SIEMENS

Data sheet

3RT2017-1BW41



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 48 V DC, auxiliary contacts: 1 NO, 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 	1.5 W
 at AC in hot operating state per pole 	0.5 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	7.3g / 5 ms, 4.7g / 10 ms
shock resistance with sine pulse	
• at DC	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)	
Weight	0.29 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 Product Declaration(EPD) Yes Global Warming Potential (CO2 eq) dotal 153 kg Global Warming Potential (CO2 eq) during manufacturing 142 kg Global Warming Potential (CO2 eq) during queetion 152 kg Global Warming Potential (CO2 eq) during queetion 152 kg number of poles for main current circuit 3 number of NO contacts for main contacts 3 operating voltage 680 V • at AC-3 rated value maximum 680 V • at AC-1 22 A - up to 680 V at ambient temperature 40 °C rated value 22 A - up to 680 V at ambient temperature 60 °C rated value 22 A - at 800 V rated value 12 A - at 800 V rated value 92 A - at 800 V rated value 92 A - at 800 V rated value 92 A - at 600 V rated value 92 A - at 800 V rated value 85 A - at 800 V rated value 92 A - at 800 V rated value 92 A - at 900 V rated value 92 A - at 900 V rated value 85 A - at 900 V rated value 72 A - at 900 V rated value	Environmental footprint	
Global Warning Potential [CO2 eq] duing manufacturing 142 kg Global Warning Potential [CO2 eq] duing manufacturing 142 kg Global Warning Potential [CO2 eq] after end of life -0.305 kg Main circuit 3 number of NO contacts for main current circuit 3 oporating voltage		Yes
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minimum cross-section in main circuit at maximum AC-1 rated value 4 mm² operational current for approx. 200000 operating cycles at AC-4 4.1 A		
value operational current for approx. 200000 operating cycles at AC-4 • at 400 V rated value 4.1 A		
• at 400 V rated value 4.1 A	value	4 mm [*]
	AC-4	
at 690 V rated value 3.3 A		
		3.3 A
operational current		
at 1 current path at DC-1	-	20.4
- at 24 V rated value 20 A		
 at 60 V rated value at 110 V rated value 20 A 2.1 A 		
- at 110 V rated value 2.1 A - at 220 V rated value 0.8 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	-	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	— 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-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- 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

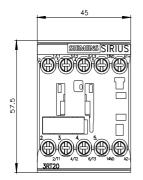
● at AC-4 maximum	250 1/h
at AC-4 maximum Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage at DC rated value	48 V
operating range factor control supply voltage rated value of magnet coil at DC	
initial value	0.8
full-scale value	1.1
closing power of magnet 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 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 	
- 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)

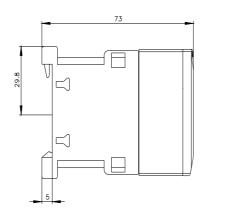
for short-circuit protection of the auxiliary switch required
tallation/mounting/dimensions

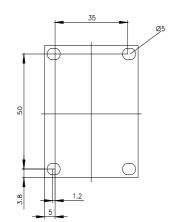
gG: 10 A (500 V, 1 kA)

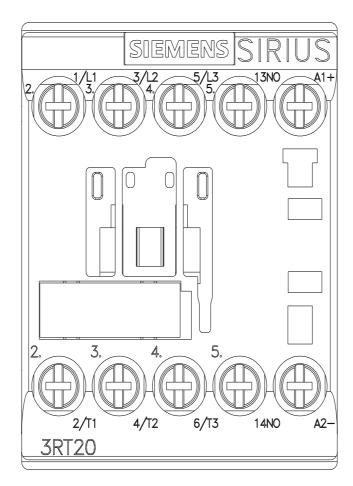
 for short-circuit protection of the auxiliary switch required 	gG: 10 A (500 V, 1 kA)
nstallation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface
fastening method	screw and snap-on mounting onto 35 mm 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	
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 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 main contacts	2x (20 16), 2x (18 14), 2x 12
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
connectable conductor cross-section for auxiliary contacts	0.0 2.0 mm
solid or stranded	0.5 4 mm²
 finely stranded with core end processing 	0.5 2.5 mm ²
• Intely stranded with core end processing type of connectable conductor cross-sections	0.0 2.0 mm
for auxiliary contacts	
or 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 for AWG cables for auxiliany contacts 	2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²)
for AWG cables for auxiliary contacts AWG number as coded connectable conductor cross section	2x (20 16), 2x (18 14), 2x 12
for main contacts	20 12
for auxiliary contacts	20 12
afety related data	
product function	
-	Yes: with 3PH20
mirror contact according to IEC 60947-4-1 positively driven exercises according to IEC 60947.5.1	Yes; with 3RH29
 positively driven operation according to IEC 60947-5-1 	No Yes
e quitable for cafety function	
suitable for safety function	
suitability for use safety-related switching OFF	Yes
· · · · · · · · · · · · · · · · · · ·	

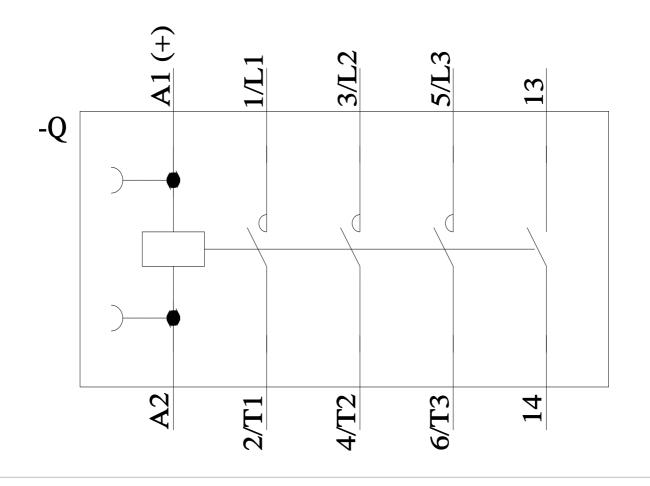
		000	40 %			
 with low demand 	I rate according to SN 319	920	,.			
 with high demand 	d rate according to SN 31	920	73 %			
B10 value with high d	emand rate according to	o SN 31920	1 000	000		
failure rate [FIT] with 31920	low demand rate accord	ling to SN	100 FI	Т		
ISO 13849						
device type according	g to ISO 13849-1		3			
overdimensioning acc	cording to ISO 13849-2 n	o ISO 13849-2 necessary				
IEC 61508		necessary Yes				
safety device type acc	cording to IEC 61508-2		Туре А	4		
Electrical Safety						
protection class IP on	the front according to I	EC 60529	IP20			
touch protection on th	he front according to IEC	C 60529	finger-	safe, for vertical contact	from the front	
pprovals Certificates	-					
General Product App	roval					
Ceneral Product App						
CE EG-Konf.	UK CA	<u>Confirmatic</u>	<u>on</u>		U	<u>KC</u>
General Product Approval	EMV	Functional Sat	ftey	Test Certificates		Marine / Shipping
101	A	<u>Type Examinatic</u> <u>tificate</u>	on Cer-	<u>Special Test Certific-</u> ate	<u>Type Test Certific-</u> ates/Test Report	A.
CUL	RCM			-		ABS
LUL Marine / Shipping	RCM					ABS
Marine / Shipping	RCM	PRS		RINA		ABS other <u>Confirmation</u>
Marine / Shipping	RCM	PRS Dangerous go	pods			
BUREAU VERITAS		PRS Dangerous go		RINA	Environmental Con- firmations	
other Miscellaneous	Railway Special Test Certific-			RINA	RMRS Con-	
other Miscellaneous	Railway Special Test Certific- ate	Transport Inform		RINA	RMRS Con-	
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