SIEMENS

Data sheet

3RT2018-1AP01



Power contactor, AC-3 16 A, 7.5 kW / 400 V 1 NO, 230 V AC, 50/60 Hz 3-pole, Size S00 screw terminals

product brand name SIRUS product disgnation Power contactor product disgnation SRT2 Contral technical data Size of contactor size of contactor S00 product disgnation No • auxiliary switch Yes opwer loss [W] for rated value of the current at AC in hot operating state 6.6 W • op ropole 2.2 W power loss [W] for rated value of the current without load current share typical 5.7 W surge voltage resistance 6 kV • of main circuit rated value 6 kV • of auxiliary circuit rated value 7.3g / 5 ms, 4.7g / 10 ms shock resistance at rectangular impulse 1.4 g / 5 ms, 7.3g / 10 ms • at AC 11.4g / 5 ms, 7.3g / 10 ms mechanical service life (switching cycles) 30 0000 000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 • of the contactor with added auxiliary switch block typ	www.elu.et.leure.elu.eure.	
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number of poles for main current circuit 3 number of NO contacts for main contacts 3		-55 +80 °C
number of NO contacts for main contacts 3	Main circuit	
number of NO contacts for main contacts 3	number of poles for main current circuit	3
operating voltage at AC-3 rated value maximum 690 V		3
	operating voltage at AC-3 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	22 A
rated value	
— up to 690 V at ambient temperature 60 °C rated value	20 A
at AC-3	
	16 A
- at 400 V rated value	12.4 A
— at 500 V rated value	
— at 690 V rated value	8.9 A
• at AC-4 at 400 V rated value	11.5 A
at AC-5a up to 690 V rated value	19.4 A
• at AC-5b up to 400 V rated value	13.2 A
• at AC-6a	
 — up to 230 V for current peak value n=20 rated value 	9.6 A
— up to 400 V for current peak value n=20 rated value	9.6 A
 — up to 500 V for current peak value n=20 rated value 	9.6 A
— up to 690 V for current peak value n=20 rated value	8.9 A
• at AC-6a	0.04
— up to 230 V for current peak value n=30 rated value	6.6 A
— up to 400 V for current peak value n=30 rated value	6.4 A
— up to 500 V for current peak value n=30 rated value	6.4 A
 — up to 690 V for current peak value n=30 rated value 	6.4 A
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	5.5 A
• at 690 V rated value	4.4 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	0.7 A
 with 3 current paths in series at DC-1 	
— at 24 V rated value	20 A
— at 110 V rated value	20 A
— at 220 V rated value	20 A
	1.3 A
— at 440 V rated value	
— at 440 V rated value — at 600 V rated value	1 A
	1 A
— at 600 V rated value	1 A

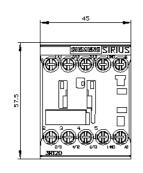
— at 110 V rated value	0.1 A
 with 2 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	20 A
— at 110 V rated value	0.35 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	20 A
— at 110 V rated value	20 A
— at 220 V rated value	1.5 A
— at 440 V rated value	0.2 A
— at 600 V rated value	0.2 A
operating power	
• at AC-3	
— at 230 V rated value	4 kW
— at 400 V rated value	7.5 kW
— at 500 V rated value	7.5 kW
— at 690 V rated value	7.5 kW
operating power for approx. 200000 operating cycles	
at AC-4	
• at 400 V rated value	2.5 kW
• at 690 V rated value	3.5 kW
operating apparent power at AC-6a	
 up to 230 V for current peak value n=20 rated value 	3.8 kV·A
 up to 400 V for current peak value n=20 rated value 	6.6 kV·A
 up to 500 V for current peak value n=20 rated value 	8.3 kV·A
 up to 690 V for current peak value n=20 rated value 	10.6 kV·A
operating apparent power at AC-6a	
 up to 230 V for current peak value n=30 rated value 	2.5 kV·A
 up to 400 V for current peak value n=30 rated value 	4.4 kV·A
 up to 500 V for current peak value n=30 rated value 	5.5 kV·A
 up to 690 V for current peak value n=30 rated value 	7.6 kV·A
short-time withstand current in cold operating state up to 40 °C	
 limited to 1 s switching at zero current maximum 	300 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	169 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	128 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	92 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	74 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at AC	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-4 maximum	250 1/h
Control circuit/ Control	
type of voltage of the control supply voltage	AC
control supply voltage at AC	
• at 50 Hz rated value	230 V
• at 60 Hz rated value	230 V
operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 1.1
• at 60 Hz	0.85 1.1
apparent pick-up power of magnet coil at AC	
• at 50 Hz	37 V·A
• at 60 Hz	33 V·A
inductive power factor with closing power of the coil	
• at 50 Hz	0.8
• at 60 Hz	0.75

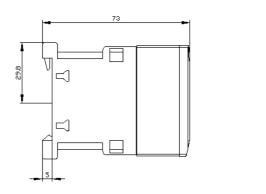
apparent holding power of magnet coil at AC	
• at 50 Hz	5.7 V·A
• at 60 Hz	4.4 V·A
inductive power factor with the holding power of the coil	
● at 50 Hz	0.25
• at 60 Hz	0.25
closing delay	
• at AC	9 35 ms
opening delay	
• at AC	7 13 ms
arcing time	10 15 ms
control version of the switch operating mechanism	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	14 A
at 600 V rated value	11 A
yielded mechanical performance [hp]	
for single-phase AC motor at 110/120 V retail value	4 hz
- at 110/120 V rated value	1 hp
— at 230 V rated value	2 hp
• for 3-phase AC motor	2 hn
- at 200/208 V rated value	3 hp
- at 220/230 V rated value	5 hp
- at 460/480 V rated value	10 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 with type of coordination 2 required 	gG: 50A (690V,100kA), aM: 25A (690V,100kA), BS88: 50A (415V,80kA)
 — with type of assignment 2 required 	gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A (415V,80kA)

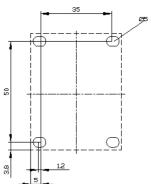
\bullet for short-circuit protection of the auxiliary switch required

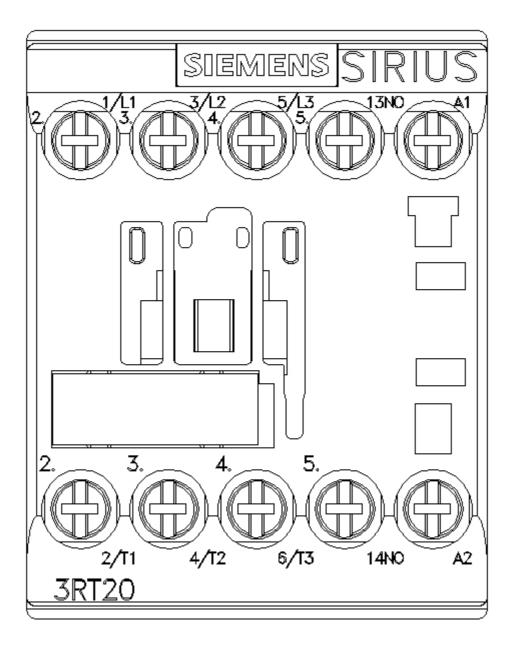
Installation/ mounting/ dimensions			
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface		
fastening method	screw and snap-on mounting onto 35 mm standard mounting rail according to DIN EN 60715		
 side-by-side mounting 	Yes		
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)		
at 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 mm²		
connectable conductor cross-section for auxiliary contacts			
 solid or stranded 	0.5 4 mm²		
 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 mm²), 2x (0,75 2,5 mm²), 2x 4 mm²		
 finely stranded with core end processing 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)		
 at 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	Very with 0DU00		
product function mirror contact acc. to IEC 60947-4-1	Yes; with 3RH29		

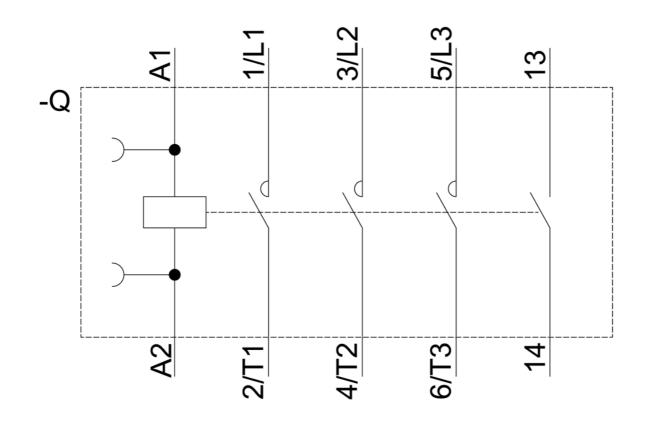
B10 value with high de	emand rate acc. to SN	N 31920	000 000			
proportion of dange	rous failures					
 with low deman 	d rate acc. to SN 319	20 4	10 %			
 with high demai 	nd rate acc. to SN 319	920 7	73 %			
failure rate [FIT] with I	failure rate [FIT] with low demand rate acc. to SN 31920					
T1 value for proof te IEC 61508			20 y			
protection class IP of	on the front acc. to IE	C 60529	P20			
touch protection on			inger-safe, for vertical cont	act from the front		
suitability for use						
 safety-related s 	witching OFF	N	res			
Certificates/ approval	•					
General Product Ap					EMC	
	CCC	Ű	<u>KC</u>	EHC	RCM	
Functional Safety/Safety of Machinery	Declaration of Cor	nformity	Test Certificates		Marine / Shipping	
<u>Type Examination</u> <u>Certificate</u>	CE EG-Konf.	UK Declaration of Conformity	of <u>Type Test Certific-</u> ates/Test Report	Special Test Certific- ate	ABS	
Marine / Shipping						
B U R E A U VER ITAS	Lloyds Kegister uis	PRS	RINA	RMRS RARS	DNV-GL DNV-GL	
other						
Confirmation	Confirmation Confirmation					
Further information						
	wnloadcenter (Catal	ogs Brochures				
Information- and Downloadcenter (Catalogs, Brochures,) https://www.siemens.com/ic10						
Industry Mall (Online						
https://mall.industry.si		n/Catalog/product?m	<u>1fb=3RT2018-1AP01</u>			
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http://www.automation Characteristic: Tripp	y.siemens.com/cs/ww duct images, 2D din n.siemens.com/bilddb bing characteristics,	//en/ps/3RT2018-1Al nension drawings, 3 / <u>cax_de.aspx?mlfb=3</u> I ² t, Let-through cur	P01 3D models, device circuit 3RT2018-1AP01⟨=en rent	diagrams, EPLAN mad	cros,)	
https://support.industr Further characteristi http://www.automatior	ics (e.g. electrical en	durance, switching		01&objecttype=14&grid	<u>/iew=view1</u>	











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