3RT1476-6XB46-0LA2

## **Data sheet**



power contactor AC-1 690 A / 690 V / 40  $^{\circ}$ C 3-pole, Uc: 24 V DC (0.7-1.25) PLC input 24-110 V DC drive: electronic auxiliary contacts 2 NO + 2 NC 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	3RT14
General technical data	
size of contactor	S12
product extension	
<ul> <li>function module for communication</li> </ul>	No
auxiliary switch	Yes
power loss [W] for rated value of the current	
<ul> <li>without load current share typical</li> </ul>	3.6 W
insulation voltage	
<ul> <li>of main circuit with degree of pollution 3 rated value</li> </ul>	1 000 V
<ul> <li>of auxiliary circuit with degree of pollution 3 rated value</li> </ul>	500 V
surge voltage resistance	
<ul> <li>of main circuit rated value</li> </ul>	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
<ul> <li>of the contactor with added electronically optimized auxiliary switch block typical</li> </ul>	5 000 000
<ul> <li>of the contactor with added auxiliary switch block typical</li> </ul>	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 2-Methyl-1-(4-methylthiophenyl)-2-morpho - 71868-10-5 Bleititanzirkonoxid - 12626-81-2 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	
<ul> <li>during operation</li> </ul>	-40 +70 °C
during storage	-55 +80 °C
relative humidity minimum	10 %

maximum	95 %
ain 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	690 V
operational current	
<ul> <li>at AC-1 at 400 V at ambient temperature 40 °C rated value</li> <li>at AC-1</li> </ul>	690 A
— up to 690 V at ambient temperature 40 °C rated value	690 A
— up to 690 V at ambient temperature 60 $^{\circ}\text{C}$ rated value	600 A
• at AC-2 at 400 V rated value	170 A
• at AC-3	
— at 400 V rated value	170 A
— at 500 V rated value	170 A
— at 690 V rated value	170 A
minimum cross-section in main circuit	
at maximum AC-1 rated value	480 mm²
at maximum Ith rated value	480 mm²
operational current	
at 1 current path at DC-1	
— at 24 V rated value	500 A
— at 110 V rated value	33 A
— at 220 V rated value	3.8 A
— at 440 V rated value	0.9 A
— at 600 V rated value	0.6 A
<ul> <li>with 2 current paths in series at DC-1</li> </ul>	
— at 24 V rated value	500 A
— at 110 V rated value	500 A
— at 220 V rated value	500 A
— at 440 V rated value	4 A
— at 600 V rated value	2 A
<ul> <li>with 3 current paths in series at DC-1</li> </ul>	
— at 24 V rated value	500 A
— at 110 V rated value	500 A
— at 220 V rated value	500 A
— at 440 V rated value	11 A
— at 600 V rated value	5.2 A
at 1 current path at DC-3 at DC-5	
— at 24 V rated value	500 A
— at 110 V rated value	3 A
— at 220 V rated value	0.6 A
— at 440 V rated value	0.18 A
— at 600 V rated value	0.125 A
• with 2 current paths in series at DC-3 at DC-5	
— at 24 V rated value	500 A
— at 110 V rated value	500 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	500 A
— at 110 V rated value	500 A
— at 220 V rated value	500 A
— at 440 V rated value	1.4 A
— at 600 V rated value	0.75 A
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<ul> <li>at AC-2 at 400 V rated value</li> </ul>	90 kW
• at AC-3	
— at 230 V rated value	160 kW
— at 400 V rated value	90 kW
— at 500 V rated value	110 kW
— at 690 V rated value	160 kW
short-time with stand current in cold operating state up to 40 $^{\circ}\text{C}$	
<ul> <li>limited to 1 s switching at zero current maximum</li> </ul>	7 484 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 5 s switching at zero current maximum</li> </ul>	7 484 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 10 s switching at zero current maximum</li> </ul>	5 978 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 30 s switching at zero current maximum</li> </ul>	3 765 A; Use minimum cross-section acc. to AC-1 rated value
<ul> <li>limited to 60 s switching at zero current maximum</li> </ul>	2 887 A; Use minimum cross-section acc. to AC-1 rated value
no-load switching frequency	
• at DC	500 1/h
operating frequency	
at AC-1 maximum	600 1/h
operating frequency	
at DC-1 maximum	250 1/h
Ratings for railway applications	
thermal current (Ith) up to 690 V	
<ul> <li>up to 40 °C according to IEC 60077 rated value</li> </ul>	690 A
up to 70 °C according to IEC 60077 rated value	520 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 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	800 W
holding power of magnet coil at DC	3.6 W
closing delay	
• at DC	60 90 ms
opening delay	
• at DC	80 100 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
<ul> <li>at 400 V rated value</li> </ul>	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	
<ul> <li>at 24 V rated value</li> </ul>	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	180 A
at 600 V rated value	192 A
yielded mechanical performance [hp]	
• for 3-phase AC motor	
— at 220/230 V rated value	75 hp
— at 460/480 V rated value	150 hp
— at 575/600 V rated value	200 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: 800 A (690 V, 50 kA)
— with type of assignment 2 required	gR: 710 A (690 V, 100 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
side-by-side mounting	Yes
height	214 mm
width	160 mm
depth	225 mm
required spacing	
<ul> <li>with side-by-side mounting</li> </ul>	
— forwards	20 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm
<ul> <li>for grounded parts</li> </ul>	
— 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	25 mm
thickness of connection bar	6 mm
diameter of holes	11 mm
number of holes	1
	'
type of connectable conductor cross-sections for main contacts	2v /70 240 mm²)
solid or stranded	2x (70 240 mm²)
type of connectable conductor cross-sections	

· for auxiliary contacts - solid 2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>), max. 2x (0.75 ... 4 mm<sup>2</sup>) - solid or stranded 2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), max. 2x (0,75 ... 4 mm²) - 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 (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 Nο B10 value with high demand rate according to SN 31920 1 000 000 T1 value for proof test interval or service life according to IEC 20 a 61508 protection class IP on the front according to IEC 60529 IP00; IP20 with box terminal/cover finger-safe, for vertical contact from the front with box terminal/cover touch protection on the front according to IEC 60529 Communication/ Protocol product function bus communication No

Certificates/ approvals

**General Product Approval** 















**Functional** Safety/Safety of Machinery

**Declaration of Conformity** 

**Test Certificates** 

other

Type Examination Certificate





Type Test Certificates/Test Report

Special Test Certificate

Confirmation

other Railway

**Miscellaneous** 

Vibration and Shock

Special Test Certific-

ate

Type Test Certificates/Test Report

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,...)

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1476-6XB46-0LA2

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1476-6XB46-0LA2

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

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

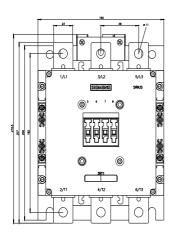
http://www.automation.siemens.com/bilddb/cax de.aspx?m T1476-6XB46-0LA2&lang=en

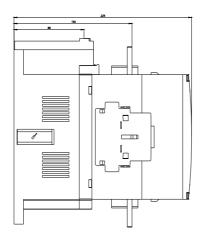
Characteristic: Tripping characteristics, I2t, Let-through current

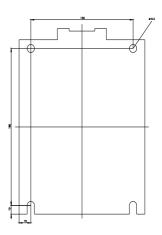
https://support.industry.siemens.com/cs/ww/en/ps/3RT1476-6XB46-0LA2/char

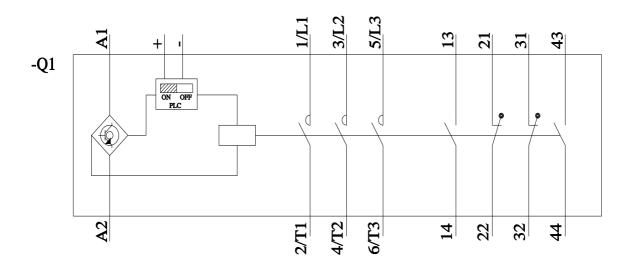
Further characteristics (e.g. electrical endurance, switching frequency)

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