

SEMICOND. CONTACTOR 3RF2, 1-PH. AC 51 10 A  
40 DEGREES C 48-460 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="#">3RF2920-0GA36</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          |
| Operating current   |                   |            |
| • at AC-1 at 400 V Rated value  | A                 | 10.5       |
| • at AC-51 Rated value  | A                 | 10.5       |
| Operating current minimum   | mA                | 100        |
| Operating voltage at AC   |                   |            |
| • at 50 Hz Rated value  | V                 | 48 ... 460 |
| • at 60 Hz Rated value  | V                 | 48 ... 460 |
| Operating range relative to the operating voltage at AC                     |                   |            |
| • at 50 Hz  | V                 | 40 ... 506 |
| • at 60 Hz  | V                 | 40 ... 506 |
| Operating frequency Rated value   | Hz                | 50 ... 60  |
| Insulation voltage Rated value  | V                 | 600        |
| Rate of voltage rise at the thyristor for main contacts maximum permissible | V/ $\mu$ s        | 500        |
| Blocking voltage at the thyristor for main contacts maximum permissible     | V                 | 1 200      |
| Reverse current of the thyristor  | mA                | 10         |
| Derating temperature  | $^{\circ}$ C      | 40         |
| Active power loss total typical   | W                 | 11         |
| Surge current resistance Rated value  | A                 | 200        |
| I <sup>2</sup> t value maximum  | A <sup>2</sup> ·s | 200        |

#### Control circuit/ Control:

|   |    |     |
|---|----|-----|
| Control supply voltage frequency              |    |     |
| • 1 Rated value                               | Hz | 50  |
| • 2 Rated value                               | Hz | 60  |
| Type of voltage of the control supply voltage |    | AC  |
| Control supply voltage 1                      |    |     |
| • at 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>                         |    |     |
| • at 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>                                |    |     |
| • at minimum control supply voltage                   |    |     |
| — at AC   | mA | 2   |
| • at 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  | 22.5   |
| <b>Height</b>   | mm  | 100  |
| <b>Depth</b>  | mm  | 94   |

#### 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  |
| <b>Tightening torque for main contacts with screw-type terminals</b>                  | N·m    | 2 ... 2.5   |
| <b>Tightening torque [lbf·in] for main contacts with screw-type terminals</b>         | 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> )                    |

|   |                 |  |
|---|-----------------|--|
| <ul style="list-style-type: none"> <li>• finely stranded               <ul style="list-style-type: none"> <li>— with core end processing</li> <li>— without core end processing</li> </ul> </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> ) |
| <b>Connectable conductor cross-section</b>  |                 |  |
| <ul style="list-style-type: none"> <li>• for main contacts               <ul style="list-style-type: none"> <li>— single or multi-stranded</li> <li>— finely stranded                   <ul style="list-style-type: none"> <li>— with core end processing</li> </ul> </li> </ul> </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 core end processing</li> <li>— without core end processing</li> </ul> </li> </ul> </li> </ul> | mm <sup>2</sup> | 1.5 ... 6  |
|   | mm <sup>2</sup> | 1 ... 10   |
|   | mm <sup>2</sup> | 0.5 ... 2.5  |
|   | mm <sup>2</sup> | 0.5 ... 2.5  |
|   | mm <sup>2</sup> | 0.5 ... 2.5  |
| <b>AWG number as coded connectable conductor cross section</b>  |                 |  |
| <ul style="list-style-type: none"> <li>• for main contacts</li> <li>• for auxiliary and control contacts</li> </ul>   |                 | 10 ... 14  |
|   |                 | 20 ... 12  |
| <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   |
| <b>Wire stripping 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              | 7  |
|   | mm              | 7  |
| <b>Tightening torque for auxiliary and control contacts with screw-type terminals</b>   | N·m             | 0.5 ... 0.6  |
| <b>Tightening torque [lbf·in] for auxiliary and control contacts with screw-type terminals</b>  | lbf·in          | 4.5 ... 5.3  |

Certificates/ approvals:

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

|   |                                   |
|---|-----------------------------------|
| Test Certificates                                 | other                             |
| <a href="#">Typprüfbescheinigung/Werkszeugnis</a> | <a href="#">Umweltbestätigung</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**

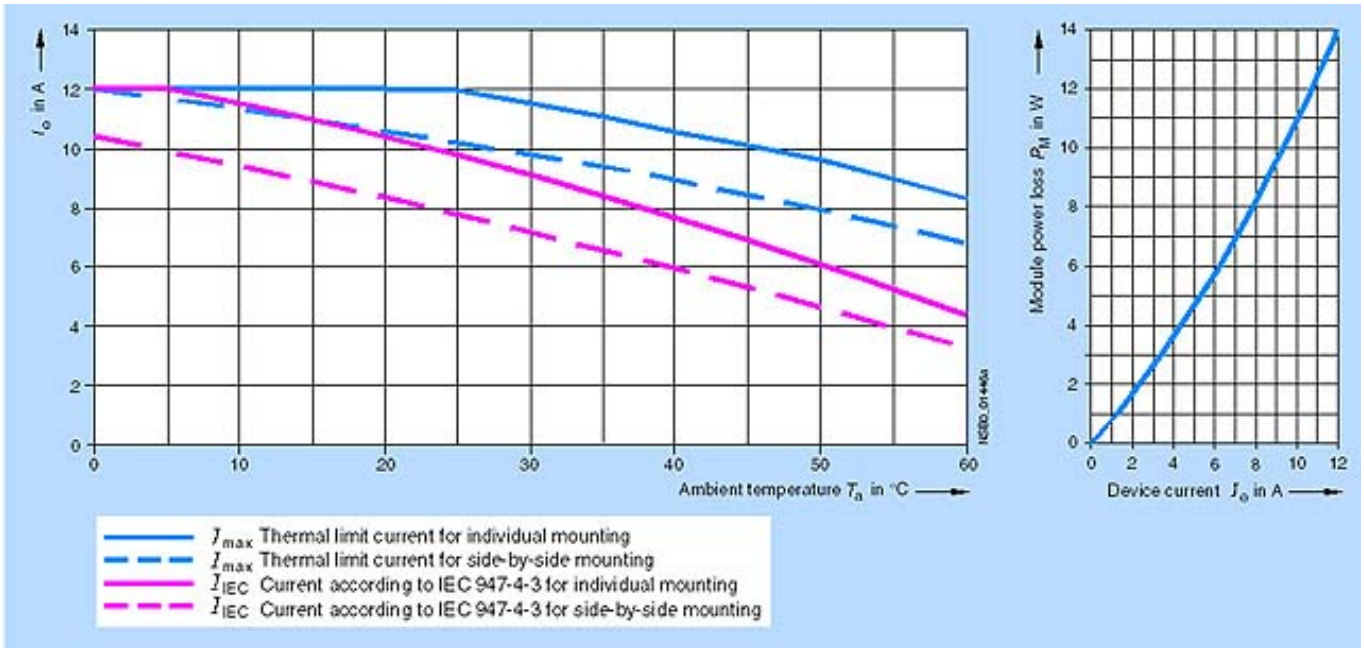
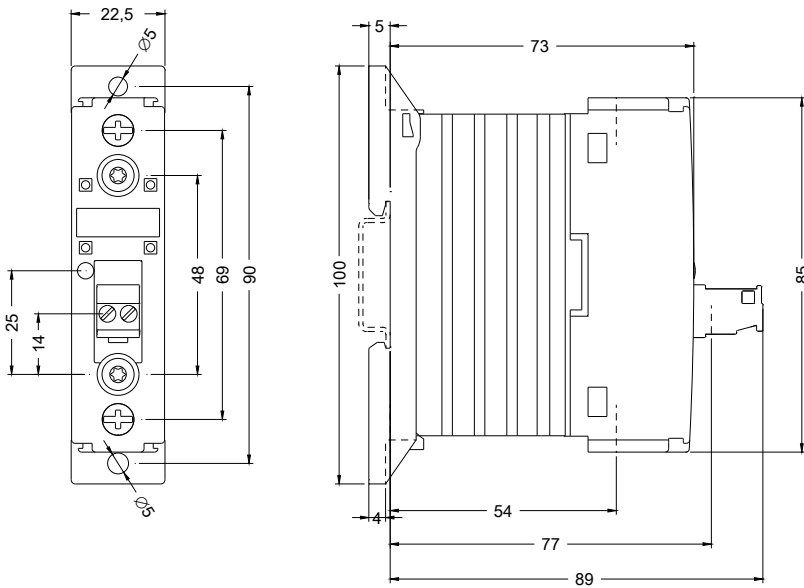
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF23101AA24>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RF23101AA24>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RF23101AA24&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF23101AA24&lang=en)



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