Traction contactor, AC-3 150 A, 75 kW / 400 V Coil 72 V DC x (0.7-1.25) PLC input 24-110 V DC Auxiliary contacts 2 NO + 2 NC 3-pole size S6 Busbar connections Coil connection: Spring-type terminal



Figure similar

Product brand name	SIRIUS
Product designation	Power contactor
Product type designation	3RT1

General technical data	
Size of contactor	S6
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>	690 V
Surge voltage resistance	
of main circuit rated value	8 kV
<ul> <li>of auxiliary circuit rated value</li> </ul>	6 kV
maximum permissible voltage for safe isolation	

<ul> <li>between coil and main contacts acc. to EN 60947-1</li> </ul>	690 V
Protection class IP	
• on the front	IP00; IP20 on the front with cover / box terminal
of the terminal	IP00
Shock resistance	
• for railway applications acc. to DIN 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 (switching cycles)	
of contactor typical	10 000 000
<ul> <li>of the contactor with added electronics-</li> </ul>	5 000 000
compatible auxiliary switch block typical	
<ul> <li>of the contactor with added auxiliary switch block typical</li> </ul>	10 000 000
Reference code acc. to DIN EN 81346-2	Q
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
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	
<ul> <li>at AC-3 rated value maximum</li> </ul>	1 000 V
Operating current	
● at AC-1 at 400 V	
— rated value	185 A
— 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-4 at 400 V rated value	132 A
Connectable conductor cross-section in main circuit at AC-1	
• at 60 °C minimum permissible	70 mm²
• at 40 °C minimum permissible	95 mm²
Operating current for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	68 A
• at 690 V rated value	57 A
Operating 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
<ul> <li>with 2 current paths in series at DC-1</li> </ul>	
— 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
Operating current	
<ul><li>at 1 current path at DC-3 at DC-5</li></ul>	
— 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
— at 600 V rated value	0.75 A
Operating power	
• at AC-1	
— at 230 V at 60 °C rated value	60 kW
— at 400 V rated value	105 kW
— at 400 V at 60 °C rated value	105 kW
— at 690 V at 60 °C rated value	181 kW
— at 1000 V at 60 °C rated value	148 kW
• 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
Operating power for approx. 200000 operating cycles at AC-4	
• at 400 V rated value	38 kW
• at 690 V rated value	55 kW
Thermal short-time current limited to 10 s	1.3 kA
Power loss [W] at AC-3 at 400 V for rated value of	9 W
the operating current per conductor	
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-4 maximum	130 1/h
Operating frequency	400.4/5
• at DC-1 maximum	400 1/s
• at DC-3 maximum	350 1/s
at DC-5 maximum	350 1/s

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	140 A
Connectable conductor cross-section in main circuit	
<ul> <li>up to 40 °C according to IEC 60077 rated value minimum permissible</li> </ul>	95 mm²
<ul> <li>up to 70 °C according to IEC 60077 rated value minimum permissible</li> </ul>	95 mm²
Control circuit/ Control	
Type of voltage	DC
Type of voltage of the control supply voltage	DC
Control supply voltage at DC	
• rated value	72 V
Operating range factor control supply voltage rated value of magnet coil at DC	
• initial value	0.7
Full-scale value	1.25
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
Operating current at AC-12 maximum	10 A
Operating 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
Operating 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
Operating 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
Contact reliability of auxiliary contacts	1 faulty switching per 100 million (17 V, 1 mA)

UL/CSA ratings	
Full-load current (FLA) for three-phase AC motor	
• at 480 V rated value	156 A
• at 600 V rated value	144 A
Yielded mechanical performance [hp]	
<ul> <li>for single-phase AC motor</li> </ul>	
— at 230 V rated value	30 hp
• for three-phase AC motor	
— 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	
<ul> <li>for short-circuit protection of the main circuit</li> </ul>	
<ul> <li>— with type of coordination 1 required</li> </ul>	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 kA)
<ul> <li>for short-circuit protection of the auxiliary switch required</li> </ul>	fuse gG: 10 A

Installation/ mounting/ dimensions			
Mounting position	with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back		
Mounting type	screw fixing		
<ul> <li>Side-by-side mounting</li> </ul>	Yes		
Height	172 mm		
Width	120 mm		

Depth	170 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	
<ul> <li>for auxiliary and control current circuit</li> </ul>	spring-loaded terminals	
Type of connectable conductor cross-sections		
• for main contacts		
<ul> <li>single or multi-stranded</li> </ul>	2x (25 120 mm²)	
<ul> <li>at AWG conductors for main contacts</li> </ul>	4 250 kcmil	
Type of connectable conductor cross-sections		
<ul> <li>for auxiliary contacts</li> </ul>		
— solid	2x (0.25 2.5 mm²)	
<ul><li>— single or multi-stranded</li></ul>	2x (0,25 2,5 mm²)	
<ul> <li>finely stranded with core end processing</li> </ul>	2x (0.25 1.5 mm²)	
<ul> <li>finely stranded without core end processing</li> </ul>	2x (0.25 2.5 mm²)	
<ul> <li>at AWG conductors for auxiliary contacts</li> </ul>	2x (24 14)	
AWG number as coded connectable conductor cross		
section		
for auxiliary contacts	24 14	
Safety related data		
Product function		
<ul> <li>Mirror contact acc. to IEC 60947-4-1</li> </ul>	Yes	
• positively driven operation acc. to IEC 60947-5-	No	
1		

Protection against electrical shock

finger-safe when touched vertically from front acc. to IEC 60529

Communication/ Protocol

Product function Bus communication

No

## Certificates/approvals

**General Product Approval** 

Functional Safety/Safety of Machinery Declaration of Conformity









Type Examination
Certificate



Test Certific- ates	other		Railway		
Special Test Certificate	Confirmation	Miscellaneous	Vibration and Shock	Confirmation	

## Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

http://www.siemens.com/industrial-controls/catalogs

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1055-2XJ46-0LA2

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1055-2XJ46-0LA2

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

https://support.industry.siemens.com/cs/ww/en/ps/3RT1055-2XJ46-0LA2

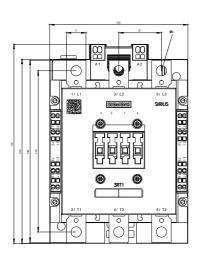
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RT1055-2XJ46-0LA2&lang=en

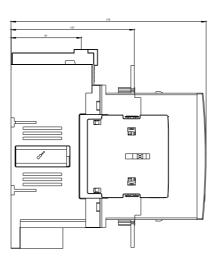
Characteristic: Tripping characteristics, I2t, Let-through current

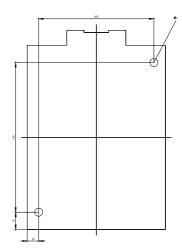
https://support.industry.siemens.com/cs/ww/en/ps/3RT1055-2XJ46-0LA2/char

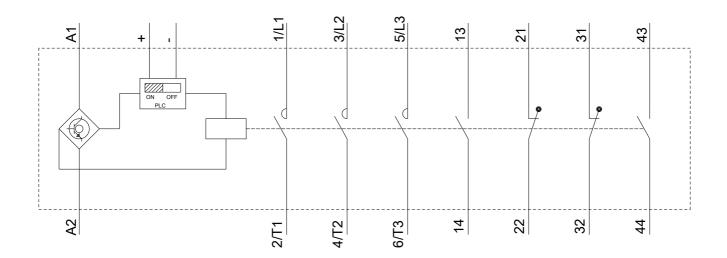
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1055-2XJ46-0LA2&objecttype=14&gridview=view1









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