



SOLID-STATE CONTACTOR 3RF2,1-PH AC51 10.5A  
40 DEGR. C 48-600V / 4-30V DC SCREW-TYPE  
TERMINAL BLOCKING VOLTAGE 1200V

| 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 _3 of the accessories that can be ordered         |    | converter                     |
| Manufacturer article number _3 of the accessories that can be ordered |    | <a href="#">3RF2900-0EA18</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="#">3RF2920-0GA16</a> |
| Product designation _5 of the accessories that can be ordered         |    | load monitoring, basis        |
| Manufacturer article number _5 of the accessories that can be ordered |    | <a href="#">3RF2920-0FA08</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                 | 10.5       |
| • at AC-51 Rated value   | A                 | 10.5       |
| <b>Operating current minimum</b>   | mA                | 100        |
| <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        | 500        |
| <b>Blocking voltage at the thyristor for main contacts maximum permissible</b>     | V                 | 1 200      |
| <b>Reverse current of the thyristor</b>  | mA                | 10         |
| <b>Derating temperature</b>  | $^{\circ}$ C      | 40         |
| <b>Active power loss total typical</b>   | W                 | 11         |
| <b>Surge current resistance Rated value</b>  | A                 | 200        |
| <b>I<sup>2</sup>t value maximum</b>  | A <sup>2</sup> ·s | 200        |

#### Control circuit/ Control:

|  |   |    |
|--|---|----|
| <b>Type of voltage of the control supply voltage</b> |   | DC |
| <b>Control supply voltage 1</b>                      |   |    |
| • for DC   |   |    |
| — Initial rated value                                | V | 4  |
| — Final rated value                                  | V | 30 |
| <b>Control supply voltage</b>                        |   |    |
| • for DC Full-scale value for signal<0> recognition  | V | 1  |
| <b>Control current</b>                               |   |    |

- for DC Rated value

|    |    |
|----|----|
| mA | 20 |
|----|----|

#### 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   |
| 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>   |                 |  |
| <ul style="list-style-type: none"> <li>• solid</li> </ul>  |                 | 2x (1.5 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 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> </ul> </li> </ul>  |                 | 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>   |                 |  |
| <ul style="list-style-type: none"> <li>• for AWG conductors           <ul style="list-style-type: none"> <li>— for main contacts</li> <li>— for auxiliary and control contacts</li> </ul> </li> </ul>  |                 | 2x (14 ... 10)<br>1x (AWG 20 ... 12)   |
| <b>Type of connectable conductor cross-section for auxiliary and control contacts</b>  |                 |  |
| <ul style="list-style-type: none"> <li>• solid</li> </ul>  |                 | 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> </ul> | mm <sup>2</sup> | 1.5 ... 6  |
| <ul style="list-style-type: none"> <li>• for auxiliary and control contacts           <ul style="list-style-type: none"> <li>— solid</li> <li>— finely stranded</li> </ul> </li> </ul>   | mm <sup>2</sup> | 1 ... 10   |
| <ul style="list-style-type: none"> <li>• for auxiliary and control contacts           <ul style="list-style-type: none"> <li>— solid</li> <li>— finely stranded</li> </ul> </li> </ul>   | mm <sup>2</sup> | 0.5 ... 2.5  |

|  |                 |                      |
|--|-----------------|----------------------|
| — 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 |
|--------------------------|-----|---------------------------|-------------------|
|--------------------------|-----|---------------------------|-------------------|



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

#### other

[Environmental Confirmations](#)

#### 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

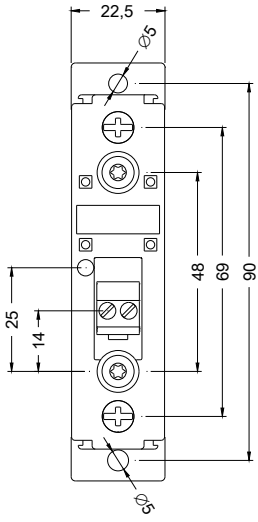
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF23101AA45>

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

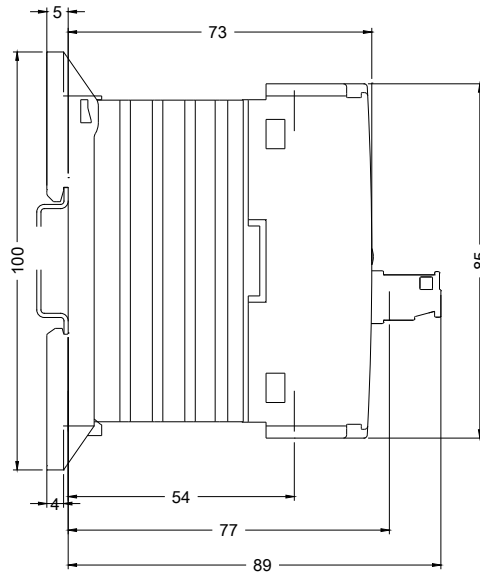
<http://support.automation.siemens.com/WW/view/en/3RF23101AA45/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RF23101AA45&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF23101AA45&lang=en)



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