SIEMENS

Data sheet

3RT2025-2BB40-0CC0

CONTACTOR, AC-3, 7.5KW/400V, 1NO+1NC, DC 24V, COM. CAPABILITY, 3-POLE, SZ S0 SPRING-LOADED TERMINAL



product brandname	SIRIUS
Product designation	Power contactor
Product type designation	3RT2
General technical data	
Size of contactor	SO
Product extension	
 function module for communication 	Yes
Auxiliary switch	Yes
Insulation voltage	
 rated value 	690 V
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
 between coil and main contacts acc. to EN 	400 V
60947-1	
Protection class IP	
• on the front	IP20
• of the terminal	IP20
Shock resistance at rectangular impulse	
• at DC	10g / 5 ms, 7,5g / 10 ms

• at DC15g / 5 ms, 10g / 10 msMechanical service life (switching cycles) • of contactor typical10 000 000• of the contactor with added electronics- compatible auxiliary switch block typical5 000 000• of the contactor with added auxiliary switch block typical10 000 000• of the contactor with added auxiliary switch block typical10 000 000• during operation • during storage-55 +60 °C - 55 +60 °C• during operation • during storage-55 +60 °C - 55 +60 °C• during operation • during storage-55 +60 °C - 55 +60 °C• at AC-1 at 400 V - at ambient temperature 40 °C rated value3• at AC-1 - up to 569 V at ambient temperature 40 °C rated value40 A• at AC-1 - up to 569 V at ambient temperature 60 °C rated value35 A 	Shock resistance with sine pulse	
 of contactor typical of the contactor with added electronics- compatible auxiliary switch block typical of the contactor with added auxiliary switch block typical of the contactor for main contacts of the contacts for main contacts operating voltage at AC-3 rated value maximum of 00 V Operating ourrent at AC-1 at AC-1 at AC-1 at AC-2 at AC-2 at AC-3 at AC-2 at AC-3 at 60 °C minimum permissible at 60 °C minimum permissible at A0 °C minimum permissible Operating cur		15g / 5 ms, 10g / 10 ms
of the contactor with added electronics- compatible auxiliary switch block typical 5 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 Ambient temperature • during operation • during storage -25 +60 °C • 55 +80 °C • Mumber of No contacts for main contacts 3 Operating voltage • at AC-3 rated value maximum 690 V Operating outgas 690 V • at mbient temperature 40 °C rated value 40 A • at AC-3 rated value maximum 690 V • at AC-1 at 400 V - - at ambient temperature 40 °C rated value 40 A • at AC-1 - • at AC-2 at 400 V at ambient temperature 60 °C rated value 35 A - at 400 V rated value 17 A • at AC-3 - • at AC-3 - • at AC-1 13 A Connectable conductor cross-section in main circuit at AC-1 10 mm ² • at 60 °C minimum permissible 10 mm ² • at 60 °C minimum permissible 10 mm ²	Mechanical service life (switching cycles)	
compatible auxiliary switch block typical10 000 000Ambient conditions	 of contactor typical 	10 000 000
• of the contactor with added auxiliary switch block typical10 000 000Ambient conditionsAmbient temperature • during operation • during storage-25 +60 °C - 55 +80 °C• during storage-25 +60 °C - 55 +80 °CMumber of poles for main current circuit3Number of NO contacts for main current circuit3Operating voltage • at AC-3 rated value maximum690 VOperating current • at AC-1 at 400 V - at ambient temperature 40 °C rated value40 A• at AC-1 rated value40 A• at AC-1 rated value17 A• at AC-2 rated value17 A• at AC-3 rated value17 A• at AC-3 rated value17 A• at AC-1 rated value10 mm²• at AC-3 rated value10 mm²	 of the contactor with added electronics- 	5 000 000
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• at AC-3 rated value maximum690 VOperating current• at AC-1 at 400 V40 A- at ambient temperature 40 °C rated value40 A• at AC-1- up to 690 V at ambient temperature 40 °C- up to 690 V at ambient temperature 40 °C70 A- up to 690 V at ambient temperature 60 °C35 A- at AC-2 at 400 V rated value17 A• at AC-3- at AC-3- at 400 V rated value17 A- at 600 V rated value13 AConnectable conductor cross-section in main circuit at AC-110 mm²• at 60 °C minimum permissible10 mm²• at 40 °C minimum permissible10 mm²	Number of NO contacts for main contacts	3
Operating current 40 A - at AC-1 at 400 V 40 A - at ambient temperature 40 °C rated value 40 A - at AC-1 - - up to 690 V at ambient temperature 40 °C 40 A - up to 690 V at ambient temperature 60 °C 35 A - rated value 17 A - at AC-3 - - at 400 V rated value 17 A - at 500 V rated value 13 A Connectable conductor cross-section in main circuit at AC-1 10 mm² - at 60 °C minimum permissible 10 mm² - at 40 °C minimum permissible 10 mm²	Operating voltage	
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- up to 690 V at ambient temperature 40 °C rated value40 A- up to 690 V at ambient temperature 60 °C rated value35 A- up to 690 V at ambient temperature 60 °C rated value17 A• at AC-2 at 400 V rated value17 A• at AC-317 A- at 400 V rated value17 A- at 500 V rated value17 A- at 690 V rated value13 AConnectable conductor cross-section in main circuit at AC-110 mm²• at 60 °C minimum permissible10 mm²• at 40 °C minimum permissible10 mm²	— at ambient temperature 40 °C rated value	40 A
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rated value • at AC-2 at 400 V rated value • at AC-3 - at 400 V rated value - at 500 V rated value - at 600 V rated value - at 600 V rated value 17 A 17 A 17 A 13 A Connectable conductor cross-section in main circuit at AC-1 • at 60 °C minimum permissible • at 40 °C minimum permissible • at 40 °C minimum permissible 10 mm ² Coperating current for approx. 200000 operating cycles at AC-4		40 A
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at 400 V rated value17 A at 500 V rated value17 A at 690 V rated value13 AConnectable conductor cross-section in main circuit at AC-110 mm²• at 60 °C minimum permissible10 mm²• at 40 °C minimum permissible10 mm²	• at AC-2 at 400 V rated value	17 A
- at 500 V rated value17 A- at 690 V rated value13 AConnectable conductor cross-section in main circuit at AC-110 mm²• at 60 °C minimum permissible10 mm²• at 40 °C minimum permissible10 mm²Operating current for approx. 200000 operating cycles at AC-410 mm²	• at AC-3	
at 690 V rated value13 AConnectable conductor cross-section in main circuit at AC-110 mm²• at 60 °C minimum permissible10 mm²• at 40 °C minimum permissible10 mm²• at 40 °C minimum permissible10 mm²• at 40 °C minimum permissible10 mm²	— at 400 V rated value	17 A
Connectable conductor cross-section in main circuit at AC-1 10 mm² • at 60 °C minimum permissible 10 mm² • at 40 °C minimum permissible 10 mm² Operating current for approx. 200000 operating cycles at AC-4 10 mm²	— at 500 V rated value	17 A
at AC-1Image: Comparison of the sector of the s	— at 690 V rated value	13 A
• at 40 °C minimum permissible 10 mm ² Operating current for approx. 200000 operating cycles at AC-4		
Operating current for approx. 200000 operating cycles at AC-4	• at 60 °C minimum permissible	10 mm ²
cycles at AC-4	• at 40 °C minimum permissible	10 mm ²
	cycles at AC-4	
	• at 400 V rated value	7.7 A
• at 690 V rated value 7.7 A		7.7 A
Operating current	Operating current	
● at 1 current path at DC-1	• at 1 current path at DC-1	
- at 24 V rated value 35 A	— at 24 V rated value	35 A
- at 110 V rated value 4.5 A	— at 110 V rated value	4.5 A

— at 220 V rated value	1 A
— at 440 V rated value	0.4 A
— at 600 V rated value	0.25 A
 with 2 current paths in series at DC-1 	
— at 24 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	5 A
— at 440 V rated value	1 A
— at 600 V rated value	0.8 A
 with 3 current paths in series at DC-1 	
— at 24 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	35 A
— at 440 V rated value	2.9 A
— at 600 V rated value	1.4 A
Operating current	
 at 1 current path at DC-3 at DC-5 	
— at 24 V rated value	20 A
— at 110 V rated value	2.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.09 A
— at 600 V rated value	0.06 A
 with 2 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	35 A
— at 110 V rated value	15 A
— at 220 V rated value	3 A
— at 440 V rated value	0.27 A
— at 600 V rated value	0.16 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	10 A
— at 440 V rated value	0.6 A
— at 600 V rated value	0.6 A
Operating power	
• at AC-1	
— at 230 V rated value	13.3 kW
— at 230 V at 60 °C rated value	13.3 kW
— at 400 V rated value	23 kW
— at 400 V at 60 °C rated value	23 kW
— at 690 V rated value	40 kW

— at 690 V at 60 °C rated value	40 kW
 at AC-2 at 400 V rated value 	7.5 kW
• at AC-3	
— at 230 V rated value	4 kW
— at 400 V rated value	7.5 kW
— at 690 V rated value	11 kW
Operating power for approx. 200000 operating cycles	
at AC-4	
• at 400 V rated value	3.5 kW
• at 690 V rated value	6 kW
Thermal short-time current limited to 10 s	150 A
Power loss [W] at AC-3 at 400 V for rated value of	0.9 W
the operating current per conductor	
No-load switching frequency	1 500 1/h
• at DC	1 500 1/11
	1 000 1/h
• at AC-1 maximum	
• at AC-2 maximum	1 000 1/h
• at AC-3 maximum	1 000 1/h
• at AC-4 maximum	300 1/h
Control circuit/ Control	
Type of voltage of the control supply voltage	DC
Control supply voltage at DC	
• rated value	24 V
Closing power of magnet coil at DC	5.9 W
Holding power of magnet coil at DC	5.9 W
Closing delay	
• at DC	50 170 ms
Opening delay	
• at DC	15 17.5 ms
Arcing time	10 10 ms
Residual current of the electronics for control with signal <0>	
 at AC at 230 V maximum permissible 	6 mA
• at DC at 24 V maximum permissible	16 mA
Auxiliary circuit Number of NC contacts	
for auxiliary contacts	
- instantaneous contact	1
Number of NO contacts	
for auxiliary contacts	
instantaneous contact	1
	•

Operating current at AC-12 maximum	10 A
Operating 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
Operating 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
Operating current at DC-13	
• at 24 V rated value	10 A
• at 48 V rated value	2 A
• at 60 V rated value	2 A
• at 110 V rated value	1 A
• at 125 V rated value	0.9 A
• at 220 V rated value	0.3 A
• at 600 V rated value	0.1 A
Contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)
UL/CSA ratings	
Full-load current (FLA) for three-phase AC motor	
• at 480 V rated value	14 A
• at 600 V rated value	17 A
Yielded mechanical performance [hp]	-
• for single-phase AC motor	
— at 110/120 V rated value	1 hp
— at 230 V rated value	3 hp
 for three-phase AC motor 	
— at 200/208 V rated value	3 hp
— at 220/230 V rated value	5 hp
— at 460/480 V rated value	10 hp
— at 575/600 V rated value	15 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 NH 3NA, DIAZED 5SB, NEOZED 5SE: 63 A

— with type of assignment 2 required

• for short-circuit protection of the auxiliary switch required

gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 25 A

fuse gG: 10 A

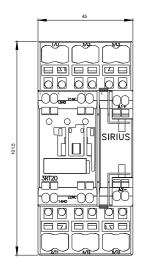
Mounting position	+/-180° rotation possible on vertical mounting surface; can be		
	tilted forward and backward by +/- 22.5° on vertical mounting surface		
Mounting type			
	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715		
 Side-by-side mounting 	Yes		
Height	102 mm		
Width	45 mm		
Depth	107 mm		
Required spacing			
 for grounded parts 			
— at the side	6 mm		
• for live parts			
— at the side	6 mm		
Connections/Terminals			
Type of electrical connection			
 for main current circuit 	spring-loaded terminals		
 for auxiliary and control current circuit 	spring-loaded terminals		
Type of connectable conductor cross-sections			
 for main contacts 			
— solid	2x (1 10 mm²)		
— single or multi-stranded	2x (1 10 mm²)		
 finely stranded with core end processing 	2x (1 6 mm²)		
 finely stranded without core end processing 	2x (1 6 mm²)		
• at AWG conductors for main contacts	2x (18 8)		
Type of connectable conductor cross-sections			
 for auxiliary contacts 			
— single or multi-stranded	2x (0,5 2,5 mm²)		
 finely stranded with core end processing 	2x (0.5 1.5 mm²)		
— finely stranded without core end processing	2x (0.5 2.5 mm²)		
• at AWG conductors for auxiliary contacts	2x (20 14)		
afety related data			
B10 value			
• with high demand rate acc. to SN 31920	1 000 000		
 Proportion of dangerous failures with low demand rate acc. to SN 31920 	40 %		

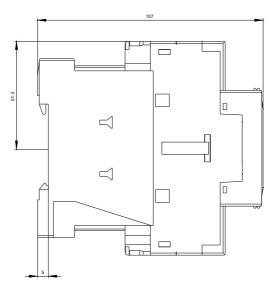
-	and rate acc. to SN 3	1920	73 %		
ilure rate [FIT]					
• with low demand rate acc. to SN 31920		100 FIT			
oduct function					
Mirror contact	acc. to IEC 60947-4-	1	Yes		
	st interval or service	life acc. to	20 у		
C 61508					
otection against el	ectrical shock		finger-safe		
tificates/approva	ls				
General Product	Approval				EMC
	CSA		<u>кс</u>	EHC	C-Tick
Functional	Declaration of	Test Certifi	cates		Shipping
Safety/Safety of Machinery	Conformity				Approval
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other			Railway		
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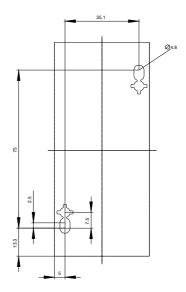
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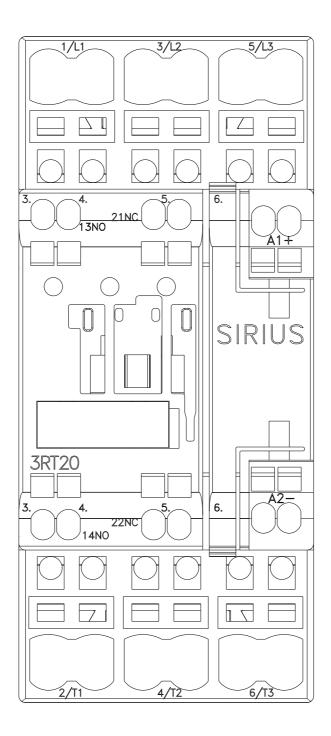
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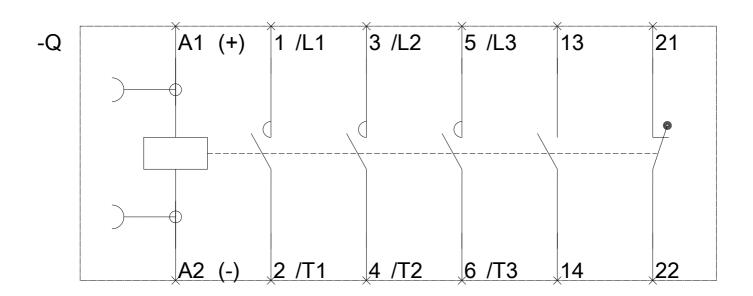
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last modified:

06/20/2017