

Overload relay 32...115 A for motor protection Size S3, Class 5E...30E Contactor mounting Main circuit: Screw Auxiliary circuit: Screw 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	
<ul style="list-style-type: none"> <li>in networks with grounded star point between auxiliary and auxiliary circuit</li> </ul>	300 V
<ul style="list-style-type: none"> <li>in networks with grounded star point between auxiliary and auxiliary circuit</li> </ul>	300 V
<ul style="list-style-type: none"> <li>in networks with grounded star point between main and auxiliary circuit</li> </ul>	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>Shock resistance</b>	8g / 11 ms
<ul style="list-style-type: none"> <li>acc. to IEC 60068-2-27</li> </ul>	15g / 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>	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]
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> </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>	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</b>	
<ul style="list-style-type: none"> <li>for three-phase motors at 400 V at 50 Hz</li> </ul>	18.5 ... 55 kW
<ul style="list-style-type: none"> <li>for AC motors at 500 V at 50 Hz</li> </ul>	22 ... 75 kW
<ul style="list-style-type: none"> <li>for AC motors at 690 V at 50 Hz</li> </ul>	30 ... 90 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 5E, 10E, 20E and 30E adjustable
<b>Design of the overload release</b>	electronic
<b>Response value current</b>	
• of the ground fault protection minimum	0.75 x IMotor
<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	IMotor > lower current setting value
• maximum	IMotor < upper current setting value x 3.5

#### UL/CSA ratings

<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

#### 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: 315 A
— with type of assignment 2 required	gG: 315 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>	direct mounting
<b>Height</b>	106 mm
<b>Width</b>	70 mm
<b>Depth</b>	124 mm
<b>Required spacing</b>	
<ul style="list-style-type: none"> <li>• with side-by-side mounting           <ul style="list-style-type: none"> <li>— forwards</li> <li>— Backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> <li>• for grounded parts           <ul style="list-style-type: none"> <li>— forwards</li> <li>— Backwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> <li>• for live parts           <ul style="list-style-type: none"> <li>— forwards</li> <li>— Backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>0 mm</li> <li>0 mm</li> <li>0 mm</li> <li>0 mm</li> <li>0 mm</li> <li>0 mm</li> <li>0 mm</li> <li>0 mm</li> <li>0 mm</li> <li>6 mm</li> <li>0 mm</li> <li>0 mm</li> <li>0 mm</li> <li>0 mm</li> <li>6 mm</li> </ul>

### Connections/Terminals

<b>Product function</b>	
<ul style="list-style-type: none"> <li>• removable terminal for auxiliary and control circuit</li> </ul>	Yes
<b>Type of electrical connection</b>	
<ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control current circuit</li> </ul>	<p>screw-type terminals</p> <p>screw-type terminals</p>
<b>Arrangement of electrical connectors for main current circuit</b>	Top and bottom
<b>Type of connectable conductor cross-sections</b>	
<ul style="list-style-type: none"> <li>• for main contacts           <ul style="list-style-type: none"> <li>— solid</li> <li>— stranded</li> <li>— single or multi-stranded</li> </ul> </li> </ul>	<p>2x (2.5 ... 16 mm<sup>2</sup>)</p> <p>2x 16 mm<sup>2</sup></p> <p>1x (2,5 ... 70 mm<sup>2</sup>), 2x (2,5 ... 50 mm<sup>2</sup>)</p>

<ul style="list-style-type: none"> <li>— finely stranded with core end processing</li> <li>• at AWG conductors for main contacts</li> </ul>	<p>1x (2,5 ... 50 mm<sup>2</sup>), 2x (2,5 ... 35 mm<sup>2</sup>)</p> <p>1x (10 ... 2/0), 2x (10 ... 1/0)</p>
<b>Type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG conductors for auxiliary contacts</li> </ul>	<p>1x (0.5 ... 4 mm<sup>2</sup>), 2x (0.5 ... 2.5 mm<sup>2</sup>)</p> <p>1x (0,5 ... 4 mm<sup>2</sup>), 2x (0,5 ... 2,5 mm<sup>2</sup>)</p> <p>1x (0.5 ... 2.5 mm<sup>2</sup>), 2x (0.5 ... 1.5 mm<sup>2</sup>)</p> <p>2x (20 ... 14)</p>
<b>Tightening torque</b> <ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> <li>• for auxiliary contacts with screw-type terminals</li> </ul>	<p>4.5 ... 6 N·m</p> <p>0.8 ... 1.2 N·m</p>
<b>Design of screwdriver shaft</b>	<p>Diameter 5 to 6 mm</p>
<b>Size of the screwdriver tip</b>	<p>Pozidriv PZ 2</p>
<b>Design of the thread of the connection screw</b> <ul style="list-style-type: none"> <li>• for main contacts</li> <li>• of the auxiliary and control contacts</li> </ul>	<p>M6</p> <p>M3</p>

#### Communication/ Protocol

<b>Type of voltage supply via input/output link master</b>	<p>No</p>
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#### Electromagnetic compatibility

<b>Conducted interference</b> <ul style="list-style-type: none"> <li>• due to burst acc. to IEC 61000-4-4</li> <li>• due to conductor-earth surge acc. to IEC 61000-4-5</li> <li>• due to conductor-conductor surge acc. to IEC 61000-4-5</li> <li>• due to high-frequency radiation acc. to IEC 61000-4-6</li> </ul>	<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>
<b>Field-bound parasitic coupling acc. to IEC 61000-4-3</b>	<p>10 V/m</p>
<b>Electrostatic discharge acc. to IEC 61000-4-2</b>	<p>6 kV contact discharge / 8 kV air discharge</p>

#### Display

<b>Display version</b> <ul style="list-style-type: none"> <li>• for switching status</li> </ul>	<p>Slide switch</p>
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#### Certificates/approvals

General Product Approval	EMC	For use in hazardous locations	Declaration of Conformity
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Test Certificates	Marine / Shipping	other
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[Type Test Certificates/Test Report](#)



[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=3RB3143-4XB0>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3143-4XB0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3143-4XB0>

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

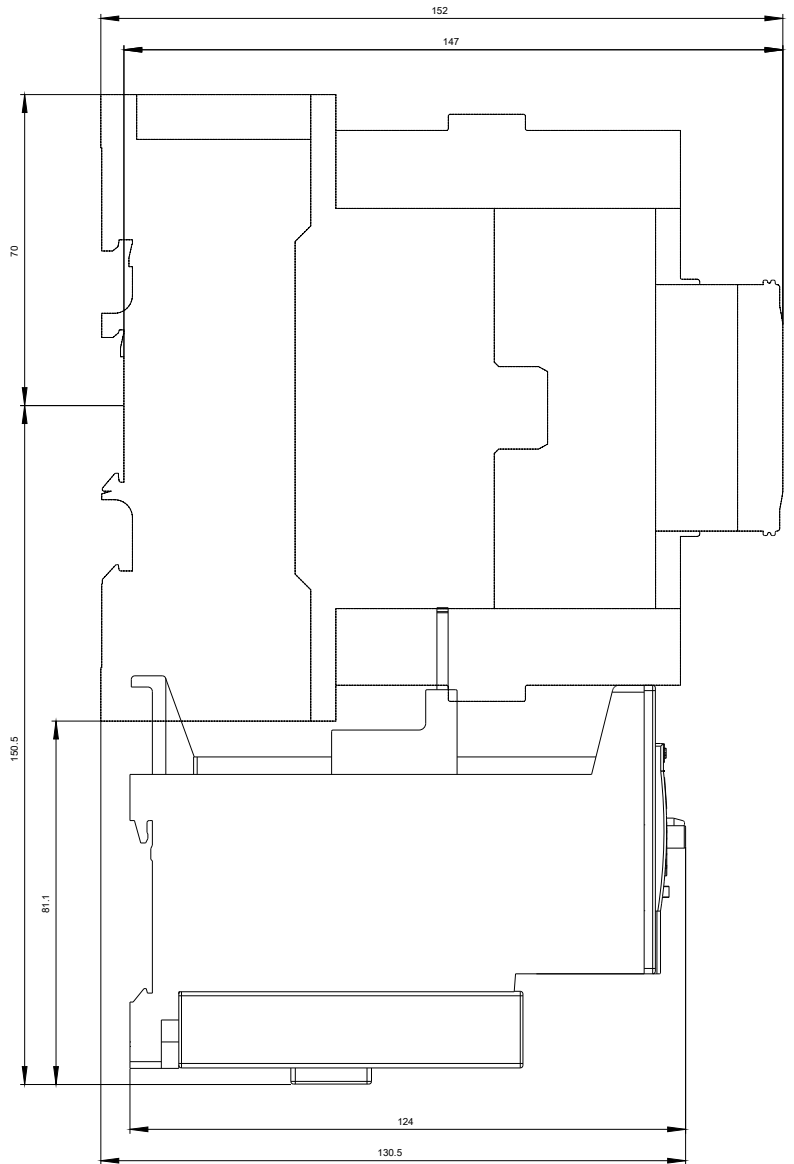
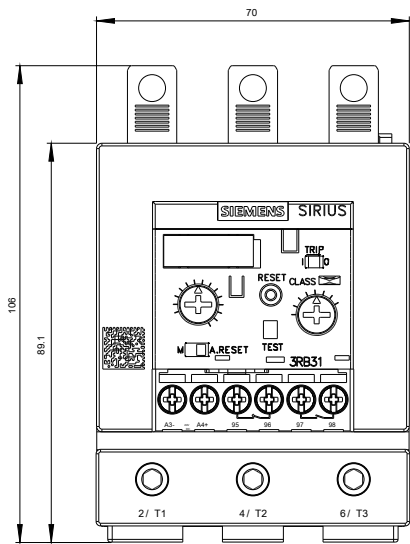
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RB3143-4XB0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3143-4XB0&lang=en)

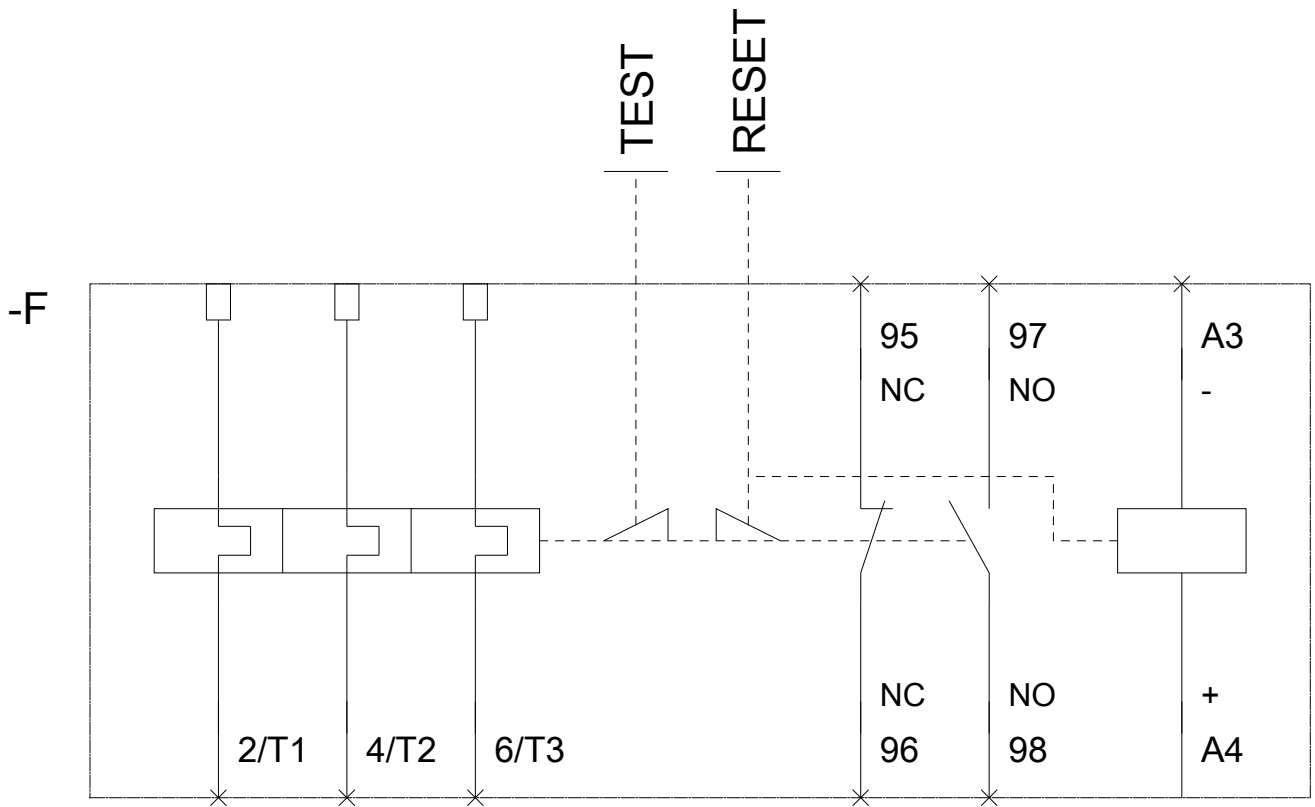
**Characteristic: Tripping characteristics, I<sup>t</sup>, Let-through current**

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3143-4XB0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB3143-4XB0&objecttype=14&gridview=view1>





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