SIEMENS

Data sheet

3RT2024-1BB44



power contactor, AC-3e/AC-3, 12 A, 5.5 kW / 400 V, 3-pole, 24 V DC, auxiliary contacts: 2 NO + 2 NC, screw terminal, size: S0, removable auxiliary switch

product brand name SIRUS product designation Power contactor product type designation SIRT2 canact technical data		
product type designation 3RT2 General technical data S0 size of contractor S0 product extension No • auxilary switch No • at AC in hot operating state 0.9 W • at AC in hot operating state per pole 0.3 W • without load current share typical 5.9 W • of main circuit with degree of pollution 3 rated value 680 V • of auxiliary circuit with degree of pollution 3 rated value 680 V • of auxiliary circuit with degree of pollution 3 rated value 680 V • of auxiliary circuit with degree of pollution 3 rated value 680 V • of auxiliary circuit rated value 6 KV • of auxiliary switch 100 V • of contacts according to EN 00947.1 400 V • at DC 10g / 5 ms, 7,5g / 10 ms • at DC 10g / 5 ms, 7,5g / 10 ms • of contactor typical 10 0000 000	product brand name	SIRIUS
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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 % Main circuit	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 Main circuit	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	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-3	2 1404			
— 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				
	1 500 1/h			
• at DC				
operating frequency				
operating frequency ● at AC-1 maximum	1 000 1/h			
operating frequency				
operating frequency ● at AC-1 maximum	1 000 1/h			
operating frequencyat AC-1 maximumat AC-2 maximum	1 000 1/h 1 000 1/h			
operating frequency • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-3e maximum • at AC-4 maximum	1 000 1/h 1 000 1/h 1 000 1/h			
operating frequency • at AC-1 maximum • at AC-2 maximum • at AC-3 maximum • at AC-3e maximum	1 000 1/h 1 000 1/h 1 000 1/h 1 000 1/h			

type of voltage of the control supply voltage	DC
control supply voltage at DC	
rated value	24 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	45 40
• at DC	15 18 ms
arcing time	10 10 ms
control version of the switch operating mechanism	Standard A1 - A2
Auxiliary circuit	0
number of NC contacts for auxiliary contacts instantaneous contact	2
number of NO contacts for auxiliary contacts instantaneous contact	2
operational current at AC-12 maximum	10 A
operational current at AC-15	
• at 230 V rated value	6 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	6 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	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	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 / Q600
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

• for short-circuit protection of the auxiliary switch required

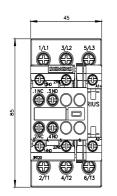
gG: 25A (690V,100kA), aM: 20A (690V,100kA), BS88: 25A (415V,80kA) gG: 10 A (500 V, 1 kA)

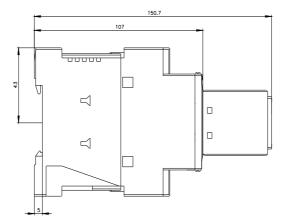
Installation/ mounting/ dimensions	
mounting position	+/-180° rotation possible on vertical mounting surface; can be tilted forward and
	backward by +/- 22.5° on vertical mounting surface
fastening method	screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715
side-by-side mounting	Yes
height	85 mm
width	45 mm
depth	151 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	40
— 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 two of connectable conductor cross sections for main contacts	Screw-type terminals
type of connectable conductor cross-sections for main contacts	2v/4 2 5 mm ² $2v/2$ 5 40 mm ²
solid solid or strandod	$2x (1 2.5 \text{ mm}^2), 2x (2.5 10 \text{ mm}^2)$
 solid or stranded finely stranded with core and processing 	2x (1 2.5 mm ²), 2x (2.5 10 mm ²) 2x (1 2.5 mm ²), 2x (2.5 6 mm ²), 1x 10 mm ²
finely stranded with core end processing connectable conductor cross-section for main contacts	2A (T 2.3 HIIII), 2A (2.3 0 HIIIF), 1X 10 HIIIF
solid	1 10 mm²
solid stranded	1 10 mm²
 stranded finely stranded with core end processing 	1 10 mm²
connectable conductor cross-section for auxiliary contacts	
solid or stranded	0.5 2.5 mm²
 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 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
Safety related data	
product function	
 mirror contact according to IEC 60947-4-1 	Yes
 positively driven operation according to IEC 60947-5-1 	No
B10 value with high demand rate according to SN 31920	450 000
proportion of dangerous failures	
 with low demand rate according to SN 31920 	40 %
 with high demand rate according to SN 31920 	73 %
failure rate [FIT] with low demand rate according to SN 31920	100 FIT

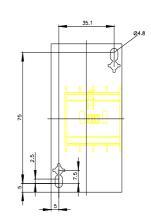
T1 value for proof test	t interval or service life acco	rding to IEC 20 a	a		
61508	n the front eccenting to 1	EC 60529 IP20	2		
•	protection class IP on the front according to IEC 60529 touch protection on the front according to IEC 60529		o er-safe, for vertical contact	from the front	
suitability for use	the none according to inco	1119			
 safety-related s 	witching OFF	Yes			
Certificates/ approvals	5				
General Product Ap	proval				
		Confirmation	•	KC	
(SP	(33)	<u>commuter</u>	(VL)		FAL
CSA	ccc		UL		LIIL
	Functional				
EMC	Safety/Safety of Ma-	Declaration of Confo	ormity	Test Certificates	
	chinery				
A	<u>Type Examination Cer-</u> tificate	<i>cc</i>	UK	<u>Type Test Certific-</u> ates/Test Report	Special Test Certific- ate
Ś	lincale	Ce	ČÀ		ale
RCM		EG-Konf.	CH		
Marine / Shipping					
-	AN YE			-	~
1953		Ť\$	Lloyds	(200	
		DNV	us		
ABS	VERITAS	DNV	US	RINA	RMRS
other		Railway	Dangerous Good	Environment	
Confirmation	\wedge	Vibration and Shock	Transport Information	Environmental Con-	
				<u>firmations</u>	
	VDE				
Further information Siemens has decide	d to exit the Russian marl	et (see here).			
https://press.siemens.	.com/global/en/pressrelease	siemens-wind-down-ru	<u>ssian-business</u>		
	on the renewal of the curr ocal Siemens office on the s		AC certification if you intend	to import or offer to supply	y these products to an
	(other than the sanctioned E	AEU member states Ru	ussia or Belarus).		
Information on the p https://support.industr	y.siemens.com/cs/ww/en/vi	<u>ew/109813875</u>			
Information- and Down https://www.siemens.org	wnloadcenter (Catalogs, E	Brochures,)			
Industry Mall (Online	e ordering system)				
https://mall.industry.si Cax online generato	emens.com/mall/en/en/Cata	alog/product?mlfb=3RT2	<u>2024-1BB44</u>		
http://support.automat	tion.siemens.com/WW/CAX		en&mlfb=3RT2024-1BB44	Ł	
	anuals, Certificates, Chara				
Image database (pro	duct images, 2D dimensio	on drawings, 3D model	s, device circuit diagram	s, EPLAN macros,)	
	n.siemens.com/bilddb/cax_c bing characteristics, I ² t, Le		<u>1BB44⟨=en</u>		

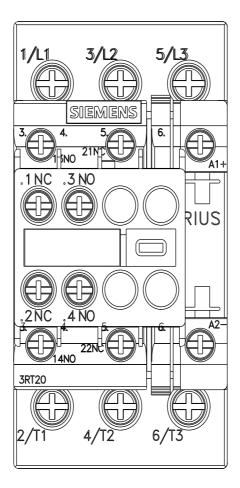
Characteristic: Tripping characteristics, I²t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RT2024-1BB44/char

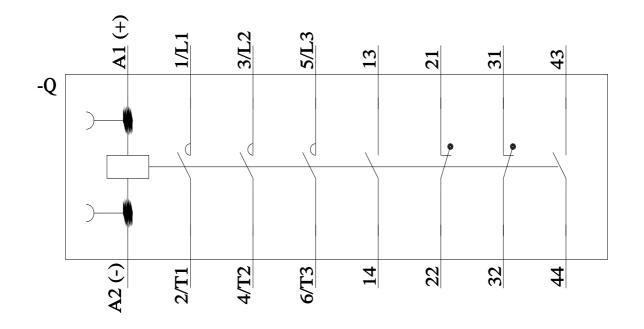
Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT2024-1BB44&objecttype=14&gridview=view1











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2/10/2023 🖸