



SEMICONDUCTOR RELAY 3RF2,  
1-PH. MOUNTING WIDTH 22.5MM,  
70A 48-460V / 24V DC SCREW TERMINAL LOW NOISE

| General technical data:   |                               |
|---|-------------------------------|
| product brand name  | SIRIUS                        |
| product designation   | solid-state relay             |
| 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="#">3RF2990-0GA16</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 operating   | °C | -25 ... +60 |
| • during storage   | °C | -55 ... +80 |
| <b>Installation altitude / at a height over sea level / maximum</b>        | m  | 1,000       |
| <b>Resistance against vibration / according to IEC 60068-2-6</b>           |    | 2g          |
| <b>Resistance against shock / according to IEC 60068-2-27</b>              |    | 15g / 11 ms |
| <b>Item designation</b>  |    |             |
| • according to DIN 40719 extendable after IEC 204-2 / according to IEC 750 |    | K           |
| • according to DIN EN 61346-2  |    | Q           |
| <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           |

#### Main circuit:

|   |                   |            |
|---|-------------------|------------|
| <b>Number of NO contacts / for main contacts</b>                                      |                   | 1          |
| <b>Number of NC contacts / for main contacts</b>                                      |                   | 0          |
| <b>Operating current</b>  |                   |            |
| • at AC-1 / at 400 V / rated value  | A                 | 70         |
| • at AC-51 / rated value  | A                 | 70         |
| <b>Operating current / minimum</b>  | mA                | 500        |
| <b>Operating voltage</b>  |                   |            |
| • at 50 Hz / at AC / rated value  | V                 | 48 ... 460 |
| • at 60 Hz / at AC / rated value  | V                 | 48 ... 460 |
| <b>Working area related to the operating voltage</b>                                  |                   |            |
| • at 50 Hz / for AC   | V                 | 40 ... 506 |
| • at 60 Hz / for AC   | V                 | 40 ... 506 |
| <b>Operating frequency</b>  |                   |            |
| • rated value   | Hz                | 50 ... 60  |
| <b>Relative symmetrical tolerance / of the operation frequency</b>                    | %                 | 10         |
| <b>Insulation voltage / rated value</b>   | V                 | 600        |
| <b>Voltage slew rate / at the thyristor / for main contacts / maximum permissible</b> | V/μs              | 1,000      |
| <b>Block voltage / at the thyristor / for main contacts / maximum permissible</b>     | V                 | 1,200      |
| <b>Reverse current / of the thyristor</b>   | mA                | 25         |
| <b>Derating temperature</b>   | °C                | 40         |
| <b>Active power loss / total / typical</b>  | W                 | 94         |
| <b>Apparent loss power / maximum</b>  | V·A               | 94         |
| <b>Resistance against the impulse current / rated value</b>                           | A                 | 1,200      |
| <b>I<sup>2</sup>t-level / maximum</b>   | A <sup>2</sup> ·s | 7,200      |

**Control circuit:**

|  |    |   |
|--|----|---|
| <b>Type of voltage / of the controlled supply voltage</b>  |    | DC  |
| <b>Control supply voltage / 1</b>  |    |   |
| <ul style="list-style-type: none"> <li>• for DC <ul style="list-style-type: none"> <li>• initial rated value</li> <li>• final rated value</li> </ul> </li> </ul> | V  | 15  |
|  | V  | 24  |
| <b>Control supply voltage</b>  |    |   |
| <ul style="list-style-type: none"> <li>• for DC / final value for signal&lt;0&gt;-recognition</li> </ul>   | V  | 5   |
| <b>Control current</b>   |    |   |
| <ul style="list-style-type: none"> <li>• at minimum control supply voltage / for DC</li> <li>• for DC / rated value</li> </ul>                                   | mA | 2   |
|  | mA | 15  |
| <b>Fuse assignments</b>  |    | <a href="https://www.automation.siemens.com/cd-static/material/info/3RF21_eng.pdf">https://www.automation.siemens.com/cd-static/material/info/3RF21_eng.pdf</a> |

**Installation/mounting/dimensions:**






|  |     |              |
|--|-----|--------------|
| <b>Type of mounting</b>  |     | screw fixing |
| <b>Type of fixing/fixation / series installation</b>                               |     | Yes          |
| <b>Design of the thread / of the screw for fastening of the operating resource</b> |     | M4           |
| <b>Tightening torque / of the screw for fastening of the operating resource</b>    | N·m | 1.5          |
| <b>Width</b>   | mm  | 22.5         |
| <b>Height</b>  | mm  | 85           |
| <b>Depth</b>   | mm  | 48           |

**Connections:**

|  |        |   |
|--|--------|---|
| <b>Design of the 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</b>   |        |   |
| <ul style="list-style-type: none"> <li>• with screw-type terminals</li> </ul>  | N·m    | 2 ... 2.5   |
| <b>Tightening torque (lbf-in) / for main contacts</b>  |        |   |
| <ul style="list-style-type: none"> <li>• with screw-type terminals</li> </ul>  | lbf-in | 7 ... 10.3  |
| <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</li> </ul> </li> <li>• for AWG conductors <ul style="list-style-type: none"> <li>• for main contacts</li> <li>• for auxiliary and control contacts</li> </ul> </li> <li>• for auxiliary and control contacts</li> </ul> |        | 2x (1.5 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> )                      |
|  |        | 2x (1 ... 2.5 mm <sup>2</sup> ), 2x (2.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup> |
|  |        | 2x (14 ... 10)  |
|  |        | 1x (AWG 20 ... 12)  |

|  |                 |  |
|--|-----------------|--|
| <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>   |                 | 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> ) |
| <b>Conductor cross section that can be connected</b>   |                 |  |
| <ul style="list-style-type: none"> <li>• for main contacts <ul style="list-style-type: none"> <li>• solid</li> <li>• stranded wire <ul style="list-style-type: none"> <li>• with conductor end processing</li> </ul> </li> </ul> </li> <li>• for auxiliary and control contacts <ul style="list-style-type: none"> <li>• solid</li> <li>• stranded wire <ul style="list-style-type: none"> <li>• with conductor end processing /</li> <li>• without conductor final cutting</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 / for main contacts</b>   |                 | 14 ... 10  |
| <b>Design of the 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 pins</b>  |                 | M3   |
| <b>AWG number / as coded connectable conductor cross-section</b>   |                 |  |
| <ul style="list-style-type: none"> <li>• for auxiliary and control contacts</li> </ul>   |                 | 20 ... 12  |
| <b>Skinning length / of the cable / for main contacts</b>  | mm              | 7  |
| <b>Skinning length / of the cable / for auxiliary and control contacts</b>   | mm              | 7  |
| <b>Tightening torque / for auxiliary and control contacts</b>  |                 |  |
| <ul style="list-style-type: none"> <li>• with screw-type terminals</li> </ul>  | N·m             | 0.5 ... 0.6  |
| <b>Tightening torque (lbf-in) / for auxiliary and control contacts</b>   |                 |  |
| <ul style="list-style-type: none"> <li>• with screw-type terminals</li> </ul>  | lbf-in          | 4.5 ... 5.3  |

#### Certificates/approvals:

| General Product Approval  |   | EMC   | Declaration of Conformity   | Test Certificates   |
|---|---|---|---|---|
|  |  |  |  |  |
| CSA   | GOST  | UR  | C-TICK  | EG-Konf.  |
| <a href="#">Type Test Certificates/Test Report</a>                                  |   |   |   |   |
| other   |   |   |   |   |

[Environmental Confirmations](#)

#### 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

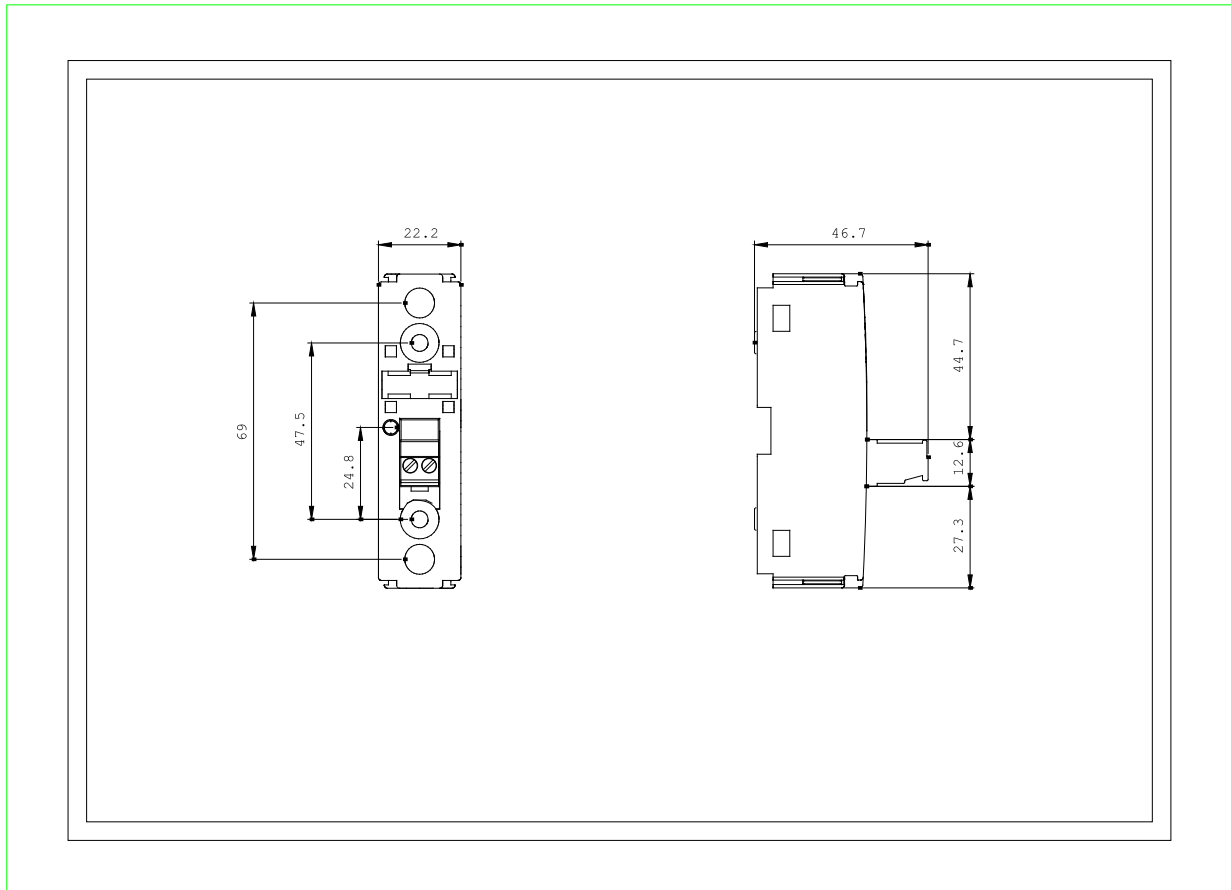
<http://www.siemens.com/cax>

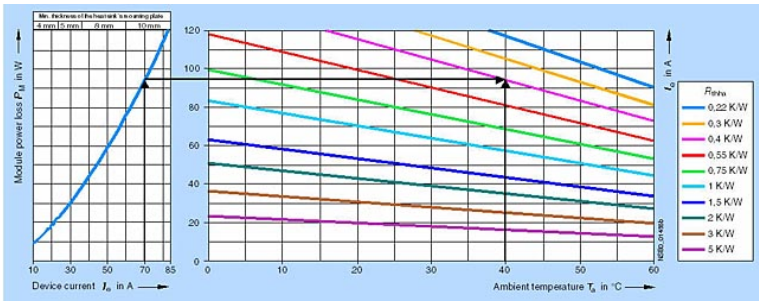
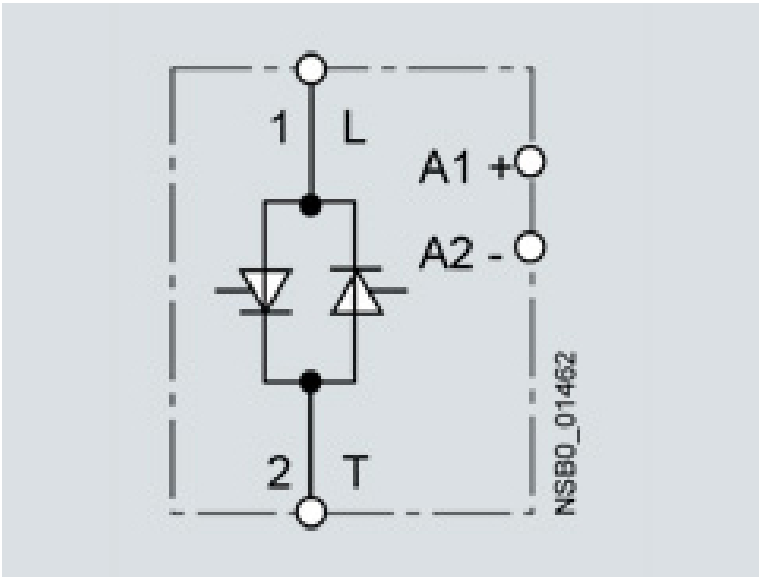
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<http://support.automation.siemens.com/WW/view/en/3RF2170-1CA04/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RF2170-1CA04](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF2170-1CA04)





last change:

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