SIEMENS

## Product data sheet 3RF2320-1AA02

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

| General technical data: | | |
|---|---|---|
| **Product brand name** | | SIRIUS |
| **product designation** | | solid-state contactor |
| **Product function** | | zero-point switching |
| **Number of poles / for main current circuit** | | 1 |
| **Protection class IP** | | IP20 |
| **Product designation / _1 / of the accessories that can be ordered** | | terminal cover |
| **Manufacturer article number / _1 / of the accessories that can be ordered** | | 3RF2900-3PA88 |
| **Product designation / _3 / of the accessories that can be ordered** | | converter |
| **Manufacturer article number / _3 / of the accessories that can be ordered** | | 3RF2900-0EA18 |
| **Product designation / _4 / of the accessories that can be ordered** | | load monitoring |
| **Manufacturer article number / _4 / of the accessories that can be ordered** | | 3RF2920-0GA13 |
| **Product designation / _5 / of the accessories that can be ordered** | | load monitoring, basis |
| **Manufacturer article number / _5 / of the accessories that can be ordered** | | 3RF2920-0FA08 |
| **Ambient temperature** | | |


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| | | |
|---|---|---|
| • 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** | | |
| • at AC-1 / at 400 V / rated value | A | 20 |
| • at AC-51 / rated value | A | 20 |
| **Operating current / minimum** | mA | 500 |
| **Operating voltage** | | |
| • at 50 Hz / at AC / rated value | V | 24 … 230 |
| • at 60 Hz / at AC / rated value | V | 24 … 230 |
| **Working area related to the operating voltage** | | |
| • at 50 Hz / for AC | V | 20 … 253 |
| • at 60 Hz / for AC | V | 20 … 253 |
| **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 | 800 |
| **Reverse current / of the thyristor** | mA | 10 |
| **Derating temperature** | °C | 40 |
| **Active power loss / total / typical** | W | 20 |
| **Resistance against the impulse current / rated value** | A | 600 |
| **I2t-level / maximum** | $A^2 \cdot s$ | 1,800 |

## Control circuit:


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| | | |
|---|---|---|
| **Type of voltage / of the controlled supply voltage** | | DC |
| **Control supply voltage / 1** | | |
| • for DC | | |
| • initial rated value | V | 15 |
| • final rated value | V | 24 |
| **Control supply voltage** | | |
| • for DC / final value for signal<0>-recognition | V | 5 |
| **Control current** | | |
| • at minimum control supply voltage / for DC | mA | 2 |
| • for DC / rated value | mA | 15 |
| **Fuse assignments** | | https://www.automation.siemens.com/cd-static/material/info/3RF21_eng.pdf |

## Installation/mounting/dimensions:

| | | |
|---|---|---|
| **Type of mounting** | | screw and snap-on mounting onto 35 mm standard mounting rail |
| **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 | 100 |
| **Depth** | mm | 140.5 |

## Connections:

| | | |
|---|---|---|
| **Design of the electrical connection / for main current circuit** | | screw-type terminals |
| **Design of the thread / of the connection screw / for main contacts** | | M4 |
| **Tightening torque / for main contacts** | | |
| • with screw-type terminals | N·m | 2 … 2.5 |
| **Tightening torque (lbf·in) / for main contacts** | | |
| • with screw-type terminals | lbf·in | 18 … 22 |
| **Type of the connectable conductor cross-section** | | |
| • for main contacts | | |
| • solid | | 2x (1.5 ... 2.5 mm2), 2x (2.5 ... 6 mm2) |
| • finely stranded | | |
| • with conductor end processing | | 2x (1 ... 2.5 mm2), 2x (2.5 ... 6 mm2), 1x 10 mm2 |
| • for AWG conductors | | |
| • for main contacts | | 2x (14 ... 10) |
| • for auxiliary and control contacts | | 1x (AWG 20 ... 12) |
| • for auxiliary and control contacts | | |


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| | | |
|---|---|---|
| • solid | | 1x (0.5 ... 2.5 mm2), 2x (0.5 ... 1.0 mm2) |
| • finely stranded | | |
| • with conductor end processing | | 1x (0.5 ... 2.5 mm2), 2x (0.5 ... 1.0 mm2) |
| • without conductor final cutting | | 1x (0.5 ... 2.5 mm2), 2x (0.5 ... 1.0 mm2) |
| **Conductor cross section that can be connected** | | |
| • for main contacts | | |
| • solid | mm² | 1.5 … 6 |
| • stranded wire | | |
| • with conductor end processing | mm² | 1 … 10 |
| • for auxiliary and control contacts | | |
| • solid | mm² | 0.5 … 2.5 |
| • stranded wire | | |
| • with conductor end processing / minimum | mm² | 0.5 … 2.5 |
| • without conductor final cutting | mm² | 0.5 … 2.5 |
| **AWG number / as coded connectable conductor cross-section / for main contacts** | | 10 … 14 |
| **Design of the electrical connection / for auxiliary and control current circuit** | | screw-type terminals |
| **Design of the thread / of the connection screw / of the auxiliary and control pins** | | M3 |
| **AWG number / as coded connectable conductor cross-section** | | |
| • 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 |
| **Tightening torque / for auxiliary and control contacts** | | |
| • with screw-type terminals | N·m | 0.5 … 0.6 |
| **Tightening torque (lbf·in) / for auxiliary and control contacts** | | |
| • with screw-type terminals | lbf·in | 4.5 … 5.3 |

## Certificates/approvals:

| General Product Approval | | Test Certificates | other |
|---|---|---|---|
| CSA | ROSTEST | Manufacturer | Manufacturer |
| UL | | | |

## 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


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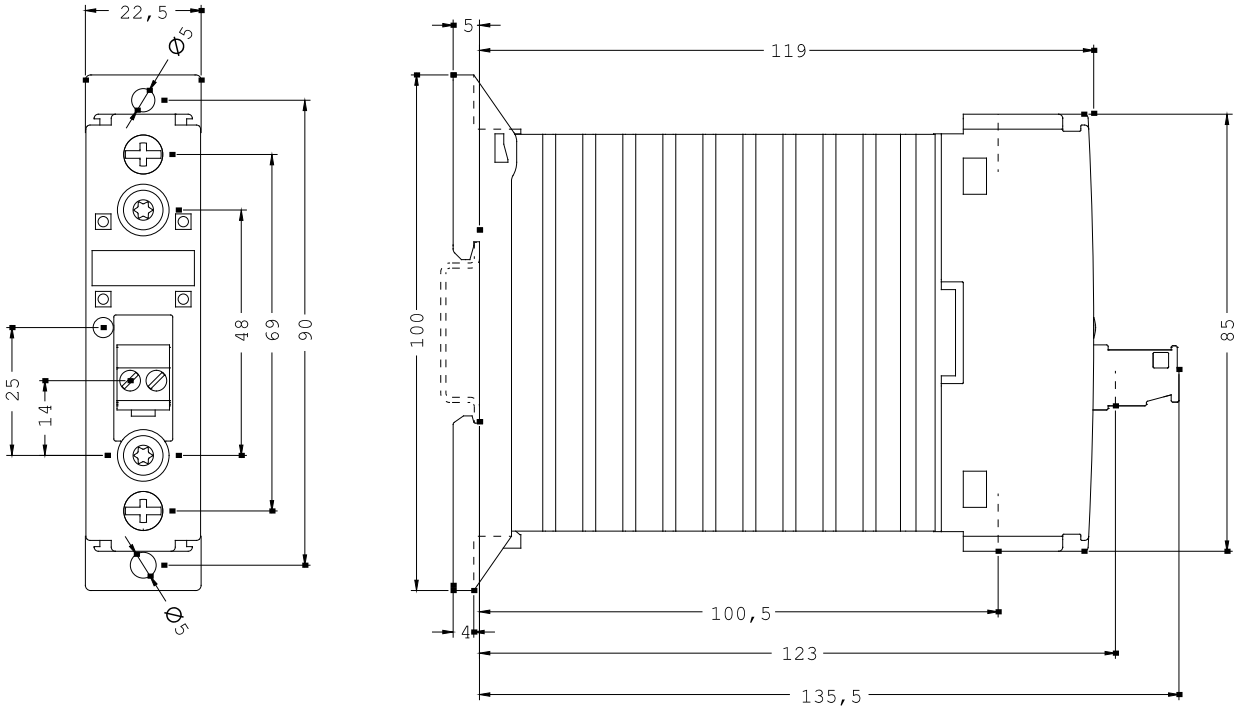
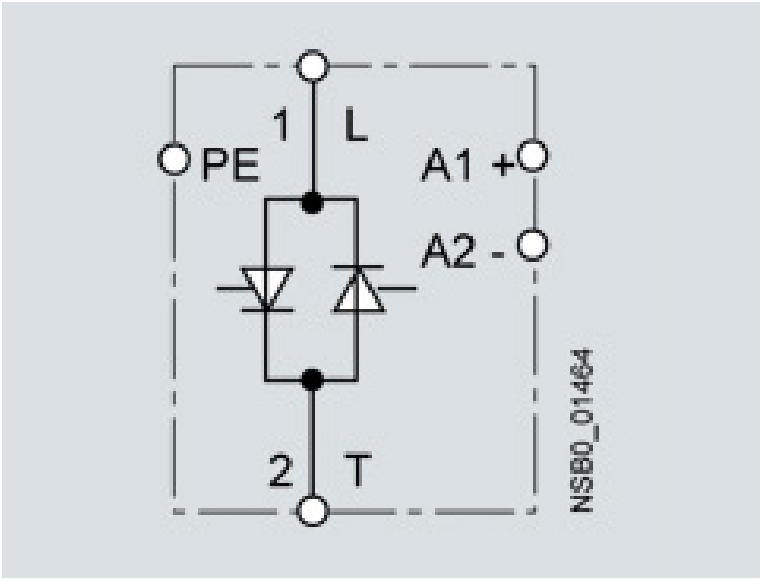
**CAx-Online-Generator**
http://www.siemens.com/cax

**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
http://support.automation.siemens.com/WW/view/en/3RF2320-1AA02/all

**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)**
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF2320-1AA02





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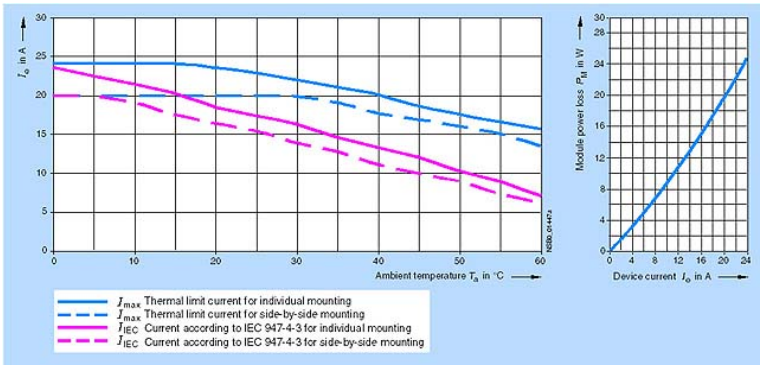


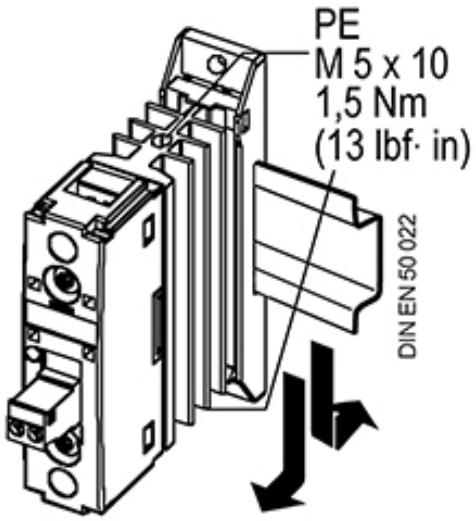


**last change:** Aug 22, 2011


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