable (2 units in plastic bag)							
		2		**5SW3010**		1	1 unit	1BE
		2.5		**5SW3011**		1	1 unit	1BE
		4		**5SW3008**		1	1 unit	1BE
	**Locking device**							
	For 5SM3 RCCBs up to 80 A, sealable and lockable							
	4.5 mm lock hasp diameter			**5SW3303**		1	10 units	1BE
	**Handle locking devices**							
	• For 5SV RCCBs • For padlock with 3 ... 6 mm shackle			**5ST3806**		1	5 units	1AD
	**Padlocks**							
	For 5SW3303 locking device			**5ST3802**		1	1 unit	1AD
	Locking devices with padlock							
	Comprising 5SW3303 locking device and 5ST3802 padlock			**5SW3312**		1	1 set	1BE

Minimum order quantity (PS) or a multiple thereof can be ordered.

Overview

RC units are used in all supply systems up to 240/415 V AC. Devices of type AC trip in the event of sinusoidal AC residual currents, type A also trips in the event of pulsating DC residual currents.

In addition, RC units type F also detect residual currents with mixed frequencies up to 1 kHz.

RCCBs with a rated residual current of maximum 30 mA are used for personnel, material and fire protection, as well as for protection against direct contact.

Devices with a rated residual current of maximum 300 mA are used as preventive fire protection in case of insulation faults.

RC units are combined with miniature circuit breakers with A, B, C and D characteristics, provided that these are available in the MCB range. The two components are simply plugged together without the need for any tools.

They then form a combination of RCCB and miniature circuit breaker for personnel, fire and line protection.

The dimensioning of the rated residual current depends on the size of the plant.

Benefits

- Our wide variety of RC unit types and comprehensive range of miniature circuit breakers offer a huge spectrum of combinations for all applications.
- Instantaneous type A devices have a surge current withstand capability with current waveform 8/20 µs of more than 1 kA, super resistant devices of more than 3 kA and selective devices of more than 5 kA. This ensures safe operation.
- All additional components for miniature circuit breakers can be retrofitted on the right-hand side.
- All 100 A and 125 A RC units offer external remote tripping over terminals Y1/Y2. This supports implementation of central OFF circuits.
- Both components can be simply plugged into each other and secured with captive metal brackets - no tools required. This saves considerable time when mounting

4

Technical specifications

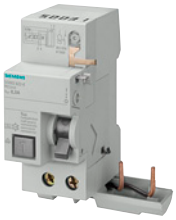
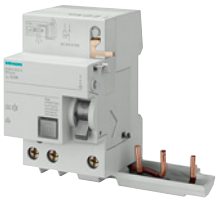
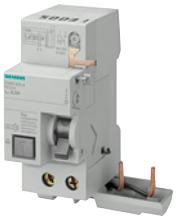
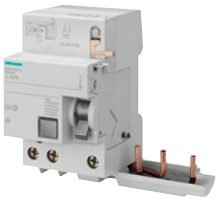
			5SM2
Standards			IEC/EN 61009-1 (VDE 0664-20), IEC/EN 61009-2-1 (VDE 0664-21), IEC/EN 61543 (VDE 0664-30), IEC/EN 62423 (VDE 0664-40)
Surge current withstand capability			
• Type A with current waveform 8/20 µs	Acc. to EN 60060-2 (VDE 0432-2)		
- Instantaneous		kA	> 1
- Super resistant		kA	> 3
- Selective		kA	> 5
• Type F with current waveform 8/20 µs	Acc. to EN 60060-2 (VDE 0432-2)	kA	> 3
Minimum operational voltage for test function operation		V AC	195
Rated voltage U_n		V AC	230 ... 400
Rated currents I_n		A	0.3 ... 16; 0.3 ... 40; 0.3 ... 63; 80 ... 100
Rated residual currents $I_{\Delta n}$		mA	10, 30, 100, 300, 500, 1000
Insulation coordination			
• Overvoltage category			III
Pollution degree			2
Terminal conductor cross-sections			
• Up to I_n = 63 A		mm^2	1.0 ... 25
• At I_n = 80 ... 100 A		mm^2	6.0 ... 50
Terminal tightening torque		Nm	2.5 ... 3.0
Mains connection			Either top or bottom
Mounting position (on a standard mounting rail)			Any
Degree of protection	Acc. to EN 60529 (VDE 0470-1)		IP20, if the distribution board is installed, with connected conductors
Touch protection	Acc. to EN 50274 (VDE 0660-514)		Finger and back-of-hand safe
Service life	Average number of switching cycles		> 10000 switching cycles
Storage temperature		°C	-40 ... +75
Ambient temperature		°C	-25 ... +45, marked with -25
Resistance to climate	Acc. to IEC 60068-2-30		28 cycles (55 °C; 95% rel. air humidity)
CFC and silicone-free			Yes

Power losses per conducting path under rated current load

Number of poles	Rated current	Rated residual current $I_{\Delta n}$ [A]	Power losses per conducting path P_v [W]
2	16	0.01	2.5
2/3/4	40	0.03	3.6
	63	0.03	4.6
	40	0.3/0.5/1	1.9
	63	0.1/0.3/0.5/1	3.0
2/4	80	0.3	4.8
	80	0.3/1	4.0
	100	0.3	6.0
	100	0.3/1	5.0

Minimum order quantity (PS) or a multiple thereof can be ordered.

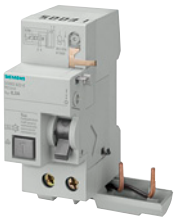
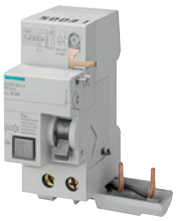
Selection and ordering data

(Type AC)	Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	Mounting width MW	SD d	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
RC units, type AC, instantaneous									
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY30 and 5SY60								
	**2P, 230 ... 400 V AC**								
	10[1]	0.3 ... 40	2		**5SM2121-0**		1	1 unit	1AI
	30				**5SM2322-0**		1	1 unit	1AI
	300				**5SM2622-0**		1	1 unit	1AI
	30	0.3 ... 63			**5SM2325-0**		1	1 unit	1AI
	300				**5SM2625-0**		1	1 unit	1AI
	500				**5SM2725-0**		1	1 unit	1AI
	1000				**5SM2825-0**		1	1 unit	1AI
	**3P, 230 ... 400 V AC**								
	30	0.3 ... 40	3		**5SM2332-0**		1	1 unit	1AI
	300				**5SM2632-0**		1	1 unit	1AI
	30	0.3 ... 63			**5SM2335-0**		1	1 unit	1AI
	300				**5SM2635-0**		1	1 unit	1AI
	500				**5SM2735-0**		1	1 unit	1AI
	**4P, 230 ... 400 V AC**								
	30	0.3 ... 40	3	▶	**5SM2342-0**		1	1 unit	1AI
	300			▶	**5SM2642-0**		1	1 unit	1AI
	30	0.3 ... 63			**5SM2345-0**		1	1 unit	1AI
	300				**5SM2645-0**		1	1 unit	1AI
	500				**5SM2745-0**		1	1 unit	1AI
	For 5SL4 miniature circuit breakers								
	**2P, 230 ... 400 V AC**								
	30	0.3 ... 40	2		**5SM2323-0**		1	1 unit	1AI
	300				**5SM2623-0**		1	1 unit	1AI
	30	0.3 ... 63			**5SM2326-0**		1	1 unit	1AI
	300				**5SM2626-0**		1	1 unit	1AI
	**3P, 230 ... 400 V AC**								
	30	0.3 ... 40	3		**5SM2333-0**		1	1 unit	1AI
	300				**5SM2633-0**		1	1 unit	1AI
	30	0.3 ... 63			**5SM2336-0**		1	1 unit	1AI
	300				**5SM2636-0**		1	1 unit	1AI
	**4P, 230 ... 400 V AC**								
	30	0.3 ... 40	3		**5SM2343-0**		1	1 unit	1AI
	300				**5SM2643-0**		1	1 unit	1AI
	30	0.3 ... 63			**5SM2346-0**		1	1 unit	1AI
	300				**5SM2646-0**		1	1 unit	1AI

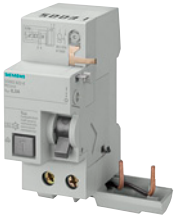
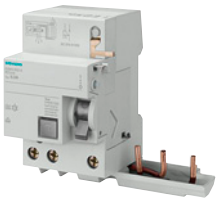
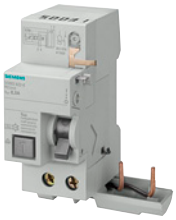
[1] 5SM2 RC units with $I_{\Delta n}$ = 10 mA can be combined with switches I_n = 16 A

4

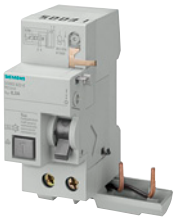
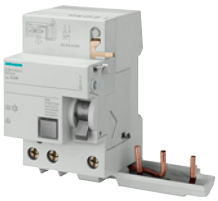
5SM2 RC units

(Type AC)	Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	Mounting width MW	SD d	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
RC units, type AC, selective S									
	***For 5SY miniature circuit breakers,*** not suitable for use with 5SY5, 5SY30 and 5SY60								
	2P, 230 ... 400 V AC								
	300	0.3 ... 40	2		**5SM2622-2**		1	1 unit	1AI
	300	0.3 ... 63			**5SM2625-2**		1	1 unit	1AI
	**4P, 230 ... 400 V AC**								
	300	0.3 ... 63	3		**5SM2645-2**		1	1 unit	1AI
	1000				**5SM2845-2**		1	1 unit	1AI
	***For 5SL4 miniature circuit breakers***								
	2P, 230 ... 400 V AC								
	300	0.3 ... 40	2		**5SM2623-2**		1	1 unit	1AI
		0.3 ... 63			**5SM2626-2**		1	1 unit	1AI
	**4P, 230 ... 400 V AC**								
	300	0.3 ... 63	4		**5SM2646-2**		1	1 unit	1AI
RC units, type AC, instantaneous									
	***For 5SP4 miniature circuit breakers (B and C characteristics)***								
	2P, 230 ... 400 V AC								
	30	80 ... 100	3.5		**5SM2327-0**		1	1 unit	1AI
	300				**5SM2627-0**		1	1 unit	1AI
	**4P, 230 ... 400 V AC**								
	30	80 ... 100	5		**5SM2347-0**		1	1 unit	1AI
	300				**5SM2647-0**		1	1 unit	1AI

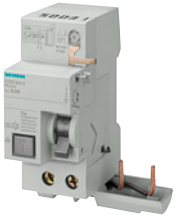
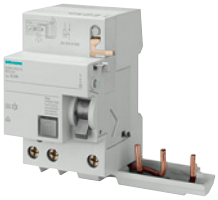
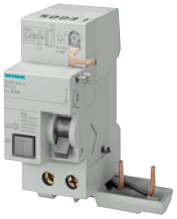
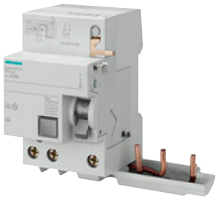
Minimum order quantity (PS) or a multiple thereof can be ordered.

(Type A)	Rated residual current	Rated current	Mounting width	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	$I_{\Delta n}$	I_n							
	mA	A	MW	d					
RC units, type A, instantaneous									
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY8 and 5SY60. . ,								
	**2P, 230 ... 400 V AC**								
	10	0.3 ... 16	2		**5SM2121-6**		1	1 unit	1AH
	30	0.3 ... 40		▶	**5SM2322-6**		1	1 unit	1AH
	300				**5SM2622-6**		1	1 unit	1AH
	30	0.3 ... 63			**5SM2325-6**		1	1 unit	1AH
	100				**5SM2425-6**		1	1 unit	1AH
	300				**5SM2625-6**		1	1 unit	1AH
	500				**5SM2725-6**		1	1 unit	1AH
	**3P, 230 ... 400 V AC**								
	30	0.3 ... 40	3		**5SM2332-6**		1	1 unit	1AH
	300				**5SM2632-6**		1	1 unit	1AH
	30	0.3 ... 63			**5SM2335-6**		1	1 unit	1AH
	100				**5SM2435-6**		1	1 unit	1AH
	300				**5SM2635-6**		1	1 unit	1AH
	500				**5SM2735-6**		1	1 unit	1AH
	**4P, 230 ... 400 V AC**								
	30	0.3 ... 40	3	▶	**5SM2342-6**		1	1 unit	1AH
	300			▶	**5SM2642-6**		1	1 unit	1AH
	30	0.3 ... 63			**5SM2345-6**		1	1 unit	1AH
	100				**5SM2445-6**		1	1 unit	1AH
	300				**5SM2645-6**		1	1 unit	1AH
	500				**5SM2745-6**		1	1 unit	1AH
	For 5SL4 miniature circuit breakers								
	**2P, 230 ... 400 V AC**								
	30	0.3 ... 40	2		**5SM2323-6**		1	1 unit	1AH
	300				**5SM2623-6**		1	1 unit	1AH
	30	0.3 ... 63			**5SM2326-6**		1	1 unit	1AH
	300				**5SM2626-6**		1	1 unit	1AH
	**3P, 230 ... 400 V AC**								
	30	0.3 ... 40	3		**5SM2333-6**		1	1 unit	1AH
	300				**5SM2633-6**		1	1 unit	1AH
	30	0.3 ... 63			**5SM2336-6**		1	1 unit	1AH
	300				**5SM2636-6**		1	1 unit	1AH
	**4P, 230 ... 400 V AC**								
	30	0.3 ... 40	3		**5SM2343-6**		1	1 unit	1AH
	300				**5SM2643-6**		1	1 unit	1AH
	30	0.3 ... 63			**5SM2346-6**		1	1 unit	1AH
	300				**5SM2646-6**		1	1 unit	1AH

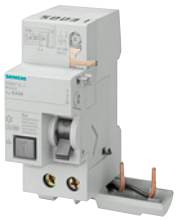
5SM2 RC units

(Type A)	Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	Mounting width MW	SD d	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	For 5SP4 miniature circuit breakers (B and C characteristics)								
	**2P, 125 ... 230 V AC**								
	30	80 ... 100	3.5		**5SM2327-6**		1	1 unit	1AH
	300				**5SM2627-6**		1	1 unit	1AH
	**4P, 230 ... 400 V AC**								
	30	80 ... 100	5		**5SM2347-6**		1	1 unit	1AH
	300				**5SM2647-6**		1	1 unit	1AH
RC units, type A, super resistant K									
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY8 and 5SY60. . ,								
	**2P, 230 ... 400 V AC**								
	30	0.3 ... 40	2		**5SM2322-6KK01**		1	1 unit	1AH
	30	0.3 ... 63			**5SM2325-6KK01**		1	1 unit	1AH
	**3P, 230 ... 400 V AC**								
	30	0.3 ... 40	3		**5SM2332-6KK01**		1	1 unit	1AH
	30	0.3 ... 63			**5SM2335-6KK01**		1	1 unit	1AH
	**4P, 230 ... 400 V AC**								
	30	0.3 ... 40	3		**5SM2342-6KK01**		1	1 unit	1AH
	30	0.3 ... 63			**5SM2345-6KK01**		1	1 unit	1AH

Minimum order quantity (PS) or a multiple thereof can be ordered.

(Type A)	Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	Mounting width MW	SD d	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
RC units, type A, selective S									
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY8 and 5SY60. . ,								
	**2P, 230 ... 400 V AC**								
	300	0.3 ... 40	2		**5SM2622-8**		1	1 unit	1AH
	1000				**5SM2822-8**		1	1 unit	1AH
	300	0.3 ... 63			**5SM2625-8**		1	1 unit	1AH
	1000				**5SM2825-8**		1	1 unit	1AH
	**3P, 230 ... 400 V AC**								
	1000	0.3 ... 40	3		**5SM2832-8**		1	1 unit	1AH
	300	0.3 ... 63	3		**5SM2635-8**		1	1 unit	1AH
	500				**5SM2735-8**		1	1 unit	1AH
	1000				**5SM2835-8**		1	1 unit	1AH
	**4P, 230 ... 400 V AC**								
	1000	0.3 ... 40	3		**5SM2842-8**		1	1 unit	1AH
	300	0.3 ... 63			**5SM2645-8**		1	1 unit	1AH
	500				**5SM2745-8**		1	1 unit	1AH
	1000				**5SM2845-8**		1	1 unit	1AH
	For 5SL4 miniature circuit breakers								
	**2P, 230 ... 400 V AC**								
	300	0.3 ... 40	2		**5SM2623-8**		1	1 unit	1AH
	300	0.3 ... 63			**5SM2626-8**		1	1 unit	1AH
	**3P, 230 ... 400 V AC**								
	300	0.3 ... 63	3		**5SM2636-8**		1	1 unit	1AH
	**4P, 230 ... 400 V AC**								
	300	0.3 ... 63	3		**5SM2646-8**		1	1 unit	1AH

5SM2 RC units

(Type A)	Rated residual current	Rated current	Mounting width	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	$I_{\Delta n}$	I_n							
	mA	A	MW	d					
	For 5SP4 miniature circuit breakers (B and C characteristics)								
	2P, 125 ... 230 V AC								
	300	80 ... 100	3.5		**5SM2627-8**		1	1 unit	1AH
	1000	80 ... 100	3.5		**5SM2827-8**		1	1 unit	1AH
	4P, 230 ... 400 V AC								
	300	80 ... 100	5		**5SM2647-8**		1	1 unit	1AH
	1000				**5SM2847-8**		1	1 unit	1AH
RC units, type F, super resistant									
	For 5SY miniature circuit breakers, not suitable for use with 5SY5, 5SY8 and 5SY60..,								
	2P, 230 ... 400 V AC								
	30	0.3 ... 40	2		**5SM2322-3**		1	1 unit	1AH
	30	0.3 ... 63	2		**5SM2325-3**		1	1 unit	1AH

Minimum order quantity (PS) or a multiple thereof can be ordered.

Overview

RCBOs are a combination of an RCCB and a miniature circuit breaker in a compact design for personnel, fire and line protection. For personnel protection and fire protection, the residual current part of the type AC trips in the event of sinusoidal AC residual currents, type A also trips in the event of pulsating DC residual currents.

In addition, RCBOs type F also detect residual currents with mixed frequencies up to 1 kHz.

RCBOs with a rated residual current of maximum 30 mA are used for personnel, material and fire protection, as well as for protection against direct contact. RCBOs with a rated residual current of 10 mA are primarily used in areas that represent an increased risk for personnel and in the outdoor installations of residential buildings.

Devices with a rated residual current of maximum 300 mA are used as preventive fire protection in case of insulation faults.

The MCB part of the RCBO protects lines against overload and short circuits and is available in characteristics B and C.

Since DIN VDE 0100-410 came into effect in June 2007, all socket outlet current circuits up to 20 A must now also be fitted with residual current protective devices with a rated residual current of max. 30 mA. This also applies to outdoor electrical circuits up to 32 A for the connection of portable equipment.

In order to implement this protection, we recommend the use of RCBOs with 30 mA on a country-specific basis.

Assignment to each individual branch circuit helps prevent the undesired tripping of fault-free circuits induced by the accumulation of operation-related leakage currents or by transient current pulses during switching operations.

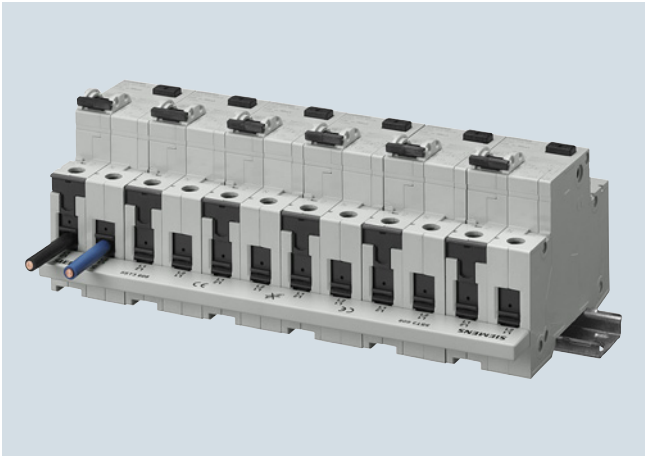
Additional components of the 5SY miniature circuit breakers can be mounted at the side and carry out additional functions.

For further details on additional components, see chapter "Miniature Circuit Breakers".

RCBOs comprise one part for fault-current detection and one part for overcurrent detection. They are equipped with a delayed overload/time-dependent thermal release (thermal bimetal) for low overcurrents and with an instantaneous electromagnetic release for higher overload and short-circuit currents.

The special contact materials used guarantee a long service life and offer a high degree of protection against contact welding.

Benefits



For all versions

- Clear and visible conductor connection in front of the rear busbar facilitates controls
- Large and easily accessible wiring space enables easy insertion of conductors in the terminals
- The surge current withstand capability of over 1 kA ensures safe and reliable operation
- All additional components for miniature circuit breakers can be retrofitted on the right-hand side

For all 10 kA versions up to 40 A

- Integrated movable terminal covers located at the cable entries ensure the terminals are fully insulated when the screws are tightened. The effective touch protection when grasping the device considerably exceeds the requirements of BGV A3
- The RCBOs can be quickly and easily removed from the assembly by hand if connections need to be changed. Time-saving replacement of parts as busbars no longer need to be freed from adjacent miniature circuit breakers

For all 125 A versions

- The RCBOs offer external remote tripping over terminals Y1/Y2. This supports implementation of central OFF circuits.

4

Technical specifications

			Up to 40 A	125 A
Standards			IEC/EN 61009-1 (VDE 0664-20); IEC/EN 61009-2-1 (VDE 0664-21) IEC/EN 61543 (VDE 0664-30); IEC/EN 62423 (VDE 0664-40)	
Rated voltages U_n		V AC	230	400
Rated currents I_n		A	6, 8, 10, 13, 16, 20, 25, 32, 40	125
Rated residual currents $I_{\Delta n}$		mA	10, 30, 100, 300	30, 300, 1000
Rated breaking capacity		kA	6 / 10	10
Energy limitation class			3	--
Surge current withstand capability type A				
• With current waveform 8/20 µs	Acc. to EN 60060-2 (VDE 0432-2)			
- Instantaneous		kA	> 1	
- Super resistant		kA	> 3	--
- Selective		kA	> 5	
• Type F with current waveform 8/20 µs		kA	> 3	--
Minimum voltage for operation of the test equipment		V AC	195	
Insulation coordination				
• Overvoltage category			III	
Pollution degree			2	
Terminal conductor cross-sections				
• Solid and stranded		mm^2	0.75 ... 35	6 ... 50
• Finely stranded with end sleeve		mm^2	0.75 ... 25	6 ... 35
Terminal tightening torque		Nm	2.5 ... 3.0	3.0 ... 3.5
Mains connection			Top or bottom	
Mounting position (on a standard mounting rail)			Any	
Degree of protection	Acc. to EN 60529 (VDE 0470-1)		IP20, if the distribution board is installed, with connected conductors	
Touch protection	Acc. to EN 50274 (VDE 0660-514)		Finger and back-of-hand safe	
Service life	Average number of switching cycles		> 10000	
Storage temperature		°C	-40 ... +75	
Ambient temperature		°C	-25 ... +45, marked with -25	
Resistance to climate	Acc. to IEC 60068-2-30		28 cycles (55 °C; 95% rel. air humidity)	
CFC and silicone-free			Yes	

Power losses

Note:

All data under loading with rated current I_n.

Rated current I_n [A]	Rated residual current $I_{\Delta n}$ [mA]	Power losses per conducting path P_v [W]	
		Characteristic B	Characteristic C
6	10	2.8	2.2
	30 ... 300	2.7	1.9
8	30 ... 300	--	1.2
10	10	2.4	2.2
	30 ... 300	1.8	1.6
13	10	3.5	3.3
	30 ... 300	2.4	2.2
16	10	4.7	4.5
	30 ... 300	3.0	2.8
20	30 ... 300	3.7	3.3
25	30 ... 300	5.1	5.1
32	30 ... 300	5.7	5.7
40	30 ... 300	7.8	7.8

Minimum order quantity (PS) or a multiple thereof can be ordered.

Selection and ordering data

(Type AC)	Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	Mounting width MW	SD d	Tripping characteristic B Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG	SD d	Tripping characteristic C Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
RCBOs, type AC, instantaneous															
1P + N; 230 V AC															
4 500 / 3															
N connection, right															
	30	6	2		--						**5SU1353-1KK06**		1	1 unit	1BB
		8			--						**5SU1353-1KK08**		1	1 unit	1BB
		10			--						**5SU1353-1KK10**		1	1 unit	1BB
		Bulk packaging 36 units NEW			--						**5SU1353-1GV10**		1	36 units	1BB
		13			--						**5SU1353-1KK13**		1	1 unit	1BB
		16			--						**5SU1353-1KK16**		1	1 unit	1BB
		Bulk packaging 36 units NEW			--						**5SU1353-1GV16**		1	36 units	1BB
		20			--						**5SU1353-1KK20**		1	1 unit	1BB
		25			--						**5SU1353-1KK25**		1	1 unit	1BB
		32			--						**5SU1353-1KK32**		1	1 unit	1BB
		40			--						**5SU1353-1KK40**		1	1 unit	1BB
	300	6	2		--						**5SU1653-1KK06**		1	1 unit	1BB
		10			--						**5SU1653-1KK10**		1	1 unit	1BB
		13			--						**5SU1653-1KK13**		1	1 unit	1BB
		16			--						**5SU1653-1KK16**		1	1 unit	1BB
		Bulk packaging 36 units NEW			--						**5SU1653-1GV16**		1	36 units	1BB
		20			--						**5SU1653-1KK20**		1	1 unit	1BB
		25			--						**5SU1653-1KK25**		1	1 unit	1BB
		32			--						**5SU1653-1KK32**		1	1 unit	1BB
		40			--						**5SU1653-1KK40**		1	1 unit	1BB
N connection, left															
	30	6	2		--						**5SU1353-1KL06**		1	1 unit	1BB
		10			--						**5SU1353-1KL10**		1	1 unit	1BB
		13			--						**5SU1353-1KL13**		1	1 unit	1BB
		16			--						**5SU1353-1KL16**		1	1 unit	1BB
		20			--						**5SU1353-1KL20**		1	1 unit	1BB
		25			--						**5SU1353-1KL25**		1	1 unit	1BB
		32			--						**5SU1353-1KL32**		1	1 unit	1BB
		40			--						**5SU1353-1KL40**		1	1 unit	1BB
	300	6	2		--						**5SU1653-1KL06**		1	1 unit	1BB
		10			--						**5SU1653-1KL10**		1	1 unit	1BB
		16			--						**5SU1653-1KL16**		1	1 unit	1BB
		20			--						**5SU1653-1KL20**		1	1 unit	1BB
		25			--						**5SU1653-1KL25**		1	1 unit	1BB
		32			--						**5SU1653-1KL32**		1	1 unit	1BB
		40			--						**5SU1653-1KL40**		1	1 unit	1BB

5SU1 RCBOs

RCBOs, type AC, instantaneous (only available in Austria)

1P + N; 230 V AC

6 000
3

(Type AC)	Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	Mounting width MW	SD d	Tripping characteristic B Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG	SD d	Tripping characteristic C Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
N connection, right															
	30	6	2		**5SU1356-0KK06**		1	1 unit	1BB		**5SU1356-1KK06**		1	1 unit	1BB
		8			**--**						**5SU1356-1KK08**		1	1 unit	1BB
		10			**5SU1356-0KK10**		1	1 unit	1BB		**5SU1356-1KK10**		1	1 unit	1BB
		13			**5SU1356-0KK13**		1	1 unit	1BB		**5SU1356-1KK13**		1	1 unit	1BB
		16			**5SU1356-0KK16**		1	1 unit	1BB		**5SU1356-1KK16**		1	1 unit	1BB
Bulk packaging 36 units NEW					**--**						**5SU1356-1GV16**		1	36 units	1BB
		20			**5SU1356-0KK20**		1	1 unit	1BB		**5SU1356-1KK20**		1	1 unit	1BB
		25			**5SU1356-0KK25**		1	1 unit	1BB		**5SU1356-1KK25**		1	1 unit	1BB
		32			**5SU1356-0KK32**		1	1 unit	1BB		**5SU1356-1KK32**		1	1 unit	1BB
		40			**5SU1356-0KK40**		1	1 unit	1BB		**5SU1356-1KK40**		1	1 unit	1BB
	300	6	2		**5SU1656-0KK06**		1	1 unit	1BB		**5SU1656-1KK06**		1	1 unit	1BB
		10			**5SU1656-0KK10**		1	1 unit	1BB		**5SU1656-1KK10**		1	1 unit	1BB
		13			**5SU1656-0KK13**		1	1 unit	1BB		**5SU1656-1KK13**		1	1 unit	1BB
		16			**5SU1656-0KK16**		1	1 unit	1BB		**5SU1656-1KK16**		1	1 unit	1BB
		20			**5SU1656-0KK20**		1	1 unit	1BB		**5SU1656-1KK20**		1	1 unit	1BB
		25			**5SU1656-0KK25**		1	1 unit	1BB		**5SU1656-1KK25**		1	1 unit	1BB
		32			**5SU1656-0KK32**		1	1 unit	1BB		**5SU1656-1KK32**		1	1 unit	1BB
		40			**5SU1656-0KK40**		1	1 unit	1BB		**5SU1656-1KK40**		1	1 unit	1BB

RCBOs, type AC, instantaneous

1P + N; 230 V AC

10 000
3

	30	6	2		**5SU1354-0KK06**		1	1 unit	1BB		**5SU1354-1KK06**		1	1 unit	1BB
		8			**--**						**5SU1354-1KK08**		1	1 unit	1BB
		10			**5SU1354-0KK10**		1	1 unit	1BB		**5SU1354-1KK10**		1	1 unit	1BB
		13			**5SU1354-0KK13**		1	1 unit	1BB		**5SU1354-1KK13**		1	1 unit	1BB
		16			**5SU1354-0KK16**		1	1 unit	1BB		**5SU1354-1KK16**		1	1 unit	1BB
		20			**5SU1354-0KK20**		1	1 unit	1BB		**5SU1354-1KK20**		1	1 unit	1BB
		25			**5SU1354-0KK25**		1	1 unit	1BB		**5SU1354-1KK25**		1	1 unit	1BB
		32			**5SU1354-0KK32**		1	1 unit	1BB		**5SU1354-1KK32**		1	1 unit	1BB
		40			**5SU1354-0KK40**		1	1 unit	1BB		**5SU1354-1KK40**		1	1 unit	1BB
	100	6	2		**--**						**5SU1454-1KK06**		1	1 unit	1BB
		10			**--**						**5SU1454-1KK10**		1	1 unit	1BB
		13			**--**						**5SU1454-1KK13**		1	1 unit	1BB
		16			**--**						**5SU1454-1KK16**		1	1 unit	1BB
		20			**--**						**5SU1454-1KK20**		1	1 unit	1BB
		25			**--**						**5SU1454-1KK25**		1	1 unit	1BB
		32			**--**						**5SU1454-1KK32**		1	1 unit	1BB
		40			**--**						**5SU1454-1KK40**		1	1 unit	1BB
	300	6	2		**5SU1654-0KK06**		1	1 unit	1BB		**5SU1654-1KK06**		1	1 unit	1BB
		10			**5SU1654-0KK10**		1	1 unit	1BB		**5SU1654-1KK10**		1	1 unit	1BB
		13			**5SU1654-0KK13**		1	1 unit	1BB		**5SU1654-1KK13**		1	1 unit	1BB
		16			**5SU1654-0KK16**		1	1 unit	1BB		**5SU1654-1KK16**		1	1 unit	1BB
		20			**5SU1654-0KK20**		1	1 unit	1BB		**5SU1654-1KK20**		1	1 unit	1BB
		25			**5SU1654-0KK25**		1	1 unit	1BB		**5SU1654-1KK25**		1	1 unit	1BB
		32			**5SU1654-0KK32**		1	1 unit	1BB		**5SU1654-1KK32**		1	1 unit	1BB
		40			**5SU1654-0KK40**		1	1 unit	1BB		**5SU1654-1KK40**		1	1 unit	1BB

Minimum order quantity (PS) or a multiple thereof can be ordered.

(Type AC)	Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	Mounting width MW	SD d	Tripping characteristic B Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG	SD d	Tripping characteristic C Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
RCBOs, type AC, short-time delayed G (only available in Austria)															
	**1P+N; 230 V AC**														
	10 000														
	3														
	30	10	2		**5SU1354-0LB10**		1	1 unit	1BB		**5SU1354-1LB10**		1	1 unit	1BB
		13			**5SU1354-0LB13**		1	1 unit	1BB		**5SU1354-1LB13**		1	1 unit	1BB
		16			**5SU1354-0LB16**		1	1 unit	1BB		**5SU1354-1LB16**		1	1 unit	1BB
		20			**5SU1354-0LB20**		1	1 unit	1BB		**5SU1354-1LB20**		1	1 unit	1BB
		25			**5SU1354-0LB25**		1	1 unit	1BB		**5SU1354-1LB25**		1	1 unit	1BB
		32			**5SU1354-0LB32**		1	1 unit	1BB		**5SU1354-1LB32**		1	1 unit	1BB
		40			**5SU1354-0LB40**		1	1 unit	1BB		**5SU1354-1LB40**		1	1 unit	1BB
RCBOs, type AC, instantaneous (only available in Austria)															
	**2P, 400 V AC**														
	10 000														
	30	125	6.5		**5SU1324-0KK82**		1	1 unit	1BB		**5SU1324-1KK82**		1	1 unit	1BB
	300	125			**5SU1624-0KK82**		1	1 unit	1BB		**5SU1624-1KK82**		1	1 unit	1BB
	**4P, 400 V AC**														
	10 000														
	30	125	11		**5SU1344-0KK82**		1	1 unit	1BB		**5SU1344-1KK82**		1	1 unit	1BB
	300	125			**5SU1644-0KK82**		1	1 unit	1BB		**5SU1644-1KK82**		1	1 unit	1BB

Minimum order quantity (PS) or a multiple thereof can be ordered.

5SU1 RCBOs

RCBOs, type A, instantaneous

(Type A)	Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	Mounting width MW	SD d	Tripping characteristic B Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG	SD d	Tripping characteristic C Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
1P+N; 230 V AC															
4 500 / 3															
N connection, right															
	30	6	2		--						**5SU1353-7KK06**		1	1 unit	1BC
		8			--						**5SU1353-7KK08**		1	1 unit	1BC
		10			--						**5SU1353-7KK10**		1	1 unit	1BC
		13			--						**5SU1353-7KK13**		1	1 unit	1BC
		16			--						**5SU1353-7KK16**		1	1 unit	1BC
		20			--						**5SU1353-7KK20**		1	1 unit	1BC
		25			--						**5SU1353-7KK25**		1	1 unit	1BC
		32			--						**5SU1353-7KK32**		1	1 unit	1BC
		40			--						**5SU1353-7KK40**		1	1 unit	1BC
	300	6	2		--						**5SU1653-7KK06**		1	1 unit	1BC
		10			--						**5SU1653-7KK10**		1	1 unit	1BC
		13			--						**5SU1653-7KK13**		1	1 unit	1BC
		16			--						**5SU1653-7KK16**		1	1 unit	1BC
		20			--						**5SU1653-7KK20**		1	1 unit	1BC
		25			--						**5SU1653-7KK25**		1	1 unit	1BC
		32			--						**5SU1653-7KK32**		1	1 unit	1BC
		40			--						**5SU1653-7KK40**		1	1 unit	1BC
N connection, left															
	30	6	2		--						**5SU1353-7KL06**		1	1 unit	1BC
		10			--						**5SU1353-7KL10**		1	1 unit	1BC
		16			--						**5SU1353-7KL16**		1	1 unit	1BC
		20			--						**5SU1353-7KL20**		1	1 unit	1BC
		25			--						**5SU1353-7KL25**		1	1 unit	1BC
		32			--						**5SU1353-7KL32**		1	1 unit	1BC
		40			--						**5SU1353-7KL40**		1	1 unit	1BC
1P+N; 230 V AC															
6 000 / 3															
N connection, right															
	30	6	2		**5SU1356-6KK06**		1	1 unit	1BC		**5SU1356-7KK06**		1	1 unit	1BC
		8			--						**5SU1356-7KK08**		1	1 unit	1BC
		10			**5SU1356-6KK10**		1	1 unit	1BC	▶	**5SU1356-7KK10**		1	1 unit	1BC
	Bulk packaging 36 units NEW				**5SU1356-6GV10**		1	36 units	1BC		**5SU1356-7GV10**		1	36 units	1BC
		13			**5SU1356-6KK13**		1	1 unit	1BC		**5SU1356-7KK13**		1	1 unit	1BC
		16		▶	**5SU1356-6KK16**		1	1 unit	1BC	▶	**5SU1356-7KK16**		1	1 unit	1BC
	Bulk packaging 36 units NEW				**5SU1356-6GV16**		1	36 units	1BC		**5SU1356-7GV16**		1	36 units	1BC
		20			**5SU1356-6KK20**		1	1 unit	1BC		**5SU1356-7KK20**		1	1 unit	1BC
		25			**5SU1356-6KK25**		1	1 unit	1BC		**5SU1356-7KK25**		1	1 unit	1BC
		32			**5SU1356-6KK32**		1	1 unit	1BC		**5SU1356-7KK32**		1	1 unit	1BC
		40			**5SU1356-6KK40**		1	1 unit	1BC		**5SU1356-7KK40**		1	1 unit	1BC
	300	6	2		**5SU1656-6KK06**		1	1 unit	1BC		**5SU1656-7KK06**		1	1 unit	1BC
		10			**5SU1656-6KK10**		1	1 unit	1BC		**5SU1656-7KK10**		1	1 unit	1BC
		13			**5SU1656-6KK13**		1	1 unit	1BC		**5SU1656-7KK13**		1	1 unit	1BC
		16			**5SU1656-6KK16**		1	1 unit	1BC		**5SU1656-7KK16**		1	1 unit	1BC
		20			**5SU1656-6KK20**		1	1 unit	1BC		**5SU1656-7KK20**		1	1 unit	1BC
		25			**5SU1656-6KK25**		1	1 unit	1BC		**5SU1656-7KK25**		1	1 unit	1BC
		32			**5SU1656-6KK32**		1	1 unit	1BC		**5SU1656-7KK32**		1	1 unit	1BC
		40			**5SU1656-6KK40**		1	1 unit	1BC		**5SU1656-7KK40**		1	1 unit	1BC

Minimum order quantity (PS) or a multiple thereof can be ordered.

(Type A)	Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	Mounting width MW	SD d	Tripping characteristic B Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG	SD d	Tripping characteristic C Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	**1P+N; 230 V AC** 10 000 / 3														
	10	6	2		**5SU1154-6KK06**		1	1 unit	1BC		**5SU1154-7KK06**		1	1 unit	1BC
		10			**5SU1154-6KK10**		1	1 unit	1BC		**5SU1154-7KK10**		1	1 unit	1BC
		13			**5SU1154-6KK13**		1	1 unit	1BC		**5SU1154-7KK13**		1	1 unit	1BC
		16			**5SU1154-6KK16**		1	1 unit	1BC	▶	**5SU1154-7KK16**		1	1 unit	1BC
	30	6	2		**5SU1354-6KK06**		1	1 unit	1BC	▶	**5SU1354-7KK06**		1	1 unit	1BC
		8			--						**5SU1354-7KK08**		1	1 unit	1BC
		10			**5SU1354-6KK10**		1	1 unit	1BC	▶	**5SU1354-7KK10**		1	1 unit	1BC
	Bulk packaging 36 units NEW				**5SU1354-6GV10**		1	36 units	1BC		**5SU1354-7GV10**		1	36 units	1BC
		13			**5SU1354-6KK13**		1	1 unit	1BC		**5SU1354-7KK13**		1	1 unit	1BC
		16		▶	**5SU1354-6KK16**		1	1 unit	1BC	▶	**5SU1354-7KK16**		1	1 unit	1BC
	Bulk packaging 36 units NEW				**5SU1354-6GV16**		1	36 units	1BC		**5SU1354-7GV16**		1	36 units	1BC
		20			**5SU1354-6KK20**		1	1 unit	1BC		**5SU1354-7KK20**		1	1 unit	1BC
		25			**5SU1354-6KK25**		1	1 unit	1BC		**5SU1354-7KK25**		1	1 unit	1BC
		32			**5SU1354-6KK32**		1	1 unit	1BC		**5SU1354-7KK32**		1	1 unit	1BC
		40			**5SU1354-6KK40**		1	1 unit	1BC		**5SU1354-7KK40**		1	1 unit	1BC
	300	6	2		**5SU1654-6KK06**		1	1 unit	1BC		**5SU1654-7KK06**		1	1 unit	1BC
		10			**5SU1654-6KK10**		1	1 unit	1BC		**5SU1654-7KK10**		1	1 unit	1BC
		13			**5SU1654-6KK13**		1	1 unit	1BC		**5SU1654-7KK13**		1	1 unit	1BC
		16			**5SU1654-6KK16**		1	1 unit	1BC		**5SU1654-7KK16**		1	1 unit	1BC
		20			**5SU1654-6KK20**		1	1 unit	1BC		**5SU1654-7KK20**		1	1 unit	1BC
		25			**5SU1654-6KK25**		1	1 unit	1BC		**5SU1654-7KK25**		1	1 unit	1BC
		32			**5SU1654-6KK32**		1	1 unit	1BC		**5SU1654-7KK32**		1	1 unit	1BC
		40			**5SU1654-6KK40**		1	1 unit	1BC		**5SU1654-7KK40**		1	1 unit	1BC
	**2P, 230 V AC** 10 000 / 3														
	30	6	3		**5SU1324-6FA06**		1	1 unit	1BC		**5SU1324-7FA06**		1	1 unit	1BC
		10		▶	**5SU1324-6FA10**		1	1 unit	1BC	▶	**5SU1324-7FA10**		1	1 unit	1BC
		13			**5SU1324-6FA13**		1	1 unit	1BC		**5SU1324-7FA13**		1	1 unit	1BC
		16		▶	**5SU1324-6FA16**		1	1 unit	1BC	▶	**5SU1324-7FA16**		1	1 unit	1BC
		20			**5SU1324-6FA20**		1	1 unit	1BC		**5SU1324-7FA20**		1	1 unit	1BC
		25			**5SU1324-6FA25**		1	1 unit	1BC		**5SU1324-7FA25**		1	1 unit	1BC
		32			**5SU1324-6FA32**		1	1 unit	1BC		**5SU1324-7FA32**		1	1 unit	1BC
		40			**5SU1324-6FA40**		1	1 unit	1BC		**5SU1324-7FA40**		1	1 unit	1BC
	**2P, 110 V AC** NEW 10 000 / 3														
	30	6	3		**5SU1324-6KX06**		1	1 unit	1BC		**5SU1324-7KX06**		1	1 unit	1BC
		10			**5SU1324-6KX10**		1	1 unit	1BC		**5SU1324-7KX10**		1	1 unit	1BC
		13			**5SU1324-6KX13**		1	1 unit	1BC		**5SU1324-7KX13**		1	1 unit	1BC
		16			**5SU1324-6KX16**		1	1 unit	1BC		**5SU1324-7KX16**		1	1 unit	1BC
		20			**5SU1324-6KX20**		1	1 unit	1BC		**5SU1324-7KX20**		1	1 unit	1BC
		25			**5SU1324-6KX25**		1	1 unit	1BC		**5SU1324-7KX25**		1	1 unit	1BC
		32			**5SU1324-6KX32**		1	1 unit	1BC		**5SU1324-7KX32**		1	1 unit	1BC
		40			**5SU1324-6KX40**		1	1 unit	1BC		**5SU1324-7KX40**		1	1 unit	1BC
	**2P, 400 V AC** 10 000														
	30	125	6.5		**5SU1324-6KK82**		1	1 unit	1BC		**5SU1324-7KK82**		1	1 unit	1BC
	300	125			**5SU1624-6KK82**		1	1 unit	1BC		**5SU1624-7KK82**		1	1 unit	1BC
	**4P, 400 V AC** 10 000														
	30	125	11		**5SU1344-6KK82**		1	1 unit	1BC		**5SU1344-7KK82**		1	1 unit	1BC
	300	125			**5SU1644-6KK82**		1	1 unit	1BC		**5SU1644-7KK82**		1	1 unit	1BC

5SU1 RCBOs

(Type A)	Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	Mounting width MW	SD d	Tripping characteristic B Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG	SD d	Tripping characteristic C Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
RCBOs, type A, super resistant K															
	**1P+N; 230 V AC** 10 000 / 3														
	30	10	2		--						**5SU1354-7VK10**		1	1 unit	1BC
		16			--						**5SU1354-7VK16**		1	1 unit	1BC
		20			--						**5SU1354-7VK20**		1	1 unit	1BC
		25			--						**5SU1354-7VK25**		1	1 unit	1BC
		32			--						**5SU1354-7VK32**		1	1 unit	1BC
		40			--						**5SU1354-7VK40**		1	1 unit	1BC
RCBOs, type A, short-time delayed G (only available in Austria)															
	**1P+N; 230 V AC** 10 000 / 3														
	30	10			**5SU1354-6LB10**		1	1 unit	1BC		**5SU1354-7LB10**		1	1 unit	1BC
		13			**5SU1354-6LB13**		1	1 unit	1BC		**5SU1354-7LB13**		1	1 unit	1BC
		16			**5SU1354-6LB16**		1	1 unit	1BC		**5SU1354-7LB16**		1	1 unit	1BC
		20			**5SU1354-6LB20**		1	1 unit	1BC		**5SU1354-7LB20**		1	1 unit	1BC
		25			**5SU1354-6LB25**		1	1 unit	1BC		**5SU1354-7LB25**		1	1 unit	1BC
		32			**5SU1354-6LB32**		1	1 unit	1BC		**5SU1354-7LB32**		1	1 unit	1BC
		40			**5SU1354-6LB40**		1	1 unit	1BC		**5SU1354-7LB40**		1	1 unit	1BC
RCBOs, type A, selective S															
	**2P, 400 V AC** 10 000														
	300	125	6.5		**5SU1624-6WK82**		1	1 unit	1BC		**5SU1624-7WK82**		1	1 unit	1BC
	**4P, 400 V AC** 10 000														
	300	125	11		**5SU1644-6WK82**		1	1 unit	1BC		**5SU1644-7WK82**		1	1 unit	1BC
	1000	125			**5SU1844-6WK82**		1	1 unit	1BC		**5SU1844-7WK82**		1	1 unit	1BC
RCBOs, type F, super resistant															
	**1P+N, 230 V AC** 10 000 / 3														
	30	6	2		**5SU1354-3KK06**		1	1 unit	1BC		**5SU1354-4KK06**		1	1 unit	1BC
		10			**5SU1354-3KK10**		1	1 unit	1BC		**5SU1354-4KK10**		1	1 unit	1BC
		13			**5SU1354-3KK13**		1	1 unit	1BC		**5SU1354-4KK13**		1	1 unit	1BC
		16			**5SU1354-3KK16**		1	1 unit	1BC		**5SU1354-4KK16**		1	1 unit	1BC
		20			**5SU1354-3KK20**		1	1 unit	1BC		**5SU1354-4KK20**		1	1 unit	1BC
		25			**5SU1354-3KK25**		1	1 unit	1BC		**5SU1354-4KK25**		1	1 unit	1BC
		32			**5SU1354-3KK32**		1	1 unit	1BC		**5SU1354-4KK32**		1	1 unit	1BC
		40			**5SU1354-3KK40**		1	1 unit	1BC		**5SU1354-4KK40**		1	1 unit	1BC

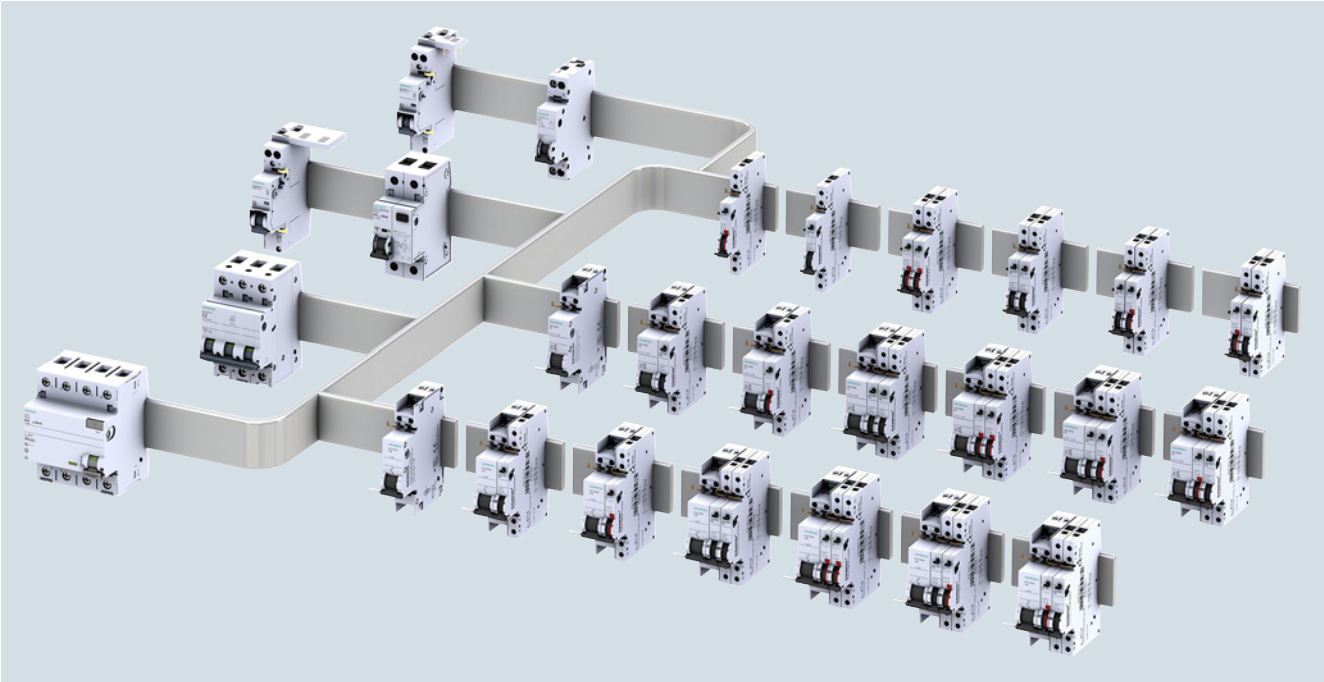
Minimum order quantity (PS) or a multiple thereof can be ordered.

Accessories

	Version	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		d					
	**Handle couplers for additional components** For mounting the additional components auxiliary switches, fault signal contacts, shunt trips and undervoltage releases onto 5SU1 RCBOs, you require a handle coupler (1 set = 5 units)	►	**5ST3805-1**		1	1 set	1AD
	**Locking device** For RCBOs, sealable and lockable		**5ST3801-1**		1	1 unit	1AD

Note:

The same additional components are used for RCBOs as for miniature circuit breakers, see chapter "Miniature Circuit Breakers".



5SM6 arc fault detection devices (AFDDs)

Overview

Characteristics

The Siemens portfolio of protective devices has been proving itself in the field for many years. This range of fuses, miniature circuit breakers and residual current protective devices has now been expanded to include AFDDs (arc fault detection devices). These AFDDs detect arcing faults caused by serial faults or loose contacts or as a result of insulation faults that enable contact between phase conductors or between phase and protective conductors. They therefore offer extremely effective protection against fires started by electrical faults.

Generally speaking, arcing faults in the circuit can result from damage to cables and other insulations and from contamination. Insulation faults result, for example, from vibrations, thermal expansion and contraction, mechanical loads and aging.

A distinction is made between 3 types of arcing faults:

Serial arcing faults

These are caused by breaks in the conductor or when a loose contact is in the circuit in series with the load. As the current flow in such cases is always lower than the operational load current, miniature circuit breakers and residual current protective devices are unable to detect such faults and initiate tripping.

The AFDD is specially designed to detect the specific characteristics of these arcing faults, and it reliably disconnects the affected circuit as soon as the limit values are exceeded.

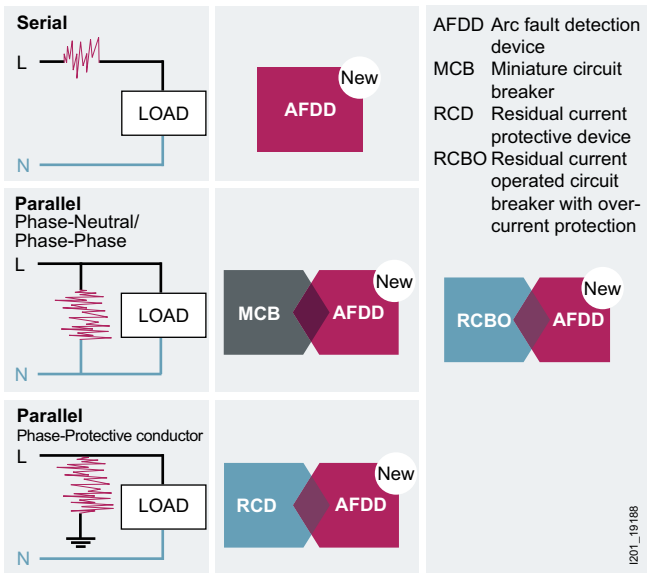
Parallel arcing faults between phase conductor/neutral conductor or phase conductor/phase conductor

These are caused by electric arcs resulting from damage to the insulation that permits contact between the two conductors. In this case, the level of current is determined by the impedances in the circuit. Depending on the rated current of the overcurrent protection device (for instance a miniature circuit breaker), this can be disconnected. However, if the impedance in the circuit is too high to reach the trip current of the overcurrent protection device, no tripping takes place. AFDDs disconnect the currents of arcing faults upwards of 2.5 A, thus providing reliable protection in the case of such faults.

Parallel arcing faults between phase conductor/protective conductor

Arcing faults against the protective conductor are reliably detected and shut down by residual current protective devices. Residual current protective devices with rated residual currents up to max. 300 mA have already been providing effective fire protection in such cases for many years. AFDDs also detect these arcing faults and provide adequate fire protection where no residual current protective device is implemented.

Closing of the safety gap on the IEC market



Preventing undesired tripping operations

Electric arcs and high-frequency signals occur during normal operation in networks with multiple electrical loads (e.g. electric motors, light switches, dimmers). The AFDD must not break the circuit in such cases.

Thanks to the sophisticated detection logic of our AFDDs, they are able to clearly distinguish between normal operational interference signals and hazardous arcing faults.

Minimum order quantity (PS) or a multiple thereof can be ordered.

Product versions and application

Siemens offers four product versions which can be used in various combinations with a range of 1MW/2MW wide miniature circuit breakers and/or RCBOs up to 16 A or 40 A rated current.

This simplifies product selection and reduces inventory, while enabling coverage of every conceivable application. It also means that our tried and tested protective devices (MCBs, RCBOs) can be combined with the new functionality provided by arc fault protection. In particular, the version with RCBOs offers a protective device that provides comprehensive personnel, short-circuit, overload and fire protection in a single device.

The version combined with a compact miniature circuit breaker in 1 MW is a space-saving alternative that is ideal for retrofitting.

Whether auxiliary switch or fault signal contact – the 5SM6 AFD units can be combined at random with the versatile range of additional components from the familiar portfolio of 5SY miniature circuit breakers and 5SU1 RCBOs.

This also enables connection to a higher-level I&C system.

The 5SM6 AFD units can be connected easily and quickly. The miniature circuit breakers or RCBOs can be mounted quickly and simply by just snapping them onto the mounting rail without the need for tools. For a fast and reliable power supply, the infeed can be implemented via a busbar assembly.

The AFDDs are primarily intended for protection of final circuits in cases where

- There is an increased risk of fire due to flammable materials being stored or processed (e.g. wood processing)
- Flammable building materials are in use (e.g. wood paneling)
- Valuable goods need to be protected (e.g. museums)
- There are rooms in which a fire might not be noticed immediately (e.g. bedrooms, children's bedrooms)

Status displays and self tests

In order to facilitate fault locating in the event of tripping, AFDDs have a display with 5 LEDs that provide information on the cause of tripping (serial/parallel arcing faults, overvoltage). The sophisticated detection electronics system also automatically checks the functionality of the AFDD. If the self-monitoring process detects a fault, the AFDD switches off and displays the corresponding indication.

	Arc fault detection device (5SM6) fault indication
	Device functional
	Serial or parallel arcing fault detected
	Overvoltage (> 275 V)
	Self-test failed
	No power supply

Integrated overvoltage protection

Depending on the load distribution in the three-phase current system, an interruption on the infeed side of the neutral conductor may cause a shift of the neutral point and thus an increase in voltage between the phase conductor and the neutral conductor. This increase in voltage can damage the loads or present a fire risk due to overloaded components.

In order to ensure all-round protection, the AFDDs are fitted with an overvoltage release that disconnects when the voltage between phase conductor and neutral conductor exceeds 275 V, thus isolating downstream loads from the hazardous line voltage.

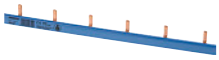
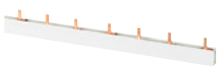
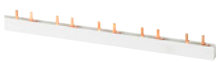
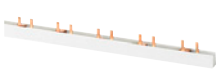
Technical specifications

Standards			IEC/EN 62606
Versions			2-pole
Rated voltage U_n		V	230
Rated current I_n		A	Up to 16/40
Rated frequency		Hz	50
Mains connection			Bottom
Tripping in the event of overvoltage		V	> 275
Degree of protection	Acc. to EN 60529 (VDE 0470-1)		IP20, with connected conductors
Touch protection	Acc. to EN 50274 (VDE 0660-514)		Finger and back-of-hand safe
Terminal tightening torque		Nm	2.0 ... 2.5
Terminal/conductor cross-sections • Solid and stranded • Finely stranded with end sleeve		 mm^2 mm^2	 0.75 ... 16 0.75 ... 10
Overvoltage category			III
Mounting position			Any
Service life average number of switching cycles			> 10000
Ambient temperature		°C	-25 ... +40, marked with 
Storage temperature		°C	-40 ... +75
Resistance to climate	Acc. to IEC 60068-2-30		28 cycles (55 °C; 95% rel. air humidity)
Pollution degree			2
CFC and silicone-free			Yes
Power loss		W	0.6

5SM6 arc fault detection devices (AFDDs)

Selection and ordering data

	Version	Rated current I_n	Mounting width	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		A	MW	d					
	AFD units NEW								
	For 5SY60 miniature circuit breakers (1 MW) 2-pole, 230 V AC; 50 Hz	Up to 16	1		**5SM6011-2**		1	1 unit	1BA
		Up to 40			**5SM6014-2**		1	1 unit	1BA
	For 5SU1.5 (2 MW) RCBOs, 5SU1 ... FA (3 MW) RCBOs, and 5SY/5SL4 (2 MW) miniature circuit breakers, but not suitable for 5SY5, 5SY8, 5SY60 2-pole; 230 V AC; 50 Hz	Up to 16	1		**5SM6021-2**		1	1 unit	1BA
		Up to 40			**5SM6024-2**		1	1 unit	1BA

	Version	Pin spacing	Length	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		MW	mm	d					
	Pin busbars for AFDDs (1+N)								
	10 mm², can be cut								
	**Single-phase, for 5SM601.-.**								
	Insulation, gray	2	962		**5ST3764-1**		1	10 units	1AD
	**Single-phase, for 5SM601.-.**								
	Insulation, blue, not angled NEW	2	962		**5ST3765-2**		1	10 units	1AD
	Insulation, blue, angled	2	962		**5ST3765-1**		1	10 units	1AD
	**Three-phase, for 5SM601.-.**								
	Insulation, gray	2	1032		**5ST3740-1**		1	1 unit	1AD
	**Two-phase (1+N), for 5SM602.-.**								
	Insulation, gray	1+2	996		**5ST3735-1**		1	1 unit	1AD
	**Four-phase (3+N), for 5SM602.-.**								
	Insulation, gray	1+2	926		**5ST3746-1**		1	1 unit	1AD
	10 mm², fixed length, cannot be cut NEW								
	**Three-phase, for 5SM601.-.**								
	Insulation, gray	2	216		**5ST3615-1**		1	10 units	1AD

Minimum order quantity (PS) or a multiple thereof can be ordered.

	Version	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		d					
Terminals							
	**Terminals, long** NEW • For conductors up to 25 mm^2 • Infeed on side • Specially for two-, three-, four-phase busbars		**5ST3771-1**		1	25 units	1AD
	Terminals, short • For conductors up to 25 mm^2 • Infeed on side • Specially for single-phase busbars and for 5ST3615-1 three-phase busbars	▶	**5ST3768**		1	25 units	1AD
	Terminals, short, IP20 NEW • For conductors up to 25 mm^2 • Infeed on side • Specially for single-phase busbars and for 5ST3615-1 three-phase busbars		**5ST3771-2**		1	10 units	1AD
	**End caps for 5ST37, can be cut**						
	• For two-phase and three-phase busbars	▶	**5ST3750**		1	10 units	1AD
	• For four-phase busbars	▶	**5ST3718**		1	10 units	1AD

Minimum order quantity (PS) or a multiple thereof can be ordered.

5ST busbars for modular installation devices

Overview

4-pole 5SM3 RCCBs are bus-mounted either together or in combination with miniature circuit breakers. RCCBs with an N wire connection on the left-hand side facilitate installation because the same type of standard busbars is used as for bus mounting miniature circuit breakers.

Busbars in 10 mm^2 and 16 mm^2 versions are available.

The extremely flexible 5ST36 busbar system with fixed lengths enables installation in any length as the busbars can be overlapped.

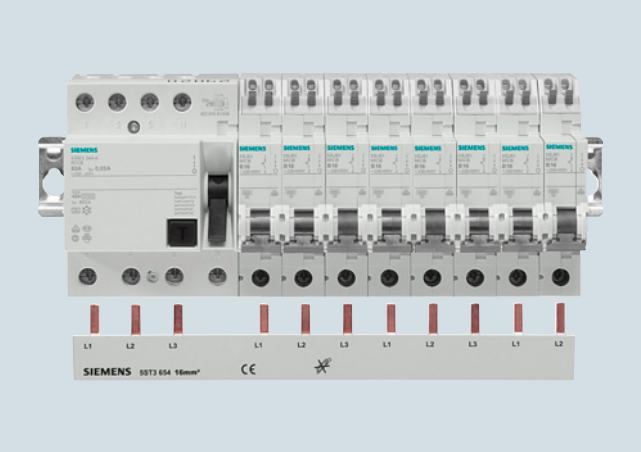
No further need for time-consuming tasks, such as cutting, cutting to length, deburring, cleaning of cut surfaces and mounting of end caps.

Any free pins on the busbars can be made safe by covering with touch protection.

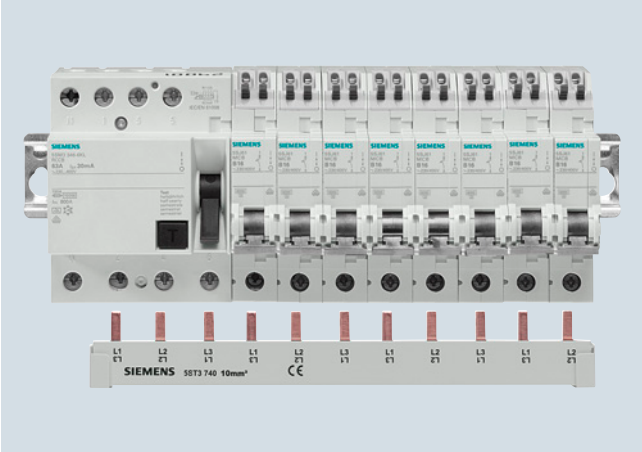
If several RCBOs are bus-mounted together, this is implemented with two-phase busbars, which are used as 1+N busbars.

Benefits

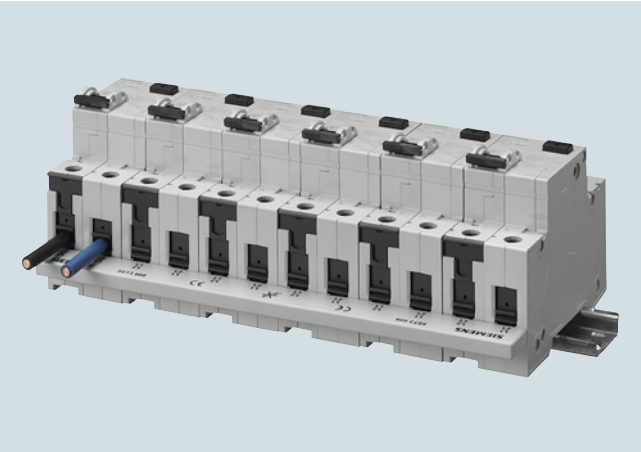
- Connection of miniature circuit breakers to 4-pole RCCBs with N connection right and three-phase busbar, using busbar specially designed for this application. No cutting or end caps required.



- Connection of miniature circuit breakers to 4-pole RCCBs with N connection left, with three-phase busbar that can be cut. No additional items to be stored and busbars that are always available.



- Connection of 1P+N RCBOs with two-phase busbar. No cutting or end caps required.



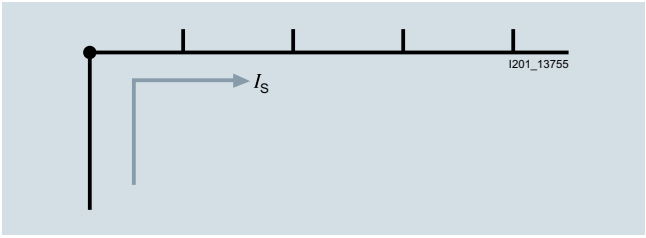
- Bus-mounting of residual current protective devices on busbar (three-phase + N) that can be cut. A proven and frequently used application.

Minimum order quantity (PS) or a multiple thereof can be ordered.

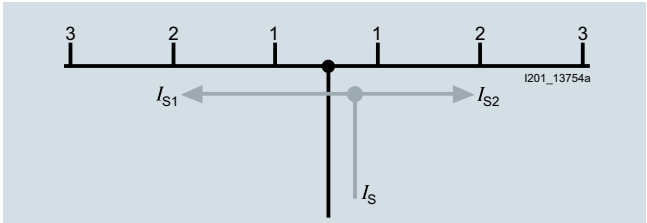
Technical specifications

			5ST3, 5ST2
Standards			EN 60439-1 (VDE 0660-500): 2005-01
Busbar material			SF-Cu F 24
Partition material			Plastic, Cycoloy 3600 Heat-resistant over 90 °C flame-retardant self-extinguishing dioxin and halogen-free
Rated operational voltage U_e		V AC	400
Rated current I_n			
• Cross-section 10 mm²		A	63
• Cross-section 16 mm²		A	80
Rated impulse withstand voltage U_{imp}		kV	4
Test pulse voltage (1.2/50)		kV	6.2
Rated conditional short-circuit current I_{cc}		kA	25
Resistance to climate			
• Constant atmosphere	Acc. to DIN 50015		23/83; 40/92; 55/20
• Humid heat	Corresponds to IEC 68-2-30		28 cycles
Insulation coordination	Acc. to IEC 60664-1 (VDE 0110-1)		
• Overvoltage category			III
• Pollution degree			2
Maximum busbar current I_S per phase			
• Infeed at the start of the busbar			
- Cross-section 10 mm²		A	63
- Cross-section 16 mm²		A	80
• Infeed at the center of the busbar			
- Cross-section 10 mm²		A	100
- Cross-section 16 mm²		A	130

Infeed at the start or end of the busbar

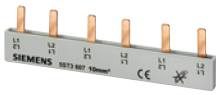
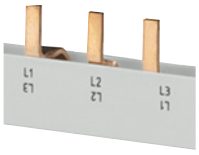
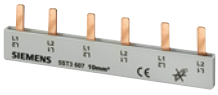


Infeed along the busbar or midpoint infeed



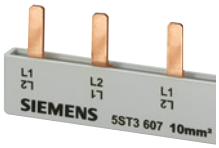
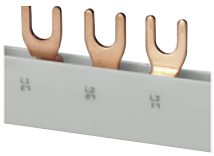
The sum of the outgoing current per branch (1, 2, 3 ... n) must not be greater than the max. busbar current I_S/phase.

Selection and ordering data

	Version	Pin spacing	Length	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		MW	mm	d					
	**5ST36 busbars, fixed lengths, cannot be cut, fully insulated**								
	For 1 RCCB 4P, N connection right, and 8 MCB 1P								
	• Three-phase, 10 mm²	1	210		**5ST3624**		1	10 units	1AD
	• Three-phase, 16 mm²	1	210		**5ST3654**		1	10 units	1AD
	For 6 RCBOs 1P+N together								
	• Two-phase, 10 mm²	1	210		**5ST3608**		1	10 units	1AD
	• Two-phase, 16 mm²	1	210		**5ST3638**		1	10 units	1AD
	**5ST37 busbars, 12 MW, can be cut, with end caps**								
	For 6 RCBOs 1P+N								
	• Two-phase, 10 mm²	1	216		**5ST3734**		1	1 unit	1AD
	• Two-phase, 16 mm²	1	216	▶	**5ST3704**		1	1 unit	1AD
	**5ST36 busbars, 10 mm², four-phase fixed lengths, cannot be cut, fully insulated**								
	For 6 RCBOs 1P+N	1	215		**5ST3623**		1	10 units	1AD

Minimum order quantity (PS) or a multiple thereof can be ordered.

5ST busbars for modular installation devices

	Version	Pin spacing	Length	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		MW	mm	d					
	**5ST36 busbars, 16 mm², four-phase fixed lengths, cannot be cut, fully insulated**								
	For 6 RCBOs 1P+N	1	215		**5ST3653**		1	10 units	1AD
	**5ST37 busbars, with end caps, can be cut, with touch protection**								
	For RCBO 1P+N and MCB 2P								
	• Four-phase, 10 mm²	1	1008		**5ST3770-2**		1	10 units	1AD
	• Four-phase, 16 mm²	1	1008		**5ST3770-3**		1	10 units	1AD
	For RCCBs 4P, N connection right and 6 MCBs 1P+N								
	• Four-phase, 10 mm²	1	288		**5ST3770-4**		1	10 units	1AD
	• Four-phase, 16 mm²	1	288		**5ST3770-5**		1	10 units	1AD
	**End caps for 5ST37, can be cut**								
	• For two-phase and three-phase busbars			▶	**5ST3750**		1	10 units	1AD
	• For four-phase busbars			▶	**5ST3718**		1	10 units	1AD
	**Touch protection**								
	For free connections, yellow (RAL 1004) 5 x 1 pin			▶	**5ST3655**		1	10 units	1AD
	**Busbar, 12 MW, with fork-type connections, can be cut, with end caps**								
	For bus mounting 5SM3 RCCBs together Three-phase + N, 16 mm²	1	216		**5ST2145**		1	1 unit	1AD
	**End caps for 5ST2145 busbars, can be cut**								
	For three-phase busbars			▶	**5ST2156**		1	10 units	1AD
	**Terminals up to 35 mm² (stranded), for direct infeed of 5ST2145 busbar**								
	Side-by-side mounting possible				**5ST2157**		1	5 units	1AD

Minimum order quantity (PS) or a multiple thereof can be ordered.

Overview

	Number of poles	Rated current I_n A	Rated residual currents $I_{\Delta n}$ mA	~ (Type A)
RCCB protective socket outlets				
• For mounting onto device box, equipped with RCCB and 2 SCHUKO® socket outlets	2	16	10, 30	✓
• Molded-plastic enclosures, equipped with RCCB and SCHUKO® socket outlet	2	16	10	✓

~ = Type A for AC and pulsating DC residual currents

Application

RCCB protective socket outlets

- Molded-plastic enclosure equipped with RCCB and flush-mounted SCHUKO® socket outlet or flush-mounted SCHUKO® double socket outlet
- For electrical devices where there is a risk of accidental contact with live parts in the event of damage
- Rated voltage: 230 V AC, 50 Hz to 60 Hz
- For outdoor connection of gardening equipment and socket outlets in workshops or for agricultural purposes
- Degree of protection IP21 (5SM1920-.), degree of protection IP54 (5SZ92.6)

Selection and ordering data

	Rated residual current $I_{\Delta n}$ mA	Rated current I_n A	SD d	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
	RCCB protective socket outlets							
	• RCCB protective socket outlets according to VDE 0664, for mounting on device boxes, equipped with residual current operated circuit breaker and 2 childproof SCHUKO® socket outlets, degree of protection IP21							
	10	16		**5SM1920-5**		1	1 unit	1BE
	30			**5SM1920-8**		1	1 unit	1BE
	• RCCB protective socket outlet according to VDE 0664 in molded-plastic enclosure, equipped with residual current operated circuit breaker and flush-mounted SCHUKO® socket outlet, degree of protection IP54							
	10	16		**5SZ9206**		1	1 unit	1BE
	30			**5SZ9216**		1	1 unit	1BE

Minimum order quantity (PS) or a multiple thereof can be ordered.

Accessories

	Version	SD	Article No. www.siemens.com/product?Article No.	Price per PU	PU (UNIT, SET, M)	PS	PG
		d					
	**Terminal covers, gray** For surface mounting, degree of protection IP40, sealable, with 35 mm standard mounting rail						
	• Up to 2.5 MW		**5SW3004**		1	1 unit	1BE
	• Up to 4.5 MW		**5SW3005**		1	1 unit	1BE
	**Wall enclosures, gray** For flush mounting, degree of protection IP40, with 35 mm standard mounting rail						
	• Up to 2.5 MW		**5SW3006**		1	1 unit	1BE
	• Up to 4.5 MW		**5SW3007**		1	1 unit	1BE
	**Molded-plastic enclosures, gray** For surface mounting, degree of protection IP54, sealable, with 35 mm standard mounting rail, with transparent hinged lid For 4.5 MW		**5SW1200**		1	1 unit	1BE
	**Covers** Can be assembled as mini distribution board, suitable for all devices, cover parts prepared for rail mounting of conventional label caps, comprising:						
	• End plates (for snapping onto standard mounting rail) ►		**5ST2134**		1	10 units	1AD
	• Angled profile (approx. 1 m long)		**5ST2135**		1	5 units	1AD
	• Alternative flat profiles (as a cover between the rows of devices, length approx. 1 m)		**5ST2136**		1	5 units	1AD
	**Touch protection** For 5SM3 RCCBs up to 80 A 1 set contains 12 units		**5SW3313**		1	1 set	1BE
	**Fixing parts** Plastic 4 MW		**5ST2201**		1	1 unit	1AD
	**Device labels** Adhesive, for modular installation devices, e.g. 5SY, 5SL, 5TL1, etc.						
	Versions						
	• 15 mm x 6 mm, white (WIN 098)		**8WH8210-0AA35**		100	3740 units	1BT
	• 15 mm x 6 mm, yellow (WIN 099)		**8WH8210-0AA36**		100	3740 units	1BT
	Labeling system Available from:		Murrplastik Systemtechnik GmbH Postfach 1143 71570 Oppenweiler, Germany Telephone: +49 7191-482-0 Email: info@murrplastik.de				

Minimum order quantity (PS) or a multiple thereof can be ordered.

Application

Standards	Application	Required $I_{\Delta n}$ [mA]	Recommended Siemens residual current protective devices			
			Type A	Type F	SIQUENCE type B/type B+	SIGRES
DIN VDE 0100-410	Protection against electric shock	30 ... 500	✓	✓	✓	✓
	Socket outlets up to 20 A, outdoor plants	10 ... 30	✓	✓	--	--
DIN VDE 0100-482	Fire protection for particular risks or safety hazards	30, 300	✓	✓	✓	--
DIN VDE 0100-701	Rooms WITH baths or showers, socket outlets in zone 3	10 ... 30	✓	✓	--	--
DIN VDE 0100-702	Basins for swimming pools and other basins	10 ... 30	✓	--	--	✓
DIN VDE 0100-703	Rooms and cabins with sauna heating	10 ... 30	✓	--	--	✓
DIN VDE 0100-704 BGI 608	Building sites, socket outlet current circuits up to 32 A and for handheld equipment, plug-and-socket devices I_n > 32 A	≤ 30	✓	✓	✓	✓
		≤ 500	✓	✓	✓	✓
DIN VDE 0100-705	Agricultural and general horticultural premises, socket outlet current circuits	≤ 500	✓	✓	--	✓
		≤ 30	✓	✓	--	✓
DIN VDE 0100-706	Conductive areas with limited freedom of movement, permanently mounted equipment	10 ... 30	✓	--	--	--
DIN VDE 0100-708	Electrical installations on camping sites, fixed feeding points for every socket outlet and every final circuit	10 ... 30	✓	--	--	✓
DIN VDE 0100-710	Medical premises in TN-S system, depending on application group 1 or 2 and equipment	10 ... 30	✓	--	✓	--
		≤ 300	✓	--	✓	--
DIN VDE 0100-712	Solar PV power supply systems (without simple separation)	≤ 300	--	--	✓	--
DIN VDE 0100-723	Classrooms with experiment equipment	10 ... 30	--	--	✓	--
DIN VDE 0100-739	Additional protection against direct contact in homes	10 ... 30	✓	--	--	--
EN 50178 (VDE 0160)	Fitting of power installations with electronic equipment	General requirements for correct selection when using res. current protection	✓	✓	✓	--
EN 50293 (VDE 0832-100)	Traffic signal systems • Class T1 • Class U1	 ≤ 300 ≤ 30	 ✓ ✓	 -- --	 -- --	 ✓ ✓
	Food processing and chemical industry	≤ 30 (recommended)	✓	--	--	✓

Note:

For reasons of basic fire protection, we recommend the use of residual current protective devices with maximum 300 mA rated residual current.

Notes