



SEMI-COND. CONTACTOR 3RF2,1-PH. AC 51 20 A 40  
DEGREES C 24-230 V / 24 V DC LOW NOISE

### General technical data:

|                                                                            |    |                               |
|----------------------------------------------------------------------------|----|-------------------------------|
| product brand name                                                         |    | SIRIUS                        |
| product designation                                                        |    | solid-state contactor         |
| Product function                                                           |    | low noise                     |
| 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                | 500                      |
| 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                |
| Insulation voltage / rated value                                                                                                                 | V                 | 600                      |
| Voltage slew rate / at the thyristor / for main contacts / maximum permissible                                                                   | V/μs              | 1,000                    |
| Block voltage / at the thyristor / for main contacts / maximum permissible                                                                       | V                 | 800                      |
| Reverse current / of the thyristor                                                                                                               | mA                | 25                       |
| Derating temperature                                                                                                                             | °C                | 40                       |
| Active power loss / total / typical                                                                                                              | W                 | 20                       |
| Resistance against the impulse current / rated value                                                                                             | A                 | 600                      |
| I <sup>2</sup> t-level / maximum                                                                                                                 | A <sup>2</sup> ·s | 1,800                    |

#### 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> <li>• for DC / rated value</li> </ul>                                              | mA<br>mA | 2<br>15  |

**Installation/mounting/dimensions:**

|                                                                                    |     |                                                              |
|------------------------------------------------------------------------------------|-----|--------------------------------------------------------------|
| <b>Type of mounting</b>                                                            |     | screw and snap-on mounting onto 35 mm standard mounting rail |
| <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  | 100                                                          |
| <b>Depth</b>                                                                       | mm  | 140.5                                                        |

**Connections:**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                |                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Design of the electrical connection / for main current circuit</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                | spring-loaded terminals                                                                                                                                                                                                                                          |
| <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 <ul style="list-style-type: none"> <li>• with conductor end processing</li> <li>• without conductor final cutting</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 conductor end processing</li> <li>• without conductor final cutting</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>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> <li>• without conductor final cutting</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><br><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><br>0.5 ... 0.5<br>0.5 ... 2.5<br><br>0.5 ... 1.5<br><br>0.5 ... 2.5<br>0.5 ... 2.5                                                                                                                                                           |

|                                                                                                   |    |                         |
|---------------------------------------------------------------------------------------------------|----|-------------------------|
| AWG number / as coded connectable conductor cross-section / for main contacts                     |    | 14 ... 18               |
| Design of the electrical connection / for auxiliary and control current circuit                   |    | spring-loaded terminals |
| AWG number / as coded connectable conductor cross-section<br>• for auxiliary and control contacts |    | 20 ... 12               |
| Skinning length / of the cable / for main contacts                                                | mm | 7                       |
| Skinning length / of the cable / for auxiliary and control contacts                               | mm | 7                       |

#### Certificates/approvals:

| General Product Approval                                                          |                                                                                   |                                                                                   | EMC                                                                               | Declaration of Conformity                                                           |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |
| CSA                                                                               | GOST                                                                              | UL                                                                                | 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

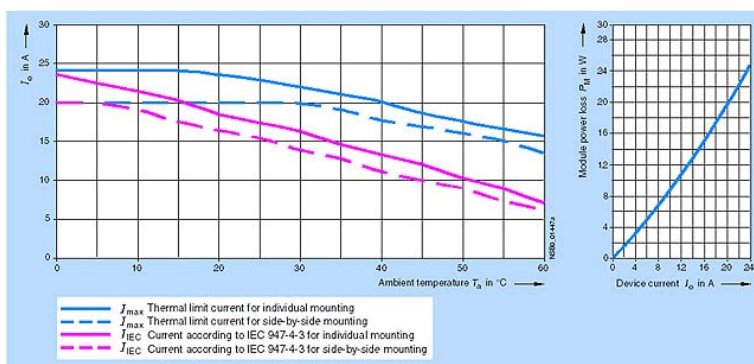
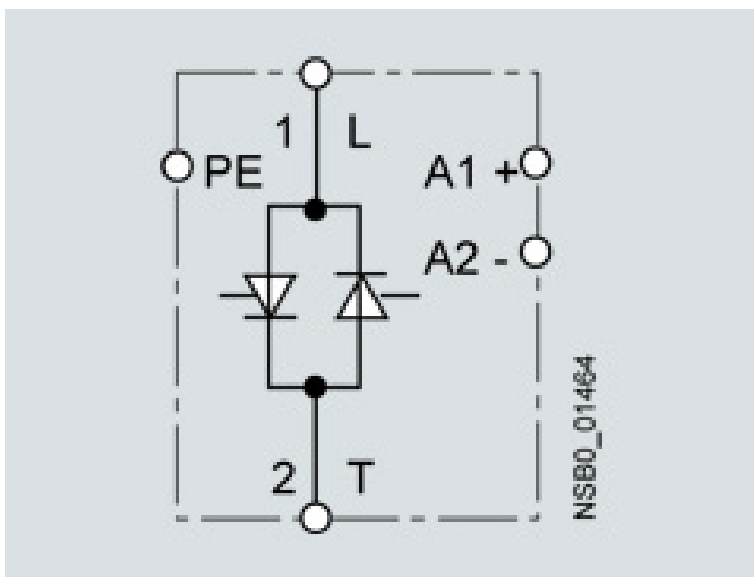
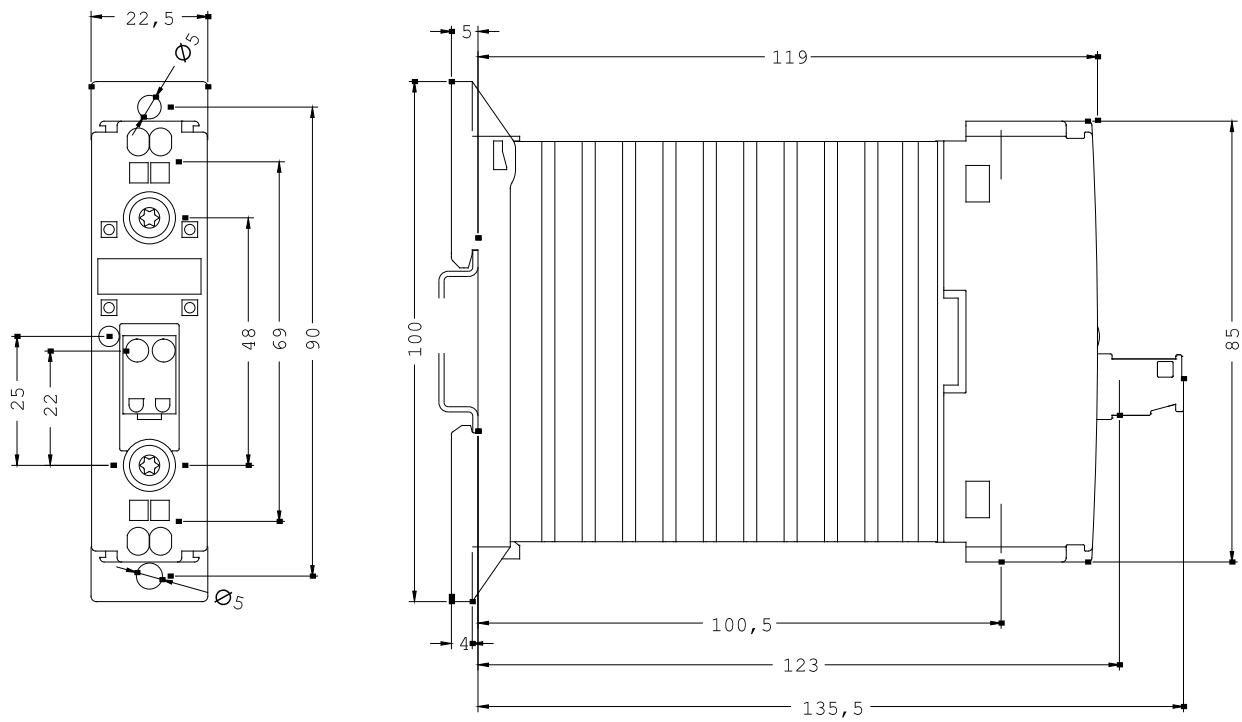
<http://www.siemens.com/cax>

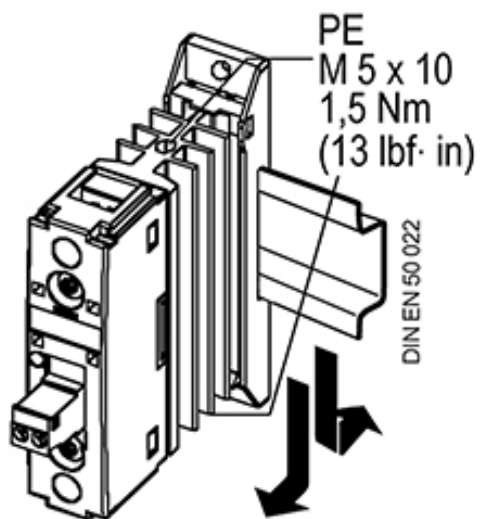
##### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<http://support.automation.siemens.com/WW/view/en/3RF2320-2CA02/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RF2320-2CA02](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF2320-2CA02)





last change:

Feb 4, 2013