

Overload relay 4...16 A Electronic For motor protection Size S00, Class 20E Contactor mounting Main circuit: Spring-type terminal Auxiliary circuit: Spring-type terminal 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] for rated value of the current                                  |        |
| • at AC in hot operating state   | 1.1 W  |
| • at AC in hot operating state per pole  | 0.37 W |
| Insulation voltage with degree of pollution 3 at AC 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  |

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>in networks with grounded star point between main and auxiliary circuit</li> </ul> | 690 V  |
| <b>Protection class IP</b>  |  |
| <ul style="list-style-type: none"> <li>on the front</li> </ul>  | IP20   |
| <ul style="list-style-type: none"> <li>of the terminal</li> </ul>   | IP20   |
| <b>Shock resistance</b>   | 15g / 11 ms  |
| <ul style="list-style-type: none"> <li>acc. to IEC 60068-2-27</li> </ul>  | 15g / 11 ms; Signaling contact 97 / 98 in position "Tripped": 9g / 11 ms |
| <b>Vibration resistance</b>   | 1-6 Hz, 15 mm; 6-500 Hz, 20 m/s <sup>2</sup> ; 10 cycles                 |
| <b>Thermal current</b>  | 16 A   |
| <b>Recovery time</b>  |  |
| <ul style="list-style-type: none"> <li>after overload trip with automatic reset typical</li> </ul>                        | 3 min  |
| <ul style="list-style-type: none"> <li>after overload trip with remote-reset</li> </ul>                                   | 0 min  |
| <ul style="list-style-type: none"> <li>after overload trip with manual reset</li> </ul>                                   | 0 min  |
| <b>Type of protection according to ATEX directive 2014/34/EU</b>  | Ex II (2) G [Ex e] [Ex d] [Ex px] ; Ex II (2) D [Ex t] [Ex p]            |
| Certificate of suitability according to ATEX directive 2014/34/EU   | PTB 09 ATEX 3001   |
| <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> </ul> | -25 ... +60 °C |
| <ul style="list-style-type: none"> <li>during storage</li> </ul>   | -40 ... +80 °C |
| <ul style="list-style-type: none"> <li>during transport</li> </ul> | -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>          | 4 ... 16 A     |
| <b>Operating voltage</b>   |                |
| <ul style="list-style-type: none"> <li>rated value</li> </ul>                              | 690 V          |
| <ul style="list-style-type: none"> <li>at AC-3 rated value maximum</li> </ul>              | 690 V          |
| <b>Operating frequency rated value</b>   | 50 ... 60 Hz   |
| <b>Operating current rated value</b>   | 16 A           |
| <b>Operating power</b>   |                |
| <ul style="list-style-type: none"> <li>for three-phase motors at 400 V at 50 Hz</li> </ul> | 2.2 ... 7.5 kW |
| <ul style="list-style-type: none"> <li>for AC motors at 500 V at 50 Hz</li> </ul>          | 2.2 ... 7.5 kW |
| <ul style="list-style-type: none"> <li>for AC motors at 690 V at 50 Hz</li> </ul>          | 3 ... 11 kW    |

#### Auxiliary circuit

|   |                             |
|---|-----------------------------|
| <b>Design of the auxiliary switch</b>                   | integrated                  |
| <b>Number of NC contacts for auxiliary contacts</b>     | 1                           |
| • Note  | for contactor disconnection |
| <b>Number of NO contacts for auxiliary contacts</b>     | 1                           |
| • Note  | 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                      |

#### Protective and monitoring functions

|                                       |            |
|---------------------------------------|------------|
| <b>Trip class</b>                     | CLASS 20E  |
| <b>Design of the overload release</b> | electronic |

#### UL/CSA ratings

|   |             |
|---|-------------|
| <b>Full-load current (FLA) for three-phase AC motor</b>     |             |
| • at 480 V rated value                                      | 16 A        |
| • at 600 V rated value                                      | 16 A        |
| <b>Contact rating of auxiliary contacts according to UL</b> | B600 / R300 |

#### Short-circuit protection

|   |                     |
|---|---------------------|
| <b>Design of the fuse link</b>                                  |                     |
| • for short-circuit protection of the main circuit              |                     |
| — with type of coordination 1 required                          | gG: 50 A, RK5: 60 A |
| — with type of assignment 2 required                            | gG: 50 A, J: 60 A   |
| • for short-circuit protection of the auxiliary switch required | fuse gG: 6 A        |

#### Installation/ mounting/ dimensions

|                          |                     |
|--------------------------|---------------------|
| <b>Mounting position</b> | any                 |
| <b>Mounting type</b>     | Contacteur mounting |
| <b>Height</b>            | 72 mm               |
| <b>Width</b>             | 45 mm               |
| <b>Depth</b>             | 90 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                   | 6 mm |
| — Backwards                  | 0 mm |
| — upwards                    | 0 mm |
| — at the side                | 6 mm |
| — downwards                  | 0 mm |
| • for live parts             |      |
| — forwards                   | 6 mm |
| — Backwards                  | 0 mm |
| — upwards                    | 0 mm |
| — downwards                  | 0 mm |
| — at the side                | 6 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   | spring-loaded terminals            |
| • for auxiliary and control current circuit                          | spring-loaded 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 (0.5 ... 4 mm <sup>2</sup> )    |
| — single or multi-stranded   | 1x (0,5 ... 4 mm <sup>2</sup> )    |
| — finely stranded with core end processing                           | 1x (0.5 ... 2.5 mm <sup>2</sup> )  |
| — finely stranded without core end processing                        | 1x (0.5 ... 2.5 mm <sup>2</sup> )  |
| • at AWG conductors for main contacts                                | 1x (20 ... 12)                     |
| <b>Type of connectable conductor cross-sections</b>                  |                                    |
| • for auxiliary contacts   |                                    |
| — solid  | 2x (0.25 ... 1.5 mm <sup>2</sup> ) |
| — single or multi-stranded   | 2x (0,25 ... 1,5 mm <sup>2</sup> ) |
| — finely stranded with core end processing                           | 2x (0.25 ... 1.5 mm <sup>2</sup> ) |
| — finely stranded without core end processing                        | 2x (0.25 ... 1.5 mm <sup>2</sup> ) |

|  |                                |
|--|--------------------------------|
| • at AWG conductors for auxiliary contacts | 1x (24 ... 16), 2x (24 ... 16) |
| <b>Design of screwdriver shaft</b>         | Diameter 5 to 6 mm             |
| <b>Size of the screwdriver tip</b>         | Pozidriv PZ 2                  |

**Communication/ Protocol**

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

**Electromagnetic compatibility**

|   |   |
|---|---|
| <b>Conducted interference</b>                               |   |
| • 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       |
| <b>Field-bound parasitic coupling acc. to IEC 61000-4-3</b> | 10 V/m  |
| <b>Electrostatic discharge acc. to IEC 61000-4-2</b>        | 6 kV contact discharge / 8 kV air discharge                                 |

**Display**

|                        |              |
|------------------------|--------------|
| <b>Display version</b> |              |
| • for switching status | Slide switch |

**Certificates/ approvals**

|                                 |            |                                       |
|---------------------------------|------------|---------------------------------------|
| <b>General Product Approval</b> | <b>EMC</b> | <b>For use in hazardous locations</b> |
|---------------------------------|------------|---------------------------------------|



|                                  |                          |                          |
|----------------------------------|--------------------------|--------------------------|
| <b>Declaration of Conformity</b> | <b>Test Certificates</b> | <b>Marine / Shipping</b> |
|----------------------------------|--------------------------|--------------------------|



[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



|                          |              |
|--------------------------|--------------|
| <b>Marine / Shipping</b> | <b>other</b> |
|--------------------------|--------------|



[Confirmation](#)

## Further information

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

[www.siemens.com/ic10](http://www.siemens.com/ic10)

### **Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RB3016-2TE0>

### **Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3016-2TE0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3016-2TE0>

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

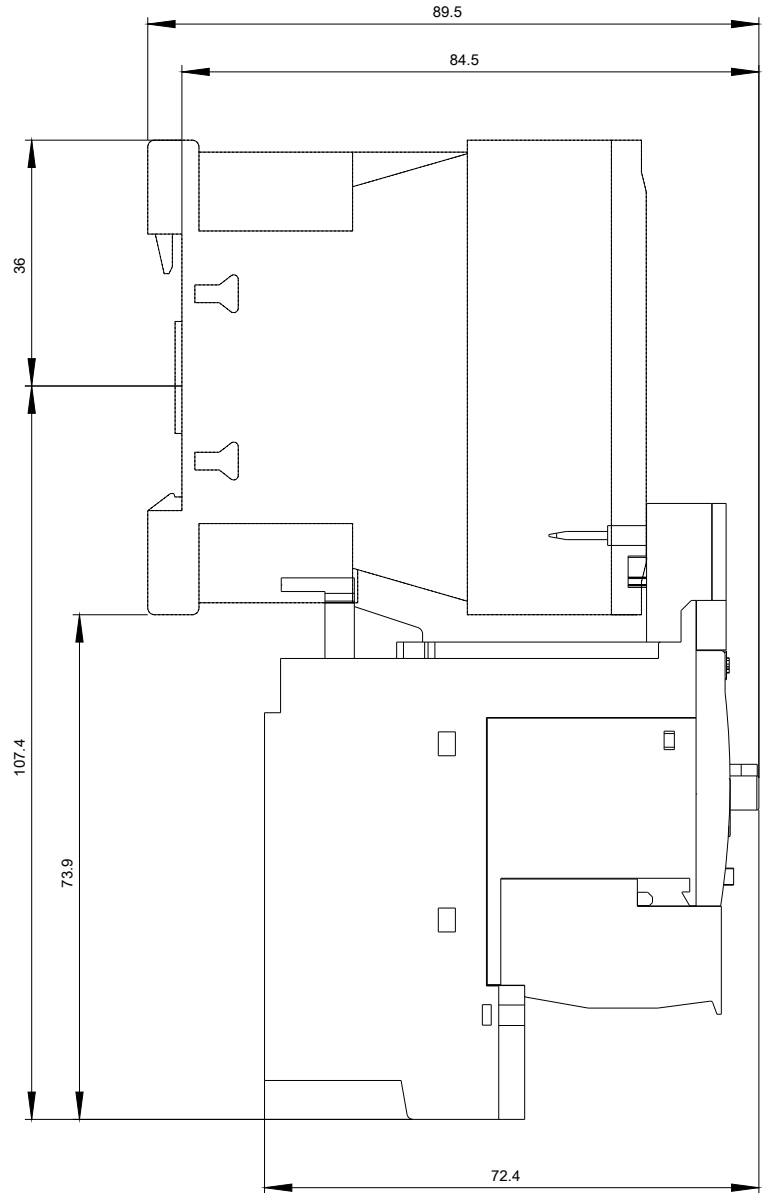
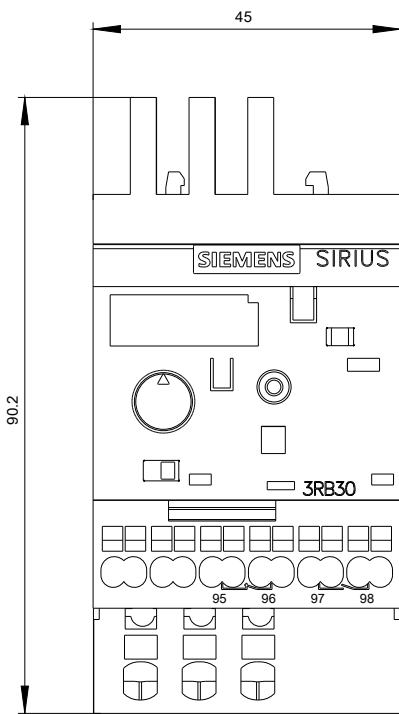
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RB3016-2TE0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3016-2TE0&lang=en)

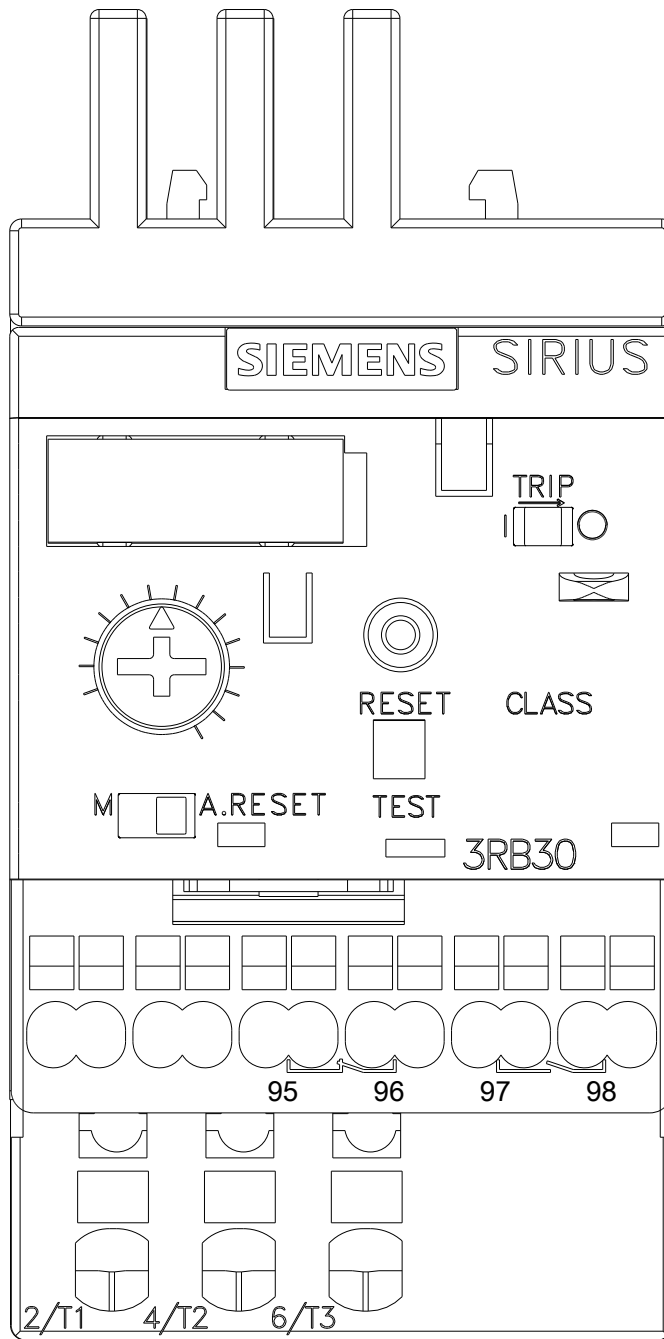
### **Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3016-2TE0/char>

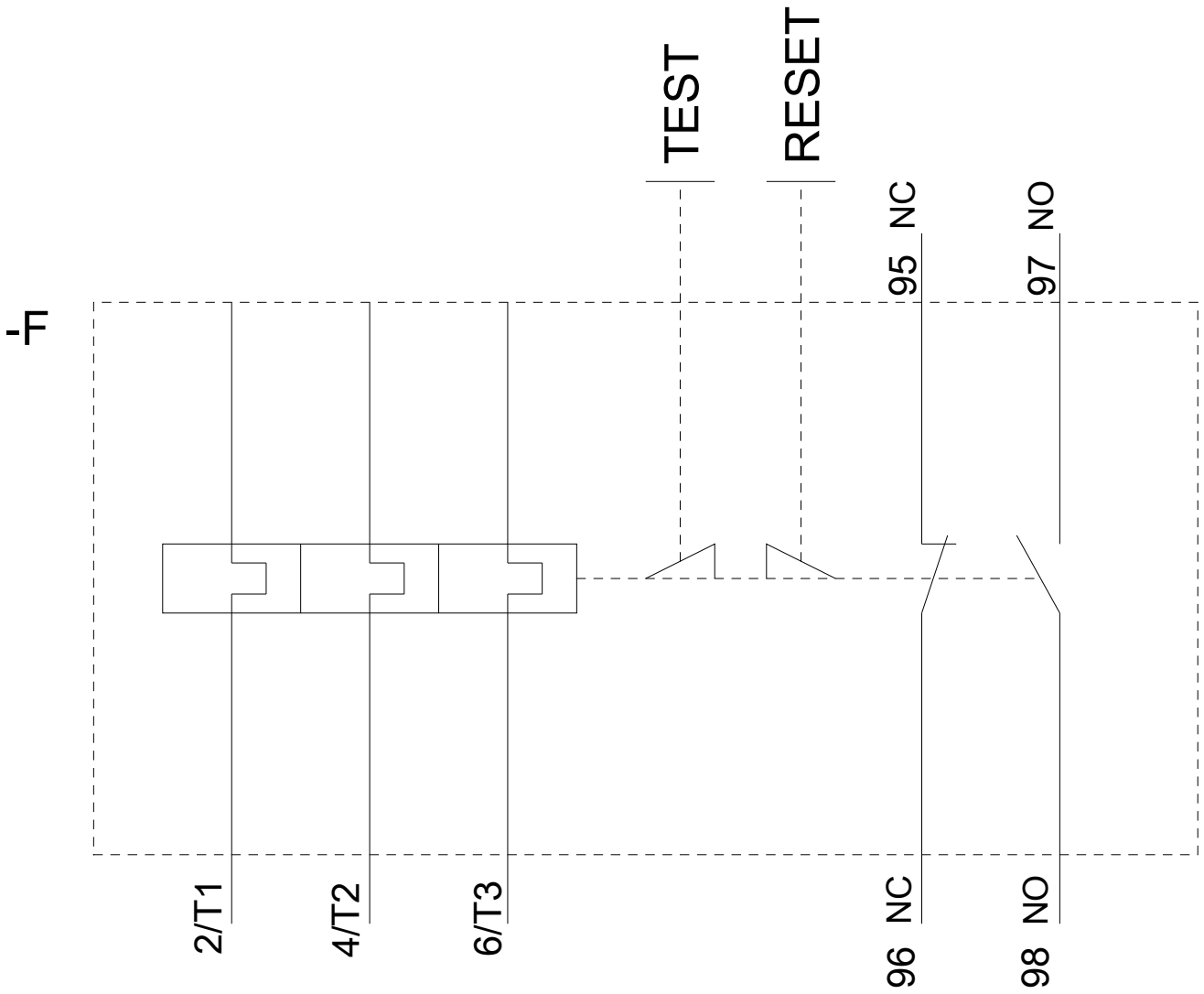
### **Further characteristics (e.g. electrical endurance, switching frequency)**

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB3016-2TE0&objecttype=14&gridview=view1>









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