



SEMICONDUCTOR RELAY 3RF2,  
1-PH. WIDTH 22.5MM,  
20 A 48-460 V / 24 V DC RING TERMINAL

| 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="#">3RF2920-0GA16</a> |
| Ambient temperature                                                       |    |                               |
| • during operating                                                        | °C | -25 ... +60                   |
| • during storage                                                          | °C | -55 ... +80                   |
| Installation altitude / at a height over sea level / maximum              | 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                 | 20         |
| • at AC-51 / rated value                                                              | A                 | 20         |
| <b>Operating current / minimum</b>                                                    | mA                | 100        |
| <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              | 500        |
| <b>Block 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>                                                           | °C                | 40         |
| <b>Active power loss / total / typical</b>                                            | W                 | 28.6       |
| <b>Apparent loss power / maximum</b>                                                  | V·A               | 28.6       |
| <b>Resistance against the impulse current / rated value</b>                           | A                 | 200        |
| <b>I<sup>2</sup>t-level / maximum</b>                                                 | A <sup>2</sup> ·s | 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</li> <li>• initial rated value</li> <li>• final rated value</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>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        | ring cable connection                                                                                                                                                                                                                                         |
| <b>Design of the thread / of the connection screw / for main contacts</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                          |        | M5                                                                                                                                                                                                                                                            |
| <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 / for JIS cable lug</li> <li>• for DIN cable lug / for main contacts</li> <li>• for AWG conductors <ul style="list-style-type: none"> <li>• for auxiliary and control 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> </ul> </li> </ul> |        | JIS C 2805 R 2-5, 5,5-5, 8-5, 14-5<br>DIN 46234 -5-2,5, -5-6, -5-10, -5-16, -5-25<br><br>1x (AWG 20 ... 12)<br><br>1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²)<br><br>1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²)<br>1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²) |
| <b>Conductor cross section that can be connected</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |        |                                                                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>• for auxiliary and control contacts</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |                                                                                                                                                                                                                                                               |

|                                                                                           |                 |                       |
|-------------------------------------------------------------------------------------------|-----------------|-----------------------|
| <ul style="list-style-type: none"> <li>• solid</li> </ul>                                 | mm <sup>2</sup> | 0.5 ... 2.5           |
| <ul style="list-style-type: none"> <li>• stranded wire</li> </ul>                         |                 |                       |
| <ul style="list-style-type: none"> <li>• with conductor end processing /</li> </ul>       | mm <sup>2</sup> | 0.5 ... 2.5           |
| <ul style="list-style-type: none"> <li>• without conductor final cutting</li> </ul>       | mm <sup>2</sup> | 0.5 ... 2.5           |
| <b>Design of the electrical connection / for auxiliary and control current circuit</b>    |                 | ring cable connection |
| <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                                                                            |
|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| <br>CSA | <br>GOST | <br>UR         | <br>C-TICK |
|                                                                                           |                                                                                            | <br>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

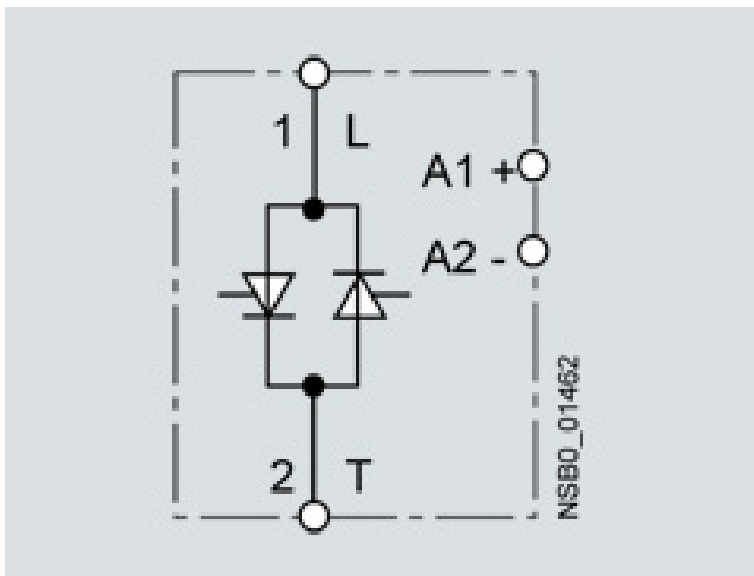
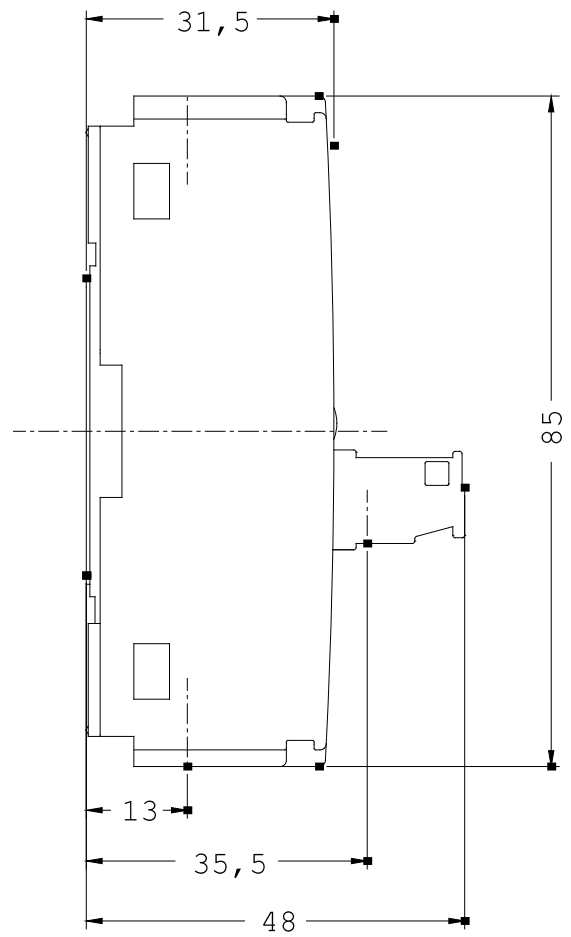
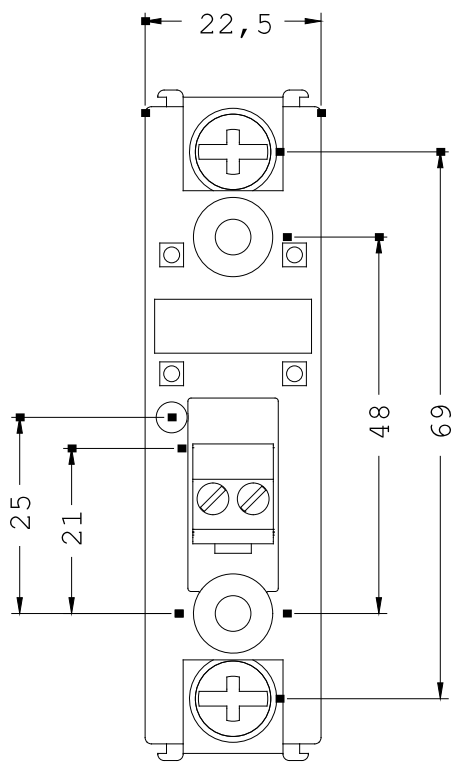
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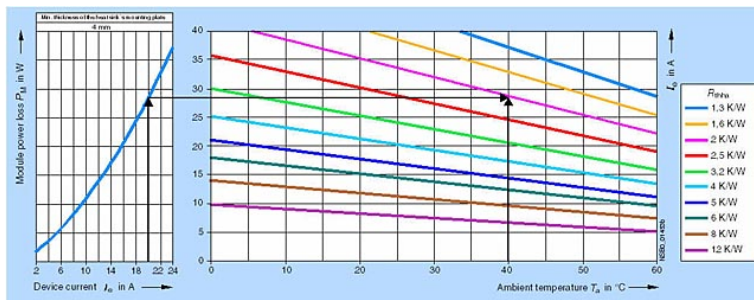
##### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<http://support.automation.siemens.com/WW/view/en/3RF2120-3AA04/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RF2120-3AA04](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF2120-3AA04)





last change:

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