



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                                                                                                                  |
| <b>General technical data</b>                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                       |
| 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 protective separation <ul style="list-style-type: none"> <li>in networks with ungrounded 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 ungrounded star point between main and auxiliary circuit</li> <li>in networks with grounded star point between main and auxiliary circuit</li> </ul> | 300 V<br>300 V<br>600 V<br>690 V                                                                                      |
| shock resistance <ul style="list-style-type: none"> <li>according to IEC 60068-2-27</li> </ul>                                                                                                                                                                                                                                                                                                                                                   | 15g / 11 ms<br>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                                                                                                                                                                                                                                                                                                                                                                                                                                  | 250 A                                                                                                                 |
| recovery time after overload trip <ul style="list-style-type: none"> <li>with automatic reset typical</li> <li>with remote-reset</li> <li>with manual reset</li> </ul>                                                                                                                                                                                                                                                                           | 3 min<br>0 min<br>0 min                                                                                               |
| reference code according to IEC 81346-2                                                                                                                                                                                                                                                                                                                                                                                                          | F                                                                                                                     |
| Substance Prohibitation (Date)                                                                                                                                                                                                                                                                                                                                                                                                                   | 07/01/2006                                                                                                            |
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.603 kg                                                                                                              |
| <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> <li>during storage</li> <li>during transport</li> </ul>                                                                                                                                                                                                                                                                                                         | -25 ... +60 °C<br>-40 ... +80 °C<br>-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-                                                                                                                                                                                                                                                                                                                                                                                        | 55 ... 250 A                                                                                                          |

|                                                                               |                                             |
|-------------------------------------------------------------------------------|---------------------------------------------|
| <b>dependent overload release</b>                                             |                                             |
| <b>operating voltage</b>                                                      |                                             |
| • rated value                                                                 | 1 000 V                                     |
| • at AC-3e rated value maximum                                                | 1 000 V                                     |
| <b>operating frequency rated value</b>                                        | 50 ... 60 Hz                                |
| <b>operational current rated value</b>                                        | 250 A                                       |
| operational current at AC-3e at 400 V rated value                             | 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"                       |
| 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 10E                                   |
| <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                                                        | 250 A                                       |
| • at 600 V rated value                                                        | 250 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: 500 A, Class L: 700 A                   |
| — with type of coordination 2 required                                        | gG: 500 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                                                    | 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 mm²), 2x (0.5 ... 2.5 mm²)    |

|                                                                |                                                                             |
|----------------------------------------------------------------|-----------------------------------------------------------------------------|
| — solid or stranded                                            | 1x (0,5 ... 4 mm²), 2x (0,5 ... 2,5 mm²)                                    |
| — finely stranded with core end processing                     | 1x (0,5 ... 2,5 mm²), 2x (0,5 ... 1,5 mm²)                                  |
| • for AWG cables for auxiliary contacts                        | 2x (20 ... 14)                                                              |
| <b>tightening torque</b>                                       |                                                                             |
| • for main contacts with screw-type terminals                  | 20 ... 22 N·m                                                               |
| • 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                                                                          |
| <b>Electrical Safety</b>                                       |                                                                             |
| <b>protection class IP on the front according to IEC 60529</b> | IP00; IP20 with box terminal/cover                                          |
| <b>touch protection on the front according to IEC 60529</b>    | finger-safe, for vertical contact from the front with box terminal/cover    |
| <b>Communication/ Protocol</b>                                 |                                                                             |
| <b>type of voltage supply via input/output link master</b>     | No                                                                          |
| <b>Electromagnetic compatibility</b>                           |                                                                             |
| <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                                 |
| <b>Display</b>                                                 |                                                                             |
| display version for switching status                           | Slide switch                                                                |
| <b>Approvals Certificates</b>                                  |                                                                             |
| <b>General Product Approval</b>                                | EMV                                                                         |



| EMV                  | For use in hazardous locations | Test Certificates                                  | Maritime application |
|----------------------|--------------------------------|----------------------------------------------------|----------------------|
| <a href="#">KC</a>   |                                | <a href="#">Special Test Certificate</a>           |                      |
|                      |                                | <a href="#">Type Test Certificates/Test Report</a> |                      |
| Maritime application | other                          | Environment                                        |                      |
|                      |                                |                                                    |                      |

#### Further information

##### Information on the packaging

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

##### 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>



