



Overload relay 50...200 A for motor protection Size S6, CLASS 5...30E  
 Contactor mounting/stand-alone installation Main circuit: busbar connection  
 Auxiliary circuit: Screw terminal Manual-Automatic-Reset Internal ground fault detection

product brand name	SIRIUS
product designation	solid-state overload relay
product type designation	3RB2
<b>General technical data</b>	
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 in networks with grounded star point	
• between auxiliary and auxiliary circuit	300 V
• between auxiliary and auxiliary circuit	300 V
• between main and auxiliary circuit	600 V
• between main and auxiliary circuit	690 V
shock resistance	15g / 11 ms
• acc. to IEC 60068-2-27	15g / 11 ms
vibration resistance	1-6 Hz, 15 mm; 6-500 Hz, 20 m/s <sup>2</sup> ; 10 cycles
thermal current	200 A
recovery time after overload trip	
• with automatic reset typical	3 min
• with remote-reset	0 min
• with manual reset	0 min
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 06 ATEX 3001
reference code acc. to IEC 81346-2	F
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
• ambient temperature during operation	-25 ... +60 °C
• ambient temperature during storage	-40 ... +80 °C
• ambient temperature during transport	-40 ... +80 °C
temperature compensation	-25 ... +60 °C
relative humidity during operation	10 ... 95 %
<b>Main circuit</b>	
number of poles for main current circuit	3
adjustable current response value current of the	50 ... 200 A

<b>current-dependent overload release</b>		
• operating voltage rated value	1 000 V	
• operating voltage for remote-reset function at DC	24 V	
• operating voltage at AC-3 rated value maximum	1 000 V	
<b>operating frequency rated value</b>	50 ... 60 Hz	
<b>operational current rated value</b>	200 A	
<b>operating power</b>		
• for 3-phase motors at 400 V at 50 Hz	30 ... 90 kW	
• for AC motors at 500 V at 50 Hz	30 ... 132 kW	
• for AC motors at 690 V at 50 Hz	55 ... 160 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"	
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	
<b>Protective and monitoring functions</b>		
<b>trip class</b>	CLASS 5E, 10E, 20E and 30E adjustable	
<b>design of the overload release</b>	electronic	
response value current of the grounding protection minimum	0.75 x IMotor	
<b>response time of the grounding protection in settled state</b>	1 000 ms	
<b>operating range of the grounding protection relating to current set value</b>		
• minimum	IMotor > lower current setting value	
• maximum	IMotor < upper current setting value x 3.5	
<b>UL/CSA ratings</b>		
<b>full-load current (FLA) for 3-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	
<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: 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	
<b>Installation/ mounting/ dimensions</b>		
<b>mounting position</b>	any	
<b>fastening method</b>	Contactor mounting/stand-alone installation	
<b>height</b>	119 mm	
<b>width</b>	120 mm	
<b>depth</b>	155 mm	

Connections/ Terminals		
product function removable terminal for auxiliary and control circuit	Yes	
<b>type of electrical connection</b>		
• for main current circuit	busbar connection	
• for auxiliary and control 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 auxiliary contacts		
— solid	1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )	
— solid or 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 cables for auxiliary contacts	2x (20 ... 14)	
• tightening torque for main contacts with screw-type terminals	10 ... 12 N·m	
• tightening torque for auxiliary contacts with screw-type terminals	0.8 ... 1.2 N·m	
<b>design of the thread of the connection screw</b>		
• for main contacts	M10	
• of the auxiliary and control contacts	M3	
Safety related data		
<b>protection class IP on the front acc. to IEC 60529</b>	IP00; IP20 with box terminal/cover	
<b>touch protection on the front acc. to IEC 60529</b>	finger-safe, for vertical contact from the front with box terminal/cover	
Communication/ Protocol		
<b>type of voltage supply via input/output link master</b>	No	
Electromagnetic compatibility		
<b>conducted interference</b>		
• due to burst acc. to IEC 61000-4-4	2 kV (power ports), 1 kV (signal ports) corresponds to degree of severity 3	
• due to conductor-earth surge acc. to IEC 61000-4-5	2 kV (line to earth) corresponds to degree of severity 3	
• due to conductor-conductor surge acc. to IEC 61000-4-5	1 kV (line to line) corresponds to degree of severity 3	
• due to high-frequency radiation acc. to IEC 61000-4-6	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		
display version for switching status	Slide switch	
Certificates/ approvals		
General Product Approval	EMC	For use in hazardous locations



Declaration of Conformity	Test Certificates	Marine / Shipping
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[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



Marine / Shipping	other
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## 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=3RB2153-4FC2>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB2153-4FC2>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RB2153-4FC2>

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

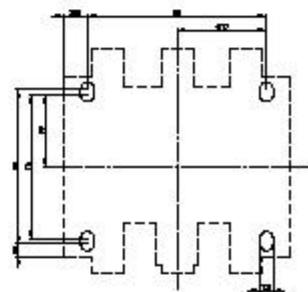
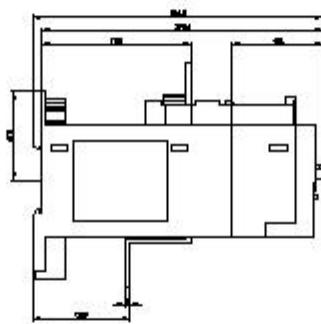
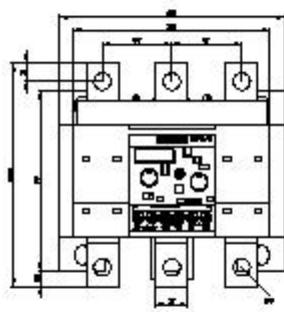
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RB2153-4FC2&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB2153-4FC2&lang=en)

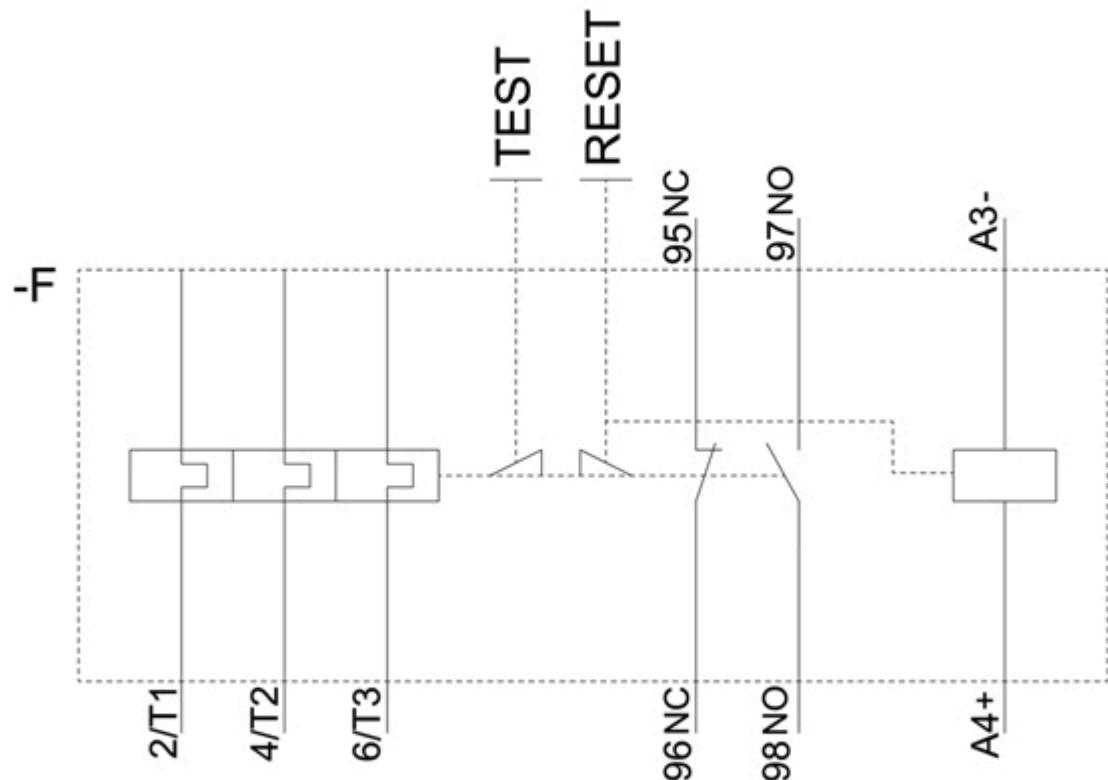
Characteristic: Tripping characteristics,  $I^2t$ , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RB2153-4FC2/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB2153-4FC2&objecttype=14&gridview=view1>





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