SIEMENS

Data sheet

3RT1054-6XJ46-0LA2



power contactor, AC-3e/AC-3 115 A, 55 kW / 400 V, Uc: 72 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: screw terminal

una durat la serva	
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
type of calculation of power loss depending on pole	quadratic
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
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7 Lead titanium zirconium oxide - 12626-81-2 Perfluorobutane sulfonic acid (PFBS) and its salts
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
• during storage relative humidity minimum	-55 +80 °C
relative humidity at 55 °C according to IEC 60068-2-30	95 %
maximum	
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 °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 at AC-4 at 400 V rated value 	53 A 97 A
minimum cross-section in main circuit	3/ A
at maximum AC-1 rated value	70 mm²
at maximum the 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 	
— at 24 V rated value	160 A
— at 110 V rated value	160 A
— at 220 V rated value	20 A
— at 440 V rated value	3.2 A
— at 600 V rated value	1.6 A
with 3 current paths in series at DC-1	
- 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	160 A
- at 24 V rated value	160 A
— at 110 V rated value	2.5 A

	0.0.4
— 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
— at 600 V rated value	0.75 A
operating power	
• 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
short-time withstand current in cold operating state up to	
40 °C	
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	72 V
	12 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 kA)

• for short-circuit protection of the auxiliary switch required

gG: 10 A (500 V, 1 kA)

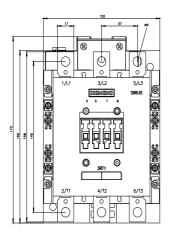
Installation/ mounting/ dimensions	
mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back
fastening method	screw fixing
height	172 mm
width	120 mm
depth	170 mm
required spacing	
with side-by-side mounting	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm
• for grounded parts	60
— forwards	20 mm
— upwards	10 mm
— at the side	10 mm
— downwards	10 mm
for live parts	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm
Connections/ Terminals	
type of electrical connection	
 for main current circuit 	screw-type terminals
 for auxiliary and control circuit 	screw-type terminals
width of connection bar	17 mm
thickness of connection bar	3 mm
diameter of holes	9 mm
number of holes	1
type of connectable conductor cross-sections for main contacts	
solid or stranded	max. 1x 50, 1x 70 mm²
type of connectable conductor cross-sections	
for auxiliary contacts	
— solid	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²), max. 2x (0.75 4 mm²)
— solid or stranded	2x (0.5 1,5 mm ²), 2x (0.75 2,5 mm ²), max. 2x (0.75 4 mm ²)
 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 (0.5 1.5 min), 2x (0.7 5 2.5 min) 2x (20 16), 2x (18 14), 1x 12
AWG number as coded connectable conductor cross	
section	
 for auxiliary contacts 	18 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	1 000 000
IEC 61508	
T1 value	
for proof test interval or service life according to IEC	20 a
61508	
Electrical Safety	
protection class IP on the front according to IEC 60529	IP00; IP20 with box terminal/cover
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with box terminal/cover
Communication/ Protocol	
product function bus communication	No
Approvals Certificates	
General Product Approval	

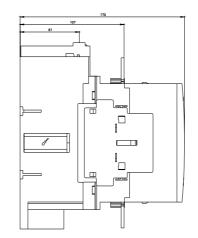
(State)		CE EG-Konf.	<u>Confirmation</u>	UK CA	U
General Product Appro	oval	EMV	Functional Saftey	Test Certificates	
KC	EHC	RCM	<u>Type Examination Cer-</u> <u>tificate</u>	<u>Special Test Certific-</u> <u>ate</u>	<u>Type Test Certific-</u> ates/Test Report
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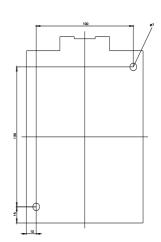
Further information	
Information on the packaging	
https://support.industry.siemens.com/cs/v	<u>vw/en/view/109813875</u>
Information- and Downloadcenter (Cat https://www.siemens.com/ic10	alogs, Brochures,)
Industry Mall (Online ordering system) https://mall.industry.siemens.com/mall/en	/en/Catalog/product?mlfb=3RT1054-6XJ46-0LA2
Cax online generator http://support.automation.siemens.com/W	/W/CAXorder/default.aspx?lang=en&mlfb=3RT1054-6XJ46-0LA2
Service&Support (Manuals, Certificate https://support.industry.siemens.com/cs/v	
	imension drawings, 3D models, device circuit diagrams, EPLAN macros,) ib/cax_de.aspx?mlfb=3RT1054-6XJ46-0LA2⟨=en
Characteristic: Tripping characteristic	-, -,

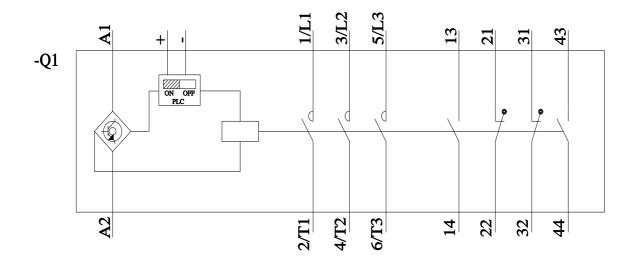
https://support.industry.siemens.com/cs/ww/en/ps/3RT1054-6XJ46-0LA2/char

Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1054-6XJ46-0LA2&objecttype=14&gridview=view1









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