



Overload relay 3...12 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	0.6 W
<ul style="list-style-type: none"> <li>per pole</li> </ul>	0.2 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	
<ul style="list-style-type: none"> <li>between auxiliary and auxiliary circuit</li> <li>between auxiliary and auxiliary circuit</li> <li>between main and auxiliary circuit</li> <li>between main and auxiliary circuit</li> </ul>	300 V 300 V 600 V 690 V
shock resistance	15g / 11 ms
<ul style="list-style-type: none"> <li>according to IEC 60068-2-27</li> </ul>	15g / 11 ms; Signaling contact 97 / 98 in position "Tripped": 9g / 11 ms
vibration resistance	1-6 Hz, 15 mm; 6-500 Hz, 20 m/s <sup>2</sup> ; 10 cycles
thermal current	12 A
type of protection according to ATEX directive 2014/34/EU	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
reference code according to IEC 81346-2	F
Substance Prohibition (Date)	10/01/2009

### Ambient conditions

installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<ul style="list-style-type: none"> <li>during operation</li> <li>during storage</li> <li>during transport</li> </ul>	-25 ... +60 °C -40 ... +80 °C -40 ... +80 °C
temperature compensation	-25 ... +60 °C
relative humidity during operation	10 ... 95 %

### Main circuit

number of poles for main current circuit	3
adjustable current response value current of the current-dependent overload release	3 ... 12 A
operating voltage	
<ul style="list-style-type: none"> <li>rated value</li> <li>at AC-3e rated value maximum</li> </ul>	690 V 690 V

<b>operating frequency rated value</b>	50 ... 60 Hz
<b>operational current rated value</b>	12 A
operational current at AC-3e at 400 V rated value	12 A
<b>operating power</b>	
• for 3-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

#### 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"
number of CO contacts for auxiliary contacts	0
<b>operational 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>operational 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 3-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

#### 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: 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

#### Installation/ mounting/ dimensions

<b>mounting position</b>	any
<b>fastening method</b>	Contacteur mounting
<b>height</b>	72 mm
<b>width</b>	45 mm
<b>depth</b>	90 mm

#### Connections/ Terminals

<b>product component removable terminal for auxiliary and control circuit</b>	Yes
<b>type of electrical connection</b>	
• for main current circuit	spring-loaded terminals
• for auxiliary and control 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> )
— solid or 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 cables 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>)
    - solid or 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 cables for auxiliary contacts 1x (24 ... 16), 2x (24 ... 16)
- design of screwdriver shaft** Diameter 5 to 6 mm
- size of the screwdriver tip** Pozidriv PZ 2

#### Safety related data

<b>protection class IP on the front according to IEC 60529</b>	IP20
<b>touch protection on the front according to IEC 60529</b>	finger-safe, for vertical contact from the front

#### Communication/ Protocol

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

#### Electromagnetic compatibility

<b>conducted interference</b>	
<ul style="list-style-type: none"> <li>• due to burst according 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 according 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 according 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 according 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-based interference according to IEC 61000-4-3</b>	10 V/m
<b>electrostatic discharge according to IEC 61000-4-2</b>	6 kV contact discharge / 8 kV air discharge

#### Display

display version for switching status	Slide switch
--------------------------------------	--------------

#### Certificates/ approvals

<b>General Product Approval</b>	EMC
---------------------------------	-----



[Confirmation](#)



<b>For use in hazardous locations</b>	<b>Declaration of Conformity</b>	<b>Test Certificates</b>	<b>Marine / Shipping</b>
---------------------------------------	----------------------------------	--------------------------	--------------------------



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



#### Marine / Shipping



#### other

[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=3RB3016-2SE0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3016-2SE0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3016-2SE0>

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

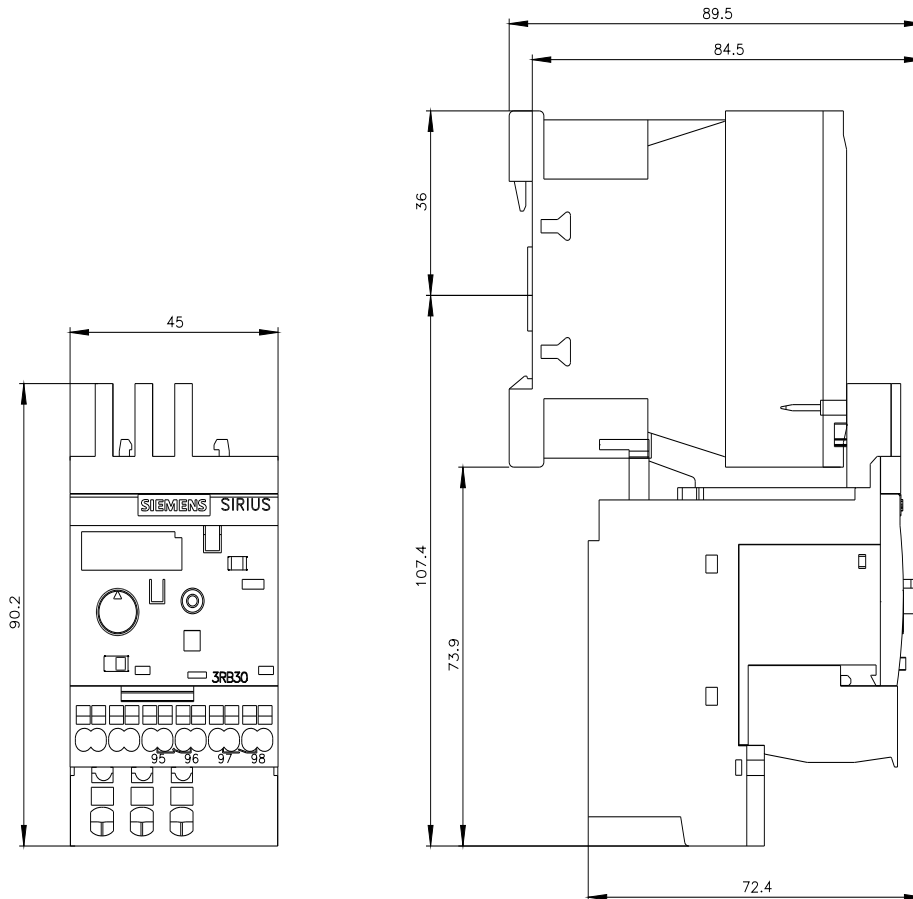
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RB3016-2SE0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3016-2SE0&lang=en)

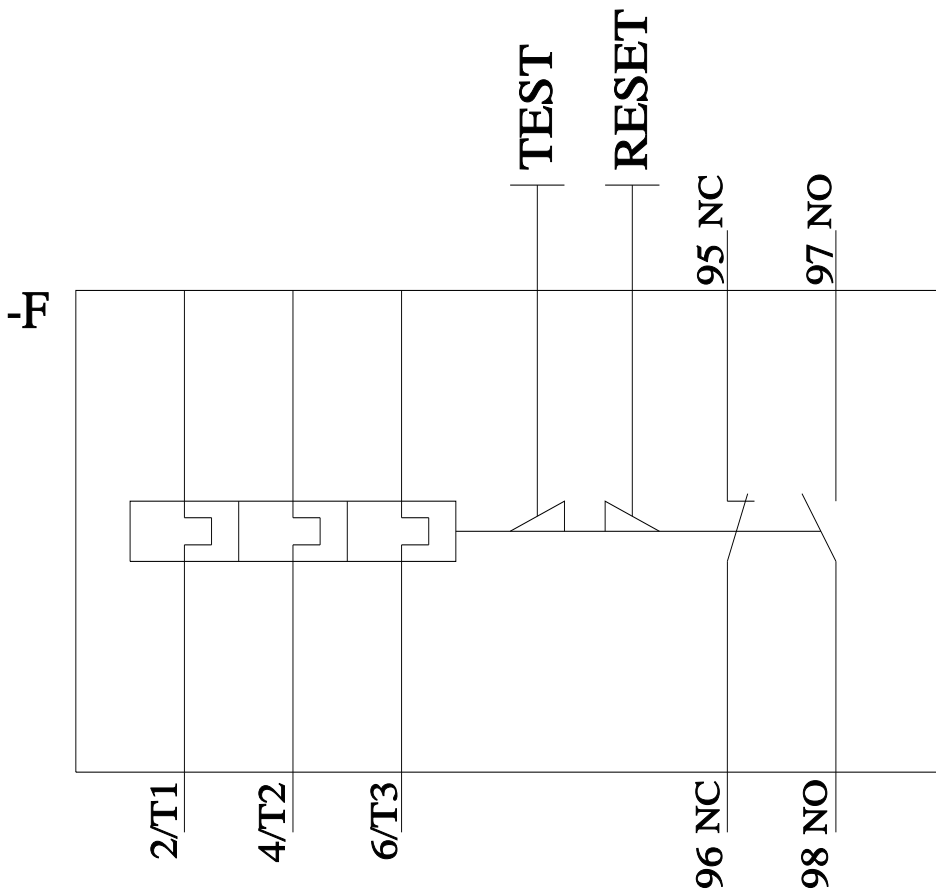
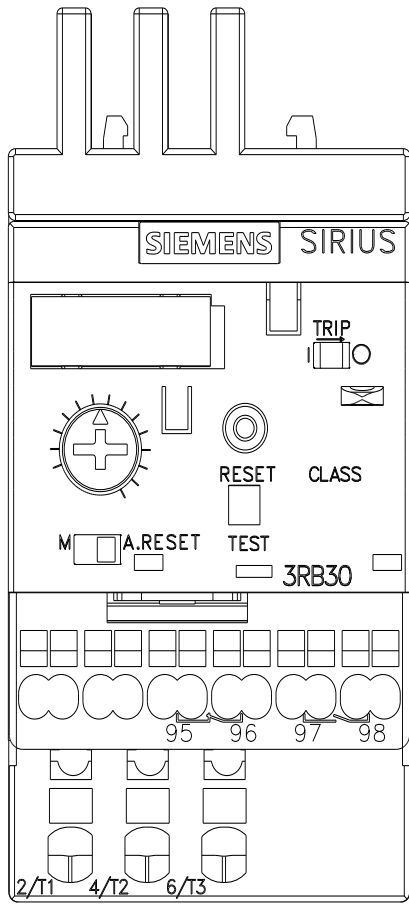
Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3016-2SE0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB3016-2SE0&objecttype=14&gridview=view1>





last modified:

2/9/2022