SIEMENS

Data sheet

3RT2027-2BG40



Power contactor, AC-3 32 A, 15 kW / 400 V 1 NO + 1 NC, 125 V DC 3-pole, size S0 Spring-type terminals

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	SO
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 	6.3 W
 at AC in hot operating state per pole 	2.3 W
 without load current share typical 	5.9 W
insulation voltage	
 of main circuit with degree of pollution 3 rated value 	690 V
 of auxiliary circuit with degree of pollution 3 rated value 	690 V
surge voltage resistance	
 of main circuit rated value 	6 kV
 of auxiliary circuit rated value 	6 kV
maximum permissible voltage for safe isolation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at DC	10g / 5 ms, 7,5g / 10 ms
shock resistance with sine pulse	
• at DC	15g / 5 ms, 10g / 10 ms
mechanical service life (switching cycles)	
 of contactor typical 	10 000 000
 of the contactor with added electronically optimized auxiliary switch block typical 	5 000 000
 of the contactor with added auxiliary switch block typical 	10 000 000
reference code according to IEC 81346-2	Q
Substance Prohibitance (Date)	10/01/2009
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
during operation	-25 +60 °C
during storage	-55 +80 °C
relative humidity minimum	10 %
relative humidity at 55 °C according to IEC 60068-2-30 maximum	95 %

number of 0 contacts for main control circuit 3 operating voltage 3 • at AC-3 rated value maximum 680 V • at AC-1 rated value 50 A - up to 680 V at ambient temperature 40 °C 50 A rated value 50 A - up to 680 V at ambient temperature 40 °C 70 A - at 400 V rated value 32 A - at 400 V rated value 30 A - at 400 V rated value 30 A - at 400 V rated value 40 A - at 40	Main circuit	
number of NO contacts for main contacts 3 operating volue maximum 680 v • at AC-3 rated value maximum 680 v • at AC-3 rated value maximum 680 v • at AC-3 rated value maximum 680 v • at AC-1 at 400 V at ambient temperature 40 °C 50 A • at AC-1 at 400 V at ambient temperature 40 °C 50 A • at AC-1 at 400 V rated value 32 A - at 600 V rated value 30 A - at 600 V rated value 30 A - at 600 V for current peak value me20 rated 30 A - aub 60 V for current		3
• # AC-3 raied value maximum600 Voperational current600 V• # AC-1 at 400 V at ambient temperature 40 °C50 A• at AC-1 at 400 V at ambient temperature 40 °C50 A• at AC-150 A• at AC-1400 V at ambient temperature 40 °C• at AC-150 A• at AC-250 A• at AC-250 A• at AC-320 A• at AC-321 A• at AC-3 at ADO V rated value22 A• at AC-4 at ADO V rated value23 A• at AC-5 at D 60 O V rated value23 A• at AC-5 at D 60 O V rated value20 A• at AC-5 at D 60 O V rated value21 A• at AC-5 at D 60 O V rated value21 A• at AC-5 at D 60 O V rated value21 A• at AC-5 at D 60 O V rated value21 A• at AC-5 at D 60 O V rated value21 A• at AC-5 at D 60 O V rated value21 A• at AC-5 at D 60 O V rated value21 A• at AC-5 at D 60 O V rated value20 A• at AC-6 at A21 A• at AC-6 at A21 A•	number of NO contacts for main contacts	3
• # AC-3c rated value maximum680 Voperational current50 Arated value50 A• at AC-1•- up to 680 V at ambient temperature 40 °C50 Arated value50 A- up to 680 V at ambient temperature 60 °C42 A• at AC-3•- at 400 V rated value32 A• at AC-332 A- at 600 V rated value32 A- at 600 V rated value30 A- at 600 V rated value44 A- at AC-3e- at 600 V rated value- up to 500 V for current peak value n=20 rated70 A- up to 600 V for current peak value n=20 rated70 A- up to 600 V for current peak value n=30 rated50 A- up to 600 V for current peak value n=30 rated50 A- up to 600 V for current peak value n=30 rated50 A- up to 600 V for current peak value n=30 rated10 rm²- up to 600 V for current peak value n=30 rated10 rm²- at 600 V rated value10 A- up to 600	operating voltage	
operational current operational current ai AC-14 400 via ambient temperature 40 °C 50 A	 at AC-3 rated value maximum 	690 V
• at AC-1 at 400 v1 ambient temperature 40 °C 50 A • up to 569 v1 at ambient temperature 60 °C 50 A • up to 569 v1 at ambient temperature 60 °C 42 A • up to 569 v1 at ambient temperature 60 °C 42 A • up to 509 v1 at ambient temperature 60 °C 42 A • up to 500 v1 at ambient temperature 60 °C 42 A • up to 500 v1 at ambient temperature 60 °C 42 A • up to 500 v1 at at value 32 A • up to 500 v1 at at value 32 A • up to 700 v1 at at value 32 A • up to 700 v1 at at value 32 A • up to 700 v1 at at value 32 A • up to 700 v1 at at value 32 A • up to 700 v1 at at value 22 A • up to 700 v1 at at value 22 A • up to 700 v1 at at value 22 A • up to 700 v1 at at value 25 A • up to 700 v1 at at value 30.8 A • up to 700 v1 for current peak value n=20 rated 70.8 A • up to 600 v1 for current peak value n=30 rated 20.5 A • up to 700 v1 for current peak value n=30 rated 18 A • up to 700 v1 for current peak value n=30 ra	 at AC-3e rated value maximum 	690 V
retar value i al AC-1	operational current	
 ei AC-1 up to 800 V at ambient temperature 40 °C ried Vaule - up to 800 V at ambient temperature 60 °C ried Vaule ei AC-3 - ei 400 V rated value 2 A - ei 500 V rated value 21 A - ei 400 V rated value 22 A - ei 400 V rated value 22 A - ei 600 V rated value 22 A - ei 70 Current pack value n=20 rated - up fo 600 V for current pack value n=20 rated - up fo 600 V for current pack value n=20 rated - up fo 600 V for current pack value n=20 rated - up fo 600 V for current pack value n=20 rated - up fo 600 V for current pack value n=30 rated - up fo 600 V for current pack value n=30 rated - up fo 600 V for current pack value n=30 rated - up fo 600 V for current pack value n=30 rated - up fo 600 V for current pack value n=30 rated - up fo 600 V for current pack value n=30 rated - up fo 600 V for current pack value n=30 rated - up fo 600 V for current pack value n=30 rated - ei 600 V rated value - ei 60		50 A
		50 A
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	• at AC-3	
	— at 400 V rated value	32 A
	— at 500 V rated value	32 A
	— at 690 V rated value	21 A
- at 500 V rated value32 Å- at 690 V rated value21 Å- at 690 V rated value22 Å- at 44 00 V rated value22 Å- at AC-5a up to 690 V rated value24 Å- at AC-5a up to 100 V for current peak value n=20 rated30.8 Å- up to 100 V for current peak value n=20 rated30.8 Å- up to 500 V for current peak value n=20 rated30.8 Å- up to 500 V for current peak value n=20 rated21 Å- up to 500 V for current peak value n=20 rated21 Å- up to 500 V for current peak value n=20 rated20.5 Å- up to 500 V for current peak value n=30 rated20.5 Å- up to 500 V for current peak value n=30 rated20.5 Å- up to 500 V for current peak value n=30 rated18 Å- up to 500 V for current peak value n=30 rated18 Å- up to 600 V for current peak value n=30 rated12 Å- at 400 V rated value12 Å- at 400 V rated value20.5 Å- at 400 V rated value20.5 Å- at 400 V rated value18 Å- at 400 V rated value12 Å- at 400 V rated value20.5 Å- at 400 V rated value35 Å- at 400 V	• at AC-3e	
	— at 400 V rated value	32 A
• at AC-4 at 400 V rated value 22 A • at AC-5a up to 690 V rated value 26 A • at AC-5a up to 400 V for current peak value n=20 rated 30.8 A - up to 500 V for current peak value n=20 rated 30.8 A - up to 500 V for current peak value n=20 rated 30.8 A - up to 500 V for current peak value n=20 rated 21 A - up to 500 V for current peak value n=20 rated 21 A - up to 500 V for current peak value n=30 rated 20.5 A - up to 500 V for current peak value n=30 rated 20.5 A - up to 500 V for current peak value n=30 rated 18 A - up to 600 V for current peak value n=30 rated 10 mm² outer 10 mm² et al 00 V for durent peak value n=30 rated 10 mm² operational current for approx. 200000 operating 20.5 A et al 00 V for durent peak value n=30 rated 10 mm² et al 00 V fated value 20 FA • at 400 V fated value 25 A	— at 500 V rated value	32 A
• at AC-5a up to 690 V rated value 44 A • at AC-5b up to 400 V rated value 25 A • at AC-6a	— at 690 V rated value	21 A
 et AC-5b up to 400 V rated value et AC-5a 	• at AC-4 at 400 V rated value	22 A
• at AC-5b up to 400 V rated value 26.5 A • at AC-5a 30.8 A - up to 230 V for current peak value n=20 rated 30.8 A value 30.8 A - up to 500 V for current peak value n=20 rated 30.8 A - up to 500 V for current peak value n=20 rated 27 A - up to 500 V for current peak value n=20 rated 21 A • at AC-5a 21 A - up to 230 V for current peak value n=30 rated 20.5 A value 20.5 A - up to 500 V for current peak value n=30 rated 20.5 A value 18 A - up to 500 V for current peak value n=30 rated 10 mm² rated value 10 mm² operational current for approx. 20000 operating 12 A operational current for approx. 20000 operating 12 A operational current path at DC-1 12 A - at 240 V rated value 35 A - at 440 V rated value 025 A • with 2 current path in series at DC-1 14 AO - at 440 V rated value 35 A - at 440 V rated value 35 A - at 600 V rated value 35 A - at 600 V rated value 35 A </td <td>• at AC-5a up to 690 V rated value</td> <td>44 A</td>	• at AC-5a up to 690 V rated value	44 A
 at AC-6a 		26.5 A
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• at 690 V rated value 12 A operational current - • at 1 current path at DC-1 - - at 24 V rated value 35 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 - at 24 V rated value 35 A - at 24 V rated value 35 A - at 24 V rated value 0.25 A - at 24 V rated value 5 A - at 24 V rated value 35 A - at 440 V rated value 5 A - at 440 V rated value 1 A - at 440 V rated value 0.8 A	cycles at AC-4	
operational current• at 1 current path at DC-1- at 24 V rated value- at 24 V rated value- at 110 V rated value- at 220 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- at 240 V rated value- at 260 V rated value- at 440 V rated value- at 440 V rated value- at 440 V rated value- at 600 V rated value		
• at 1 current path at DC-135 A- at 24 V rated value35 A- at 210 V rated value4.5 A- at 220 V rated value1 A- at 440 V rated value0.4 A- at 600 V rated value0.25 A• with 2 current paths in series at DC-1 at 24 V rated value35 A- at 20 V rated value35 A- at 24 V rated value35 A- at 24 V rated value35 A- at 24 V rated value35 A- at 210 V rated value35 A- at 440 V rated value1 A- at 440 V rated value5 A- at 440 V rated value1 A- at 600 V rated value0.8 A		12 A
at 24 V rated value35 A at 210 V rated value4.5 A at 220 V rated value1 A at 440 V rated value0.4 A at 600 V rated value0.25 A•- at 24 V rated value35 A at 24 V rated value35 A at 210 V rated value35 A at 220 V rated value35 A at 220 V rated value5 A at 240 V rated value5 A at 240 V rated value5 A at 240 V rated value5 A at 440 V rated value5 A at 440 V rated value1 A at 600 V rated value0.8 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 220 V rated value 1 A - at 240 V rated value 35 A - at 240 V rated value 35 A - at 220 V rated value 5 A - at 240 V rated value 5 A - at 440 V rated value 5 A - at 600 V rated value 1 A	-	
 at 220 V rated value at 440 V rated value at 600 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 440 V rated value 0.8 A 	— at 24 V rated value	
 at 440 V rated value at 600 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 	— at 110 V rated value	
at 600 V rated value0.25 A• with 2 current paths in series at DC-1 at 24 V rated value35 A at 110 V rated value35 A at 220 V rated value5 A at 440 V rated value1 A at 600 V rated value0.8 A	— at 220 V rated value	1 A
with 2 current paths in series at DC-1	— at 440 V rated value	0.4 A
at 24 V rated value35 A at 110 V rated value35 A at 220 V rated value5 A at 440 V rated value1 A at 600 V rated value0.8 A		0.25 A
at 110 V rated value35 A at 220 V rated value5 A at 440 V rated value1 A at 600 V rated value0.8 A	 with 2 current paths in series at DC-1 	
at 220 V rated value5 A at 440 V rated value1 A at 600 V rated value0.8 A	— at 24 V rated value	
at 440 V rated value 1 A at 600 V rated value 0.8 A	— at 110 V rated value	35 A
— at 600 V rated value 0.8 A	— at 220 V rated value	5 A
	— at 440 V rated value	1 A
with 3 current paths in series at DC-1	— 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
 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-2 at 400 V rated value	15 kW
● at AC-3	
— at 230 V rated value	7.5 kW
— at 400 V rated value	15 kW
— at 500 V rated value	15 kW
— at 690 V rated value	18.5 kW
• at AC-3e	
— at 230 V rated value	7.5 kW
— at 400 V rated value	15 kW
— at 500 V rated value	15 kW
— at 690 V rated value	18.5 kW
operating power for approx. 200000 operating cycles	
at AC-4	
• at 400 V rated value	6 kW
• at 690 V rated value	10.3 kW
operating apparent power at AC-6a	
• up to 230 V for current peak value n=20 rated value	12.2 kVA
• up to 400 V for current peak value n=20 rated value	21.3 kVA
• up to 500 V for current peak value n=20 rated value	23.3 kVA
• up to 690 V for current peak value n=20 rated value	25 kVA
operating apparent power at AC-6a	
• up to 230 V for current peak value n=30 rated value	8.1 kVA
• up to 400 V for current peak value n=30 rated value	14.2 kVA
• up to 500 V for current peak value n=30 rated value	15.5 kVA
• up to 690 V for current peak value n=30 rated value	21.5 kVA
short-time withstand current in cold operating state	
up to 40 °C	
 limited to 1 s switching at zero current maximum 	499 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	395 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	260 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	186 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	152 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at DC	1 500 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	125 V			
operating range factor control supply voltage rated				
value of magnet coil at DC	0.0			
	0.8			
• full-scale value	1.1			
closing power of magnet coil at DC	5.9 W			
holding power of magnet coil at DC	5.9 W			
closing delay	50 470 mg			
• at DC	50 170 ms			
opening delay				
• at DC	15 17.5 ms			
arcing time	10 10 ms			
control version of the switch operating mechanism	Standard A1 - A2			
Auxiliary circuit				
number of NC contacts for auxiliary contacts instantaneous contact	1			
number of NO 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 	3 A			
 at 125 V rated value 	2 A			
 at 220 V rated value 	1 A			
 at 600 V rated value 	0.15 A			
operational current at DC-13				
 at 24 V rated value 	10 A			
• at 48 V rated value	2 A			
• at 60 V rated value	2 A			
• at 110 V rated value	1 A			
• at 125 V rated value	0.9 A			
• at 220 V rated value	0.3 A			
• at 600 V rated value	0.1 A			
contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)			
UL/CSA ratings				
full-load current (FLA) for 3-phase AC motor				
at 480 V rated value	27 A			
• at 600 V rated value	27 A			
yielded mechanical performance [hp]				
 for single-phase AC motor 				
— at 110/120 V rated value	2 hp			
— at 230 V rated value	5 hp			
 for 3-phase AC motor 				
— at 200/208 V rated value	10 hp			
— at 220/230 V rated value	10 hp			
— at 460/480 V rated value	20 hp			
— at 575/600 V rated value	25 hp			

contact rating of auxiliary contacts according to UL	A600 / P600		
Short-circuit protection			
design of the fuse link			
 for short-circuit protection of the main circuit 			
— with type of coordination 1 required	gG: 125A (690V,100kA), aM: 50A (690V,100kA), BS88: 125A (415V,80kA)		
— with type of assignment 2 required	gG: 50A (690V,100kA), aM: 25A (690V, 100kA), BS88: 50A (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	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			
 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 (1 10 mm²)		
— solid or stranded	2x (1 10 mm²)		
- finely stranded with core end processing	2x (1 6 mm²)		
- finely stranded without core end processing	2x (1 6 mm ²)		
at AWG cables for main contacts	2x (18 8)		
connectable conductor cross-section for main contacts			
• solid	1 10 mm²		
• stranded	1 10 mm²		
 finely stranded with core end processing 	1 6 mm²		
 finely stranded without core end processing 	1 6 mm²		
connectable conductor cross-section for auxiliary contacts			
 solid or stranded 	0.5 2.5 mm²		
 finely stranded with core end processing 	0.5 1.5 mm²		
 finely stranded without core end processing 	0.5 2.5 mm²		
type of connectable conductor cross-sections			
for auxiliary contacts			

finely strarat AWG cables	nded with core end proc nded without core end p for auxiliary contacts	processing	2x (0.5 2.5 mm ²) 2x (0.5 1.5 mm ²) 2x (0.5 2.5 mm ²) 2x (20 14)			
AWG number as coo section	ded connectable cond	uctor cross				
 for main contact 	ots		18 8			
 for auxiliary cor 	ntacts		20 14			
Safety related data						
product function						
	according to IEC 60947-	-4-1	Yes			
	lemand rate according t		450 000			
proportion of dange						
 with low deman 	nd rate according to SN	31920	40 %			
 with high dema 	nd rate according to SN	I 31920	73 %			
failure rate [FIT] with 31920	low demand rate accord	ding to SN	100 FIT			
T1 value for proof tes IEC 61508	t interval or service life	according to	20 у			
protection class IP of 60529	on the front according	to IEC	IP20			
touch protection on	the front according to	IEC 60529	finger-safe, for vertical cont	act from the front		
suitability for use						
 safety-related s 	witching OFF		Yes			
Certificates/ approval						
General Product Ap	proval					
U	Functional				EHL	
EMC	Safety/Safety of Machinery	Declaration of	of Conformity	Test Certificates		
RCM	<u>Type Examination</u> <u>Certificate</u>	CE EG-Konf.		<u>Type Test Certific-</u> ates/Test Report	<u>Special Test Certific-</u> <u>ate</u>	
Marine / Shipping						
ABS	BUREAU VERITAS		Llovd's Register urs	PRS	RINA	
Marine / Shipping	other			Dangerous Good		
RMRS R	Environmental Con- firmations	<u>Confirmation</u>		<u>Transport Informa-</u> tion		
Further information						

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=3RT2027-2BG40

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2027-2BG40

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-2BG40

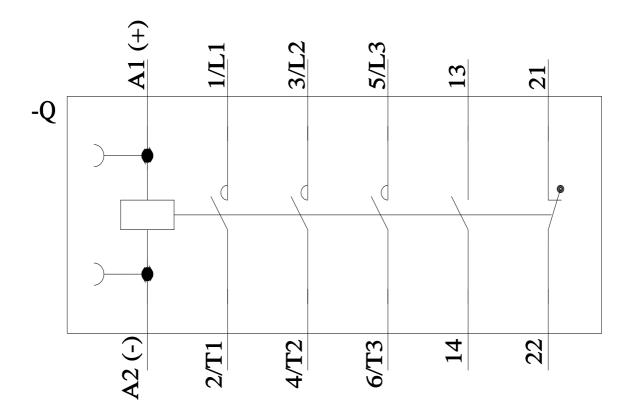
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2027-2BG40&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RT2027-2BG40/char

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

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2027-2BG40&objecttype=14&gridview=view1



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