SIEMENS

Data sheet

3RT2017-1AP01-1AA0



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 230 V AC, 50/60 Hz, auxiliary contacts: 1 NO, screw terminal, size: S00, upright mounting position

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 	1.5 W
 at AC in hot operating state per pole 	0.5 W
 without load current share typical 	1.5 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 protective separation between coil and main contacts according to EN 60947-1	400 V
shock resistance at rectangular impulse	
• at AC	7,3g / 5 ms, 4,7g / 10 ms
shock resistance with sine pulse	
• at AC	11,4g / 5 ms, 7,3g / 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
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 %
Main circuit	
number of poles for main current circuit	3

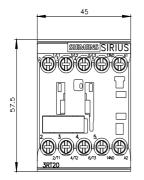
number of NO contacts for main contacts	3
operating voltage	
at AC-3 rated value maximum	690 V
 at AC-3e rated value maximum 	690 V
operational current	
• at AC-1 at 400 V at ambient temperature 40 °C rated	22 A
value	
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	22 A
— up to 690 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	

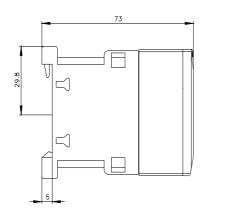
— at 24 V rated value	20 A			
— at 60 V rated value	0.5 A			
— at 110 V rated value	0.15 A			
 with 2 current paths in series at DC-3 at DC-5 				
— at 24 V rated value	20 A			
— at 60 V rated value	5 A			
— at 110 V rated value	0.35 A			
 with 3 current paths in series at DC-3 at DC-5 				
— at 24 V 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 Ac-se — 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 AC	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	AC			
control supply voltage at AC				
• at 50 Hz rated value	230 V			
at 50 Hz rated value at 60 Hz rated value	200 0			
• at 60 Hz rated value operating range factor control supply voltage rated value of	230 V			

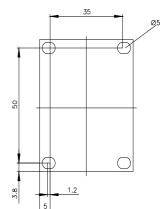
• at 50 Hz	0.8 1.1			
• at 60 Hz	0.85 1.1			
apparent pick-up power of magnet coil at AC				
• at 50 Hz	37 VA			
• at 60 Hz	33 VA			
inductive power factor with closing power of the coil				
• at 50 Hz	0.8			
• at 60 Hz	0.75			
apparent holding power of magnet coil at AC				
• at 50 Hz	5.7 VA			
• at 60 Hz	4.4 VA			
inductive power factor with the holding power of the coil				
• at 50 Hz	0.25			
● at 60 Hz	0.25			
closing delay				
• at AC	9 35 ms			
opening delay				
• at AC	4 15 ms			
arcing time	10 15 ms			
control version of the switch operating mechanism	Standard A1 - A2			
Auxiliary circuit				
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	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				

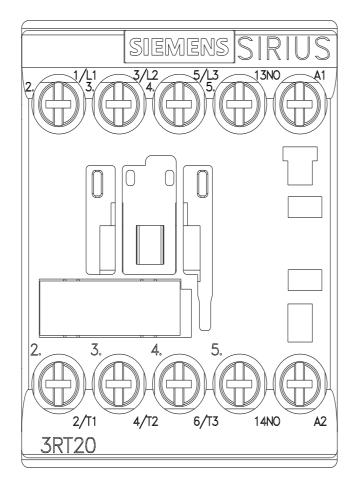
design of the fuse link				
for short-circuit protection of the main circuit				
	gG: 50A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)			
— with type of assignment 2 required	gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA)			
 for short-circuit protection of the auxiliary switch required 	gG: 20A (690V, 100KA), aM: 16A (690V, 100KA), BS88: 20A (415V, 80KA) gG: 10 A (500 V, 1 kA)			
Installation/ mounting/ dimensions	gg. 10 A (300 V, 1 M)			
	standing on horizontal mounting surface			
mounting position	standing, on horizontal mounting surface			
fastening method • side-by-side mounting	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715 Yes			
	58 mm			
heightwidth	45 mm			
depth	73 mm			
required spacing	73 mm			
with side-by-side mounting				
— forwards	10 mm			
— upwards	10 mm			
— downwards	10 mm			
— at the side	0 mm			
	0 mm			
 for grounded parts forwards 	10 mm			
— upwards	10 mm			
— upwards — at the side	6 mm			
— at the side — downwards	o mm			
• for live parts				
— forwards	10 mm			
— upwards	10 mm			
— downwards	10 mm			
— at the side	6 mm			
Connections/ Terminals	0 mm			
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 (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²			
solid solid or stranded	2x (0.5 1,5 mm²), 2x (0.75 2,5 mm²), 2x 4 mm²			
 finely stranded with core end processing 	2x (0,5 1,5 mm ²), 2x (0,75 2,5 mm ²)			
connectable conductor cross-section for main contacts				
solid	0.5 4 mm²			
stranded	0.5 4 mm ²			
 finely stranded with 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			
type of connectable conductor cross-sections				
for auxiliary contacts				
— solid or stranded	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²			
— finely stranded with core end processing	2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²)			
 for AWG cables for auxiliary contacts 	2x (20 16), 2x (18 14), 2x 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; with 3RH29			
suitability for use safety-related switching OFF	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 %			

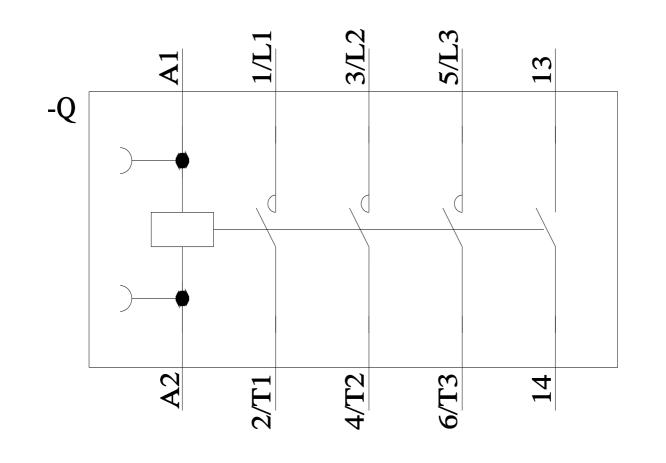
	nd rate according to SN 319 ow demand rate according		т		
	interval or service life acco				
	n the front according to I	EC 60529 IP20			
	the front according to IEC		safe, for vertical contac	ct from the front	
ertificates/ approvals	Ŭ	ger	,		
General Product Ap	proval				
SP.	<u>Confirmation</u>		UL)	KC	EHC
EMC	Functional Safety/Safety of Ma- chinery	Declaration of Conform	nity	Test Certificates	
RCM	<u>Type Examination Cer-</u> <u>tificate</u>	CE EG-Konf.	UK CA	<u>Special Test Certific-</u> <u>ate</u>	<u>Type Test Certific</u> ates/Test Report
Marine / Shipping					
ABS	B D REAU VERITAS		Lloyds Register uis	PRS	RINA
Marine / Shipping	other			Railway	Environment
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