



SOLID-STATE CONTACTOR 3-PH 3RF3 AC53 3.8A 40  
DEGREES C 48-480V / 110-230V AC REVERSE  
SWITCHING INSTANTANEOUS SCREW TERMINALS

| General technical data:                                      |    |                                 |
|--------------------------------------------------------------|----|---------------------------------|
| product brand name                                           |    | SIRIUS                          |
| product designation                                          |    | solid-state reversing contactor |
|                                                              |    | Link module                     |
|                                                              |    | Connection adapter              |
| Manufacturer article number                                  |    |                                 |
|                                                              |    | <a href="#">3RA2921-1BA00</a>   |
|                                                              |    | <a href="#">3RF3900-0QA88</a>   |
| Protection class IP                                          |    | IP20                            |
| Insulation voltage / rated value                             | V  | 600                             |
| Installation altitude / at a height over sea level / maximum | m  | 1,000                           |
| Ambient temperature                                          |    |                                 |
|                                                              | °C | -55 ... +80                     |
|                                                              | °C | -25 ... +60                     |
| Resistance against shock                                     |    |                                 |
|                                                              |    | 15g / 11 ms                     |
| Resistance against vibration                                 |    |                                 |
|                                                              |    | 2g                              |
| Resistance against the impulse current / rated value         | A  | 600                             |
| Active power loss / total / typical                          | W  | 7                               |

|                                                                                                                                                |  |                  |
|------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------|
| <b>Item designation</b><br><br>• according to DIN 40719 extendable after IEC 204-2 / according to IEC 750<br><br>• according to DIN EN 61346-2 |  | K                |
|                                                                                                                                                |  | Q                |
| <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><br><br>• rated value                                                            | Hz                | 60 ... 50  |
| <b>Operating voltage</b><br><br>• at 60 Hz / at AC / rated value<br><br>• at 50 Hz / at AC / rated value   | V                 | 48 ... 480 |
|                                                                                                            | V                 | 48 ... 480 |
| <b>Operating current</b><br><br>• minimum<br><br>• at AC-3 / at 400 V / rated value                        | mA                | 500        |
|                                                                                                            | A                 | 3.8        |
| <b>Working area related to the operating voltage</b><br><br>• at 50 Hz / for AC<br><br>• at 60 Hz / for AC | V                 | 40 ... 506 |
|                                                                                                            | V                 | 40 ... 506 |
| <b>Service power / at AC-3 / at 400 V</b><br><br>• rated value                                             | kW                | 1.5        |
| <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><br><br>• maximum permissible               | V/μs              | 1,000      |
| <b>Block voltage / at the thyristor / for main contacts</b><br><br>• maximum permissible                   | V                 | 1,200      |
| <b>Reverse current / of the thyristor</b>                                                                  | mA                | 10         |

| Control circuit:                                                                                                                |    |    |
|---------------------------------------------------------------------------------------------------------------------------------|----|----|
| <b>Type of voltage / of the controlled supply voltage</b>                                                                       |    | AC |
| <b>Control supply voltage frequency</b><br><br>• 1 / rated value<br><br>• 2 / rated value                                       | Hz | 50 |
|                                                                                                                                 | Hz | 60 |
| <b>Relative symmetrical tolerance</b><br><br>• of the control supply voltage frequency<br><br>• of the supply voltage frequency | %  | 10 |
|                                                                                                                                 | %  | 10 |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----|
| <b>Control supply voltage</b> <ul style="list-style-type: none"> <li>• 1 <ul style="list-style-type: none"> <li>• at 50 Hz / for AC <ul style="list-style-type: none"> <li>• initial rated value</li> <li>• final rated value</li> </ul> </li> <li>• at 60 Hz / for AC <ul style="list-style-type: none"> <li>• initial rated value</li> <li>• final rated value</li> </ul> </li> <li>• at 50 Hz / for AC / final value for signal&lt;0&gt;-recognition</li> <li>• at 60 Hz / for AC / final value for signal&lt;0&gt;-recognition</li> </ul> </li> </ul> |    |     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V  | 90  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V  | 253 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V  | 90  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V  | 253 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | V  | 40  |
| <b>Control current</b> <ul style="list-style-type: none"> <li>• for AC / rated value</li> <li>• at minimum control supply voltage / for AC</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                     | mA | 15  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | mA | 2   |

|                                                                |  |   |
|----------------------------------------------------------------|--|---|
| <b>Auxiliary circuit:</b>                                      |  |   |
| <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 |

|                                                                                                                                           |     |                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------|
| <b>Installation/mounting/dimensions:</b>                                                                                                  |     |                                                              |
| <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  | 45                                                           |
| <b>Height</b>                                                                                                                             | mm  | 95                                                           |
| <b>Depth</b>                                                                                                                              | mm  | 114.3                                                        |
| <b>Distance, to be maintained, to the ranks assembly</b> <ul style="list-style-type: none"> <li>• upwards</li> <li>• downwards</li> </ul> | mm  | 70                                                           |
|                                                                                                                                           | mm  | 50                                                           |
|                                                                                                                                           |     |                                                              |

|                                                                                                                                                                              |  |                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------|
| <b>Connections:</b>                                                                                                                                                          |  |                      |
| <b>Design of the electrical connection</b> <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control current circuit</li> </ul> |  | screw-type terminals |
|                                                                                                                                                                              |  | screw-type terminals |
|                                                                                                                                                                              |  |                      |
| <b>Design of the thread / of the connection screw</b> <ul style="list-style-type: none"> <li>• for main contacts</li> <li>• of the auxiliary and control pins</li> </ul>     |  | M4                   |
|                                                                                                                                                                              |  | M3                   |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  |                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product function / removable terminal for auxiliary and control circuit</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                  | Yes                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Type of the connectable conductor cross-section</b> <ul style="list-style-type: none"> <li>for main contacts <ul style="list-style-type: none"> <li>solid</li> <li>finely stranded <ul style="list-style-type: none"> <li>with conductor end processing</li> </ul> </li> </ul> </li> <li>for AWG conductors / for main contacts</li> <li>for auxiliary and control contacts <ul style="list-style-type: none"> <li>solid</li> <li>finely stranded <ul style="list-style-type: none"> <li>with conductor end processing</li> <li>without conductor final cutting</li> </ul> </li> </ul> </li> <li>for AWG conductors / for auxiliary and control contacts</li> </ul> |                  | 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>2x (14 ... 10)<br><br>1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )<br><br>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**

**other**



[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  
hp  
hp

0.5  
0.75  
2

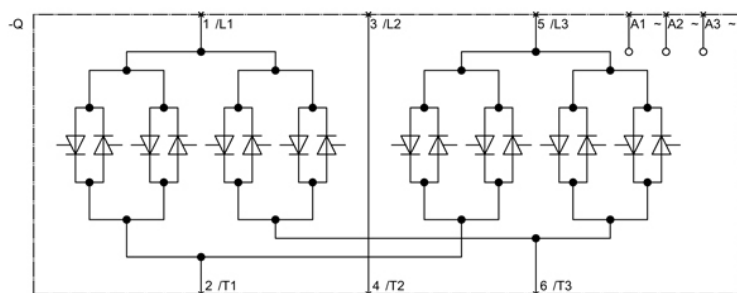
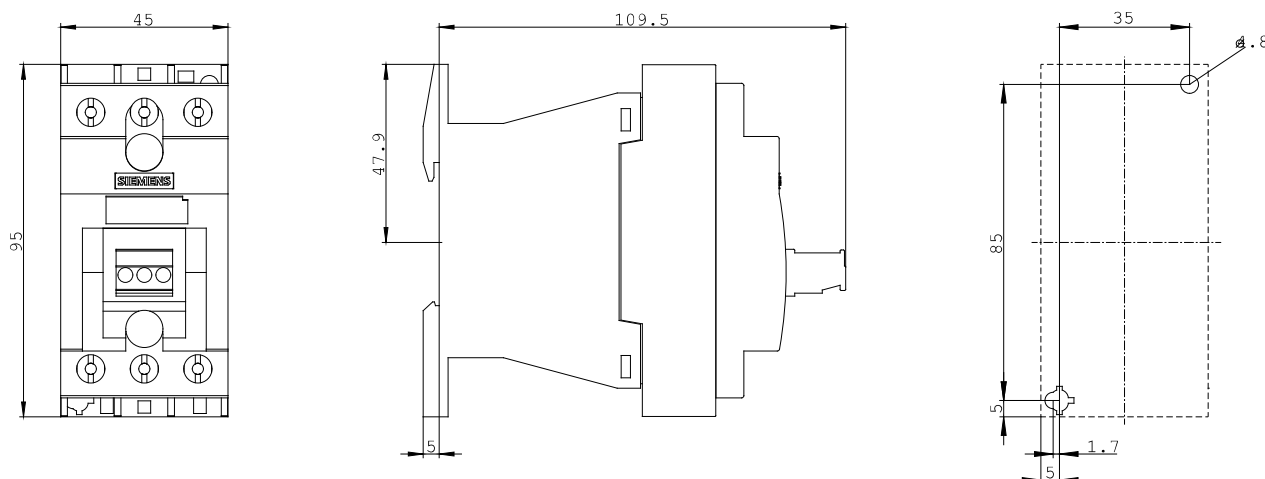
##### Operating current (FLA) / for three-phase squirrel cage motors

- at 480 V / rated value

A

3.4

#### Further information:



last change:

May 14, 2012