

Contactor assembly for star-delta (wye-delta) start AC-3, 7.5 kW/400 V, 24 V AC 50/60 Hz, 3-pole, Size S00 screw terminals electrical and mechanical interlock 3 NO integrated



Product brand name	SIRIUS
Product designation	Contactor assembly for star-delta (wye-delta) start
Product type designation	3RA24
Manufacturer's article number	• 1 of the supplied contactor 3RT2017-1AB01 • 2 of the supplied contactor 3RT2017-1AB01 • 3 of the supplied contactor 3RT2015-1AB01 • of the supplied RS assembly kit 3RA2913-2BB1 • of the supplied function module for wye-delta circuits 3RA2816-0EW20

General technical data	
Size of contactor	S00
Product extension	No
• Auxiliary switch	
Insulation voltage	690 V
• with degree of pollution 3 at AC rated value	
Degree of pollution	3
Surge voltage resistance rated value	6 kV
Protection class IP	

• on the front	IP20
Shock resistance	9.8g / 5 ms and 5.9g / 10 ms
Shock resistance at rectangular impulse	
• at AC	6,7g / 5 ms, 4,2g / 10 ms
• at DC	6,7g / 5 ms, 4,2g / 10 ms
Shock resistance with sine pulse	
• at AC	10,5g / 5 ms, 6,6g / 10 ms
• at DC	10,5g / 5 ms, 6,6g / 10 ms
Mechanical service life (switching cycles)	
• of contactor typical	10 000 000
• of the contactor with added auxiliary switch block typical	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	-25 ... +60 °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	
• at AC-3 rated value maximum	690 V
Operating current	
• at AC-1 at 400 V	
— at ambient temperature 40 °C rated value	22 A
— at ambient temperature 60 °C rated value	20 A
• at AC-2 at 400 V rated value	16 A
• at AC-3	
— at 400 V rated value	16 A
Operating power	
• at AC-2 at 400 V rated value	7.5 kW
• at AC-3	
— at 400 V rated value	7.5 kW
— at 500 V rated value	10.3 kW
— at 690 V rated value	9.2 kW
No-load switching frequency	1 500 1/h
Operating frequency	
• at AC-1 maximum	1 000 1/h

• at AC-2 maximum	1 000 1/h
• at AC-3 maximum	1 000 1/h
• at AC-4 maximum	300 1/h

Control circuit/ Control

Type of voltage of the control supply voltage	AC
Control supply voltage 1 at AC	
• at 50 Hz rated value	24 V
• at 60 Hz rated value	24 V
Operating range factor control supply voltage rated value of magnet coil at AC	
• at 50 Hz	0.8 ... 1.1
• at 60 Hz	0.85 ... 1.1
Apparent pick-up power of magnet coil at AC	
• at 50 Hz	76 V·A
• at 60 Hz	68 V·A
Inductive power factor with closing power of the coil	
• at 50 Hz	0.8
• at 60 Hz	0.75
Apparent holding power of magnet coil at AC	
• at 50 Hz	13.4 V·A
• at 60 Hz	10.8 V·A
Inductive power factor with the holding power of the coil	
• at 50 Hz	0.25
• at 60 Hz	0.25

Auxiliary circuit

Number of NO contacts for auxiliary contacts	
• instantaneous contact	3
Operating current of auxiliary contacts at AC-12 maximum	10 A
Operating current of auxiliary contacts at AC-15	
• at 230 V	6 A
• at 400 V	3 A
Operating current of auxiliary contacts at DC-13	
• at 24 V	10 A
• at 60 V	2 A
• at 110 V	1 A
• at 220 V	0.3 A
Contact reliability of auxiliary contacts	< 1 error per 100 million operating cycles

UL/CSA ratings

Contact rating of auxiliary contacts according to UL	A600 / Q600
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Short-circuit protection

Design of the fuse link

- for short-circuit protection of the main circuit
 - with type of coordination 1 required
 - with type of assignment 2 required
- for short-circuit protection of the auxiliary switch required

gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 35 A
 gG NH 3NA, DIAZED 5SB, NEOZED 5SE: 20 A
 fuse gG: 10 A

Installation/ mounting/ dimensions

Mounting position

+/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface

Mounting type

screw and snap-on mounting onto 35 mm standard mounting rail

Height

68 mm

Width

135 mm

Depth

145 mm

Required spacing

- with side-by-side mounting
 - forwards
 - Backwards
 - upwards
 - downwards
 - at the side
- for grounded parts
 - forwards
 - Backwards
 - upwards
 - at the side
 - downwards
- for live parts
 - forwards
 - Backwards
 - upwards
 - downwards
 - at the side

6 mm
 0 mm
 6 mm
 6 mm
 6 mm

 6 mm
 0 mm
 6 mm
 6 mm
 6 mm

 6 mm
 0 mm
 6 mm
 6 mm
 6 mm

Connections/ Terminals

Type of electrical connection

- for main current circuit
- for auxiliary and control current circuit

screw-type terminals
 screw-type terminals

Type of connectable conductor cross-sections

- for main contacts
 - solid

2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm²

— single or multi-stranded — finely stranded with core end processing • at AWG conductors for main contacts	2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²), 2x (0,5 ... 4 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14)
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 mm ²), 2x (0,75 ... 2,5 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14)
Safety related data	
B10 value • with high demand rate acc. to SN 31920	1 000 000
Proportion of dangerous failures • with low demand rate acc. to SN 31920 • with high demand rate acc. to SN 31920	40 % 75 %
Failure rate [FIT] • with low demand rate acc. to SN 31920	100 FIT
T1 value for proof test interval or service life acc. to IEC 61508	20 y
Communication/ Protocol	
Product function Bus communication	No
Protocol is supported • AS-Interface protocol	No
Product function Control circuit interface with IO link	No
Certificates/ approvals	

General Product Approval	Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping



other

Railway

[Confirmation](#)

[Vibration and Shock](#)

Further information

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=3RA2416-8XF31-1AB0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA2416-8XF31-1AB0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA2416-8XF31-1AB0>

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

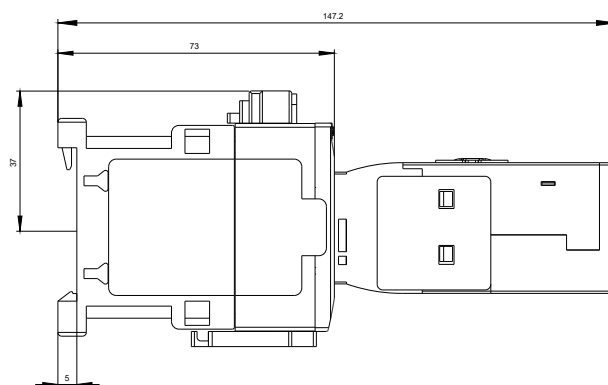
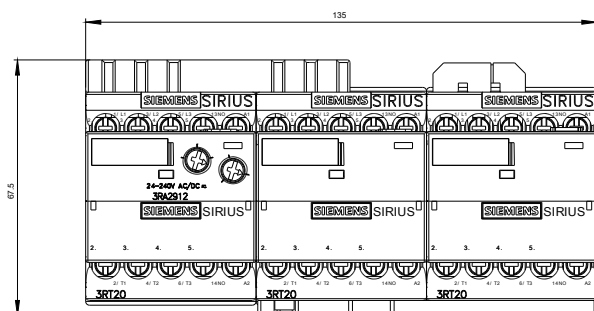
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA2416-8XF31-1AB0&lang=en

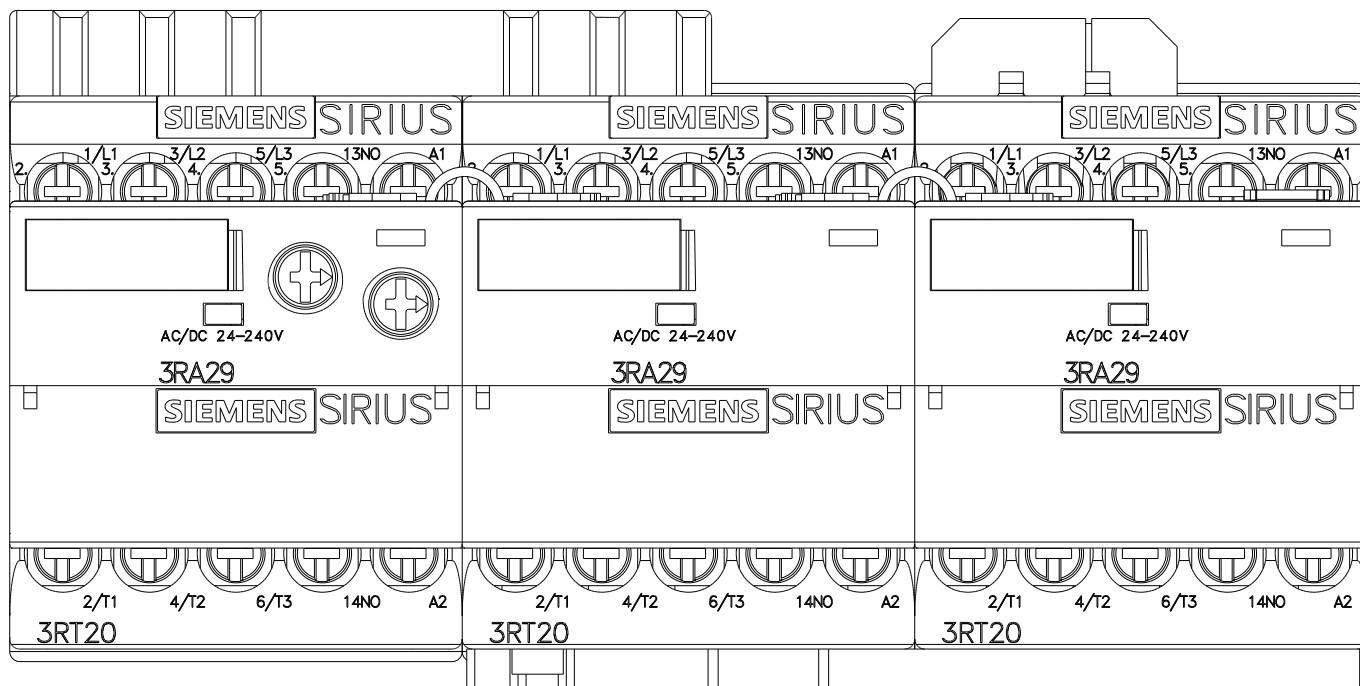
Characteristic: Tripping characteristics, I_t, Let-through current

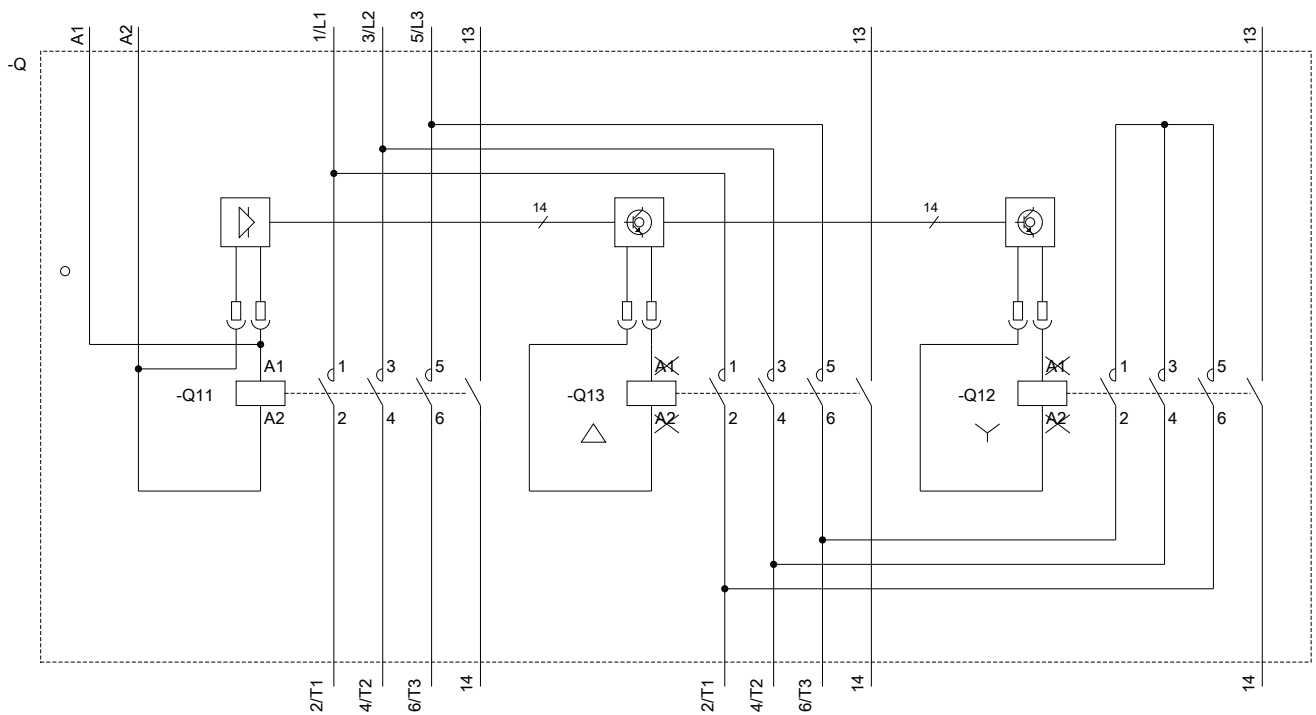
<https://support.industry.siemens.com/cs/ww/en/ps/3RA2416-8XF31-1AB0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA2416-8XF31-1AB0&objecttype=14&gridview=view1>







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