SIEMENS

## Data sheet 3RB3016-2SB0

Overload relay 3...12 A for motor protection Size S00, Class 20E
Contactor mounting Main circuit: Screw Auxiliary circuit: Screw
Manual-Automatic-Reset


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

| General technical data | |
|---|---|
| **Size of overload relay** | S00 |
| **Size of contactor can be combined company-specific** | S00 |
| **Power loss [W] total typical** | 0.6 W |
| Insulation voltage with degree of pollution 3 rated value | 690 V |
| **Surge voltage resistance rated value** | 6 kV |
| **maximum permissible voltage for safe isolation** | |
| • in networks with grounded star point between auxiliary and auxiliary circuit | 300 V |
| • in networks with grounded star point between auxiliary and auxiliary circuit | 300 V |
| • in networks with grounded star point between main and auxiliary circuit | 600 V |
| • in networks with grounded star point between main and auxiliary circuit | 690 V |
| **Protection class IP** | |

| | |
|---|---|
| • on the front | IP20 |
| • of the terminal | IP20 |
| **Shock resistance** | 15g / 11 ms |
| • acc. to IEC 60068-2-27 | 15g / 11 ms; Signaling contact 97 / 98 in position "Tripped": 9g / 11 ms |
| **Thermal current** | 12 A |
| **Recovery time** | |
| • after overload trip with automatic reset typical | 3 min |
| • after overload trip with remote-reset | 0 min |
| • 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 |
| **Reference code acc. to DIN EN 81346-2** | F |

## Ambient conditions

| | |
|---|---|
| **Installation altitude at height above sea level** | |
| • maximum | 2 000 m |
| **Ambient temperature** | |
| • during operation | -25 ... +60 °C |
| • during storage | -40 ... +80 °C |
| • during transport | -40 ... +80 °C |
| **Temperature compensation** | -25 ... +60 °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** | 3 ... 12 A |
| **Operating voltage** | |
| • rated value | 690 V |
| • at AC-3 rated value maximum | 690 V |
| **Operating frequency rated value** | 50 ... 60 Hz |
| **Operating current rated value** | 12 A |
| **Operating power** | |
| • for three-phase motors at 400 V at 50 Hz | 1.5 ... 5.5 kW |
| • for AC motors at 500 V at 50 Hz | 1.5 ... 5.5 kW |
| • for AC motors at 690 V at 50 Hz | 2.2 ... 7.5 kW |

## Auxiliary circuit

| | |
|---|---|
| **Design of the auxiliary switch** | integrated |
| **Number of NC contacts 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 20E |
| **Design of the overload release** | electronic |

## UL/CSA ratings

| | |
|---|---|
| **Full-load current (FLA) for three-phase AC motor** | |
| • at 480 V rated value | 12 A |
| • at 600 V rated value | 12 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: 50 A, RK5: 45 A |
| — with type of assignment 2 required | gG: 50 A, J: 45 A |
| • for short-circuit protection of the auxiliary switch required | fuse gG: 6 A |

## Installation/ mounting/ dimensions

| | |
|---|---|
| **Mounting position** | any |
| **Mounting type** | Mounting contactor |
| **Height** | 79 mm |
| **Width** | 45 mm |
| **Depth** | 73 mm |
| **Required spacing** | |
| • with side-by-side mounting | |
| — forwards | 0 mm |
| — Backwards | 0 mm |
| — upwards | 0 mm |
| — downwards | 0 mm |

| | |
|---|---|
| — at the side | 0 mm |
| • for grounded parts | |
| — forwards | 0 mm |
| — Backwards | 0 mm |
| — upwards | 0 mm |
| — at the side | 6 mm |
| — downwards | 0 mm |
| • for live parts | |
| — forwards | 0 mm |
| — Backwards | 0 mm |
| — upwards | 0 mm |
| — downwards | 0 mm |
| — at the side | 6 mm |

## Connections/Terminals

| | |
|---|---|
| **Product function** | |
| • removable terminal for auxiliary and control circuit | Yes |
| **Type of electrical connection** | |
| • for main current circuit | screw-type terminals |
| • for auxiliary and control current circuit | screw-type terminals |
| **Arrangement of electrical connectors for main current circuit** | Top and bottom |
| **Type of connectable conductor cross-sections** | |
| • for main contacts | |
| — solid | 1x (0.5 ... 4 mm²), 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 4 mm²) |
| — single or multi-stranded | 1x (0,5 ... 4 mm²), 2x (0,5 ... 1,5 mm²), 2x (0,75 ... 4 mm²) |
| — finely stranded with core end processing | 1x (0.5 ... 2.5 mm²), 2x (0.5 ... 2.5 mm²) |
| • at AWG conductors for main contacts | 1x (20 ... 12), 2x (20 ... 12) |
| **Type of connectable conductor cross-sections** | |
| • for auxiliary contacts | |
| — solid | 1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²) |
| — single or multi-stranded | 1x (0,5 ... 4 mm²), 2x (0,5 ... 2,5 mm²) |
| — finely stranded with core end processing | 1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²) |
| • at AWG conductors for auxiliary contacts | 1x (20 ... 14), 2x (20 ... 14) |
| **Tightening torque** | |
| • for main contacts with screw-type terminals | 0.8 ... 1.2 N·m |
| • for auxiliary contacts with screw-type terminals | 0.8 ... 1.2 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** | |
| • for main contacts | M3 |
| • of the auxiliary and control contacts | M3 |

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

| Electromagnetic compatibility | |
|---|---|
| **Conducted interference** | |
| • due to burst acc. to IEC 61000-4-4 | 2 kV (power ports), 1 kV (signal ports) corresponds to degree of severity 3 |
| • due to conductor-earth surge acc. to IEC 61000-4-5 | 2 kV (line to earth) corresponds to degree of severity 3 |
| • due to conductor-conductor surge acc. to IEC 61000-4-5 | 1 kV (line to line) corresponds to degree of severity 3 |
| • due to high-frequency radiation acc. to IEC 61000-4-6 | 10 V in frequency range 0.15 to 80 MHz, modulation 80 % AM with 1 kHz |
| **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 | |
|---|---|
| **Display version** | |
| • for switching status | Slide switch |

## Certificates/approvals

| General Product Approval | | | | EMC | For use in hazardous locations |
|---|---|---|---|---|---|
| CCC | CSA | UL | EAC | C-Tick | ATEX |

| Declaration of Conformity | | Test Certificates | | Marine / Shipping | |
|---|---|---|---|---|---|
| EG-Konf. | Miscellaneous | Special Test Certificate | Type Test Certificates/Test Report | ABS | BUREAU VERITAS |

| Marine / Shipping | | | | | other |
|---|---|---|---|---|---|
| LRS | PRS | RINA | RMRS | DNVGL.COM/AF | 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?mlfb=3RB3016-2SB0

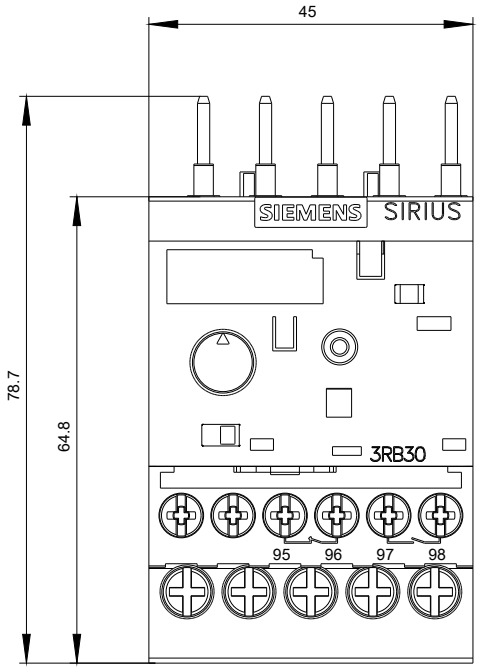
**Cax online generator**
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3016-2SB0

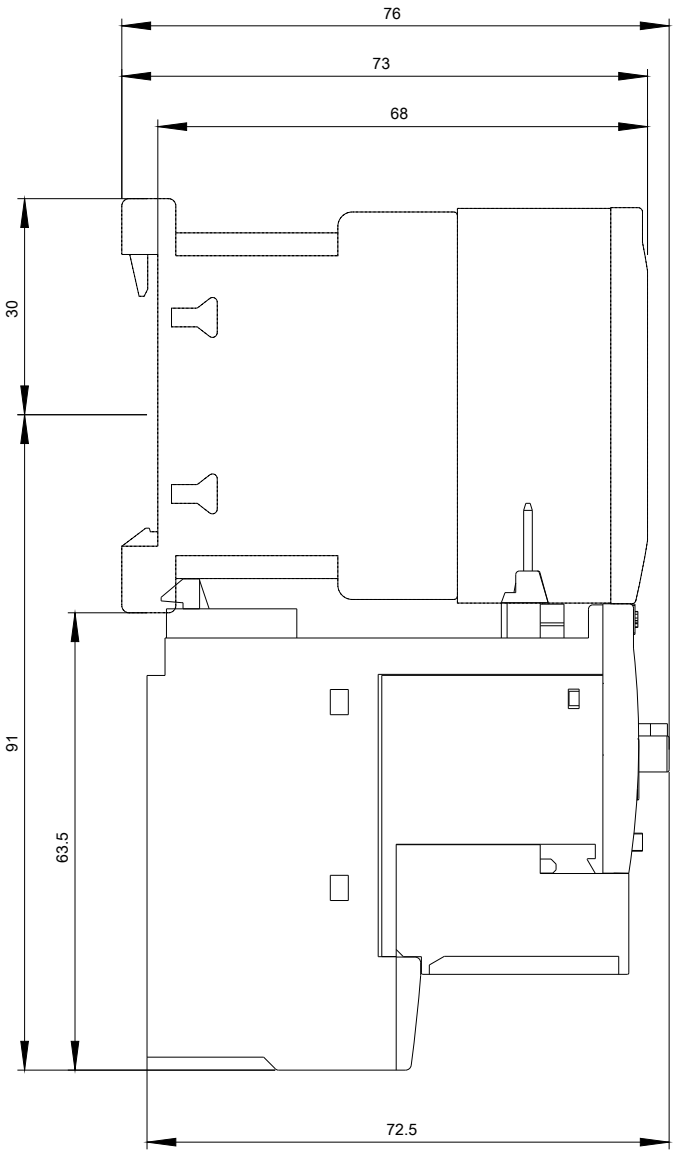
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
https://support.industry.siemens.com/cs/ww/en/ps/3RB3016-2SB0

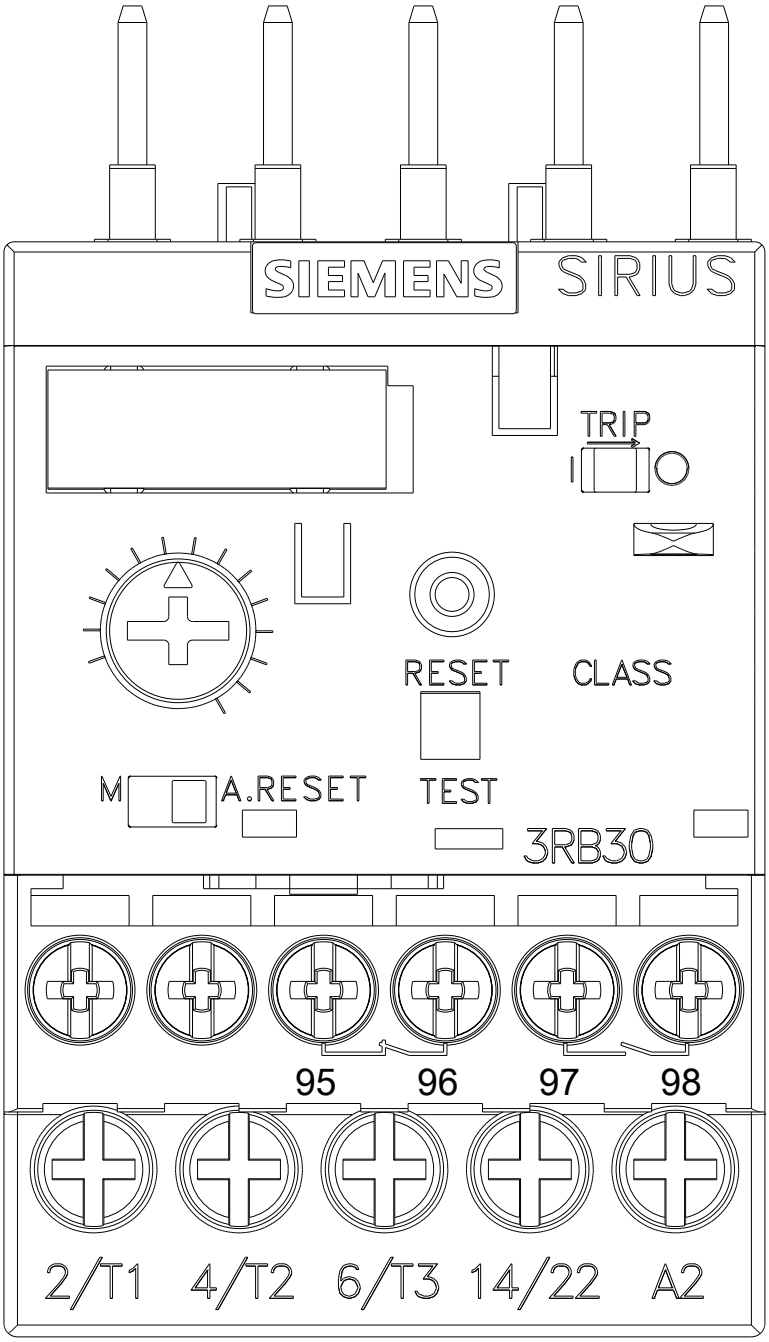
**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)**
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3016-2SB0&lang=en

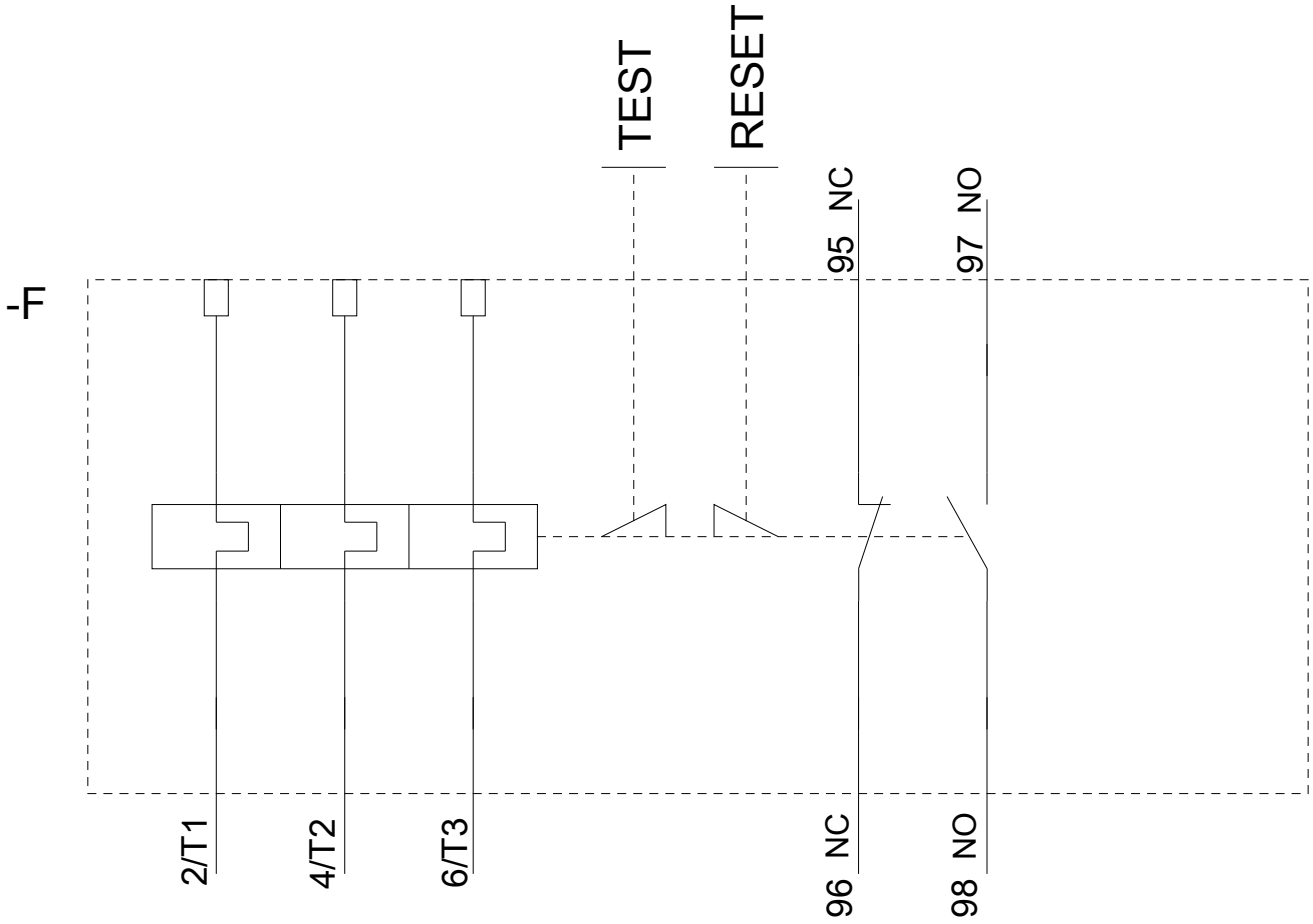
**Characteristic: Tripping characteristics, I²t, Let-through current**
https://support.industry.siemens.com/cs/ww/en/ps/3RB3016-2SB0/char

**Further characteristics (e.g. electrical endurance, switching frequency)**
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB3016-2SB0&objecttype=14&gridview=view1





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