

OVERLOAD RELAY 32...115 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                                                   | 4.6 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                                 |                            |
| • 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>                                                         | IP00                                                             |
| <b>Vibration resistance</b>                                                                                                 | 1-6 Hz, 15 mm; 6-500 Hz, 20 m/s <sup>2</sup> ; 10 cycles         |
| <b>Thermal current</b>                                                                                                      | 115 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</b>                                                                                                   | II (2) G [Ex e] [Ex d] [Ex px] II (2) D [Ex t] [Ex p]            |
| <b>Protection against electrical shock</b>                                                                                  | finger-safe when touched vertically from front acc. to IEC 60529 |
| Equipment marking acc. to DIN EN 81346-2                                                                                    | F                                                                |

#### Ambient conditions

|                                                                      |                |
|----------------------------------------------------------------------|----------------|
| <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>                                      | 60 ... -25 °C  |

#### 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>   | 32 ... 115 A   |
| <b>Operating voltage</b>                                                            |                |
| <ul style="list-style-type: none"> <li>• rated value</li> </ul>                     | 1 000 V        |
| <ul style="list-style-type: none"> <li>• for remote-reset function at DC</li> </ul> | 24 V           |
| <ul style="list-style-type: none"> <li>• at AC-3 rated value maximum</li> </ul>     | 1 000 V        |
| <b>Operating frequency rated value</b>                                              | 50 ... 60 Hz   |
| <b>Operating current rated value</b>                                                | 115 A          |
| <b>Operating power for three-phase motors at 400 V at 50 Hz</b>                     | 18.5 ... 55 kW |

#### Auxiliary circuit

|                                                                            |                             |
|----------------------------------------------------------------------------|-----------------------------|
| <b>Design of the auxiliary switch</b>                                      | integrated                  |
| <b>Number of NC contacts</b>                                               |                             |
| <ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul> | 1                           |
| — Note                                                                     | for contactor disconnection |
| <b>Number of NO contacts</b>                                               |                             |
| <ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul> | 1                           |
| — Note                                                                     | for message "tripped"       |
| <b>Number of CO contacts</b>                                               |                             |
| <ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul> | 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 5E, 10E, 20E and 30E adjustable                       |
| <b>Design of the overload release</b>                                                   | electronic                                                  |
| <b>Response time of the ground fault protection in settled state</b>                    | 1 000 ms                                                    |
| <b>Operating range of the ground fault protection relating to current setting value</b> |                                                             |
| • minimum                                                                               | $I_{Motor} > \text{lower current setting value}$            |
| • maximum                                                                               | $I_{Motor} < \text{upper current setting value} \times 3.5$ |

|                                                             |             |
|-------------------------------------------------------------|-------------|
| <b>UL/CSA ratings</b>                                       |             |
| <b>Full-load current (FLA) for three-phase AC motor</b>     |             |
| • at 480 V rated value                                      | 115 A       |
| • at 600 V rated value                                      | 115 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: 315 A    |
| — with type of assignment 2 required                            | gG: 315 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>Mounting type</b>                      | direct mounting |
| <b>Height</b>                             | 106 mm          |
| <b>Width</b>                              | 70 mm           |
| <b>Depth</b>                              | 124 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           | 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

|                                                                      |                                                                    |
|----------------------------------------------------------------------|--------------------------------------------------------------------|
| <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                          | 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                                                              | 2x (2.5 ... 16 mm <sup>2</sup> )                                   |
| — stranded                                                           | 2x 16 mm <sup>2</sup>                                              |
| — single or multi-stranded                                           | 1x (2,5 ... 70 mm <sup>2</sup> ), 2x (2,5 ... 50 mm <sup>2</sup> ) |
| — finely stranded with core end processing                           | 1x (2,5 ... 50 mm <sup>2</sup> ), 2x (2,5 ... 35 mm <sup>2</sup> ) |
| • at AWG conductors for main contacts                                | 1x (10 ... 2/0), 2x (10 ... 1/0)                                   |
| <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                           | 2x (24 ... 16)                                                     |
| <b>Tightening torque</b>                                             |                                                                    |

|                                               |                    |
|-----------------------------------------------|--------------------|
| • for main contacts with screw-type terminals | 4.5 ... 6 N·m      |
| <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>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

| General Product Approval | For use in hazardous locations | Declaration of Conformity | Marine / Shipping |
|--------------------------|--------------------------------|---------------------------|-------------------|
|--------------------------|--------------------------------|---------------------------|-------------------|



| 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=3RB3143-4XD0>

**Cax online generator**

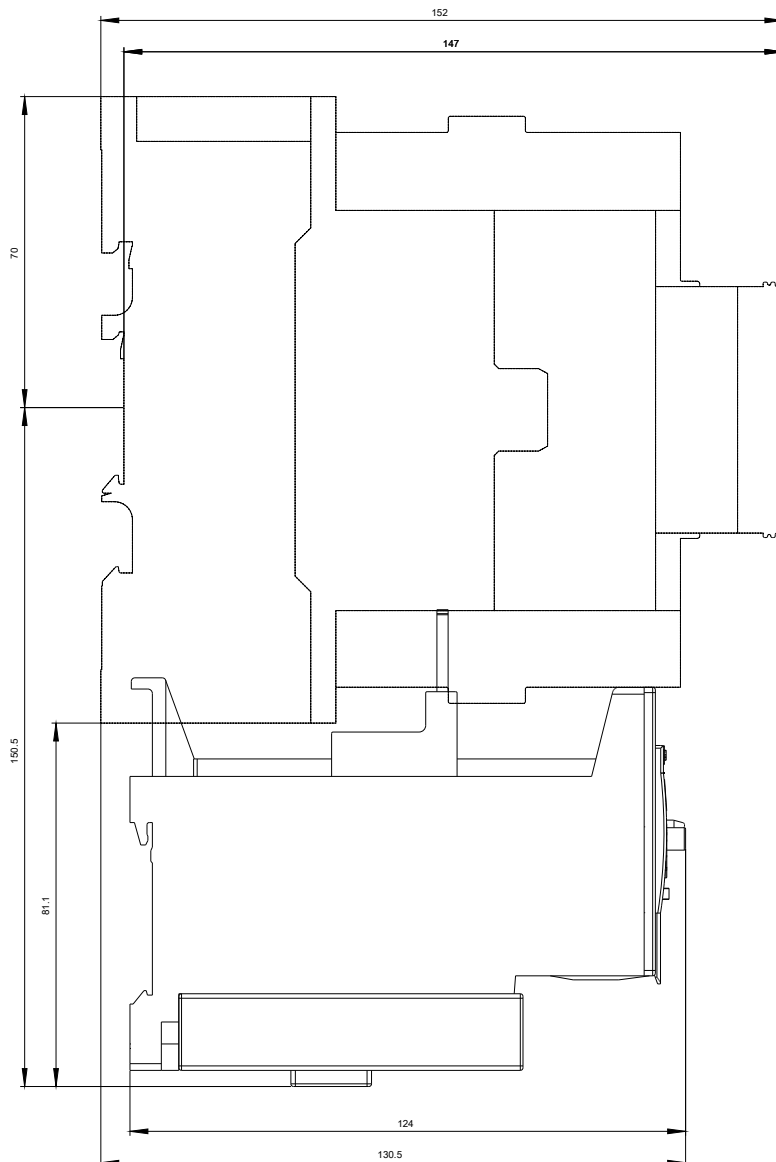
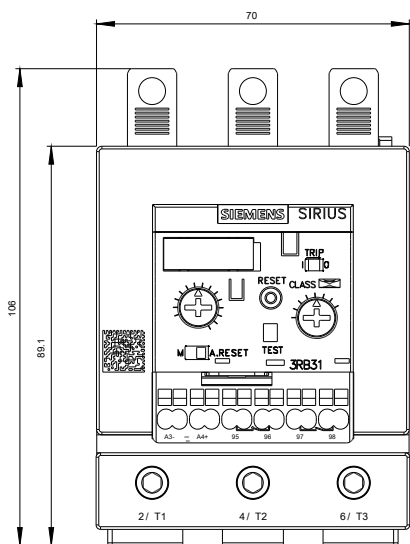
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3143-4XD0>

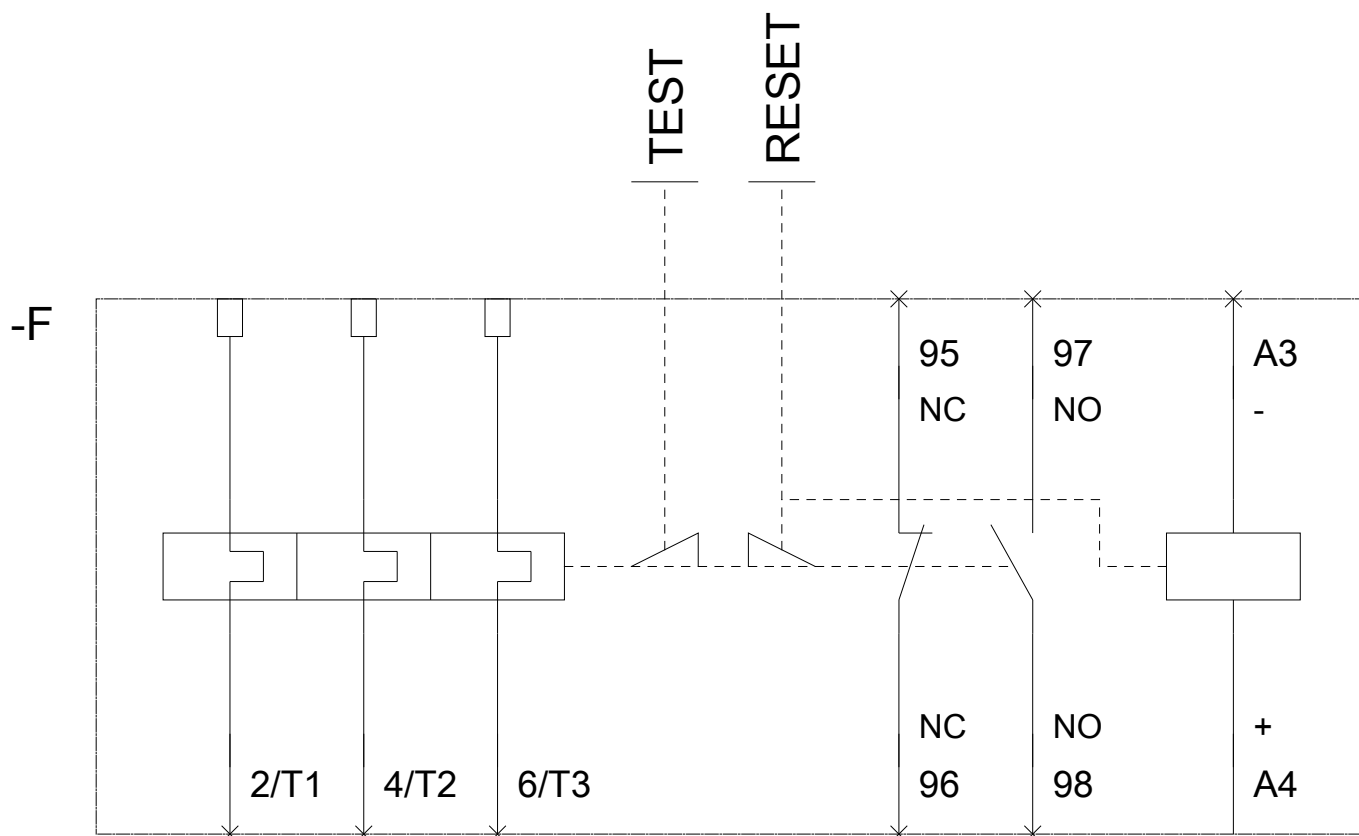
**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3143-4XD0>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RB3143-4XD0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3143-4XD0&lang=en)





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