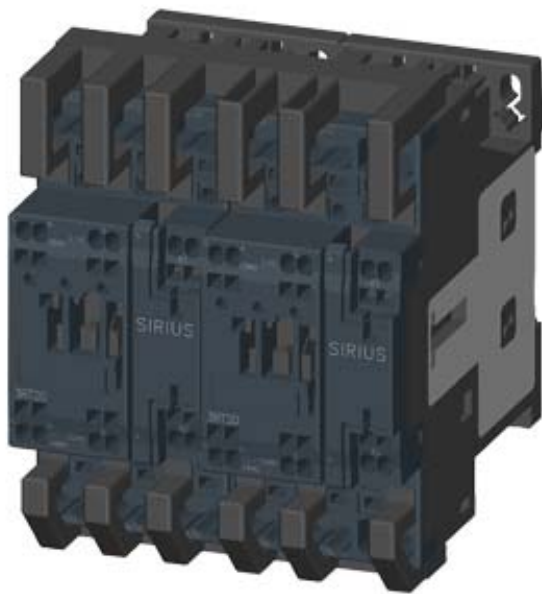




REV. COMB., AC3, 15KW/400V AC230V,  
50/60HZ, 3-POLE,  
SZ S0 SPRING-LOADED TERMINAL ELECTR. AND MECH.  
INTERLOCK 2NO INTEGR.

| General technical data:                                       |    |                                                 |
|---------------------------------------------------------------|----|-------------------------------------------------|
| product brand name                                            |    | SIRIUS                                          |
| Product designation                                           |    | star-delta (wye-delta) contactor assembly 3RA24 |
| Product function                                              |    | reversing contactor                             |
| Size of the contactor                                         |    | S0                                              |
| Protection class IP / on the front                            |    | IP20                                            |
| Degree of pollution                                           |    | 3                                               |
| Insulation voltage / with degree of pollution 3 / rated value | V  | 690                                             |
| Installation altitude / at a height over sea level / maximum  | m  | 2,000                                           |
| Ambient temperature                                           |    |                                                 |
| • during transport                                            | °C | -55 ... +80                                     |
| • during storage                                              | °C | -55 ... +80                                     |
| • during operating                                            | °C | -25 ... +60                                     |
| Resistance against shock                                      |    | 12.5g / 5 ms and 7.8g / 10 ms                   |
| Impulse voltage resistance / rated value                      | kV | 6                                               |
| Active power loss / per conductor / typical                   | W  | 1.6                                             |
| Manufacturer article number                                   |    |                                                 |
| • 1 / of the contactor included in the scope of supply        |    | <a href="#">3RT2027-2AL20</a>                   |
| • 2 / of the contactor included in the scope of supply        |    | <a href="#">3RT2027-2AL20</a>                   |
| • of the RS applied assembly kit                              |    | <a href="#">3RA2923-2AA2</a>                    |

|                                                                |  |            |
|----------------------------------------------------------------|--|------------|
| <b>Mechanical operating cycles as operating time</b>           |  |            |
| • of the main contacts / typical                               |  | 10,000,000 |
| • of the auxiliary contacts / typical                          |  | 10,000,000 |
| • of the contactor / typical                                   |  | 10,000,000 |
| • of the contactor with added auxiliary switch block / typical |  | 10,000,000 |

#### Communication:

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

#### Main circuit:

|                                                            |   |      |
|------------------------------------------------------------|---|------|
| <b>Number of poles / for main current circuit</b>          |   | 3    |
| <b>Number of NC contacts / for main contacts</b>           |   | 0    |
| <b>Number of NO contacts / for main contacts</b>           |   | 3    |
| <b>Operating voltage / at AC-3 / rated value / maximum</b> | V | 690  |
| <b>Operating current</b>                                   |   |      |
| • at AC-1 / at 400 V                                       |   |      |
| • at 40 °C ambient temperature / rated value               | A | 50   |
| • at 60 °C ambient temperature / rated value               | A | 45   |
| • at AC-2 / at 400 V / rated value                         | A | 32   |
| • at AC-3 / at 400 V / rated value                         | A | 32   |
| • at AC-4 / at 400 V / rated value                         | A | 15.6 |
| • with 1 current path / at DC-1                            |   |      |
| • at 24 V / rated value                                    | A | 35   |
| • at 110 V / rated value                                   | A | 4.5  |
| • with 2 current paths in series / at DC-1                 |   |      |
| • at 24 V / rated value                                    | A | 35   |
| • at 110 V / rated value                                   | A | 35   |
| • with 3 current paths in series / at DC-1                 |   |      |
| • at 24 V / rated value                                    | A | 35   |
| • at 110 V / rated value                                   | A | 35   |
| • with 1 current path / at DC-3 / at DC-5                  |   |      |
| • at 24 V / rated value                                    | A | 20   |
| • at 110 V / rated value                                   | A | 2.5  |
| • with 2 current paths in series / at DC-3 / at DC-5       |   |      |
| • at 24 V / rated value                                    | A | 35   |
| • at 110 V / rated value                                   | A | 15   |
| • with 3 current paths in series / at DC-3 / at DC-5       |   |      |

|                                     |     |       |
|-------------------------------------|-----|-------|
| • at 24 V / rated value             | A   | 35    |
| • at 110 V / rated value            | A   | 35    |
| <b>Service power</b>                |     |       |
| • at AC-2 / at 400 V / rated value  | kW  | 15    |
| • at AC-3                           |     |       |
| • at 400 V / rated value            | kW  | 15    |
| • at 500 V / rated value            | kW  | 18.5  |
| • at 690 V / rated value            | kW  | 15    |
| • at AC-4 / at 400 V / rated value  | kW  | 8.2   |
| <b>Off-load operating frequency</b> | 1/h | 1,500 |
| <b>Frequency of operation</b>       |     |       |
| • with AC-1 / maximum               | 1/h | 1,000 |
| • with AC-2 / maximum               | 1/h | 1,000 |
| • with AC-3 / maximum               | 1/h | 1,000 |
| • with AC-4 / maximum               | 1/h | 300   |

|                                                                                       |     |              |
|---------------------------------------------------------------------------------------|-----|--------------|
| <b>Control circuit:</b>                                                               |     |              |
| <b>Design of activation</b>                                                           |     | conventional |
| <b>Voltage type / of control feed voltage</b>                                         |     | AC           |
| <b>Control supply voltage frequency</b>                                               |     |              |
| • 1 / rated value                                                                     | Hz  | 50           |
| • 2 / rated value                                                                     | Hz  | 60           |
| <b>Control supply voltage / 1</b>                                                     |     |              |
| • for AC / at 50 Hz / rated value                                                     | V   | 230          |
| • for AC / at 60 Hz / rated value                                                     | V   | 230          |
| <b>Operating range factor control supply voltage rated value / of the magnet coil</b> |     |              |
| • at 50 Hz / for AC                                                                   |     | 0.8 ... 1.1  |
| • at 60 Hz / for AC                                                                   |     | 0.8 ... 1.1  |
| <b>Apparent pull-in power / of the solenoid / for AC</b>                              | V·A | 77           |
| <b>Apparent holding power / of the solenoid / for AC</b>                              | V·A | 9.8          |
| <b>Inductive power factor</b>                                                         |     |              |
| • with the pull-in power of the coil                                                  |     | 0.82         |
| • with the pull-in power of the coil                                                  |     | 0.27         |

|                                                        |  |                                            |
|--------------------------------------------------------|--|--------------------------------------------|
| <b>Auxiliary circuit:</b>                              |  |                                            |
| <b>Product extension / auxiliary switch</b>            |  | Yes                                        |
| <b>Contact reliability / of the auxiliary contacts</b> |  | < 1 error per 100 million operating cycles |
| <b>Number of NC contacts / for auxiliary contacts</b>  |  |                                            |
| • per direction of rotation                            |  | 0                                          |
| • instantaneous switching                              |  | 0                                          |

|                                                       |   |     |
|-------------------------------------------------------|---|-----|
| • lagging switching                                   |   | 0   |
| <b>Number of NO contacts / for auxiliary contacts</b> |   |     |
| • per direction of rotation                           |   | 0   |
| • instantaneous switching                             |   | 0   |
| • leading switching                                   |   | 0   |
| <b>Operating current / of the auxiliary contacts</b>  |   |     |
| • at AC-12 / maximum                                  | A | 10  |
| • at AC-15                                            |   |     |
| • at 230 V                                            | A | 6   |
| • at 400 V                                            | A | 3   |
| • at DC-12                                            |   |     |
| • at 48 V                                             | A | 6   |
| • at 60 V                                             | A | 6   |
| • at 110 V                                            | A | 3   |
| • at 220 V                                            | A | 1   |
| • at DC-13                                            |   |     |
| • at 24 V                                             | A | 10  |
| • at 48 V                                             | A | 2   |
| • at 60 V                                             | A | 2   |
| • at 110 V                                            | A | 1   |
| • at 220 V                                            | A | 0.3 |

#### Short-circuit:

##### Design of the fuse link

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

gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 100 A

gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 35 A

fuse gL/gG: 10 A

#### Installation/mounting/dimensions:

|                                                          |    |                                                                                                                                      |
|----------------------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>mounting position</b>                                 |    | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface |
| <b>Mounting type</b>                                     |    | screw and snap-on mounting onto 35 mm standard mounting rail                                                                         |
| <b>Width</b>                                             | mm | 90                                                                                                                                   |
| <b>Height</b>                                            | mm | 114                                                                                                                                  |
| <b>Depth</b>                                             | mm | 97                                                                                                                                   |
| <b>Distance, to be maintained, to the ranks assembly</b> |    |                                                                                                                                      |
| • forwards                                               | mm | 6                                                                                                                                    |

|                                                        |    |   |
|--------------------------------------------------------|----|---|
| • backwards                                            | mm | 0 |
| • upwards                                              | mm | 6 |
| • downwards                                            | mm | 6 |
| • sideways                                             | mm | 6 |
| <b>Distance, to be maintained, to earthed part</b>     |    |   |
| • forwards                                             | mm | 6 |
| • backwards                                            | mm | 0 |
| • upwards                                              | mm | 6 |
| • downwards                                            | mm | 6 |
| • sideways                                             | mm | 6 |
| <b>Distance, to be maintained, conductive elements</b> |    |   |
| • forwards                                             | mm | 6 |
| • backwards                                            | mm | 0 |
| • upwards                                              | mm | 6 |
| • downwards                                            | mm | 6 |
| • sideways                                             | mm | 6 |

#### Connections:

|                                                        |  |                                   |
|--------------------------------------------------------|--|-----------------------------------|
| <b>Design of the electrical connection</b>             |  |                                   |
| • for main current circuit                             |  | spring-loaded terminals           |
| • for auxiliary and control current circuit            |  | spring-loaded terminals           |
| <b>Type of the connectable conductor cross-section</b> |  |                                   |
| • for main contacts                                    |  |                                   |
| • finely stranded                                      |  |                                   |
| • with conductor end processing                        |  | 2x (1 ... 6 mm <sup>2</sup> )     |
| • without conductor final cutting                      |  | 2x (1 ... 6 mm <sup>2</sup> )     |
| • for AWG conductors / for main contacts               |  | 1x (18 ... 8)                     |
| • for auxiliary contacts                               |  |                                   |
| • finely stranded                                      |  |                                   |
| • with conductor end processing                        |  | 2x (0.5 ... 1.5 mm <sup>2</sup> ) |
| • without conductor final cutting                      |  | 2x (0.5 ... 1.5 mm <sup>2</sup> ) |
| • for AWG conductors / for auxiliary contacts          |  | 2x (20 ... 14)                    |

#### Certificates/approvals:

|                                    |                     |
|------------------------------------|---------------------|
| <b>Verification of suitability</b> | CE / UL / CSA / CCC |
|------------------------------------|---------------------|

| General Product Approval                                                                  |                                                                                                     |                                                                                          | Declaration of Conformity                                                                     | Test Certificates                                                                          |                                                                                            |
|-------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| <br>CSA  |                    | <br>UL  | <br>EG-Konf. | <a href="#">Special Test Certificate</a>                                                   |                                                                                            |
| Shipping Approval                                                                         |                                                                                                     |                                                                                          |                                                                                               |                                                                                            |                                                                                            |
| <br>ABS  | <br>BUREAU VERITAS | <br>DNV | <br>GL       | <br>LRS | <br>PRS |
| Shipping Approval                                                                         |                                                                                                     | other                                                                                    |                                                                                               |                                                                                            |                                                                                            |
| <br>RINA | <br>RMRS           | <a href="#">other</a>                                                                    | <a href="#">Environmental Confirmations</a>                                                   |                                                                                            |                                                                                            |

## UL/CSA ratings

### yielded mechanical performance [hp]

- for single-phase squirrel cage motors
  - at 110/120 V / rated value
  - at 230 V / rated value
- for three-phase squirrel cage motors
  - at 220/230 V / rated value
  - at 460/480 V / rated value
  - at 575/600 V / rated value

|    |    |
|----|----|
| hp | 2  |
| hp | 5  |
| hp | 10 |
| hp | 20 |
| hp | 25 |

### Full-load current (FLA) / for 3-phase motor

- at 480 V / rated value
- at 600 V / rated value

|   |    |
|---|----|
| A | 27 |
| A | 27 |

### Contact rating designation / for auxiliary contacts / according to UL

A600 / Q600

## Safety:

### B10 value / with high demand rate

- according to SN 31920

1,000,000

### Failure rate [FIT] / with low demand rate

- according to SN 31920

FIT 100

### Proportion of dangerous failures

- with low demand rate / according to SN 31920
- with high demand rate / according to SN 31920

% 40  
% 75

### T1 value / for proof test interval or service life

- according to IEC 61508

a 20

### Protection against electrical shock

finger-safe

## Further information:

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

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

### Industry Mall (Online ordering system)

<http://www.siemens.com/industrial-controls/mall>

### CAX-Online-Generator

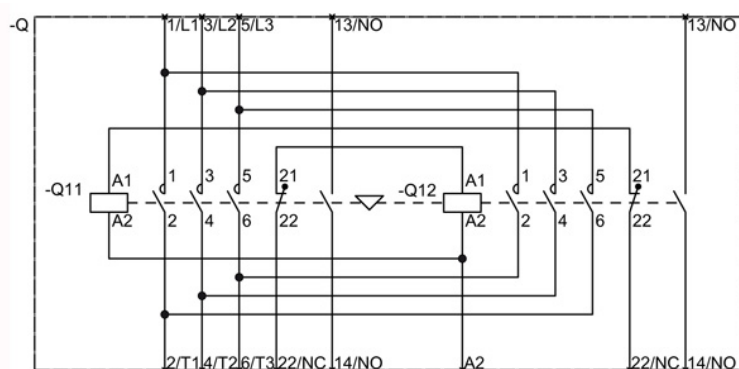
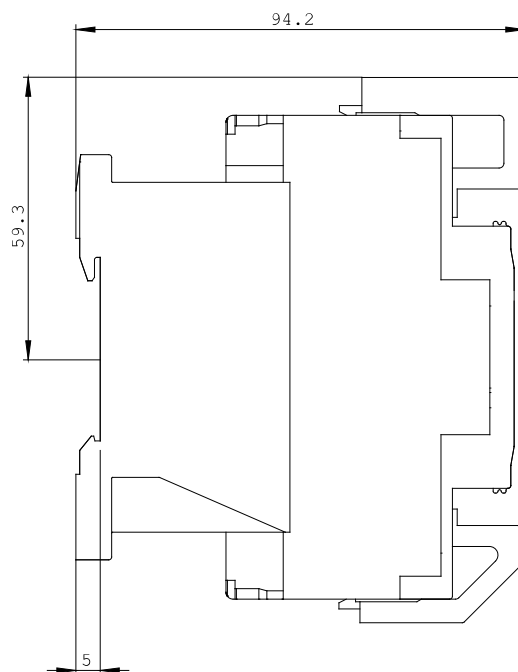
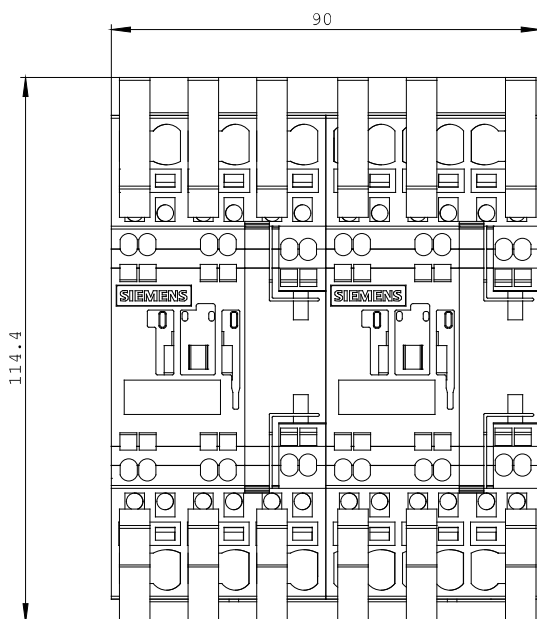
<http://www.siemens.com/cax>

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

<http://support.automation.siemens.com/WW/view/en/3RA2327-8XB30-2AL2/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RA2327-8XB30-2AL2](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RA2327-8XB30-2AL2)



last change:

Aug 4, 2014