

Solid-state contactor 1-phase 3RF2 AC 15 / 6 A / 40 °C 24-230 V / 24 V DC Instantaneous switching



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|--|---|
| Product brand name | SIRIUS |
| Product designation | solid-state contactor |
| Product type designation | 3RF23 |
| Manufacturer's article number | <ul style="list-style-type: none"> • _1 / of the accessories that can be ordered 3RF2900-3PA88 • _2 / of the accessories that can be ordered 3RF2920-0HA13 • _3 / of the accessories that can be ordered 3RF2900-0EA18 • _4 / of the accessories that can be ordered 3RF2920-0GA13 • _5 / of the accessories that can be ordered 3RF2920-0FA08 |
| Product designation | <ul style="list-style-type: none"> • _1 / of the accessories that can be ordered terminal cover • _2 / of the accessories that can be ordered power regulator • _3 / of the accessories that can be ordered converter • _4 / of the accessories that can be ordered load monitoring • _5 / of the accessories that can be ordered load monitoring, basis |
| General technical data | |
| Product function | instantaneous switching |
| Power loss [W] / for rated value of the current / at AC / in hot operating state | 11 W |

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|--|-------------|
| Insulation voltage | |
| • rated value | 600 V |
| Degree of pollution | 3 |
| Protection class IP | IP20 |
| Shock resistance / acc. to IEC 60068-2-27 | 15g / 11 ms |
| Vibration resistance / acc. to IEC 60068-2-6 | 2g |
| Reference code / acc. to DIN EN 81346-2 | Q |

Main circuit

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|--|-----------------------|
| 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 |
| Operating current | |
| • at AC-51 / rated value | 10.5 A |
| • acc. to UL 508 / rated value | 6 A |
| Operating current / minimum | 100 mA |
| Rate of voltage rise / at the thyristor / for main contacts / maximum permissible | 500 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 | 200 A |
| I²t value / maximum | 200 A ² ·s |

Control circuit/ Control

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| Type of voltage / of the control supply voltage | DC |
| Control supply voltage / 1 | |
| • at DC / rated value | 30 V |
| • at DC | 15 ... 24 V |
| Control supply voltage | |
| • at DC / initial value for signal <1> detection | 15 V |
| • at DC / Full-scale value for signal <0> recognition | 5 V |
| Control current / at minimum control supply voltage | |
| • at DC | 13 mA |

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| Control current / at DC / rated value | 15 mA |
| Switch-on delay time | 1 ms |
| Off-delay time | 1 ms; additionally max. one half-wave |
| 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 | |
|---|--|
| Mounting type | screw and snap-on mounting onto 35 mm standard mounting rail |
| <ul style="list-style-type: none"> • Side-by-side mounting | Yes |
| Height | 100 mm |
| Width | 22.5 mm |
| Depth | 91 mm; 94.0 mm up to product revision E05 |
| Installation altitude / at height above sea level / maximum | 1 000 m |

| Connections/ Terminals | |
|--|--|
| Type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — solid — finely stranded / with core end processing • at AWG conductors / for main contacts | 2x (1.5 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²) 2x (1 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²), 1x 10 mm ² 2x (14 ... 10) |
| 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 conductors / 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 | |
| <ul style="list-style-type: none"> • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals | 2 ... 2.5 N·m 0.5 ... 0.6 N·m |
| Tightening torque [lbf·in] | |
| <ul style="list-style-type: none"> • for main contacts / with screw-type terminals • for auxiliary and control contacts / with screw-type terminals | 18 ... 22 lbf·in 4.5 ... 5.3 lbf·in |
| Design of the thread / of the connection screw | |
| <ul style="list-style-type: none"> • for main contacts • of the auxiliary and control contacts | M4 M3 |
| Wire stripping length / of the cable | |
| <ul style="list-style-type: none"> • for main contacts • for auxiliary and control contacts | 7 mm 7 mm |

Ambient conditions

Ambient temperature

- | | |
|--------------------|----------------|
| • during operation | -25 ... +60 °C |
| • during storage | -55 ... +80 °C |

Electromagnetic compatibility

Conducted interference

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|--|---|
| • due to burst / acc. to IEC 61000-4-4 | 2 kV / 5 kHz behavior criterion 2 |
| • due to conductor-earth surge / acc. to IEC 61000-4-5 | 2 kV behavior criterion 2 |
| • due to conductor-conductor surge / acc. to IEC 61000-4-5 | 1 kV behavior criterion 2 |
| • due to high-frequency radiation / acc. to IEC 61000-4-6 | 140 dBuV in the frequency range 0.15 ... 80 MHz, behavior criterion 1 |

Electrostatic discharge / acc. to IEC 61000-4-2

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

Conducted HF-interference emissions / acc. to CISPR11

Class A for industrial environment

Field-bound HF-interference emission / acc. 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 | 3NE1813-0 |
| • of full range R fuse link for semiconductor protection / at cylindrical design | 5SE1316 |
| • of back-up R fuse link for semiconductor protection / at NH design | 3NE8015-1 |
| • of back-up R fuse link for semiconductor protection / at cylindrical design 10 x 38 mm | 3NC1020 |
| • of back-up R fuse link for semiconductor protection / at cylindrical design 14 x 51 mm | 3NC1430 |
| • of back-up R fuse link for semiconductor protection / at cylindrical design 22 x 58 mm | 3NC2225 |

Manufacturer's article number / of the gG fuse

- | | |
|------------------------------------|---|
| • at NH design | 3NA6803 |
| • at cylindrical design 10 x 38 mm | 3NW6001-1; These fuses have a smaller rated current than the semiconductor relays |
| • at cylindrical design 14 x 51 mm | 3NW6101-1; These fuses have a smaller rated current than the semiconductor relays |

Manufacturer's article number

- | | |
|------------------|---|
| • of DIAZED fuse | 5SB141 |
| • of NEOZED fuse | 5SE2306; These fuses have a smaller rated current than the semiconductor relays |

Certificates/ approvals

| | | |
|--------------------------|-----|---------------------------|
| General Product Approval | EMC | Declaration of Conformity |
|--------------------------|-----|---------------------------|



[Miscellaneous](#)

| | | |
|-------------------|-------|---------|
| Test Certificates | other | Railway |
|-------------------|-------|---------|

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

[Confirmation](#)



[Vibration and Shock](#)

Further information

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=3RF2310-1BA02>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF2310-1BA02>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RF2310-1BA02>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RF2310-1BA02&lang=en





