



Overload relay 50...200 A for motor protection Size S6, CLASS 5...30E  
 Contactor mounting/stand-alone installation Main circuit: straight-through  
 transformer 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	
<ul style="list-style-type: none"> <li>• between auxiliary and auxiliary circuit</li> </ul>	300 V
<ul style="list-style-type: none"> <li>• between auxiliary and auxiliary circuit</li> </ul>	300 V
<ul style="list-style-type: none"> <li>• between main and auxiliary circuit</li> </ul>	600 V
<ul style="list-style-type: none"> <li>• between main and auxiliary circuit</li> </ul>	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
vibration resistance	1-6 Hz, 15 mm; 6-500 Hz, 20 m/s <sup>2</sup> ; 10 cycles
thermal current	200 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 06 ATEX 3001
reference code according to IEC 81346-2	F
Substance Prohibitance (Date)	07/01/2006
<b>Ambient conditions</b>	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<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
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 current-dependent overload release	50 ... 200 A
operating voltage	
<ul style="list-style-type: none"> <li>• rated value</li> </ul>	1 000 V
<ul style="list-style-type: none"> <li>• for remote-reset function at DC</li> </ul>	24 V

<ul style="list-style-type: none"> <li>at AC-3e rated value maximum</li> </ul>	1 000 V
<b>operating frequency rated value</b>	50 ... 60 Hz
<b>operational current rated value</b>	200 A
operational current at AC-3e at 400 V rated value	200 A
<b>operating power</b>	
<ul style="list-style-type: none"> <li>for 3-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
<b>Auxiliary circuit</b>	
<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"
number of CO contacts for auxiliary contacts	0
<b>operational current of auxiliary contacts at AC-15</b>	
<ul style="list-style-type: none"> <li>at 24 V</li> </ul>	4 A
<ul style="list-style-type: none"> <li>at 110 V</li> </ul>	4 A
<ul style="list-style-type: none"> <li>at 120 V</li> </ul>	4 A
<ul style="list-style-type: none"> <li>at 125 V</li> </ul>	4 A
<ul style="list-style-type: none"> <li>at 230 V</li> </ul>	3 A
<b>operational current of auxiliary contacts at DC-13</b>	
<ul style="list-style-type: none"> <li>at 24 V</li> </ul>	2 A
<ul style="list-style-type: none"> <li>at 60 V</li> </ul>	0.55 A
<ul style="list-style-type: none"> <li>at 110 V</li> </ul>	0.3 A
<ul style="list-style-type: none"> <li>at 125 V</li> </ul>	0.3 A
<ul style="list-style-type: none"> <li>at 220 V</li> </ul>	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>	
<ul style="list-style-type: none"> <li>minimum</li> </ul>	IMotor > lower current setting value
<ul style="list-style-type: none"> <li>maximum</li> </ul>	IMotor < upper current setting value x 3.5
<b>UL/CSA ratings</b>	
<b>full-load current (FLA) for 3-phase AC motor</b>	
<ul style="list-style-type: none"> <li>at 480 V rated value</li> </ul>	200 A
<ul style="list-style-type: none"> <li>at 600 V rated value</li> </ul>	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>	
<ul style="list-style-type: none"> <li>for short-circuit protection of the main circuit <ul style="list-style-type: none"> <li>with type of coordination 1 required</li> <li>with type of assignment 2 required</li> </ul> </li> </ul>	gG: 355 A, Class L: 601 A gG: 315 A
<ul style="list-style-type: none"> <li>for short-circuit protection of the auxiliary switch required</li> </ul>	fuse gG: 6 A
<b>Installation/ mounting/ dimensions</b>	
<b>mounting position</b>	any
<b>fastening method</b>	Contacting mounting/stand-alone installation
<b>height</b>	119 mm
<b>width</b>	120 mm
<b>depth</b>	155 mm
<b>Connections/ Terminals</b>	
<b>product component removable terminal for auxiliary and control circuit</b>	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>	straight-through transformers 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>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• 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 auxiliary contacts with screw-type terminals</li> </ul>	0.8 ... 1.2 N·m
<b>design of the thread of the connection screw</b>	
<ul style="list-style-type: none"> <li>• of the auxiliary and control contacts</li> </ul>	M3

### 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
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### Electromagnetic compatibility

<b>conducted interference</b>	
<ul style="list-style-type: none"> <li>• due to burst according to IEC 61000-4-4</li> <li>• due to conductor-earth surge according to IEC 61000-4-5</li> <li>• due to conductor-conductor surge according to IEC 61000-4-5</li> <li>• due to high-frequency radiation according 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 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
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### Certificates/ approvals

<b>General Product Approval</b>	<b>EMC</b>
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[Confirmation](#)



<b>For use in hazardous locations</b>	<b>Declaration of Conformity</b>	<b>Test Certificates</b>	<b>Marine / Shipping</b>
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[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



<b>Marine / Shipping</b>	<b>other</b>
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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=3RB2153-4FW2>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB2153-4FW2>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RB2153-4FW2>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RB2153-4FW2&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB2153-4FW2&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RB2153-4FW2/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB2153-4FW2&objecttype=14&gridview=view1>

last modified:

2/9/2022 