

Overload relay 50...200 A for motor protection Size S6, Class 20E  
 Contactor mounting/stand-alone installation Main circuit: busbar  
 connection Auxiliary circuit: Screw terminal Manual-Automatic-Reset



Product brand name	SIRIUS
Product designation	solid-state overload relay
Product type designation	3RB2

**General technical data**

Size of overload relay	S6
Size of contactor can be combined company-specific	S6
Insulation voltage with degree of pollution 3 at AC 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
Protection class IP	
<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>	15g / 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>	200 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 06 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>	50 ... 200 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>• 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>	200 A
<b>Operating power</b>	
<ul style="list-style-type: none"> <li>• for three-phase motors at 400 V at 50 Hz</li> </ul>	30 ... 90 kW
<ul style="list-style-type: none"> <li>• for AC motors at 500 V at 50 Hz</li> </ul>	30 ... 132 kW
<ul style="list-style-type: none"> <li>• for AC motors at 690 V at 50 Hz</li> </ul>	55 ... 160 kW

### Auxiliary circuit

<b>Design of the auxiliary switch</b>	integrated
<b>Number of NC contacts for auxiliary contacts</b>	1
<ul style="list-style-type: none"> <li>• Note</li> </ul>	for contactor disconnection
<b>Number of NO contacts for auxiliary contacts</b>	1
<ul style="list-style-type: none"> <li>• Note</li> </ul>	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 20E
<b>Design of the overload release</b>	electronic

### UL/CSA ratings

<b>Full-load current (FLA) for three-phase AC motor</b>	
• at 480 V rated value	200 A
• at 600 V rated value	200 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: 355 A, Class L: 601 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>	Contacteur mounting/stand-alone installation
<b>Height</b>	119 mm
<b>Width</b>	120 mm
<b>Depth</b>	155 mm

### Connections/ Terminals

<b>Product function</b>	
• removable terminal for auxiliary and control circuit	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>	busbar connection screw-type terminals
<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 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>	1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> ) 1x (0,5 ... 4 mm <sup>2</sup> ), 2x (0,5 ... 2,5 mm <sup>2</sup> ) 1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> ) 2x (20 ... 14)
<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>	10 ... 12 N·m 0.8 ... 1.2 N·m
<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>	M8 M3

### 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> <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>	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
<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

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

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping	other
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[Miscellaneous](#)

[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=3RB2056-2FC2>

### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB2056-2FC2>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RB2056-2FC2>

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

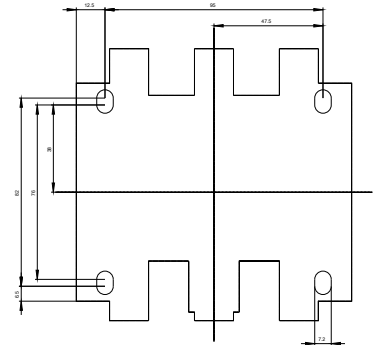
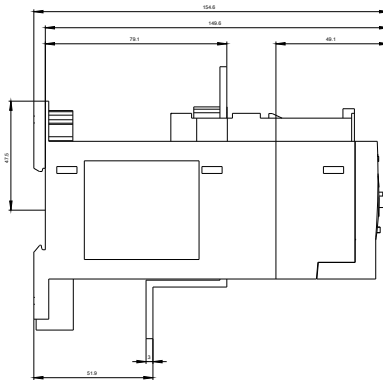
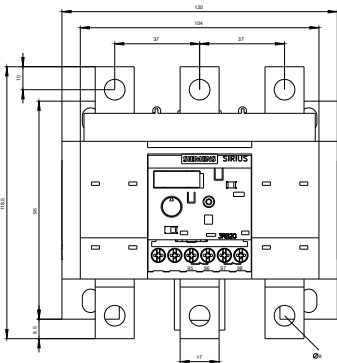
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RB2056-2FC2&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB2056-2FC2&lang=en)

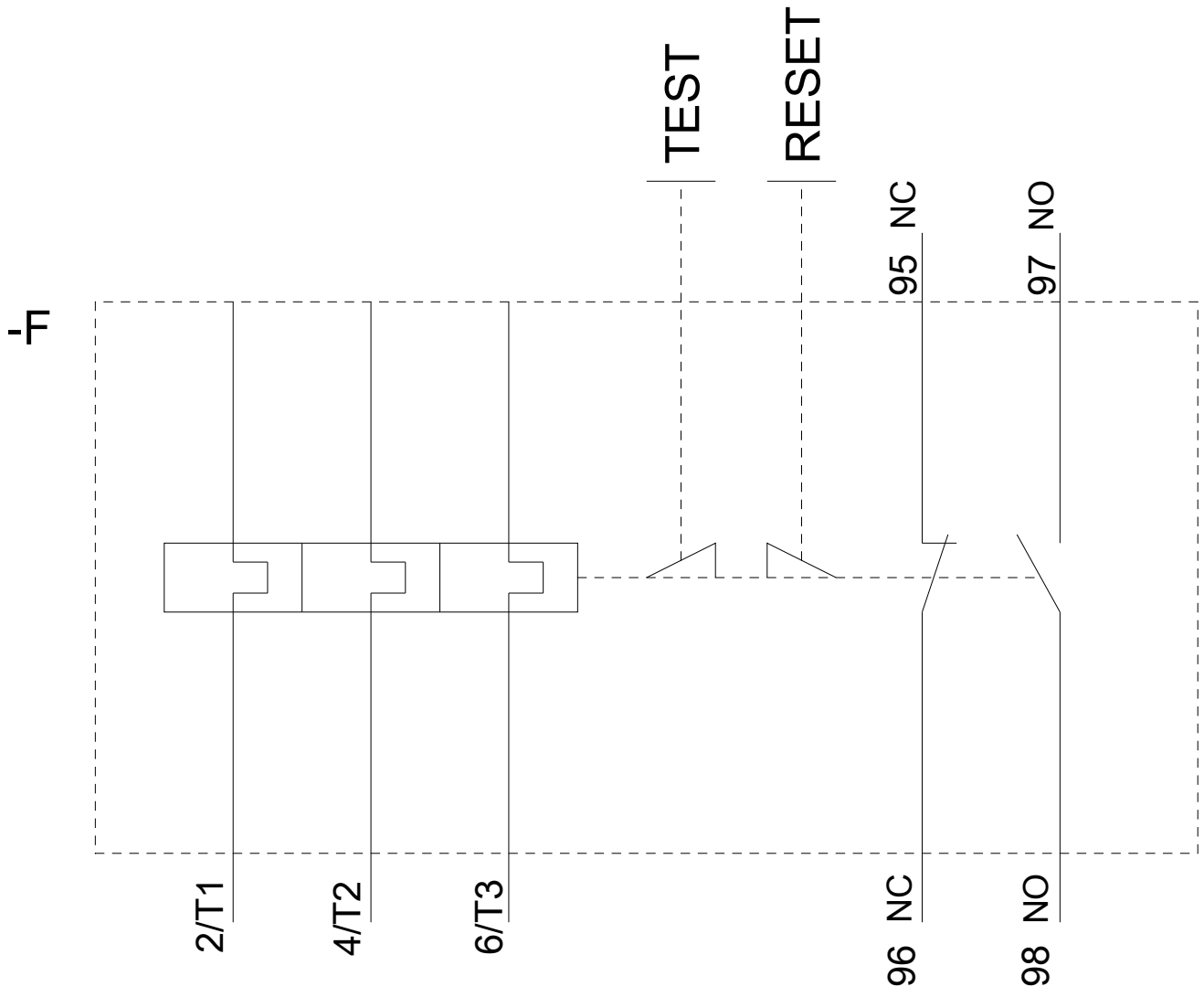
### Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RB2056-2FC2/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB2056-2FC2&objecttype=14&gridview=view1>





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