3RT1055-6XB46-0LA2

Data sheet



power contactor, AC-3e/AC-3 150 A, 75 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: screw terminal extended rated condition railroad IEC 60077

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 	27 W
 at AC in hot operating state per pole 	9 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
SVHC substance name	Blei - 7439-92-1 Bleimonoxid (Bleioxid) - 1317-36-8 Bleititanzirkonoxid - 12626-81-2 Perfluorbutansulfonsäure (PFBS) und ihre 2,2',6,6'-Tetrabrom-4,4'-isopropylidendi - 79-94-7
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	4.000.4
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 	185 A
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated value	185 A
— up to 690 V at ambient temperature 60 °C rated value	160 A
 up to 1000 V at ambient temperature 60 °C rated value 	90 A
• at AC-2 at 400 V rated value	150 A
• at AC-3	
— at 400 V rated value	150 A
— at 500 V rated value	150 A
— at 690 V rated value	150 A
— at 1000 V rated value	65 A
• at AC-3e	
— at 400 V rated value	150 A
— at 500 V rated value	150 A
— at 690 V rated value	150 A
— at 1000 V rated value	65 A
at AC-4 at 400 V rated value	132 A
minimum cross-section in main circuit	
at maximum AC-1 rated value	95 mm²
at maximum Ith rated value	95 mm²
operational current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	68 A
at 690 V rated value	57 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 ot 24 V reted value.	160 A
— 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
	OFA
— at 110 V rated value	2.5 A

1440	0.47.4
— 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 	75 kW
• at AC-3	
— at 230 V rated value	50 kW
— at 400 V rated value	75 kW
— at 500 V rated value	90 kW
— at 690 V rated value	132 kW
— at 1000 V rated value	90 kW
• at AC-3e	
— at 230 V rated value	50 kW
— at 400 V rated value	75 kW
— at 500 V rated value	90 kW
— at 690 V rated value	132 kW
— at 1000 V rated value	90 kW
operating power for approx. 200000 operating cycles at AC-	
4	00 144
at 400 V rated value	38 kW
• at 690 V rated value	55 kW
short-time withstand current in cold operating state up to 40 °C	
 limited to 1 s switching at zero current maximum 	2 727 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 5 s switching at zero current maximum 	1 831 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 10 s switching at zero current maximum 	1 300 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 30 s switching at zero current maximum 	850 A; Use minimum cross-section acc. to AC-1 rated value
 limited to 60 s switching at zero current maximum 	703 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	300 1/h
• at AC-3 maximum	750 1/h
at AC-3e maximum	750 1/h
at AC-2 at AC-3e maximum	300 1/h
• at AC-4 maximum	130 1/h
operating frequency	
• at DC-1 maximum	400 1/h
at DC-3 maximum	350 1/h
• at DC-5 maximum	350 1/h
Ratings for railway applications	
thermal current (Ith) up to 690 V	
• up to 40 °C according to IEC 60077 rated value	185 A
up to 70 °C according to IEC 60077 rated value up to 70 °C according to IEC 60077 rated value	140 A
Control circuit/ Control	
type of voltage	DC
type of voltage type of voltage of the control supply voltage	DC
control supply voltage at DC	
control supply voltage at Do	
• 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 60947-1 maximum	2 mA
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	33 III 73 III
• 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	FLO-IN OF Standard AT - AZ (adjustable)
	0
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 175 V rated value 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	U.TA
full-load current (FLA) for 3-phase AC motor	
at 480 V rated value	156 A
at 480 V rated value at 600 V rated value	156 A 144 A
	Λ ττι
yielded mechanical performance [hp]	
• for single-phase AC motor	20 hrs
— at 230 V rated value	30 hp
• for 3-phase AC motor	501
— at 200/208 V rated value	50 hp
— at 220/230 V rated value	60 hp
— at 460/480 V rated value	125 hp
— at 575/600 V rated value	150 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: 315 A (415 V, 50
,, U 19 19 19 19 19 19 19 19 19 19 19 19 19	, , , , , , , , , , , , , , , , , , , ,

kA) • for short-circuit protection of the auxiliary switch required qG: 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 Yes • side-by-side mounting height 172 mm width 120 mm 170 mm depth required spacing • with side-by-side mounting 20 mm - forwards upwards 10 mm - downwards 10 mm - at the side 10 mm • for grounded parts - 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 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 2x (25 ... 120 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 mm²), 2x (0,75 ... 2,5 mm²), max. 2x (0,75 ... 4 mm²) 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) - finely stranded with core end processing • for AWG cables for auxiliary contacts 2x (20 ... 16), 2x (18 ... 14), 1x 12 AWG number as coded connectable conductor cross section 18 ... 14 · for auxiliary contacts Safety related data B10 value with high demand rate according to SN 31920 1 000 000 T1 value for proof test interval or service life according to 20 a IEC 61508 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 product function bus communication No Approvals Certificates **General Product Approval**



Confirmation





<u>KC</u>



EMC

Functional Safety/Safety of Machinery

Declaration of Conformity

Test Certificates



Type Examination Certificate





Type Test Certificates/Test Report

Special Test Certificate

other Railway

Miscellaneous Confirmation Miscellaneous Vibration and Shock Type Test Certificates/Test Report ate

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=3RT1055-6XB46-0LA2

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1055-6XB46-0LA2

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1055-6XB46-0LA2

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

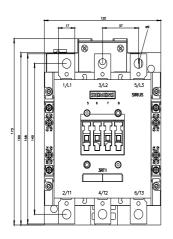
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1055-6XB46-0LA2&lang=en

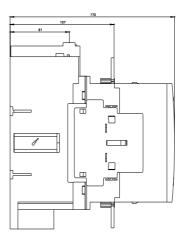
Characteristic: Tripping characteristics, I2t, Let-through current

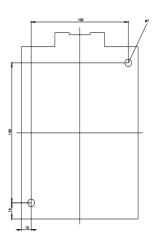
https://support.industry.siemens.com/cs/ww/en/ps/3RT1055-6XB46-0LA2/char

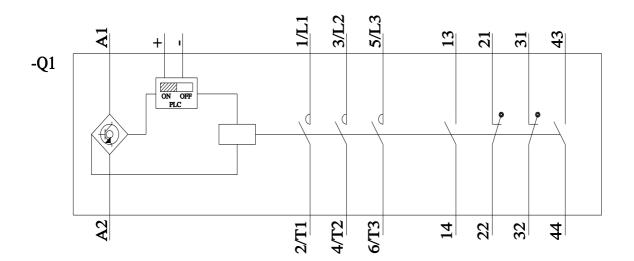
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1055-6XB46-0LA2&objecttype=14&gridview=view1









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