

Contactor AC1: 400A/ 690 V Coil DC 24 V x (0,7...1,25) PLC input
 DC 24...110 V auxiliary contacts: 2 NO + 2 NC 3-pole Size S10
 busbar connections coil terminals: screw type screw terminal



Figure similar

Product brand name	SIRIUS
Product type designation	3RT14
General technical data	
Size of contactor	S10
Product extension	
• Auxiliary switch	Yes
Surge voltage resistance rated value	8 kV
maximum permissible voltage for safe isolation	
• between coil and main contacts acc. to EN 60947-1	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	
<ul style="list-style-type: none"> • at DC 	13,4g / 5 ms, 6,5g / 10 ms
Mechanical service life (switching cycles)	
<ul style="list-style-type: none"> • of contactor typical 	10 000 000
<ul style="list-style-type: none"> • of the contactor with added electronics-compatible auxiliary switch block typical 	5 000 000
<ul style="list-style-type: none"> • of the contactor with added auxiliary switch block typical 	10 000 000

Ambient conditions

Installation altitude at height above sea level	
<ul style="list-style-type: none"> • maximum 	2 000 m
Ambient temperature	
<ul style="list-style-type: none"> • during operation 	-40 ... +70 °C
<ul style="list-style-type: none"> • 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 style="list-style-type: none"> • at AC-3 rated value maximum 	1 000 V
Operating current	
<ul style="list-style-type: none"> • at AC-1 at 400 V <ul style="list-style-type: none"> — at ambient temperature 40 °C rated value 	400 A
<ul style="list-style-type: none"> • at AC-1 <ul style="list-style-type: none"> — up to 690 V at ambient temperature 40 °C rated value 	400 A
<ul style="list-style-type: none"> — up to 690 V at ambient temperature 60 °C rated value 	380 A
<ul style="list-style-type: none"> • at AC-2 at 400 V rated value 	138 A
<ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 400 V rated value 	138 A
<ul style="list-style-type: none"> — at 500 V rated value 	138 A
<ul style="list-style-type: none"> — at 690 V rated value 	138 A
Connectable conductor cross-section in main circuit at AC-1	
<ul style="list-style-type: none"> • at 60 °C minimum permissible 	240 mm ²
<ul style="list-style-type: none"> • at 40 °C minimum permissible 	240 mm ²
Operating current	
<ul style="list-style-type: none"> • at 1 current path at DC-1 <ul style="list-style-type: none"> — at 24 V rated value 	380 A
<ul style="list-style-type: none"> — at 110 V rated value 	33 A
<ul style="list-style-type: none"> — 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	
— 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	
— 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
Operating current	
• at 1 current path at DC-3 at DC-5	
— 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
Operating power	
• at AC-1	
— at 230 V at 60 °C rated value	145 kW
— at 400 V rated value	250 kW
— at 400 V at 60 °C rated value	250 kW
— at 690 V rated value	430 kW
— at 690 V at 60 °C rated value	430 kW
• at AC-2 at 400 V rated value	75 kW

<ul style="list-style-type: none"> • at AC-3 <ul style="list-style-type: none"> — at 230 V rated value — at 400 V rated value — at 500 V rated value — at 690 V rated value 	97 kW 75 kW 90 kW 132 kW
Thermal short-time current limited to 10 s	2.4 kA
Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor	27 W
No-load switching frequency <ul style="list-style-type: none"> • at DC 	700 1/h
Operating frequency <ul style="list-style-type: none"> • at AC-1 maximum 	700 1/h
Operating frequency <ul style="list-style-type: none"> • at DC-1 maximum 	350 1/s

Ratings for railway applications

Thermal current (I_{th}) up to 690 V <ul style="list-style-type: none"> • up to 40 °C according to IEC 60077 rated value • up to 70 °C according to IEC 60077 rated value 	400 A 330 A
Connectable conductor cross-section in main circuit <ul style="list-style-type: none"> • up to 40 °C according to IEC 60077 rated value minimum permissible • up to 70 °C according to IEC 60077 rated value minimum permissible 	240 mm ² 240 mm ²

Control circuit/ Control

Type of voltage of the control supply voltage	DC
Control supply voltage at DC <ul style="list-style-type: none"> • rated value 	24 V
Operating range factor control supply voltage rated value of magnet coil at DC <ul style="list-style-type: none"> • initial value • Full-scale value 	0.7 1.25
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 <ul style="list-style-type: none"> • at DC 	45 ... 80 ms
Opening delay <ul style="list-style-type: none"> • 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	
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<ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — instantaneous contact 	2
Number of NO contacts	
<ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — instantaneous contact 	2
Operating current at AC-12 maximum	10 A
Operating current at AC-15	
<ul style="list-style-type: none"> • at 230 V rated value • at 400 V rated value • at 500 V rated value 	6 A 3 A 2 A
Operating current at DC-12	
<ul style="list-style-type: none"> • 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 	10 A 6 A 6 A 3 A 2 A 1 A 0.15 A
Operating current at DC-13	
<ul style="list-style-type: none"> • 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 	6 A 2 A 2 A 1 A 0.9 A 0.3 A 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	
<ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value 	156 A 144 A
Yielded mechanical performance [hp]	
<ul style="list-style-type: none"> • for three-phase AC motor <ul style="list-style-type: none"> — at 220/230 V rated value — at 460/480 V rated value — at 575/600 V rated value 	60 hp 125 hp 150 hp
Contact rating of auxiliary contacts according to UL	A600 / Q600

Short-circuit protection

Design of the fuse link	
<ul style="list-style-type: none"> • for short-circuit protection of the main circuit <ul style="list-style-type: none"> — with type of coordination 1 required 	Fuse gG: 500 A

- with type of assignment 2 required
- for short-circuit protection of the auxiliary switch required

fuse gR: 500 A

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
• Side-by-side mounting	Yes
Height	210 mm
Width	145 mm
Depth	202 mm
Required spacing	
• with side-by-side mounting	
— forwards	20 mm
— Backwards	0 mm
— upwards	10 mm
— downwards	10 mm
— at the side	10 mm
• for grounded parts	
— forwards	20 mm
— Backwards	0 mm
— upwards	10 mm
— at the side	10 mm
— downwards	10 mm
• for live parts	
— forwards	10 mm
— Backwards	0 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 current circuit	screw-type terminals
Type of connectable conductor cross-sections	
• for main contacts	
— stranded	2x (70 ... 240 mm ²)
— single or multi-stranded	2x (70 ... 240 mm ²)
• at AWG conductors for main contacts	2/0 ... 500 kcmil
Type of connectable conductor cross-sections	
• for auxiliary contacts	

- single or multi-stranded
- finely stranded with core end processing
- at AWG conductors for auxiliary contacts

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)
 2x (20 ... 16), 2x (18 ... 14), 1x 12

Safety related data


Product function

- Mirror contact acc. to IEC 60947-4-1
- positively driven operation acc. to IEC 60947-5-1

Yes
No

Certificates/approvals

General Product Approval				Functional Safety/Safety of Machinery	Declaration of Conformity
				Type Examination Certificate	
CCC	CSA	UL			EG-Konf.

Test Certificates	Marine / Shipping	other	Railway
Special Test Certificate		Confirmation	Confirmation
		Miscellaneous	Vibration and Shock

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=3RT1466-6XB46-0LA2>

Cax online generator

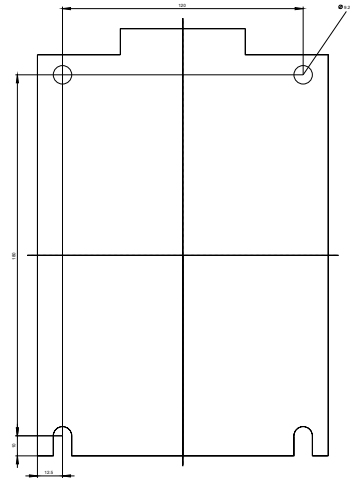
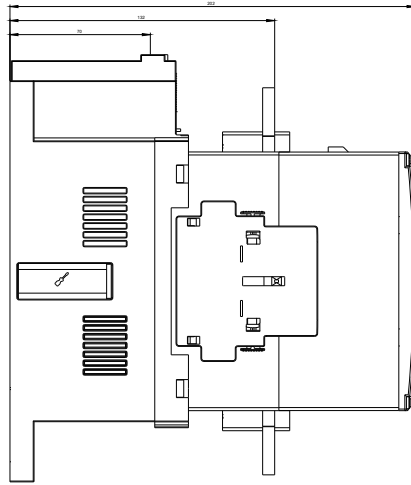
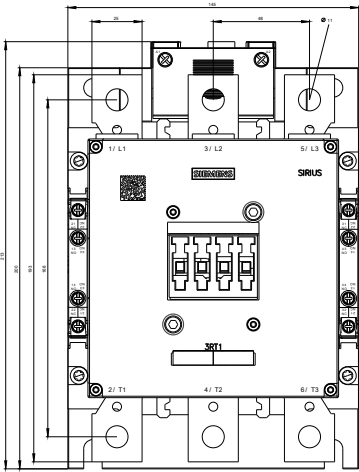
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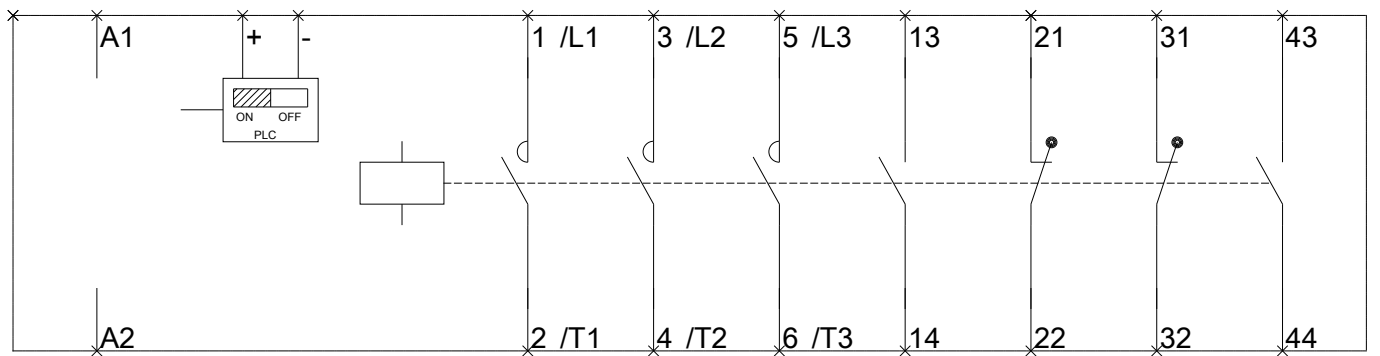
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1466-6XB46-0LA2>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1466-6XB46-0LA2&lang=en





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