SIEMENS

Data sheet

3RT2024-1BE40



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 60 V DC, auxiliary contacts: 1 NO + 1 NC, screw terminal, size: S0

product brand name SIRIUS product by designation Power contactor product type designation SRT2 General technical data Star of contactor size of contactor S0 ordent type designation No - function module for communication No - function module for communication No - function module for communication S0 W - at AC in hot operating state 0.5 W - at AC in hot operating state per pole 0.3 W - without tod current stare typical 5.9 W - of main circuit with degree of pollution 3 rated value 690 V - of main circuit rated value 64 V - of main circuit rated value 64 V - of main circuit rated value 64 V - of auxiliary circuit rated value 100 V - of auxiliary circuit rated value 100 00 000 - of contactor	6/13	
product type designation 3RT2 General tochnical 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 0.9 W • at AC in hot operating state 0.9 W • at AC in hot operating state 0.9 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 rated value 690 V • of main circuit rated value 690 V • of main circuit rated value 64 KV • of auxiliary circuit rated value 64 KV • of contactor scitas according to EN 60947-1 400 V • at DC 10g / 5 ms, 7,5g / 10 ms • at DC 10g / 5 ms, 7,5g / 10 ms • at DC 10g / 5 ms, 10g / 10 ms • of contactor with added electronically optimized auxiliary switch block typical 10 000	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 0.9 W • at AC in hot operating state per pole 0.3 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 main circuit with degree of pollution 3 rated value 690 V • of auxiliary circuit with degree of pollution 3 rated value 680 V • of main circuit rated value 6 kV • of auxiliary sitter burget 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 10g / 5 ms, 10g / 10 ms mechanical service life (operating cycles) 10 000 000 • of the contactor with added auxiliary switch block typical 10 000 000 reference code according to IEC 81346-2 Q <th>product type designation</th> <th>3RT2</th>	product type designation	3RT2
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relative humidity minimum 10 % relative humidity at 55 °C according to IEC 60068-2-30 95 % 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	12 A
— at 500 V rated value	12 A
— at 690 V rated value	9 A
• at AC-3e	
— at 400 V rated value	12 A
— at 500 V rated value	12 A
— at 690 V rated value	9 A 10 5 A
at AC-4 at 400 V rated value	12.5 A
• at AC-5a up to 690 V rated value	35.2 A
 at AC-5b up to 400 V rated value at AC-6a 	9.9 A
	44.4.4
— up to 230 V for current peak value n=20 rated value	11.4 A 11.4 A
 — up to 400 V for current peak value n=20 rated value — up to 500 V for current peak value n=20 rated value 	11.3 A
— up to 690 V for current peak value n=20 rated value	9A
• at AC-6a	
— up to 230 V for current peak value n=30 rated value	7.6 A
— 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	5.5 A
at 690 V rated value	5.5 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	1 A			
— 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	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	7.5 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	7.5 kW			
operating power for approx. 200000 operating cycles at AC- 4				
• at 400 V rated value	2.6 kW			
• at 690 V rated value	4.6 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 	9.8 kVA			
 up to 690 V for current peak value n=20 rated value 	10.7 kVA			
operating apparent power at AC-6a				
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 	6.5 kVA			
• up to 690 V for current peak value n=30 rated value	9 kVA			
short-time withstand current in cold operating state up to				
40 °C				
Imited to 1 s switching at zero current maximum	210 A; Use minimum cross-section acc. to AC-1 rated value			
Imited to 5 s switching at zero current maximum	210 A; Use minimum cross-section acc. to AC-1 rated value			
Imited to 10 s switching at zero current maximum	170 A; Use minimum cross-section acc. to AC-1 rated value			
Imited to 30 s switching at zero current maximum	126 A; Use minimum cross-section acc. to AC-1 rated value			
Imited to 60 s switching at zero current maximum	105 A; Use minimum cross-section acc. to AC-1 rated value			
no-load switching frequency • at DC	1 500 1/h			
• at DC operating frequency				
• at AC-1 maximum	1 000 1/h			
• at AC-2 maximum	1 000 1/h			
• at AC-2 maximum • at AC-3 maximum	1 000 1/h			
	1 000 1/b			
at AC-3e maximumat AC-4 maximum	1 000 1/h 300 1/h			

Control circuit/ Control	
type of voltage of the control supply voltage	DC
control supply voltage at DC	
rated value	60 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	11 A
at 600 V rated value	11 A
yielded mechanical performance [hp]	
for single-phase AC motor	4 hz
- at 110/120 V rated value	1 hp
— at 230 V rated value	2 hp
• for 3-phase AC motor	2 hz
- 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 / 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 mm ²		
• stranded	1 10 mm ²		
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 mm²		
type of connectable conductor cross-sections			
for auxiliary contacts			
— solid or stranded	2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²)		
— finely stranded with core end processing	2x (0.5 1.5 mm ²), 2x (0.75 2.5 mm ²)		
for AWG cables for auxiliary contacts	2x (20 16), 2x (18 14)		
AWG number as coded connectable conductor cross section			
for main contacts	16 8		
for auxiliary contacts	20 14		
afety related data			
product function			
-	Vec		
mirror contact according to IEC 60947-4-1	Yes		
suitability for use safety-related switching OFF	Yes		
B10 value with high demand rate according to SN 31920	450 000		
proportion of dangerous failures	40.9/		
with low demand rate according to SN 31920	40 %		
 with high demand rate according to SN 31920 	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	rding to IEC 20 a			
protection class IP on the front according to IEC 60529		EC 60529 IP20			
touch protection on	the front according to IEC	60529 finge	r-safe, for vertical contact	from the front	
Certificates/ approvals	;				
General Product App	proval				
	Confirmation			KC	EHC
EMC	Functional Safety/Safety of Ma- chinery	Declaration of Confo	rmity	Test Certificates	
RCM	Type Examination Cer- tificate	UK CA	CE EG-Konf.	Special Test Certific- ate	<u>Type Test Certific-</u> ates/Test Report
Marine / Shipping					
ABS	BUREAU VERITAS		Llovd's Register uts	RINA	RMRS
other		Railway	Dangerous Good	Environment	
<u>Confirmation</u>		Vibration and Shock	Transport Information	Environmental Con- firmations	
urther information	d to exit the Russian mark	tet (see here).			
https://press.siemens.	com/global/en/pressrelease	siemens-wind-down-rus	sian-business		
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Information- and Downloadcenter (Catalogs, Brochures,...)

https://www.siemens.com/ic10

Industry Mall (Online ordering system) https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT2024-1BE40

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2024-1BE40

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

https://support.industry.siemens.com/cs/ww/en/ps/3RT2024-1BE40

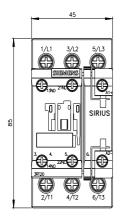
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

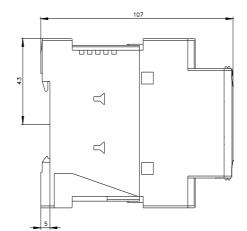
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2024-1BE40&lang=en

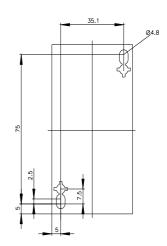
Characteristic: Tripping characteristics, I²t, Let-through current

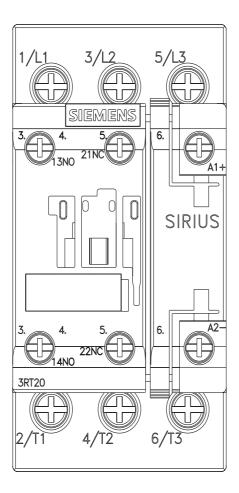
https://support.industry.siemens.com/cs/ww/en/ps/3RT2024-1BE40/char

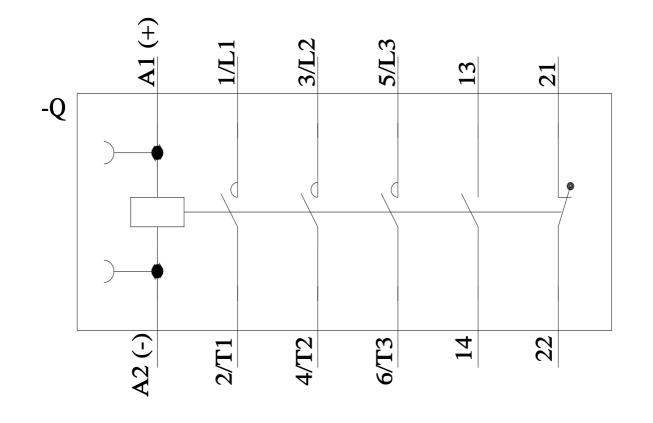
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2024-1BE40&objecttype=14&gridview=view1











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