

SEMI-COND. CONTACTOR 3RF2,1-PH. AC 51  
70A/AC15 27.5A 40 DEG. C 24-230 V / 24 V DC  
INSTANTANEOUS SWITCHING



General technical data:

|   |                               |
|---|-------------------------------|
| product brand name  | SIRIUS                        |
| Product designation   | solid-state contactor         |
| Product function  | instantaneous switching       |
| Number of poles for main current circuit                              | 1                             |
| Protection class IP   | IP00                          |
| 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 _2 of the accessories that can be ordered         | power regulator               |
| Manufacturer article number _2 of the accessories that can be ordered | <a href="#">3RF2990-0HA13</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="#">3RF2990-0GA13</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          |
| Operating current   |                   |            |
| • at AC-51 Rated value  | A                 | 70         |
| Operating current minimum   | mA                | 500        |
| Operating voltage at AC   |                   |            |
| • at 50 Hz Rated value  | V                 | 24 ... 230 |
| • at 60 Hz Rated value  | V                 | 24 ... 230 |
| Operating range relative to the operating voltage at AC                     |                   |            |
| • at 50 Hz  | V                 | 20 ... 253 |
| • at 60 Hz  | V                 | 20 ... 253 |
| Operating frequency Rated value   | Hz                | 50 ... 60  |
| Insulation voltage Rated value  | V                 | 600        |
| Rate of voltage rise at the thyristor for main contacts maximum permissible | V/μs              | 1 000      |
| Blocking 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                 | 83         |
| Surge current resistance Rated value  | A                 | 1 150      |
| I <sup>2</sup> t value maximum  | A <sup>2</sup> ·s | 6 600      |

#### Control circuit/ Control:

|   |  |    |
|---|--|----|
| Type of voltage of the control supply voltage |  | DC |
| Control supply voltage 1                      |  |    |
| • 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>                             |    |    |
| • <b>at minimum control supply voltage</b>         |    |    |
| — at DC  | mA | 2  |
| • at DC Rated value                                | 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  | 135          |
| <b>Height</b>   | mm  | 100          |
| <b>Depth</b>  | mm  | 157.5        |

#### Connections/ Terminals:

|   |                 |  |
|---|-----------------|--|
| <b>Type of 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 with screw-type terminals</b>                  | N·m             | 2 ... 2.5  |
| <b>Type of connectable conductor cross-section for main contacts</b>                  |                 |  |
| • for JIS cable lug   |                 | JIS C 2805 R 2-5, 5,5-5, 8-5, 14-5                                   |
| <b>Type of connectable conductor cross-section</b>                                    |                 |  |
| • for DIN cable lug for main contacts   |                 | DIN 46234 -5-2,5, -5-6, -5-10, -5-16, -5-25                          |
| • for AWG conductors  |                 |  |
| — for auxiliary and control contacts  |                 | 1x (AWG 20 ... 12)   |
| <b>Type of connectable conductor cross-section for auxiliary and control contacts</b> |                 |  |
| • solid   |                 | 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> ) |
| • finely stranded   |                 |  |
| — with core end processing  |                 | 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> ) |
| — without core end processing   |                 | 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> ) |
| <b>Connectable conductor cross-section</b>  |                 |  |
| • for auxiliary and control contacts  |                 |  |
| — solid   | mm <sup>2</sup> | 0.5 ... 2.5  |
| — finely stranded   |                 |  |
| — with core end processing  | mm <sup>2</sup> | 0.5 ... 2.5  |

|  |                 |                       |
|--|-----------------|-----------------------|
| — without core end processing  | mm <sup>2</sup> | 0.5 ... 2.5           |
| <b>AWG number as coded connectable conductor cross section</b>                                 |                 |                       |
| • for auxiliary and control contacts   |                 | 20 ... 12             |
| <b>Type of 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 contacts</b>      |                 | M3                    |
| <b>Wire stripping length of the cable</b>  |                 |                       |
| • for main contacts  | mm              | 10                    |
| • for auxiliary and control contacts   | mm              | 10                    |
| <b>Tightening torque for auxiliary and control contacts with screw-type terminals</b>          | N·m             | 0.5 ... 0.6           |
| <b>Tightening torque [lbf·in] for auxiliary and control contacts with screw-type terminals</b> | lbf·in          | 4.5 ... 5.3           |

#### Certificates/ approvals:

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

#### other

[Umweltbestätigung](#)

#### Further information

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

[https://www.automation.siemens.com/cd-static/material/info/3RF23\\_eng.pdf](https://www.automation.siemens.com/cd-static/material/info/3RF23_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

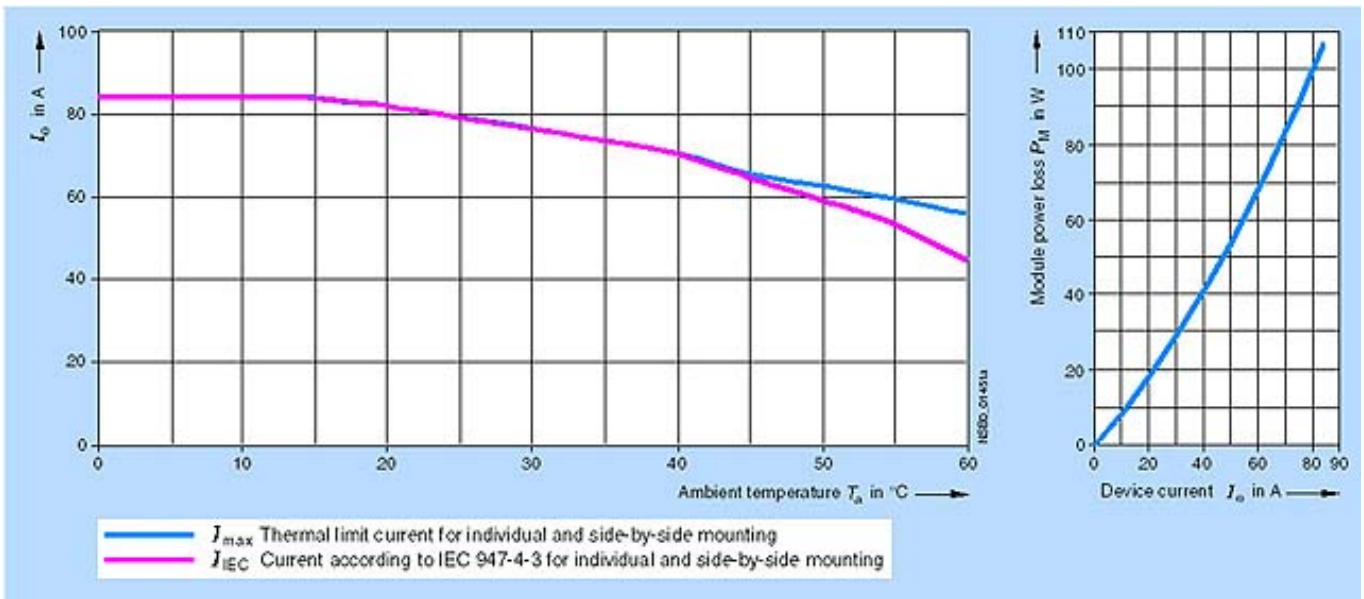
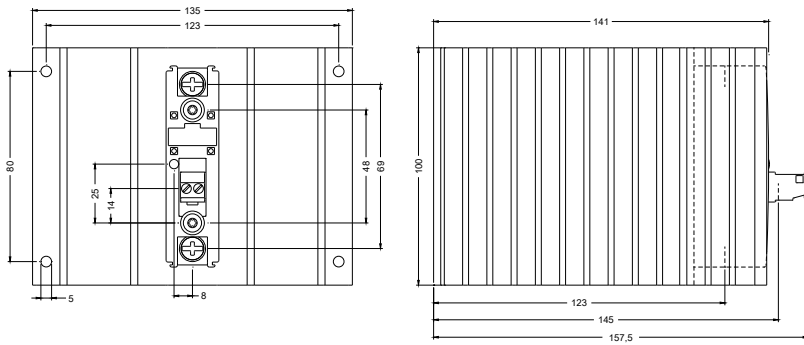
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF23703BA02>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RF23703BA02>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RF23703BA02&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF23703BA02&lang=en)



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