SIEMENS

Data sheet

3RT2025-1BJ80



power contactor, AC-3e/AC-3, 17 A, 7.5 kW / 400 V, 3-pole, 72 V DC, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S0

product brand name SIRIUS product vipe designation Power contactor optiduct type designation SR12 General technical data S0 size of contactor No of unction module for communication No auxiliary switch Yes optiduct extension 1.8 W at AC in hot operating state 1.8 W at AC in hot operating state per pole 0.6 W 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 auxiliary circuit with degree of pollution 3 rated value 690 V of auxiliary circuit rated value 6 kV of auxiliary circuit rated value 6 kV or auxiliary circuit rated value 100 00 000	6/13	
product type designation 3RT2 General technical data	product brand name	SIRIUS
General technical data S0 size of contactor S0 product extension No • function module for communication No • auxiliary switch Yes power loss [W] for rated value of the current 1.8 W • at AC in hot operating state 1.8 W • at AC in hot operating state 5.9 W insulation voltage 690 V • of main circuit with degree of pollution 3 rated value 690 V • of auxiliary circuit with degree of pollution 3 rated value 690 V • of auxiliary circuit with degree of pollution 3 rated value 690 V • of auxiliary circuit rated value 6 kV • of contactor scitas according to EN 60947-1 400 V sthock resistance with sine pulse 10g / 5 ms, 7,5g / 10 ms • at DC 10g / 5 ms, 7,5g / 10 ms shock resistance with sine pulse 10000 000 • of the contactor with added auxiliary swi	product designation	Power contactor
size of contactor S0 product extension No • function module for communication No • auxiliary switch Yes power loss [W] for rated value of the current 1.8 W • at AC in hot operating state per pole 0.6 W • without load current share typical 5.9 W Insulation voltage 690 V • of main circuit with degree of pollution 3 rated value 690 V • of auxiliary circuit with degree of pollution 3 rated value 690 V • of auxiliary circuit with degree of pollution 3 rated value 680 V surge voltage resistance 6kV • of auxiliary circuit rated value 6 kV • of auxiliary surverb holes for protective separation between 10g / 5 ms, 7,5g / 10 ms shock resistance with sine pulse 10g / 5 ms, 7,5g / 10 ms • at DC 15g / 5 ms, 10g / 10 ms mechanical service life (operating cycles) 10 000 000 • of the contactor with added electronically optimized auxiliary switch block typical 10 000 000 reference code according to IEC 81346-2 Q Substance Prohibi	product type designation	3RT2
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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 %	reference code according to IEC 81346-2	Q
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• during storage -55 +80 °C relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum 95 %	ambient temperature	
relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 maximum 95 %	during operation	-25 +60 °C
relative humidity at 55 °C according to IEC 60068-2-30 95 %	during storage	-55 +80 °C
maximum	relative humidity minimum	10 %
Main circuit		95 %
	Main circuit	
number of poles for main current circuit 3	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 	40 A
value	
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	40 A
— up to 690 V at ambient temperature 60 °C rated	35 A
value	
• at AC-3	
— at 400 V rated value	17 A
— at 500 V rated value	17 A
— at 690 V rated value	13 A
• at AC-3e	
— at 400 V rated value	17 A
— at 500 V rated value	17 A
— at 690 V rated value	13 A
• at AC-4 at 400 V rated value	15.5 A
at AC-5a up to 690 V rated value	35.2 A
• at AC-5b up to 400 V rated value	14.1 A
• at AC-6a	
— up to 230 V for current peak value n=20 rated value	11.4 A
— up to 400 V for current peak value n=20 rated value	11.4 A
— up to 500 V for current peak value n=20 rated value	11.4 A
 up to 690 V for current peak value n=20 rated value at AC-6a 	11.3 A
	7.6 A
 — up to 230 V for current peak value n=30 rated value — up to 400 V for current peak value n=30 rated value 	7.6 A
— up to 500 V for current peak value n=30 rated value	7.6 A
— up to 690 V for current peak value n=30 rated value	7.6 A
minimum cross-section in main circuit at maximum AC-1 rated	10 mm ²
value	
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	7.7 A
at 690 V rated value	7.7 A
operational current	
• at 1 current path at DC-1	
— at 24 V rated value	35 A
— at 60 V rated value	20 A
— at 110 V rated value	4.5 A
— at 220 V rated value	1 A
— at 440 V rated value	0.4 A
— at 600 V rated value	0.25 A
• with 2 current paths in series at DC-1	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	5 A
— at 440 V rated value	1 A
— at 600 V rated value	0.8 A
 with 3 current paths in series at DC-1 	
— at 24 V rated value	35 A
— at 60 V rated value	35 A
— at 110 V rated value	35 A
— at 220 V rated value	35 A
— at 440 V rated value	2.9 A
— at 600 V rated value	1.4 A
 at 1 current path 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	2.5 A			
— at 220 V rated value	1A			
— at 440 V rated value	0.09 A			
— at 600 V rated value	0.06 A			
 with 2 current paths in series at DC-3 at DC-5 				
— at 24 V rated value	35 A			
— at 60 V rated value	35 A			
— at 110 V rated value	15 A			
— at 220 V rated value	3 A			
— at 440 V rated value	0.27 A			
— at 600 V rated value	0.16 A			
 with 3 current paths in series at DC-3 at DC-5 				
— at 24 V rated value	35 A			
— at 60 V rated value	35 A			
— at 110 V rated value	35 A			
— at 220 V rated value	10 A			
— at 440 V rated value	0.6 A			
— at 600 V rated value	0.6 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	11 kW			
• at AC-3e				
— at 230 V rated value	4 kW			
— at 400 V rated value	4.5 kW			
— at 500 V rated value	7.5 kW			
— at 690 V rated value	11 kW			
operating power for approx. 200000 operating cycles at AC-				
• at 400 V rated value	3.5 kW			
at 690 V rated value	6 kW			
operating apparent power at AC-6a				
• up to 230 V for current peak value n=20 rated value	4.5 kVA			
• up to 400 V for current peak value n=20 rated value	7.8 kVA			
• up to 500 V for current peak value n=20 rated value	9.9 kVA			
• up to 690 V for current peak value n=20 rated value	13.6 kVA			
operating apparent power at AC-6a	011/4			
• up to 230 V for current peak value n=30 rated value	3 kVA			
• up to 400 V for current peak value n=30 rated value	5.2 kVA			
• up to 500 V for current peak value n=30 rated value	6.6 kVA			
up to 690 V for current peak value n=30 rated value	9.1 kVA			
short-time withstand current in cold operating state up to 40 °C				
 limited to 1 s switching at zero current maximum 	225 A; Use minimum cross-section acc. to AC-1 rated value			
 limited to 5 s switching at zero current maximum 	225 A; Use minimum cross-section acc. to AC-1 rated value			
 limited to 10 s switching at zero current maximum 	189 A; Use minimum cross-section acc. to AC-1 rated value			
 limited to 30 s switching at zero current maximum 	140 A; Use minimum cross-section acc. to AC-1 rated value			
 limited to 60 s switching at zero current maximum 	115 A; Use minimum cross-section acc. to AC-1 rated value			
no-load switching frequency				
• at DC	1 500 1/h			
operating frequency				
• at AC-1 maximum	1 000 1/h			
• at AC-2 maximum	1 000 1/h			
• at AC-3 maximum	1 000 1/h			
 at AC-3e maximum 	1 000 1/h			
● at AC-4 maximum	300 1/h			

Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage at DC	
rated value	72 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	5.9 W
holding power of magnet coil at DC	5.9 W
closing delay	
• at DC	50 170 ms
opening delay	
• at DC	15 18 ms
arcing time	10 10 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	
number of NC contacts for auxiliary contacts instantaneous contact	1
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	17 A
yielded mechanical performance [hp]	
• for single-phase AC motor	
— at 110/120 V rated value	1 hp
— at 230 V rated value	3 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	15 hp
contact rating of auxiliary contacts according to UL	A600 / P600
Short-circuit protection	
design of the fuse link	
 for short-circuit protection of the main circuit 	

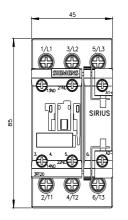
— with type of coordination 1 required	gG: 63A (690V,100kA), aM: 32A (690V,100kA), BS88: 63A (415V,80kA)		
- with type of assignment 2 required	gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A (415V,80kA)		
 for short-circuit protection of the auxiliary switch required 	gG: 10 A (500 V, 1 kA)		
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	85 mm		
width	45 mm		
depth	107 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 (1 2.5 mm²), 2x (2.5 10 mm²)		
 solid or stranded 	2x (1 2.5 mm²), 2x (2.5 10 mm²)		
 finely stranded with core end processing 	2x (1 2.5 mm²), 2x (2.5 6 mm²), 1x 10 mm²		
connectable conductor cross-section for main contacts			
• solid	1 10 mm²		
● stranded	1 10 mm²		
 finely stranded with core end processing 	1 10 mm²		
connectable conductor cross-section for auxiliary contacts			
 solid or stranded 	0.5 2.5 mm ²		
 finely stranded with core end processing 	0.5 2.5 mm ²		
type of connectable conductor cross-sections			
 for auxiliary contacts 			
— solid or stranded	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)		
 finely stranded with core end processing 	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)		
 for AWG cables for auxiliary contacts 	2x (20 16), 2x (18 14)		
AWG number as coded connectable conductor cross			
section	16 9		
for main contacts	168 20 14		
for auxiliary contacts	20 14		
Safety related data			
product function	Vec		
 mirror contact according to IEC 60947-4-1 	Yes		
	450.000		
B10 value with high demand rate according to SN 31920	450 000		
B10 value with high demand rate according to SN 31920 proportion of dangerous failures			
B10 value with high demand rate according to SN 31920 proportion of dangerous failures • with low demand rate according to SN 31920	40 %		
B10 value with high demand rate according to SN 31920 proportion of dangerous failures			

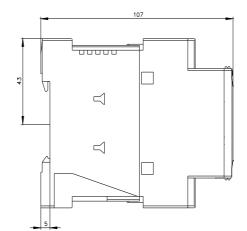
	t interval or service life acco	rding to IEC 20 a				
61508 protection class IP on the front according to IEC 60529		EC 60529 IP20	IP20			
-	the front according to IEC		er-safe, for vertical contact	from the front		
suitability for use						
 safety-related s 	witching OFF	Yes				
Certificates/ approvals	5					
General Product Ap	proval					
•	•					
(SP)		<u>Confirmation</u>		<u>KC</u>	EHC	
EMC	Functional Safety/Safety of Ma- chinery	Declaration of Confo	rmity	Test Certificates		
	<u>Type Examination Cer-</u> tificate	CE EG-Konf.	UK CA	<u>Type Test Certific-</u> ates/Test Report	Special Test Certific- ate	
Marine / Shipping						
ABS	BUREAU VERITAS		Lloyd's Register uis	RINA	RMRS	
other		Railway	Dangerous Good	Environment		
Confirmation		Vibration and Shock	Transport Information	Environmental Con- firmations		
urther information						
	d to exit the Russian marl		ssian-husiness			
Siemens is working	on the renewal of the curr	ent EAC certificates.		d to impose on offersta		
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Information on the p	ackaging		,			
	<u>y.siemens.com/cs/ww/en/vi</u> wnloadcenter (Catalogs, E com/ic10					
Industry Mall (Online		alog/product?mlfb=3RT2	<u>025-1BJ80</u>			
Cax online generator http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2025-1BJ80						
Service&Support (M	anuals, Certificates, Char y.siemens.com/cs/ww/en/p	acteristics, FAQs,)	<u>-enamin=3k12025-18380</u>	1		
Image database (pro	oduct images, 2D dimension signature of the second se	on drawings, 3D model	s, device circuit diagrams	s, EPLAN macros,)		

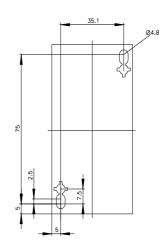
http://www.automation.siemens.com/bilddb/cax_de.aspx/mitb=orcla Characteristic: Tripping characteristics, 1²t, Let-through current

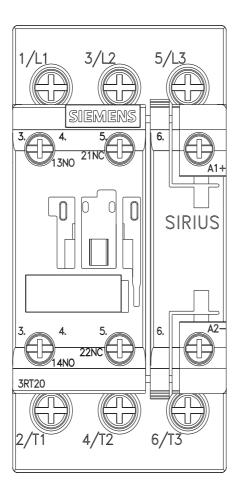
https://support.industry.siemens.com/cs/ww/en/ps/3RT2025-1BJ80/char

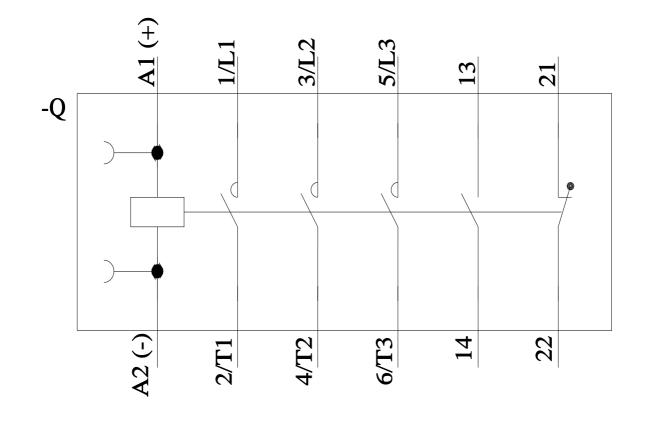
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2025-1BJ80&objecttype=14&gridview=view1











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2/10/2023 🖸