

Overload relay 1...4 A Electronic For motor protection Size S0, Class 5...30 Contactor mounting Main circuit: Spring-type terminal Auxiliary circuit: Spring-type terminal Manual-Automatic-Reset Internal ground fault detection



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

General technical data	
Size of overload relay	S0
Size of contactor can be combined company-specific	S0
Power loss [W] for rated value of the current	
• at AC in hot operating state	0.1 W
• at AC in hot operating state per pole	0.03 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
<ul style="list-style-type: none"> <li>• protection class IP on the front</li> </ul>	IP20
<ul style="list-style-type: none"> <li>• Protection class IP 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>	4 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>	1 ... 4 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>• 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>	690 V
<b>Operating frequency rated value</b>	50 ... 60 Hz
<b>Operating current rated value</b>	4 A
<b>Operating power</b>	
<ul style="list-style-type: none"> <li>• for three-phase motors at 400 V at 50 Hz</li> </ul>	0.37 ... 1.5 kW
<ul style="list-style-type: none"> <li>• for AC motors at 500 V at 50 Hz</li> </ul>	0.37 ... 2.2 kW
<ul style="list-style-type: none"> <li>• for AC motors at 690 V at 50 Hz</li> </ul>	0.55 ... 3 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
• operating current of auxiliary contacts at AC-15 at 24 V	4 A
• Operating current of auxiliary contacts at AC-15 at 110 V	4 A
• Operating current of auxiliary contacts at AC-15 at 120 V	4 A
• Operating current of auxiliary contacts at AC-15 at 125 V	4 A
• Operating current of auxiliary contacts at AC-15 at 230 V	3 A
• operating current of auxiliary contacts at DC-13 at 24 V	2 A
• Operating current of auxiliary contacts at DC-13 at 60 V	0.55 A
• Operating current of auxiliary contacts at DC-13 at 110 V	0.3 A
• operating current of auxiliary contacts at DC-13 at 125 V	0.3 A
• Operating current of auxiliary contacts at DC-13 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	$0.75 \times I_{\text{Motor}}$
<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	$I_{\text{Motor}} > \text{lower current setting value}$
• maximum	$I_{\text{Motor}} < \text{upper current setting value} \times 3.5$

### UL/CSA ratings

<b>Full-load current (FLA) for three-phase AC motor</b>	
• at 480 V rated value	4 A
• at 600 V rated value	4 A
<b>Contact rating of auxiliary contacts according to UL</b>	B600 / R300

## Short-circuit protection

### Design of the fuse link

- for short-circuit protection of the main circuit
  - with type of coordination 1 required
  - with type of assignment 2 required
- for short-circuit protection of the auxiliary switch required

gG: 35 A, RK5: 15 A

gG: 20 A

fuse gG: 6 A

## Installation/ mounting/ dimensions

- mounting position

any

### Mounting type

Contacteur mounting

### Height

109 mm

### Width

45 mm

### Depth

85 mm

## Connections/ Terminals

### Product function

- removable terminal for auxiliary and control circuit

Yes

- Type of electrical connection for main current circuit

spring-loaded terminals

- Type of electrical connection for auxiliary and control current circuit

spring-loaded terminals

### Arrangement of electrical connectors for main current circuit

Top and bottom

### Type of connectable conductor cross-sections

- for main contacts
  - solid
  - stranded
  - single or multi-stranded
  - finely stranded with core end processing
  - finely stranded without core end processing
- at AWG conductors for main contacts

1x (1 ... 10 mm<sup>2</sup>)

1x 10 mm<sup>2</sup>

1x (1 ... 10 mm<sup>2</sup>)

1x (1 ... 6 mm<sup>2</sup>)

1x (1 ... 6 mm<sup>2</sup>)

1x (18 ... 8)

### Type of connectable conductor cross-sections

- for auxiliary contacts
  - solid
  - single or multi-stranded
  - finely stranded with core end processing
  - finely stranded without core end processing
- at AWG conductors for auxiliary contacts

2x (0.25 ... 1.5 mm<sup>2</sup>)

2x (0,25 ... 1,5 mm<sup>2</sup>)

2x (0.25 ... 1.5 mm<sup>2</sup>)

2x (0.25 ... 1.5 mm<sup>2</sup>)

1x (24 ... 16), 2x (24 ... 16)

### Design of screwdriver shaft

Diameter 5 to 6 mm

### Size of the screwdriver tip

Pozidriv PZ 2

<b>Design of the thread of the connection screw</b>	
<ul style="list-style-type: none"> <li>• for main contacts</li> </ul>	M4

**Communication/ Protocol**

<b>Type of voltage supply via input/output link master</b>	No
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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> </ul>	2 kV (power ports), 1 kV (signal ports) corresponds to degree of severity 3
<ul style="list-style-type: none"> <li>• due to conductor-earth surge acc. to IEC 61000-4-5</li> </ul>	2 kV (line to earth) corresponds to degree of severity 3
<ul style="list-style-type: none"> <li>• due to conductor-conductor surge acc. to IEC 61000-4-5</li> </ul>	1 kV (line to line) corresponds to degree of severity 3
<ul style="list-style-type: none"> <li>• due to high-frequency radiation acc. to IEC 61000-4-6</li> </ul>	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>	
<ul style="list-style-type: none"> <li>• for switching status</li> </ul>	Slide switch

**Certificates/ approvals**

<b>General Product Approval</b>	<b>EMC</b>	<b>For use in hazardous locations</b>
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<b>Declaration of Conformity</b>	<b>Test Certificates</b>	<b>Marine / Shipping</b>
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[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



<b>Marine / Shipping</b>	<b>other</b>
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[Confirmation](#)

**Further information**

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

<https://www.siemens.com/ic10>

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RB3123-4PE0>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3123-4PE0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3123-4PE0>

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

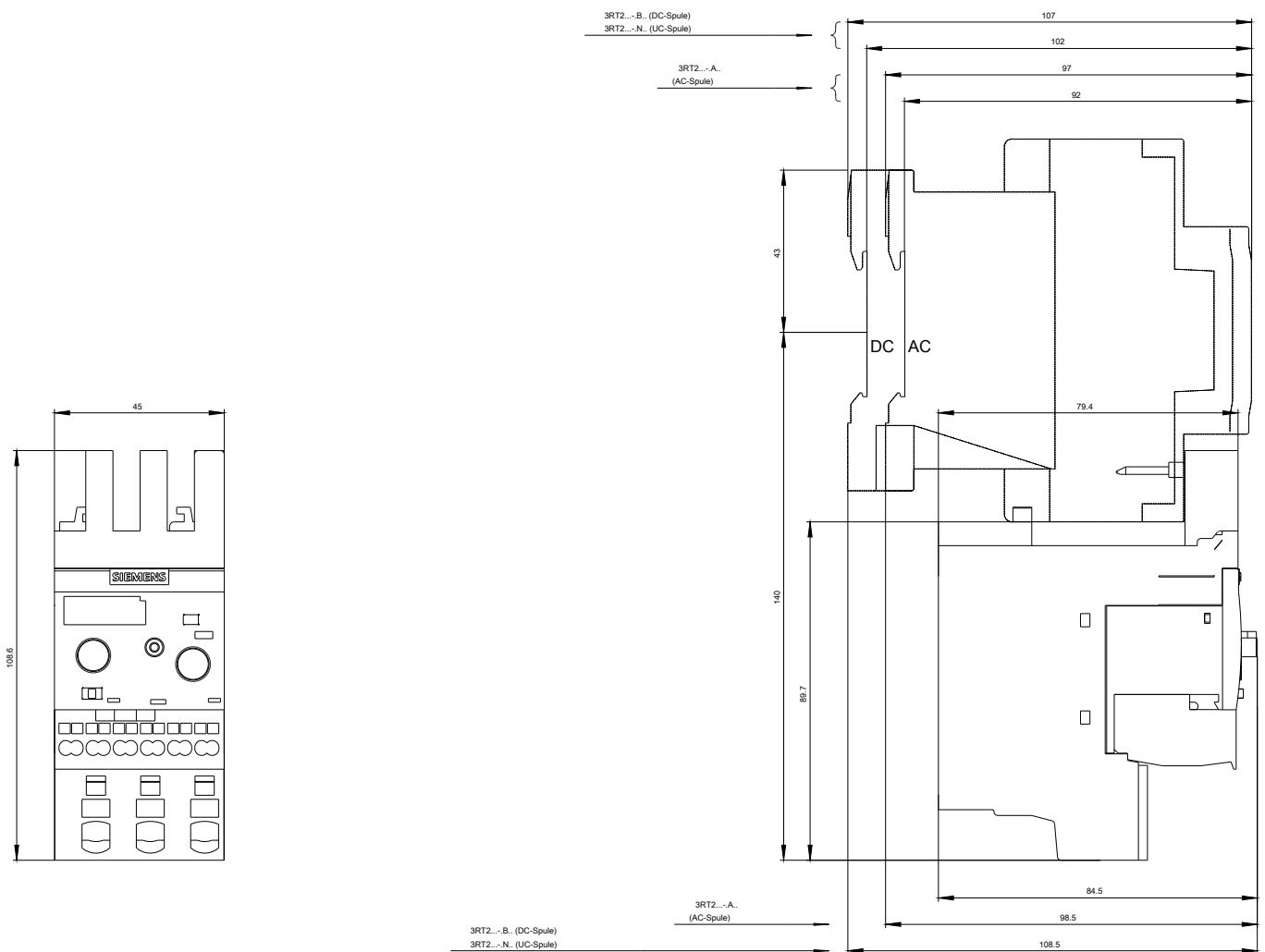
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RB3123-4PE0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3123-4PE0&lang=en)

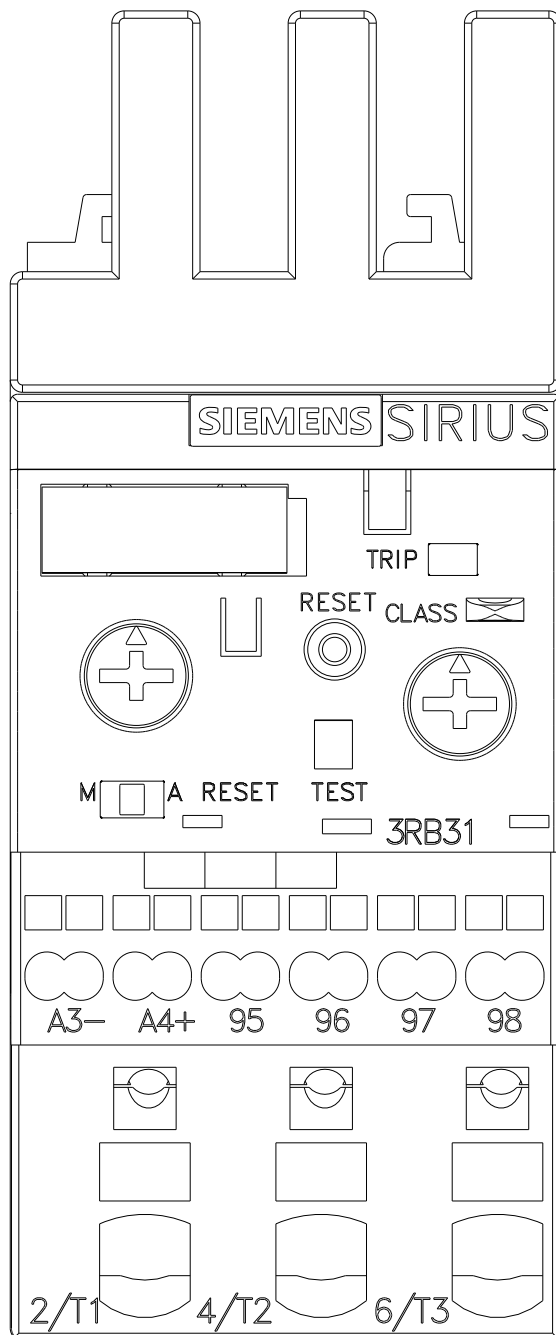
**Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**

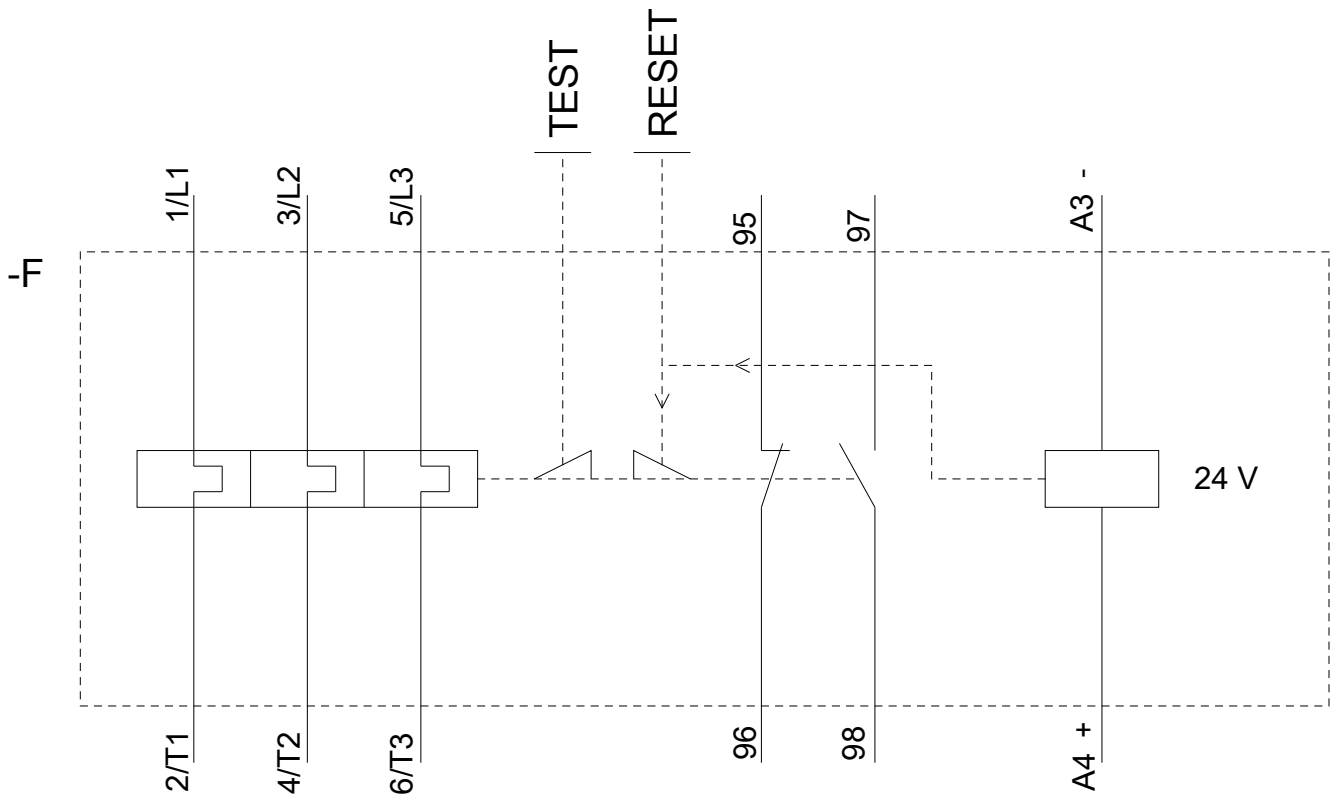
<https://support.industry.siemens.com/cs/ww/en/ps/3RB3123-4PE0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB3123-4PE0&objecttype=14&gridview=view1>







last modified:

08/13/2020