SIEMENS

Data sheet

3RT2017-2FF42



power contactor, AC-3 12 A, 5.5 kW / 400 V 1 NC, 110 V DC, with diode integrated, 3-pole Size S00, Spring-type terminal

product brand name	SIRIUS			
product designation	Power contactor			
product designation	3RT2			
General technical data				
size of contactor	S00			
product extension	300			
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 at AC in hot operating state per pole 	0.5 W			
without load current share typical	4 W			
insulation voltage	- W			
of main circuit with degree of pollution 3 rated value	690 V			
 of auxiliary circuit with degree of pollution 3 rated 	690 V			
value				
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 rated value 	22 A
• 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 value	20 A
• 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 operational current for approx. 200000 operating	4 mm ²
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
	1.6 A
— at 220 V rated value	
— 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 	

	20.4
— 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-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
	5.5 KW
• at AC-3e	2 144
— 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
-	123 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum limited to 10 s switching at zero current maximum 	
 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
Imited to 60 s switching at zero current maximum	61 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	10.000.1/b
• at DC	10 000 1/h
operating frequency	4.000.4/h
• 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 cumply voltage at DC	-			
control supply voltage at DC	440.1/			
rated value	110 V			
operating range factor control supply voltage rated value of magnet coil at DC				
• initial value	0.8			
• full-scale value	0.8			
design of the surge suppressor	diode			
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	38 65 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	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

gG: 10 A (500 V, 1 kA)

Installation mounting dimensions +/180° rotation possible on vertical mounting surface; can be filled forward and backward by +/-22.5° on vertical mounting surface; can be filled forward and backward by +/-22.5° on vertical mounting surface • side-by-side mounting - • side-by-side mounting Yes • side-by-side mounting Yes • side-by-side mounting - - required spacing Yes • with side-by-side mounting - dowards 10 mm	required			
Invarial and backward by +-7.22.5° on vertical mounting surface side-by-side mounting Forward and backward by +-7.22.5° on vertical mounting rail according to DIN EN 60715 height 70 mm width 45 mm depth 73 mm required spacing 73 mm - upwards 10 mm - dowards 10 mm - upwards 10 mm - dowards 10 mm	Installation/ mounting/ dimensions			
• side-by-side mounting Yes height 70 mm width 45 mm dopth 73 mm required spacing 73 mm - upwards 10 mm - upwards 10 mm - downwards 10 mm	mounting position			
height 70 mm width 45 mm depth 73 mm required spacing • with side bey-side mounting - forwards 10 mm - downwards 10 mm - downwards 10 mm - at the side 0 mm - forwards 10 mm - at the side 0 mm - of wards 10 mm - at the side 6 mm - ownwards 10 mm - at the side 6 mm - downwards 10 mm - downwards 10 mm - downwards 10 mm - downwards 10 mm - upwards 10 mm - downwards 10 mm - downwards 10 mm - upwards 10 mm - upwards 10 mm - upwards 10 mm - downwards 10 mm - upwards 10 mm - upwards 10 mm - upwards 10 mm - upwards 10 mm - downwards 10 mm - solid control circuit spring-loaded terminals is to rauxiliary contacts spring-loaded terminals - for wain contacts spring-loaded terminals <t< td=""><td>fastening method</td><td colspan="3">screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715</td></t<>	fastening method	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715		
widh 46 mm depth 73 mm ewith side-by-side mounting - - forwards 10 mm - upwards 10 mm - upwards 10 mm - dorwards 50 mm connectable 6 mm connectable 6 mm connectable 6 mm connectable 50 mig-loaded terminals of rawillay and control croat spring-loaded terminals of rawi	 side-by-side mounting 	Yes		
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evuited spacing • with side-by-side mounting - forwards 10 mm - upwards 10 mm - downwards 10 mm - downwards 0 mm - at the side 0 mm - for younds 10 mm - at the side 0 mm - at the side 6 mm - downwards 10 mm - for iwe parts 10 mm - downwards 10 mm - downwards 10 mm - downwards 10 mm - at the side 6 mm Sonnetclice conductor spring-loaded terminals	width	_		
• with side-by-side mounting 0 mm - forwards 10 mm - downwards 10 mm - downwards 10 mm - downwards 0 mm - at the side 0 mm - upwards 10 mm - upwards 10 mm - upwards 10 mm - upwards 10 mm - at the side 6 mm - downwards 10 mm - downwards <t< td=""><td>depth</td><td>73 mm</td></t<>	depth	73 mm		
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	— downwards	10 mm		
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Somections/ Terminals type of electrical connection • for main current circuit • for auxiliary and control circuit • at contactor for auxiliary contacts • of magnet coil type of connectable conductor cross-sections • for main contacts - solid - solid or stranded - solid or stranded with core end processing - finely stranded with core end processing • at AWG cables for main contacts • solid • stranded • finely stranded with core end processing • stranded • finely stranded with core end processing • finely stranded with cor				
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-lype terminals • of magnet coil Spring-lype terminals • tor onnectable conductor cross-sections • for main contacts • of main contacts 2x (0.5 4 mm²) - solid 2x (0.5 2.5 mm²) - finely stranded with core end processing 2x (0.5 2.5 mm²) • at AWG cables for main contacts 2x (0.5 4 mm² • stranded 0.5 4 mm² • finely stranded with core end processing 0.5 2.5 mm² • solid 0.5 4 mm² • stranded 0.5 2.5 mm² • solid 0.5 4 mm² • finely stranded with core end processing 0.5 2.5 mm² • solid or stranded 0.5 2.5 mm² • finely stranded with core end processing 0.5 4 mm² • finely stranded with core end processing 0.5 2.5 mm² • solid or stranded 0.5 2.5 mm² • finely stranded with core end processing 0.5 2.5 mm² • finely stranded with core end processing 0.5 2.5 mm²<				
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AWG number as coded connectable conductor cross section				
	AWG number as coded connectable conductor cross			
		20 12		

 for auxiliary con 	ntacts		20 12			
Safety related data						
product function						
 mirror contact a 	according to IEC 60947-	-4-1	Yes			
B10 value with high demand rate according to SN 31920		1 000 000				
proportion of dangerous failures						
	d rate according to SN	31920	40 %			
	nd rate according to SN		73 %			
-	failure rate [FIT] with low demand rate according to SN		100 FIT			
T1 value for proof test IEC 61508	t interval or service life	according to	20 y			
protection class IP c 60529	on the front according	to IEC	IP20			
touch protection on	the front according to	DIEC 60529	finger-safe, for vertical of	contact from the front		
suitability for use						
 safety-related s 	witching OFF		Yes			
Certificates/ approval	-					
General Product Ap	provai					
SP En	<u>Confirmation</u>			<u>KC</u>	EHC	
EMC	Functional Safety/Safety of Machinery	Declaration o	of Conformity	Test Certificates		
RCM	<u>Type Examination</u> <u>Certificate</u>	CE EG-Konf.	UK CA	<u>Special Test Certific-</u> <u>ate</u>	Type Test Certific- ates/Test Report	
Marine / Shipping						
ABS	BUREAU VERITAS		Lloyd's Register urs	PRS	RINA	
Marine / Shipping	other		Dangerous Goo	od		
RMRS RMRS	Confirmation		<u>Transport Inform</u> tion	<u>a-</u>		
https://www.siemens.o Industry Mall (Online	e ordering system)	_) ?mlfb=3RT2017-2FF42			

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2017-2FF42

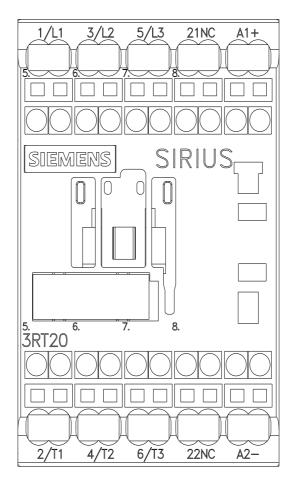
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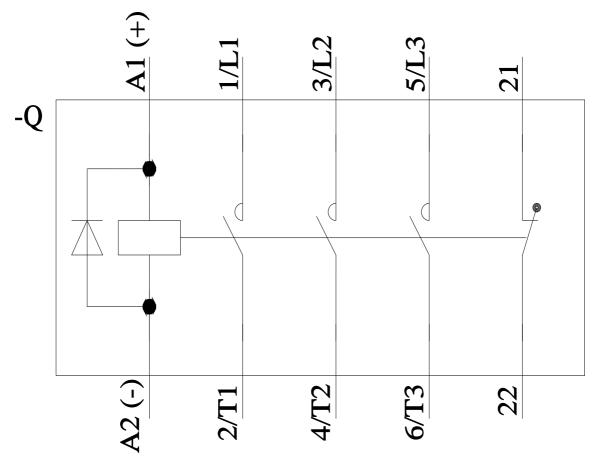
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2017-2FF42&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2FF42/char

Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2017-2FF42&objecttype=14&gridview=view1





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