

Miniature Circuit Breakers

Additional Components

Electrical components

3

Technical specifications

		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 appendix, chapter 20		
Short-circuit protection		Miniature circuit breaker or gG 6 A fuse		
Contact load				
• Min.		50 mA, 24 V	1 mA/5 V DC	50 mA, 24 V
• Max.		--	50 mA/30 V DC	--
• 400 V AC, AC-14, NO	A	2	--	2
• 230 V AC, AC-14, NO	A	6	--	6
• 400 V AC, AC-13, NC	A	2	--	2
• 230 V AC, AC-13, NC	A	6	--	6
• 220 V DC, DC-13, NO+NC	A	1	--	1
• 110 V DC, DC-13, NO+NC	A	1	--	1
• 60 V DC, DC-13, NO+NC	A	3	--	3
• 24 V DC, DC-13, NO+NC	A	6	--	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
Terminals				
• Terminal tightening torque		Nm lb/in	0.5 4.5	0.5 4.5
Mounting position		Any	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	

		Undervoltage releases (UR)	Shunt trips (ST)		Remote controlled mechanisms (RC)
		5ST304.	5ST3030	5ST3031	5ST3050
Standards		EN 60947-1			
Rated voltages U_n	V AC	230	110 ... 415	24 ... 48	230
	V DC	24, 110	110	24 ... 48	--
• Operating range U_n		0.85 ... 1.1 × U_n	0.7 ... 1.1 × U_n		0.9 ... 1.15 × U_n
• Rated frequency f_n	Hz	--	50 ... 60		50 ... 60
Response limits					
• Tripping		< 0.35 ... 0.7 × U_n	--		--
Short-circuit protection		Miniature circuit breakers B/C 6 A or fuse gG 6 A			
Minimum contact load		50 mA, 24 V	50 mA, 24 V		--
Tripping operations		max. 2000	max. 2000		--
Service life, on average, with rated load		20000 actuations	20000 actuations		20000 actuations 5000 at RC unit
Conductor cross-sections		mm ² AWG	0.5 ... 2.5 22 ... 14	0.5 ... 2.5 22 ... 14	0.5 ... 2.5 22 ... 14
Terminals					
• Terminal tightening torque		Nm lb/in	0.8 6.8	0.8 6.8	0.4 ... 0.5 4.5
Mounting position		Any	Any		Any
Ambient temperature		°C	-25 ... +55	-25 ... +55	-20 ... +55
Storage temperature		°C	-40 ... +75	-40 ... +75	-40 ... +75
Resistance to climate		Acc. to IEC 60068-2-30 Cycles	28		
Shock		Acc. to IEC 60068-2-27 m/s	50 at 11 ms half-sine		
Resistance to vibrations		Acc. to IEC 60068-2-6 m/s ²	50 at 10 ... 150 Hz		
Switching frequency		--			2 actuations per minute
Switching duration		s	--		< 2
Minimum command duration		s	--		0.2 continuous command possible
Rated power dissipation		VA	--		No power consumption, in switching operation 26
Behavior in the event of control voltage failure		--			No change

For technical information on RC units, please see chapter "Residual Current Protective Devices/Arc Fault Detection Devices (AFDDs)".