

SEMI-CONDUCTOR CONTAC.3-PH.3RF2 AC51 40A 40  
DEG. C 48-600V / 4-30V DC 3-PHASE CONTROLLED  
SCREW TERMINAL BLOCKING VOLTAGE 1200V



### General technical data:

|                                                                            |    |                               |
|----------------------------------------------------------------------------|----|-------------------------------|
| product brand name                                                         |    | SIRIUS                        |
| product designation                                                        |    | solid-state contactor         |
| Product function                                                           |    | zero-point switching          |
| Number of poles / for main current circuit                                 |    | 3                             |
| Protection class IP                                                        |    | IP20                          |
| Product designation / _2 / of the accessories that can be ordered          |    | converter                     |
| Manufacturer article number / _2 / 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                                      |                                                                                                                                                                 | 3          |
| Number of NC contacts / for main contacts                                      |                                                                                                                                                                 | 0          |
| Operating current / at AC-1 / at 400 V / rated value                           | A                                                                                                                                                               | 40         |
| Operating current / at AC-51 / rated value                                     | A                                                                                                                                                               | 40         |
| Reverse current / of the thyristor                                             | mA                                                                                                                                                              | 10         |
| Derating temperature                                                           | °C                                                                                                                                                              | 40         |
| Operating current / minimum                                                    | mA                                                                                                                                                              | 500        |
| Resistance against the impulse current / rated value                           | A                                                                                                                                                               | 1,150      |
| I <sup>2</sup> t-level / maximum                                               | A <sup>2</sup> ·s                                                                                                                                               | 6,600      |
| Operating voltage                                                              |                                                                                                                                                                 |            |
| • at 50 Hz / at AC / rated value                                               | V                                                                                                                                                               | 48 ... 600 |
| • at 60 Hz / at AC / rated value                                               | V                                                                                                                                                               | 48 ... 600 |
| Working area related to the operating voltage                                  |                                                                                                                                                                 |            |
| • at 50 Hz / for AC                                                            | V                                                                                                                                                               | 40 ... 660 |
| • at 60 Hz / for AC                                                            | V                                                                                                                                                               | 40 ... 660 |
| Operating frequency                                                            |                                                                                                                                                                 |            |
| • rated value                                                                  | 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                                                                                                                                                            | 1,000      |
| Block voltage / at the thyristor / for main contacts / maximum permissible     | V                                                                                                                                                               | 1,600      |
| Fuse assignments                                                               | <a href="https://www.automation.siemens.com/cd-static/material/info/3RF24_eng.pdf">https://www.automation.siemens.com/cd-static/material/info/3RF24_eng.pdf</a> |            |

#### Control circuit:

|                                                                         |    |          |
|-------------------------------------------------------------------------|----|----------|
| Type of voltage / of the controlled supply voltage                      |    | DC       |
| Control supply voltage / 1                                              |    |          |
| • for DC                                                                | V  | 4 ... 30 |
| Control supply voltage / for DC / final value for signal<0>-recognition | V  | 1        |
| Tolerance of the line frequency                                         | Hz | 5        |
| Control current                                                         |    |          |
| • at minimum control supply voltage / for DC                            | mA | 2        |
| • for DC / rated value                                                  | mA | 30       |

#### 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  | 157.5        |
| <b>Height</b>                                                                      | mm  | 100          |
| <b>Depth</b>                                                                       | mm  | 121          |

#### 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><br>• with screw-type terminals                                                                                                                                                                                                                                                                                                             | N·m                                         | 2 ... 2.5                                                                                                                                                                                                                                                                                       |
| <b>Tightening torque (lbf·in) / for main contacts</b><br>• with screw-type terminals                                                                                                                                                                                                                                                                                                    | lbf·in                                      | 18 ... 22                                                                                                                                                                                                                                                                                       |
| <b>Type of the connectable conductor cross-section</b><br>• for main contacts<br>• solid<br>• finely stranded<br>• with conductor end processing<br>• for AWG conductors<br>• for main contacts<br>• for auxiliary and control contacts<br>• for auxiliary and control contacts<br>• solid<br>• finely stranded<br>• with conductor end processing<br>• without conductor final cutting |                                             | 2x (1.5 ... 2.5 mm²), 2x (2.5 ... 6 mm²)<br><br>2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm²<br><br>2x (14 ... 10)<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><br>• for main contacts<br>• solid<br>• stranded wire<br>• with conductor end processing<br>• for auxiliary and control contacts<br>• solid<br>• stranded wire<br>• with conductor end processing /<br>• without conductor final cutting                                                                                            | mm²<br><br>mm²<br><br>mm²<br><br>mm²<br>mm² | 1.5 ... 6<br><br>1 ... 10<br><br>0.5 ... 2.5<br>0.5 ... 2.5<br>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><br>• for auxiliary and control contacts |        | 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><br>• with screw-type terminals             | N·m    | 0.5 ... 0.6          |
| <b>Tightening torque (lbf·in) / for auxiliary and control contacts</b><br>• with screw-type terminals    | lbf·in | 7.5 ... 5.3          |

#### Certificates/approvals:

| General Product Approval                                                                 | EMC                                                                                         | Declaration of Conformity                                                                       | Test Certificates                                  |
|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------|
| <br>CSA | <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:**

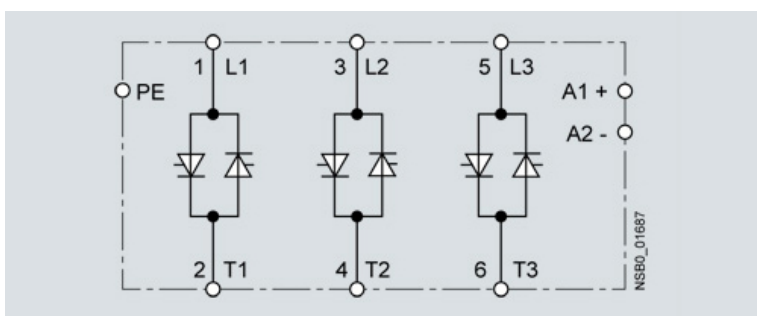
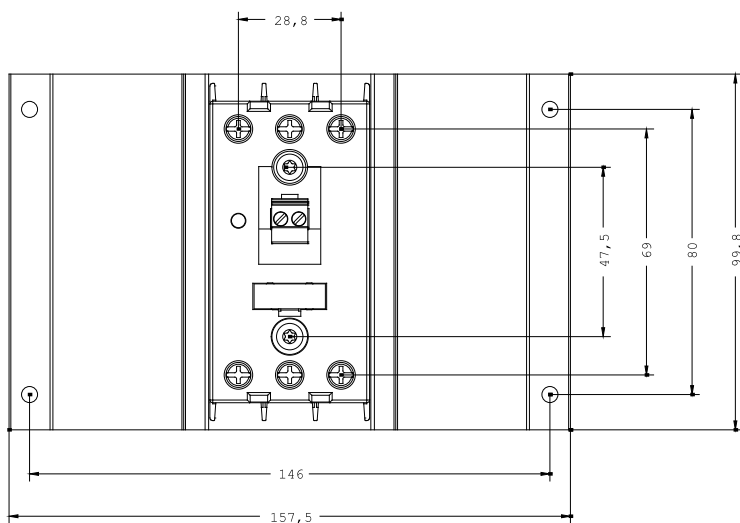
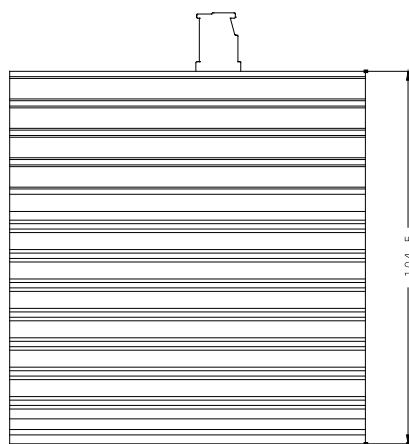
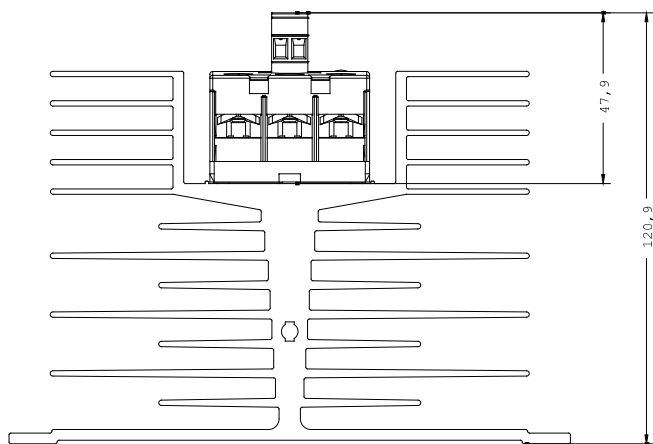
<http://www.siemens.com/cax>

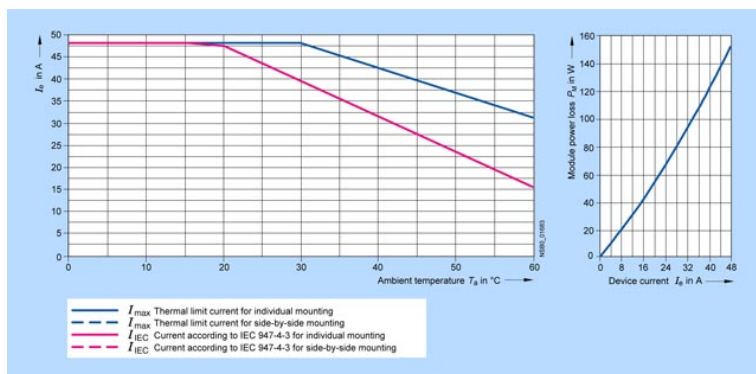
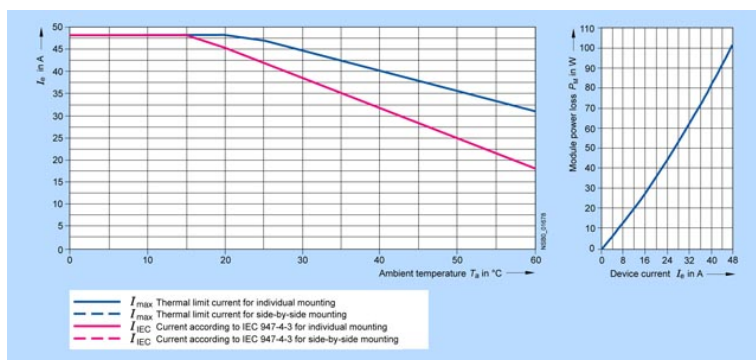
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

<http://support.automation.siemens.com/WW/view/en/3RF2440-1AC45/all>

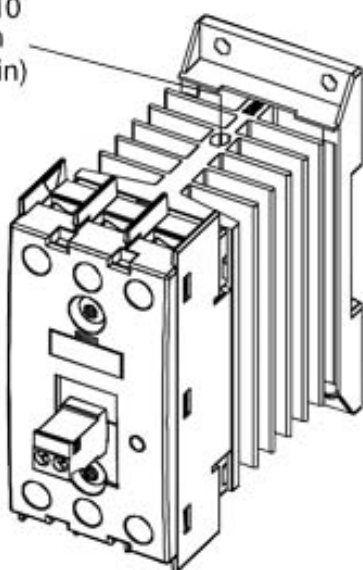
**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)**

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RF2440-1AC45](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF2440-1AC45)





PE  
M 5 x 10  
1,5 Nm  
(13 lb·in)



last change:

Feb 4, 2013