

Circuit breakers for equipment

For advanced applications for industry and mechanical engineering



5SY17

Standards

Standards

IEC/EN 60934
UL 1077

Basic data

Breaking capacity I_{cn}	At rated voltage	kA	3
Rated current		A	0.5 ... 16
Number of poles			1P+AS
DC tripping	Magnetic		F1 (2.5 ... 4 × I_n) F2 (4 ... 7 × I_n)
	Thermal		1.05 × holding current 1.35 × tripping current TC3 1.35 × I_n
	Electronic		–

Approvals

General product approvals

CCC,
cULus

Voltage/frequency

Rated voltage AC	Acc. to IEC/DIN EN 60934	V	230
	Acc. to UL 1077	V	277
Min. operational voltage AC		V	12 ¹⁾
Max. operational voltage AC		V	250
Rated voltage DC per phase pole		V	60
Min. operational voltage DC per phase pole		V	12 ¹⁾
Max. operational voltage DC per phase pole		V	62.5 ²⁾
Rated impulse voltage U_{imp}		kV	4
Rated frequency f_n		Hz	50/60

Auxiliary switch

Min. operational voltage (AC)	V	12
Max. operational voltage (AC)	V	250
Min. operational voltage (DC)	V	12
Max. operational voltage (DC)	V	60
Utilization category AC-12		6 A at 230 V AC
Utilization category AC-14		6 A at 230 V AC
Utilization category DC-13		1 A at 60 V DC

Connection

Dual-chamber terminal			–
Conductor cross-section 1 wire	Solid/stranded	mm ²	0.75 ... 16
	Finely stranded with end sleeve	mm ²	0.75 ... 10
	Finely stranded with insulated end sleeve	mm ²	0.75 ... 10
	Finely stranded without end sleeve	mm ²	0.75 ... 16
	Conductor cross-section AWG		–
2-wire (same cross-section)	Solid/stranded	mm ²	0.75 ... 4
	Finely stranded with end sleeve	mm ²	0.75 ... 2.5
	Finely stranded with insulated end sleeve	mm ²	0.75 ... 1.5
	Finely stranded without end sleeve	mm ²	0.75 ... 4
Terminal tightening torque		Nm	2.0 ... 2.5 max.
		lb-in	17.7 ... 22.1

Ambient conditions

Ambient temperature	°C	–25 ... +60 ³⁾
Storage temperature	°C	–40 ... +70
Shock acc. to IEC 60068-2-27 150 m/s ² at 11 ms half-sine		–
Resistance to vibrations acc. to IEC 60068-2-6: 5 ... 25 Hz (±1 mm) and at 25 ... 150 Hz (50 m/s ²)		–
Resistant to shock and vibrations acc. to EN 61373 and EN 50155 "1B" (railway engineering)		■
Fire behavior of materials acc. to EN 45545-2 (fire protection on railway vehicles)		■
Degree of pollution for overvoltage category	Acc. to IEC	2/III

Further information

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¹⁾ At a minimum current of 100 mA

²⁾ The operating voltage of 62.5 V DC per pole takes into account a battery charging voltage with a peak value of 72 V

³⁾ Max. 85% rel. humidity, > 45 °C max. 0.056 kg/m³ abs. humidity

⁴⁾ Max. 95% humidity



5SK9

EN 61000-6-2, EN 61000-6-3, EN 60068-2-78,
EN 50178, EN 60068-2-6, EN 60068-2-27,
UL 508, UL 2367

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1 ... 8
1P+AS
—
—
Overload $1.2 \times I_n/1s$ | Short-circuit $2 \times I_n/< 10\text{ ms}$



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—

—

24

—

30

0.5

—

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—

0.2 ... 4
0.2 ... 2.5
0.2 ... 2.5
—
AWG 24 ... 12

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−25 ... +60 ⁴⁾
−40 ... +70

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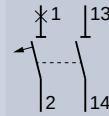
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Electromechanical

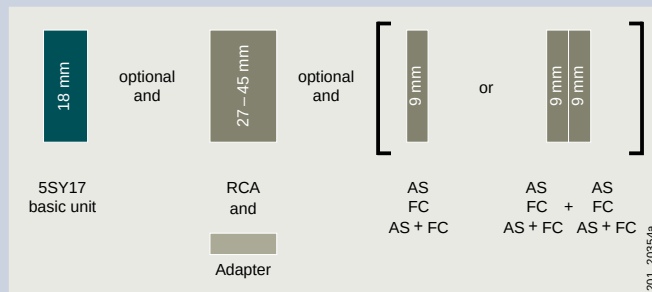


Rated voltage U_n 230 V AC/12 ... 62.5 V DC
Mounting width 1 MW (18 mm)



Rated current I_n	Characteristic	
	F1 (quick)	F2 (slow)
0.5 A	5SY1705-2	5SY1705-4
1 A	5SY1701-2	5SY1701-4
2 A	5SY1702-2	5SY1702-4
4 A	5SY1704-2	5SY1704-4
6 A	5SY1706-2	5SY1706-4
8 A	5SY1708-2	5SY1708-4
10 A	5SY1710-2	5SY1710-4
16 A	5SY1716-2	5SY1716-4

Mounting concept



AS Auxiliary switches
 FC Fault signal contacts
 AS+FC Auxiliary switches and fault signal contacts
 RCA Remote control auxiliaries

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Accessories

Auxiliary switches (AS)		Article No.
1 NO + 1 NC	Standard	5ST3010
	For low power	5ST3013
	For low power (with diode)	5ST3013-0XX01
2 NO	Standard	5ST3011
	For low power	5ST3014
2 NC	Standard	5ST3012
	For low power	5ST3015
1 CO	Standard	5ST3016
Fault signal contacts (FC)		Article No.
1 NO + 1 NC		5ST3020
2 NO		5ST3021
2 NC		5ST3022
Auxiliary switches and fault signal contacts (AS+FC)		Article No.
1 CO (AS) + 1 CO (FC)		5ST3062
5ST3 COM (AS+FC)		5ST3062-0MC

Remote control auxiliaries (RCA)		Article No.
Basic	12 ... 30 V AC, 12 ... 48 V DC	5ST3053
	177 ... 270 V AC	5ST3054
Power	12 ... 30 V AC, 12 ... 48 V DC	5ST3055
	177 ... 270 V AC	5ST3056
Power with ARD	12 ... 30 V AC, 12 ... 48 V DC	5ST3057
	177 ... 270 V AC	5ST3058
Power with extended function	12 ... 30 V AC, 12 ... 48 V DC	5ST3070
	170 ... 277 V AC, 77 ... 286 V DC	5ST3071
Communication-capable	100 ... 240 V AC	5ST3072-0MC new
Communication-capable with RCD/IR test	100 ... 240 V AC	5ST3073-0MC new
Adapters for remote control auxiliaries (RCA)		Article No.
1 MW		5ST3820-6

5SK9 circuit breakers for equipment

Electronic



	1P+AS
Rated voltage U_n	24 V DC
Mounting width	6.2 mm

Rated current I_n	
1 A	5SK9101-1
2 A	5SK9102-1
3 A	5SK9103-1
4 A	5SK9104-1
6 A	5SK9106-1
8 A	5SK9108-1

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Specific accessories

Connecting combs				
	Type	Number of poles	Max. load current I_{max}	Article No.
	For parallel infeed	2-pole	32 A	8WH9020-6CC10
	For remote signal – group signal	2-pole	32 A	8WH9020-6CF10
Reducing combs for terminal blocks of 10 mm ²				
	Type	Number of poles	Max. load current I_{max}	Article No.
	For bypassing the power supply	2-pole	40 A	8WH9020-0AC10

See general accessories, from page 3/62 onwards