SIEMENS

Data sheet

3RT2017-2FB42



power contactor, AC-3 12 A, 5.5 kW / 400 V 1 NC, 24 V DC with diode integrated, 3-pole Size S00, Spring-type 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 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
• 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	0.0 kW
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 VA
 up to 500 V for current peak value n=20 rated value 	6.2 VA
 up to 690 V for current peak value n=20 rated value 	8 VA
operating apparent power at AC-6a	
 up to 230 V for current peak value n=30 rated value 	1.9 VA
 up to 400 V for current peak value n=30 rated value 	3.3 VA
 up to 500 V for current peak value n=30 rated value 	4.1 VA
• up to 690 V for current peak value n=30 rated value	5.7 VA
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
Control circuit/ Control	
type of voltage of the control supply voltage	DC

control supply voltage at DC	
control supply voltage at DC	24.1/
• rated value operating range factor control supply voltage rated	24 V
value of magnet coil at DC	
• initial value	0.8
• full-scale value	1.1
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	
number of NC contacts for auxiliary contacts	1
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	1A
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	1A
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	8 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,
 for short-circuit protection of the main circuit — with type of coordination 1 required 	

80kA)

• for short-circuit protection of the auxiliary switch required

gG: 10 A (500 V, 1 kA)

mounting position +100° rotation possible on vertical mounting surface: cond housing surface: fastening method fastening method screw and sang-on mounting onto 35 mm standard mounting rail according to DN EN 60715 • side-by-side mounting Yes height 70 mm width 45 mm deptin 73 mm - upwards 10 mm - downwards 10 mm - sold	requirea			
Investige nounting Investige nounting surface scied-by-side mounting accew and sage-on mounting could 35 mm standard mounting rail according to DIN EN 60715 height 70 mm width 45 mm depth 73 mm required spacing 73 mm - upwards 10 mm - upwards 10 mm - upwards 10 mm - downwards 10 mm - d	nstallation/ mounting/ dimensions			
• side-by-side mounting Yes height 70 mm • depth 73 mm required spacing 73 mm • with side-by-side mounting - - forwards 10 mm - upwards 10 mm - downwards 10 mm - solid or stranded 2x (0.54 mm ⁺) <	mounting position			
height 70 mm width 45 mm depth 73 mm required spacing 73 mm • with side-by-side mounting 73 mm - forwards 10 mm - downwards 10 mm - upwards 10 mm - downwards 10 mm - downwards 10 mm - downwards 10 mm - at he side 6 mm Spring-loaded terminals spring-loaded terminals spring-loaded terminals of or actualitary and control cicuit spring-loaded terminals i for and contacts Spring-type terminals of onger coll Spring-type terminals type of connectable conductor cross-sections 2x (0.5 4 mm ²	fastening method			
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 finely stranded without core end processing 0.5 2.5 mm² type of connectable conductor cross-sections for auxiliary contacts solid or stranded finely stranded with core end processing finely stranded with core end processing finely stranded without core end processing at AWG cables for auxiliary contacts AWG number as coded connectable conductor cross section 				
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- finely stranded without core end processing 2x (0.5 2.5 mm²) • at AWG cables for auxiliary contacts 2x (20 12) AWG number as coded connectable conductor cross section 2x (20 12)				
• at AWG cables for auxiliary contacts 2x (20 12) AWG number as coded connectable conductor cross section				
AWG number as coded connectable conductor cross section				
	AWG number as coded connectable conductor cross	ZA (ZV 1Z)		
	for main contacts	20 12		

 for auxiliary cor 	ntacts		20 12				
Safety related data							
product function							
 mirror contact a 	 mirror contact according to IEC 60947-4-1 			Yes			
B10 value with high d	emand rate according t	o SN 31920	1 000 000				
proportion of dange							
	d rate according to SN	31920	40 %				
	nd rate according to SN		73 %				
failure rate [FIT] with 31920	low demand rate accord	ding to SN	100 FIT				
T1 value for proof tes IEC 61508	t interval or service life	according to	20 у				
protection class IP o 60529	on the front according	to IEC	IP20				
touch protection on	the front according to	IEC 60529	finger-safe, for vertical of	contact from the front			
suitability for use							
 safety-related s 	witching OFF		Yes				
Certificates/ approval	s						
General Product Ap							
(SF)	<u>Confirmation</u>	(\mathbf{m})	ዓ	<u>KC</u>	FAL		
CSA			UL		LIIL		
EMC	Functional Safety/Safety of	Declaration o	f Conformity	Test Certificates			
	Machinery		-				
A	Type Examination		~ ~ ~	Type Test Certific-	Special Test Certific-		
	<u>Certificate</u>		EG-Konf.	ates/Test Report	ate		
Marine / Shipping							
		ڴڴ	Llovds	6			
and the second second		DNV	Kegister				
ABS	BUREAU	DNV	LRS	PRS	RINA		
	VERITAS						
Marine / Shipping	other		Dangerous Goo	od			
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Further information							
Information- and Do https://www.siemens.	wnloadcenter (Catalog	gs, Brochures,.)				
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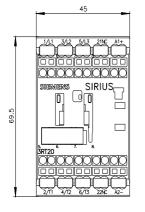
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2017-2FB42

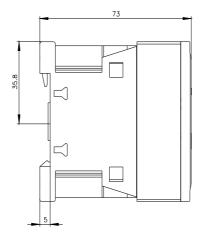
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2FB42

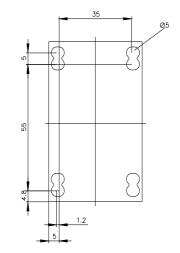
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2017-2FB42&lang=en

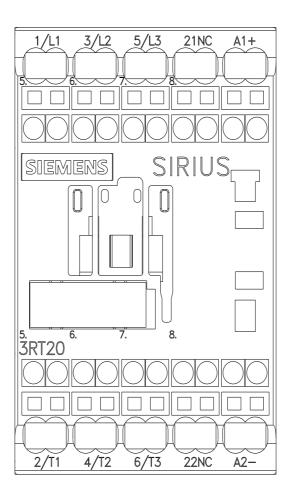
Characteristic: Tripping characteristics, I²t, Let-through current

https://support.industry.siemens.com/cs/ww/en/ps/3RT2017-2FB42/char Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2017-2FB42&objecttype=14&gridview=view1









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