



SEMI-COND. CONTACTOR 3RF2,1-PH. AC 51 40 A  
40 DEGREES C 48-600 V / 110-230 V AC SCREW  
TERMINAL

General technical data:

|   |    |                               |
|---|----|-------------------------------|
| product brand name  |    | SIRIUS                        |
| Product designation   |    | solid-state contactor         |
| Product function  |    | zero-point switching          |
| Number of poles for main current circuit  |    | 1                             |
| Protection class IP   |    | IP20                          |
| Product designation _1 of the accessories that can be ordered                       |    | terminal cover                |
| Manufacturer article number _1 of the accessories that can be ordered               |    | <a href="#">3RF2900-3PA88</a> |
| Product designation _4 of the accessories that can be ordered                       |    | load monitoring               |
| Manufacturer article number _4 of the accessories that can be ordered               |    | <a href="#">3RF2950-0GA36</a> |
| Ambient temperature   |    |                               |
| • during operation  | °C | -25 ... +60                   |
| • during storage  | °C | -55 ... +80                   |
| Installation altitude at height above sea level maximum                             | m  | 1 000                         |
| Vibration resistance acc. to IEC 60068-2-6  |    | 2g                            |
| Shock resistance acc. to IEC 60068-2-27   |    | 15g / 11 ms                   |
| Equipment marking acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750 |    | K                             |
| Equipment marking acc. to DIN EN 61346-2  |    | Q                             |
| Number of NC contacts for auxiliary contacts  |    | 0                             |
| Number of NO contacts for auxiliary contacts  |    | 0                             |

|  |  |   |
|--|--|---|
| Number of CO contacts for auxiliary contacts |  | 0 |
|--|--|---|

### Main circuit:

|  |                   |            |
|--|-------------------|------------|
| Number of NO contacts for main contacts  |                   | 1          |
| Number of NC contacts for main contacts  |                   | 0          |
| <b>Operating current</b>   |                   |            |
| • at AC-1 at 400 V Rated value   | A                 | 40         |
| • at AC-51 Rated value   | A                 | 40         |
| <b>Operating current minimum</b>   | mA                | 500        |
| <b>Operating voltage with AC</b>   |                   |            |
| • at 50 Hz Rated value   | V                 | 48 ... 600 |
| • at 60 Hz Rated value   | V                 | 48 ... 600 |
| <b>Operating range relative to the operating voltage with AC</b>                   |                   |            |
| • at 50 Hz   | V                 | 40 ... 660 |
| • at 60 Hz   | V                 | 40 ... 660 |
| Operating frequency Rated value  | Hz                | 50 ... 60  |
| <b>Insulation voltage Rated value</b>  | V                 | 600        |
| <b>Rate of voltage rise at the thyristor for main contacts maximum permissible</b> | V/ $\mu$ s        | 1 000      |
| <b>Blocking voltage at the thyristor for main contacts maximum permissible</b>     | V                 | 1 600      |
| <b>Reverse current of the thyristor</b>  | mA                | 10         |
| <b>Derating temperature</b>  | $^{\circ}$ C      | 40         |
| <b>Active power loss total typical</b>   | W                 | 44         |
| <b>Surge current resistance Rated value</b>  | A                 | 1 150      |
| <b>I<sup>2</sup>t value maximum</b>  | A <sup>2</sup> ·s | 6 600      |

### Control circuit/ Control:

|   |    |     |
|---|----|-----|
| <b>Control supply voltage frequency</b>               |    |     |
| • 1 Rated value                                       | Hz | 50  |
| • 2 Rated value                                       | Hz | 60  |
| <b>Type of voltage of the control supply voltage</b>  |    | AC  |
| <b>Control supply voltage 1</b>                       |    |     |
| • with AC   |    |     |
| — at 50 Hz Initial rated value                        | V  | 110 |
| — at 50 Hz Final rated value                          | V  | 230 |
| — at 60 Hz Initial rated value                        | V  | 110 |
| — at 60 Hz Final rated value                          | V  | 230 |
| <b>Control supply voltage</b>                         |    |     |
| • with AC   |    |     |
| — at 50 Hz Full-scale value for signal<0> recognition | V  | 40  |

|   |    |    |
|---|----|----|
| — at 60 Hz Full-scale value for signal<0> recognition | V  | 40 |
| <b>Symmetrical line frequency tolerance</b>           | Hz | 5  |
| <b>Control current</b>                                |    |    |
| • <b>at minimum control supply voltage</b>            |    |    |
| — with AC   | mA | 2  |
| • with AC Rated value                                 | mA | 15 |

#### Installation/ mounting/ dimensions:






|   |     |  |
|---|-----|--|
| <b>Mounting type</b>  |     | screw and snap-on mounting onto 35 mm standard mounting rail |
| <b>Mounting type Side-by-side mounting</b>                          |     | Yes  |
| <b>Design of the thread of the screw for securing the equipment</b> |     | M4   |
| <b>Tightening torque of the screw for securing the equipment</b>    | N·m | 1.5  |
| <b>Width</b>  | mm  | 67.5   |
| <b>Height</b>   | mm  | 100  |
| <b>Depth</b>  | mm  | 156  |

#### Connections/ Terminals:

|   |        |   |
|---|--------|---|
| <b>Type of electrical connection for main current circuit</b>                         |        | screw-type terminals  |
| <b>Design of the thread of the connection screw for main contacts</b>                 |        | M4  |
| Tightening torque for main contacts with screw-type terminals                         | N·m    | 2 ... 2.5   |
| Tightening torque [lbf·in] for main contacts with screw-type terminals                | lbf·in | 18 ... 22   |
| <b>Type of connectable conductor cross-section for main contacts</b>                  |        |   |
| • solid   |        | 2x (1.5 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> )                      |
| • finely stranded   |        |   |
| — with core end processing  |        | 2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup> |
| <b>Type of connectable conductor cross-section</b>                                    |        |   |
| • for AWG conductors  |        |   |
| — for main contacts   |        | 2x (14 ... 10)  |
| — for auxiliary and control contacts  |        | 1x (AWG 20 ... 12)  |
| <b>Type of connectable conductor cross-section for auxiliary and control contacts</b> |        |   |
| • solid   |        | 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )                    |
| • finely stranded   |        |   |
| — with core end processing  |        | 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )                    |
| — without core end processing   |        | 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )                    |
| <b>Connectable conductor cross-section</b>  |        |   |
| • for main contacts   |        |   |

|  |                 |                      |
|--|-----------------|----------------------|
| — single or multi-stranded   | mm <sup>2</sup> | 1.5 ... 6            |
| — finely stranded  |                 |                      |
| — with core end processing   | mm <sup>2</sup> | 1 ... 10             |
| • for auxiliary and control contacts   |                 |                      |
| — solid  | mm <sup>2</sup> | 0.5 ... 2.5          |
| — finely stranded  |                 |                      |
| — with core end processing   | mm <sup>2</sup> | 0.5 ... 2.5          |
| — without core end processing  | mm <sup>2</sup> | 0.5 ... 2.5          |
| <b>AWG number as coded connectable conductor cross section for main contacts</b>           |                 | 10 ... 14            |
| <b>Type of electrical connection for auxiliary and control current circuit</b>             |                 | screw-type terminals |
| <b>Design of the thread of the connection screw of the auxiliary and control contacts</b>  |                 | M3                   |
| AWG number as coded connectable conductor cross section for auxiliary and control contacts |                 | 20 ... 12            |
| <b>Wire stripping length of the cable</b>  |                 |                      |
| • for main contacts  | mm              | 7                    |
| • for auxiliary and control contacts   | mm              | 7                    |
| Tightening torque for auxiliary and control contacts with screw-type terminals             | N·m             | 0.5 ... 0.6          |
| Tightening torque [lbf·in] for auxiliary and control contacts with screw-type terminals    | lbf·in          | 4.5 ... 5.3          |

#### Certificates/ approvals:

| General Product Approval   | EMC   | Declaration of Conformity   | Test Certificates   |
|--|---|---|---|
| <br>CSA | <br>UL | <br>EAC        | <br>C-TICK |
|  |   | <br>EG-Konf. | <a href="#">Special Test Certificate</a>  |

| Test Certificates                                  | other                                       |
|--|---|
| <a href="#">Type Test Certificates/Test Report</a> | <a href="#">Environmental Confirmations</a> |

#### Further information

**Short-circuit protection, design of the fuse link**  
[https://www.automation.siemens.com/cd-static/material/info/3RF23\\_eng.pdf](https://www.automation.siemens.com/cd-static/material/info/3RF23_eng.pdf)

**Information- and Downloadcenter (Catalogs, Brochures,...)**  
<http://www.siemens.com/industrial-controls/catalogs>

**Industry Mall (Online ordering system)**

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

**Cax online generator**

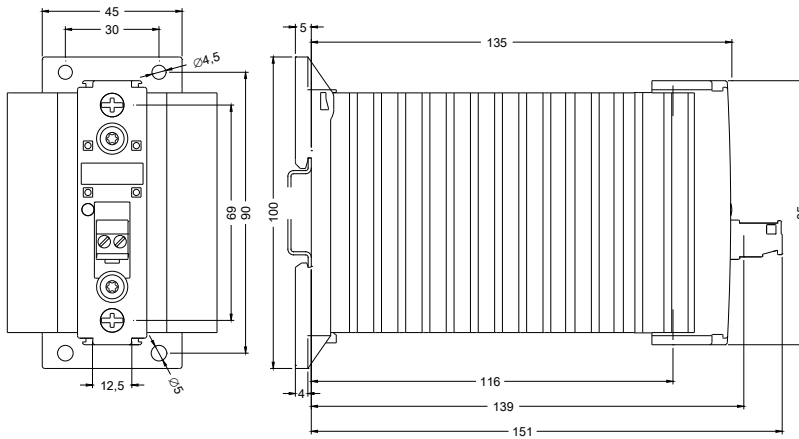
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF23401AA26>

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

<http://support.automation.siemens.com/WW/view/en/3RF23401AA26/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RF23401AA26&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF23401AA26&lang=en)



**last modified:**

**09.03.2015**