



SOLID-STATE CONTACTOR 3-PH 3RF3 AC53 7.4A 40 DEGREES C 48-480V / 24V DC REVERSE SWITCHING INSTANTANEOUS SCREW TERMINALS

| General technical data:                                                                                                                                |    |                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|----|----------------------------------------------------------------|
| <b>product brand name</b>                                                                                                                              |    | SIRIUS                                                         |
| <b>product designation</b>                                                                                                                             |    | solid-state reversing contactor                                |
| <ul style="list-style-type: none"> <li>• _1 / of the accessories that can be ordered</li> <li>• _2 / of the accessories that can be ordered</li> </ul> |    | Link module<br>Connection adapter                              |
| <b>Manufacturer article number</b>                                                                                                                     |    |                                                                |
| <ul style="list-style-type: none"> <li>• _1 / of the accessories that can be ordered</li> <li>• _2 / of the accessories that can be ordered</li> </ul> |    | <a href="#">3RA2921-1BA00</a><br><a href="#">3RF3900-0QA88</a> |
| <b>Protection class IP</b>                                                                                                                             |    | IP20                                                           |
| <b>Insulation voltage / rated value</b>                                                                                                                | V  | 600                                                            |
| <b>Installation altitude / at a height over sea level / maximum</b>                                                                                    | m  | 1,000                                                          |
| <b>Ambient temperature</b>                                                                                                                             |    |                                                                |
| <ul style="list-style-type: none"> <li>• during storage</li> <li>• during operating</li> </ul>                                                         | °C | -55 ... +80<br>-25 ... +60                                     |
| <b>Resistance against shock</b>                                                                                                                        |    |                                                                |
| <ul style="list-style-type: none"> <li>• according to IEC 60068-2-27</li> </ul>                                                                        |    | 15g / 11 ms                                                    |
| <b>Resistance against vibration</b>                                                                                                                    |    |                                                                |
| <ul style="list-style-type: none"> <li>• according to IEC 60068-2-6</li> </ul>                                                                         |    | 2g                                                             |
| <b>Resistance against the impulse current / rated value</b>                                                                                            | A  | 600                                                            |
| <b>Active power loss / total / typical</b>                                                                                                             | W  | 13                                                             |

|                                                                                                                                                                     |  |                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------|
| <b>Item designation</b>                                                                                                                                             |  |                  |
| <ul style="list-style-type: none"> <li>• according to DIN 40719 extendable after IEC 204-2 / according to IEC 750</li> <li>• according to DIN EN 61346-2</li> </ul> |  | K                |
| <b>Product function</b>                                                                                                                                             |  | reversing switch |

### 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>                                                                             |                   | 2          |
| <b>Operating frequency</b>                                                                                                   |                   |            |
| <ul style="list-style-type: none"> <li>• rated value</li> </ul>                                                              | Hz                | 60 ... 50  |
| <b>Operating voltage</b>                                                                                                     |                   |            |
| <ul style="list-style-type: none"> <li>• at 60 Hz / at AC / rated value</li> <li>• at 50 Hz / at AC / rated value</li> </ul> | V                 | 48 ... 480 |
|                                                                                                                              | V                 | 48 ... 480 |
| <b>Operating current</b>                                                                                                     |                   |            |
| <ul style="list-style-type: none"> <li>• minimum</li> <li>• at AC-3 / at 400 V / rated value</li> </ul>                      | mA                | 500        |
|                                                                                                                              | A                 | 7.4        |
| <b>Working area related to the operating voltage</b>                                                                         |                   |            |
| <ul style="list-style-type: none"> <li>• at 50 Hz / for AC</li> <li>• at 60 Hz / for AC</li> </ul>                           | V                 | 40 ... 506 |
|                                                                                                                              | V                 | 40 ... 506 |
| <b>Service power / at AC-3 / at 400 V</b>                                                                                    |                   |            |
| <ul style="list-style-type: none"> <li>• rated value</li> </ul>                                                              | kW                | 3          |
| <b>Derating temperature</b>                                                                                                  | °C                | 40         |
| <b>Tolerance of the line frequency</b>                                                                                       | Hz                | 5          |
| <b>Relative symmetrical tolerance / of the operation frequency</b>                                                           | %                 | 10         |
| <b>I<sup>2</sup>t-level / maximum</b>                                                                                        | A <sup>2</sup> ·s | 1,800      |
| <b>Voltage slew rate / at the thyristor / for main contacts</b>                                                              |                   |            |
| <ul style="list-style-type: none"> <li>• maximum permissible</li> </ul>                                                      | V/μs              | 1,000      |
| <b>Block voltage / at the thyristor / for main contacts</b>                                                                  |                   |            |
| <ul style="list-style-type: none"> <li>• maximum permissible</li> </ul>                                                      | V                 | 1,200      |
| <b>Reverse current / of the thyristor</b>                                                                                    | mA                | 10         |

### Control circuit:

|                                                                                                                                                                                                     |   |    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----|
| <b>Type of voltage / of the controlled supply voltage</b>                                                                                                                                           |   | DC |
| <b>Control supply voltage</b>                                                                                                                                                                       |   |    |
| <ul style="list-style-type: none"> <li>• 1</li> <li>• for DC</li> <li>• initial rated value</li> <li>• final rated value</li> <li>• for DC / final value for signal&lt;0&gt;-recognition</li> </ul> | V | 15 |
|                                                                                                                                                                                                     | V | 30 |
|                                                                                                                                                                                                     | V | 5  |

|                                                                                                          |    |    |
|----------------------------------------------------------------------------------------------------------|----|----|
| <b>Control current</b><br><br>• for DC / rated value<br><br>• at minimum control supply voltage / for DC | mA | 15 |
|                                                                                                          | mA | 2  |

#### Auxiliary circuit:

|                                                                |  |   |
|----------------------------------------------------------------|--|---|
| <b>Number of NC contacts / for auxiliary contacts</b>          |  | 0 |
| <b>Number of NO contacts / for auxiliary contacts</b>          |  | 0 |
| <b>Number of change-over switches / for auxiliary contacts</b> |  | 0 |

#### Installation/mounting/dimensions:

|                                                                                              |              |                                                              |
|----------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------|
| <b>Built in orientation</b>                                                                  |              | vertical                                                     |
| <b>Type of mounting</b>                                                                      |              | screw and snap-on mounting onto 35 mm standard mounting rail |
| <b>Type of fixing/fixation / series installation</b>                                         |              | Yes                                                          |
| <b>Tightening torque / of the screw for fastening of the operating resource</b>              | N·m          | 1.5                                                          |
| <b>Design of the thread / of the screw for fastening of the operating resource</b>           |              | M4                                                           |
| <b>Width</b>                                                                                 | mm           | 90                                                           |
| <b>Height</b>                                                                                | mm           | 95                                                           |
| <b>Depth</b>                                                                                 | mm           | 114.3                                                        |
| <b>Distance, to be maintained, to the ranks assembly</b><br><br>• upwards<br><br>• downwards | mm<br><br>mm | 70<br><br>50                                                 |

#### Connections:

|                                                                                                                                                                                                                                                                             |  |                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Design of the electrical connection</b><br><br>• for main current circuit<br><br>• for auxiliary and control current circuit                                                                                                                                             |  | screw-type terminals<br><br>screw-type terminals                                                                                                                                                                                                                    |
| <b>Design of the thread / of the connection screw</b><br><br>• for main contacts<br><br>• of the auxiliary and control pins                                                                                                                                                 |  | M4<br><br>M3                                                                                                                                                                                                                                                        |
| <b>Product function / removable terminal for auxiliary and control circuit</b>                                                                                                                                                                                              |  | Yes                                                                                                                                                                                                                                                                 |
| <b>Type of the connectable conductor cross-section</b><br><br>• for main contacts<br><br>• solid<br><br>• finely stranded<br><br>• with conductor end processing<br><br>• for AWG conductors / for main contacts<br><br>• for auxiliary and control contacts<br><br>• solid |  | 2x (1.5 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> )<br><br>2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup><br><br>2x (14 ... 10)<br><br>1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> ) |

|                                                                                                                                                                                                                    |                  |                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>finely stranded</li> <li>with conductor end processing</li> <li>without conductor final cutting</li> <li>for AWG conductors / for auxiliary and control contacts</li> </ul> |                  | 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )<br>1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )<br>1x (AWG 20 ... 12) |
| <b>Tightening torque</b> <ul style="list-style-type: none"> <li>for main contacts / with screw-type terminals</li> <li>for auxiliary and control contacts / with screw-type terminals</li> </ul>                   | N-m<br>N-m       | 2 ... 2.5<br>0.5 ... 0.6                                                                                                                                           |
| <b>Tightening torque (lbf-in)</b> <ul style="list-style-type: none"> <li>for main contacts / with screw-type terminals</li> <li>for auxiliary and control contacts / with screw-type terminals</li> </ul>          | lbf-in<br>lbf-in | 18 ... 22<br>7.5 ... 5.3                                                                                                                                           |
| <b>Skinning length / of the cable</b> <ul style="list-style-type: none"> <li>for main contacts</li> <li>for auxiliary and control contacts</li> </ul>                                                              | mm<br>mm         | 10<br>7                                                                                                                                                            |

### Certificates/approvals:

#### Verification of suitability

CE / UL / CSA / CCC / C-TICK

#### General Product Approval

#### Test Certificates

#### other



[Type Test Certificates/Test Report](#)

[Declaration of Conformity](#)

### UL/CSA ratings

#### yielded mechanical performance (hp) / for three-phase squirrel cage motors

- at 200/208 V / rated value
- at 220/230 V / rated value
- at 460/480 V / rated value

hp 1.5  
hp 2  
hp 3

#### Operating current (FLA) / for three-phase squirrel cage motors

- at 480 V / rated value

A 4.8

### 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

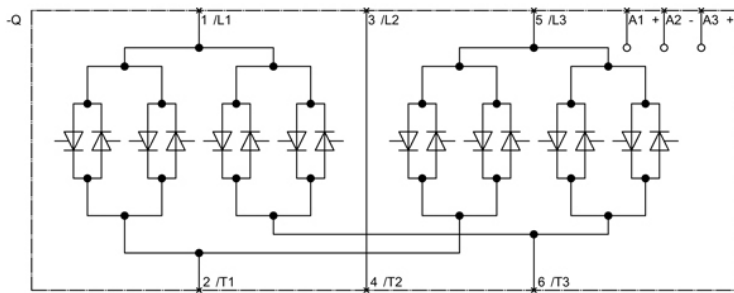
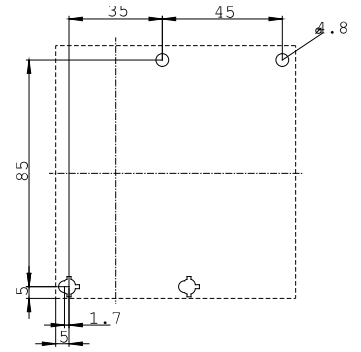
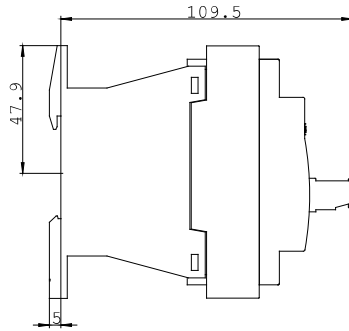
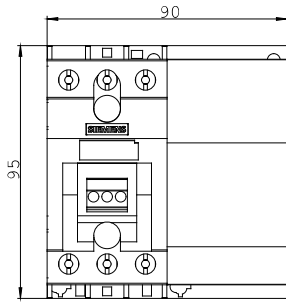
<http://www.siemens.com/cax>

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

<http://support.automation.siemens.com/WW/view/en/3RF3410-1BD04/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RF3410-1BD04](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF3410-1BD04)



last change:

May 14, 2012