

Overload relay 3...12 A Electronic For motor protection Size S00, 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	S00
Size of contactor can be combined company-specific	S00
Power loss [W] total typical	0.6 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	<ul style="list-style-type: none"><li>in networks with grounded star point between auxiliary and auxiliary circuit</li><li>in networks with grounded star point between auxiliary and auxiliary circuit</li><li>in networks with grounded star point between main and auxiliary circuit</li><li>in networks with grounded star point between main and auxiliary circuit</li></ul>
Protection class IP	

• on the front	IP20
• of the terminal	IP20
<b>Shock resistance</b>	15g / 11 ms
• acc. to IEC 60068-2-27	15g / 11 ms; Signaling contact 97 / 98 in position "Tripped": 9g / 11 ms
<b>Thermal current</b>	12 A
<b>Recovery time</b>	
• after overload trip with automatic reset typical	3 min
• after overload trip with remote-reset	0 min
• after overload trip with manual reset	0 min
<b>Protection against electrical shock</b>	finger-safe
<b>Reference code acc. to DIN EN 81346-2</b>	F

<b>Ambient conditions</b>	
<b>Installation altitude at height above sea level</b>	
• maximum	2 000 m
<b>Temperature compensation</b>	-25 ... +60 °C
Relative humidity during operation	10 ... 95 %

<b>Main circuit</b>	
<b>Number of poles for main current circuit</b>	3
<b>Adjustable pick-up value current of the current-dependent overload release</b>	3 ... 12 A
<b>Operating voltage</b>	
• rated value	690 V
• at AC-3 rated value maximum	690 V
<b>Operating frequency rated value</b>	50 ... 60 Hz
<b>Operating current rated value</b>	12 A
<b>Operating power</b>	
• for three-phase motors at 400 V at 50 Hz	1.5 ... 5.5 kW
• for AC motors at 500 V at 50 Hz	1.5 ... 5.5 kW
• for AC motors at 690 V at 50 Hz	2.2 ... 7.5 kW

<b>Auxiliary circuit</b>	
<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>	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	12 A
• at 600 V rated value	12 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: 50 A, RK5: 45 A
— with type of assignment 2 required	gG: 50 A, J: 45 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>	Contactor mounting
<b>Height</b>	79 mm
<b>Width</b>	45 mm
<b>Depth</b>	73 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	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 (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 4 mm <sup>2</sup> )
— single or multi-stranded	1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 4 mm <sup>2</sup> )
— finely stranded with core end processing	1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )
• at AWG conductors for main contacts	1x (20 ... 12), 2x (20 ... 12)
<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	0.8 ... 1.2 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	M3
• of the auxiliary and control contacts	M3

## Communication/ Protocol

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

## 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
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CCC



CSA



UL



C-Tick



ATEX

Declaration of Conformity	Test Certificates	Marine / Shipping
 EG-Konf.	<a href="#">Miscellaneous</a> <a href="#">Special Test Certificate</a> <a href="#">Type Test Certificates/Test Report</a>	 

Marine / Shipping	other
 LRS	 <a href="#">Confirmation</a>

## 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=3RB3016-1SB0>

### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3016-1SB0>

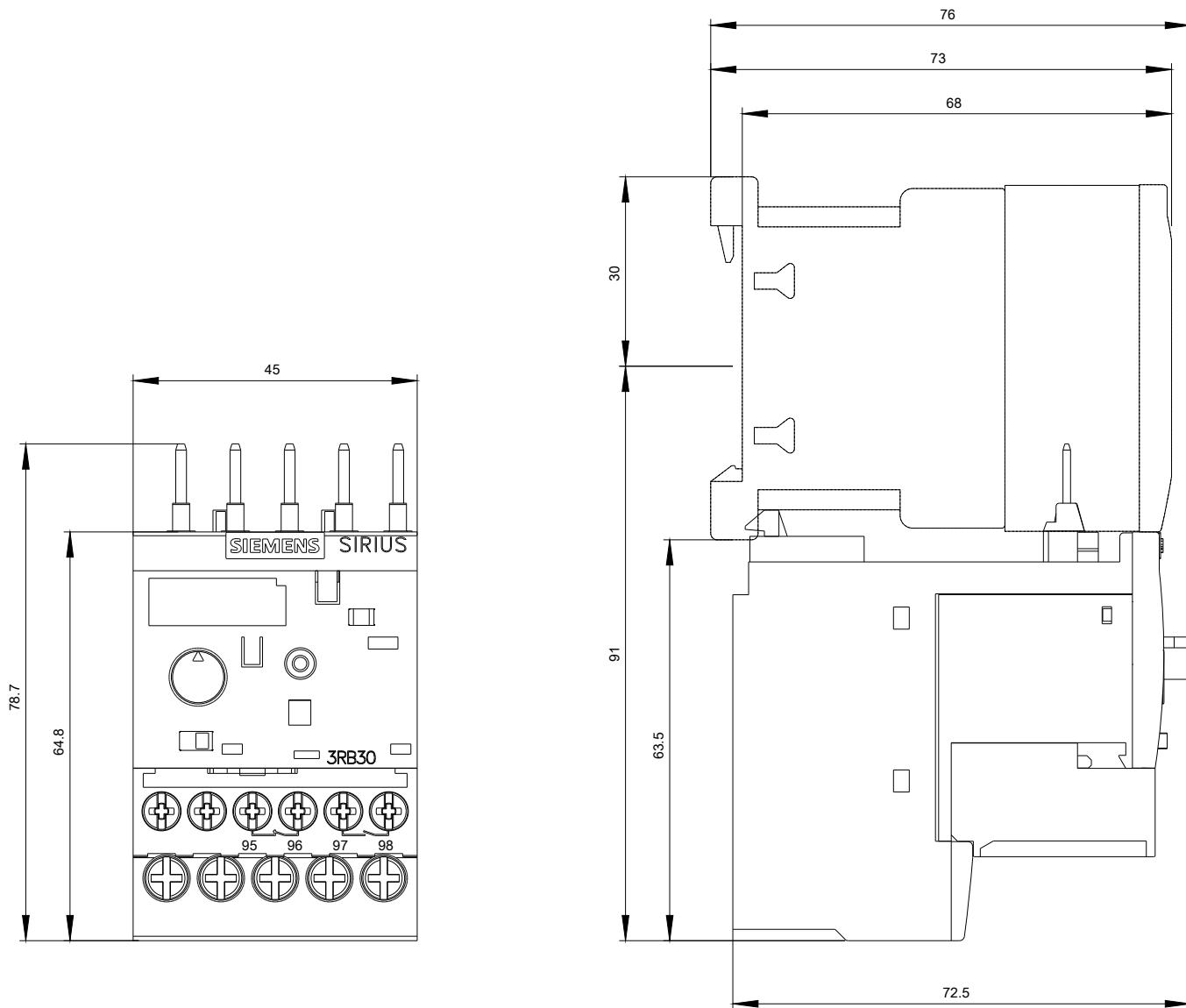
### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

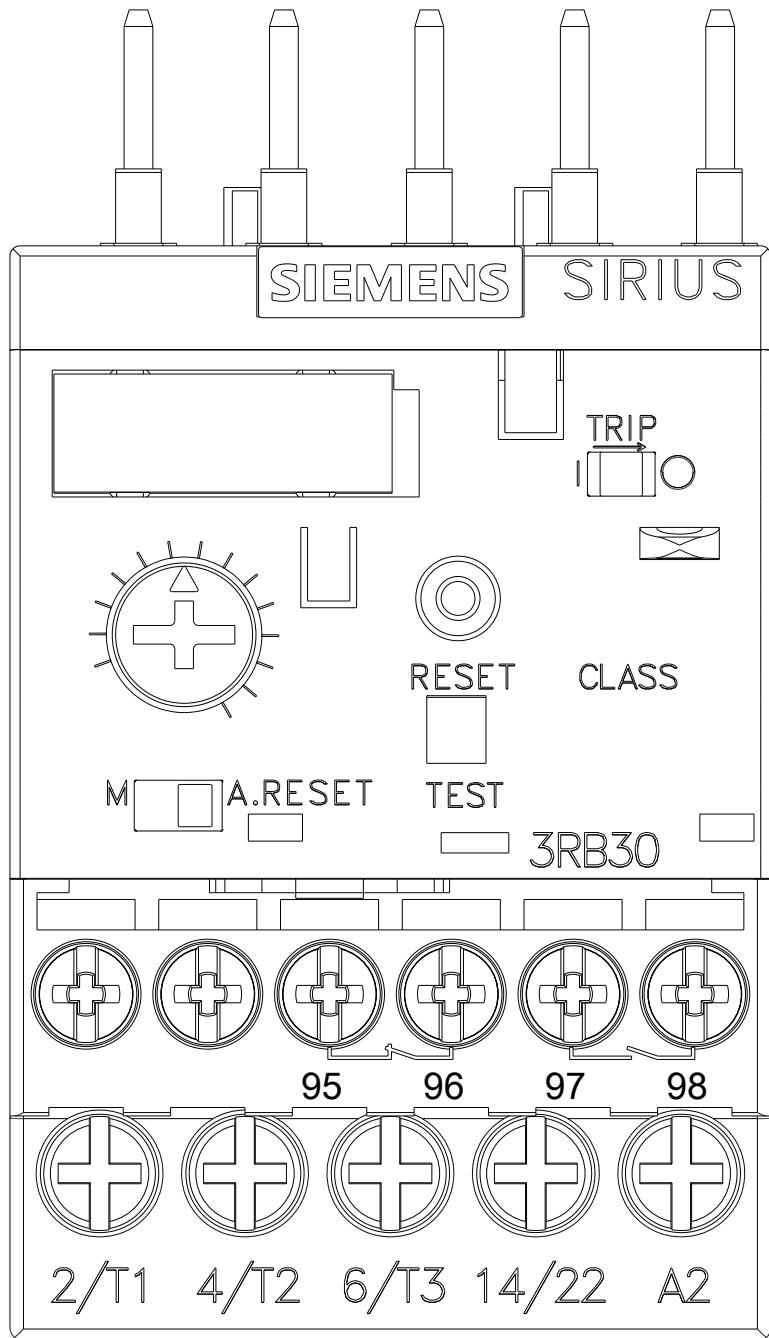
<https://support.industry.siemens.com/cs/ww/en/ps/3RB3016-1SB0>

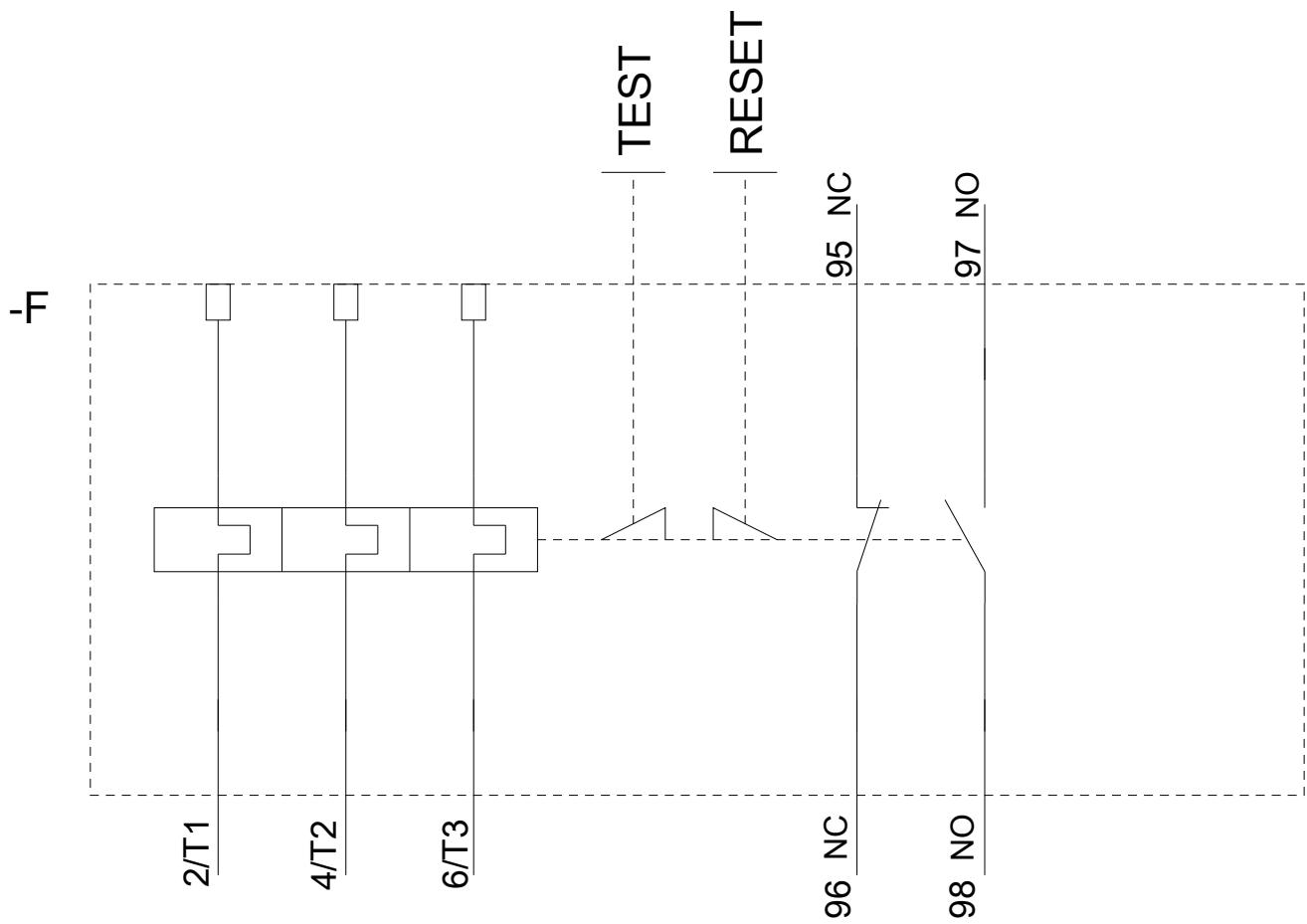
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)  
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RB3016-1SB0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3016-1SB0&lang=en)

Characteristic: Tripping characteristics,  $I^2t$ , Let-through current  
<https://support.industry.siemens.com/cs/ww/en/ps/3RB3016-1SB0/char>

Further characteristics (e.g. electrical endurance, switching frequency)  
<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB3016-1SB0&objecttype=14&gridview=view1>







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