

SEMI-COND. CONTACTOR 3RF2,1-PH. AC51 20A 40
DEGREE C 48-460 V / 4-30 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 _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 | | 3RF2920-0GA16 |
| 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 | | |
| • 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-1 at 400 V Rated value | A | 20 |
| • at AC-51 Rated value | A | 20 |
| Operating current minimum | mA | 500 |
| Operating voltage with AC | | |
| • at 50 Hz Rated value | V | 48 ... 460 |
| • at 60 Hz Rated value | V | 48 ... 460 |
| Operating range relative to the operating voltage with AC | | |
| • at 50 Hz | V | 40 ... 506 |
| • at 60 Hz | V | 40 ... 506 |
| 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/ μ s | 1 000 |
| Blocking voltage at the thyristor for main contacts maximum permissible | V | 1 200 |
| Reverse current of the thyristor | mA | 25 |
| Derating temperature | $^{\circ}$ C | 40 |
| Active power loss total typical | W | 20 |
| Surge current resistance Rated value | A | 600 |
| I²t value maximum | A ² ·s | 1 800 |

Control circuit/ Control:

| | | |
|--|---|----|
| Type of voltage of the control supply voltage | | DC |
| Control supply voltage 1 | | |
| • for DC | | |
| — Initial rated value | V | 4 |
| — Final rated value | V | 24 |
| Control supply voltage | | |
| • for DC Full-scale value for signal<0> recognition | V | 1 |
| Control current | | |

- for DC Rated value

| | |
|----|----|
| mA | 20 |
|----|----|

Installation/ mounting/ dimensions:

| | | |
|---|-----|--|
| Mounting type | | screw and snap-on mounting onto 35 mm standard mounting rail |
| Mounting type Side-by-side mounting | | Yes |
| Design of the thread of the screw for securing the equipment | | M4 |
| Tightening torque of the screw for securing the equipment | N·m | 1.5 |
| Width | mm | 22.5 |
| Height | mm | 100 |
| Depth | mm | 140.5 |

Connections/ Terminals:

| | | |
|--|-----------------|--|
| Type of 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 connectable conductor cross-section for main contacts | | |
| <ul style="list-style-type: none"> • solid | | 2x (1.5 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²) |
| <ul style="list-style-type: none"> • finely stranded <ul style="list-style-type: none"> — with core end processing | | 2x (1 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²), 1x 10 mm ² |
| Type of connectable conductor cross-section | | |
| <ul style="list-style-type: none"> • for AWG conductors <ul style="list-style-type: none"> — for main contacts — for auxiliary and control contacts | | 2x (14 ... 10) 1x (AWG 20 ... 12) |
| Type of connectable conductor cross-section for auxiliary and control contacts | | |
| <ul style="list-style-type: none"> • solid | | 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²) |
| <ul style="list-style-type: none"> • finely stranded <ul style="list-style-type: none"> — with core end processing — without core end processing | | 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²) 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²) |
| Connectable conductor cross-section | | |
| <ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — single or multi-stranded — finely stranded — with core end processing | mm ² | 1.5 ... 6 |
| <ul style="list-style-type: none"> • for auxiliary and control contacts <ul style="list-style-type: none"> — solid — finely stranded | mm ² | 1 ... 10 |
| <ul style="list-style-type: none"> • for auxiliary and control contacts <ul style="list-style-type: none"> — solid — finely stranded | mm ² | 0.5 ... 2.5 |

| | | |
|--|-----------------|----------------------|
| — with core end processing | mm ² | 0.5 ... 2.5 |
| — without core end processing | mm ² | 0.5 ... 2.5 |
| AWG number as coded connectable conductor cross section for main contacts | | 10 ... 14 |
| Type of electrical connection for auxiliary and control current circuit | | screw-type terminals |
| Design of the thread of the connection screw of the auxiliary and control contacts | | M3 |
| AWG number as coded connectable conductor cross section for auxiliary and control contacts | | 20 ... 12 |
| Wire stripping length of the cable | | |
| • for main contacts | mm | 7 |
| • 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 | EMC | Declaration of Conformity | Test Certificates |
|--------------------------|-----|---------------------------|-------------------|
|--------------------------|-----|---------------------------|-------------------|



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

other

[Environmental Confirmations](#)

Further information

Short-circuit protection, design of the fuse link

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

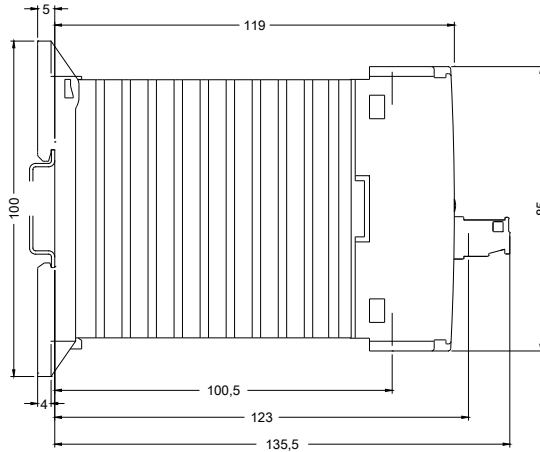
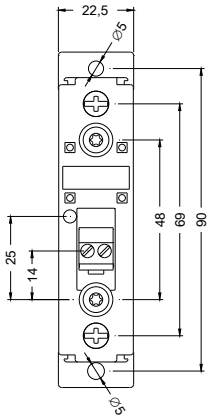
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF23201CA44>

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

<http://support.automation.siemens.com/WW/view/en/3RF23201CA44/all>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF23201CA44&lang=en



last modified:

09.03.2015