SIEMENS

Data sheet

3RT2016-2FB42



power contactor, AC-3e/AC-3, 9 A, 4 kW / 400 V, 3-pole, 24 V DC, with integrated diode, auxiliary contacts: 1 NC, spring-loaded terminal, size: S00

THE REPORT	
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 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 ∨
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
 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
SVHC substance name	Lead - 7439-92-1
Weight	0.315 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	95 %

Environmental Positive Clock Environmental Positive Clock Clock and the Clock	maximum	
Emicromental Poole Declaration(EPD) Ves global warming potential (CO2 eq) duting exertion global warming potential (CO2 eq) during exertion global (CO2 eq)		
global warming potential (Co2 eq) during navnificuting 143 kg ng global warming potential (CO2 eq) during navnificuting 142 kg ng global warming potential (CO2 eq) during operation 152 kg global warming potential (CO2 eq) during operation 152 kg number of Doles for main current circuit 3 operating voltage 9 • at AC-3 related value maximum 90 V • at AC-3 related value maximum 900 V • at AC-4 related value maximum 90 V • at AC-1 0 Portional current 22 A • at AC-3 0 Portional current 20 A • at AC-4 0 V rade value 6.7 A • at AOV rade value 6.7 A 0 A • at AOV rade value 6.7 A 0 A • at AOOV rade value 6.7 A 0 A • at AOOV rade value 6.7 A 0 A • at AOOV rade value 6.7 A 0 A • at AOOV rade value 6.7		Yes
global warming potential (Co22 ed) during manufacturing 142 king global warming potential (Co22 ed) after end of life 0.305 kg Main creatil 0.305 kg Auruber of NO contacts for main contacts 3 operating voltage 0 • et AA-C-3 rated value maximum 600 V operating voltage 22 A • et AA-C-3 rated value maximum 600 V operating voltage 22 A • et AA-C-1 rated value maximum 600 V • et AA-C-1 rated value maximum 20 A • et AA-C-1		
global warming potential (CO2 engl during operation) 428 kg global warming potential (CO2 engl during operation) 3 number of Does for main current circuit 3 querting voltage 4 • all AC3 field value maximum 600 V • et AC43 field value maximum 600 V • et AC43 field value maximum 600 V • et AC41 et 400 V at ambient temperature 40 °C rated 22 A • et AC43 22 A • et AC43 77 A • et AC43 77 A • et AC44 70 V rated value 0.7 A • et AC44 70 V rated value 5.7 A • et AC44 70 V rated value 5.3 A • et AC44 70 V rated value 5.3 A • et AC44 70 V rated value 5.3 A • et AC45 5.3 A • et AC45 5.3 A • et AC45 5.3 A <		
global warming potential (CO2 eq) after end of life 4.3495 kg Main circuit 3 number of NO contacts for main cortacts 3 operating voltage 600 V • at AC-3 rated value maximum 600 V • at AC-3 rated value maximum 600 V • at AC-1 22 A • at AC-3 8 • at AC-1 22 A • at AC-3 8 • at AC-3 8 • at AC-3 8 • at AO V rated value 7.7 A - at 600 V rated value 8.7 A • at AC-4 aup to 800 V rated value 9.8 A • at AC-5 aup to 800 V rated value 7.7 A - at 600 V rated value 7.7 A - at 600 V rated value 7.7 A		-
Number of poles for main curvet circuit 3 number of No Contacts for main contacts 3 operating voltage eit AC-3 rated value maximum 600 V eit AC-3 rated value maximum 600 V 600 V operating voltage eit AC-3 rated value maximum 600 V operating voltage eit AC-1 rated value maximum 600 V operating voltage eit AC-1 rated value maximum 22 A value eit AC-1 rated value maximum 22 A - eit BC 90 V at ambient temperature 40 °C rated value 21 A - eit BC 90 V rated value 5 A - eit 400 V rated value 5 A - eit 400 V rated value 6 A - eit 400 V rated value 6 A - eit 400 V rated value 6 A - eit 400 V rated value 7 A - eit 600 V rated value 7 A - eit 600 V rated value 6 A - eit 400 V rated value 7 A - eit 600 V rated value 7 A - eit 400 V rated value 6 A - eit 400 V rated value 6 A - eit 400 V rated value		
number of NO contacts for main contacts 3 operating voltage 600 V • at AC-3 rated value maximum 600 V • at AC-3 rated value maximum 600 V • at AC-1 at 400 V at ambient temperature 40 °C rated value 22.A • at AC-1 at 400 V at ambient temperature 40 °C rated value 22.A • at AC-1 at 400 V rate object temperature 60 °C rated value 20.A • at AC-3 000 V rated value 0.A • at AC-3 000 V rated value 0.A • at AC-3 000 V rated value 0.A • at AC-4 0.A 0.A • at AC-3 0.A 0.A • at AC-3 0.A 0.A • at AC-4 0.A 0.A • at AC-5 0.A 0.A • at AC-4 0.A 0.A • at AC-5 0.A 0.A • at AC-5 0.A 0.A • at AC-4 0.A		
number of NO contacts of reals contacts 3 operating voltage 680 V • at AC-3 rated value maximum 690 V • at AC-3 rated value maximum 690 V • at AC-1 at 400 V ist ambient temperature 40 °C rated value 22.A • at AC-1 at 400 V ist ambient temperature 40 °C rated value 22.A • at AC-1 20.A • at AC-3 20.A • at AC-3 20.A • at AC-3 6.7 A • at 600 V meter value 7.7 A • at 600 V meter value 6.7 A • at AC-4 at 400 V meter value 7.7 A • at 600 V meter value 7.7 A • at AC-5 at p to 500 V fract value 7.7 A • at AC-5 at p to 500 V fract value 7.7 A • at AC-5 at p to 500 V fract value 7.7 A • at AC-5 at p to 500 V fract value 7.7 A • at AC-5 at p to 500 V fract value 7.7 A • at AC-5 at p to 500 V fract value 7.7 A • at AC-4	number of poles for main current circuit	3
et at AC3 met value maximum 690 V • at AC3 met value 22 A • at AC4 met value 22 A • at AC5 90 V • at AC5 90 V • at AC5 22 A • at AC5 20 A • at AC5 20 A • at AC5 21 A • at AC5 where value 67 A • at AC5 where value 77 A • at AC5 where value 67 A • at AC5 where value 67 A • at AC5 where value 63 A • at AC5 where value 53 A • at AC5 where value 53 A • at AC5 where value 53 A <t< td=""><td>•</td><td>3</td></t<>	•	3
• at AC-3 rated value maximum 690 V • at AC-1 22 A · 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 · up to 690 V at ambient temperature 60 °C rated value 20 A · at AC-3 0 · at AC-3 0 · at AO V rated value 0 A · at AO V rated value 0 A · at AO V rated value 0 A · at S00 V rated value 0 A · at AC-3 te 0 A · at AC-4 to V rated value 0 A · at AC-4 to V rated value 0 A · at AC-5 to p to 400 V rated value 7.7 A · at AC-5 to p to 400 V rated value 7.4 A · at AC-5 to p to 400 V rated value 7.4 A · at AC-5 to p to 400 V rated value 7.4 A · at AC-5 to p to 400 V rated value n=20 rated value 5.3 A · up to 230 V for current peak value n=20 rated value 5.3 A · up to 600 V for current peak value n=20 rated value 5.3 A · up to 600 V for current peak value n=20	operating voltage	
operational current at AC-1 at AOU Val ambient temperature 40 °C rated value 22 A • at AC-1	 at AC-3 rated value maximum 	690 V
• at AC-1 at 400 V at ambient temperature 40 °C rated value 22 A • at AC-1 up to 560 V at ambient temperature 60 °C rated value 20 A • at AC-3 up to 500 V at ambient temperature 60 °C rated value 20 A • at AC-3 at 60 V rated value 9 A at 500 V rated value 6.7 A at 600 V rated value at 600 V rated value 6.7 A at 600 V rated value 6.7 A at 600 V rated value 6.7 A at 600 V rated value 6.7 A at 600 V rated value 7.7 A at 600 V rated value 6.7 A at 600 V rated value 7.7 A at 600 V rated value 6.7 A at 700 V rated value 6.7 A at 7 A at 600 V rated value 6.7 A at 700 V rated value 5.7 A at 7 A at 7 A at 7 A at 700 V rated value 7.7 A at 7 A at 7 A at 7 A at 700 V rated value 7.7 A at 7 A at 7 A at 7 A at 700 V rated value 5.7 A at 7 A at 7 A at 7 A at 700 V rated value 5.3 A up 10 200 V for current peak value n=20 rated v	at AC-3e rated value maximum	690 V
value -up to 690 V at ambient temperature 40 °C rated 22 A -up to 690 V at ambient temperature 60 °C rated 20 A -up to 600 V at ambient temperature 60 °C rated 20 A -up to 600 V at ambient temperature 60 °C rated 20 A -up to 600 V at ambient temperature 60 °C rated 20 A -up to 600 V rated value 9 A -up to 600 V rated value 6.7 A -up to 200 V rated value 6.7 A -up to 800 V rated value 6.7 A -up to 800 V rated value 6.7 A -up to 800 V rated value 6.7 A -up to 200 V rated value 6.7 A -up to 200 V rated value 7.7 A -up to 200 V rated value 5.7 A -up to 500 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 500 V for current peak value n=30 rated value 3.5 A -up to 500 V for current peak value n=30 rated value 3.5 A -up to 500 V for current peak value n=30 rated value 3.5 A <	operational current	
	value	22 A
value		22.4
value value • at AC-3 9 A - at 500 V rated value 7.7 A - at 600 V rated value 6.7 A • at AC-3e 9 A - at 500 V rated value 9 A - at 500 V rated value 6.7 A - at 600 V rated value 6.7 A - at 600 V rated value 6.7 A - at 600 V rated value 7.7 A - at 600 V rated value 7.7 A - at 600 V rated value 6.7 A - at 600 V rated value 7.7 A - at 600 V frated value 7.7 A - at 600 V frated value 7.7 A - up to 200 V for current peak value n=20 rated value 5.3 A - up to 600 V for current peak value n=20 rated value 5.5 A - up to 600 V for current peak value n=30 rated value 5.5 A - up to 500 V for current peak value n=30 rated value 5.6 A <td>value</td> <td></td>	value	
	value	
- at 500 V rated value 7.7 Å - at 680 V rated value 7.7 Å - at 680 V rated value 9 Å - at 500 V rated value 7.7 Å - at 500 V rated value 7.7 Å - at 500 V rated value 7.7 Å - at 600 V rated value 7.7 Å - at 6.2 Å U for current peak value n=20 rated value 7.7 Å - up to 230 V for current peak value n=20 rated value 7.3 Å - up to 500 V for current peak value n=20 rated value 7.3 Å - up to 500 V for current peak value n=20 rated value 7.3 Å - up to 500 V for current peak value n=20 rated value 7.3 Å - up to 500 V for current peak value n=20 rated value 7.3 Å - up to 500 V for current peak value n=30 rated value 7.3 Å - up to 500 V for current peak value n=30 rated value 7.3 Å - up to 500 V for current peak value n=30 rated value 7.4 Å - up to 500 V for current peak value n=30 rated value 7.5 Å - up to 500 V for current peak value n=30 rated value 7.5 Å - up to 500 V for current peak value n=30 rated value 7.5 Å - up to 500 V for current peak value n=30 rated value 7.5 Å - up to 500 V for current peak value n=30 rated value 7.5 Å - up to 500 V for current peak value n=30 rated value 7.5 Å - up to 500 V for current peak value n=30 rated value 7.5 Å - up to 500 V for current peak value n=30 rated value 7.5 Å - up to 500 V for current peak value n=30 rated value 7.5 Å - up to 500 V for current peak value n=30 rated value 7.5 Å - up to 500 V for current peak value n=30 rated value 7.5 Å - up to 500 V for current peak value n=30 rated value 7.5 Å - up to 500 V for current peak value 7.1 rated value 7.5 Å - at 60 V rated value 7.5 Å - at 7.5 V rated value 7.5 Å - a		0.4
• at AC-3e - at 400 V rated value 9A - at 500 V rated value 77 A - at 680 V rated value 67 A • at AC-4 at 400 V rated value 85 A • at AC-5 au pto 690 V rated value 194 A • at AC-5 to pto 400 V rated value 7.4 A • at AC-5 to pto 400 V rated value 7.4 A • at AC-5 to pto 400 V rated value -20 rated value 5.3 A - up to 520 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 500 V for current peak value n=20 rated value 5.4 • at AC-6a - - up to 500 V for current peak value n=20 rated value 5.4 • at AC-6a - - up to 500 V for current peak value n=20 rated value 5.5 A - up to 500 V for current peak value n=30 rated value 3.5 A - up to 500 V for current peak value n=30 rated value 3.5 A - up to 690 V for current peak value n=30 rated value 3.5 A - up to 690 V for current peak value n=30 rated value 3.5 A - at 600 V for current peak value n=30 rated value 3.5 A - at 600 V for current peak value n=30 rated value 3.5 A <		
at 500 V rated value 7.7 Å at 600 V rated value 6.7 Å • at AC-4 at 400 V rated value 8.5 Å • at AC-5 sup to 500 V rated value 19.4 Å • at AC-5s up to 500 V rated value 7.4 Å • at AC-6a		9 A
• at AC-4 at 400 V rated value8.5 A• at AC-5a up to 400 V rated value19.4 A• at AC-5a7.4 A• at AC-6a up to 230 V for current peak value n=20 rated value5.3 A- up to 500 V for current peak value n=20 rated value5.3 A- up to 600 V for current peak value n=20 rated value5.3 A- up to 500 V for current peak value n=20 rated value5.3 A- up to 600 V for current peak value n=20 rated value5.3 A- up to 500 V for current peak value n=20 rated value5.3 A- up to 500 V for current peak value n=20 rated value5.5 A- up to 400 V for current peak value n=30 rated value3.5 A- up to 500 V for current peak value n=30 rated value3.5 A- up to 500 V for current peak value n=30 rated value3.6 A- up to 690 V for current peak value n=30 rated value3.6 A- up to 690 V for current peak value n=30 rated value3.6 A- up to 690 V for current peak value n=30 rated value3.6 A- up to 690 V rated value3.3 Aoperational current for approx. 200000 operating cycles at AC-44 mm²• at 400 V rated value20 A- at 24 V rated value20 A- at 24 V rated value0.6 A- at 240 V rated value0.6 A- at 600 V rated value<		
• at AC-4 at 400 V rated value8.5 A• at AC-5a up to 400 V rated value19.4 A• at AC-5a7.4 A• at AC-6a up to 230 V for current peak value n=20 rated value5.3 A- up to 500 V for current peak value n=20 rated value5.3 A- up to 600 V for current peak value n=20 rated value5.3 A- up to 500 V for current peak value n=20 rated value5.3 A- up to 600 V for current peak value n=20 rated value5.3 A- up to 500 V for current peak value n=20 rated value5.3 A- up to 500 V for current peak value n=20 rated value5.5 A- up to 400 V for current peak value n=30 rated value3.5 A- up to 500 V for current peak value n=30 rated value3.5 A- up to 500 V for current peak value n=30 rated value3.6 A- up to 690 V for current peak value n=30 rated value3.6 A- up to 690 V for current peak value n=30 rated value3.6 A- up to 690 V for current peak value n=30 rated value3.6 A- up to 690 V rated value3.3 Aoperational current for approx. 200000 operating cycles at AC-44 mm²• at 400 V rated value20 A- at 24 V rated value20 A- at 24 V rated value0.6 A- at 240 V rated value0.6 A- at 600 V rated value<		
• at AC-5b up to 400 V rated value7.4 A• at AC-6a5.3 A- up to 230 V for current peak value n=20 rated value5.3 A- up to 500 V for current peak value n=20 rated value5.3 A- up to 500 V for current peak value n=20 rated value5.3 A- up to 690 V for current peak value n=20 rated value5.4- up to 230 V for current peak value n=20 rated value5.4- up to 690 V for current peak value n=30 rated value5.5 A- up to 500 V for current peak value n=30 rated value3.5 A- up to 500 V for current peak value n=30 rated value3.6 A- up to 500 V for current peak value n=30 rated value3.3 Aminimum cross-section in main circuit at maximum AC-1 rated4 mm²value3.3 Aoperational current for approx. 200000 operating cycles at AC-4 at 400 V rated value20 A- at 24 V rated value20 A- at 60 V rated value0.6 A- at 400 V rated value0.6 A- at 400 V rated value0.6 A- at 60 V rated value0.6 A	 at AC-4 at 400 V rated value 	8.5 A
• at AC-6a5.3 A up to 230 V for current peak value n=20 rated value5.3 A up to 500 V for current peak value n=20 rated value5.3 A up to 500 V for current peak value n=20 rated value5.3 A up to 500 V for current peak value n=20 rated value5.4• 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 value3.5 A up to 500 V for current peak value n=30 rated value3.6 A up to 500 V for current peak value n=30 rated value3.3 Aminimum cross-section in main circuit at maximum AC-1 rated value4 mm²• at 400 V rated value3.3 Aoperational current for approx. 20000 operating cycles at AC-44.1 A• at 400 V rated value20 A- at 24 V rated value20 A- at 20 V rated value2.1 A- at 20 V rated value0.6 A- at 400 V rated value0.6 A- at 60 V rated value0.6 A </td <td> at AC-5a up to 690 V rated value </td> <td>19.4 A</td>	 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
• at AC-6a3.5 A- up to 230 V for current peak value n=30 rated value3.5 A- up to 500 V for current peak value n=30 rated value3.6 A- up to 690 V for current peak value n=30 rated value3.3 Aminimum cross-section in main circuit at maximum AC-1 rated value4 mm²operational current for approx. 200000 operating cycles at AC-44.1 A• at 400 V rated value3.3 Aoperational current • at 400 V rated value4.1 A• at 600 V rated value20 A- at 24 V rated value20 A- at 400 V rated value0.6 A- at 440 V rated value0.6 A- at 600 V rated value0.6 A- at 600 V rated value0.6 A- at 24 V rated value0.6 A- at 24 V rated value0.6 A- at 60 V rated value0.6 A- at 400 V rated value0.6 A- at 24 V rated value0.6 A- at 60 V rated value0.6 A- at 60 V rated value20 A- at 60 V rated value <td> — up to 500 V for current peak value n=20 rated value </td> <td>5.3 A</td>	 — 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 500 V for current peak value n=30 rated value3.6 A	 — up to 230 V for current peak value n=30 rated value 	3.5 A
up to 690 V for current peak value n=30 rated value3.3 Aminimum cross-section in main circuit at maximum AC-1 rated value4 mm²operational current for approx. 200000 operating cycles at AC-44 mm²• at 400 V rated value4.1 A• at 690 V rated value3.3 Aoperational current • at 1 current path at DC-120 A		
minimum cross-section in main circuit at maximum AC-1 rated value4 mm²operational current for approx. 200000 operating cycles at AC-44 mm²• at 400 V rated value4.1 A• at 690 V rated value3.3 Aoperational current • at 1 current path at DC-120 A- at 24 V rated value20 A- at 60 V rated value2.1 A- at 60 V rated value0.8 A- at 220 V rated value0.6 A- at 400 V rated value0.6 A- at 600 V rated value0.6 A- at 100 V rated value0.6 A- at 24 V rated value0.6 A- at 600 V rated value0.6 A- at 100 V rated value0.6 A- at 24 V rated value0.6 A- at 24 V rated value0.6 A- at 210 V rated value20 A- at 110 V rated value20 A- at 110 V rated value12 A		
value Image: constraint 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 3.3 A • at 1 current path at DC-1 - at 24 V rated value - at 24 V rated value 20 A - at 60 V rated value 20 A - at 60 V rated value 20 A - at 220 V rated value 0.8 A - at 420 V rated value 0.6 A - at 600 V rated value 0.6 A - at 60 V rated value 20 A - at 10 V rated value 20 A - at 10 V rated value <t< td=""><td></td><td></td></t<>		
AC-4• at 400 V rated value4.1 A• at 690 V rated value3.3 Aoperational current3.3 A• at 1 current path at DC-1 at 24 V rated value20 A- at 60 V rated value20 A- at 110 V rated value2.1 A- at 220 V rated value0.8 A- at 440 V rated value0.6 A- at 60 V rated value0.6 A- at 60 V rated value0.6 A- at 60 V rated value0.20 A- at 60 V rated value0.6 A- at 60 V rated value0.6 A- at 24 V rated value0.6 A- at 24 V rated value20 A- at 110 V rated value20 A- at 210 V rated value20 A- at 210 V rated value20 A- at 110 V rated value12 A	value	4 mm²
• at 690 V rated value3.3 Aoperational current3.3 A• at 1 current path at DC-1 at 24 V rated value20 A- at 60 V rated value20 A- at 10 V rated value2.1 A- at 220 V rated value0.8 A- at 440 V rated value0.6 A- at 600 V rated value0.6 A- at 600 V rated value0.6 A- at 24 V rated value12 A	AC-4	
operational current• at 1 current path at DC-1 at 24 V rated value20 A at 60 V rated value20 A at 110 V rated value2.1 A at 220 V rated value0.8 A at 440 V rated value0.6 A at 600 V rated value0.6 A at 24 V rated value0.20 A at 24 V rated value0.20 A at 24 V rated value20 A at 60 V rated value20 A at 60 V rated value20 A at 60 V rated value20 A at 10 V rated value20 A at 110 V rated value12 A		
• at 1 current path at DC-1 20 A - at 24 V rated value 20 A - at 60 V rated value 20 A - at 110 V rated value 21 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 - at 24 V rated value 0.20 A - at 600 V rated value 0.20 A - at 600 V rated value 0.20 A - at 24 V rated value 20 A - at 24 V rated value 20 A - at 110 V rated value 20 A - at 24 V rated value 20 A - at 110 V rated value 20 A		3.3 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 - at 600 V rated value 0.6 A - at 600 V rated value 20 A - at 60 V rated value 20 A	-	20.4
at 110 V rated value2.1 A at 220 V rated value0.8 A at 440 V rated value0.6 A at 600 V rated value0.6 A• with 2 current paths in series at DC-1		
- 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 60 V rated value 12 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 60 V rated value 12 A		
- at 600 V rated value0.6 A• with 2 current paths in series at DC-1 at 24 V rated value20 A- at 60 V rated value20 A- at 110 V rated value12 A		
• with 2 current paths in series at DC-120 A at 24 V rated value20 A at 60 V rated value20 A at 110 V rated value12 A		
at 24 V rated value20 A at 60 V rated value20 A at 110 V rated value12 A		
at 60 V rated value20 A at 110 V rated value12 A	-	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 440 V rated value	

— 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	00 A
— at 24 V rated value	20 A
— 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
— at 24 V rated value — at 60 V rated value	5 A
	0.35 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	20.4
— at 24 V rated value — at 60 V rated value	20 A 20 A
— at 50 v rated value — at 110 V rated value	20 A 20 A
— at 220 V rated value	20 A 1.5 A
— at 440 V rated value	0.2 A
— at 600 V rated value	0.2 A
operating power	0.2 A
• at AC-3	
— at 230 V rated value	2.2 kW
— at 400 V rated value	4 kW
— at 500 V rated value	4 kW
— at 690 V rated value	5.5 kW
• at AC-3e	
— at 230 V rated value	2.2 kW
— at 400 V rated value	4 kW
— at 500 V rated value	4 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 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	2 kVA
• up to 400 V for current peak value n=20 rated value	3.6 kVA
• up to 500 V for current peak value n=20 rated value	4.6 kVA
up to 690 V for current peak value n=20 rated value	5.9 kVA
operating apparent power at AC-6a	1.2 1/1
 up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value 	1.3 kVA 2.4 kVA
	2.4 KVA 3.1 KVA
 up to 500 V for current peak value n=30 rated value up to 600 V for current peak value n=30 rated value 	3.1 KVA 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 	155 A; Use minimum cross-section acc. to AC-1 rated value
 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
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

● at AC-3e maximum	750 1/h
• 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	24 V
operating range factor control supply voltage rated value of magnet coil at DC	
• initial value	0.8
• full-scale value	1.1
design of the surge suppressor	diode
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	38 65 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 contact	1
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 at 125 V rated value 	3 A 2 A
at 220 V rated value	1A
at 600 V rated value	0.15 A
operational current at DC-13	0.15 A
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	1A
at 125 V rated value	0.9 A
at 220 V rated value	0.3 A
• at 600 V rated value	0.1 A
design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V	C characteristic: 10 A; 0.4 kA
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	7.6 A
• 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 fuse link	
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
fastening method side-by-side mounting	Yes
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	70 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	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 mm ²)
— finely stranded with core end processing	2x (0.5 2.5 mm ²)
 — finely stranded without core end processing 	2x (0.5 2.5 mm ²)
 for AWG cables for main contacts 	2x (20 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 mm ²
 finely stranded without core end processing 	0.5 2.5 mm ²
connectable conductor cross-section for auxiliary contacts	
solid or stranded	0.5 4 mm²
 finely stranded with core end processing 	0.5 2.5 mm ²
 finely stranded with one one processing 	0.5 2.5 mm ²
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 mm ²)
 finely stranded with core end processing finely stranded without core end processing 	2x (0.5 2.5 mm ²)
 for AWG cables for auxiliary contacts 	2x (0.5 2.5 mm)) 2x (20 12)
AWG number as coded connectable conductor cross section	
for main contacts	20 12
for auxiliary contacts	20 12
- TOF auxiliary contacts	

product function					
 mirror contact ac 	cording to IEC 60947-4-1		Yes		
 positively driven 	operation according to IE0	C 60947-5-1	No		
 suitable for safet 			Yes		
	-related switching OFF		Yes		
service life maximum			20 a		
test wear-related service life necessary					
			Yes		
proportion of dangero					
	rate according to SN 319		40 %		
• with high demand rate according to SN 31920		920	73 %		
B10 value with high d	emand rate according to	SN 31920	1 000 000		
failure rate [FIT] with 31920	ow demand rate accord	ing to SN	100 FIT		
ISO 13849					
device type according	1 to ISO 13849-1		3		
	cording to ISO 13849-2 n		Yes		
EC 61508	orung to 100 13043-2 11	lecessary	103		
			Turne A		
safety device type acc Electrical Safety	cording to IEC 61508-2		Туре А		
protection class IP on	the front according to I	EC 60529	IP20		
touch protection on th	ne front according to IEC	60529	finger-safe, for vertical conta	ct from the front	
oprovals Certificates					
General Product App	roval				
	CE EG-Konf.	UK CA	<u>Confirmation</u>		KC
General Product Approval	EMV	Test Certificates			
		rest certificates	i	Marine / Shipping	
EHC	RCM	Special Test Certi ate		Marine / Shipping	BUREAU VERITAS
ERIC Marine / Shipping	RCM	Special Test Certi	ific- <u>Type Test Certific-</u>	Marine / Shipping	BUREAU VERITAS
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other Miscellaneous	Railway Special Test Certific-	Special Test Certiate	ific- <u>Type Test Certific-ates/Test Report</u>	ABS Environmental Con-	other
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 Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

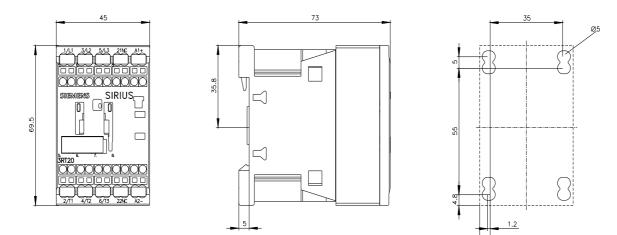
 http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2016-2FB42&lang=en

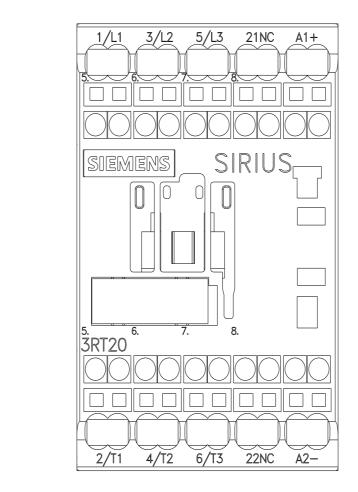
 Characteristic: Tripping characteristics, I²t, Let-through current

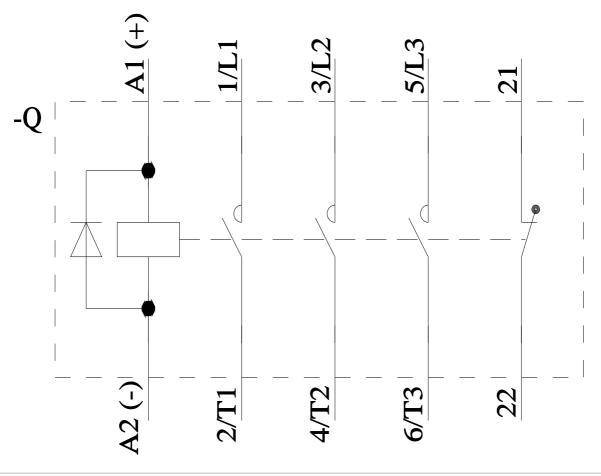
 https://support.industry.siemens.com/cs/ww/en/ps/3RT2016-2FB42/char

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

 http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2016-2FB42&objecttype=14&gridview=view1







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