

OVERLOAD RELAY 12,5...50 A FOR MOTOR PROTECTION SIZE S3, CLASS 5E...30E F. MOUNTING ONTO CONTACTORS MAIN CIRCUIT: SCREW TERMINAL AUX. CIRCUIT: SPRING-T. TERM. MANUAL-AUTOMATIC RESET



Figure similar

| | |
|--------------------------|----------------------------|
| Product brand name | SIRIUS |
| Product designation | solid-state overload relay |
| Product type designation | 3RB3 |

| General technical data | |
|--|---------|
| Size of overload relay | S3 |
| Size of contactor can be combined company-specific | S3 |
| Power loss [W] total typical | 0.9 W |
| Insulation voltage with degree of pollution 3 rated value | 1 000 V |
| Surge voltage resistance rated value | 8 kV |
| maximum permissible voltage for safe isolation | |
| <ul style="list-style-type: none"> • in networks with grounded star point between auxiliary and auxiliary circuit | 300 V |
| <ul style="list-style-type: none"> • in networks with grounded star point between auxiliary and auxiliary circuit | 300 V |
| <ul style="list-style-type: none"> • in networks with grounded star point between main and auxiliary circuit | 600 V |

| | |
|---|--|
| <ul style="list-style-type: none"> in networks with grounded star point between main and auxiliary circuit | 690 V |
| Protection class IP | |
| <ul style="list-style-type: none"> on the front | IP20 |
| <ul style="list-style-type: none"> of the terminal | IP00 |
| Shock resistance | 8g / 11 ms |
| <ul style="list-style-type: none"> acc. to IEC 60068-2-27 | 15g / 11 ms |
| Vibration resistance | 1-6 Hz, 15 mm; 6-500 Hz, 20 m/s ² ; 10 cycles |
| Thermal current | 50 A |
| Recovery time | |
| <ul style="list-style-type: none"> after overload trip with automatic reset typical | 3 min |
| <ul style="list-style-type: none"> after overload trip with remote-reset | 0 min |
| <ul style="list-style-type: none"> after overload trip with manual reset | 0 min |
| Type of protection | II (2) G [Ex e] [Ex d] [Ex px] II (2) D [Ex t] [Ex p] |
| Certificate of suitability relating to ATEX | PTB 09 ATEX 3001 |
| Protection against electrical shock | finger-safe when touched vertically from front acc. to IEC 60529 |
| Equipment marking acc. to DIN EN 81346-2 | F |

Ambient conditions

| | |
|--|----------------|
| Installation altitude at height above sea level | |
| <ul style="list-style-type: none"> maximum | 2 000 m |
| Ambient temperature | |
| <ul style="list-style-type: none"> during operation | -25 ... +60 °C |
| <ul style="list-style-type: none"> during storage | -40 ... +80 °C |
| <ul style="list-style-type: none"> during transport | -40 ... +80 °C |
| Temperature compensation | 60 ... -25 °C |
| Relative humidity during operation | 10 ... 95 % |

Main circuit

| | |
|---|---------------|
| Number of poles for main current circuit | 3 |
| Adjustable pick-up value current of the current-dependent overload release | 12.5 ... 50 A |
| Operating voltage | |
| <ul style="list-style-type: none"> rated value | 1 000 V |
| <ul style="list-style-type: none"> for remote-reset function at DC | 24 V |
| <ul style="list-style-type: none"> at AC-3 rated value maximum | 1 000 V |
| Operating frequency rated value | 50 ... 60 Hz |
| Operating current rated value | 50 A |
| Operating power for three-phase motors at 400 V at 50 Hz | 7.5 ... 22 kW |

Auxiliary circuit

| | |
|--|------------|
| Design of the auxiliary switch | integrated |
| Number of NC contacts | |
| <ul style="list-style-type: none"> for auxiliary contacts | 1 |

| | |
|---|-----------------------------|
| — Note | for contactor disconnection |
| Number of NO contacts | |
| • for auxiliary contacts | 1 |
| — Note | for message "tripped" |
| Number of CO contacts | |
| • for auxiliary contacts | 0 |
| Operating current of auxiliary contacts at AC-15 | |
| • at 24 V | 4 A |
| • at 110 V | 4 A |
| • at 120 V | 4 A |
| • at 125 V | 4 A |
| • at 230 V | 3 A |
| Operating current of auxiliary contacts at DC-13 | |
| • at 24 V | 2 A |
| • at 60 V | 0.55 A |
| • at 110 V | 0.3 A |
| • at 125 V | 0.3 A |
| • at 220 V | 0.11 A |

| Protective and monitoring functions | |
|---|--|
| Trip class | CLASS 5E, 10E, 20E and 30E adjustable |
| Design of the overload release | electronic |
| Response value current | |
| • of the ground fault protection minimum | 0.75 x IMotor |
| Response time of the ground fault protection in settled state | 1 000 ms |
| Operating range of the ground fault protection relating to current setting value | |
| • minimum | IMotor > lower current setting value |
| • maximum | IMotor < upper current setting value x 3.5 |

| UL/CSA ratings | |
|---|-------------|
| Full-load current (FLA) for three-phase AC motor | |
| • at 480 V rated value | 50 A |
| • at 600 V rated value | 50 A |
| Contact rating of auxiliary contacts according to UL | B600 / R300 |

| Short-circuit protection | |
|---|--------------|
| Design of the fuse link | |
| • for short-circuit protection of the main circuit | |
| — with type of coordination 1 required | gG: 200 A |
| — with type of assignment 2 required | gG: 200 A |
| • for short-circuit protection of the auxiliary switch required | fuse gG: 6 A |

Installation/ mounting/ dimensions

| | |
|---|-----------------|
| Mounting position | any |
| Mounting type | direct mounting |
| Height | 106 mm |
| Width | 70 mm |
| Depth | 124 mm |
| Required spacing | |
| <ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards 0 mm — Backwards 0 mm — upwards 0 mm — downwards 0 mm — at the side 0 mm • for grounded parts <ul style="list-style-type: none"> — forwards 0 mm — Backwards 0 mm — upwards 0 mm — at the side 6 mm — downwards 0 mm • for live parts <ul style="list-style-type: none"> — forwards 0 mm — Backwards 0 mm — upwards 0 mm — downwards 0 mm — at the side 6 mm | |

Connections/Terminals

| | |
|--|--|
| Product function | |
| <ul style="list-style-type: none"> • removable terminal for auxiliary and control circuit | Yes |
| Type of electrical connection | |
| <ul style="list-style-type: none"> • for main current circuit • for auxiliary and control current circuit | <p>screw-type terminals</p> <p>spring-loaded terminals</p> |
| Arrangement of electrical connectors for main current circuit | Top and bottom |
| Type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — solid 2x (2.5 ... 16 mm²) — stranded 2x 16 mm² — single or multi-stranded 1x (2,5 ... 70 mm²), 2x (2,5 ... 50 mm²) — finely stranded with core end processing 1x (2,5 ... 50 mm²), 2x (2,5 ... 35 mm²) • at AWG conductors for main contacts 1x (10 ... 2/0), 2x (10 ... 1/0) | |
| Type of connectable conductor cross-sections | |

| | |
|--|---|
| <ul style="list-style-type: none"> • for auxiliary contacts <ul style="list-style-type: none"> — solid — single or multi-stranded — finely stranded with core end processing — finely stranded without core end processing • at AWG conductors for auxiliary contacts | <p>2x (0.25 ... 1.5 mm²)</p> <p>2x (0,25 ... 1,5 mm²)</p> <p>2x (0.25 ... 1.5 mm²)</p> <p>2x (0.25 ... 1.5 mm²)</p> <p>2x (24 ... 16)</p> |
| Tightening torque | |
| <ul style="list-style-type: none"> • for main contacts with screw-type terminals | 4.5 ... 6 N·m |
| Design of screwdriver shaft | Diameter 5 to 6 mm |
| Size of the screwdriver tip | Pozidriv PZ 2 |
| Design of the thread of the connection screw | |
| <ul style="list-style-type: none"> • for main contacts | M6 |

Communication/ Protocol

| | |
|--|----|
| Type of voltage supply via input/output link master | No |
|--|----|

Electromagnetic compatibility

| | |
|---|--|
| Conducted interference | |
| <ul style="list-style-type: none"> • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 • due to high-frequency radiation acc. to IEC 61000-4-6 | <p>2 kV (power ports), 1 kV (signal ports) corresponds to degree of severity 3</p> <p>2 kV (line to earth) corresponds to degree of severity 3</p> <p>1 kV (line to line) corresponds to degree of severity 3</p> <p>10 V in frequency range 0.15 to 80 MHz, modulation 80 % AM with 1 kHz</p> |
| Field-bound parasitic coupling acc. to IEC 61000-4-3 | 10 V/m |
| Electrostatic discharge acc. to IEC 61000-4-2 | 6 kV contact discharge / 8 kV air discharge |

Display

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|--|--------------|
| Display version | |
| <ul style="list-style-type: none"> • for switching status | Slide switch |

Certificates/approvals

| | | | |
|--------------------------|--------------------------------|---------------------------|-------------------|
| General Product Approval | For use in hazardous locations | Declaration of Conformity | Test Certificates |
|--------------------------|--------------------------------|---------------------------|-------------------|



[Type Test Certificates/Test Report](#)

| | |
|-------------------|-------|
| Marine / Shipping | other |
|-------------------|-------|



[Confirmation](#)

Further information

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

<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mfb=3RB3143-4UD0>

Cax online generator

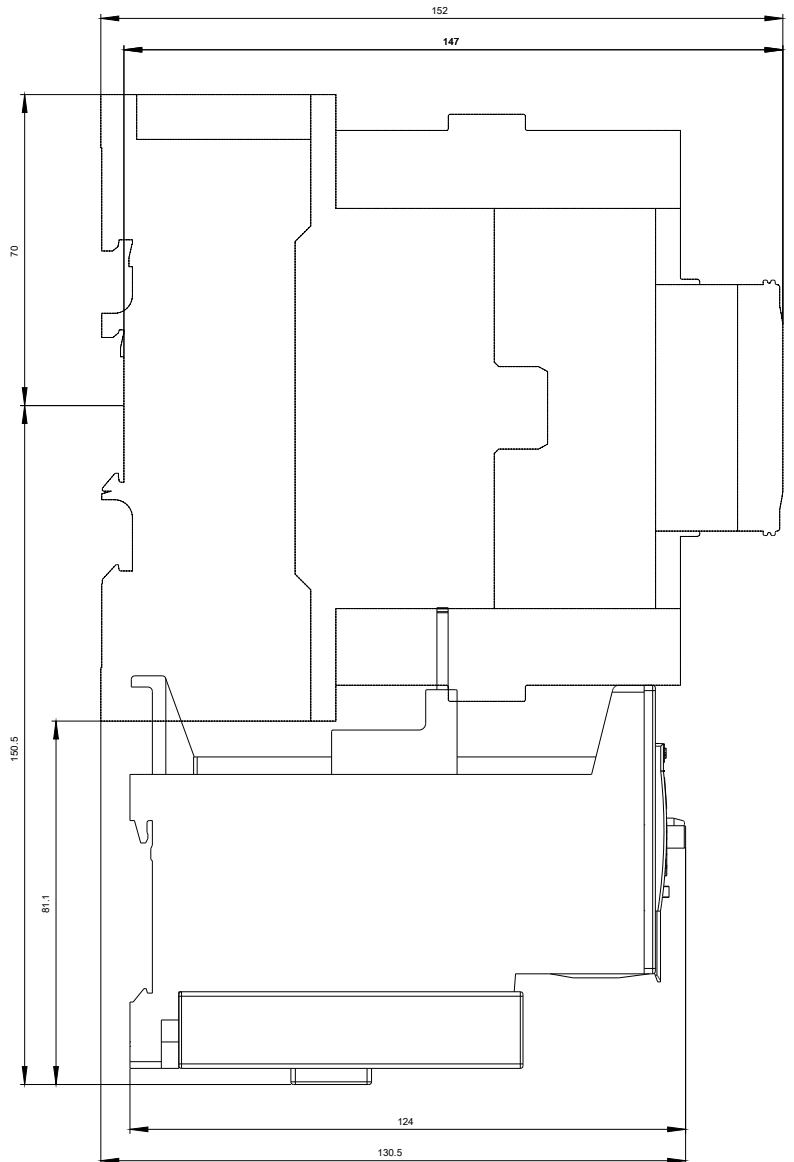
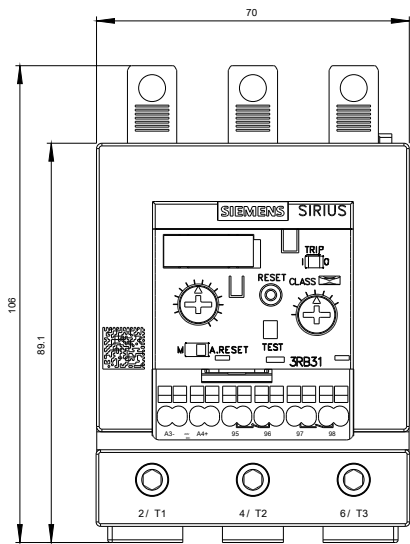
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3RB3143-4UD0>

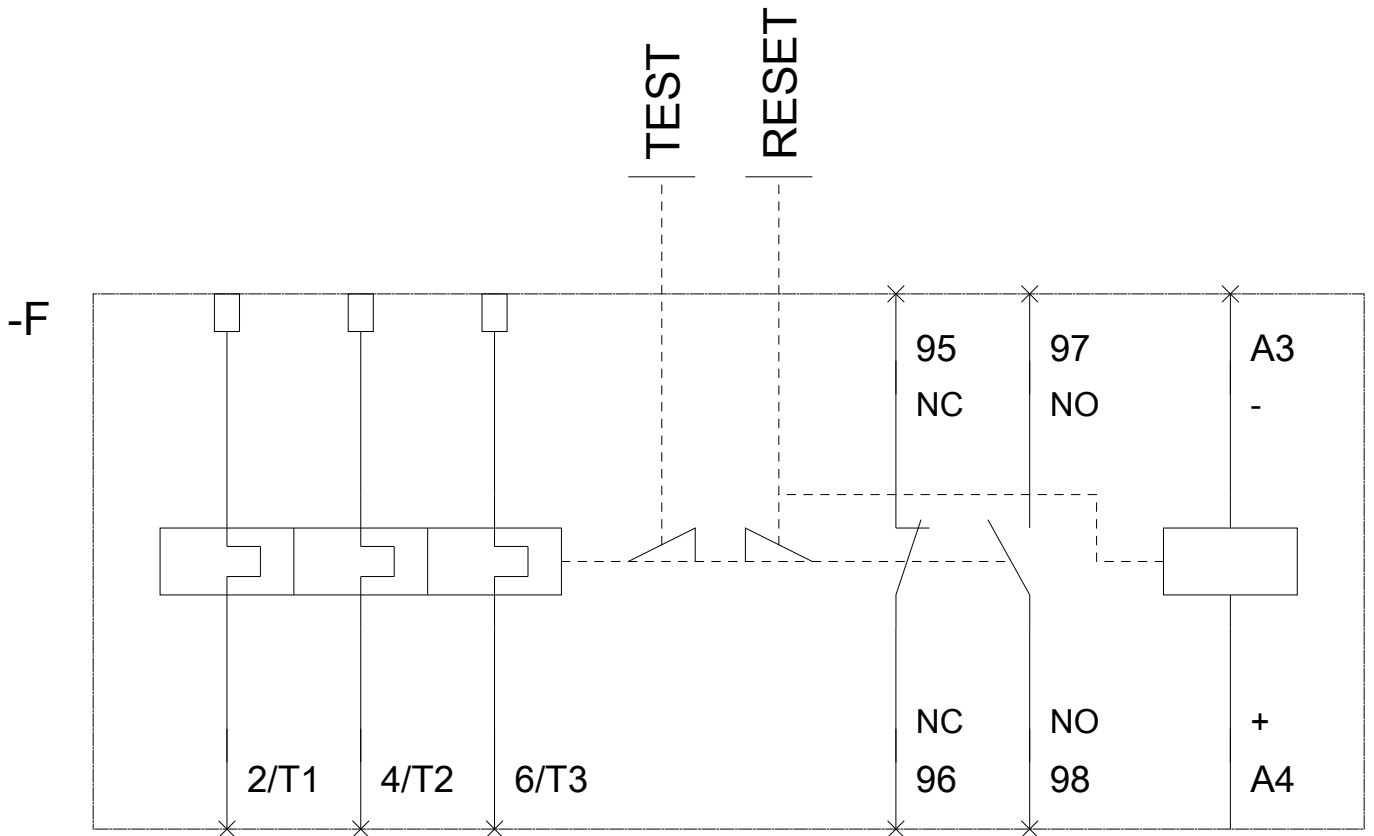
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3143-4UD0>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3RB3143-4UD0&lang=en





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