3RT2016-2JB41-Z W96

Data sheet



power contactor, AC-3e/AC-3, 9 A, 4 kW / 400 V, 3-pole, 24 V DC, 0.7-1.25* Us, with integrated diode, auxiliary contacts: 1 NO, spring-loaded terminal, size: S00, suitable for PLC outputs, not expandable with auxiliary switch , multi-unit packaging, pack = 60 units

product brand name	SIRIUS
product designation	Coupling contactor
product type designation	3RT2
General technical data	
size of contactor	S00
product extension	
 function module for communication 	No
auxiliary switch	No
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 	2.8 W
type of calculation of power loss depending on pole	quadratic
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	6,7g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at DC	10,5g / 5 ms, 6,6g / 10 ms
mechanical service life (operating cycles)	
of contactor typical	30 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2009
SVHC substance name	Lead - 7439-92-1
Weight	0.316 kg
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 value	22 A
• at AC-1	
— up to 690 V at ambient temperature 40 $^{\circ}\text{C}$ rated value	22 A
— up to 690 V at ambient temperature 60 $^{\circ}\text{C}$ rated value	20 A
• 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	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
	0.071
operational current	
operational current • at 1 current path at DC-1	
• at 1 current path at DC-1	20 A
• at 1 current path at DC-1 — at 24 V rated value	20 A
at 1 current path at DC-1 at 24 V rated value at 60 V rated value	20 A
 at 1 current path at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value 	20 A 2.1 A
at 1 current path at DC-1 at 24 V rated value at 60 V rated value at 110 V rated value at 220 V rated value	20 A 2.1 A 0.8 A
at 1 current path at DC-1 at 24 V rated value at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value	20 A 2.1 A 0.8 A 0.6 A
at 1 current path at DC-1 at 24 V rated value at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value	20 A 2.1 A 0.8 A
 at 1 current path at DC-1 at 24 V rated value at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value with 2 current paths in series at DC-1 	20 A 2.1 A 0.8 A 0.6 A 0.6 A
 at 1 current path at DC-1 at 24 V rated value at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value at 600 V rated value at 24 V rated value 	20 A 2.1 A 0.8 A 0.6 A 0.6 A
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at 1 current path at DC-1 at 24 V rated value at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value at 600 V rated value at 600 V rated value at 60 V rated value at 110 V rated value	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A
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at 1 current path at DC-1 at 24 V rated value at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value with 2 current paths in series at DC-1 at 24 V rated value at 60 V rated value at 60 V rated value at 110 V rated value at 120 V rated value at 440 V rated value at 440 V rated value at 440 V rated value at 600 V rated value with 3 current paths in series at DC-1	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A 0.8 A 0.7 A
 at 1 current path at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value • with 2 current paths in series at DC-1 — at 24 V rated value — at 60 V rated value — at 110 V rated value — at 110 V rated value — at 220 V rated value — at 440 V rated value — at 600 V rated value — at 600 V rated value — at 600 V rated value • with 3 current paths in series at DC-1 — at 24 V rated value 	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A 0.8 A 0.7 A
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at 1 current path at DC-1 at 24 V rated value at 60 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value at 600 V rated value at 60 V rated value at 60 V rated value at 110 V rated value at 110 V rated value at 110 V rated value at 220 V rated value at 440 V rated value at 600 V rated value at 24 V rated value at 24 V rated value at 60 V rated value at 600 V rated value at 440 V rated value at 600 V rated value at 1 current path at DC-3 at DC-5 at 24 V rated value	20 A 2.1 A 0.8 A 0.6 A 0.6 A 20 A 20 A 12 A 1.6 A 0.8 A 0.7 A 20 A 20 A 20 A 20 A 20 A 20 A 20 A 2
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- ant 20 V rated value		
	with 2 current paths in series at DC-3 at DC-5	
- with 3 current paths in series at DC-3 at DC-6 - at 24 Y totald value - at 50 Y rated value - at 20 Y rated value - at 20 A - at 110 Y rated value - at 20 A - at 20 Y rated value - at 20 Y rated value - at 440 Y rated value - 22 A - at 440 Y rated value - 22 A - operating power - at 422 at 400 V rated value - at 500 V rated value - at 200 V rated value - at 400 V rated value - at 400 V rated value - at 500		
	— 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
— at 600 V rated value	— at 220 V rated value	1.5 A
Operating power	— at 440 V rated value	0.2 A
eat AC-2 at 490 V rated value	— at 600 V rated value	0.2 A
- at 230 V rated value	operating power	
	 at AC-2 at 400 V rated value 	4 kW
	• at AC-3	
at 500 V rated value at 690 V rated value 2	— at 230 V rated value	2.2 kW
- at 800 V rated value	— at 400 V rated value	4 kW
at AC-3e at 200 V rated value at 600 V rated value 2 kW 3 kW 4 kW 4 kW 2 kW 2 kW 3 kW 4 kW 4 kW 5 kW 6 value 50 kW 6 value 10 200 V for current peak value n=20 rated value 4 up to 400 V for current peak value n=20 rated value 4 kW 5 kW 6 value 500 V for current peak value n=20 rated value 6 value 600 V for current peak value n=20 rated value 7 kW 8 value 600 V for current peak value n=30 rated value 9 value 600 V for current peak value n=30 rated value 1 kWA 9 value 600 V for current peak value n=30 rated value 1 kWA	— at 500 V rated value	4 kW
- at 230 V rated value - at 400 V rated value - at 500 V 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=30 rated value - up	— at 690 V rated value	5.5 kW
- at 400 V rated value	• at AC-3e	
- at 500 V rated value - at 690 V rated value 5.5 kW operating power for approx. 200000 operating cycles at AC-4 * at 400 V rated value 2 kW • at 690 V rated value 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 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 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 • limited to 1 s switching at zero current maximum • limited to 5 s switching at zero current maximum • limited to 1 s switching at zero current maximum • 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 • at AC-3 maximum • at AC-4 maximum • at AC-3 maximum • at AC-4 maximum • at AC-3 maximum • at AC-3 maximum • at AC-3 maximum • at AC-4 maximum • at AC-4 maximum • at AC-4 maximum • at AC-4 maximum • at AC-5 maximum • at AC-6 maximum • a	— at 230 V rated value	2.2 kW
operating power for approx. 200000 operating cycles at AC-4 * at 400 V rated value 2.5 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=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 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 • 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 6 s switching at zero current maximum • limited to 6 s switching at zero current maximum • limited to 6 s switching at zero current maximum • limited to 6 s switching at zero current maximum • limited to 6 s switching at zero current maximum • limited to 6 switching at zero current maximum • limited to 6 switching at zero current maximum • limited to 6 switching at zero current maximum • limited to 6 switching at zero current maximum • limited to 6 switching at zero current maximum • limited to 6 switching at zero current maximum • limited to 6 switching at zero current maximum • limited to 6 switching at zero current maximum • limited to 6 switching at zero current maximum • limited to 6 switching at zero current max	— at 400 V rated value	4 kW
operating power for approx. 200000 operating cycles at AC-4 * at 400 V rated value 2.5 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=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 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 • 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 6 s switching at zero current maximum • limited to 6 s switching at zero current maximum • limited to 6 s switching at zero current maximum • limited to 6 s switching at zero current maximum • limited to 6 s switching at zero current maximum • limited to 6 switching at zero current maximum • limited to 6 switching at zero current maximum • limited to 6 switching at zero current maximum • limited to 6 switching at zero current maximum • limited to 6 switching at zero current maximum • limited to 6 switching at zero current maximum • limited to 6 switching at zero current maximum • limited to 6 switching at zero current maximum • limited to 6 switching at zero current maximum • limited to 6 switching at zero current max		4 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 * 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 690 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 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 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 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 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 * limit		
at 400 V rated value at 690 V rated value 2,5 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=20 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 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 short-time withstand current in cold operating state up to 40 °C ilmited to 1s 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 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 70 s switching at zero current maximum ilmited to 70 s switching at zero current maximum ilmited to 70 s switching at zero current maximum ilmited to 70 s switching at zero current maximum ilmited to 70 switching at zero current ma		
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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 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 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 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 • to 50 V for current peak value n=30 rated value • to 600 V for current peak value n=30 rated value • limited to 10 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 • 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 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 60 switching at zero current maximum • limited to 60 swit	 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 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=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 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 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 • 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 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	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 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 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 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 600 V for current peak value n=30 rated value up to 600 V for current peak value n=30 rated value up to 600 V for current peak value n=30 rated value up to 600 V for current peak value n=30 rated value up to 600 V for up to 600 V for up to 600 V for a for	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 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 • 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 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 • at AC-2 maximum • at AC-3 maximum • at AC-4 maximum • at AC-5 maximum • at AC-5 maximum • at AC-5 maximum • at AC-6 maximum • at AC-7 maximum • at AC-8 maximum • at AC-8 maximum • at AC-9 maximum • at AC-9 maximum • at AC-9 maximum • at AC-9 maximum • at AC-1 maximum • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-3 maximum • at AC-3 maximum • at AC-4 maximum • at AC-5 maximum • at AC-5 maximum • at AC-6 maximum	 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 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 • with the text of the value of the va	 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 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 * 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 10 so switching at zero current maximum • limited to 10 so switching at zero current maximum • limited to 10 so switching at zero current maximum • limited to 10 so switching at zero current maximum • limited to 10 so switching at zero current maximum • limited to 10 so 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 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 • limited to 10 switching at zero	 up to 500 V for current peak value n=20 rated value 	4.6 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 sup 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 10 s switching at zero current maximum limited to 30 s switching at zero current maximum limited to 80 s switching at zero current maximum limited to 80 s switching at zero current maximum slimited to 80 s switching at zero current maximum limited to 80 s switching at zero current maximum slimited t	 up to 690 V for current peak value n=20 rated value 	5.9 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 4 kVA short-time withstand current in cold operating state up to 40 °C limited to 1 s switching at zero current maximum limited to 50 s witching 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 slimited to 60 s switching at zero current maximum at 1000 1/h limited to 60 s switching at zero current maximum slimited to 60 s switching at	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 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 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 state of 6 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-3 maximum at AC-3 maximum at AC-3 maximum at AC-3 maximum 750 1/h at AC-3 maximum 750 1/h at AC-4 maximum 250 1/h Control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC rated value limital value limital value 125 design of the surge suppressor diode closing power of magnet coil at DC 2.8 W	 up to 230 V for current peak value n=30 rated value 	1.3 kVA
up to 500 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 30 s switching at zero current maximum limited to 60 s switching at zero current maximum slimited to 60 s switching at zero current maximum no-load switching frequency at DC operating frequency at AC-1 maximum at AC-2 maximum at AC-3 maximum at AC-3 maximum 750 1/h at AC-3 maximum 750 1/h at AC-3 maximum 250 1/h Control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC initial value full-scale value 0.7 closing power of magnet coil at DC 2.8 W	 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 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 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 state of a control supply voltage at AC-1 maximum at AC-2 maximum at AC-3 maximum at AC-3 maximum state AC-4 maximum state		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 111 A; Use minimum cross-section acc. to AC-1 rated value • limited to 10 s switching at zero current maximum 86 A; Use minimum cross-section acc. to AC-1 rated value • limited to 30 s switching at zero current maximum 66 A; Use minimum cross-section acc. to AC-1 rated value • limited to 60 s switching at zero current maximum 55 A; Use minimum cross-section acc. to AC-1 rated value 10 000 1/h 10 000 1/h 10 00	 up to 690 V for current peak value n=30 rated value 	4 kVA
Ilmited to 1 s switching at zero current maximum 155 A; Use minimum cross-section acc. to AC-1 rated value		
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 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 Ino-load switching frequency Ino-load switching frequency Ino-load switching frequency Ino 000 1/h Ino 00		
Imitted to 10 s switching at zero current maximum Imitted to 30 s switching at zero current maximum Imitted to 60 s switching at zero current maximum Imitted to 60 s switching at zero current maximum Imitted to 60 s switching at zero current maximum Imitted to 60 s switching at zero current maximum Imitted to 60 s switching frequency Imitted to 60 s switching at zero current maximum Imitted to 60 s switching at zero current maximum Imitted to 60 s switching at zero current maximum Imitted to 60 s switching at zero current maximum Imitted to 60 s switching at zero current maximum Imitted to 60 s switching at zero current maximum Imitted to 60 s switching at zero current maximum Imitted to 60 s switching at zero current maximum Imitted to 60 s switching at zero current maximum Imited to 60 s switching at zero current maximum Imited to 60 s switching at zero current maximum Imited to 60 s switching at zero current maximum Imited to 60 s switching at zero current maximum Imited to 60 s switching at zero current maximum Imited to 60 s switching at zero current maximum Imited to 60 s switching at zero current maximum Imited to 60 s switching at zero current maximum Imited to 60 s switching at zero current maximum Imited to 60 s switching at zero current maximum Imited to 60 s switching at zero current maximum Imited to 60 s switching at zero current maximum Imited to 60 s switching at zero current maximum Imited to 60 s switching at zero current maximum Imited to 60 s switching at zero current maximum Imited to 60 s switching at zero current maximum Imited to 60 s switching at zero current maximum Imited to 60 s switching at 20 out of 60 sylver and 60 sylver at 20 out of 60 sylver and 60 sylver and 60 sylver at 20 out of 60 sylver and 60	 limited to 1 s switching at zero current maximum 	155 A; Use minimum cross-section acc. to AC-1 rated value
Imited to 30 s switching at zero current maximum Imited to 60 s switching at zero current to 60 s AC-1 rated value Imited to 60 s Switching at Description acc. to AC-1 rated value Imited to 60 s Switching at Description acc. to AC-1 rated value Imited to 60 s Switching acc. to AC-1 rated value Imited to 60 s Switching acc. to AC-1 rated value Imited to 60 s Switching acc. to AC-1 rated value Imited to 60 s Switching acc. to AC-1 rated value Imited to 60 s Switching acc. to AC-1 rated value Imited to 60 s Switching acc. to AC-1 rated value Imited to 60 s Switching acc. to AC-1 rated value Imited to 60 s Switching acc. to AC-1 rated value Imited to 60 s Switching acc. to AC-1 rated value Imited to 60 s Switching ac	 limited to 5 s switching at zero current maximum 	111 A; Use minimum cross-section acc. to AC-1 rated value
Imitited to 60 s switching at zero current maximum In orload switching frequency In orload	 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 DC 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 e maximum 750 1/h • at AC-4 maximum 750 1/h • at AC-4 maximum 250 1/h Control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC • initial value • full-scale value design of the surge suppressor diode closing power of magnet coil at DC 2.8 W	• limited to 30 s switching at zero current maximum	66 A; Use minimum cross-section acc. to AC-1 rated value
at DC 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 e maximum 750 1/h at AC-3 e maximum 750 1/h at AC-4 maximum 250 1/h Control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC rated value 24 V operating range factor control supply voltage rated value of magnet coil at DC initial value full-scale value design of the surge suppressor closing power of magnet coil at DC 2.8 W	• limited to 60 s switching at zero current maximum	55 A; Use minimum cross-section acc. to AC-1 rated value
operating frequency • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-3 maximum • at AC-3 maximum • at AC-4 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 DC rated value operating range factor control supply voltage rated value of magnet coil at DC • initial value • full-scale value design of the surge suppressor closing power of magnet coil at DC 2.8 W	no-load switching 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 250 1/h Control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC rated value poperating range factor control supply voltage rated value of magnet coil at DC initial value full-scale value design of the surge suppressor closing power of magnet coil at DC 2.8 W 	• at DC	10 000 1/h
at AC-2 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 control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC initial value full-scale value design of the surge suppressor closing power of magnet coil at DC 2.8 W	operating frequency	
at AC-3 maximum at AC-3e maximum at AC-4 maximum at AC-3e maximum at AC-4e maximum at A	• at AC-1 maximum	1 000 1/h
 at AC-3e maximum at AC-4 maximum 250 1/h Control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC initial value full-scale value full-scale value design of the surge suppressor closing power of magnet coil at DC 2.8 W	• at AC-2 maximum	750 1/h
at AC-4 maximum Control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC initial value full-scale value design of the surge suppressor closing power of magnet coil at DC 250 1/h DC 0 0 0 0 0 0 0 0 0 0 0 0 0 0	• at AC-3 maximum	750 1/h
at AC-4 maximum Control circuit/ Control type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC initial value full-scale value design of the surge suppressor closing power of magnet coil at DC 250 1/h DC 0 0 0 0 0 0 0 0 0 0 0 0 0 0	• at AC-3e maximum	750 1/h
type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC o initial value full-scale value design of the surge suppressor closing power of magnet coil at DC DC 0.7 0.7 0.7 0.8 dode closing power of magnet coil at DC 2.8 W		250 1/h
type of voltage of the control supply voltage control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC o initial value full-scale value design of the surge suppressor closing power of magnet coil at DC DC 0.7 0.7 0.7 0.8 dode closing power of magnet coil at DC 2.8 W	Control circuit/ Control	
control supply voltage at DC rated value operating range factor control supply voltage rated value of magnet coil at DC o initial value of full-scale value tesign of the surge suppressor closing power of magnet coil at DC 24 V 0.7 0.7 4 full-scale value tesign of the surge suppressor closing power of magnet coil at DC 2.8 W		DC
operating range factor control supply voltage rated value of magnet coil at DC • initial value • full-scale value design of the surge suppressor closing power of magnet coil at DC 0.7 diode 2.8 W		
● full-scale value 1.25 design of the surge suppressor diode closing power of magnet coil at DC 2.8 W	operating range factor control supply voltage rated value of	
design of the surge suppressor diode closing power of magnet coil at DC 2.8 W	• initial value	0.7
closing power of magnet coil at DC 2.8 W	• full-scale value	1.25
closing power of magnet coil at DC 2.8 W	design of the surge suppressor	diode
		2.8 W
		2.8 W

closing delay	
• at DC	25 130 ms
opening delay	
• at DC	38 65 ms
arcing time	10 15 ms
control version of the switch operating mechanism Auxiliary circuit	Standard A1 - A2
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	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 UL/CSA ratings	1 faulty switching per 100 million (17 V, 1 mA)
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	7.6 A
at 600 V rated value at 600 V rated value	9 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— 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 miniature circuit breaker for short-circuit protection	C characteristic: 10 A; 0.4 kA
of the auxiliary circuit up to 230 V	
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)
Installation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
factening method side by side mounting	Yes
fastening method side-by-side mounting	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
fastening method height	70 mm
width	45 mm

depth	73 mm
required spacing	70 11111
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	spring-loaded terminals
for auxiliary and control circuit	spring-loaded terminals
at contactor for auxiliary contacts	Spring-type terminals
of magnet coil	Spring-type terminals
type of connectable conductor cross-sections	
• for main contacts	
— solid	2x (0.5 4 mm²)
— solid or stranded	2x (0,5 4 mm²)
— finely stranded with core end processing	2x (0.5 2.5 mm²)
 finely stranded without core end processing for AWG cables for main contacts 	2x (0.5 2.5 mm²)
connectable conductor cross-section for main contacts	2x (20 12)
solid	0.5 4 mm²
• stranded	0.5 4 mm²
finely stranded with core end processing	0.5 2.5 mm²
finely stranded without 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
 finely stranded without core end processing 	0.5 2.5 mm²
type of connectable conductor cross-sections	
• for auxiliary contacts	
— solid or stranded	2x (0,5 4 mm²)
 finely stranded with core end processing 	2x (0.5 2.5 mm²)
 finely stranded without core end processing 	2x (0.5 2.5 mm²)
for AWG cables for auxiliary contacts	2x (20 12)
AWG number as coded connectable conductor cross	
section	20 42
• for auxiliany contacts	20 12 20 12
for auxiliary contacts Safety related data	ZU 1Z
Safety related data	
product function • mirror contact according to IEC 60947.4.1	No
 mirror contact according to IEC 60947-4-1 positively driven operation according to IEC 60947-5-1 	No
positively driven operation according to IEC 60947-5-1 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 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
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
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=3RT2016-2JB41-Z W96

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2016-2JB41-Z W96

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-2JB41-Z W96

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

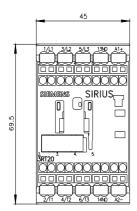
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2016-2JB41-Z W96&lang=en

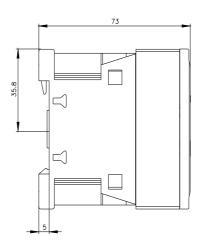
Characteristic: Tripping characteristics, I2t, Let-through current

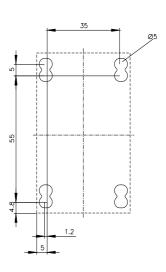
https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-2JB41-Z W96/cha

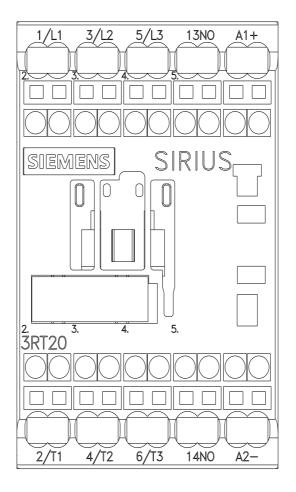
Further characteristics (e.g. electrical endurance, switching frequency)

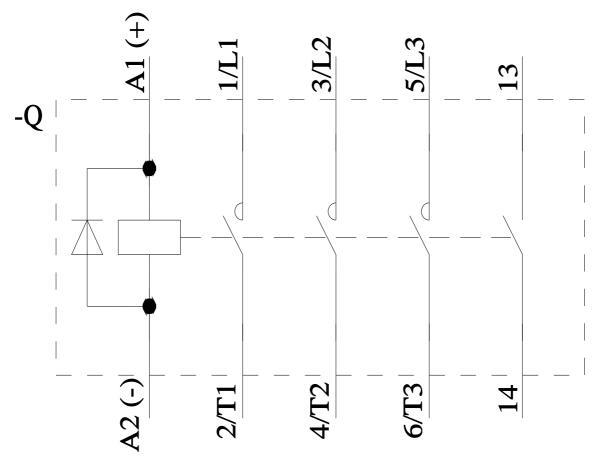
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2016-2JB41-Z W96&objecttype=14&gridview=view1











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