

Overload relay 2.8...4.0 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                   |
| General technical data                                                         |                        |
| 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                  |
| • at AC in hot operating state 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 safe isolation                                 |                        |
| • in networks with grounded 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 grounded star point between main and auxiliary circuit      | 440 V                  |

|                                                                                                                             |                   |
|-----------------------------------------------------------------------------------------------------------------------------|-------------------|
| <ul style="list-style-type: none"> <li>• in networks with grounded star point between main and auxiliary circuit</li> </ul> | 440 V             |
| <b>Protection class IP</b>                                                                                                  |                   |
| <ul style="list-style-type: none"> <li>• on the front</li> </ul>                                                            | IP20              |
| <ul style="list-style-type: none"> <li>• of the terminal</li> </ul>                                                         | IP20              |
| <b>Shock resistance</b>                                                                                                     |                   |
| <ul style="list-style-type: none"> <li>• acc. to IEC 60068-2-27</li> </ul>                                                  | 8g / 11 ms        |
| <b>Type of protection according to ATEX directive 2014/34/EU</b>                                                            | Ex II (2) GD      |
| Certificate of suitability according to ATEX directive 2014/34/EU                                                           | DMT 98 ATEX G 001 |
| <b>Reference code acc. to DIN EN 81346-2</b>                                                                                | F                 |

#### Ambient conditions

|                                                                      |                |
|----------------------------------------------------------------------|----------------|
| <b>Installation altitude at height above sea level</b>               |                |
| <ul style="list-style-type: none"> <li>• maximum</li> </ul>          | 2 000 m        |
| <b>Ambient temperature</b>                                           |                |
| <ul style="list-style-type: none"> <li>• during operation</li> </ul> | -40 ... +70 °C |
| <ul style="list-style-type: none"> <li>• during storage</li> </ul>   | -55 ... +80 °C |
| <ul style="list-style-type: none"> <li>• during transport</li> </ul> | -55 ... +80 °C |
| <b>Temperature compensation</b>                                      | -40 ... +60 °C |
| Relative humidity during operation                                   | 10 ... 95 %    |

#### Main circuit

|                                                                                   |              |
|-----------------------------------------------------------------------------------|--------------|
| <b>Number of poles for main current circuit</b>                                   | 3            |
| <b>Adjustable pick-up value current of the current-dependent overload release</b> | 2.8 ... 4 A  |
| <b>Operating voltage</b>                                                          |              |
| <ul style="list-style-type: none"> <li>• rated value</li> </ul>                   | 690 V        |
| <ul style="list-style-type: none"> <li>• at AC-3 rated value maximum</li> </ul>   | 690 V        |
| <b>Operating frequency rated value</b>                                            | 50 ... 60 Hz |
| <b>Operating current rated value</b>                                              | 4 A          |
| Operating power at AC-3                                                           |              |
| <ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>          | 1.5 kW       |
| <ul style="list-style-type: none"> <li>• at 500 V rated value</li> </ul>          | 2.2 kW       |
| <ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>          | 3 kW         |

#### Auxiliary circuit

|                                                                            |                             |
|----------------------------------------------------------------------------|-----------------------------|
| <b>Design of the auxiliary switch</b>                                      | integrated                  |
| <b>Number of NC contacts for auxiliary contacts</b>                        | 1                           |
| <ul style="list-style-type: none"> <li>• Note</li> </ul>                   | for contactor disconnection |
| <b>Number of NO contacts for auxiliary contacts</b>                        | 1                           |
| <ul style="list-style-type: none"> <li>• Note</li> </ul>                   | for message "Tripped"       |
| <b>Number of CO contacts</b>                                               |                             |
| <ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul> | 0                           |

|                                                                      |                           |
|----------------------------------------------------------------------|---------------------------|
| <b>Operating 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                       |
| <b>Operating 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 three-phase AC motor</b>              |                           |
| • at 480 V rated value                                               | 4 A                       |
| • at 600 V rated value                                               | 4 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>Mounting type</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 function</b>                                              |                           |
| • removable terminal for auxiliary and control circuit               | No                        |
| <b>Type of electrical connection</b>                                 |                           |
| • for main current circuit                                           | screw-type terminals      |
| • for auxiliary and control current 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>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG conductors 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>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG conductors 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]</b> <ul style="list-style-type: none"> <li>• with low demand rate acc. to SN 31920</li> </ul> | 50 FIT  |
| <b>MTTF with high demand rate</b>                                                                                   | 2 280 y |
| <b>T1 value for proof test interval or service life acc. to IEC 61508</b>                                           | 20 y    |

#### Display

|                                                                                                 |              |
|-------------------------------------------------------------------------------------------------|--------------|
| <b>Display version</b> <ul style="list-style-type: none"> <li>• for switching status</li> </ul> | Slide switch |
|-------------------------------------------------------------------------------------------------|--------------|

#### Certificates/ approvals

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



| Declaration of Conformity | Test Certificates | Marine / Shipping |
|---------------------------|-------------------|-------------------|
|---------------------------|-------------------|-------------------|



[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



| Marine / Shipping | other |
|-------------------|-------|
|-------------------|-------|



[Confirmation](#)

| Railway |
|---------|
|---------|

[Vibration and Shock](#)

## Further information

**Information- and Downloadcenter (Catalogs, Brochures,...)**

<https://www.siemens.com/ic10>

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RU2116-1EB1>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2116-1EB1>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-1EB1>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RU2116-1EB1&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RU2116-1EB1&lang=en)

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2116-1EB1/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2116-1EB1&objecttype=14&gridview=view1>





