SIEMENS

Data sheet

3RT2015-1BF42



power contactor, AC-3e/AC-3, 7 A, 3 kW / 400 V, 3-pole, 110 V DC, auxiliary contacts: 1 NC, screw terminal, size: S00

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 	0.6 W
 at AC in hot operating state per pole 	0.2 W
 without load current share typical 	4 W
type of calculation of power loss depending on pole	quadratic
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 DC	6,7g / 5 ms, 4,2g / 10 ms
shock resistance with sine pulse	
• at DC	10,5g / 5 ms, 6,6g / 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
Weight	0.295 kg
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 %

Environmental footprint	
Environmental Product Declaration(EPD)	Yes
global warming potential [CO2 eq] total	153 kg
global warming potential [CO2 eq] during manufacturing	1.42 kg
global warming potential [CO2 eq] during operation	152 kg
global warming potential [CO2 eq] after end of life	-0.305 kg
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 value	18 A
• at AC-1	10.4
— up to 690 V at ambient temperature 40 °C rated value	18 A
 up to 690 V at ambient temperature 60 °C rated value at AC-3 	16 A
• at AC-3 — at 400 V rated value	7 A
— at 500 V rated value	6 A
— at 690 V rated value	4.9 A
• at AC-3e	
- at 400 V rated value	7 A
— at 500 V rated value	6 A
— at 690 V rated value	4.9 A
• at AC-4 at 400 V rated value	6.5 A
• at AC-5a up to 690 V rated value	15.8 A
• at AC-5b up to 400 V rated value	5.8 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	4 A
— up to 400 V for current peak value n=20 rated value	4 A
— up to 500 V for current peak value n=20 rated value	3.8 A
— up to 690 V for current peak value n=20 rated value	3.6 A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	2.7 A
— up to 400 V for current peak value n=30 rated value	2.7 A
— up to 500 V for current peak value n=30 rated value	2.5 A
— up to 690 V for current peak value n=30 rated value	2.4 A
minimum cross-section in main circuit at maximum AC-1 rated value	2.5 mm ²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	2.6 A
• at 690 V rated value	1.8 A
operational current	
 at 1 current path at DC-1 	
— at 24 V rated value	15 A
— at 60 V rated value	15 A
— at 110 V rated value	1.5 A
- at 220 V rated value	0.6 A
- at 440 V rated value	0.42 A
- at 600 V rated value	0.42 A
with 2 current paths in series at DC-1 at 24 \/ reted value	15 A
— at 24 V rated value — at 60 V rated value	15 A 15 A
— at 50 V rated value — at 110 V rated value	8.4 A
	8.4 A 1.2 A
— at 220 V rated value — at 440 V rated value	0.6 A
— at 600 V rated value	0.5 A
	0.071

• with 3 current paths in series at DC-1	
— at 24 V rated value	15 A
— at 60 V rated value	15 A
— at 110 V rated value	15 A
— at 220 V rated value	15 A
— at 440 V rated value	0.9 A
— at 600 V rated value	0.7 A
 at 1 current path at DC-3 at DC-5 	
— at 24 V rated value	15 A
— at 60 V rated value	0.35 A
 with 2 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	15 A
— at 60 V rated value	3.5 A
— at 110 V rated value	0.25 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	15 A
— at 60 V rated value	15 A
— at 110 V rated value	15 A
— at 220 V rated value	1.2 A
— at 440 V rated value	0.14 A
— at 600 V rated value	0.14 A
operating power	
• at AC-3	
— at 230 V rated value	1.5 kW
— at 400 V rated value	3 kW
— at 500 V rated value	3 kW
— at 690 V rated value	4 kW
• at AC-3e	
— at 230 V rated value	1.5 kW
— at 400 V rated value	3 kW
— at 500 V rated value	3 kW
— at 690 V rated value	4 kW
operating power for approx. 200000 operating cycles at AC- 4	
at 400 V rated value	1.15 kW
at 690 V rated value	1.15 kW
operating apparent power at AC-6a	1.13 KW
up to 230 V for current peak value n=20 rated value	1.5 kVA
up to 200 V for current peak value n=20 rated value	2.7 kVA
up to 500 V for current peak value n=20 rated value	3.3 kVA
• up to 690 V for current peak value n=20 rated value	4.3 kVA
	4.5 KVA
operating apparent power at AC-6a	1 kVA
 up to 230 V for current peak value n=30 rated value up to 400 V for current peak value n=30 rated value 	1.8 kVA
 up to 500 V for current peak value n=30 rated value up to 500 V for current peak value n=30 rated value 	2.2 kVA
	2.2 kVA 2.9 kVA
up to 690 V for current peak value n=30 rated value short-time withstand current in cold operating state up to	
40 °C	
 limited to 1 s switching at zero current maximum 	120 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	86 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	67 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	52 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	43 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	
	DC
type of voltage of the control supply voltage	110 V
control supply voltage at DC rated value	110 V
operating range factor control supply voltage rated value of magnet coil at DC	
initial value	0.8
• 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	
• at DC	30 100 ms
opening delay	
• 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 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	10.4
at 24 V rated value	10 A 2 A
 at 48 V rated value at 60 V rated value 	2 A 2 A
at 50 V rated value at 110 V rated value	
at 125 V rated value	1 A 0.9 A
at 220 V rated value	0.3 A
at 220 v rated value at 600 V rated value	0.3 A 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	4.8 A
at 400 V rated value	6.1 A
yielded mechanical performance [hp]	
for single-phase AC motor	
— at 110/120 V rated value	0.25 hp
— at 230 V rated value	0.75 hp
for 3-phase AC motor	
— at 200/208 V rated value	1.5 hp
— at 220/230 V rated value	2 hp
— at 460/480 V rated value	3 hp
— at 575/600 V rated value	5 hp
contact rating of auxiliary contacts according to UL	A600 / Q600
Short-circuit protection	
design of the miniature circuit breaker for short-circuit protection of the auxiliary circuit up to 230 V	C characteristic: 10 A; 0.4 kA
design of the fuse link	
 for short-circuit protection of the main circuit 	
— with type of coordination 1 required	gG: 35A (690V,100kA), aM: 20A (690V,100kA), BS88: 35A (415V,80kA)

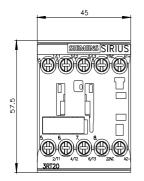
- with type of assignment 2 required

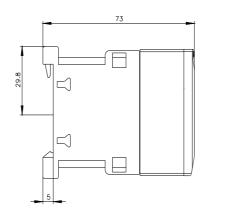
• for short-circuit protection of the auxiliary switch required

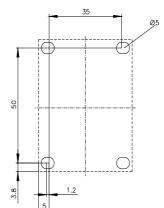
gG: 20A (690V,100kA), aM: 16A (690V, 100kA), BS88: 20A (415V, 80kA) gG: 10 A (500 V, 1 kA)

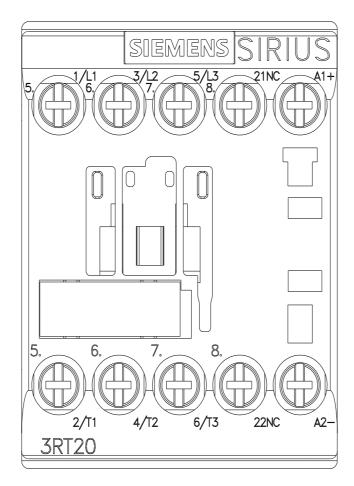
Installation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
fastening method side-by-side mounting	Yes
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
height	58 mm
width	45 mm
depth	73 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	olicw-type terminals
for main contacts	
- solid	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²
— 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 main contacts	2x (0.5 1.5 mm), 2x (0.7 5 2.5 mm) 2x (20 16), 2x (18 14), 2x 12
	2X (20 10), 2X (10 14), 2X 12
connectable conductor cross-section for main contacts	0.5 4 mm²
• solid	
• stranded	0.5 4 mm ²
finely stranded with core end processing	0.5 2.5 mm²
connectable conductor cross-section for auxiliary contacts	0.5 4 mm²
solid or stranded	0.5 4 mm ²
finely stranded with core end processing	0.5 2.5 mm²
type of connectable conductor cross-sections	
for auxiliary contacts	
— solid or stranded	2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²), 2x 4 mm ²
— 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
 positively driven operation according to IEC 60947-5-1 	No
 suitable for safety function 	Yes
suitability for use safety-related switching OFF	Yes
service life maximum	20 a

			2		
test wear-related service	e life necessary	Ye	5		
proportion of dangerous	s failures				
	ate according to SN 319				
	ate according to SN 319		%		
B10 value with high dem			00 000		
failure rate [FIT] with lov 31920	w demand rate accordi	ing to SN 100) FIT		
ISO 13849					
device type according to	o ISO 13849-1	3			
overdimensioning accor	rding to ISO 13849-2 n	ecessary Ye	5		
IEC 61508					
safety device type accor	rding to IEC 61508-2	Туј	be A		
Electrical Safety					
protection class IP on th	ne front according to II	EC 60529 IP2	.0		
touch protection on the	front according to IEC	60529 fing	ger-safe, for vertical contact	ct from the front	
oprovals Certificates					
General Product Approv	val				
	UK CA	CE EG-Konf.	<u>Confirmation</u>		KC
General Product Ap- proval	EMV	Test Certificates		Marine / Shipping	
EAC		Type Test Certific- ates/Test Report	<u>Special Test Certific-</u> <u>ate</u>	ABS	BUREAU VERITAS
EFFIC Marine / Shipping	RCM			ABS	BUREAU VERITAS
Marine / Shipping	RCM RCM			ABS	UREAU VERITAS other <u>Miscellaneous</u>
	RCM RCM Loves			ABS	
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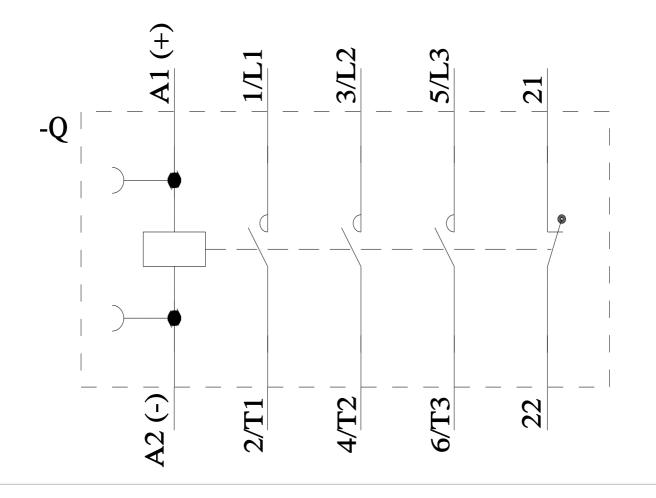








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