

Overload relay 55...250 A for motor protection Size S10/S12, Class 10E 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	S10, S12
size of contactor can be combined company-specific	S10, S12
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> <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>	300 V 300 V 600 V 690 V
protection class IP <ul style="list-style-type: none"> <li>on the front</li> </ul>	IP20

• of the terminal	IP00
<b>shock resistance</b>	15g / 11 ms
• acc. to IEC 60068-2-27	15g / 11 ms; Signaling contact 97 / 98 in position "Tripped": 8g / 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>	250 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>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 IEC 81346-2</b>	F

<b>Ambient conditions</b>	
• installation altitude at height above sea level maximum	2 000 m
<b>ambient temperature</b>	
• during operation	-25 ... +60 °C
• during storage	-40 ... +80 °C
• during transport	-40 ... +80 °C
<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 current response value current of the current-dependent overload release</b>	55 ... 250 A
<b>operating voltage</b>	
• rated value	1 000 V
• at AC-3 rated value maximum	1 000 V
<b>operating frequency rated value</b>	50 ... 60 Hz
<b>operational current rated value</b>	250 A
<b>operating power</b>	
• for 3-phase motors at 400 V at 50 Hz	30 ... 132 kW
• for AC motors at 500 V at 50 Hz	45 ... 160 kW
• for AC motors at 690 V at 50 Hz	55 ... 250 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>	
• 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 10E
<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	250 A
• at 600 V rated value	250 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: 500 A, Class L: 700 A
— with type of assignment 2 required	gG: 500 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>	Contactors 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 circuit</li> </ul>	busbar connection screw-type terminals
<b>arrangement of electrical connectors for main current circuit</b>	Top and bottom
<ul style="list-style-type: none"> <li>• type of connectable conductor cross-sections for auxiliary contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• type of connectable conductor cross-sections at AWG cables 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>	20 ... 22 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>	M10 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-based interference 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
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#### Certificates/ approvals

General Product Approval	EMC	For use in hazardous locations
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CSA



CCC



UL



RCM



ATEX

Declaration of Conformity	Test Certificates	Marine / Shipping
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EG-Konf.

[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



ABS



LRS

Marine / Shipping	other
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RINA



DNVGL.COM/AF

[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=3RB2066-1GC2>

### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB2066-1GC2>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RB2066-1GC2>

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

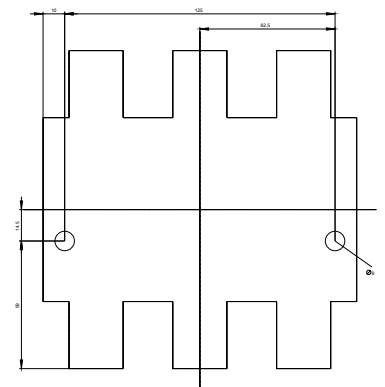
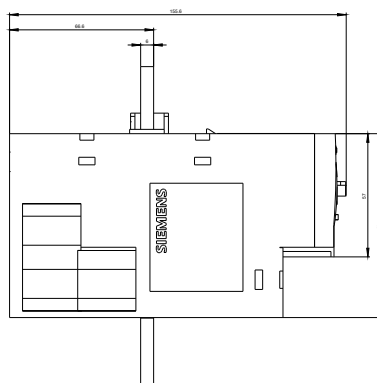
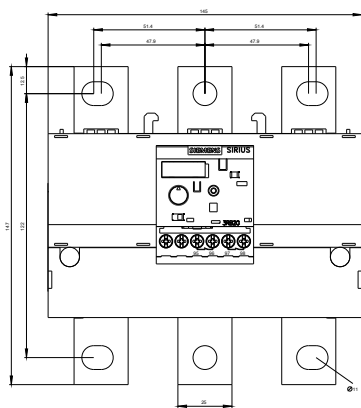
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RB2066-1GC2&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB2066-1GC2&lang=en)

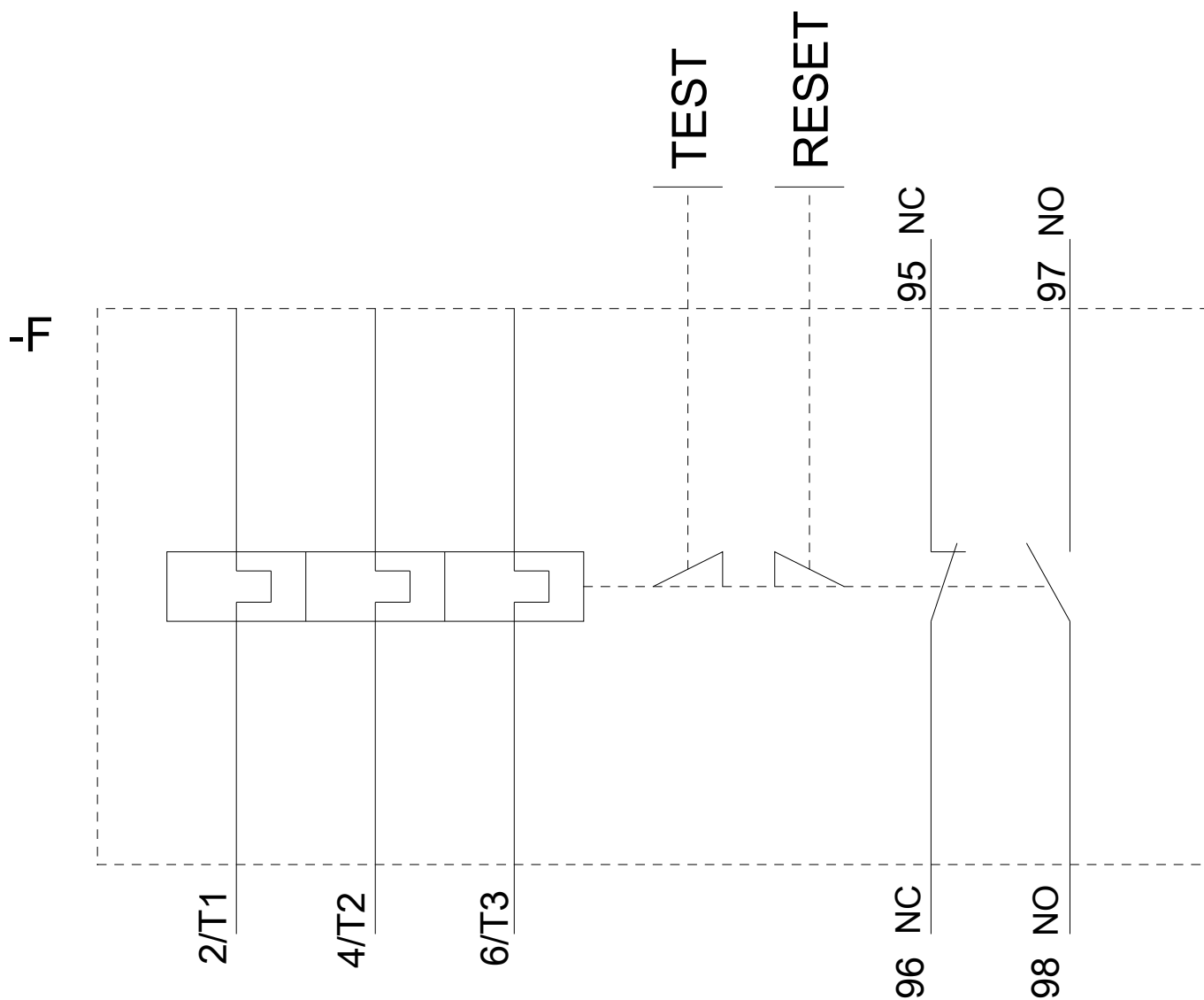
### Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RB2066-1GC2/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB2066-1GC2&objecttype=14&gridview=view1>





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11/17/2020