SIEMENS

Data sheet

3RT2018-2AV01



power contactor, AC-3e/AC-3, 16 A, 7.5 kW / 400 V, 3-pole, 400 V AC, 50/60 Hz, auxiliary contacts: 1 NO, spring-loaded terminal, size: S00 $\,$

product brand name SiRUIS product type designation 9wer contactor product type designation SRT2 General technical data	Treed 1 kg //	
product type designation 3RT2 General technical data Solo General technical data Solo gize of contactor Solo product extension No • function module for communication No • auxilary switch Yes power loss (W) for rated value of the current SW • at AC in hot operating state SW • at AC in hot operating state per pole 1W • without load current share typical 5.7 W insulator voltage 690 V • of main forcult with degree of pollution 3 rated value 690 V • of main forcult rated value 680 V • of auxiliary circuit rated value 680 V • of auxiliary circuit rated value 6kV • of auxiliary circuit rated value 6kV • at AC 100 V • at AC 14g / 5 ms, 4.7g / 10 ms • at AC 14g / 5 ms, 7.3g / 10 ms • of contactor typical 5000 000 • of the contactor with adde descrinolarily optimized auxilary switch block typical 1000 0000 • of the contactor with addeed auxilary switch b	product brand name	SIRIUS
Concrait tochnical data S00 size of contactor S00 product extension No • function module for communication No • auxiliary switch Yes power loss [W] for rated value of the current • at AC in hot operating state • at AC in hot operating state projel 1 W • without load current share typical 57 W insulation voltage 690 V • of main circuit with degree of pollution 3 rated value 690 V • of main circuit rated value 680 V • of main circuit rated value 64 V • of auxiliary circuit with degree of pollution 3 rated value 640 V • of auxiliary circuit rated value 64 V • of auxiliary circuit rated value 500 V • at AC 7.3g / 5 ms, 4.7g / 10 ms mechanical service life (operating cycles) 5000 000 • of the contactor with added auxiliary switch block typical 5000 000 • of the contactor with added auxiliary switch block typical 1000 000 • of the contactor with added auxiliary switch block typical 10000 000	product designation	Power contactor
size of contactor S00 product extension No • ducklary switch Yes power loss [W] for rated value of the current 3 W • at AC in hot operating state per pole 1 W • without load current share typical 5.7 W insulation voltage 690 V • of main circult with degree of pollution 3 rated value 690 V • of main circult with degree of pollution 3 rated value 690 V • of main circult with degree of pollution 3 rated value 690 V • of main circult with degree of pollution 3 rated value 690 V • of main circult with degree of pollution 3 rated value 690 V • of main circult with degree of pollution 3 rated value 690 V • of auxiliary circult rated value 6 kV • of main circult with degree of pollution 3 rated value 600 V • of auxiliary circult rated value 6 kV • of auxiliary circult rated value 6 kV • of auxiliary switch block typical 7.3g / 5 ms, 4.7g / 10 ms shock resistance with sine pulse 11.4g / 5 ms, 7.3g / 10 ms • at AC 11.4g / 5 ms, 7.3g / 10 ms mechanical service life (operating cycles) 5 000 000 • of the contactor with added electronically optimized 30 000 00 • of the contactor with added auxiliary switch block typical <th>product type designation</th> <th>3RT2</th>	product type designation	3RT2
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• auxiliary switch Yes power loss [W] for rated value of the current at AC in hot operating state at AC in hot operating state per pole 1W at AC in hot operating state per pole of main circuit with degree of pollution 3 rated value 690 V of main circuit with degree of pollution 3 rated value 690 V of main circuit rated value 690 V of main circuit rated value 64V of auxiliary or circuit rated value 64V at AC not contage for protective separation between coll and main contracts according to EN 80947-1 64 AC 7.3g / 5 ms, 4.7g / 10 ms sthock resistance at rectangular impulse ot at AC	product extension	
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• at AC in hot operating state per pole 1 W • without load current share typical 5.7 W insulation voltage 60 / 0 • of main circuit with degree of pollution 3 rated value 690 V • of main circuit with degree of pollution 3 rated value 690 V • of main circuit with degree of pollution 3 rated value 690 V • of main circuit with degree of pollution 3 rated value 6 kV • of main circuit with degree of pollution 3 rated value 6 kV • of main circuit with degree of pollution 3 rated value 6 kV • of main circuit with degree of pollution 3 rated value 6 kV • of main circuit with degree of pollution 3 rated value 6 kV • of main circuit with added source separation between coll and main contacts according to EN 60947-1 400 V • at AC 7,3g / 5 ms, 4,7g / 10 ms • at AC 7,3g / 5 ms, 7,3g / 10 ms • at AC 11,4g / 5 ms, 7,3g / 10 ms • of contactor typical 30 000 000 • of the contactor with added 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 typical 10 000 000 • of the co	power loss [W] for rated value of the current	
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auxiliary switch block typical 10 000 000 reference code according to IEC 81346-2 Q Substance Prohibitance (Date) 10/01/2009 Ambient conditions 2 000 m installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C • 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 %	 of contactor typical 	30 000 000
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Substance Prohibitance (Date) 10/01/2009 Ambient conditions 2 000 m installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C • 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 %	 of the contactor with added auxiliary switch block typical 	10 000 000
Ambient conditions installation altitude at height above sea level maximum 2 000 m ambient temperature -25 +60 °C • 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	reference code according to IEC 81346-2	Q
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• 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 %	installation altitude at height above sea level maximum	2 000 m
	ambient temperature	
relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 95 % Main circuit 95 %	during operation	-25 +60 °C
relative humidity at 55 °C according to IEC 60068-2-30 95 % Main circuit	during storage	-55 +80 °C
maximum	relative humidity minimum	10 %
		95 %
number of poles for main current circuit 3	Main circuit	
	number of poles for main current circuit	3

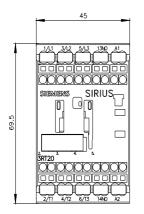
number of NO contacts for main contacts	3
operating voltage	
at AC-3 rated value maximum	690 V
 at AC-3e rated value maximum 	690 V
operational current	
• at AC-1 at 400 V at ambient temperature 40 °C rated	22 A
value	
• at AC-1	
 — up to 690 V at ambient temperature 40 °C rated value 	22 A
— up to 690 V at ambient temperature 60 °C rated	20 A
value	
• at AC-3	
— at 400 V rated value	16 A
— at 500 V rated value	12.4 A
— at 690 V rated value	8.9 A
• at AC-3e	
— at 400 V rated value	16 A
— at 500 V rated value	12.4 A
— 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	
— 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 60 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 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
 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 	

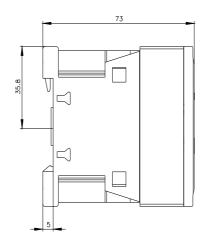
— at 24 V rated value	20 A
— at 60 V rated value	0.5 A
— at 110 V rated value	0.15 A
 with 2 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	20 A
— at 60 V rated value	5 A
— at 110 V rated value	0.35 A
 with 3 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	20 A
— at 60 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-2 at 400 V rated value	7.5 kW
• 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
• at AC-3e	
at Ac-se — 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-	7.5 KW
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 kVA
 up to 400 V for current peak value n=20 rated value 	6.6 kVA
 up to 500 V for current peak value n=20 rated value 	8.3 kVA
 up to 690 V for current peak value n=20 rated value 	10.6 kVA
operating apparent power at AC-6a	
 up to 230 V for current peak value n=30 rated value 	2.5 kVA
 up to 400 V for current peak value n=30 rated value 	4.4 kVA
• up to 500 V for current peak value n=30 rated value	5.5 kVA
• up to 690 V for current peak value n=30 rated value	7.6 kVA
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-3e maximum	750 1/h
• at AC-4 maximum	250 1/h
Control circuit/ Control	
	AC
type of voltage of the control supply voltage	
 control supply voltage at AC at 50 Hz rated value 	400 V
• at 60 Hz rated value	400 V
operating range factor control supply voltage rated value of magnet coil at AC	

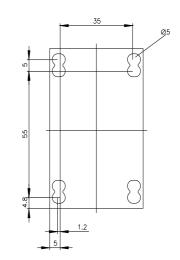
• at 50 Hz	0.8 1.1
• at 60 Hz	0.85 1.1
apparent pick-up power of magnet coil at AC	
● at 50 Hz	37 VA
• at 60 Hz	33 VA
inductive power factor with closing power of the coil	
• at 50 Hz	0.8
• at 60 Hz	0.75
apparent holding power of magnet coil at AC	
• at 50 Hz	5.7 VA
• at 60 Hz	4.4 VA
inductive power 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	4 15 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	1
contact	
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)
JL/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 rated value	1 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	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	
non-encon protection	

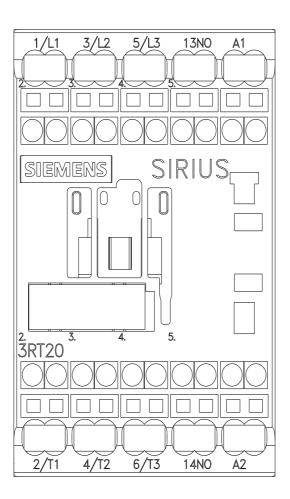
design of the fuse link	
 for short-circuit protection of the main circuit 	
 — with type of coordination 1 required 	gG: 50A (690V,100kA), aM: 25A (690V,100kA), BS88: 50A (415V,80kA)
 — with type of assignment 2 required 	gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A (415V,80kA)
 for short-circuit protection of the auxiliary switch required 	gG: 10 A (500 V, 1 kA)
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 DIN rail according to DIN EN 60715
 side-by-side mounting 	Yes
height	70 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 	spring-loaded terminals
 for auxiliary and control circuit 	spring-loaded terminals
 at contactor for auxiliary contacts 	Spring-type terminals
of magnet coil	Spring-type terminals
type of connectable conductor cross-sections for main contacts	
• solid	2x (0.5 4 mm²)
 solid or stranded 	2x (0,5 4 mm²)
 finely stranded with core end processing 	2x (0.5 2.5 mm²)
 finely stranded without core end processing 	2x (0.5 2.5 mm²)
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
 finely stranded without 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 mm ²
 finely stranded without core end processing 	0.5 2.5 mm²
type of connectable conductor cross-sections	
for auxiliary contacts	
— solid or stranded	2x (0,5 4 mm²)
 finely stranded with core end processing 	2x (0.5 2.5 mm ²)
 finely stranded without core end processing 	2x (0.5 2.5 mm ²)
 for AWG cables for auxiliary contacts 	2x (20 12)
AWG number as coded connectable conductor cross section	
• for main contacts	20 12
 for auxiliary contacts 	20 12
Safety related data	
product function	

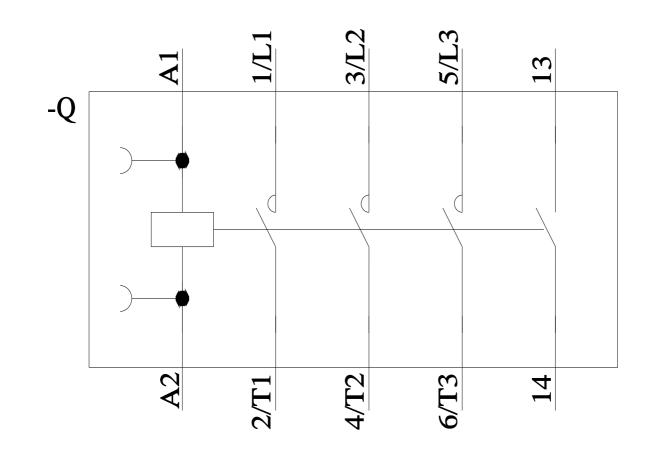
	ccording to IEC 60947-4-1		Yes; with 3RH29		
D I U Value with mun de	emand rate according to SN		1 000 000		
proportion of danger					
with low deman	d rate according to SN 319	20	40 %		
 with high deman 	nd rate according to SN 31	920	73 %		
failure rate [FIT] with lo	ow demand rate according	to SN 31920	100 FIT		
T1 value for proof test 61508	interval or service life acco	ording to IEC	20 a		
	n the front according to I	EC 60529	IP20		
	the front according to IEC		finger-safe, for vertical contact	from the front	
suitability for use					
 safety-related s 	witching OFF		Yes		
ertificates/ approvals	;				
General Product App	proval				
SP	<u>Confirmation</u>			KC	EHC
EMC	Functional Safety/Safety of Ma- chinery	Declaration of Co	onformity	Test Certificates	
RCM	Type Examination Cer- tificate	UK CA	CE EG-Konf.	Special Test Certific- ate	Type Test Certific- ates/Test Report
Marine / Shipping	BUREAU VERITAS		Llovd's Register us	PRS	RINA
				Railway	Environment
Marine / Shipping	other				
Marine / Shipping	other Confirmation		<u>Confirmation</u>	Vibration and Shock	<u>Environmental Con-</u> <u>firmations</u>
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