SIEMENS

Data sheet

3RT1054-2XB46-0LA2



power contactor, AC-3e/AC-3 115 A, 55 kW / 400 V, Uc: 24 V DC x (0.7-1.25) PLC input 24-110 V DC 3-pole, auxiliary contacts 2 NO + 2 NC drive: electronic main circuit: busbar control and auxiliary circuit: spring-loaded terminal

product brand name	SIRIUS		
product designation	Power contactor		
design of the product	With extended operating range		
product type designation	3RT1		
General technical data			
size of contactor	S6		
product extension			
 function module for communication 	No		
auxiliary switch	Yes		
power loss [W] for rated value of the current			
 at AC in hot operating state 	21 W		
 at AC in hot operating state per pole 	7 W		
insulation voltage			
 of main circuit with degree of pollution 3 rated value 	1 000 V		
 of auxiliary circuit with degree of pollution 3 rated value 	500 V		
surge voltage resistance			
 of main circuit rated value 	8 kV		
 of auxiliary circuit rated value 	6 kV		
maximum permissible voltage for protective separation between coil and main contacts according to EN 60947-1	690 V		
shock resistance for railway applications according to EN 61373	Category 1, Class B		
shock resistance at rectangular impulse			
• at DC	8,5g / 5 ms, 4,2g / 10 ms		
shock resistance with sine pulse			
• at DC	13,4g / 5 ms, 6,5g / 10 ms		
mechanical service life (operating cycles)			
 of contactor typical 	10 000 000		
 of the contactor with added electronically optimized auxiliary switch block typical 	5 000 000		
 of the contactor with added auxiliary switch block typical 	10 000 000		
reference code according to IEC 81346-2	Q		
Substance Prohibitance (Date)	09/06/2016		
Ambient conditions			
installation altitude at height above sea level maximum	2 000 m		
ambient temperature			
during operation	-40 +70 °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			

number of poles for main current circuit	3
number of NO contacts for main contacts	3
number of NC contacts for main contacts	0
operating voltage	
 at AC-3 rated value maximum 	1 000 V
 at AC-3e rated value maximum 	1 000 V
operational current	
• at AC-1 at 400 V at ambient temperature 40 °C rated value	160 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	160 A
— up to 690 V at ambient temperature 60 $^\circ\mathrm{C}$ rated value	140 A
— up to 1000 V at ambient temperature 60 °C rated value	80 A
• at AC-2 at 400 V rated value	115 A
• at AC-3	
— at 400 V rated value	115 A
— at 500 V rated value	115 A
— at 690 V rated value	115 A
— at 1000 V rated value	53 A
• at AC-3e	
— at 400 V rated value	115 A
— at 500 V rated value	115 A
— at 690 V rated value	115 A
— at 1000 V rated value	53 A
• at AC-4 at 400 V rated value	97 A
minimum cross-section in main circuit	
 at maximum AC-1 rated value 	70 mm ²
 at maximum Ith rated value 	70 mm ²
operational current for approx. 200000 operating cycles at AC-4	
at 400 V rated value	54 A
at 690 V rated value	48 A
operational current	
at 1 current path at DC-1	
— at 24 V rated value	160 A
— at 110 V rated value	18 A
— at 220 V rated value	3.4 A
— at 440 V rated value	0.8 A
— at 600 V rated value	0.5 A
with 2 current paths in series at DC-1	0.5 A
- at 24 V rated value	160 A
— at 24 v rated value — at 110 V rated value	160 A
— at 220 V rated value	20 A
	3.2 A
- at 440 V rated value	
— at 600 V rated value	1.6 A
with 3 current paths in series at DC-1	400.4
— at 24 V rated value	160 A
— at 110 V rated value	160 A
— at 220 V rated value	160 A
— at 440 V rated value	11.5 A
— at 600 V rated value	4 A
• at 1 current path at DC-3 at DC-5	
— at 24 V rated value	160 A
— at 110 V rated value	2.5 A
— at 220 V rated value	0.6 A
— at 440 V rated value	0.17 A
— at 600 V rated value	0.12 A
 with 2 current paths in series at DC-3 at DC-5 	
— at 24 V rated value	160 A

— at 110 V rated value	160 A			
— at 220 V rated value	2.5 A			
— at 440 V rated value	0.65 A			
— at 600 V rated value	0.37 A			
 with 3 current paths in series at DC-3 at DC-5 				
— at 24 V rated value	160 A			
— at 110 V rated value	160 A			
— at 220 V rated value	160 A			
— at 440 V rated value	1.4 A			
	0.75 A			
— at 600 V rated value	0.75 A			
operating power	55 MM			
• at AC-2 at 400 V rated value	55 kW			
• at AC-3				
— at 230 V rated value	37 kW			
— at 400 V rated value	55 kW			
— at 500 V rated value	75 kW			
— at 690 V rated value	110 kW			
— at 1000 V rated value	75 kW			
• at AC-3e				
— at 230 V rated value	37 kW			
— at 400 V rated value	55 kW			
— at 500 V rated value	75 kW			
— at 690 V rated value	110 kW			
— at 1000 V rated value	75 kW			
operating power for approx. 200000 operating cycles at AC- 4				
at 400 V rated value	29 kW			
at 690 V rated value	48 kW			
	40 KW			
short-time withstand current in cold operating state up to 40 °C				
 limited to 1 s switching at zero current maximum 	2 565 A; Use minimum cross-section acc. to AC-1 rated value			
 limited to 5 s switching at zero current maximum 	1 654 A; Use minimum cross-section acc. to AC-1 rated value			
 limited to 0 containing at zero current maximum 	1 170 A; Use minimum cross-section acc. to AC-1 rated value			
	729 A; Use minimum cross-section acc. to AC-1 rated value			
Imited to 30 s switching at zero current maximum				
Imited to 60 s switching at zero current maximum	572 A; Use minimum cross-section acc. to AC-1 rated value			
no-load switching frequency				
• at DC	1 000 1/h			
operating frequency				
• at AC-1 maximum	800 1/h			
 at AC-2 maximum 	400 1/h			
• at AC-3 maximum	1 000 1/h			
• at AC-3e maximum	1 000 1/h			
• at AC-2 at AC-3e maximum	400 1/h			
• at AC-4 maximum	130 1/h			
operating frequency				
• at DC-1 maximum	400 1/h			
• at DC-3 maximum	500 1/h			
• at DC-5 maximum	500 1/h			
Ratings for railway applications				
thermal current (Ith) up to 690 V	100 A			
• up to 40 °C according to IEC 60077 rated value	160 A			
up to 70 °C according to IEC 60077 rated value	120 A			
Control circuit/ Control				
type of voltage	DC			
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	0.7			
• full-scale value	1.25			

consumed current at PLC-control input according to IEC	2 mA			
60947-1 maximum				
voltage at PLC-control input	24 110 V			
design of the surge suppressor	with varistor			
closing power of magnet coil at DC	320 W			
holding power of magnet coil at DC	2.8 W			
closing delay				
• at DC	35 75 ms			
opening delay				
• at DC	80 90 ms			
arcing time	10 15 ms			
control version of the switch operating mechanism	PLC-IN or Standard A1 - A2 (adjustable)			
Auxiliary circuit				
number of NC contacts for auxiliary contacts	2			
 instantaneous contact 	2			
number of NO contacts for auxiliary contacts	2			
 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			
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			
UL/CSA ratings				
full-load current (FLA) for 3-phase AC motor				
 at 480 V rated value 	124 A			
• at 600 V rated value	125 A			
yielded mechanical performance [hp]				
 for single-phase AC motor 				
— at 230 V rated value	25 hp			
• for 3-phase AC motor				
— at 200/208 V rated value	40 hp			
— at 220/230 V rated value	50 hp			
— at 460/480 V rated value	100 hp			
— at 575/600 V rated value	125 hp			
contact rating of auxiliary contacts according to UL	A600 / Q600			
Short-circuit protection				
product function short circuit protection	No			
design of the fuse link				
 for short-circuit protection of the main circuit 				
— with type of coordination 1 required	gG: 355 A (690 V, 100 kA)			
— with type of assignment 2 required	gG: 315 A (690 V, 100 kA), aM: 200 A (690 V, 50 kA), BS88: 250 A (415 V, 50			
- •	κ̈́A)			
 for short-circuit protection of the auxiliary switch required 	gG: 10 A (500 V, 1 kA)			
Installation/ mounting/ dimensions				
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface			

the front and back			
172 mm 120 mm			
170 mm			
10 mm 10 mm			
ls			
inals			
2)			
2)			
2)			
2x (0.25 2.5 mm²) 2x (24 14)			
cterminal/cover			
finger-safe, for vertical contact from the front with box terminal/cover			

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EMC	Functional Safety/Safety of Ma- chinery	Declaration of Conformity		Test Certificates	
RCM	Type Examination Cer- tificate	UK CA	CE EG-Konf.	Special Test Certific- ate	Type Test Certific- ates/Test Report
other			Railway		
<u>Confirmation</u>	<u>Miscellaneous</u>	<u>Miscellaneous</u>	<u>Type Test Certific-</u> ates/Test Report	Special Test Certific- ate	Vibration and Shock

Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

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=3RT1054-2XB46-0LA2

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1054-2XB46-0LA2

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-2XB46-0LA2

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

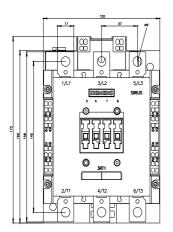
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1054-2XB46-0LA2&lang=en

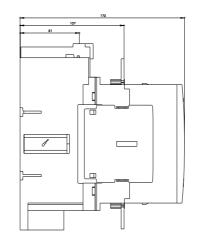
Characteristic: Tripping characteristics, I²t, Let-through current

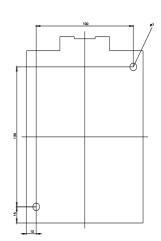
https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-2XB46-0LA2/char

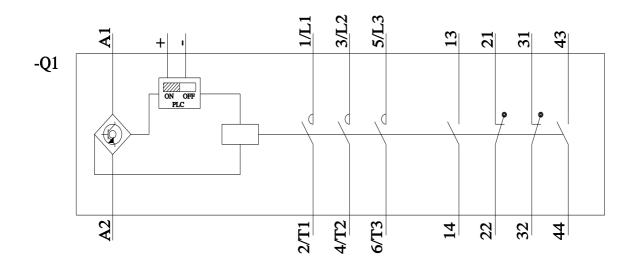
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1054-2XB46-0LA2&objecttype=14&gridview=view1









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