



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                       |

### 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 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   |
| • according 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   |
| 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  |

### Ambient conditions

|   |                |
|---|----------------|
| installation altitude at height above sea level maximum | 2 000 m        |
| ambient temperature                                     |                |
| • during operation                                      | -25 ... +60 °C |
| • during storage  | -40 ... +80 °C |
| • during transport                                      | -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 | 50 ... 200 A |
| operating voltage   |              |
| • rated value   | 1 000 V      |
| • for remote-reset function at DC   | 24 V         |
| • at AC-3e rated value maximum  | 1 000 V      |
| operating frequency rated value   | 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>   |   |
| • 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                                      |
| <b>Connections/ Terminals</b>  |   |
| <b>product component removable terminal for auxiliary and control circuit</b>    | Yes   |
| <b>type of electrical connection</b>   |   |
| • for main current circuit   | straight-through transformers               |
| • 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>                              |   |

|  |  |
|--|--|
| <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> )<br>1x (0.5 ... 4 mm <sup>2</sup> ), 2x (0.5 ... 2.5 mm <sup>2</sup> )<br>1x (0.5 ... 2.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )<br>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 |
|--|----|

#### 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> | <b>EMC</b> |
|---------------------------------|------------|



[Confirmation](#)



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



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



|                          |              |
|--------------------------|--------------|
| <b>Marine / Shipping</b> | <b>other</b> |
|--------------------------|--------------|



[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, ...)

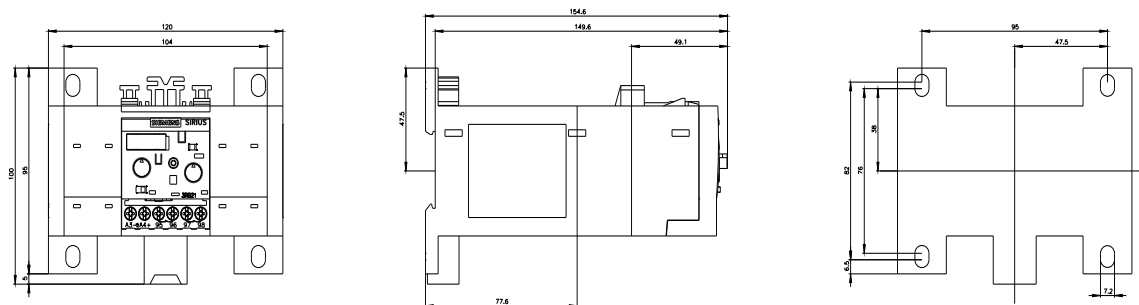
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RB2153-4FW2&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB2153-4FW2&lang=en)

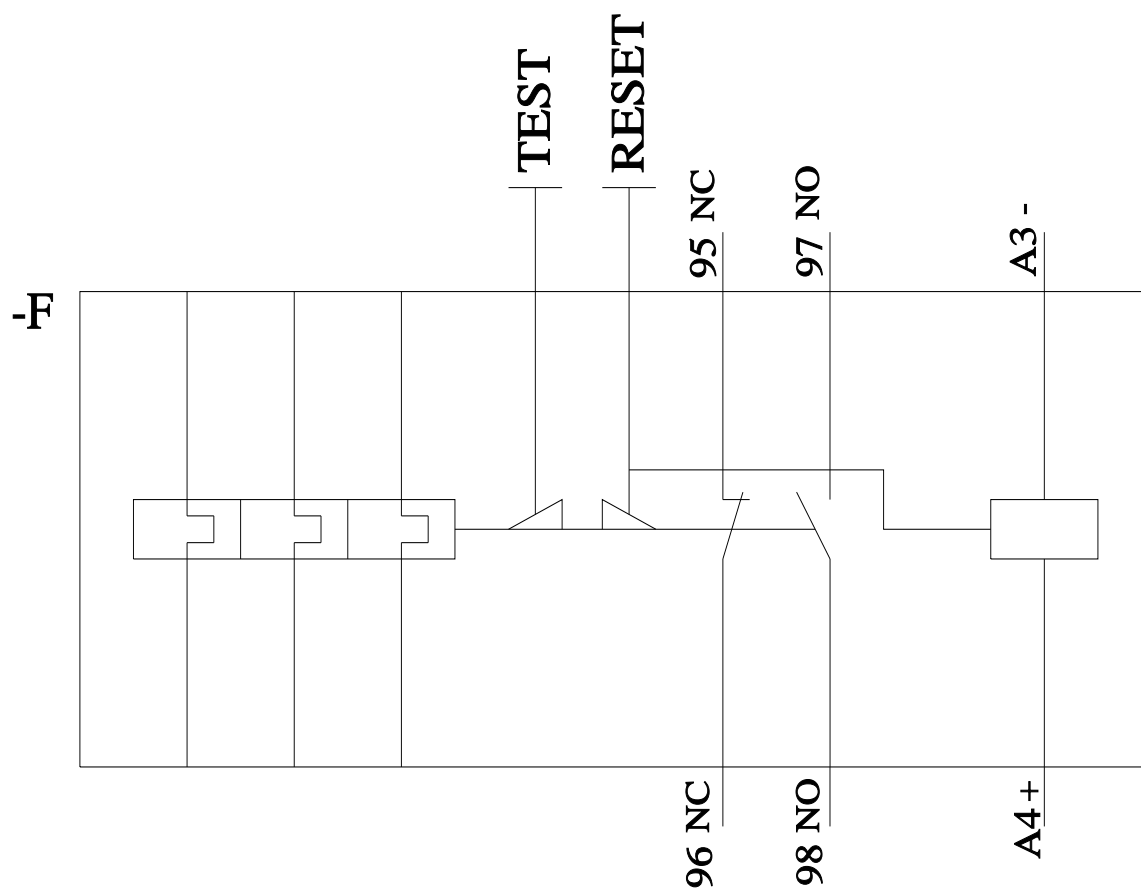
**Characteristic:** Tripping characteristics,  $I^2t$ , Let-through current

<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 