

Contactor assembly for star-delta (wye-delta) start AC-3, 7.5 kW/400 V, 110 V AC 50 Hz / 120 V, 60Hz, 3-pole Size S00, Spring-type 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 | <ul style="list-style-type: none"> <li>• 1 of the supplied contactor <a href="#">3RT2017-2AF01</a></li> <li>• 2 of the supplied contactor <a href="#">3RT2017-2AF01</a></li> <li>• 3 of the supplied contactor <a href="#">3RT2015-2AF01</a></li> <li>• of the supplied RS assembly kit <a href="#">3RA2913-2BB2</a></li> <li>• of the supplied function module for wye-delta circuits <a href="#">3RA2816-0EW20</a></li> </ul> |

| General technical data                                                                           |       |
|--------------------------------------------------------------------------------------------------|-------|
| Size of contactor                                                                                | S00   |
| Product extension                                                                                | No    |
| <ul style="list-style-type: none"> <li>• Auxiliary switch</li> </ul>                             |       |
| Insulation voltage                                                                               | 690 V |
| <ul style="list-style-type: none"> <li>• with degree of pollution 3 at AC rated value</li> </ul> |       |
| Degree of pollution                                                                              | 3     |
| Surge voltage resistance rated value                                                             | 6 kV  |
| Protection class IP                                                                              |       |

|                                                              |                              |
|--------------------------------------------------------------|------------------------------|
| • on the front                                               | IP20                         |
| <b>Shock resistance</b>                                      | 9.8g / 5 ms and 5.9g / 10 ms |
| <b>Shock resistance at rectangular impulse</b>               |                              |
| • at AC                                                      | 6,7g / 5 ms, 4,2g / 10 ms    |
| • at DC                                                      | 6,7g / 5 ms, 4,2g / 10 ms    |
| <b>Shock resistance with sine pulse</b>                      |                              |
| • at AC                                                      | 10,5g / 5 ms, 6,6g / 10 ms   |
| • at DC                                                      | 10,5g / 5 ms, 6,6g / 10 ms   |
| <b>Mechanical service life (switching cycles)</b>            |                              |
| • of contactor typical                                       | 10 000 000                   |
| • of the contactor with added auxiliary switch block typical | 10 000 000                   |
| <b>Reference code acc. to DIN EN 81346-2</b>                 | Q                            |

#### Ambient conditions

|                                                        |                |
|--------------------------------------------------------|----------------|
| <b>Installation altitude at height above sea level</b> |                |
| • maximum                                              | 2 000 m        |
| <b>Ambient temperature</b>                             |                |
| • during operation                                     | -25 ... +60 °C |
| • during storage                                       | -55 ... +80 °C |

#### Main circuit

|                                                 |           |
|-------------------------------------------------|-----------|
| <b>Number of poles for main current circuit</b> | 3         |
| <b>Number of NO contacts for main contacts</b>  | 3         |
| <b>Number of NC contacts for main contacts</b>  | 0         |
| <b>Operating voltage</b>                        |           |
| • at AC-3 rated value maximum                   | 690 V     |
| <b>Operating current</b>                        |           |
| • 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      |
| <b>Operating power</b>                          |           |
| • 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    |
| <b>No-load switching frequency</b>              | 1 500 1/h |
| <b>Operating frequency</b>                      |           |
| • 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

|                                                                                       |              |
|---------------------------------------------------------------------------------------|--------------|
| <b>Type of voltage of the control supply voltage</b>                                  | AC           |
| <b>Control supply voltage 1 at AC</b>                                                 |              |
| • at 50 Hz rated value                                                                | 110 V        |
| • at 60 Hz rated value                                                                | 110 V        |
| <b>Operating range factor control supply voltage rated value of magnet coil at AC</b> |              |
| • at 50 Hz                                                                            | 0.8 ... 1.1  |
| • at 60 Hz                                                                            | 0.85 ... 1.1 |
| <b>Apparent pick-up power of magnet coil at AC</b>                                    |              |
| • at 50 Hz                                                                            | 76 V·A       |
| • at 60 Hz                                                                            | 68 V·A       |
| <b>Inductive power factor with closing power of the coil</b>                          |              |
| • at 50 Hz                                                                            | 0.8          |
| • at 60 Hz                                                                            | 0.75         |
| <b>Apparent holding power of magnet coil at AC</b>                                    |              |
| • at 50 Hz                                                                            | 13.4 V·A     |
| • at 60 Hz                                                                            | 10.8 V·A     |
| <b>Inductive power factor with the holding power of the coil</b>                      |              |
| • at 50 Hz                                                                            | 0.25         |
| • at 60 Hz                                                                            | 0.25         |

#### Auxiliary circuit

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

#### UL/CSA ratings

|                                                             |             |
|-------------------------------------------------------------|-------------|
| <b>Contact rating of auxiliary contacts according to UL</b> | A600 / Q600 |
|-------------------------------------------------------------|-------------|

## 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

84 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

spring-loaded terminals

spring-loaded terminals

### Type of connectable conductor cross-sections

- for main contacts
  - solid

2x (0.5 ... 4 mm<sup>2</sup>)

|                                                     |                                   |
|-----------------------------------------------------|-----------------------------------|
| — single or multi-stranded                          | 2x (0,5 ... 4 mm <sup>2</sup> )   |
| — finely stranded with core end processing          | 2x (0.5 ... 2.5 mm <sup>2</sup> ) |
| — finely stranded without core end processing       | 2x (0.5 ... 2.5 mm <sup>2</sup> ) |
| • at AWG conductors for main contacts               | 1x (20 ... 12)                    |
| <b>Type of connectable conductor cross-sections</b> |                                   |
| • for auxiliary contacts                            |                                   |
| — single or multi-stranded                          | 2x (0,5 ... 2,5 mm <sup>2</sup> ) |
| — finely stranded with core end processing          | 2x (0.5 ... 1.5 mm <sup>2</sup> ) |
| — finely stranded without core end processing       | 2x (0.5 ... 1.5 mm <sup>2</sup> ) |
| • at AWG conductors for auxiliary contacts          | 2x (20 ... 14)                    |

#### Safety related data

|                                                                           |           |
|---------------------------------------------------------------------------|-----------|
| <b>B10 value</b>                                                          |           |
| • with high demand rate acc. to SN 31920                                  | 1 000 000 |
| <b>Proportion of dangerous failures</b>                                   |           |
| • with low demand rate acc. to SN 31920                                   | 40 %      |
| • with high demand rate acc. to SN 31920                                  | 75 %      |
| <b>Failure rate [FIT]</b>                                                 |           |
| • with low demand rate acc. to SN 31920                                   | 100 FIT   |
| <b>T1 value for proof test interval or service life acc. to IEC 61508</b> | 20 y      |

#### Communication/ Protocol

|                                                                |    |
|----------------------------------------------------------------|----|
| <b>Product function Bus communication</b>                      | No |
| <b>Protocol is supported</b>                                   |    |
| • AS-Interface protocol                                        | No |
| <b>Product function Control circuit interface with IO link</b> | No |

#### Certificates/ approvals

| General Product Approval | Declaration of Conformity | Test Certificates | Marine / Shipping |
|--------------------------|---------------------------|-------------------|-------------------|
|--------------------------|---------------------------|-------------------|-------------------|



[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=3RA2416-8XF31-2AF0>

### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA2416-8XF31-2AF0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA2416-8XF31-2AF0>

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

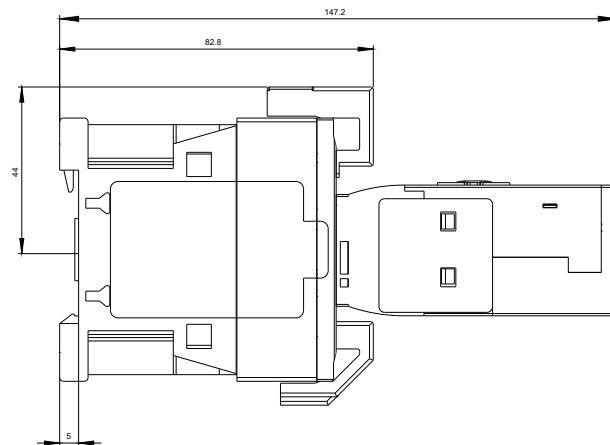
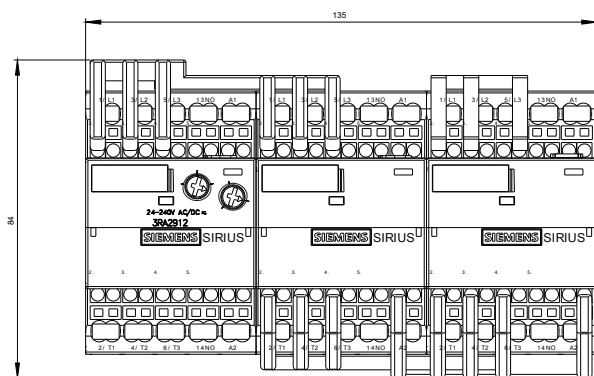
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RA2416-8XF31-2AF0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA2416-8XF31-2AF0&lang=en)

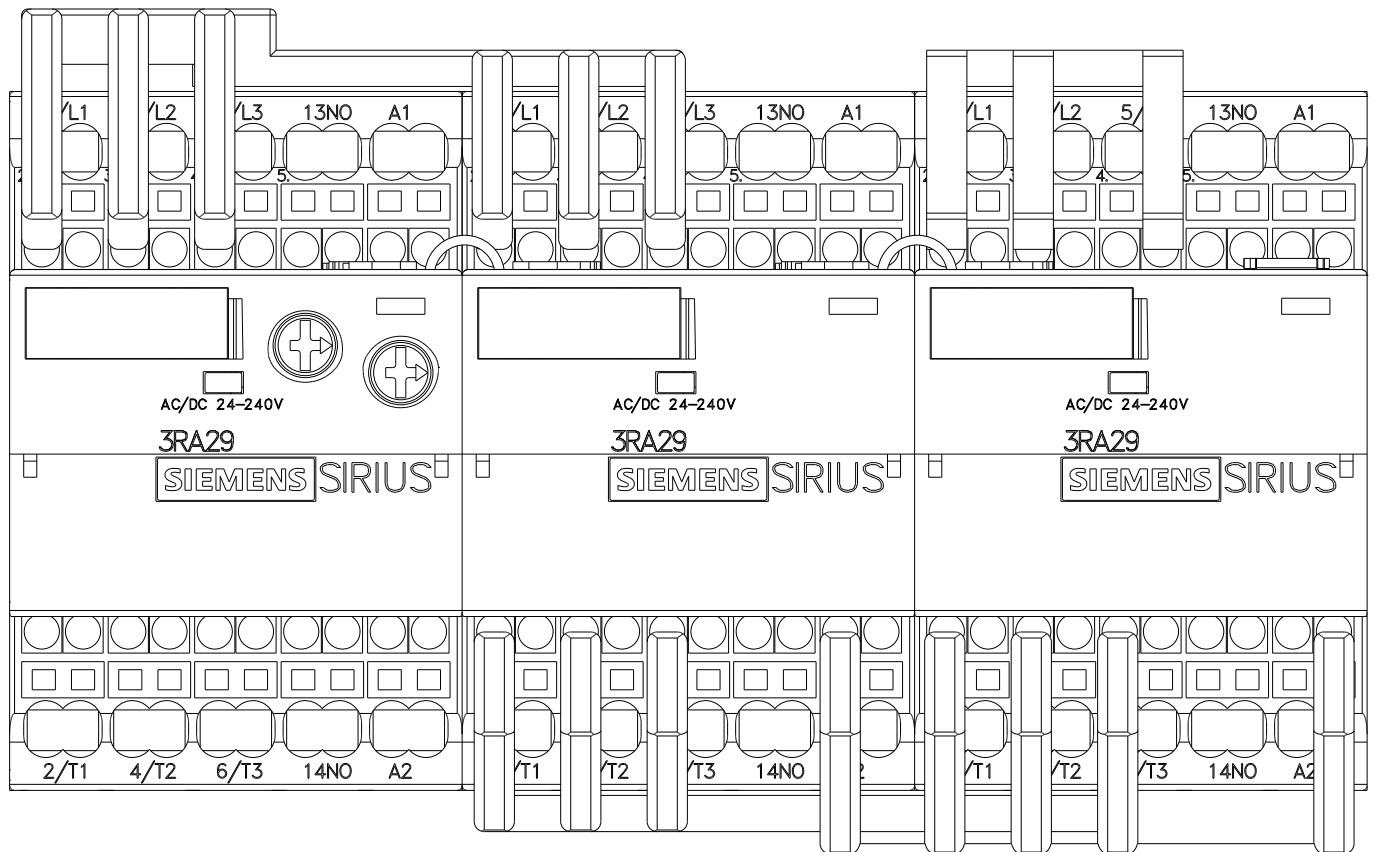
### Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

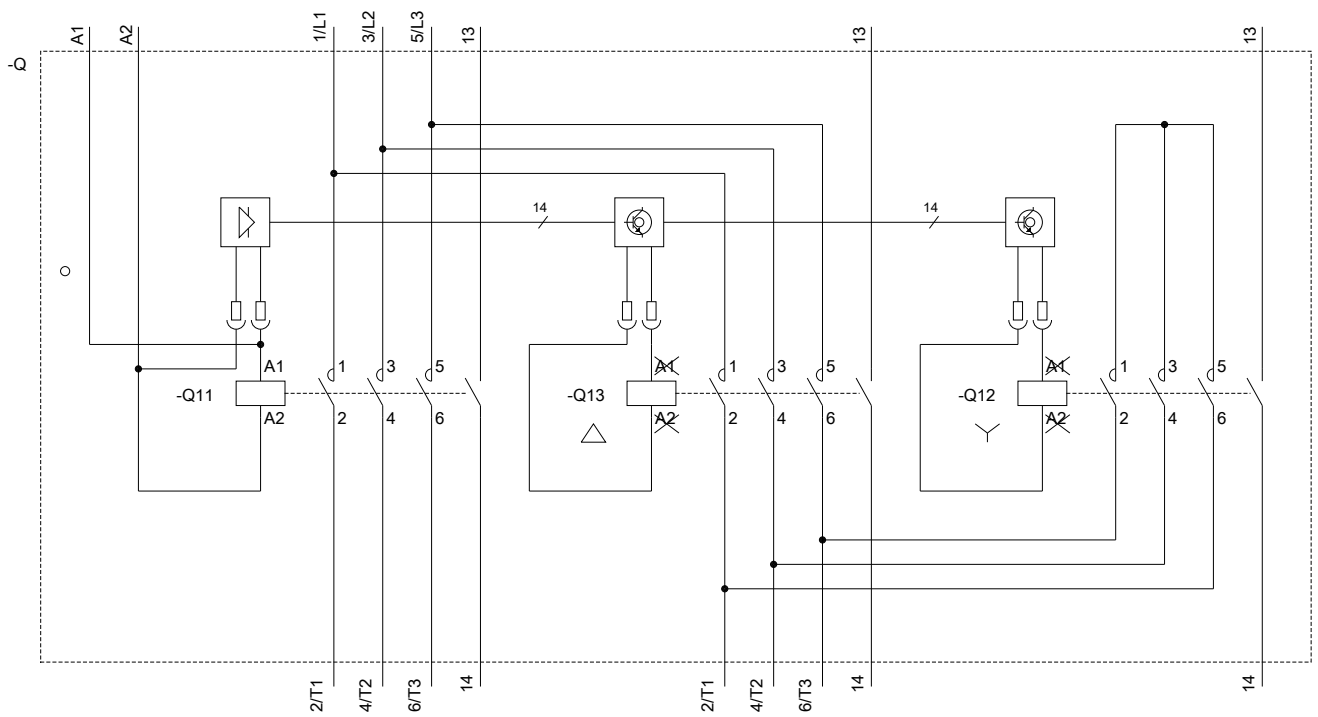
<https://support.industry.siemens.com/cs/ww/en/ps/3RA2416-8XF31-2AF0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA2416-8XF31-2AF0&objecttype=14&gridview=view1>







last modified:

05/04/2020