SIEMENS

Data sheet



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 24 V DC, auxiliary contacts: 1 NC, screw terminal, size: S00, upright mounting position

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S00
product extension	
 function module for communication 	No
auxiliary switch	Yes
power loss [W] for rated value of the current	
 at AC in hot operating state 	1.5 W
 at AC in hot operating state per pole 	0.5 W
 without load current share typical 	4 W
type of calculation of power loss depending on pole	quadratic
insulation voltage	
 of main circuit with degree of pollution 3 rated value 	690 V
of auxiliary circuit with degree of pollution 3 rated value	690 V
surge voltage resistance	
of main circuit rated value	6 kV
of auxiliary circuit rated value	6 kV
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at DC	7.3g / 5 ms, 4.7g / 10 ms
shock resistance with sine pulse	
• at DC	11,4g / 5 ms, 7,3g / 10 ms
mechanical service life (operating cycles)	
of contactor typical	30 000 000
 of the contactor with added electronically optimized auxiliary switch block typical 	5 000 000
 of the contactor with added auxiliary switch block typical 	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2009
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
during operation	-25 +60 °C
during storage	-55 +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %
Environmental footprint	

Environmental Product Declaration(EPD)	Yes
Global Warming Potential [CO2 eq] total	153 kg
Global Warming Potential [CO2 eq] total Global Warming Potential [CO2 eq] during manufacturing	1.42 kg
Global Warming Potential [CO2 eq] during operation	152 kg
Global Warming Potential [CO2 eq] after end of life	-0.305 kg
Main circuit	
number of poles for main current circuit	3
number of NO contacts for main contacts	3
operating voltage	
at AC-3 rated value maximum	690 V
at AC-3e rated value maximum	690 V
operational current	
 at AC-1 at 400 V at ambient temperature 40 °C rated value 	22 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	22 A
— up to 690 V at ambient temperature 60 °C rated value	20 A
• at AC-3	
— at 400 V rated value	12 A
— at 500 V rated value	9.2 A
— at 690 V rated value	6.7 A
at AC-3e — at 400 V rated value	12 A
— at 500 V rated value	9.2 A
— at 690 V rated value	6.7 A
at AC-4 at 400 V rated value	8.5 A
• at AC-5a up to 690 V rated value	19.4 A
at AC-5b up to 400 V rated value	9.9 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	7.2 A
— up to 400 V for current peak value n=20 rated value	7.2 A
— up to 500 V for current peak value n=20 rated value	7.2 A
— up to 690 V for current peak value n=20 rated value	6.7 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	4.8 A
— up to 400 V for current peak value n=30 rated value	4.8 A
— up to 500 V for current peak value n=30 rated value	4.8 A
— up to 690 V for current peak value n=30 rated value	4.8 A
minimum cross-section in main circuit at maximum AC-1 rated value	4 mm²
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	4.1 A
at 690 V rated value	3.3 A
operational current	
at 1 current path at DC-1 at 24 V rated value	20 A
— at 24 V rated value — at 60 V rated value	20 A 20 A
— at 110 V rated value	2.1 A
— at 220 V rated value	0.8 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
with 2 current paths in series at DC-1	
— at 24 V rated value	
— at 60 V rated value	20 A
— at 110 V rated value	20 A 20 A
— at 110 v fated value	
— at 220 V rated value	20 A
	20 A 12 A
— at 220 V rated value	20 A 12 A 1.6 A

	— at 24 V rated value	20 A
	— at 60 V rated value	20 A
	— at 110 V rated value	20 A
	— at 220 V rated value	20 A
	— at 440 V rated value	1.3 A
	— at 600 V rated value	1 A
	• at 1 current path at DC-3 at DC-5	
	— at 24 V rated value	20 A
- with 2 current paths in series at DC-3 at DC-5	— at 60 V rated value	0.5 A
	— at 110 V rated value	0.15 A
	 with 2 current paths in series at DC-3 at DC-5 	
• with 3 current paths in series at DC-3 at DC-5 = 124 V rated value 20 A — at 16 V rated value 20 A — at 170 V rated value 20 A — at 170 V rated value 20 A — at 140 V rated value 0.2 A — at 600 V rated value 0.2 A — at 600 V rated value 0.2 A • at 220 V rated value 5.5 kW • at 230 V rated value 5.5 kW — at 200 V rated value 5.5 kW — at 500 V rated value 5.5 kW — at 600 V rated value 5.5 kW — at 4400 V rated value 5.5 kW — at 600 V rated value 5.5 kW — at 230 V rated value 5.5 kW — at 600 V rated value 2.8 kVA • up to 230 V for current peak value ne20 rated value 2.8 kVA • up to 230 V for current peak value ne20 rated value 4.9 kVA • up to 690 V for current peak value ne30 rated value 6.2 kVA<	— at 24 V rated value	20 A
- with 3 current paths in series at DC-3 at DC-5	— at 60 V rated value	5 A
	— at 110 V rated value	0.35 A
	 with 3 current paths in series at DC-3 at DC-5 	
	— at 24 V rated value	20 A
	— at 60 V rated value	20 A
	— at 110 V rated value	20 A
operating power ■ at AC-2 at 40 OV rated value ■ at AC-3 — at 230 V rated value ■ at 40 OV rated value ■ at 40 OV rated value ■ at 500 V rated value ■ at 500 V rated value ■ at 500 V rated value ■ at 600 V rated value ■ at 500 V rated value ■ at 220 V rated value ■ at 220 V rated value ■ at 500 V rated value ■ 5.5 kW ■ at 690 V rated value ■ 5.5 kW ■ at 690 V rated value ■ 5.5 kW operating power for approx. 200000 operating cycles at AC-4 ■ at 400 V rated value ■ 2.5 kW operating apparent power at AC-8 ■ up to 230 V for current peak value n=20 rated value ■ up to 500 V for current peak value n=20 rated value ■ up to 690 V for current peak value n=20 rated value ■ up to 690 V for current peak value n=20 rated value ■ up to 690 V for current peak value n=20 rated value ■ up to 500 V for current peak value n=20 rated value ■ up to 500 V for current peak value n=30 rated value ■ up to 500 V for current peak value n=30 rated value ■ up to 500 V for current peak value n=30 rated value ■ up to 500 V for current peak value n=30 rated value ■ up to 500 V for current peak value n=30 rated value ■ up to 500 V for current peak value n=30 rated value ■ up to 500 V for current peak value n=30 rated value ■ up to 500 V for current peak value n=30 rated value ■ up to 500 V for current peak value n=30 rated value ■ up to 500 V for current peak value n=30 rated value ■ 1.9 kVA \$ 1.9 kVA \$ 2.0 kVA \$ 2.0 kVA \$ 2.0 kVA ■ 2.0 kVB ■ 2.0 kVA ■ 2.0 kVA		1.5 A
oet AC-2 at 400 V rated value 5.5 kW • at AC-3 — at 230 V rated value 3 kW — at 400 V rated value 5.5 kW — at 500 V rated value 5.5 kW — at 690 V rated value 5.5 kW • at AC-3e — at 230 V rated value — at 2500 V rated value 5.5 kW — at 900 V rated value 5.5 kW — at 900 V rated value 5.5 kW — at 900 V rated value 5.5 kW — at 800 V rated value 2.5 kW • at 400 V rated value 2.5 kW • at 400 V rated value 2.5 kW • at 800 V rated value 2.5 kW • at 800 V rated value 2.5 kW • up to 230 V for current peak value n=20 rated value 4.9 kVA • up to 500 V for current peak value n=20 rated value 8 kVA • up to 500 V for current peak value n=20 rated value 8 kVA • up to 500 V for current peak value n=30 rated value 3.3 kVA • up to 500 V for current peak value n=30 rated value 3.5 kVA • up to 690 V for current peak value n=30 rated value 4.1 kVA • up to 690 V for current peak value n=30 rated value<	— at 440 V rated value	0.2 A
• at AC-2 at 400 V rated value • at AC-3 — at 230 V rated value — at 690 V rated value • at 690 V rated value • at 690 V rated value • at 690 V rated value • at 690 V rated value • at 690 V rated value • at 690 V rated value • up to 400 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value • up to 400 V for current peak value n=30 rated value • up to 400 V for current peak value n=30 rated value • up to 400 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • 25 KVA Operating apparent power at AC-8a • up to 250 V for current peak value n=30 rated value • 1.9 kVA 2.9 kVA 3.9 kVA 4.1 kVA 4.1 kVA 4.1 kVA 4.1 kVA 4.1 kVA 4.2 kVA 4.3 kVA 4.1 kVA 4.3 kVA 4.4 kVA 4.5 kVA 4.6 kVA 4.7 kVA 4.7 kVA 4.7 kVA 4.8 kVA 4.9 kVA 5.7 kVA 4.9 kVA 6.7 kVA 4.1 kVA 6.9 kVA	— at 600 V rated value	0.2 A
• at AC-2 at 400 V rated value • at AC-3 — at 230 V rated value — at 690 V rated value • at 690 V rated value • at 690 V rated value • at 690 V rated value • at 690 V rated value • at 690 V rated value • at 690 V rated value • up to 400 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value • up to 400 V for current peak value n=30 rated value • up to 400 V for current peak value n=30 rated value • up to 400 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • 25 KVA Operating apparent power at AC-8a • up to 250 V for current peak value n=30 rated value • 1.9 kVA 2.9 kVA 3.9 kVA 4.1 kVA 4.1 kVA 4.1 kVA 4.1 kVA 4.1 kVA 4.2 kVA 4.3 kVA 4.1 kVA 4.3 kVA 4.4 kVA 4.5 kVA 4.6 kVA 4.7 kVA 4.7 kVA 4.7 kVA 4.8 kVA 4.9 kVA 5.7 kVA 4.9 kVA 6.7 kVA 4.1 kVA 6.9 kVA		
■ at 230 V rated value — at 400 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value — at 690 V rated value — at 690 V rated value — at 230 V rated value — at 400 V rated value — at 400 V rated value — at 690 V for current peak value n=20 rated value — up to 500 V for current peak value n=20 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 500 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value n=30 rated value — up to 690 V for current peak value n=40 rated value — up to 690 V for current peak value n=40 rated value — up to 690 V for current peak value n=60 rated value — up to 690 V for current peak value n=60 rated value — up to 690 V for current peak value n=60 rated value — up to 690 V for current peak value n=60 rated value — up to 690 V for current peak value n=60 rated value — up to 690 V for current peak value n=60 rated value — up to 690 V for c		5.5 kW
	• at AC-3	
- at 500 V rated value	— at 230 V rated value	3 kW
at AC-3e at 230 V rated value at 400 V rated value at 55 kW at 690 V rated value at 500 V rated value at 690 V rated value 55 kW 55 kW part 890 V rated value 55 kW 55 kW poperating power for approx. 200000 operating cycles at AC-4 at 400 V rated value at 690 V rated value 2 kW at 690 V rated value 2.5 kW poperating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value up to 400 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value 200 A; Use minimum cross-section acc. to AC-1 rated value limited to 1 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60	— at 400 V rated value	5.5 kW
at AC-3e at 230 V rated value at 500 V rated value 5.5 kW 5.5 kW peratting power for approx. 200000 operating cycles at AC-4 at 400 V rated value 5.5 kW operating power for approx. 200000 operating cycles at AC-4 at 400 V rated value 2 kW 5.5 kW operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value 1.9 kVA 3.3 kVA 4.1 kVA 5.7 kVA short-time withstand current in cold operating stae up to 1 imited to 1 s switching at zero current maximum i limited to 10 s switching at zero current maximum i limited to 10 s switching at zero current maximum i limited to 10 s switching at zero current maximum i limited to 10 s switching at zero current maximum i limited to 10 s switching at zero current maximum i limited to 10 s switching at zero current maximum i limited to 10 s switching at zero current maximum i limited to 10 s switching at zero current maximum i limited to 60 s switching at zero current maximum i limited to 60 s switching at zero current maximum i limited to 60 s switching at zero current maximum i limited to 60 s switching at zero current maximum i limited to 60 s switching at zero current maximum i limited to 60 s switching at zero current maximum i limited to 60 s switching at zero current maximum i limited to 60 s switching at zero current maximum i limited to 60 s switching at zero current maximum i limited to 60 s switching at zero current maximum i limited to 60 s switching at zero current maximum i limited to 60 s switching at zero current maximum i limited to 60	— at 500 V rated value	5.5 kW
- at 230 V rated value - at 400 V rated value - at 590 V rated value - at 690 V rated value - up to 230 V for current peak value n=20 rated value - up to 500 V for current peak value n=20 rated value - up to 690 V for current peak value n=20 rated value - up to 500 V for current peak value n=20 rated value - up to 500 V for current peak value n=20 rated value - up to 500 V for current peak value n=20 rated value - up to 500 V for current peak value n=30 rated value - up to 500 V for current peak value n=30 rated value - up to 500 V for current peak value n=30 rated value - up to 500 V for current peak value n=30 rated value - up to 690 V for current peak value n=30 rated value - up to 200 A; Use minimum cross-section acc. to AC-1 rate	— at 690 V rated value	5.5 kW
- at 400 V rated value - at 500 V rated value - at 690 V rated value 5.5 kW 5.5 kW operating power for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value • at 690 V rated value • at 690 V rated value • up to 230 V for current peak value n=20 rated value • up to 400 V for current peak value n=20 rated value • up to 590 V for current peak value n=20 rated value • up to 590 V for current peak value n=20 rated value • up to 590 V for current peak value n=20 rated value operating apparent power at AC-8a • up to 230 V for current peak value n=20 rated value operating apparent power at AC-8a • up to 590 V for current peak value n=30 rated value operating apparent power at AC-8a • up to 500 V for current peak value n=30 rated value operating apparent power at AC-8a • up to 500 V for current peak value n=30 rated value operating apparent power at AC-8a • up to 500 V for current peak value n=30 rated value operating apparent power at AC-8a • up to 500 V for current peak value n=30 rated value operating apparent power at AC-8a • up to 500 V for current peak value n=30 rated value operating apparent power at AC-8a • up to 500 V for current peak value n=30 rated value 1.9 kVA 3.3 kVA 4.1 kVA 5.7 kVA short-time withstand current in cold operating state up to 40 °C • limited to 1 s switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at ze	• at AC-3e	
- at 500 V rated value - at 690 V rated value operating power for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value • up to 230 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 400 V for current peak value n=30 rated value • up to 400 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • 2.8 kVA • 3.8 kVA • 2.9 kVA • 3.3 kVA • 4.1 kVA • 4	— at 230 V rated value	3 kW
operating power for approx. 200000 operating cycles at AC-4 at 400 V rated value at 690 V rated value 2 kW operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value up to 690 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C ilimited to 1 s switching at zero current maximum ilimited to 10 s switching at zero current maximum ilimited to 60 s switching at zero curren	— at 400 V rated value	5.5 kW
operating power for approx. 200000 operating cycles at AC-4 • at 400 V rated value • at 690 V rated value • at 690 V rated value operating apparent power at AC-6a • up to 230 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 690 V ror current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value • up to 690 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • limited to 1 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 60 s switching at zer		5.5 kW
operating power for approx. 200000 operating cycles at AC-4 at 400 V rated value at 690 V rated value 2 kW operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value sup to 690 V for current peak value n=30 rated value fup to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current neak value n=30 rated value up to 690 V for current neak value n=30 rated value up to 690 V for current neak value n=30 rated value up to 690 V for current maximum up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for c		5.5 kW
at 400 V rated value at 690 V rated value 2.5 kW 2.5 kW operating apparent power at AC-6a up to 230 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value sup to 690 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C Ilimited to 1 s switching at zero current maximum Ilimited to 5 s switching at zero current maximum Ilimited to 30 s switching at zero current maximum Ilimited to 60 s switching at zero	operating power for approx. 200000 operating cycles at AC-	
• at 690 V rated value operating apparent power at AC-6a • up to 230 V for current peak value n=20 rated value • up to 400 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a • up to 230 V for current peak value n=30 rated value • up to 400 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 60 s swit	4	
operating apparent power at AC-6a • up to 230 V for current peak value n=20 rated value • up to 400 V for current peak value n=20 rated value • up to 500 V for current peak value n=20 rated value • up to 690 V for current peak value n=20 rated value • up to 690 V for current peak value n=30 rated value • up to 230 V for current peak value n=30 rated value • up to 400 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • limited to 1 s switching at zero current maximum • limited to 1 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum 10 000 1/h operating frequency • at DC operating frequency • at AC-1 maximum • at AC-2 maximum 750 1/h	 at 400 V rated value 	2 kW
up to 230 V for current peak value n=20 rated value up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for c	at 690 V rated value	2.5 kW
up to 400 V for current peak value n=20 rated value up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 5 s switching at zero current maximum limited to 10 s switching at zero current maximum limited to 10 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum no-load switching frequency at DC 10 000 1/h at AC-1 maximum 1000 1/h at AC-2 maximum 750 1/h	operating apparent power at AC-6a	
up to 500 V for current peak value n=20 rated value up to 690 V for current peak value n=20 rated value up to 690 V for current peak value n=30 rated value up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 5 s switching at zero current maximum limited to 10 s switching at zero current maximum limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum olimited to 60 s switching at zero current maximum olimited to 60 s switc	 up to 230 V for current peak value n=20 rated value 	2.8 kVA
up to 690 V for current peak value n=20 rated value operating apparent power at AC-6a up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C elimited to 1 s switching at zero current maximum elimited to 1 s switching at zero current maximum elimited to 10 s switching at zero current maximum elimited to 30 s switching at zero current maximum elimited to 60 s switching at zero current maximum elimited to 60 s switching at zero current maximum elimited to 60 s switching at zero current maximum elimited to 60 s switching at zero current maximum elimited to 60 s switching at zero current maximum elimited to 60 s switching at zero current maximum fold A; Use minimum cross-section acc. to AC-1 rated value elimited to 60 s switching at zero current maximum fold A; Use minimum cross-section acc. to AC-1 rated value fold A; Use minimum cross-section acc. to AC-1 rated value fold A; Use minimum cross-section acc. to AC-1 rated value fold A; Use minimum cross-section acc. to AC-1 rated value fold A; Use minimum cross-section acc. to AC-1 rated value fold A; Use minimum cross-section acc. to AC-1 rated value fold A; Use minimum cross-section acc. to AC-1 rated value fold A; Use minimum cross-section acc. to AC-1 rated value fold A; Use minimum cross-section acc. to AC-1 rated value fold A; Use minimum cross-section acc. to AC-1 rated value fold A; Use minimum cross-section acc. to AC-1 rated value fold A; Use minimum cross-section acc. to AC-1 rated value fold A; Use minimum cross-section acc. to AC-1 rated value fold A; Use minimum cross-section acc. to AC-1 rated value fold A; Use minimum cross-section acc. to AC-1 rate	 up to 400 V for current peak value n=20 rated value 	4.9 kVA
operating apparent power at AC-6a • up to 230 V for current peak value n=30 rated value • up to 400 V for current peak value n=30 rated value • up to 500 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • limited to 1 s switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 60 s switching at zero curren	 up to 500 V for current peak value n=20 rated value 	6.2 kVA
 up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value 5.7 kVA short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 5 s switching at zero current maximum limited to 10 s switching at zero current maximum limited to 10 s switching at zero current maximum limited to 30 s switching at zero current maximum limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum 10 000 1/h operating frequency at AC-1 maximum at AC-2 maximum at AC-3 maximum 750 1/h 	• up to 690 V for current peak value n=20 rated value	8 kVA
up to 400 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C elimited to 1 s switching at zero current maximum elimited to 5 s switching at zero current maximum elimited to 10 s switching at zero current maximum elimited to 10 s switching at zero current maximum elimited to 30 s switching at zero current maximum elimited to 60 s switching at zero current maximum fold A; Use minimum cross-section acc. to AC-1 rated value elimited to 60 s switching at zero current maximum fold A; Use minimum cross-section acc. to AC-1 rated value fold A; Use minimum cross-section acc. to	operating apparent power at AC-6a	
• up to 500 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value • up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C • limited to 1 s switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • l	• up to 230 V for current peak value n=30 rated value	1.9 kVA
• up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C • limited to 1 s switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum for 1 A; Use minimum cross-section acc. to AC-1 rated value 61 A; Use minimum cross-section acc. to AC-1 rated value 61 A; Use minimum cross-section acc. to AC-1 rated value 10 000 1/h operating frequency • at AC-1 maximum 1 000 1/h • at AC-2 maximum 750 1/h 750 1/h	 up to 400 V for current peak value n=30 rated value 	3.3 kVA
short-time withstand current in cold operating state up to 40 °C • limited to 1 s switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum no-load switching frequency • at DC 10 000 1/h operating frequency • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum 750 1/h 750 1/h	• up to 500 V for current peak value n=30 rated value	4.1 kVA
• limited to 1 s switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 10 s switching at zero current maximum • limited to 30 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 60 s switching at zero current maximum • at DC • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum	• up to 690 V for current peak value n=30 rated value	5.7 kVA
 limited to 5 s switching at zero current maximum limited to 10 s switching at zero current maximum limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching frequency at DC 10 000 1/h operating frequency at AC-1 maximum at AC-2 maximum at AC-3 maximum at AC-3 maximum 123 A; Use minimum cross-section acc. to AC-1 rated value 61 A; Use minimum cross-section acc. to AC-1 rated value 10 000 1/h 750 1/h 750 1/h 		
 limited to 10 s switching at zero current maximum limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum limited to 60 s switching at zero current maximum no-load switching frequency at DC 10 000 1/h operating frequency at AC-1 maximum at AC-2 maximum at AC-3 maximum at AC-3 maximum 750 1/h 	 limited to 1 s switching at zero current maximum 	200 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum limited to 60 s switching at zero current maximum no-load switching frequency at DC 10 000 1/h operating frequency at AC-1 maximum at AC-2 maximum at AC-3 maximum at AC-3 maximum 750 1/h 750 1/h 	 limited to 5 s switching at zero current maximum 	123 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum no-load switching frequency at DC 10 000 1/h operating frequency at AC-1 maximum at AC-2 maximum at AC-3 maximum at AC-3 maximum 750 1/h 	 limited to 10 s switching at zero current maximum 	96 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency at DC 10 000 1/h operating frequency at AC-1 maximum 1 000 1/h at AC-2 maximum 750 1/h at AC-3 maximum 750 1/h	 limited to 30 s switching at zero current maximum 	74 A; Use minimum cross-section acc. to AC-1 rated value
 at DC operating frequency at AC-1 maximum at AC-2 maximum at AC-3 maximum at AC-3 maximum 750 1/h 	 limited to 60 s switching at zero current maximum 	61 A; Use minimum cross-section acc. to AC-1 rated value
operating frequency • at AC-1 maximum 1 000 1/h • at AC-2 maximum 750 1/h • at AC-3 maximum 750 1/h	no-load switching frequency	
 at AC-1 maximum at AC-2 maximum at AC-3 maximum 750 1/h 750 1/h 	• at DC	10 000 1/h
 at AC-2 maximum at AC-3 maximum 750 1/h 750 1/h 	operating frequency	
• at AC-3 maximum 750 1/h	• at AC-1 maximum	1 000 1/h
	• at AC-2 maximum	750 1/h
at AC-3e maximum 750 1/h	• at AC-3 maximum	750 1/h
700 111		

• at AC-4 maximum	250 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage at DC rated value	
Supply voltage at DC rated value	24 V
operating range factor control supply voltage rated value of	24 V
magnet coil at DC	
initial value	0.8
full-scale value	1.1
closing power of magnet coil at DC	4 W
holding power of magnet coil at DC	4 W
closing delay	
• at DC	30 100 ms
opening delay	
• at DC	7 13 ms
arcing time	10 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous	1
contact	
operational current at AC-12 maximum	10 A
operational current at AC-15	
 at 230 V rated value 	10 A
• at 400 V rated value	3 A
 at 500 V rated value 	2 A
• at 690 V rated value	1A
operational current at DC-12	
at 24 V rated value	10 A
at 48 V rated value	6 A
at 60 V rated value	6 A
 at 110 V rated value 	3 A
at 125 V rated value	2 A
 at 220 V rated value 	1 A
 at 600 V rated value 	0.15 A
operational current at DC-13	
at 24 V rated value	10 A
at 48 V rated value	2 A
● at 60 V rated value	2 A
• at 110 V rated value	1 A
• at 125 V rated value	0.9 A
• at 220 V rated value	0.3 A
• at 600 V rated value	0.1 A
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	11 A
• at 600 V rated value	11 A
yielded mechanical performance [hp]	
for single-phase AC motor	
— at 110/120 V rated value	0.5 hp
— at 230 V rated value	2 hp
• for 3-phase AC motor	
— at 200/208 V rated value	3 hp
— at 220/230 V rated value	3 hp
— at 460/480 V rated value	7.5 hp
— at 575/600 V rated value	10 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	
design of the fuse link	
for short-circuit protection of the main circuit	
with type of coordination 1 required	gG: 50A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)
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— with type of assignment 2 required	gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA)
for short-circuit protection of the auxiliary switch required	gG: 10 A (500 V, 1 kA)
Installation/ mounting/ dimensions	5
mounting position	standing, on horizontal mounting surface
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	58 mm
width	45 mm
depth	73 mm
required spacing	70111111
with side-by-side mounting	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	0 mm
for grounded parts	
— forwards	10 mm
— upwards	10 mm
— at the side	6 mm
— downwards	10 mm
• for live parts	
— forwards	10 mm
— upwards	10 mm
— downwards	10 mm
— at the side	6 mm
Connections/ Terminals	
type of electrical connection	
for main current circuit	screw-type terminals
for auxiliary and control circuit	screw-type terminals
at contactor for auxiliary contacts	Screw-type terminals
of magnet coil	Screw-type terminals
type of connectable conductor cross-sections	· ·
• for main contacts	
— solid	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²
— solid or stranded	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²), 2x 4 mm²
 finely stranded with core end processing 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
• for AWG cables for main contacts	2x (20 16), 2x (18 14), 2x 12
connectable conductor cross-section for main contacts	
• solid	0.5 4 mm²
• stranded	0.5 4 mm²
 finely stranded with core end processing 	0.5 2.5 mm²
connectable conductor cross-section for auxiliary contacts	
 solid or stranded 	0.5 4 mm²
 finely stranded with core end processing 	0.5 2.5 mm²
type of connectable conductor cross-sections	
for auxiliary contacts	
— solid or stranded	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²
 finely stranded with core end processing 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)
for AWG cables for auxiliary contacts	2x (20 16), 2x (18 14), 2x 12
AWG number as coded connectable conductor cross section	
• for main contacts	20 12
for auxiliary contacts	20 12
Safety related data	
product function	
 mirror contact according to IEC 60947-4-1 	Yes
 positively driven operation according to IEC 60947-5-1 	No
suitable for safety function	Yes
suitability for use safety-related switching OFF	Yes
service life maximum	20 a
test wear-related service life necessary	Yes
proportion of dangerous failures	

 with low demand rate according to SN 31920 	40 %
 with high demand rate according to SN 31920 	73 %
B10 value with high demand rate according to SN 31920	1 000 000
failure rate [FIT] with low demand rate according to SN 31920	100 FIT
ISO 13849	
device type according to ISO 13849-1	3
overdimensioning according to ISO 13849-2 necessary	Yes
IEC 61508	
safety device type according to IEC 61508-2	Type A
T1 value	
 for proof test interval or service life according to IEC 61508 	20 a
Electrical Safety	
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
Approvals Certificates	

General Product Approval





Confirmation





<u>KC</u>

General Product Approval

EMV

Functional Saftey

Test Certificates

Marine / Shipping





Type Examination Certificate

Special Test Certificate

Type Test Certificates/Test Report



Marine / Shipping











Miscellaneous

other

other

Railway

Dangerous goods

Environment

Confirmation

Special Test Certificate

<u>Transport Information</u>



Environmental Confirmations

Further information

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

Information- and Downloadcenter (Catalogs, Brochures,...)

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2017-1BB42-1AA0

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2017-1BB42-1AA0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-1BB42-1AA0

 $Image\ database\ (product\ images,\ 2D\ dimension\ drawings,\ 3D\ models,\ device\ circuit\ diagrams,\ EPLAN\ macros,\ ...)$

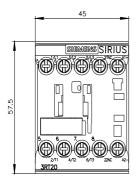
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2017-1BB42-1AA0&lang=en

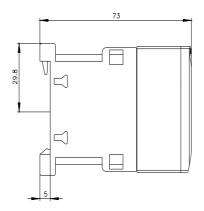
Characteristic: Tripping characteristics, I2t, Let-through current

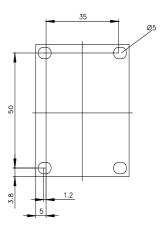
https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-1BB42-1AA0/char

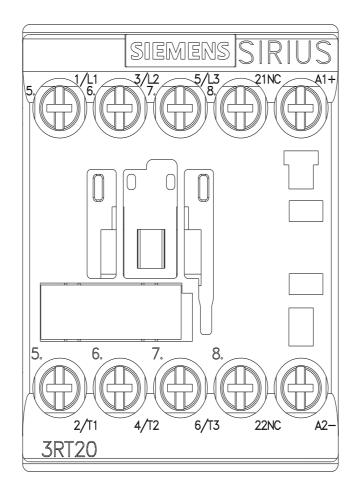
Further characteristics (e.g. electrical endurance, switching frequency)

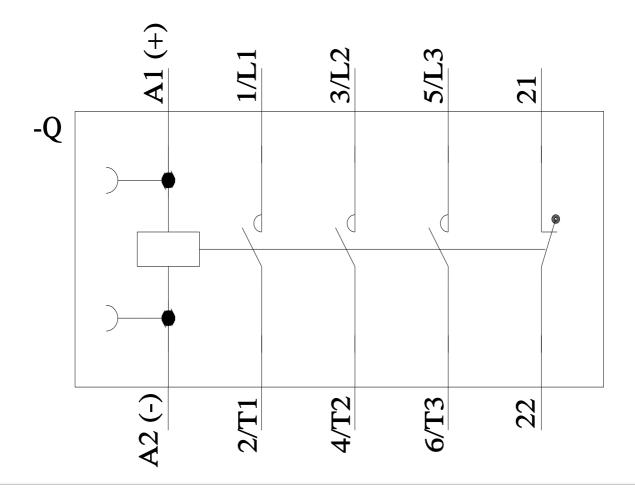
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2017-1BB42-1AA0&objecttype=14&gridview=view1











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