SIEMENS

Data sheet

3RT2017-2BB42-1AA0



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 24 V DC, auxiliary contacts: 1 NC, spring-loaded terminal, size: S00, upright mounting position

product designation F product type designation 3	SIRIUS Power contactor 3RT2
product type designation 3	
	3RT2
General technical data	
size of contactor S	S00
product extension	
function module for communication	No
auxiliary switch Y	Yes
power loss [W] for rated value of the current	
• at AC in hot operating state	1.5 W
• at AC in hot operating state per pole	0.5 W
without load current share typical	4 W
insulation voltage	
• of main circuit with degree of pollution 3 rated value 6	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 4 coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at DC 7	7.3g / 5 ms, 4.7g / 10 ms
shock resistance with sine pulse	
• at DC 1	11,4g / 5 ms, 7,3g / 10 ms
mechanical service life (operating cycles)	
• of contactor typical 3	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) 1	10/01/2009
Ambient conditions	
installation altitude at height above sea level maximum 2	2 000 m
ambient temperature	
during operation	-25 +60 °C
during storage	-55 +80 °C
relative humidity minimum 1	10 %
relative humidity at 55 °C according to IEC 60068-2-30 9 maximum	95 %
Main circuit	
number of poles for main current circuit 3	3

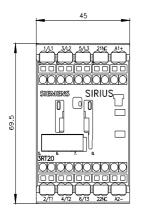
number of NO contacts for main contacts	3
operating voltage	
at AC-3 rated value maximum	690 V
 at AC-3e rated value maximum 	690 V
operational current	
• at AC-1 at 400 V at ambient temperature 40 °C rated	22 A
value	
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	22 A
— up to 690 V at ambient temperature 60 °C rated	20 A
value	
• at AC-3	
— at 400 V rated value	12 A
— at 500 V rated value	9.2 A
— at 690 V rated value	6.7 A
● at AC-3e	
— at 400 V rated value	12 A
— at 500 V rated value	9.2 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	9.9 A
● at AC-6a	
 — up to 230 V for current peak value n=20 rated value 	7.2 A
 — up to 400 V for current peak value n=20 rated value 	7.2 A
 — up to 500 V for current peak value n=20 rated value 	7.2 A
— up to 690 V for current peak value n=20 rated value	6.7 A
● at AC-6a	
 — up to 230 V for current peak value n=30 rated value 	4.8 A
 — up to 400 V for current peak value n=30 rated value 	4.8 A
 — up to 500 V for current peak value n=30 rated value 	4.8 A
 — up to 690 V for current peak value n=30 rated value 	4.8 A
minimum cross-section in main circuit at maximum AC-1 rated value	4 mm ²
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
operational current	
 at 1 current path at DC-1 	
— at 24 V rated value	20 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
• with 2 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	12 A
— at 220 V rated value	1.6 A
— at 440 V rated value	0.8 A
— 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	

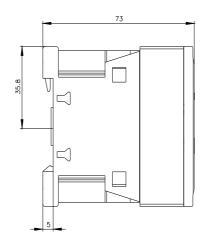
— at 24 V rated value	20 A
— at 60 V rated value	0.5 A
— at 110 V rated value	0.15 A
 with 2 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	20 A
— at 60 V rated value	5 A
— at 110 V rated value	0.35 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	20 A
— at 60 V rated value	20 A
— at 110 V rated value	20 A
— at 220 V rated value	1.5 A
— at 440 V rated value	0.2 A
— at 600 V rated value	0.2 A
operating power	
at AC-2 at 400 V rated value	5.5 kW
• at AC-3	
— at 230 V rated value	3 kW
— at 400 V rated value	5.5 kW
— at 500 V rated value	5.5 kW
— at 690 V rated value	5.5 kW
• at AC-3e	
- at 230 V rated value	3 kW
— at 400 V rated value	5.5 kW
— at 500 V rated value	5.5 kW
— at 690 V rated value	5.5 kW
operating power for approx. 200000 operating cycles at AC-	5.5 KW
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 	2.8 kVA
 up to 400 V for current peak value n=20 rated value 	4.9 kVA
 up to 500 V for current peak value n=20 rated value 	6.2 kVA
 up to 690 V for current peak value n=20 rated value 	8 kVA
operating apparent power at AC-6a	
 up to 230 V for current peak value n=30 rated value 	1.9 kVA
 up to 400 V for current peak value n=30 rated value 	3.3 kVA
• up to 500 V for current peak value n=30 rated value	4.1 kVA
 up to 690 V for current peak value n=30 rated value 	5.7 kVA
short-time withstand current in cold operating state up to	
40 °C	
 limited to 1 s switching at zero current maximum 	200 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	123 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	96 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	74 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	61 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

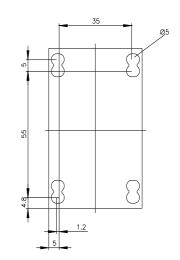
a full acada valua	4.4		
• full-scale value	1.1		
closing power of magnet coil at DC	4 W		
holding power of magnet coil at DC	4 W		
closing delay	00 400 mz		
• at DC	30 100 ms		
opening delay	7 40		
• at DC	7 13 ms		
arcing time	10 15 ms		
control version of the switch operating mechanism	Standard A1 - A2		
Auxiliary circuit number of NC contacts for auxiliary contacts instantaneous	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	1A		
 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	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		
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	11 A		
 at 600 V rated value 	11 A		
yielded mechanical performance [hp]			
• for single-phase AC motor			
— at 110/120 V rated value	0.5 hp		
— at 230 V rated value	2 hp		
• for 3-phase AC motor			
— at 200/208 V rated value	3 hp		
— at 220/230 V rated value	3 hp		
— at 460/480 V rated value	7.5 hp		
— at 575/600 V rated value	10 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: 50A (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	standing, on horizontal mounting surface		
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715		
side-by-side mounting	Yes		
height	70 mm		
width	45 mm		

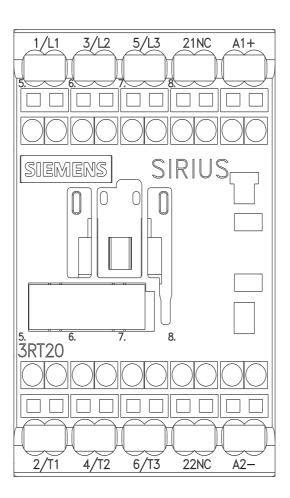
depth	73 mm			
required spacing				
with side-by-side mounting				
	10 mm			
— forwards	10 mm 10 mm			
— upwards				
— downwards	10 mm			
— at the side	0 mm			
for grounded parts				
— forwards	10 mm			
— upwards	10 mm			
— at the side	6 mm			
— downwards	10 mm			
for live parts				
— forwards	10 mm			
— 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 	2x (0.5 2.5 mm²)			
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 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 mm ²			
 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 mm ²)			
 — finely stranded without core end processing 	2x (0.5 2.5 mm ²)			
for AWG cables for auxiliary contacts	2x (20 12)			
AWG number as coded connectable conductor cross				
section				
for main contacts	20 12			
 for auxiliary contacts 	20 12			
Safety related data				
product function				
 mirror contact according to IEC 60947-4-1 	Yes			
B10 value with high demand rate according to SN 31920	1 000 000			
proportion of dangerous failures				
with low demand rate according to SN 31920	40 %			
 with high demand rate according to SN 31920 	73 %			
failure rate [FIT] with low demand rate according to SN 31920	100 FIT			
T1 value for proof test interval or service life according to IEC	20 a			
61508				
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			
suitability for use				
 safety-related switching OFF 	Yes			

Certificates/ approvals					
General Product App	oroval				
		<u>Confirmation</u>	(UL) u	KC	EHC
EMC	Functional Safety/Safety of Ma- chinery	Declaration of Confo	ormity	Test Certificates	
RCM	<u>Type Examination Cer-</u> tificate	CE EG-Konf.	UK CA	Type Test Certific- ates/Test Report	Special Test Certific- ate
Marine / Shipping					
ABS	BUREAU VERITAS		Llovds Kegister us	PRS	RINA
Marine / Shipping	other		Railway	Dangerous Good	Environment
RMRS RMRS	<u>Confirmation</u>	VDE	Vibration and Shock	Transport Information	Environmental Con- firmations
Further information					
	to exit the Russian mark	et (see here).			
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Characteristic: Tripping characteristics, I ² t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2BB42-1AA0/char Further characteristics (e.g. electrical endurance, switching frequency)					
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2017-2BB42-1AA0&objecttype=14&gridview=view1					

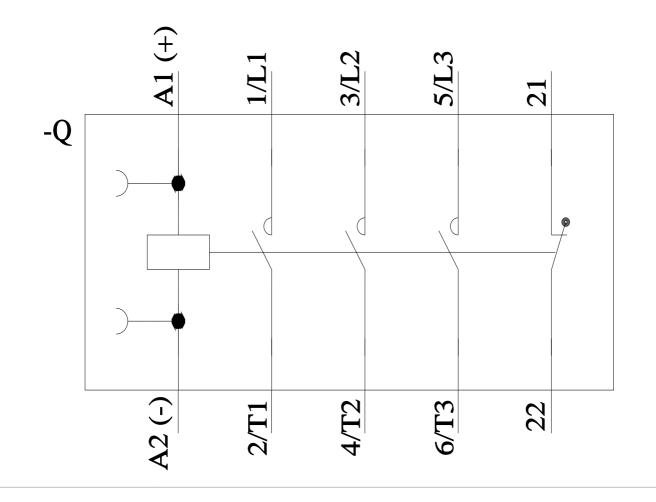








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