SIEMENS

Data sheet

3RT2027-1AF00



Contactor, AC-3, 15 kW / 400 V, 1 NO + 1 NC, 110 V AC, 50 Hz, 3-pole, Size S0 screw terminal

product brand name	SIRIUS
product designation	Power contactor
product type designation	3RT2
General technical data	
size of contactor	S0
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	8.1 W
per pole	2.7 W
power loss [W] for rated value of the current without load current share typical	9.8 W
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 acc. to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at AC	8,3g / 5 ms, 5,3g / 10 ms
shock resistance with sine pulse	
• at AC	13,5g / 5 ms, 8,3g / 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 acc. to IEC 81346-2	Q
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
 ambient temperature during operation 	-25 +60 °C
 ambient temperature during storage 	-55 +80 °C
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
operational current	

• at AC-1 at 400 V at ambient temperature 40 °C rated value	50 A
• at AC-1	
 — up to 690 V at ambient temperature 40 °C rated value 	50 A
— up to 690 V at ambient temperature 60 °C rated value	42 A
• 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 AC-4 at 400 V rated value 	22 A
 at AC-5a up to 690 V rated value 	44 A
 at AC-5b up to 400 V rated value 	26.5 A
● at AC-6a	
 up to 230 V for current peak value n=20 rated value 	30.8 A
 — up to 400 V for current peak value n=20 rated value 	30.8 A
 — up to 500 V for current peak value n=20 rated value 	27 A
— up to 690 V for current peak value n=20 rated value	21 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	20.5 A
— up to 400 V for current peak value n=30 rated value	20.5 A
— up to 500 V for current peak value n=30 rated value	18 A
 — up to 690 V for current peak value n=30 rated value 	18 A
minimum cross-section in main circuit at maximum AC-1 rated value	10 mm ²
operational current for approx. 200000 operating cycles at AC-4	
 at 400 V rated value 	12 A
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
 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
operational 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

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— 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-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				
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 kV·A				
• up to 400 V for current peak value n=20 rated value	21.3 kV·A				
• up to 500 V for current peak value n=20 rated value	23.3 kV·A				
• up to 690 V for current peak value n=20 rated value	25 kV·A				
operating apparent power at AC-6a					
• up to 230 V for current peak value n=30 rated value	8.1 kV·A				
• up to 400 V for current peak value n=30 rated value	14.2 kV·A				
• up to 500 V for current peak value n=30 rated value	15.5 kV·A				
• up to 690 V for current peak value n=30 rated value	21.5 kV·A				
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 AC	5 000 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-4 maximum	250 1/h				
Control circuit/ Control					
type of voltage of the control supply voltage	AC				
control supply voltage at AC					
• at 50 Hz rated value	110 V				
operating range factor control supply voltage rated value of magnet coil at AC					
• at 50 Hz	0.8 1.1				
apparent pick-up power of magnet coil at AC					
apparent pick-up power of magnet coil at AC • at 50 Hz inductive power factor with closing power of the coil	77 V·A				

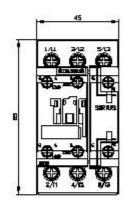
• at 50 Hz	0.82			
apparent holding power of magnet coil at AC				
• at 50 Hz	9.8 V·A			
inductive power factor with the holding power of the coil				
• at 50 Hz	0.25			
closing delay				
• at AC	8 40 ms			
opening delay				
• at AC	4 16 ms			
arcing time	10 10 ms			
control version of the switch operating 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 	-0.4054 (000) (400) AL 504 (000) (400) AL 5000 (4054			
— with type of coordination 1 required	gG: 125A (690V,100kA), aM: 50A (690V,100kA), BS88: 125A (415V,80kA)			

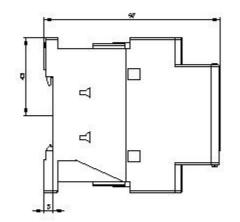


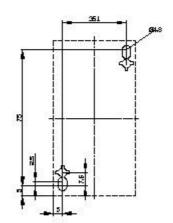
— with type of assignment 2 required	gG: 50A (690V,100kA), aM: 25A (690V, 100kA), BS88: 50A (415V, 80kA)			
 for short-circuit protection of the auxiliary switch required 	gG: 10 A (500 V, 1 kA)			
Installation/ mounting/ dimensions				
mounting position	+/-180° rotation possible on vertical mounting 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	85 mm			
width	45 mm			
depth	97 mm			
required spacing				
 with side-by-side mounting 				
— forwards	10 mm			
— upwards	10 mm			
— downwards	10 mm			
— at the side	0 mm			
 for grounded parts 				
— forwards	10 mm			
— upwards	10 mm			
— at the side	6 mm			
— downwards	10 mm			
 for live parts 				
— forwards	10 mm			
— upwards	10 mm			
— downwards	10 mm			
— at the side	6 mm			
Connections/ Terminals				
type of electrical connection				
 for main current circuit 	screw-type terminals			
 for auxiliary and control circuit 	screw-type terminals			
 at contactor for auxiliary contacts 	Screw-type terminals			
 of magnet coil 	Screw-type terminals			
type of connectable conductor cross-sections				
 for main contacts 				
— solid	2x (1 2.5 mm²), 2x (2.5 10 mm²)			
— solid or stranded	2x (1 2,5 mm²), 2x (2,5 10 mm²)			
 finely stranded with core end processing 	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²			
 at AWG cables for main contacts 	2x (16 12), 2x (14 8)			
connectable conductor cross-section for main contacts				
• solid	1 10 mm²			
• stranded	1 10 mm²			
 finely stranded with core end processing 	1 10 mm²			
connectable conductor cross-section for auxiliary contacts				
 solid or stranded 	0.5 2.5 mm²			
 finely stranded with core end processing 	0.5 2.5 mm ²			
type of connectable conductor cross-sections				
 for auxiliary contacts 				
— solid or stranded	2x (0,5 1,5 mm²), 2x (0,75 2,5 mm²)			
 finely stranded with core end processing 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)			
 at AWG cables for auxiliary contacts 				
	2x (20 16), 2x (18 14)			
 AWG number as coded connectable conductor cross section for main contacts 	2x (20 16), 2x (18 14) 16 8			

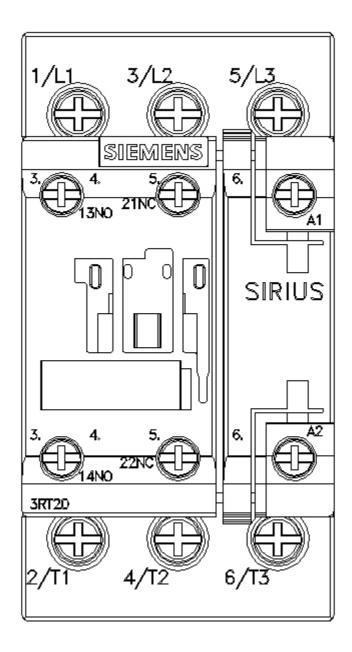
B10 value with high de	emand rate acc. to SN	31920	1 000 000				
proportion of dange	rous failures						
 with low deman 	d rate acc. to SN 3192	20	40 %				
 with high demand rate acc. to SN 31920 			73 %				
failure rate [FIT] with low demand rate acc. to SN 31920			100 FIT				
product function							
•	cc. to IEC 60947-4-1		Yes				
T1 value for proof te		life acc. to	20 y				
IEC 61508	St litter var of Service	me acc. to	20 y				
protection class IP o	n the front acc. to IE	C 60529	IP20				
touch protection on the front acc. to IEC 60529			finger-safe, for vertical contact from the front				
suitability for use safe			Yes				
Sertificates/ approvals			163	_	_		
General Product Ap	proval					EMC	
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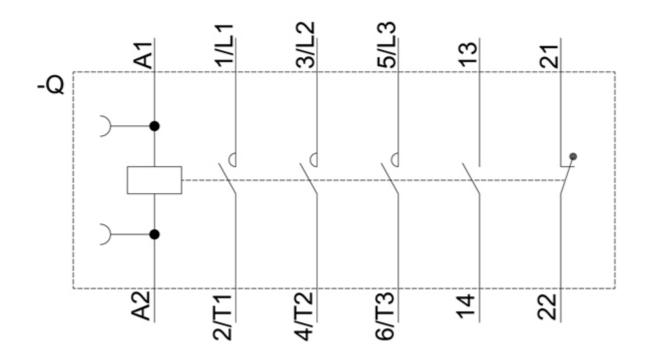












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