

REV. COMB., AC3,  
7.5KW/400V AC220V 50HZ/240V 60HZ 3-POLE,  
SZ S0 SCREW TERMINAL ELECTR. AND MECH.  
INTERLOCK 2NO INTEGR.

**General technical data:**

|  |    |   |
|--|----|---|
| <b>product brand name</b>  |    | SIRIUS  |
| <b>product designation</b>   |    | star-delta (wye-delta) contactor assembly 3RA24 |
| <b>Product function</b>  |    | reversing contactor                             |
| <b>Size of the contactor</b>   |    | S0  |
| <b>Protection class IP / on the front</b>                                  |    | IP20  |
| <b>Degree of pollution</b>   |    | 3   |
| <b>Insulation voltage / with degree of pollution 3 / rated value</b>       | V  | 690   |
| <b>Installation altitude / at a height over sea level / maximum</b>        | m  | 2,000   |
| <b>Ambient temperature</b>   |    |   |
| • during transport   | °C | -55 ... +80                                     |
| • during storage   | °C | -55 ... +80                                     |
| • during operating   | °C | -25 ... +60                                     |
| <b>Resistance against shock</b>  |    | 12.5g / 5 ms and 7.8g / 10 ms                   |
| <b>Impulse voltage resistance / rated value</b>                            | kV | 6   |
| <b>Active power loss / per conductor / typical</b>                         | W  | 0.9   |
| <b>Item designation</b>  |    |   |
| • according to DIN 40719 extendable after IEC 204-2 / according to IEC 750 |    | K   |
| • according to DIN EN 61346-2  |    | Q   |

|  |  |                               |
|--|--|-------------------------------|
| <b>Manufacturer article number</b>                             |  |                               |
| • 1 / of the contactor included in the scope of supply         |  | <a href="#">3RT2025-1AL20</a> |
| • 2 / of the contactor included in the scope of supply         |  | <a href="#">3RT2025-1AL20</a> |
| • of the RS applied assembly kit                               |  | <a href="#">3RA2923-2AA1</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 / will be 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 | 40  |
| • at 60 °C ambient temperature / rated value               | A | 35  |
| • at AC-2 / at 400 V / rated value                         | A | 17  |
| • at AC-3 / at 400 V / rated value                         | A | 17  |
| • at AC-4 / at 400 V / rated value                         | A | 7.7 |
| • 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 |

|  |     |       |
|--|-----|-------|
| <ul style="list-style-type: none"> <li>with 2 current paths in series / at DC-3 / at DC-5               <ul style="list-style-type: none"> <li>at 24 V / rated value</li> <li>at 110 V / rated value</li> </ul> </li> <li>with 3 current paths in series / at DC-3 / at DC-5               <ul style="list-style-type: none"> <li>at 24 V / rated value</li> <li>at 110 V / rated value</li> </ul> </li> </ul> | A   | 35    |
|  | A   | 15    |
|  | A   | 35    |
|  | A   | 35    |
| <b>Service power</b>   |     |       |
| <ul style="list-style-type: none"> <li>at AC-2 / at 400 V / rated value</li> </ul>   | kW  | 7.5   |
| <ul style="list-style-type: none"> <li>at AC-3               <ul style="list-style-type: none"> <li>at 400 V / rated value</li> <li>at 500 V / rated value</li> <li>at 690 V / rated value</li> </ul> </li> <li>at AC-4 / at 400 V / rated value</li> </ul>  | kW  | 7.5   |
|  | kW  | 10    |
|  | kW  | 11    |
|  | kW  | 3.5   |
| <b>Off-load operating frequency</b>  | 1/h | 15    |
| <b>Frequency of operation</b>  |     |       |
| <ul style="list-style-type: none"> <li>at AC-1 / according to IEC 60947-6-2 / maximum</li> </ul>   | 1/h | 1,000 |
| <ul style="list-style-type: none"> <li>at AC-2 / according to IEC 60947-6-2 / maximum</li> </ul>   | 1/h | 1,000 |
| <ul style="list-style-type: none"> <li>at AC-3 / according to IEC 60947-6-2 / maximum</li> </ul>   | 1/h | 1,000 |
| <ul style="list-style-type: none"> <li>at AC-4 / according to IEC 60947-6-2 / maximum</li> </ul>   | 1/h | 300   |

| Control circuit:  |     |              |
|---|-----|--------------|
| <b>Design of activation</b>   |     | conventional |
| <b>Type of voltage / of the controlled supply voltage</b>                             |     | AC           |
| <b>Control supply voltage frequency</b>   |     |              |
| <ul style="list-style-type: none"> <li>1 / rated value</li> </ul>                     | Hz  | 50           |
| <ul style="list-style-type: none"> <li>2 / rated value</li> </ul>                     | Hz  | 60           |
| <b>Control supply voltage / 1</b>   |     |              |
| <ul style="list-style-type: none"> <li>at 50 Hz / for AC / rated value</li> </ul>     | V   | 220          |
| <ul style="list-style-type: none"> <li>at 60 Hz / for AC / rated value</li> </ul>     | V   | 240          |
| <b>Operating range factor control supply voltage rated value / of the magnet coil</b> |     |              |
| <ul style="list-style-type: none"> <li>at 50 Hz / for AC</li> </ul>                   |     | 0.8 ... 1.1  |
| <ul style="list-style-type: none"> <li>at 60 Hz / for AC</li> </ul>                   |     | 0.8 ... 1.1  |
| <b>Apparent pull-in power / of the solenoid / for AC</b>                              | V·A | 65           |
| <b>Apparent holding power / of the solenoid / for AC</b>                              | V·A | 8.5          |
| <b>Inductive power factor</b>   |     |              |
| <ul style="list-style-type: none"> <li>with the pull-in power of the coil</li> </ul>  |     | 0.82         |
| <ul style="list-style-type: none"> <li>with the pull-in power of the coil</li> </ul>  |     | 0.25         |

| Auxiliary circuit:                          |  |     |
|---|--|-----|
| <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: 63 A

gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE: 25 A

fuse gL/gG: 10 A

#### Installation/mounting/dimensions:

##### Built in orientation

any

##### Type of mounting

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

##### Width

mm 90

##### Height

mm 101

##### Depth

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                             | screw-type terminals  |
| • for auxiliary and control current circuit            | screw-type terminals  |
| <b>Type of the connectable conductor cross-section</b> |   |
| • for main contacts                                    |   |
| • solid  | 2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 10 mm <sup>2</sup> )                       |
| • stranded   | 2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 10 mm <sup>2</sup> )                       |
| • finely stranded                                      |   |
| • with conductor end processing                        | 2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup> |
| • for AWG conductors / for main contacts               | 2x (16 ... 12), 2x (14 ... 8)   |
| • for auxiliary contacts                               |   |
| • solid  | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )                   |
| • finely stranded                                      |   |
| • with conductor end processing                        | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )                   |
| • for AWG conductors / for auxiliary contacts          | 2x (20 ... 16), 2x (18 ... 14)  |

#### Certificates/approvals:

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

| General Product Approval | Declaration of Conformity | Test Certificates |
|--------------------------|---------------------------|-------------------|
|--------------------------|---------------------------|-------------------|



[Special Test Certificate](#)

### Shipping Approval



### Shipping Approval



### UL/CSA ratings

|   |    |             |
|---|----|-------------|
| <b>yielded mechanical performance (hp)</b>  |    |             |
| <ul style="list-style-type: none"> <li>for single-phase squirrel cage motors           <ul style="list-style-type: none"> <li>at 110/120 V / rated value</li> <li>at 230 V / rated value</li> </ul> </li> <li>for three-phase squirrel cage motors           <ul style="list-style-type: none"> <li>at 220/230 V / rated value</li> <li>at 460/480 V / rated value</li> <li>at 575/600 V / rated value</li> </ul> </li> </ul> | hp | 1           |
|   | hp | 3           |
|   | hp | 5           |
|   | hp | 10          |
|   | hp | 15          |
| <b>Operating current (FLA) / for three-phase squirrel cage motors</b>   |    |             |
| <ul style="list-style-type: none"> <li>at 480 V / rated value</li> <li>at 600 V / rated value</li> </ul>  | A  | 14          |
|   | A  | 17          |
| <b>Contact rating designation / for auxiliary contacts / according to UL</b>  |    | A600 / Q600 |

### Safety:

|   |     |             |
|---|-----|-------------|
| <b>B10 value / with high demand rate</b>  |     | 1,000,000   |
| <ul style="list-style-type: none"> <li>according to SN 31920</li> </ul>   |     |             |
| <b>Failure rate (FIT value) / with low demand rate</b>  |     |             |
| <ul style="list-style-type: none"> <li>according to SN 31920</li> </ul>   | FIT | 100         |
| <b>Proportion of dangerous failures</b>   |     |             |
| <ul style="list-style-type: none"> <li>with low demand rate / according to SN 31920</li> <li>with high demand rate / according to SN 31920</li> </ul> | %   | 40          |
|   | %   | 75          |
| <b>T1 value / for proof test interval or service life</b>   |     |             |
| <ul style="list-style-type: none"> <li>according to IEC 61508</li> </ul>  | a   | 20          |
| <b>Protection against electrical shock</b>  |     | 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**

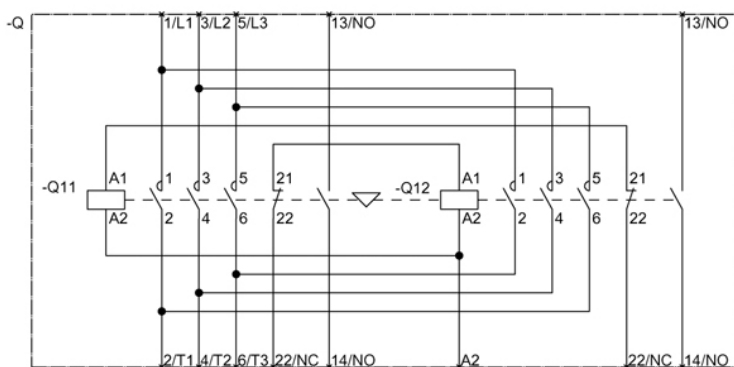
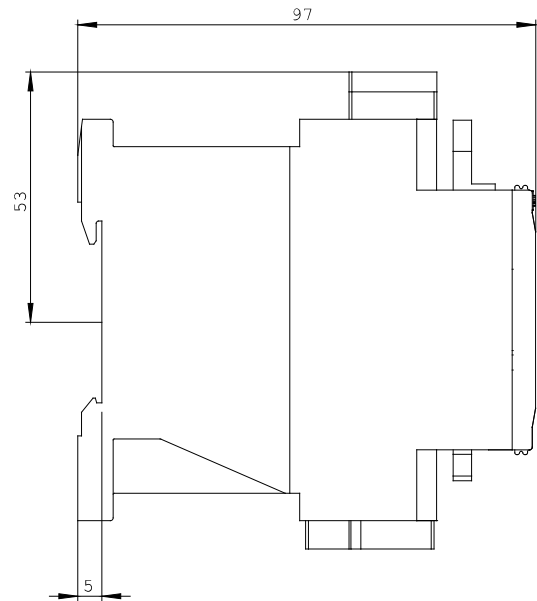
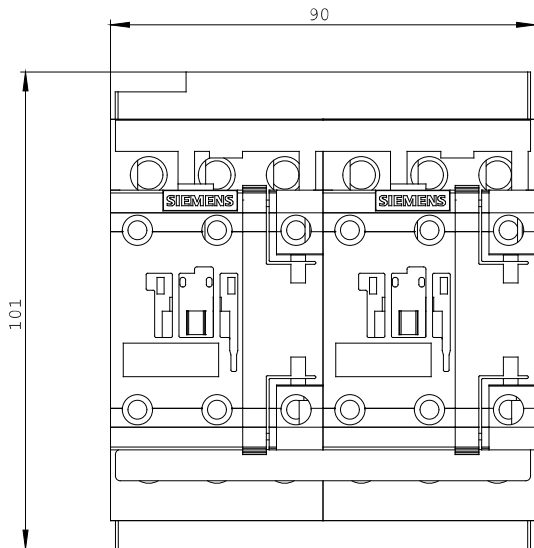
<http://www.siemens.com/cax>

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

<http://support.automation.siemens.com/WW/view/en/3RA2325-8XB30-1AP6/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RA2325-8XB30-1AP6](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RA2325-8XB30-1AP6)



last change:

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