

SEMICOND. RELAY 3RF2, 1-PHASE WIDTH 22.5 MM,  
20 A 24-230 V / 24 V DC SPRING-LOADED 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 _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> |
| 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>   |                   |            |
| • Rated value maximum  | A                 | 20         |
| • at AC-51 Rated value   | A                 | 20         |
| • minimum  | mA                | 100        |
| <b>Operating voltage at AC</b>   |                   |            |
| • at 50 Hz Rated value   | V                 | 24 ... 230 |
| • at 60 Hz Rated value   | V                 | 24 ... 230 |
| <b>Operating range relative to the operating voltage at AC</b>                     |                   |            |
| • at 50 Hz   | V                 | 20 ... 253 |
| • at 60 Hz   | V                 | 20 ... 253 |
| <b>Operating frequency Rated value</b>   | Hz                | 50 ... 60  |
| <b>Relative symmetrical tolerance of the operating frequency</b>                   | %                 | 10         |
| <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                 | 800        |
| <b>Reverse current of the thyristor</b>  | mA                | 10         |
| <b>Derating temperature</b>  | $^{\circ}$ C      | 40         |
| <b>Active power loss total typical</b>   | W                 | 28.6       |
| <b>Apparent power loss maximum</b>   | V·A               | 28.6       |
| <b>Surge current resistance Rated value</b>  | A                 | 200        |
| <b>I<sup>2</sup>t value maximum</b>  | A <sup>2</sup> ·s | 200        |
| <b>Short-circuit protection, design of the fuse link</b>                           |                   |            |

#### Control circuit/ Control:

|  |   |    |
|--|---|----|
| <b>Type of voltage of the control supply voltage</b> |   | DC |
| <b>Control supply voltage 1</b>                      |   |    |
| • at DC  |   |    |
| — Initial rated value                                | V | 15 |
| — Final rated value                                  | V | 24 |
| <b>Control supply voltage</b>                        |   |    |
| • at DC Full-scale value for signal<0> recognition   | V | 5  |
| <b>Control current</b>                               |   |    |
| • at minimum control supply voltage                  |   |    |

- at DC
- at DC Rated value

|    |    |
|----|----|
| mA | 2  |
| mA | 15 |

#### Installation/ mounting/ dimensions:






|   |     |              |
|---|-----|--------------|
| <b>Mounting type</b>  |     | screw fixing |
| <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  | 85           |
| <b>Depth</b>  | mm  | 48           |

#### Connections/ Terminals:

|  |  |  |
|--|--|--|
| <b>Type of electrical connection for main current circuit</b>  |  | spring-loaded terminals  |
| <b>Tightening torque for main contacts with screw-type terminals</b>   | N·m  | 2 ... 2.5  |
| <b>Type of 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 <ul style="list-style-type: none"> <li>— with core end processing</li> <li>— without core end processing</li> </ul> </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 <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> |  | 2x (0.5 ... 2.5 mm <sup>2</sup> )<br><br>2x (0.5 ... 1.5 mm <sup>2</sup> )<br>2x (0.5 ... 2.5 mm <sup>2</sup> )<br><br>2x (18 ... 14)<br>1x (AWG 20 ... 12)<br><br>0.5 ... 1.5 mm <sup>2</sup><br><br>0.5 ... 2.5 mm <sup>2</sup><br>0.5 ... 2.5 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> <li>— without 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><br><br>mm <sup>2</sup><br>mm <sup>2</sup><br><br>mm <sup>2</sup><br><br>mm <sup>2</sup><br>mm <sup>2</sup> | 0.5 ... 2.5<br><br>0.5 ... 1.5<br>0.5 ... 2.5<br><br>0.5 ... 1.5<br><br>0.5 ... 2.5<br>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> |    | 14 ... 10               |
|  |    | 20 ... 12               |
| <b>Type of electrical connection for auxiliary and control current circuit</b>   |    | spring-loaded terminals |
| <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 | 10                      |
|  | mm | 10                      |

#### Certificates/ approvals:

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

| Test Certificates                             | other                             |
|---|-----------------------------------|
| <a href="#">spezielle Prüfbescheinigungen</a> | <a href="#">Umweltbestätigung</a> |

#### Further information

##### Short-circuit protection, design of the fuse link

[https://www.automation.siemens.com/cd-static/material/info/3RF21\\_eng.pdf](https://www.automation.siemens.com/cd-static/material/info/3RF21_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

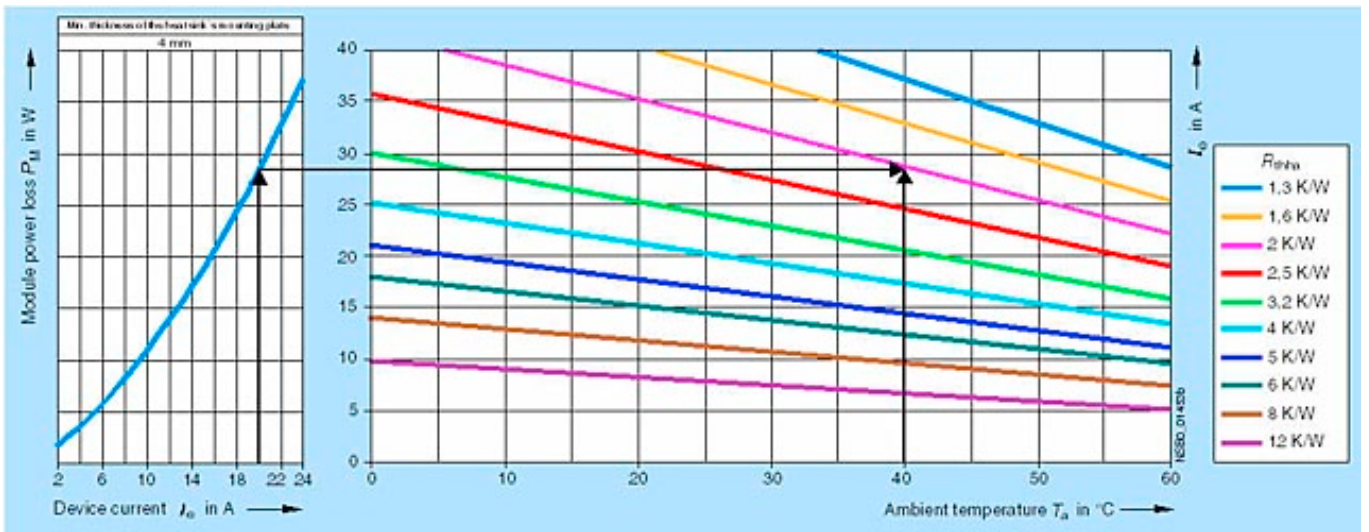
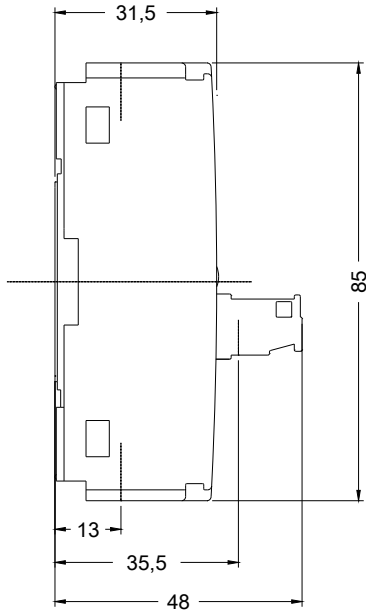
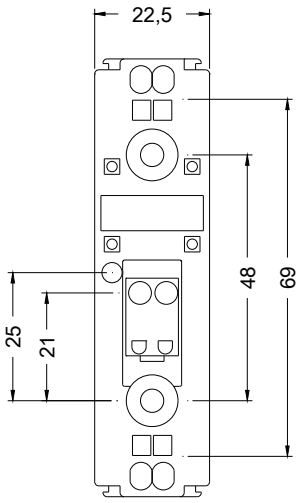
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF21202AA02>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RF21202AA02>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RF21202AA02&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF21202AA02&lang=en)



last modified:

17.07.2015