

3RT, 3RH Contactors for Special Applications

3RT23 Contactors for Switching Resistive Loads (AC-1)

4-pole, 4 NO, 18 ... 42 A

Overview

AC and DC operation

EN 60947-4-1 (VDE 0660 Part 102).

The contactors are suitable for use in any climate. They are finger-safe according to EN 50274.

The accessories for the 3-pole SIRIUS contactors can also be used for the 4-pole versions.

With size S0, two auxiliary contacts 1 NO + 1 NC are included in the basic version.

Mountable auxiliary contacts

Size S00

4 auxiliary contacts, of which up to 3 can be NC contacts.

Size S0

4 additional auxiliary contacts.

Application

The contactors are suitable for:

- Switching resistive loads
- Isolating systems with ungrounded or poorly grounded neutral conductors
- System transfers when alternative AC power supplies are used
- Use as contactors which only carry current and do not have to switch in case of inductive loads - e. g. variable-speed operating mechanisms
- Switching mixed loads in distribution systems (e. g. for supplying heaters, lamps, motors, PC power supply units) with p.f. > 0.8 according to IEC 60947-4-1, test conditions for utilization category AC-1

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Selection and ordering data

AC operation



3RT23 1.-1A..0

3RT23 1.-2A..0

3RT23 2.-1A..0

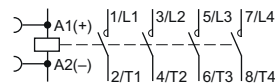
3RT23 2.-2A..0

Rated data AC-1		Auxiliary contacts		Rated control supply voltage $U_s^{1)}$ 50/60 Hz	Screw terminals	Weight approx.	Spring-type terminals	Weight approx.
Operational current I_e	Ratings of AC loads at 60 Hz	Ident. No.	Version		Order No.		Order No.	
A	460 V HP					kg		kg

For screw and snap-on mounting onto TH 35 standard mounting rail

Size S00

Auxiliary switches can be retrofitted

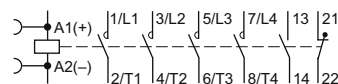


18	5	--	--	--	24 110/120 220/240	3RT23 16-1AB00 3RT23 16-1AK60 3RT23 16-1AP60	0.220 0.220 0.220	3RT23 16-2AB00 3RT23 16-2AK60 3RT23 16-2AP60	0.240 0.240 0.240
20	5	--	--	--	24 110/120 220/240	3RT23 17-1AB00 3RT23 17-1AK60 3RT23 17-1AP60	0.220 0.220 0.220	3RT23 17-2AB00 3RT23 17-2AK60 3RT23 17-2AP60	0.240 0.240 0.240

Size S0

Terminal designations according to EN 50012

1 NO + 1 NC, identification number **11E**



30 ²⁾	10	11E	1	1	24 110/120 220/240	3RT23 25-1AC20 3RT23 25-1AK60 3RT23 25-1AP60	0.430 0.430 0.430	3RT23 25-2AC20 3RT23 25-2AK60 3RT23 25-2AP60	0.490 0.490 0.490
35 ²⁾	10	11E	1	1	24 110/120 220/240	3RT23 26-1AC20 3RT23 26-1AK60 3RT23 26-1AP60	0.430 0.430 0.430	3RT23 26-2AC20 3RT23 26-2AK60 3RT23 26-2AP60	0.490 0.490 0.490
42 ²⁾	10	11E	1	1	24 110/120 220/240	3RT23 27-1AC20 3RT23 27-1AK60 3RT23 27-1AP60	0.430 0.430 0.430	3RT23 27-2AC20 3RT23 27-2AK60 3RT23 27-2AP60	0.490 0.490 0.490

For other voltages see page 3/17.
For accessories and spare parts, see page 3/93.

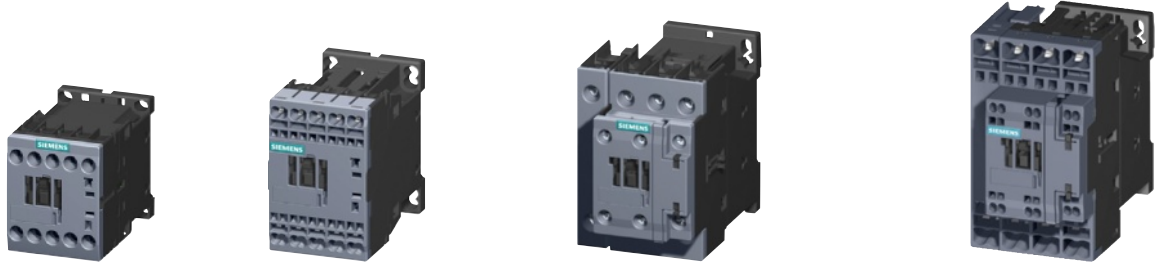
- 1) For coil operating range, see page 3/17.
- 2) Minimum conductor cross-section 8 AWG.

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DC operation - DC solenoid system

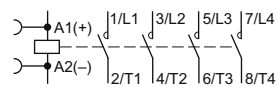


Rated data AC-1		Auxiliary contacts		Rated control supply voltage U_s	Screw terminals	Weight approx.	Spring-type terminals	Weight approx.
Operational current I_e	Ratings of AC loads at 60 Hz and 460 V	Ident. No.	Version		Order No.		Order No.	
A	HP		NO NC V DC			kg		kg

For screw and snap-on mounting onto TH 35 standard mounting rail

Size S00

Auxiliary switches can be retrofitted

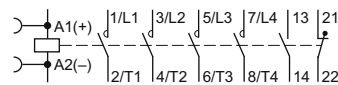


18	5	--	--	--	24 125	3RT23 16-1BB40 3RT23 16-1BG40	0.280 0.280	3RT23 16-2BB40 3RT23 16-2BG40	0.300 0.300
20	5	--	--	--	24 125	3RT23 17-1BB40 3RT23 17-1BG40	0.220 0.220	3RT23 17-2BB40 3RT23 17-2BG40	0.300 0.300

Size S0

Terminal designations according to EN 50012

1 NO + 1 NC, identification number **11E**



30 ¹⁾	10	11E	1	1	24 125	3RT23 25-1BB40 3RT23 25-1BG40	0.620 0.620	3RT23 25-2BB40 3RT23 25-2BG40	0.680 0.680
35 ¹⁾	10	11E	1	1	24 125	3RT23 26-1BB40 3RT23 26-1BG40	0.620 0.620	3RT23 26-2BB40 3RT23 26-2BG40	0.680 0.680
42 ¹⁾	10	11E	1	1	24 125	3RT23 27-1BB40 3RT23 27-1BG40	0.620 0.620	3RT23 27-2BB40 3RT23 27-2BG40	0.680 0.680

For other voltages see page 3/17.
For accessories and spare parts, see page 3/93.

¹⁾ Minimum conductor cross-section 8 AWG.

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More information

Contactors	Type		3RT23 16	3RT23 17	3RT23 25	3RT23 26	3RT23 27
	Size		S00		S0		
	Width	mm	45		45		
General data							
Permissible mounting position¹⁾							
Mechanical endurance							
	Operating cycles		30 million		10 million		
Electrical endurance at $I_e/AC-1$							
	Operating cycles		Approx. 0.5 million				
Rated insulation voltage U_i (pollution degree 3)							
	V		690				
Permissible ambient temperature							
	• During operation	°C	-25 ... +60				
	• During storage	°C	-55 ... +80				
Degree of protection Acc. to EN 60947-1, Appendix C							
	Device		IP20				IP20
	Connection range						IP00
Touch protection acc.to EN 50274							
Finger-safe							
Short-circuit protection of contactors without overload relays							
Main circuit							
Fuse links, gG operational class:							
LV HRC 3NA, DIAZED 5SB, NEOZED 5SE	• Type of coordination "1" ¹⁾	A	35		63		
	• Type of coordination "2" ¹⁾	A	20		20		
according to IEC 60947-4-1/ EN 60947-4-1	• Weld-free	A	10		16		
Control							
Solenoid coil operating range							
• AC operation	- At 50 Hz		0.8 ... 1.1 x U_s		--		
	- At 60 Hz		0.85 ... 1.1 x U_s		--		
• DC operation	- At 50 °C		0.8 ... 1.1 x U_s		--		
	- At 60 °C		0.85 ... 1.1 x U_s		--		
• AC/DC operation			--		0.8 ... 1.1 x U_s		
Power consumption of the solenoid coils (when coil is cold and 1.0 x U_s)							
• AC operation, 50 Hz, standard version	- Closing	VA	--		77		
	- P.f.		--		0.82		
	- Closed	VA	--		9.8		
	- P.f.		--		0.25		
• AC operation, 50/60 Hz, standard version	- Closing	VA	27/24.3	37/33	81/79		
	- P.f.		0.8/0.75	0.8/0.75	0.72/0.74		
	- Closed	VA	4.2/3.3	5.7/4.4	10.5/8.5		
	- P.f.		0.25/0.25	0.25/0.25	0.25/0.28		
• AC operation, 60 Hz, USA, Canada	- Closing	VA	31.7	43	87		
	- P.f.		0.77	0.77	0.76		
	- Closed	VA	4.8	6.5	9.4		
	- P.f.		0.25	0.25	0.28		
• DC operation	- Closing = Closed	W	4		5.9		
Operating times for 0.8 ... 1.1 x U_s²⁾ Total break time = Opening delay + Arcing time							
• AC operation	- Closing delay	ms	8 ... 35	8 ... 33	9 ... 38	8 ... 40	
	- Opening delay	ms	3.5 ... 14	4 ... 15	4 ... 16	4 ... 16	
• DC operation	- Closing delay	ms	30 ... 100		50 ... 170		
	- Opening delay	ms	7 ... 13		15 ... 17.5		
• Arcing time		ms	10 ... 15		10		
Main circuit							
AC capacity							
Utilization category AC-1, switching resistive loads							
• Rated operational currents I_e	At 40 °C, up to 600 V	A	18	20	30	35	42
• Rated power for AC loads P.f. = 0.95 (at 40 °C)	At 460 V	HP	5	5	10	10	10
• Minimum conductor cross-section for loads with I_e	At 40 °C	mm ²	2.5	2.5	10	10	10
	At 60 °C	mm ²	2.5	2.5	10	10	10
Utilization category AC-3							
• Rated operational currents I_e	At 60 °C, up to 400 V	A	9	12	15.5	17	17
• Rated power for slipping or squirrel-cage motors at 60 Hz	At 460 V	HP	5	5	10	10	10

¹⁾ In accordance with the corresponding 3-pole 3RT2. contactors.

²⁾ With size S00, DC operation: Operating times at 0.85 ... 1.1 x U_s .