



Overload relay 20...80 A Electronic For motor protection Size S2, Class 20E Stand-alone installation Main circuit: Straight-through transformer Auxiliary circuit: Screw Manual-Automatic-Reset

|                                                                                  |                                                                                                                       |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| product brand name                                                               | SIRIUS                                                                                                                |
| product designation                                                              | solid-state overload relay                                                                                            |
| product type designation                                                         | 3RB3                                                                                                                  |
| <b>General technical data</b>                                                    |                                                                                                                       |
| size of overload relay                                                           | S2                                                                                                                    |
| size of contactor can be combined company-specific                               | S2                                                                                                                    |
| power loss [W] for rated value of the current at AC in hot operating state       | 0.2 W                                                                                                                 |
| • per pole                                                                       | 0.07 W                                                                                                                |
| insulation voltage with degree of pollution 3 at AC rated value                  | 690 V                                                                                                                 |
| surge voltage resistance rated value                                             | 6 kV                                                                                                                  |
| maximum permissible voltage for protective separation                            |                                                                                                                       |
| • in networks with ungrounded star point between auxiliary and auxiliary circuit | 300 V                                                                                                                 |
| • in networks with grounded star point between auxiliary and auxiliary circuit   | 300 V                                                                                                                 |
| • in networks with ungrounded star point between main and auxiliary circuit      | 600 V                                                                                                                 |
| • in networks with grounded star point between main and auxiliary circuit        | 690 V                                                                                                                 |
| shock resistance                                                                 | 15g / 11 ms                                                                                                           |
| • according to IEC 60068-2-27                                                    | 15g / 11 ms; Signaling contact 97 / 98 in position "Tripped": 8g / 11 ms                                              |
| vibration resistance                                                             | 1-6 Hz, 15 mm; 6-500 Hz, 20 m/s <sup>2</sup> ; 10 cycles                                                              |
| thermal current                                                                  | 80 A                                                                                                                  |
| recovery time after overload trip                                                |                                                                                                                       |
| • with automatic reset typical                                                   | 3 min                                                                                                                 |
| • with remote-reset                                                              | 0 min                                                                                                                 |
| • with manual reset                                                              | 0 min                                                                                                                 |
| reference code according to IEC 81346-2                                          | F                                                                                                                     |
| Substance Prohibitance (Date)                                                    | 10/15/2014                                                                                                            |
| SVHC substance name                                                              | Lead - 7439-92-1<br>Lead monoxide (lead oxide) - 1317-36-8<br>6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1 |
| Weight                                                                           | 0.294 kg                                                                                                              |
| <b>Ambient conditions</b>                                                        |                                                                                                                       |
| 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 %                                                                                                           |

|                                                                                            |                               |
|--------------------------------------------------------------------------------------------|-------------------------------|
| <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> | 20 ... 80 A                   |
| <b>operating voltage</b>                                                                   |                               |
| • rated value                                                                              | 690 V                         |
| • at AC-3e rated value maximum                                                             | 690 V                         |
| <b>operating frequency rated value</b>                                                     | 50 ... 60 Hz                  |
| <b>operational current rated value</b>                                                     | 80 A                          |
| operational current at AC-3e at 400 V rated value                                          | 80 A                          |
| <b>operating power</b>                                                                     |                               |
| • for 3-phase motors at 400 V at 50 Hz                                                     | 11 ... 37 kW                  |
| • for AC motors at 500 V at 50 Hz                                                          | 15 ... 55 kW                  |
| • for AC motors at 690 V at 50 Hz                                                          | 18.5 ... 75 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 20E                     |
| <b>design of the overload release</b>                                                      | electronic                    |
| <b>UL/CSA ratings</b>                                                                      |                               |
| <b>full-load current (FLA) for 3-phase AC motor</b>                                        |                               |
| • at 480 V rated value                                                                     | 80 A                          |
| • at 600 V rated value                                                                     | 80 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: 250 A, RK5: 300 A         |
| — with type of coordination 2 required                                                     | gG: 250 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>                                                                    | stand-alone installation      |
| <b>height</b>                                                                              | 81 mm                         |
| <b>width</b>                                                                               | 55 mm                         |
| <b>depth</b>                                                                               | 109 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                |

|                                                                |                                                                      |
|----------------------------------------------------------------|----------------------------------------------------------------------|
| type of connectable conductor cross-sections for main contacts |                                                                      |
| • solid or stranded                                            | 1x (1 ... 50 mm <sup>2</sup> ), 2x (1 ... 35 mm <sup>2</sup> )       |
| <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> ) |
| • for AWG cables for auxiliary contacts                        | 1x (20 ... 14), 2x (20 ... 14)                                       |
| <b>tightening torque</b>                                       |                                                                      |
| • for auxiliary contacts with screw-type terminals             | 0.8 ... 1.2 N·m                                                      |
| <b>design of screwdriver shaft</b>                             | Diameter 5 to 6 mm                                                   |
| <b>size of the screwdriver tip</b>                             | Pozidriv PZ 2                                                        |
| <b>design of the thread of the connection screw</b>            |                                                                      |
| • of the auxiliary and control contacts                        | M3                                                                   |

|                                                                |                                                  |
|----------------------------------------------------------------|--------------------------------------------------|
| <b>Electrical Safety</b>                                       |                                                  |
| <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>                                 |                                                                             |
| • due to burst according to IEC 61000-4-4                     | 2 kV (power ports), 1 kV (signal ports) corresponds to degree of severity 3 |
| • due to conductor-earth surge according to IEC 61000-4-5     | 2 kV (line to earth) corresponds to degree of severity 3                    |
| • due to conductor-conductor surge according to IEC 61000-4-5 | 1 kV (line to line) corresponds to degree of severity 3                     |
| • due to high-frequency radiation according 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 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 |
|--------------------------------------|--------------|

#### Approvals Certificates

|                                 |     |
|---------------------------------|-----|
| <b>General Product Approval</b> | EMV |
|---------------------------------|-----|



|                                       |                          |                             |
|---------------------------------------|--------------------------|-----------------------------|
| <b>For use in hazardous locations</b> | <b>Test Certificates</b> | <b>Maritime application</b> |
|---------------------------------------|--------------------------|-----------------------------|



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



|                             |              |                    |
|-----------------------------|--------------|--------------------|
| <b>Maritime application</b> | <b>other</b> | <b>Environment</b> |
|-----------------------------|--------------|--------------------|



[Confirmation](#)

[Environmental Confirmations](#)

#### Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3RB3036-2WW1>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3036-2WW1>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3036-2WW1>

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

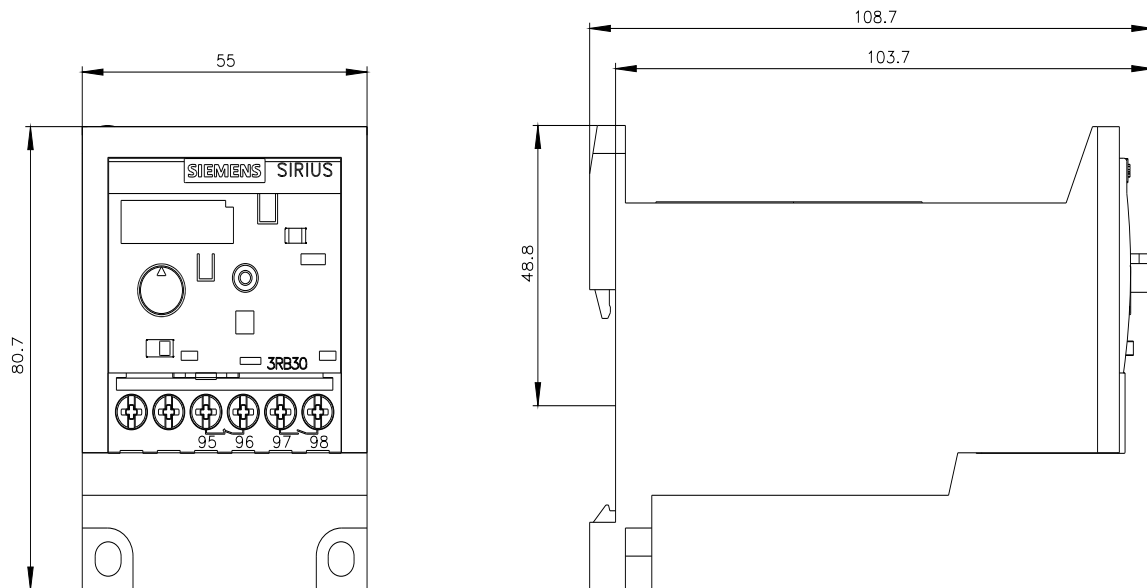
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RB3036-2WW1&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3036-2WW1&lang=en)

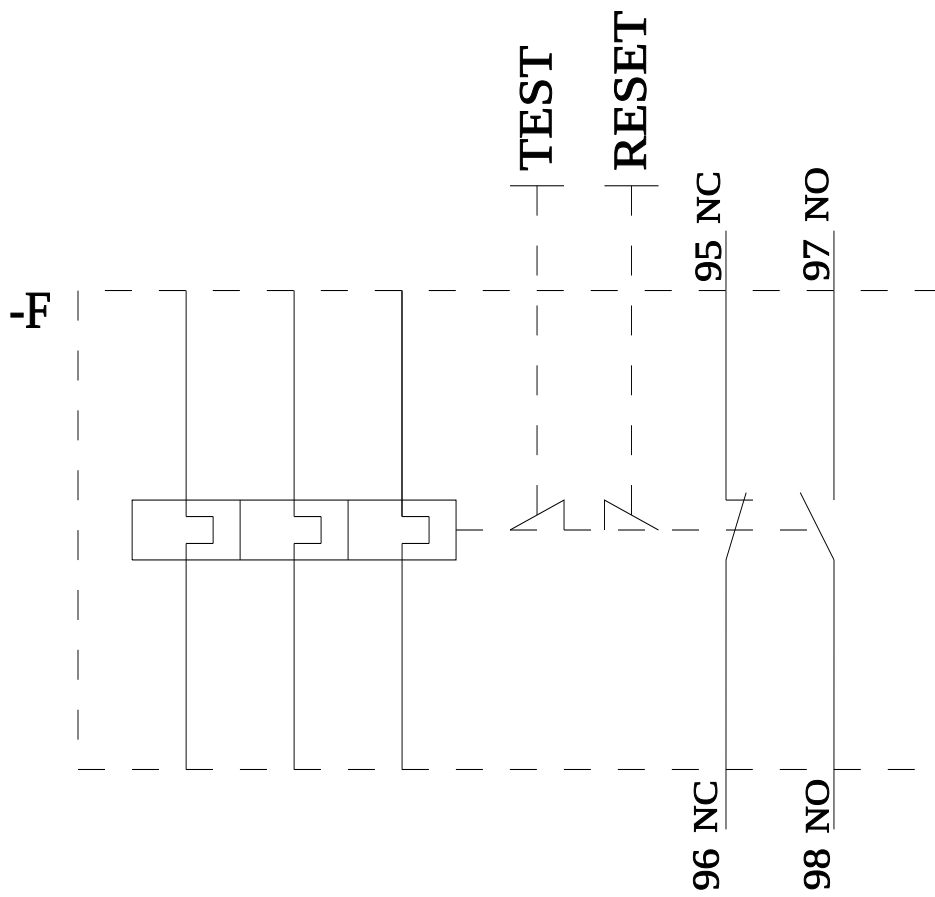
Characteristic: Tripping characteristics,  $I^2t$ , Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3036-2WW1/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB3036-2WW1&objecttype=14&gridview=view1>





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