

Overload relay 12.5...50 A for motor protection Size S2, Class 10E  
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                                                         | S2                         |
| Size of contactor can be combined company-specific                             | S2                         |
| Power loss [W] total typical                                                   | 1.8 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                                                            |                            |

|                                                                                                                                                                                                                             |                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• on the front</li> <li>• of the terminal</li> </ul>                                                                                                                                 | IP20<br>IP00                                                                            |
| <b>Shock resistance</b> <ul style="list-style-type: none"> <li>• acc. to IEC 60068-2-27</li> </ul>                                                                                                                          | 15g / 11 ms<br>15g / 11 ms; Signaling contact 97 / 98 in position "Tripped": 8g / 11 ms |
| <b>Thermal current</b>                                                                                                                                                                                                      | 50 A                                                                                    |
| <b>Recovery time</b> <ul style="list-style-type: none"> <li>• after overload trip with automatic reset typical</li> <li>• after overload trip with remote-reset</li> <li>• after overload trip with manual reset</li> </ul> | 3 min<br>0 min<br>0 min                                                                 |
| <b>Type of protection</b>                                                                                                                                                                                                   | 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                                                                        |
| <b>Protection against electrical shock</b>                                                                                                                                                                                  | finger-safe when touched vertically from front acc. to IEC 60529                        |
| <b>Reference code acc. to DIN EN 81346-2</b>                                                                                                                                                                                | F                                                                                       |

#### Ambient conditions

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

#### Main circuit

|                                                                                                                                                                                                           |                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| <b>Number of poles for main current circuit</b>                                                                                                                                                           | 3                                             |
| <b>Adjustable pick-up value current of the current-dependent overload release</b>                                                                                                                         | 12.5 ... 50 A                                 |
| <b>Operating voltage</b> <ul style="list-style-type: none"> <li>• rated value</li> <li>• at AC-3 rated value maximum</li> </ul>                                                                           | 690 V<br>690 V                                |
| <b>Operating frequency rated value</b>                                                                                                                                                                    | 50 ... 60 Hz                                  |
| <b>Operating current rated value</b>                                                                                                                                                                      | 50 A                                          |
| <b>Operating power</b> <ul style="list-style-type: none"> <li>• for three-phase motors at 400 V at 50 Hz</li> <li>• for AC motors at 500 V at 50 Hz</li> <li>• for AC motors at 690 V at 50 Hz</li> </ul> | 7.5 ... 22 kW<br>11 ... 30 kW<br>11 ... 45 kW |

#### Auxiliary circuit

|                                                                                                              |                                  |
|--------------------------------------------------------------------------------------------------------------|----------------------------------|
| <b>Design of the auxiliary switch</b>                                                                        | integrated                       |
| <b>Number of NC contacts for auxiliary contacts</b> <ul style="list-style-type: none"> <li>• Note</li> </ul> | 1<br>for contactor disconnection |
| <b>Number of NO contacts for auxiliary contacts</b> <ul style="list-style-type: none"> <li>• Note</li> </ul> | 1<br>for message "tripped"       |

|                                                                 |              |
|-----------------------------------------------------------------|--------------|
| <b>Number of CO contacts</b>                                    |              |
| • for auxiliary contacts                                        | 0            |
| <b>Operating current of auxiliary contacts at AC-15</b>         |              |
| • 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          |
| <b>Operating current of auxiliary contacts at DC-13</b>         |              |
| • 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       |
| <b>Protective and monitoring functions</b>                      |              |
| <b>Trip class</b>                                               | CLASS 10E    |
| <b>Design of the overload release</b>                           | electronic   |
| <b>UL/CSA ratings</b>                                           |              |
| <b>Full-load current (FLA) for three-phase AC motor</b>         |              |
| • at 480 V rated value                                          | 50 A         |
| • at 600 V rated value                                          | 50 A         |
| <b>Contact rating of auxiliary contacts according to UL</b>     | B600 / R300  |
| <b>Short-circuit protection</b>                                 |              |
| <b>Design of the fuse link</b>                                  |              |
| • for short-circuit protection of the main circuit              |              |
| — with type of coordination 1 required                          | gG: 250 A    |
| — with type of assignment 2 required                            | gG: 200 A    |
| • for short-circuit protection of the auxiliary switch required | fuse gG: 6 A |
| <b>Installation/ mounting/ dimensions</b>                       |              |
| <b>Mounting position</b>                                        | any          |
| <b>Height</b>                                                   | 99 mm        |
| <b>Width</b>                                                    | 55 mm        |
| <b>Depth</b>                                                    | 104 mm       |
| <b>Required spacing</b>                                         |              |
| • 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           | 10 mm |
| — Backwards          | 0 mm  |
| — upwards            | 10 mm |
| — at the side        | 6 mm  |
| — downwards          | 10 mm |
| • for live parts     |       |
| — forwards           | 10 mm |
| — Backwards          | 0 mm  |
| — upwards            | 10 mm |
| — downwards          | 10 mm |
| — at the side        | 10 mm |

## Connections/Terminals

|                                                                      |                                                                      |
|----------------------------------------------------------------------|----------------------------------------------------------------------|
| <b>Product function</b>                                              |                                                                      |
| • removable terminal for auxiliary and control circuit               | Yes                                                                  |
| <b>Type of electrical connection</b>                                 |                                                                      |
| • for main current circuit                                           | screw-type terminals                                                 |
| • for auxiliary and control current circuit                          | screw-type terminals                                                 |
| <b>Arrangement of electrical connectors for main current circuit</b> | Top and bottom                                                       |
| <b>Type of connectable conductor cross-sections</b>                  |                                                                      |
| • for main contacts                                                  |                                                                      |
| — solid                                                              | 1x (1 ... 50 mm <sup>2</sup> ), 2x (1 ... 35 mm <sup>2</sup> )       |
| — stranded                                                           | 2x (10 ... 35 mm <sup>2</sup> ), 1x 50 mm <sup>2</sup>               |
| — single or multi-stranded                                           | 1x (1 ... 50 mm <sup>2</sup> ), 2x (1 ... 35 mm <sup>2</sup> )       |
| — finely stranded with core end processing                           | 1x (1 ... 35 mm <sup>2</sup> ), 2x (1 ... 25 mm <sup>2</sup> )       |
| • at AWG conductors for main contacts                                | 2x (18 ... 2), 1x (18 ... 1)                                         |
| <b>Type of connectable conductor cross-sections</b>                  |                                                                      |
| • for auxiliary contacts                                             |                                                                      |
| — solid                                                              | 1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )   |
| — single or multi-stranded                                           | 1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )   |
| — finely stranded with core end processing                           | 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> ) |
| • at AWG conductors for auxiliary contacts                           | 1x (20 ... 14), 2x (20 ... 14)                                       |
| <b>Tightening torque</b>                                             |                                                                      |
| • for main contacts with screw-type terminals                        | 3 ... 4.5 N·m                                                        |
| • for auxiliary contacts with screw-type terminals                   | 0.8 ... 1.2 N·m                                                      |
| <b>Design of screwdriver shaft</b>                                   | Diameter 5 to 6 mm                                                   |
| <b>Size of the screwdriver tip</b>                                   | Pozidriv PZ 2                                                        |
| <b>Design of the thread of the connection screw</b>                  |                                                                      |
| • for main contacts                                                  | M6                                                                   |

- 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
- 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

2 kV (power ports), 1 kV (signal ports) corresponds to degree of severity 3

2 kV (line to earth) corresponds to degree of severity 3

1 kV (line to line) corresponds to degree of severity 3

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



Declaration of Conformity

Test Certificates

Marine / Shipping



[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?mlfb=3RB3036-1UB0>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3036-1UB0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3036-1UB0>

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

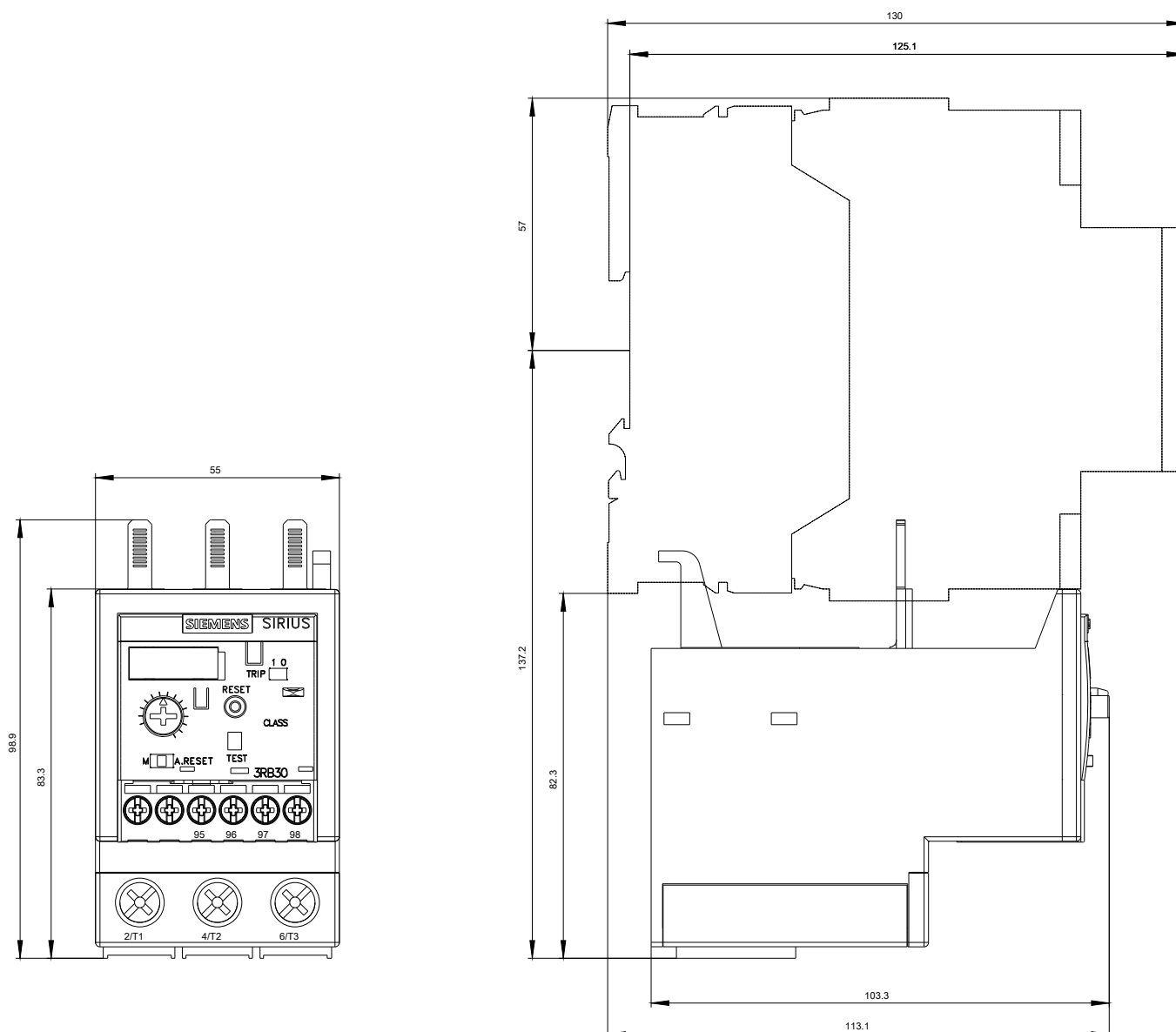
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RB3036-1UB0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3036-1UB0&lang=en)

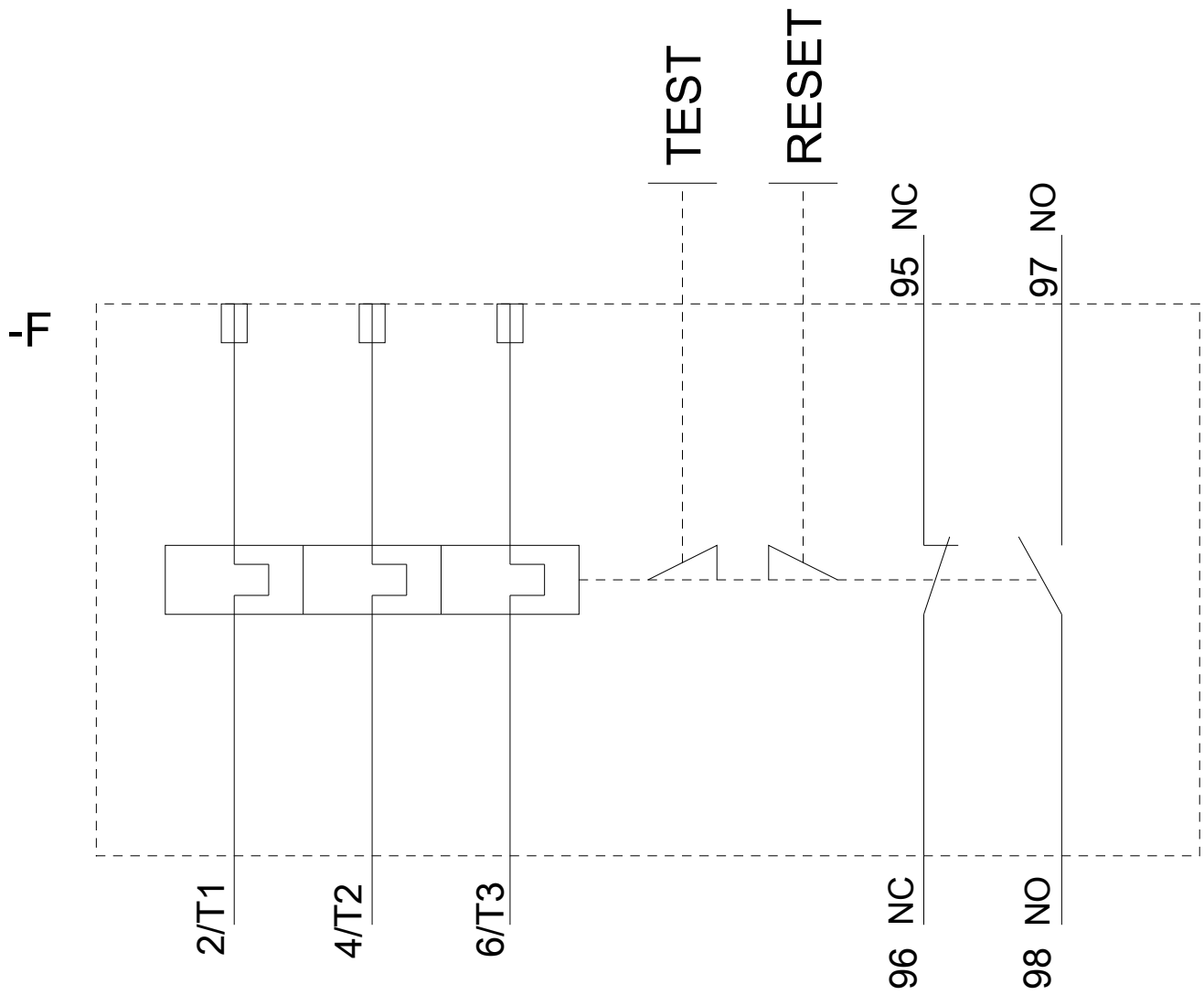
**Characteristic: Tripping characteristics,  $I^2t$ , Let-through current**

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3036-1UB0/char>

**Further characteristics (e.g. electrical endurance, switching frequency)**

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB3036-1UB0&objecttype=14&gridview=view1>





last modified:

01/19/2019 [🔗](#)