SIEMENS

Data sheet

3RT2017-1BW42



power contactor, AC-3 12 A, 5.5 kW / 400 V 1 NC, 48 V DC 3-pole, Size S00 screw terminal

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
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 safe isolation 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 (switching 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	22 A
rated 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	20 A
rated value	2011
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	3.3 A
— up to 230 V for current peak value n=20 rated	7.2 A
value	1.2 A
— up to 400 V for current peak value n=20 rated	7.2 A
value	
 — up to 500 V for current peak value n=20 rated 	7.2 A
value	
 — up to 690 V for current peak value n=20 rated 	6.7 A
value	
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	4.8 A
value	4.0 A
— up to 500 V for current peak value n=30 rated	4.8 A
value	
— up to 690 V for current peak value n=30 rated	4.8 A
value	
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 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 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	0.0 A
with 3 current paths in series at DC-1	
- mili o current pallo il selles al DO-I	

— at 24 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 110 V rated value	0.1 A
 with 2 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	20 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 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 74 A; Use minimum cross-section acc. to AC-1 rated value
limited to 30 s switching at zero current maximum 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	or A, Ose minimum cross-section acc. to AC-1 fated value
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	
control supply voltage at DC	

	10.11		
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			
	1		
number of NC contacts for auxiliary contacts instantaneous contact	I		
operational current at AC-12 maximum	10 A		
operational current at AC-15			
•	40.4		
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	0.10 A		
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		
	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	gG: 10 A (500 V, 1 kA)		
required			

mounting position -4/180° rotation possible on variation mounting suffaces can be listed forward and backward by 4/2 225 on vertical mounting suffaces and backward by 4/2 225 on vertical mounting suffaces according to DNL EN 607/5 side by-side mounting	nstallation/ mounting/ dimensions				
Interval Interval Stability method accev and backward by 4/-22.5° no vertical mounting surface side-by-side mounting screw and scape on mounting into 3 mm standard mounting rail according to DINE NG0715 height 58 mm depth 45 mm depth 7 mm required spacing 7 mm with side-by-side mounting 10 mm - upwards 10 mm - dorwards 10 mm <td colspan="5"></td>					
ade-by-side mounting Yes height 58 mm witcht 45 mm dopth 73 mm required spacing Yes - lorwards 10 mm - upwards 10 mm - downwards 0 mm - downwards 0 mm - downwards 10 mm - downwards 0 mm - downwards 10 mm - astis 5crew-type terminals stranet/st					
side-by-side mounting Yes height 68 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 6 mm Connections commediant - at the side 6 mm - at the side 5 mm for adia contacotrio cicuit	fastening method	screw and snap-on mounting onto 35 mm standard mounting rail			
bight 68 mm vidth 45 mm depth 73 mm required spacing 73 mm - forwards 10 mm - upwards 10 mm - downwards 10 mm - at the side 6 mm Connectable conductor crost screw-type terminals strands 0 remain cantat - solid or st	side-by-side mounting	-			
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required spacing with side-by-side mounting					
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for grounded parts 10 mm - Inwards 10 mm - uyards 10 mm - at the side 6 mm - at works 10 mm - downwards 10 mm - uyards 10 mm - downwards 5 me for axiliary and control circuit screw-type terminals for main current circuit screw-type terminals for main contacts Screw-type terminals for main contacts Screw-type terminals for main contacts Screw-type terminals e solid or stranded 2x (0.5 1.5 mm?). 2x (0.75 2.5 mm?), 2x 4 mm² - solid or stranded 2x (0.5 1.5 mm?). 2x (0.75 2.5 mm?), 2x 4 mm² solid or stranded 0.5 4 mm² for axiliary contacts 2x (0.5 1.5 mm?). 2x (0.75 2.5 mm?) for axiliary contacts 2x	•	10 mm			
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for live parts 10 mm forwards 10 mm downwards 6 mm Connectloal/ Terminals screw-type terminals for main current circuit screw-type terminals of magnet coil Screw-type terminals of macine chalce Screw-type terminals of macine chalce Screw-type terminals of main contacts Screw-type terminals solid 2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²), 2x 4 mm ² 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 4 mm ² solid 0.5 4 mm ² solid or stranded 0.5 4 mm ² finely stranded with core end processing 0.5 2.5 mm ² connectable conductor cross-sections Screw-type terminals for auxiliary contacts 2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²), 2x 4 mm ² solid or stranded 0.5 4 mm ² finely stranded with core end processing 0.5 2.5 mm ²	— at the side	6 mm			
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at the side 6 mm Connections/ Terminals	— upwards	10 mm			
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for main current circuitscrew-type terminalsfor auxiliary and control dircuitscrew-type terminalsat contactor for auxiliary contactsScrew-type terminalsof magnet coilScrew-type terminalstype of connectable conductor cross-sectionsScrew-type terminalsfor main contactsScrew-type terminals- solid or stranded2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²- solid or stranded with core end processing2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)at AWG cables for main contacts2x (20 16), 2x (18 14), 2x 12connectable conductor cross-section for main contacts0.5 4 mm²solid0.5 4 mm²solid or stranded0.5 4 mm²inely stranded with core end processing0.5 4 mm²finely stranded with core end processing0.5 4 mm²connectable conductor cross-section for auxiliary contacts0.5 4 mm²solid or stranded0.5 4 mm²finely stranded with core end processing0.5 2.5 mm²for auxiliary contacts2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²- solid or stranded2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²at AWG cables for auxiliary contacts2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²- solid or stranded2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²- finely stranded with core end processing2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), 2x 4 mm²at AWG cables for auxiliary contacts20 12- solid or stranded2x (0.5 1.5 mm²), 2x (0.75 2	Connections/ Terminals				
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proportion of dangerous failures					
with now demand rate according to Sty 31920 40 %	with low demand rate according to SN 31920	40 %			

with high dema	nd rate according to SN	31920	73 %		
with high demand rate according to SN 31920 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 61508		20 y			
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 s			Yes		
Certificates/ approval General Product Ap		_			
(SP) Se	<u>Confirmation</u>		UL UL	<u>KC</u>	EHC
EMC	Functional Safety/Safety of Machinery	Declaration o	f Conformity	Test Certificates	
RCM	<u>Type Examination</u> <u>Certificate</u>	CE EG-Konf.		Special Test Certific- ate	<u>Type Test Certific-</u> ates/Test Report
Marine / Shipping		<u>ĴÅ</u> dnv	Lloyds Register	6	
AUS Marine / Shipping	BUREAU VERITAS	DNV	Dangerous Good	PRS	KINA
KMRS RMRS	<u>Confirmation</u>		<u>Transport Informa-</u> <u>tion</u>		
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