3RT2016-1AF01-1AA0

Data sheet



power contactor, AC-3e/AC-3, 9 A, 4 kW / 400 V, 3-pole, 110 V AC, 50/60 Hz, auxiliary contacts: 1 NO, 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 	0.9 W
 at AC in hot operating state per pole 	0.3 W
 without load current share typical 	4.2 W
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 AC	6,7g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at AC	10,5g / 5 ms, 6,6g / 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 %
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 	22 A
value	
• 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	20 A
value	2071
• at AC-3	
— at 400 V rated value	9 A
— at 500 V rated value	7.7 A
— at 690 V rated value	6.7 A
• at AC-3e	
— at 400 V rated value	9 A
— at 500 V rated value	7.7 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	7.4 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	5.3 A
— up to 400 V for current peak value n=20 rated value	5.3 A
— up to 500 V for current peak value n=20 rated value	5.3 A
— up to 690 V for current peak value n=20 rated value	5 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	3.5 A
— up to 400 V for current peak value n=30 rated value	3.5 A
— up to 500 V for current peak value n=30 rated value	3.6 A
— up to 690 V for current peak value n=30 rated value	3.3 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	44.0
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 60 V rated value	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	20 A
— at 60 V rated value	20 A
— at 110 V rated value	12 A
— at 220 V rated value	1.6 A
— at 440 V rated value	0.8 A
— at 600 V rated value	0.7 A
with 3 current paths in series at DC-1	
— 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 50 V rised value		
at 110 V rated value with 2 current paths in series at DC-3 at DC-5 at 24 V risid value at 110 V rated value at 110 V rated value at 110 V rated value at 120 V rated value at 220 V rated value at 320 V rated value	— at 24 V rated value	20 A
** with 2 current paths in series at DC-3 at DC-5 - at 24 V rated value - at 10 V rated value - at 10 V rated value - at 25 V rated value - at 26 V rated value - at 20 V rated value - at 40 V rated value - at 23 V rated value - at 23 V rated value - at 40 V rated value - at 40 V rated value - at 40 V rated value - at 500 V rated value	— 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 	
	— at 24 V rated value	20 A
- with 3 current paths in series at DC-3 at DC-5 - at 24 V rated value - at 60 V rated value - at 20 A - at 110 V rated value - at 20 A - at 24 V rated value - at 20 A - at 24 V rated value - at 440 V rated value - at 440 V rated value - 2 A - operating power - at 420 V rated value - at 400 V rated value - at 500 V rated value nace at 500 value - at 500 V rated value - at 500 V rated value nace at 500 value - at 500 V rated value - at 500 V rated value nace at 500 value - at 500 V rated value - at 500 V rated value nace at 500 value - at 500 V rated value nace at 500 value - at 500 V rated value nace at 500 value - at 500 V rated valu	— 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 	
	•	20 A
operating power at AC-2 at 400 V rated value at AC-3 — at 230 V rated value — at 400 V rated value — at 400 V rated value — at 690 V rated value — at 690 V rated value — at 690 V rated value — at 230 V rated value — at 230 V rated value — at 230 V rated value — at 400 V rated value — at 900 V rated value — at 400 V rated value — at 400 V rated value — at 400 V rated value — at 900 V rated value 2 kW • at 600 V rated value • up to 400 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=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 • 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 • thinted to 1s switching at zero current maximum • limited to 1s switching at zero current maximum • limited to 5s switching at zero current maximum • limited to 5s switching at zero current maximum • limited to 5s switching at zero current maximum • limited to 5s switching at zero current maximum • limited to 5s switching at zero current maximum • limited to 5s switching at zero current maximum • limited to 5s switching at zero current maximum • limited to 5s switching at ze		
Operating power at AC-3 AC-3 to 400 V rated value at AC-3 AC-3 to 400 V rated value 2.2 kW AkW		
* at AC-2 at 400 V rated value * 22 kW		0.2 A
- at 230 V rated value		A LAM
		4 KVV
■ at AC-3e ■ at AC-3e ■ at 230 V rated value ■ at 400 V rated value ■ at 900 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=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 ■ tinited 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 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 ■ at AC-3 maximum ■ at AC-4 maximum ■ at AC-4 maximum ■ at AC-		
- at 230 V rated value	— at 500 V rated value	4 kW
at 230 V rated value at 400 V rated value at 500 V rated value at 500 V rated value at 500 V rated value at 690 V rated value at 690 V rated value at 690 V rated value 20 Feb. W	— at 690 V rated value	5.5 kW
- at 400 V rated value - at 690 V rated value - at 690 V rated value - at 690 V rated value	• at AC-3e	
- at 500 V rated value - at 690 V rated value 5 kW stated 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=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	— at 230 V rated value	2.2 kW
operating power for approx. 200000 operating cycles at AC- 4 at 400 V rated value 2 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 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 400 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 rat	— at 400 V rated value	4 kW
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at 400 V rated value at 690 V rated value at 690 V rated value au pt 0 230 V for current peak value n=20 rated value au pt 0 500 V for current peak value n=20 rated value au pt 0 500 V for current peak value n=20 rated value bup to 690 V for current peak value n=20 rated value au pt 0 500 V for current peak value n=20 rated value bup to 890 V for current peak value n=30 rated value au pt 0 500 V for current peak value n=30 rated value au pt 0 500 V for current peak value n=30 rated value au pt 0 500 V for current peak value n=30 rated value au pt 0 500 V for current peak value n=30 rated value au pt 0 500 V for current peak value n=30 rated value au pt 0 500 V for current peak value n=30 rated value au pt 0 500 V for current peak value n=30 rated value au pt 0 500 V for current peak value n=30 rated value au pt 0 500 V for current peak value n=30 rated value bup to 690 V for current peak value n=30 rated value au pt 0 500 V for current peak value n=30 rated value bup to 690 V for current peak value n=30 rated value au pt 0 500 V for current peak value n=30 rated value bup to 690 V for current peak value n=30 rated value au pt 0 500 V for current peak value n=30 rated value bup to 690 V for current peak value n=30 rated value au pt 0 500 V for current peak value n=30 rated value bup to 690 V for current peak value n=30 rated value au pt 0 500 V for current peak value n=30 rated value bup to 690 V for current peak value n=30 rated value au pt 0 55 A; Use minimum cross-section acc. to AC-1 rated value bup to 66 A; Use minimum cross-section acc. to AC-1 rated value bup to 67 V tated value bup to 68 A; Use minimum cross-section acc. to AC-1 rated value bup to 68 A; Use minimum cross-section acc. to AC-1 rated value bup to 68 A; Use minimum cross-section acc. to AC-1 rated value bup to 68 A; Use minimum cross-section acc. to AC-1 rated value bup to 68 A; Use minimum cross-section acc. to AC-1 rated value bup to 68 A; Use minimum cross-section acc. to AC-1 rated value bup to 68 A; Use minimum cross-section acc. to AC	— at 690 V rated value	5 kW
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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 230 V for current peak value n=30 rated value • up to 230 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 switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 60 s switching at	 at 400 V rated value 	2 kW
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• 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 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=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 5 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 • at AC • at AC-2 maximum • at AC-3 maximum • at AC-4 maximum • at AC-3 maximum • at AC-4 maximum • at AC-4 maximum • at AC-5 maximum	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 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 • 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 50 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 at AC-2 maximum at AC-3 maximum at AC-4 maximum to 1000 1/h control circuit Control type of voltage of the control supply voltage control supply voltage at AC at 50 Hz rated value 4.6 kVA 5.9 kVA 5.9 kVA 1.3 kVA 2.4 kVA 3.1 kVA 4.4 VA 1.3 kVA 4.4 VA 1.5 kVA 4.6 VA 5.9 kVA 5.9 kV	 up to 230 V for current peak value n=20 rated value 	2 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 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 70 switching at zero current maximum • limited to 80 s switching at zero current maximum • limited to 60 s switching at zero current maximum • limited to 70 switching at zero current maximum • limited to 80 s switching at zero current maximum • limited to 80 s switching at zero current maximum • limited to 70 switching at zero current maximum • limited to 80 s switching at zero current maximum • limited to 10 so switching at zero current maximum • limited to 10 switching at zero current maximum • limited to 80 switching at zero current maximum • limited to 10 switching at zero current maximum • limited to 10 switching at zero current maximum • limited to 10 switching at zero current maximum • limited to 10 switching at zero current maximum • limited to 10 switching at zero current maximum • limited to 10 switching at zero current maximum • limited to 10 switching at zero current maximum • limited to 10 switching at zero current maximum • limited to 10 switching at zero current maximum • limited to 10 switching at zero current maximum • limited to 10 switching at zero current maximum • limited to 10 switching at zero current maximum • limited to 10 switching at zero current maximum • limit	 up to 400 V for current peak value n=20 rated value 	3.6 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 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 1000 1/h • at AC-3 maximum 1000 1/h • at AC-3 maximum 1000 1/h • at AC-3 maximum 250 1/h • at AC-4 maximum 250 1/h Control circuit/ Control type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of	 up to 500 V for current peak value n=20 rated value 	4.6 kVA
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up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to 40 °C ilmited to 1 s switching at zero current maximum ilmited to 5 s switching at zero current maximum ilmited to 10 s switching at zero current maximum ilmited to 10 s switching at zero current maximum ilmited to 30 s switching at zero current maximum ilmited to 30 s switching at zero current maximum ilmited to 60 s switching at zero current maximum ilmited to 60 s switching at zero current maximum no-load switching frequency at AC operating frequency at AC-1 maximum 1 000 1/h at AC-2 maximum 750 1/h at AC-3 maximum 750 1/h at AC-3 maximum 750 1/h at AC-4 maximum 750 1/h At	 up to 400 V for current peak value n=30 rated value 	2.4 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 ilmited to 1 s switching at zero current maximum ilmited to 5 s switching at zero current maximum ilmited to 10 s switching at zero current maximum ilmited to 10 s switching at zero current maximum ilmited to 30 s switching at zero current maximum ilmited to 30 s switching at zero current maximum ilmited to 60 s switching at zero current maximum ilmited to 60 s switching at zero current maximum ilmited to 60 s switching at zero current maximum ilmited to 60 s switching at zero current maximum ilmited to 60 s switching frequency at AC ilmited to 60 s switching at zero current maximum ilmited to 60 s switching frequency at AC-1 maximum ilmited to 60 s switching frequency at AC-2 maximum indicate the sum of the		3.1 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 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 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 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 switching at zero current maximum • limited to 10 switching at zero current maximum • limited to 10 switching at zero current maximum • limited to 10 switching at zero current maximum • limited to 10 switching at zero current maximum • lo 00 1/h • at AC-1 rated value • at O0 1/h • at AC-2 maximum • lo 00 1/h • at AC-3	·	4 kVA
ilimited to 1 s switching at zero current maximum ilimited to 5 s switching at zero current maximum ilimited to 10 s switching at zero current maximum ilimited to 10 s switching at zero current maximum ilimited to 10 s switching at zero current maximum ilimited to 30 s switching at zero current maximum ilimited to 30 s switching at zero current maximum ilimited to 60 s switching at zero current maximum ilimited to 60 s switching at zero current maximum ilimited to 60 s switching at zero current maximum star AC-1 rated value ilimited to 60 s switching at zero current maximum star AC-2 maximum at AC-1 rated value ilimited to 60 s switching at zero current maximum star AC-2 maximum star AC-1 rated value ilimited to 60 s switching at zero current maximum star AC-2 maximum star AC-1 rated value ilimited to 60 s switching at zero current maximum star AC-3 maximum star AC-1 rated value ilimited to 60 s switching at zero current maximum star AC-2 maximum star AC-1 rated value ilimited to 60 s switching at zero current maximum star AC-1 rated value ilimited to 60 s switching at zero current maximum star AC-1 rated value ilimited to 60 s switching at zero current maximum star AC-1 rated value	·	
Ill A; Use minimum cross-section acc. to AC-1 rated value Imited to 10 s switching at zero current maximum Ill A; Use minimum cross-section acc. to AC-1 rated value 86 A; Use minimum cross-section acc. to AC-1 rated value 66 A; Use minimum cross-section acc. to AC-1 rated value 66 A; Use minimum cross-section acc. to AC-1 rated value 66 A; Use minimum cross-section acc. to AC-1 rated value 75 A; Use minimum cross-section acc. to AC-1 rated value 10 000 1/h 10 00		
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Ilimited to 30 s switching at zero current maximum Ilimited to 60 s switching at zero current maximum Ilimited to 60 s switching at zero current maximum Ino-load switching frequency Ino-load switching at zero current maximum Ino-load switching at zero current such at Colon Ino-load switching at Ino-load switchin	 limited to 5 s switching at zero current maximum 	111 A; Use minimum cross-section acc. to AC-1 rated value
ilmited to 60 s switching at zero current maximum no-load switching frequency	 limited to 10 s switching at zero current maximum 	86 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency • at AC operating frequency • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-3 maximum • at AC-3e maximum • at AC-4 maximum • at AC-4 maximum • at AC-4 maximum Control circuit/ Control type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of	• limited to 30 s switching at zero current maximum	66 A; Use minimum cross-section acc. to AC-1 rated value
 at AC operating frequency at AC-1 maximum at AC-2 maximum at AC-3 maximum at AC-3 maximum at AC-3e maximum at AC-3e maximum at AC-4 maximum 250 1/h Control circuit/ Control type of voltage of the control supply voltage at 50 Hz rated value at 60 Hz rated value at 60 Hz rated value of operating range factor control supply voltage rated value of	• limited to 60 s switching at zero current maximum	55 A; Use minimum cross-section acc. to AC-1 rated value
at AC operating frequency at AC-1 maximum to 1 000 1/h at AC-2 maximum at AC-3 maximum at AC-3 maximum at AC-3e maximum at AC-4 maximum at AC-4 maximum control circuit/ Control type of voltage of the control supply voltage type of voltage at AC at 50 Hz rated value at 60 Hz rated value operating range factor control supply voltage rated value of	no-load switching frequency	
operating frequency • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-3 maximum • at AC-3 e maximum • at AC-4 maximum • at AC-4 maximum Control circuit/ Control type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of		10 000 1/h
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 at AC-3 maximum at AC-3e maximum at AC-4 maximum 250 1/h Control circuit/ Control type of voltage of the control supply voltage AC control supply voltage at AC at 50 Hz rated value at 60 Hz rated value operating range factor control supply voltage rated value of 	• at AC-2 maximum	750 1/h
 at AC-3e maximum at AC-4 maximum 250 1/h Control circuit/ Control type of voltage of the control supply voltage AC control supply voltage at AC at 50 Hz rated value at 60 Hz rated value operating range factor control supply voltage rated value of 110 V operating range factor control supply voltage rated value of 		
 at AC-4 maximum Control circuit/ Control type of voltage of the control supply voltage at 50 Hz rated value at 60 Hz rated value operating range factor control supply voltage rated value of 		
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type of voltage of the control supply voltage control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value operating range factor control supply voltage rated value of		
control supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value 110 V operating range factor control supply voltage rated value of		AC.
 at 50 Hz rated value at 60 Hz rated value operating range factor control supply voltage rated value of 		7.0
• at 60 Hz rated value operating range factor control supply voltage rated value of		110 V
operating range factor control supply voltage rated value of		
		110 V

● at 50 Hz	0.8 1.1
• at 60 Hz	0.85 1.1
apparent pick-up power of magnet coil at AC	
● at 50 Hz	27 VA
• at 60 Hz	24.3 VA
inductive power factor with closing power of the coil	
• at 50 Hz	0.8
• at 60 Hz	0.75
apparent holding power of magnet coil at AC	
• at 50 Hz	4.2 VA
• at 60 Hz	3.3 VA
inductive power factor with the holding power of the coil	
• at 50 Hz	0.25
● at 60 Hz	0.25
closing delay	
• at AC	9 35 ms
opening delay	
• at AC	4 15 ms
arcing time	10 15 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NO 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	1 A
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	1A
at 600 V rated value	0.15 A
operational current at DC-13	0.1071
at 24 V rated value	10 A
at 48 V rated value	2 A
at 60 V rated value at 60 V rated value	2 A
at 110 V rated value at 110 V rated value	1A
at 110 V rated value at 125 V rated value	0.9 A
at 125 V rated value at 220 V rated value	0.3 A
at 220 V rated value at 600 V rated value	0.1 A
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
	riadity switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	70.4
at 480 V rated value	7.6 A
at 600 V rated value	9 A
yielded mechanical performance [hp]	
• for single-phase AC motor	0.00 h
— at 110/120 V rated value	0.33 hp
— at 230 V rated value	1 hp
• for 3-phase AC motor	
— at 200/208 V rated value	2 hp
— at 220/230 V rated value	3 hp
— at 460/480 V rated value	5 hp
— at 575/600 V rated value	7.5 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: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)
 — 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)
nstallation/ mounting/ dimensions	
mounting position	standing, on horizontal mounting surface
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
side-by-side mounting	Yes
height	58 mm
width	45 mm
depth	73 mm
required spacing	
 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)
connectable conductor cross-section for main contacts	
• solid	0.5 4 mm ²
• 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	
	20 12
• for main contacts	20 12
for auxiliary contacts Safety related data	20 12
product function	Very with ODI IOO
mirror contact according to IEC 60947-4-1 Page 1991 and 1991 according to SN 24020 Page 1991 and 1991 according to SN 24020 Page 1991 according to SN 24020	Yes; with 3RH29
B10 value with high demand rate according to SN 31920	1 000 000
proportion of dangerous failures	40.9/
with low demand rate according to SN 31920 with high demand rate according to SN 31920	40 %
with high demand rate according to SN 31920	73 %

failure rate [FIT] with low demand rate according to SN 31920	100 FIT
T1 value for proof test interval or service life according to IEC 61508	20 a
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
suitability for use	
 safety-related switching on 	Yes
 safety-related switching OFF 	Yes
Cortificatos/ approvals	

Certificates/ approvals

General Product Approval



Confirmation





<u>KC</u>



EMC Safety/S	Safety of Ma- Declaration of Conformity	
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Type Examination Certificate





Special Test Certificate

Test Certificates

Type Test Certificates/Test Report

Marine / Shipping













Marine / Shipping other Railway Environment



Confirmation



Confirmation

Vibration and Shock

Environmental Confirmations

Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

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=3RT2016-1AF01-1AA0

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RT2016-1AF01-1AA0}\\$

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-1AF01-1AA0

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

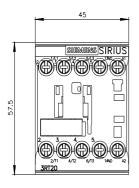
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2016-1AF01-1AA0&lang=en

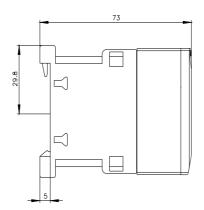
Characteristic: Tripping characteristics, I2t, Let-through current

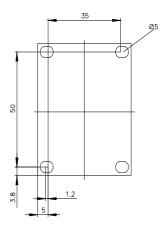
https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-1AF01-1AA0/char

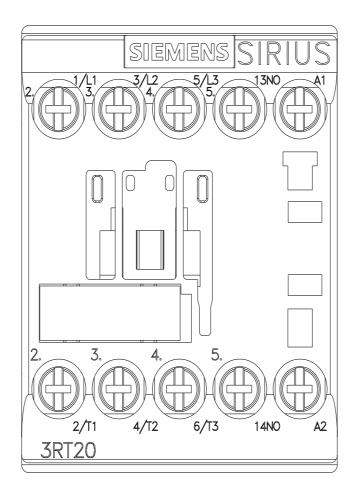
Further characteristics (e.g. electrical endurance, switching frequency)

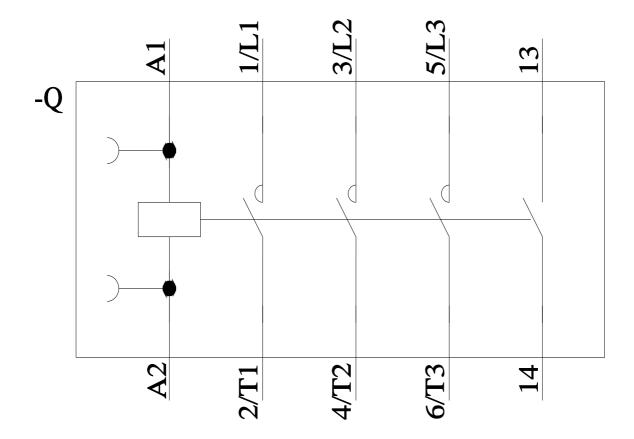
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2016-1AF01-1AA0&objecttype=14&gridview=view1











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