

Overload relay 47...57 A Thermal For motor protection Size S2,  
Class 10 Stand-alone installation Main circuit: Screw Auxiliary circuit:  
spring-type terminal Manual-Automatic-Reset



|                          |                        |
|--------------------------|------------------------|
| Product brand name       | SIRIUS                 |
| Product designation      | thermal overload relay |
| Product type designation | 3RU2                   |

| General technical data                                                         |        |
|--------------------------------------------------------------------------------|--------|
| Size of overload relay                                                         | S2     |
| Size of contactor can be combined company-specific                             | S2     |
| Power loss [W] for rated value of the current                                  |        |
| • at AC in hot operating state                                                 | 15.6 W |
| • at AC in hot operating state per pole                                        | 5.2 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 | 415 V  |
| • in networks with grounded star point between auxiliary and auxiliary circuit | 415 V  |
| • in networks with grounded star point between main and auxiliary circuit      | 690 V  |

|                                                                                                                                                                                                        |                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| <ul style="list-style-type: none"> <li>• in networks with grounded star point between main and auxiliary circuit</li> </ul>                                                                            | 690 V                      |
| <b>Protection class IP</b>                                                                                                                                                                             |                            |
| <ul style="list-style-type: none"> <li>• on the front</li> <li>• of the terminal</li> </ul>                                                                                                            | IP20<br>IP00               |
| <b>Shock resistance</b>                                                                                                                                                                                |                            |
| <ul style="list-style-type: none"> <li>• acc. to IEC 60068-2-27</li> </ul>                                                                                                                             | 8g / 11 ms                 |
| <b>Recovery time</b>                                                                                                                                                                                   |                            |
| <ul style="list-style-type: none"> <li>• after overload trip with automatic reset typical</li> <li>• after overload trip with remote-reset</li> <li>• after overload trip with manual reset</li> </ul> | 10 min<br>10 min<br>10 min |
| <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> <li>• during storage</li> <li>• during transport</li> </ul> | -40 ... +70 °C<br>-55 ... +80 °C<br>-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>                      | 47 ... 57 A    |
| <b>Operating voltage</b>                                                                               |                |
| <ul style="list-style-type: none"> <li>• rated value</li> <li>• at AC-3 rated value maximum</li> </ul> | 690 V<br>690 V |
| <b>Operating frequency rated value</b>                                                                 | 50 ... 60 Hz   |
| <b>Operating current rated value</b>                                                                   | 57 A           |

#### 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>Design of the miniature circuit breaker</b>                  |                                                               |
| • for short-circuit protection of the auxiliary switch required | 6A (SCC less than equal to 0.5 kA; U less than equal to 260V) |
| <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                                          | 57 A                                                          |
| • at 600 V rated value                                          | 57 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>                                                   | 105 mm                                                        |
| <b>Width</b>                                                    | 55 mm                                                         |
| <b>Depth</b>                                                    | 117 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                     | spring-loaded 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 (1 ... 35 mm <sup>2</sup> ), 1x (1 ... 50 mm <sup>2</sup> )<br>2x (1 ... 25 mm <sup>2</sup> ), 1x (1 ... 35 mm <sup>2</sup> )<br>2x (18 ... 2), 1x (18 ... 1) |
| <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> <li>— finely stranded without core end processing</li> </ul> </li> <li>• at AWG conductors for auxiliary contacts</li> </ul> | 2x (0,5 ... 2,5 mm <sup>2</sup> )<br>2x (0.5 ... 1.5 mm <sup>2</sup> )<br>2x (0.5 ... 2.5 mm <sup>2</sup> )<br>2x (20 ... 14)                                    |
| <b>Tightening torque</b> <ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> </ul>                                                                                                                                                                                                                                                    | 3 ... 4.5 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> </ul>                                                                                                                                                                                                                                                   | M6                                                                                                                                                               |
| <b>Safety related data</b>                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                  |
| <b>T1 value for proof test interval or service life acc. to IEC 61508</b>                                                                                                                                                                                                                                                                                                   | 20 y                                                                                                                                                             |
| <b>Display</b>                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                  |
| <b>Display version</b> <ul style="list-style-type: none"> <li>• for switching status</li> </ul>                                                                                                                                                                                                                                                                             | Slide switch                                                                                                                                                     |
| <b>Certificates/ approvals</b>                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                  |

| 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 |
|---------|
|---------|

[Special Test Certificate](#)

## 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=3RU2136-4QD1>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2136-4QD1>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2136-4QD1>

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

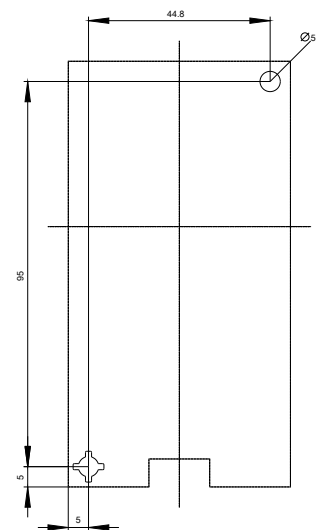
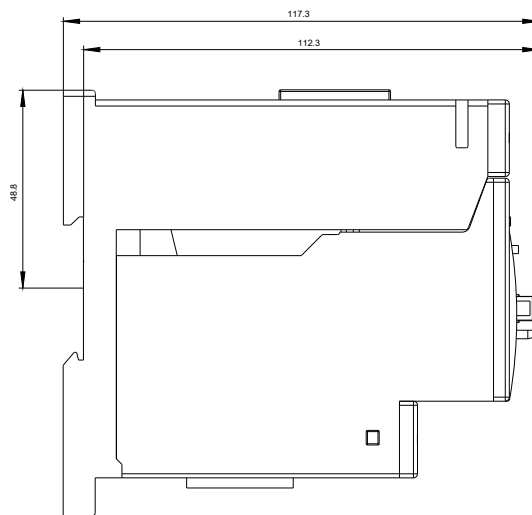
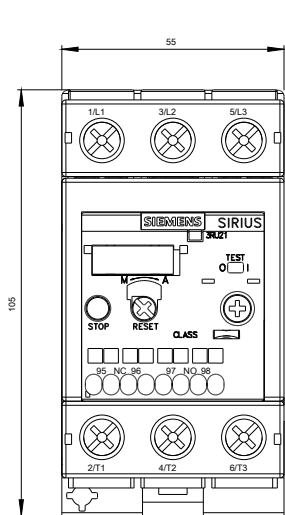
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RU2136-4QD1&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RU2136-4QD1&lang=en)

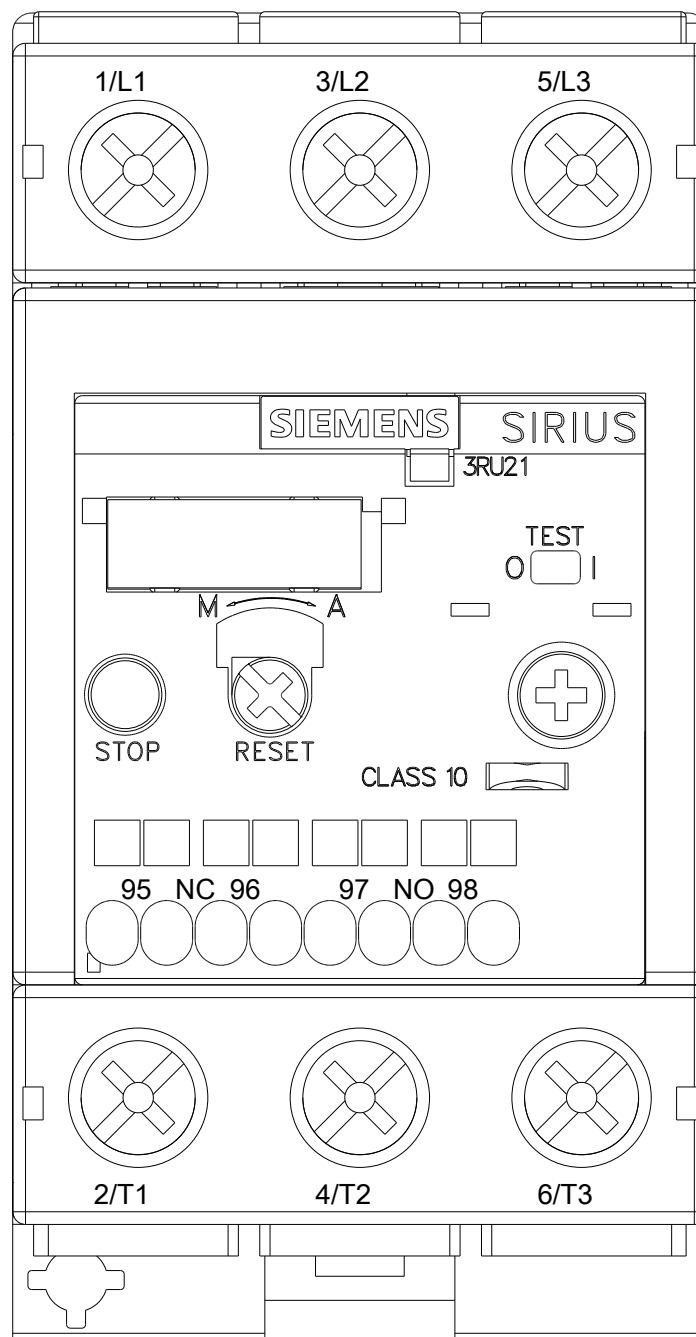
**Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**

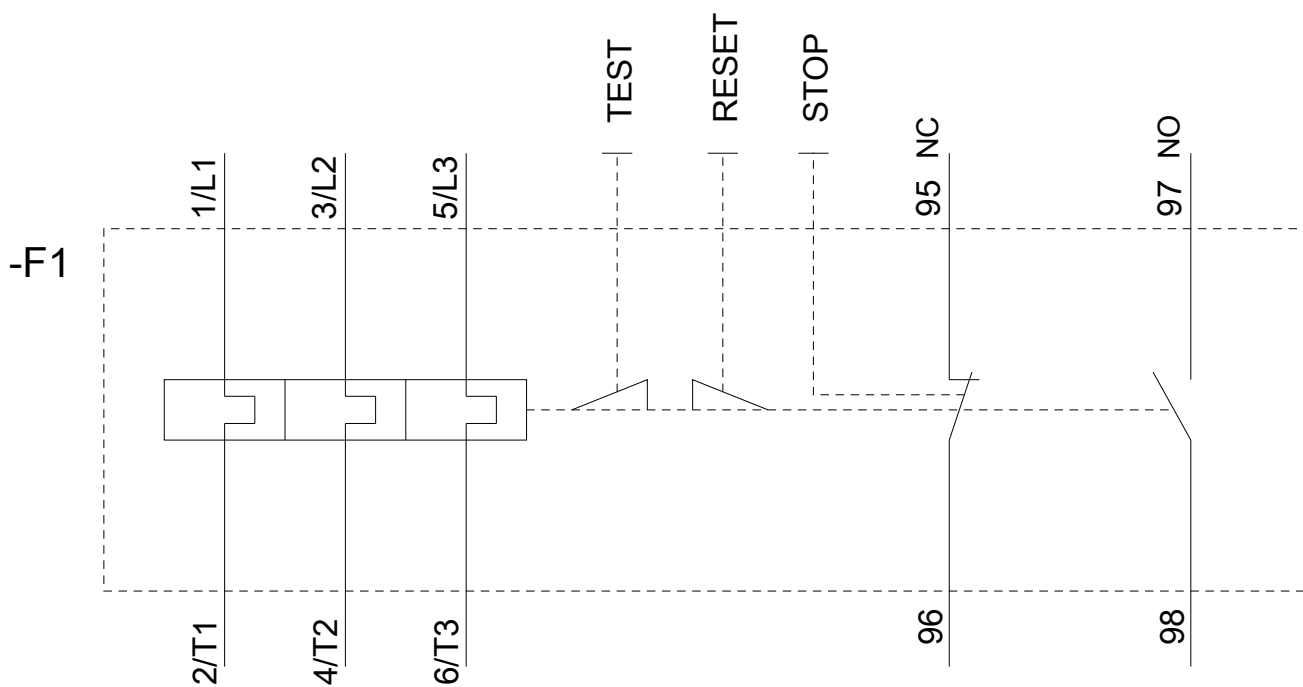
<https://support.industry.siemens.com/cs/ww/en/ps/3RU2136-4QD1/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2136-4QD1&objecttype=14&gridview=view1>







last modified:

04/09/2020