



Overload relay 1.4...2.0 A Thermal For motor protection Size S00, Class 10 Stand-alone installation Main circuit: Screw Auxiliary circuit: Screw Manual-Automatic-Reset

|                                                                                  |                        |
|----------------------------------------------------------------------------------|------------------------|
| product brand name                                                               | SIRIUS                 |
| product designation                                                              | thermal overload relay |
| product type designation                                                         | 3RU2                   |
| <b>General technical data</b>                                                    |                        |
| size of overload relay                                                           | S00                    |
| size of contactor can be combined company-specific                               | S00                    |
| power loss [W] for rated value of the current at AC in hot operating state       | 5.7 W                  |
| • per pole                                                                       | 1.9 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 | 440 V                  |
| • in networks with grounded star point between auxiliary and auxiliary circuit   | 440 V                  |
| • in networks with ungrounded star point between main and auxiliary circuit      | 440 V                  |
| • in networks with grounded star point between main and auxiliary circuit        | 440 V                  |
| shock resistance according to IEC 60068-2-27                                     | 8g / 11 ms             |
| reference code according to IEC 81346-2                                          | F                      |
| Substance Prohibitance (Date)                                                    | 10/01/2009             |
| SVHC substance name                                                              | Lead - 7439-92-1       |
| Weight                                                                           | 0.185 kg               |
| <b>Ambient conditions</b>                                                        |                        |
| installation altitude at height above sea level maximum                          | 2 000 m                |
| ambient temperature                                                              |                        |
| • during operation                                                               | -40 ... +70 °C         |
| • during storage                                                                 | -55 ... +80 °C         |
| • during transport                                                               | -55 ... +80 °C         |
| temperature compensation                                                         | -40 ... +60 °C         |
| relative humidity during operation                                               | 10 ... 95 %            |
| <b>Environmental footprint</b>                                                   |                        |
| global warming potential [CO2 eq] total                                          | 39.9 kg                |
| global warming potential [CO2 eq] during manufacturing                           | 0.978 kg               |
| global warming potential [CO2 eq] during sales                                   | 0.043 kg               |
| global warming potential [CO2 eq] during operation                               | 39 kg                  |
| global warming potential [CO2 eq] after end of life                              | -0.045 kg              |
| <b>Main circuit</b>                                                              |                        |
| number of poles for main current circuit                                         | 3                      |
| adjustable current response value current of the current-                        | 1.4 ... 2 A            |

|                                                                               |                             |
|-------------------------------------------------------------------------------|-----------------------------|
| <b>dependent overload release</b>                                             |                             |
| <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>                                        | 2 A                         |
| operational current at AC-3e at 400 V rated value                             | 2 A                         |
| <b>operating power</b>                                                        |                             |
| • at AC-3                                                                     |                             |
| — at 400 V rated value                                                        | 0.75 kW                     |
| — at 500 V rated value                                                        | 0.75 kW                     |
| — at 690 V rated value                                                        | 1.1 kW                      |
| • at AC-3e                                                                    |                             |
| — at 400 V rated value                                                        | 0.75 kW                     |
| — at 500 V rated value                                                        | 0.75 kW                     |
| — at 690 V rated value                                                        | 1.1 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                                                                     | 3 A                         |
| • at 110 V                                                                    | 3 A                         |
| • at 120 V                                                                    | 3 A                         |
| • at 125 V                                                                    | 3 A                         |
| • at 230 V                                                                    | 2 A                         |
| • at 400 V                                                                    | 1 A                         |
| • at 690 V                                                                    | 0.75 A                      |
| <b>operational current of auxiliary contacts at DC-13</b>                     |                             |
| • at 24 V                                                                     | 2 A                         |
| • at 60 V                                                                     | 0.3 A                       |
| • at 110 V                                                                    | 0.22 A                      |
| • at 125 V                                                                    | 0.22 A                      |
| • at 220 V                                                                    | 0.11 A                      |
| <b>contact rating of auxiliary contacts according to UL</b>                   | B600 / R300                 |
| <b>Protective and monitoring functions</b>                                    |                             |
| <b>trip class</b>                                                             | CLASS 10                    |
| <b>design of the overload release</b>                                         | thermal                     |
| <b>UL/CSA ratings</b>                                                         |                             |
| <b>full-load current (FLA) for 3-phase AC motor</b>                           |                             |
| • at 480 V rated value                                                        | 2 A                         |
| • at 600 V rated value                                                        | 2 A                         |
| <b>Short-circuit protection</b>                                               |                             |
| <b>design of the fuse link</b>                                                |                             |
| • for short-circuit protection of the auxiliary switch required               | fuse gG: 6 A, quick: 10 A   |
| <b>Installation/ mounting/ dimensions</b>                                     |                             |
| <b>mounting position</b>                                                      | any                         |
| <b>fastening method</b>                                                       | stand-alone installation    |
| <b>height</b>                                                                 | 89 mm                       |
| <b>width</b>                                                                  | 45 mm                       |
| <b>depth</b>                                                                  | 80 mm                       |
| <b>Connections/ Terminals</b>                                                 |                             |
| <b>product component removable terminal for auxiliary and control circuit</b> | No                          |
| <b>type of electrical connection</b>                                          |                             |
| • for main current circuit                                                    | screw-type terminals        |
| • for auxiliary and control circuit                                           | screw-type terminals        |
| <b>arrangement of electrical connectors for main current</b>                  | Top and bottom              |

|                                                                                                                                                                                                                                                    |                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>circuit</b>                                                                                                                                                                                                                                     |                                                                                                                                                                                                               |
| <b>type of connectable conductor cross-sections</b>                                                                                                                                                                                                |                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>for main contacts <ul style="list-style-type: none"> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>for AWG cables for main contacts</li> </ul>           | 2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> ), 2x 4 mm <sup>2</sup><br>2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> )<br>2x (20 ... 16), 2x (18 ... 14), 2x 12 |
| <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 or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>for AWG cables for auxiliary contacts</li> </ul> | 2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> )<br>2x (0,5 ... 1,5 mm <sup>2</sup> ), 2x (0,75 ... 2,5 mm <sup>2</sup> )<br>2x (20 ... 16), 2x (18 ... 14)                              |
| <b>tightening torque</b>                                                                                                                                                                                                                           |                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>for main contacts with screw-type terminals</li> <li>for auxiliary contacts with screw-type terminals</li> </ul>                                                                                            | 0,8 ... 1,2 N·m<br>0,8 ... 1,2 N·m                                                                                                                                                                            |
| <b>design of screwdriver shaft</b>                                                                                                                                                                                                                 | Diameter 5 ... 6 mm                                                                                                                                                                                           |
| <b>size of the screwdriver tip</b>                                                                                                                                                                                                                 | Pozidriv PZ 2                                                                                                                                                                                                 |
| <b>design of the thread of the connection screw</b>                                                                                                                                                                                                |                                                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>for main contacts</li> <li>of the auxiliary and control contacts</li> </ul>                                                                                                                                 | M3<br>M3                                                                                                                                                                                                      |

#### Safety related data

|                                                                                                                  |         |
|------------------------------------------------------------------------------------------------------------------|---------|
| <b>failure rate [FIT] with low demand rate according to SN 31920</b>                                             | 50 FIT  |
| <b>MTTF with high demand rate</b>                                                                                | 2 280 a |
| <b>IEC 61508</b>                                                                                                 |         |
| <b>T1 value</b>                                                                                                  |         |
| <ul style="list-style-type: none"> <li>for proof test interval or service life according to IEC 61508</li> </ul> | 20 a    |

#### Electrical Safety

|                                                                |                                                  |
|----------------------------------------------------------------|--------------------------------------------------|
| <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 |

#### Display

|                                      |              |
|--------------------------------------|--------------|
| display version for switching status | Slide switch |
|--------------------------------------|--------------|

#### Approvals Certificates

##### General Product Approval



[Confirmation](#)



| For use in hazardous locations | Test Certificates                                  | Marine / Shipping  |
|--------------------------------|----------------------------------------------------|--------------------|
| <br>IECEX                      | <br>ATEX                                           | <br>ABS            |
|                                | <a href="#">Type Test Certificates/Test Report</a> | <br>BUREAU VERITAS |

| Marine / Shipping | other    |
|-------------------|----------|
| <br>DNV           | <br>LRS  |
|                   | <br>PRS  |
|                   | <br>RINA |
|                   | <br>RMRS |

[Miscellaneous](#)

| other                        | Railway                                  | Environment                                 |
|------------------------------|------------------------------------------|---------------------------------------------|
| <a href="#">Confirmation</a> | <a href="#">Special Test Certificate</a> | <br>EPD                                     |
|                              |                                          | <a href="#">Environmental Confirmations</a> |

## 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=3RU2116-1BB1>

### Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2116-1BB1>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-1BB1>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RU2116-1BB1&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RU2116-1BB1&lang=en)

### Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-1BB1/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2116-1BB1&objecttype=14&gridview=view1>



