3RT1467-2XF46-0LA2

## **Data sheet**



power contactor AC-1 500 A / 690 V / 40 °C 3-pole, Uc: 72 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: spring-loaded 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	S10
product extension	
<ul> <li>function module for communication</li> </ul>	No
auxiliary switch	Yes
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)	08/10/2018
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	690 V
operational current	
at AC-1 at 400 V at ambient temperature 40 °C rated	500 A
value	6557
• at AC-1	
— up to 690 V at ambient temperature 40 °C rated	500 A
value	
— up to 690 V at ambient temperature 60 °C rated value	450 A
at AC-2 at 400 V rated value	138 A
• at AC-3	100 A
— at 400 V rated value	138 A
— at 500 V rated value	138 A
— at 690 V rated value	138 A
minimum cross-section in main circuit	130 A
at maximum AC-1 rated value	300 mm²
at maximum Ac-Trated value     at maximum Ith rated value	240 mm²
operational current	240 111111
at 1 current path at DC-1	
— at 24 V rated value	380 A
— at 24 v rated value  — 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
with 2 current paths in series at DC-1	0.0 A
— at 24 V rated value	380 A
— at 110 V rated value	380 A
— at 220 V rated value	380 A
— at 440 V rated value	4 A
— at 600 V rated value	2 A
with 3 current paths in series at DC-1	27
— at 24 V rated value	380 A
— at 110 V rated value	380 A
— at 220 V rated value	380 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	3.2 A
— at 24 V rated value	380 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	380 A
— at 110 V rated value	380 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	380 A
— at 110 V rated value	380 A
— at 220 V rated value	380 A
— at 440 V rated value	1.4 A
— at 600 V rated value	0.75 A
short-time withstand current in cold operating state up to	
40 °C	
• limited to 1 s switching at zero current maximum	7 484 A
• limited to 5 s switching at zero current maximum	7 484 A
• limited to 10 s switching at zero current maximum	5 978 A
• limited to 30 s switching at zero current maximum	3 765 A
<ul> <li>limited to 60 s switching at zero current maximum</li> </ul>	2 887 A

no-load switching frequency	
• at DC	700 1/h
operating frequency	
at AC-1 maximum	600 1/h
operating frequency	
at DC-1 maximum	350 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>	400 A
<ul> <li>up to 70 °C according to IEC 60077 rated value</li> </ul>	330 A
Control circuit/ Control	
type of voltage	DC
type of voltage of the control supply voltage	DC
control supply voltage at DC	
rated value	110 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	580 W
holding power of magnet coil at DC	3.4 W
closing delay	
• at DC	45 80 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)
control version of the switch operating mechanism  Auxiliary circuit	PLC-IN or Standard A1 - A2 (adjustable)
	PLC-IN or Standard A1 - A2 (adjustable)  2
Auxiliary circuit	
Auxiliary circuit number of NC contacts for auxiliary contacts	2
Auxiliary circuit  number of NC contacts for auxiliary contacts  • instantaneous contact	2 2
Auxiliary circuit  number of NC contacts for auxiliary contacts  • instantaneous contact  number of NO contacts for auxiliary contacts	2 2 2
Auxiliary circuit  number of NC contacts for auxiliary contacts  • instantaneous contact  number of NO contacts for auxiliary contacts  • instantaneous contact	2 2 2 2
Auxiliary circuit  number of NC contacts for auxiliary contacts  • instantaneous contact  number of NO contacts for auxiliary contacts  • instantaneous contact  operational current at AC-12 maximum	2 2 2 2
Auxiliary circuit  number of NC contacts for auxiliary contacts  • instantaneous contact  number of NO contacts for auxiliary contacts  • instantaneous contact  operational current at AC-12 maximum  operational current at AC-15	2 2 2 2 2 2 10 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  • instantaneous contact  number of NO contacts for auxiliary contacts  • instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  • at 230 V rated value	2 2 2 2 2 10 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  • instantaneous contact  number of NO contacts for auxiliary contacts  • instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  • at 230 V rated value  • at 400 V rated value	2 2 2 2 2 10 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  instantaneous contact  number of NO contacts for auxiliary contacts  instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  at 230 V rated value  at 400 V rated value  at 500 V rated value	2 2 2 2 2 10 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  instantaneous contact  number of NO contacts for auxiliary contacts  instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  at 230 V rated value  at 400 V rated value  at 500 V rated value  operational current at DC-12	2 2 2 2 2 10 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  instantaneous contact  number of NO contacts for auxiliary contacts  instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  at 230 V rated value  at 400 V rated value  at 500 V rated value  operational current at DC-12  at 24 V rated value	2 2 2 2 2 10 A 6 A 3 A 2 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  instantaneous contact  number of NO contacts for auxiliary contacts  instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  at 230 V rated value  at 400 V rated value  at 500 V rated value  operational current at DC-12  at 24 V rated value  at 48 V rated value	2 2 2 2 10 A 6 A 3 A 2 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  instantaneous contact  number of NO contacts for auxiliary contacts  instantaneous contact operational current at AC-12 maximum  operational current at AC-15  at 230 V rated value  at 400 V rated value  at 500 V rated value  operational current at DC-12  at 24 V rated value  at 48 V rated value  at 60 V rated value  at 60 V rated value	2 2 2 2 10 A 6 A 3 A 2 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  instantaneous contact  number of NO contacts for auxiliary contacts  instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  at 230 V rated value  at 400 V rated value  at 500 V rated value  operational current at DC-12  at 24 V rated value  at 48 V rated value  at 60 V rated value  at 60 V rated value  at 110 V rated value	2 2 2 2 10 A 6 A 3 A 2 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  instantaneous contact  number of NO contacts for auxiliary contacts  instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  at 230 V rated value  at 400 V rated value  at 500 V rated value  operational current at DC-12  at 24 V rated value  at 48 V rated value  at 48 V rated value  at 60 V rated value  at 110 V rated value  at 125 V rated value  at 220 V rated value  at 600 V rated value	2 2 2 2 10 A 6 A 3 A 2 A 10 A 6 A 6 A 6 A 3 A 2 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  instantaneous contact  number of NO contacts for auxiliary contacts  instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  at 230 V rated value  at 400 V rated value  at 500 V rated value  operational current at DC-12  at 24 V rated value  at 48 V rated value  at 60 V rated value  at 110 V rated value  at 125 V rated value  at 220 V rated value  at 600 V rated value  at 600 V rated value  at 600 V rated value  operational current at DC-13	2 2 2 2 10 A 6 A 3 A 2 A 10 A 6 A 6 A 6 A 3 A 2 A 1 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  instantaneous contact  number of NO contacts for auxiliary contacts  instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  at 230 V rated value  at 400 V rated value  at 500 V rated value  operational current at DC-12  at 24 V rated value  at 48 V rated value  at 110 V rated value  at 110 V rated value  at 125 V rated value  at 220 V rated value  at 600 V rated value  operational current at DC-13  at 24 V rated value  operational current at DC-13  at 24 V rated value	2 2 2 2 10 A 6 A 3 A 2 A 10 A 6 A 6 A 6 A 6 A 1 A 0.15 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  instantaneous contact  number of NO contacts for auxiliary contacts  instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  at 230 V rated value  at 400 V rated value  at 500 V rated value  operational current at DC-12  at 24 V rated value  at 48 V rated value  at 110 V rated value  at 125 V rated value  at 125 V rated value  at 220 V rated value  at 600 V rated value  at 600 V rated value  at 220 V rated value  at 24 V rated value  at 24 V rated value  at 25 V rated value  at 27 V rated value  at 28 V rated value  at 29 V rated value  at 24 V rated value  at 24 V rated value  operational current at DC-13  at 24 V rated value  at 48 V rated value	2 2 2 2 10 A 6 A 3 A 2 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  instantaneous contact  number of NO contacts for auxiliary contacts  instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  at 230 V rated value  at 400 V rated value  at 500 V rated value  operational current at DC-12  at 24 V rated value  at 48 V rated value  at 110 V rated value  at 125 V rated value  at 125 V rated value  at 220 V rated value  at 220 V rated value  at 24 V rated value  at 24 V rated value  at 25 V rated value  at 26 V rated value  at 27 V rated value  at 28 V rated value  at 48 V rated value  operational current at DC-13  at 24 V rated value  at 48 V rated value  operational current at DC-13  at 24 V rated value  at 48 V rated value  operational current at DC-13  at 24 V rated value  at 48 V rated value  operational current at DC-13	2 2 2 2 10 A 6 A 3 A 2 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  instantaneous contact  number of NO contacts for auxiliary contacts  instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  at 230 V rated value  at 400 V rated value  at 500 V rated value  operational current at DC-12  at 24 V rated value  at 48 V rated value  at 110 V rated value  at 125 V rated value  at 220 V rated value  at 600 V rated value	2 2 2 2 10 A 6 A 3 A 2 A 10 A 6 A 6 A 6 A 3 A 2 A 1 A 0.15 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  instantaneous contact  number of NO contacts for auxiliary contacts  instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  at 230 V rated value  at 400 V rated value  at 500 V rated value  operational current at DC-12  at 24 V rated value  at 48 V rated value  at 110 V rated value  at 125 V rated value  at 600 V rated value  at 110 V rated value  at 125 V rated value  at 125 V rated value  at 110 V rated value	2 2 2 2 10 A 6 A 3 A 2 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  instantaneous contact  number of NO contacts for auxiliary contacts  instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  at 230 V rated value  at 400 V rated value  at 500 V rated value  operational current at DC-12  at 24 V rated value  at 48 V rated value  at 110 V rated value  at 125 V rated value  at 220 V rated value  operational current at DC-13  at 24 V rated value  at 600 V rated value  at 600 V rated value  at 125 V rated value  at 124 V rated value  at 125 V rated value  at 125 V rated value  at 125 V rated value  at 127 V rated value  at 128 V rated value  at 129 V rated value  at 120 V rated value  at 125 V rated value	2 2 2 2 10 A 6 A 3 A 2 A 10 A 6 A 6 A 6 A 3 A 2 A 1 A 0.15 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  instantaneous contact  number of NO contacts for auxiliary contacts  instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  at 230 V rated value  at 400 V rated value  at 500 V rated value  operational current at DC-12  at 24 V rated value  at 48 V rated value  at 110 V rated value  at 125 V rated value  at 220 V rated value  operational current at DC-13  at 24 V rated value  at 600 V rated value  at 110 V rated value  at 220 V rated value  at 48 V rated value  at 24 V rated value  at 24 V rated value  at 25 V rated value  at 24 V rated value  at 25 V rated value  at 26 V rated value  at 27 V rated value  at 28 V rated value  at 29 V rated value  at 20 V rated value	2 2 2 2 10 A 6 A 3 A 2 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  instantaneous contact  number of NO contacts for auxiliary contacts  instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  at 230 V rated value  at 400 V rated value  at 500 V rated value  operational current at DC-12  at 24 V rated value  at 60 V rated value  at 110 V rated value  at 125 V rated value  at 220 V rated value  at 220 V rated value  at 24 V rated value  at 25 V rated value  at 125 V rated value  at 125 V rated value  at 24 V rated value  at 25 V rated value  at 27 V rated value  at 28 V rated value  at 29 V rated value  at 20 V rated value  at 600 V rated value  at 600 V rated value	2 2 2 2 10 A 6 A 3 A 2 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  instantaneous contact  number of NO contacts for auxiliary contacts  instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  at 230 V rated value  at 400 V rated value  at 500 V rated value  operational current at DC-12  at 24 V rated value  at 48 V rated value  at 110 V rated value  at 125 V rated value  at 220 V rated value  at 600 V rated value  at 125 V rated value  at 24 V rated value  at 25 V rated value  at 25 V rated value  at 26 V rated value  at 27 V rated value  at 28 V rated value  at 29 V rated value  at 20 V rated value  at 20 V rated value  at 60 V rated value  at 600 V rated value  at 600 V rated value	2 2 2 10 A 6 A 3 A 2 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
Auxiliary circuit  number of NC contacts for auxiliary contacts  instantaneous contact  number of NO contacts for auxiliary contacts  instantaneous contact  operational current at AC-12 maximum  operational current at AC-15  at 230 V rated value  at 400 V rated value  at 500 V rated value  operational current at DC-12  at 24 V rated value  at 60 V rated value  at 110 V rated value  at 125 V rated value  at 220 V rated value  at 220 V rated value  at 24 V rated value  at 25 V rated value  at 125 V rated value  at 125 V rated value  at 24 V rated value  at 25 V rated value  at 27 V rated value  at 28 V rated value  at 29 V rated value  at 20 V rated value  at 600 V rated value  at 600 V rated value	2 2 2 2 10 A 6 A 3 A 2 A 10 A 6 A 6 A 3 A 2 A 1 A 0.15 A

yielded mechanical performance [hp]			
• for 3-phase AC motor			
— 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 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 +/- $22.5^{\circ}$ tiltable to the front and back		
fastening method	screw fixing		
side-by-side mounting	Yes		
height	210 mm		
width	145 mm		
depth	202 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			
solid or stranded	2x (70 240 mm²)		
type of connectable conductor cross-sections			
<ul> <li>for auxiliary contacts</li> </ul>			
— 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)		
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.5 1.5 mm²), 2x (0.75 2.5 mm²)		
<ul> <li>for AWG cables for auxiliary contacts</li> </ul>	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			
<ul> <li>mirror contact according to IEC 60947-4-1</li> </ul>	Yes		
positively driven operation according to IEC 60947-5-1	No		
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 61508	20 a		
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	
Certificates/ approvals		
General Product Approval		EMC





Confirmation







Functional
Safety/Safety of Ma-
chinery

**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 Certificate

Type Test Certificates/Test Report

## **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=3RT1467-2XF46-0LA2

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1467-2XF46-0LA2

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1467-2XF46-0LA2

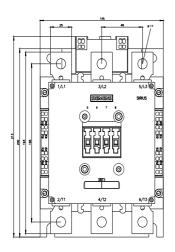
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT1467-2XF46-0LA2&lang=en

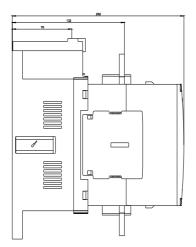
Characteristic: Tripping characteristics, I2t, Let-through current

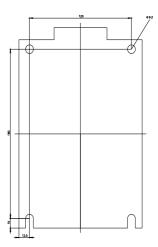
https://support.industry.siemens.com/cs/ww/en/ps/3RT1467-2XF46-0LA2/char

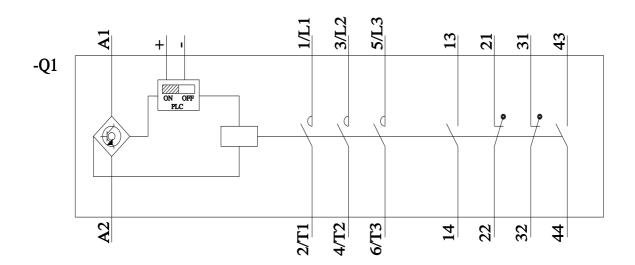
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1467-2XF46-0LA2&objecttype=14&gridview=view1









last modified:

11/4/2022

3RT1467 Page 7/7	460L	A2