



SEMICONDUCTOR RELAY 3RF2,
1-PH. WIDTH 22.5MM,
90 A 48-600 V / 110-230 V AC SCREW 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 / _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 / _2 / of the accessories that can be ordered | | power regulator |
| Manufacturer article number / _2 / of the accessories that can be ordered | | 3RF2950-0HA36 |
| Product designation / _4 / of the accessories that can be ordered | | load monitoring |
| Manufacturer article number / _4 / of the accessories that can be ordered | | 3RF2990-0GA36 |
| 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 | | |
| <ul style="list-style-type: none"> • according to DIN 40719 extendable after IEC 204-2 / according to IEC 750 • according to DIN EN 61346-2 | | K |
| | | 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"> • at AC-1 / at 400 V / rated value • at AC-51 / rated value | A | 90 |
| | A | 88 |
| Operating current / minimum | mA | 500 |
| Operating voltage | | |
| <ul style="list-style-type: none"> • at 50 Hz / at AC / rated value • at 60 Hz / at AC / rated value | V | 48 ... 600 |
| | V | 48 ... 600 |
| Working area related to the operating voltage | | |
| <ul style="list-style-type: none"> • at 50 Hz / for AC • at 60 Hz / for AC | V | 40 ... 660 |
| | V | 40 ... 660 |
| Operating frequency | | |
| <ul style="list-style-type: none"> • 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/ μ s | 1,000 |
| Block voltage / at the thyristor / for main contacts / maximum permissible | V | 1,600 |
| Reverse current / of the thyristor | mA | 10 |
| Derating temperature | $^{\circ}$ C | 40 |
| Active power loss / total / typical | W | 118 |
| Apparent loss power / maximum | V·A | 118 |
| Resistance against the impulse current / rated value | A | 1,150 |
| I²t-level / maximum | A ² ·s | 6,600 |

Control circuit:

| | | |
|---|----|----|
| Control supply voltage frequency | | |
| <ul style="list-style-type: none"> • 1 / rated value | Hz | 50 |

| | | |
|---|----|---|
| • 2 / rated value | Hz | 60 |
| Type of voltage / of the controlled supply voltage | | AC |
| Control supply voltage / 1 | | |
| • at 50 Hz / for AC | | |
| • initial rated value | V | 110 |
| • final rated value | V | 230 |
| • at 60 Hz / for AC | | |
| • initial rated value | V | 110 |
| • final rated value | V | 230 |
| Control supply voltage | | |
| • at 50 Hz / for AC / final value for signal<0>-recognition | V | 40 |
| • at 60 Hz / for AC / final value for signal<0>-recognition | V | 40 |
| Tolerance of the line frequency | Hz | 5 |
| Relative symmetrical tolerance / of the supply voltage frequency | % | 10 |
| Control current | | |
| • at minimum control supply voltage / for AC | mA | 2 |
| • for AC / 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 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 | | 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 | 7 ... 10.3 |
| Type of the connectable conductor cross-section | | |
| • for main contacts | | |

| | | |
|--|---|---|
| <ul style="list-style-type: none"> • solid • finely stranded <ul style="list-style-type: none"> • with conductor end processing • for AWG conductors <ul style="list-style-type: none"> • for main contacts • for auxiliary and control contacts • for auxiliary and control contacts <ul style="list-style-type: none"> • solid • finely stranded <ul style="list-style-type: none"> • with conductor end processing • without conductor final cutting | | <p>2x (1.5 ... 2.5 mm²), 2x (2.5 ... 6 mm²)</p> <p>2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), 1x 10 mm²</p> <p>2x (14 ... 10)</p> <p>1x (AWG 20 ... 12)</p> <p>1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²)</p> <p>1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²)</p> <p>1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.0 mm²)</p> |
| Conductor cross section that can be connected | | |
| <ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> • solid • stranded wire <ul style="list-style-type: none"> • with conductor end processing • for auxiliary and control contacts <ul style="list-style-type: none"> • solid • stranded wire <ul style="list-style-type: none"> • with conductor end processing / • without conductor final cutting | <p>mm²</p> <p>mm²</p> <p>mm²</p> <p>mm²</p> <p>mm²</p> | <p>1.5 ... 6</p> <p>1 ... 10</p> <p>0.5 ... 2.5</p> <p>0.5 ... 2.5</p> <p>0.5 ... 2.5</p> |
| AWG number / as coded connectable conductor cross-section / for main contacts | | 14 ... 10 |
| 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 | | |
| <ul style="list-style-type: none"> • 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 | | |
| <ul style="list-style-type: none"> • with screw-type terminals | N·m | 0.5 ... 0.6 |
| Tightening torque (lbf-in) / for auxiliary and control contacts | | |
| <ul style="list-style-type: none"> • with screw-type terminals | lbf-in | 4.5 ... 5.3 |

Certificates/approvals:

General Product Approval



EMC



Declaration of Conformity



Test Certificates

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

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

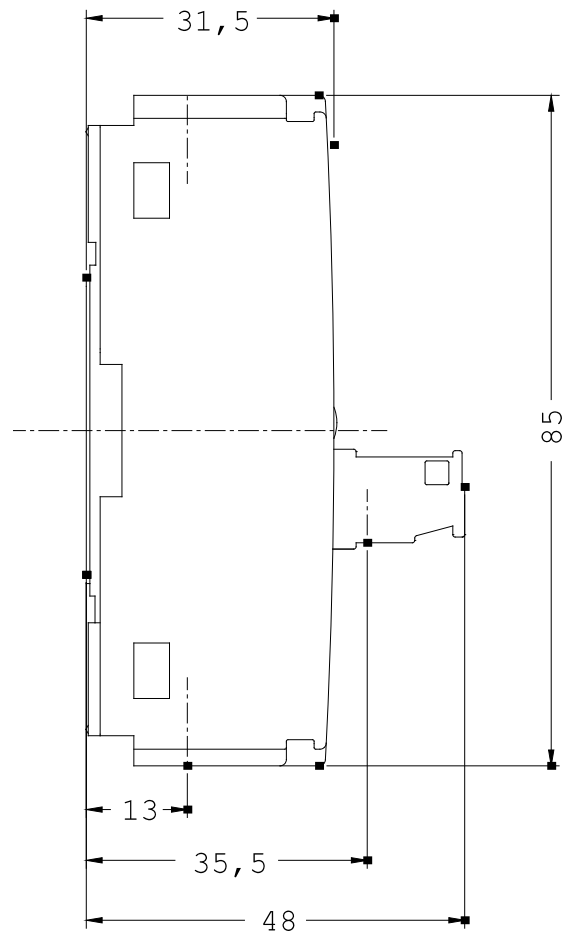
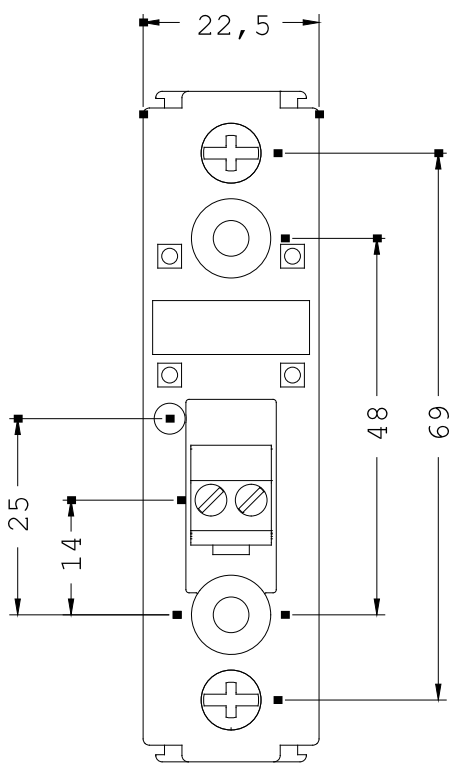
<http://www.siemens.com/cax>

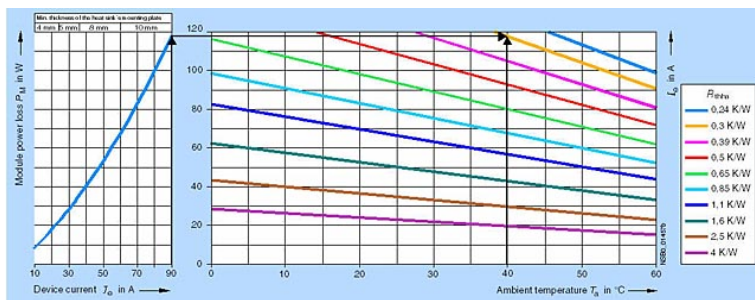
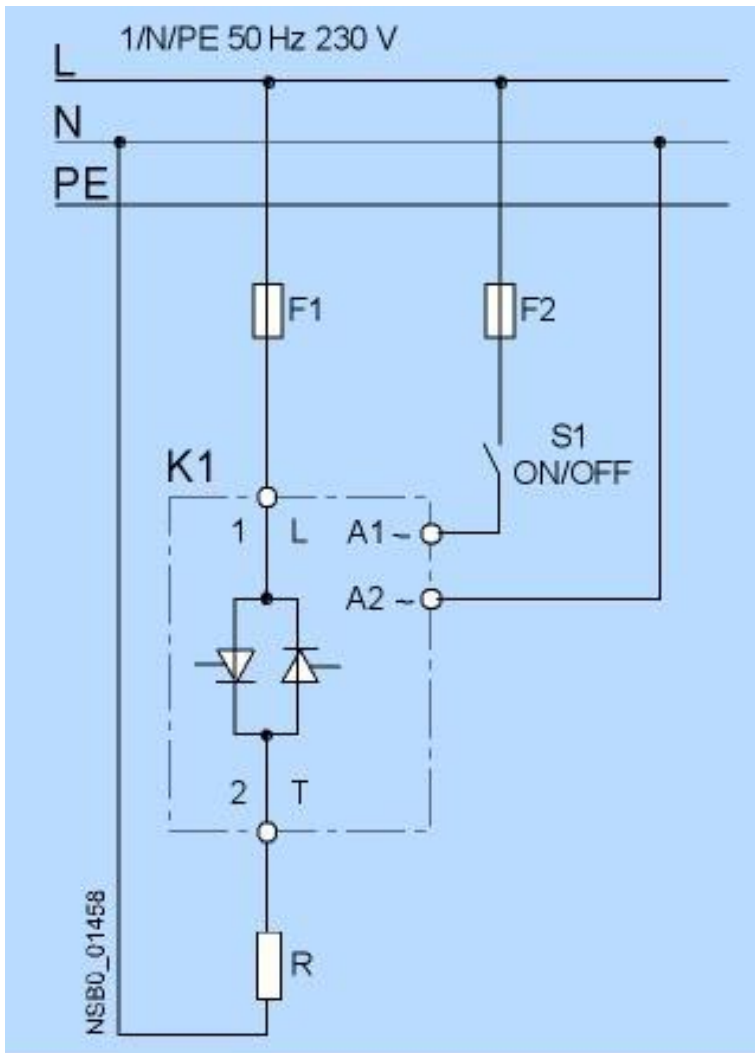
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<http://support.automation.siemens.com/WWW/view/en/3RF2190-1AA26/all>

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

http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RF2190-1AA26





last change:

Feb 4, 2013