



Overload relay 9.0...12.5 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          | 6.6 W                  |
| • per pole                                                                          | 2.2 W                  |
| type of calculation of power loss current-dependent                                 | quadratic              |
| 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 (day/month/year)                                             | 10/01/2009             |
| SVHC substance name                                                                 | Lead CAS-No. 7439-92-1 |
| Net Weight                                                                          | 0.2 g                  |
| <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>Main circuit</b>                                                                 |                        |
| number of poles for main current circuit                                            | 3                      |
| adjustable current response value current of the current-dependent overload release | 9 ... 12.5 A           |
| operating voltage                                                                   |                        |
| • 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>                                        | 12.5 A                                                                                                                      |
| operational current at AC-3e at 400 V rated value                             | 12.5 A                                                                                                                      |
| <b>operating power</b>                                                        |                                                                                                                             |
| • at AC-3                                                                     |                                                                                                                             |
| — at 400 V rated value                                                        | 5.5 kW                                                                                                                      |
| — at 500 V rated value                                                        | 7.5 kW                                                                                                                      |
| — at 690 V rated value                                                        | 7.5 kW                                                                                                                      |
| • at AC-3e                                                                    |                                                                                                                             |
| — at 400 V rated value                                                        | 5.5 kW                                                                                                                      |
| — at 500 V rated value                                                        | 7.5 kW                                                                                                                      |
| — at 690 V rated value                                                        | 7.5 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                                                        | 12.5 A                                                                                                                      |
| • at 600 V rated value                                                        | 12.5 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>                                                      | stand-alone installation: with a vertical mounting plane +/-135° rotatable and +/-45° tiltable; for more details see manual |
| <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 circuit</b>          | Top and bottom                                                                                                              |

|                                                                                                                                                                                                                                                    |                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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                                          |
| IEC 61508                                                                                                        |                                                  |
| <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

|                                                                                                                                                                                                                                                                                                                                                                                                             |                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Environmental Product Declaration                                                                                                                                                                                                                                                                                                                                                                           |                                                         |
| <ul style="list-style-type: none"> <li>global warming potential [CO<sub>2</sub> eq] / during manufacturing</li> <li>global warming potential [CO<sub>2</sub> eq] / during sales</li> <li>global warming potential [CO<sub>2</sub> eq] / during operation</li> <li>global warming potential [CO<sub>2</sub> eq] / after end of life</li> <li>global warming potential [CO<sub>2</sub> eq] / total</li> </ul> | 0,978 kg<br>0,0425 kg<br>39 kg<br>-0,0449 kg<br>39,9 kg |

|             |                          |
|-------------|--------------------------|
| Environment | General Product Approval |
|-------------|--------------------------|

[Environmental Conformations](#)



|                          |                                |                   |
|--------------------------|--------------------------------|-------------------|
| General Product Approval | For use in hazardous locations | Test Certificates |
|--------------------------|--------------------------------|-------------------|



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)

|                      |
|----------------------|
| Maritime application |
|----------------------|



|                      |       |         |
|----------------------|-------|---------|
| Maritime application | other | Railway |
|----------------------|-------|---------|



[Confirmation](#)

[Miscellaneous](#)



[Special Test Certificate](#)

#### 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=3RU2116-1KB1>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-1KB1>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RU2116-1KB1&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RU2116-1KB1&lang=en)

##### Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2116-1KB1>

##### Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp\\_prod\\_noCOMP='HAUPT'></mmp\\_prod\\_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP='HAUPT'></mmp_prod_no>)



