



Solid-state contactor 1-phase 3RF2 AC 51 / 20 A / 40 °C 24-230 V / 24 V
DC short circuit-proof with B miniature circuit breaker

product brand name
product designation
design of the product
product type designation
manufacturer's article number

- _1 of the accessories that can be ordered
- _3 of the accessories that can be ordered
- _4 of the accessories that can be ordered

product designation

- _1 of the accessories that can be ordered
- _3 of the accessories that can be ordered
- _4 of the accessories that can be ordered

SIRIUS
solid-state contactor
single-phase
3RF23

[3RF2900-3PA88](#)
[3RF2900-0EA18](#)
[3RF2920-0GA13](#)

terminal cover
converter
load monitoring

General technical data

| | |
|--|---|
| product function | short-circuit resistant with B-automatic device |
| power loss [W] for rated value of the current | |
| • at AC in hot operating state | 20 W |
| • at AC in hot operating state per pole | 20 W |
| • without load current share typical | 0.4 W |
| insulation voltage rated value | 600 V |
| degree of pollution | 3 |
| type of voltage of the control supply voltage | DC |
| surge voltage resistance of main circuit rated value | 6 kV |
| shock resistance according to IEC 60068-2-27 | 15g / 11 ms |
| vibration resistance according to IEC 60068-2-6 | 2g |
| reference code according to IEC 81346-2 | Q |
| Substance Prohibitance (Date) | 05/28/2009 |

Main circuit

| | |
|--|--------------|
| number of poles for main current circuit | 1 |
| number of NO contacts for main contacts | 1 |
| number of NC contacts for main contacts | 0 |
| operating voltage at AC | |
| • at 50 Hz rated value | 24 ... 230 V |
| • at 60 Hz rated value | 24 ... 230 V |
| operating frequency rated value | 50 ... 60 Hz |
| operating range relative to the operating voltage at AC | |
| • at 50 Hz | 20 ... 253 V |
| • at 60 Hz | 20 ... 253 V |
| operational current | |
| • at AC-51 rated value | 20 A |
| • at AC-51 according to IEC 60947-4-3 | 13.2 A |
| • according to UL 508 rated value | 17.6 A |

| | |
|---|-------------------------|
| operational current minimum | 500 mA |
| operational current of the MCB at AC rated value | 20 A |
| rate of voltage rise at the thyristor for main contacts maximum permissible | 1 000 V/μs |
| blocking voltage at the thyristor for main contacts maximum permissible | 800 V |
| reverse current of the thyristor | 10 mA |
| derating temperature | 40 °C |
| surge current resistance rated value | 1 150 A |
| I ² t value maximum | 6 600 A ² ·s |

Control circuit/ Control

| | |
|--|---------------------------------------|
| type of voltage of the control supply voltage | DC |
| control supply voltage 1 | 30 V |
| <ul style="list-style-type: none"> at DC rated value at DC | 15 ... 24 V |
| control supply voltage | 15 V |
| <ul style="list-style-type: none"> at DC initial value for signal <1> detection at DC full-scale value for signal<0> recognition | 5 V |
| control current at minimum control supply voltage | 13 mA |
| <ul style="list-style-type: none"> at DC | 15 mA |
| control current at DC rated value | 15 mA |
| ON-delay time | 1 ms; additionally max. one half-wave |
| OFF-delay time | 1 ms; additionally max. one half-wave |

Auxiliary circuit

| | |
|--|---|
| number of NC contacts for auxiliary contacts | 0 |
| number of NO contacts for auxiliary contacts | 0 |
| number of CO contacts for auxiliary contacts | 0 |

Installation/ mounting/ dimensions

| | |
|---|--|
| fastening method | screw fixing and snap-on mounting on standard mounting rail 35 mm according to IEC 60715 |
| <ul style="list-style-type: none"> side-by-side mounting | Yes |
| design of the thread of the screw for securing the equipment | M4 |
| height | 95 mm |
| width | 22.5 mm |
| depth | 120 mm |

Connections/ Terminals

| | |
|--|--|
| type of electrical connection | Ring cable lug connection ring terminal lug connection |
| <ul style="list-style-type: none"> for main current circuit for auxiliary and control circuit | |
| type of connectable conductor cross-sections | JIS C 2805 R 2-5, 5,5-5, 8-5, 14-5 DIN 46234 -5-2,5, -5-6, -5-10, -5-16, -5-25 |
| type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> for auxiliary and control contacts <ul style="list-style-type: none"> — solid — finely stranded with core end processing — finely stranded without core end processing at AWG cables for auxiliary and control contacts | 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) 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²) 1x (AWG 20 ... 12) |
| tightening torque | 2 ... 2.5 N·m 0.5 ... 0.6 N·m |
| <ul style="list-style-type: none"> for main contacts with screw-type terminals for auxiliary and control contacts with screw-type terminals | |
| tightening torque [lbf·in] | 4.5 ... 5.3 lbf·in |
| <ul style="list-style-type: none"> for auxiliary and control contacts with screw-type terminals | |
| design of the thread of the connection screw | M5 M3 |
| <ul style="list-style-type: none"> for main contacts of the auxiliary and control contacts | |
| stripped length of the cable | 10 mm 10 mm |
| <ul style="list-style-type: none"> for main contacts for auxiliary and control contacts | |

Safety related data

| | |
|---|-----------------------|
| protection class IP on the front according to IEC | IP00; IP20 with cover |
|---|-----------------------|

60529

touch protection on the front according to IEC 60529

finger-safe, for vertical contact from the front with cover

Ambient conditions

installation altitude at height above sea level maximum

1 000 m

ambient temperature

- during operation
- during storage

-25 ... +60 °C
-55 ... +80 °C

Electromagnetic compatibility

conducted interference

- due to burst according to IEC 61000-4-4
- due to conductor-earth surge according to IEC 61000-4-5
- due to conductor-conductor surge according to IEC 61000-4-5
- due to high-frequency radiation according to IEC 61000-4-6

2 kV / 5 kHz behavior criterion 2
2 kV behavior criterion 2

1 kV behavior criterion 2

140 dBuV in the frequency range 0.15 ... 80 MHz, behavior criterion 1

field-based interference according to IEC 61000-4-3

80 MHz ... 1 GHz 10 V/m, behavior criterion 1

electrostatic discharge according to IEC 61000-4-2

4 kV contact discharging / 8 kV air discharging, behavior criterion 2

conducted HF interference emissions according to CISPR11

Class A for industrial environment

field-bound HF interference emission according to CISPR11

Class B for the domestic, business and commercial environments

Short-circuit protection, design of the fuse link

manufacturer's article number

- of gS fuse for semiconductor protection at NH design usable
- of full range R fuse link for semiconductor protection at cylindrical design usable
- of back-up R fuse link for semiconductor protection at NH design usable
- of back-up R fuse link for semiconductor protection at cylindrical design 10 x 38 mm usable
- of back-up R fuse link for semiconductor protection at cylindrical design 14 x 51 mm usable
- of back-up R fuse link for semiconductor protection at cylindrical design 22 x 58 mm usable

[3NE1814-0](#)

[5SE1325](#)

[3NE8015-1](#)

[3NC1032](#)

[3NC1450](#)

[3NC2263](#)

manufacturer's article number of the gG fuse

- at NH design usable
- at cylindrical design 10 x 38 mm usable
- at cylindrical design 14 x 51 mm usable
- at cylindrical design 22 x 58 mm usable

[3NA6807](#)

[3NW6007-1](#)

[3NW6107-1](#)

[3NW6207-1](#)

manufacturer's article number

- of DIAZED fuse usable
- of NEOZED fuse usable

[5SB2711](#)

[5SE2320](#)

Certificates/ approvals

General Product Approval

EMC

Declaration of Conformity



[Confirmation](#)



Declaration of Conformity

Test Certificates

other



[Type Test Certificates/Test Report](#)

[Confirmation](#)



Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information- and Downloadcenter (Catalogs, Brochures,...)

<https://www.siemens.com/ic10>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RF2320-3DA02>

Cax online generator

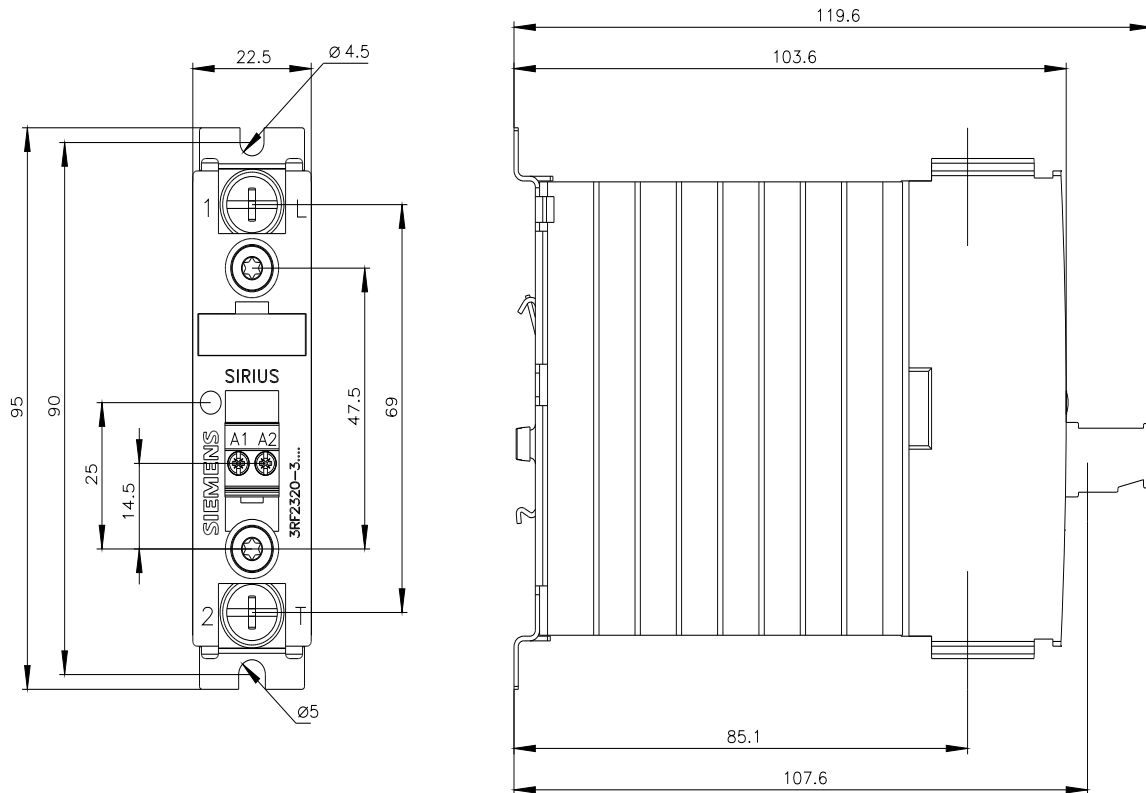
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2320-3DA02>

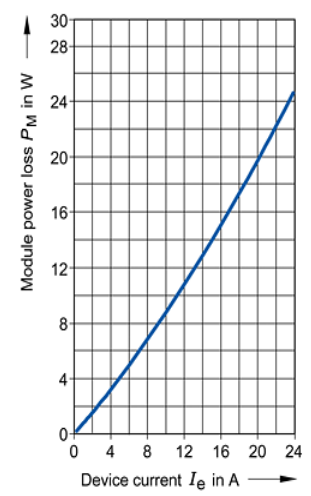
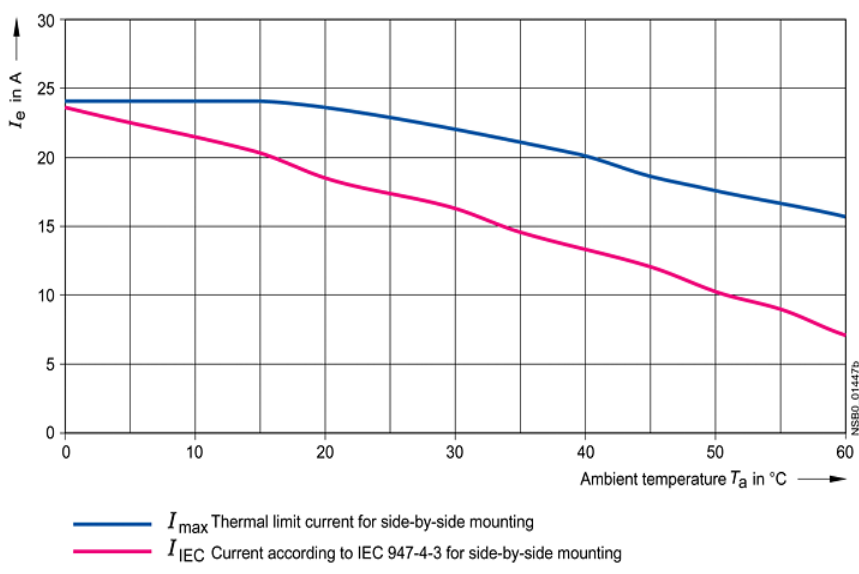
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RF2320-3DA02>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2320-3DA02&lang=en





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1/26/2022