



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 operating                                                         | °C | -25 ... +60                   |
| • during storage                                                           | °C | -55 ... +80                   |
| Installation altitude / at a height over sea level / maximum               | m  | 1,000                         |
| Resistance against vibration / according to IEC 60068-2-6                  |    | 2g                            |
| Resistance against shock / according to IEC 60068-2-27                     |    | 15g / 11 ms                   |
| Item designation                                                           |    |                               |
| • according to DIN 40719 extendable after IEC 204-2 / according to IEC 750 |    | K                             |
| • according to DIN EN 61346-2                                              |    | Q                             |
| Number of NC contacts / for auxiliary contacts                             |    | 0                             |

|                                                         |  |   |
|---------------------------------------------------------|--|---|
| Number of NO contacts / for auxiliary contacts          |  | 0 |
| Number of change-over switches / for auxiliary contacts |  | 0 |

#### Main circuit:

|                                                                                                                                                  |                   |                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------|
| Number of NO contacts / for main contacts                                                                                                        |                   | 1                        |
| Number of NC contacts / for main contacts                                                                                                        |                   | 0                        |
| Operating current <ul style="list-style-type: none"> <li>• at AC-1 / at 400 V / rated value</li> <li>• at AC-51 / rated value</li> </ul>         | A<br>A            | 20<br>20                 |
| Operating current / minimum                                                                                                                      | mA                | 100                      |
| Operating voltage <ul style="list-style-type: none"> <li>• at 50 Hz / at AC / rated value</li> <li>• at 60 Hz / at AC / rated value</li> </ul>   | V<br>V            | 24 ... 230<br>24 ... 230 |
| Working area related to the operating voltage <ul style="list-style-type: none"> <li>• at 50 Hz / for AC</li> <li>• at 60 Hz / for AC</li> </ul> | V<br>V            | 20 ... 253<br>20 ... 253 |
| Operating frequency <ul style="list-style-type: none"> <li>• rated value</li> </ul>                                                              | Hz                | 50 ... 60                |
| Relative symmetrical tolerance / of the operation frequency                                                                                      | %                 | 10                       |
| Insulation voltage / rated value                                                                                                                 | V                 | 600                      |
| Voltage slew rate / at the thyristor / for main contacts / maximum permissible                                                                   | V/μs              | 500                      |
| Block voltage / at the thyristor / for main contacts / maximum permissible                                                                       | V                 | 800                      |
| Reverse current / of the thyristor                                                                                                               | mA                | 10                       |
| Derating temperature                                                                                                                             | °C                | 40                       |
| Active power loss / total / typical                                                                                                              | W                 | 28.6                     |
| Apparent loss power / maximum                                                                                                                    | V·A               | 28.6                     |
| Resistance against the impulse current / rated value                                                                                             | A                 | 200                      |
| I <sup>2</sup> t-level / maximum                                                                                                                 | A <sup>2</sup> ·s | 200                      |

#### Control circuit:

|                                                                                                                                                                                             |        |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------|
| Type of voltage / of the controlled supply voltage                                                                                                                                          |        | DC       |
| Control supply voltage / 1 <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<br>V | 15<br>24 |
| Control supply voltage <ul style="list-style-type: none"> <li>• for DC / final value for signal&lt;0&gt;-recognition</li> </ul>                                                             | V      | 5        |
| Control current <ul style="list-style-type: none"> <li>• at minimum control supply voltage / for DC</li> </ul>                                                                              | mA     | 2        |

|                                                                             |     |                                                                                                                                                                 |
|-----------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • for DC / rated value                                                      | mA  | 15                                                                                                                                                              |
| Fuse assignments                                                            |     | <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:                                           |     |                                                                                                                                                                 |
| Type of mounting                                                            |     | screw fixing                                                                                                                                                    |
| Type of fixing/fixation / series installation                               |     | Yes                                                                                                                                                             |
| Design of the thread / of the screw for fastening of the operating resource |     | M4                                                                                                                                                              |
| Tightening torque / of the screw for fastening of the operating resource    | N·m | 1.5                                                                                                                                                             |
| Width                                                                       | mm  | 22.5                                                                                                                                                            |
| Height                                                                      | mm  | 85                                                                                                                                                              |
| Depth                                                                       | mm  | 48                                                                                                                                                              |
| Connections:                                                                |     |                                                                                                                                                                 |
| Design of the electrical connection / for main current circuit              |     | spring-loaded terminals                                                                                                                                         |
| Tightening torque / for main contacts                                       |     |                                                                                                                                                                 |
| • with screw-type terminals                                                 | N·m | 2 ... 2.5                                                                                                                                                       |
| Type of the connectable conductor cross-section                             |     |                                                                                                                                                                 |
| • for main contacts                                                         |     |                                                                                                                                                                 |
| • solid                                                                     |     | 2x (0.5 ... 2.5 mm²)                                                                                                                                            |
| • finely stranded                                                           |     |                                                                                                                                                                 |
| • with conductor end processing                                             |     | 2x (0.5 ... 1.5 mm²)                                                                                                                                            |
| • without conductor final cutting                                           |     | 2x (0.5 ... 2.5 mm²)                                                                                                                                            |
| • for AWG conductors                                                        |     |                                                                                                                                                                 |
| • for main contacts                                                         |     | 2x (18 ... 14)                                                                                                                                                  |
| • for auxiliary and control contacts                                        |     | 1x (AWG 20 ... 12)                                                                                                                                              |
| • for auxiliary and control contacts                                        |     |                                                                                                                                                                 |
| • solid                                                                     |     | 0.5 ... 1.5 mm²                                                                                                                                                 |
| • finely stranded                                                           |     |                                                                                                                                                                 |
| • with conductor end processing                                             |     | 0.5 ... 2.5 mm²                                                                                                                                                 |
| • without conductor final cutting                                           |     | 0.5 ... 2.5 mm²                                                                                                                                                 |
| Conductor cross section that can be connected                               |     |                                                                                                                                                                 |
| • for main contacts                                                         |     |                                                                                                                                                                 |
| • solid                                                                     | mm² | 0.5 ... 2.5                                                                                                                                                     |
| • stranded wire                                                             |     |                                                                                                                                                                 |
| • with conductor end processing                                             | mm² | 0.5 ... 1.5                                                                                                                                                     |
| • without conductor final cutting                                           | mm² | 0.5 ... 2.5                                                                                                                                                     |
| • for auxiliary and control contacts                                        |     |                                                                                                                                                                 |
| • solid                                                                     | mm² | 0.5 ... 1.5                                                                                                                                                     |

|                                                                                                          |                 |                         |
|----------------------------------------------------------------------------------------------------------|-----------------|-------------------------|
| • stranded wire                                                                                          |                 |                         |
| • with conductor end processing /                                                                        | mm <sup>2</sup> | 0.5 ... 2.5             |
| • without conductor final cutting                                                                        | 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>                   |                 | spring-loaded terminals |
| <b>AWG number / as coded connectable conductor cross-section</b><br>• for auxiliary and control contacts |                 | 20 ... 12               |
| <b>Skinning length / of the cable / for main contacts</b>                                                | mm              | 10                      |
| <b>Skinning length / of the cable / for auxiliary and control contacts</b>                               | mm              | 10                      |

#### Certificates/approvals:

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

#### 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

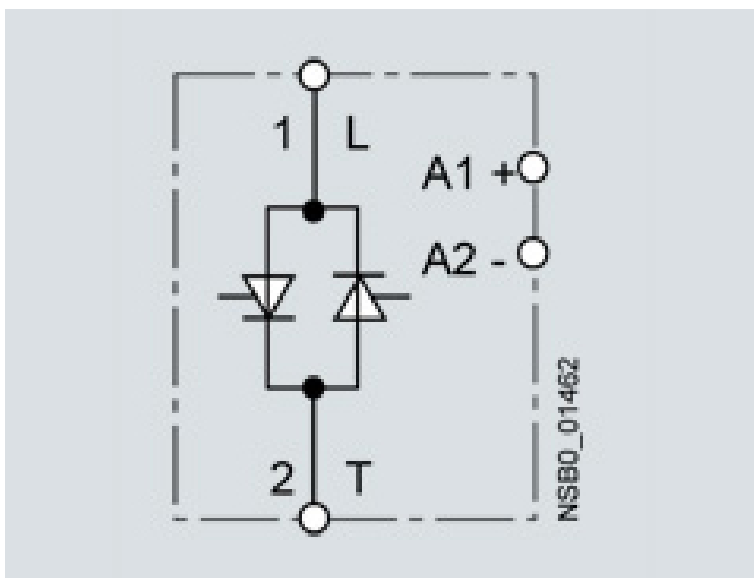
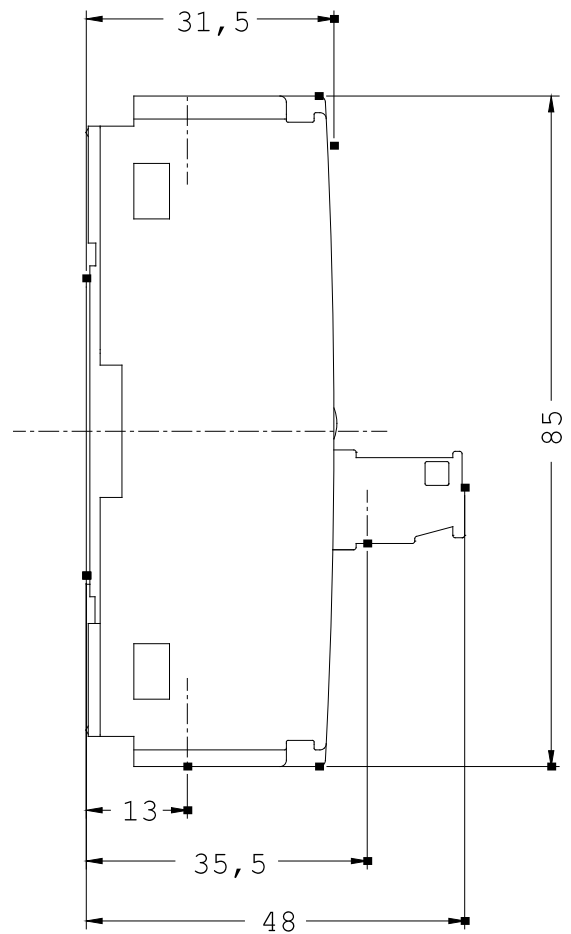
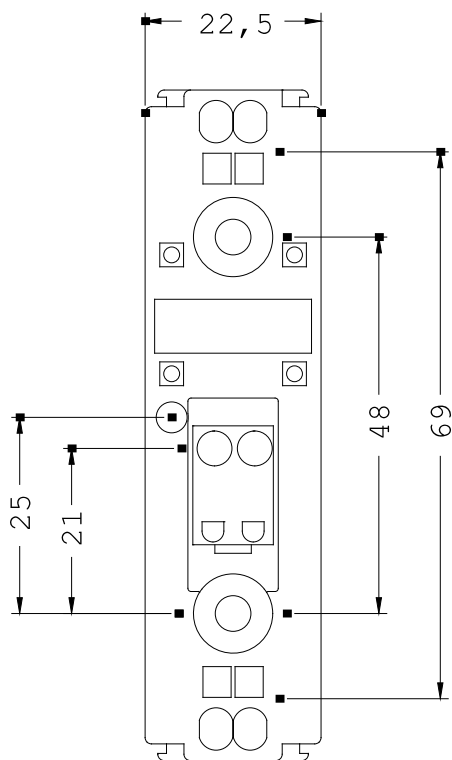
<http://www.siemens.com/cax>

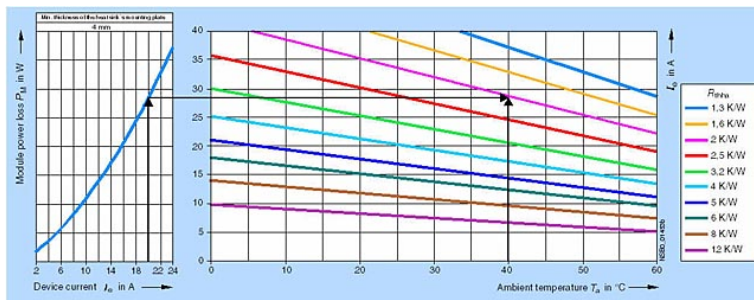
##### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<http://support.automation.siemens.com/WW/view/en/3RF2120-2AA02/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RF2120-2AA02](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF2120-2AA02)





last change:

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