



Overload relay 57...75 A Thermal For motor protection Size S3, 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                                                              | S3                     |
| size of contactor can be combined company-specific                                  | S3                     |
| power loss [W] for rated value of the current at AC in hot operating state          | 18.9 W                 |
| • per pole                                                                          | 6.3 W                  |
| 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                               |                        |
| • 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             |
| recovery time after overload trip                                                   |                        |
| • with automatic reset typical                                                      | 10 min                 |
| • with remote-reset                                                                 | 10 min                 |
| • with manual reset                                                                 | 10 min                 |
| reference code according to IEC 81346-2                                             | F                      |
| Substance Prohibitance (Date)                                                       | 03/01/2017             |
| SVHC substance name                                                                 | Lead - 7439-92-1       |
| Net Weight                                                                          | 0.801 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>Main circuit</b>                                                                 |                        |
| number of poles for main current circuit                                            | 3                      |
| adjustable current response value current of the current-dependent overload release | 57 ... 75 A            |

|                                                                                                       |                                                                                                                             |
|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <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>                                                                | 75 A                                                                                                                        |
| operational current at AC-3e at 400 V rated value                                                     | 75 A                                                                                                                        |
| <b>operating power</b>                                                                                |                                                                                                                             |
| • at AC-3                                                                                             |                                                                                                                             |
| — at 400 V rated value                                                                                | 37 kW                                                                                                                       |
| — at 500 V rated value                                                                                | 45 kW                                                                                                                       |
| — at 690 V rated value                                                                                | 55 kW                                                                                                                       |
| • at AC-3e                                                                                            |                                                                                                                             |
| — at 400 V rated value                                                                                | 37 kW                                                                                                                       |
| — at 500 V rated value                                                                                | 45 kW                                                                                                                       |
| — at 690 V rated value                                                                                | 55 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                                                                                                                      |
| design of the miniature circuit breaker 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 3-phase AC motor</b>                                                   |                                                                                                                             |
| • at 480 V rated value                                                                                | 65 A                                                                                                                        |
| • at 600 V rated value                                                                                | 62 A                                                                                                                        |
| <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                                                                | 690 V: gG: 250 A; 1000 V: a.M. / g.B.: 160 A                                                                                |
| — with type of coordination 2 required                                                                | 690 V: gG: 160 A; 1000 V: a.M. / g.B.: 160 A                                                                                |
| • 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>                                                                                         | 120 mm                                                                                                                      |
| <b>width</b>                                                                                          | 70 mm                                                                                                                       |
| <b>depth</b>                                                                                          | 140 mm                                                                                                                      |

| Connections/ Terminals                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>product component removable terminal for auxiliary and control circuit</b>                                                                                                                                                                                                                                                                       | No                                                                                                                                                                                                                                                                                                                  |
| <b>type of electrical connection</b> <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control circuit</li> </ul>                                                                                                                                                                                      | screw-type terminals<br>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</li> <li>— stranded</li> <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 (2.5 ... 16 mm <sup>2</sup> )<br>2x (6 ... 16 mm <sup>2</sup> ), 2x (10 ... 50 mm <sup>2</sup> ), 1x (10 ... 70 mm <sup>2</sup> )<br>2x (2.5 ... 50 mm <sup>2</sup> ), 1x (10 ... 70 mm <sup>2</sup> )<br>2x (2.5 ... 35 mm <sup>2</sup> ), 1x (2.5 ... 50 mm <sup>2</sup> )<br>2x (10 ... 1/0), 1x (10 ... 2/0) |
| <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 for ring cable lug</li> </ul>                                                                                                                                                                                                                                   | 4.5 ... 6 N·m                                                                                                                                                                                                                                                                                                       |
| <b>outer diameter of the usable ring cable lug maximum</b>                                                                                                                                                                                                                                                                                          | 19 mm                                                                                                                                                                                                                                                                                                               |
| <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>                                                                                                                                                                | 4.5 ... 6 N·m<br>0.8 ... 1.2 N·m                                                                                                                                                                                                                                                                                    |
| <b>design of screwdriver shaft</b>                                                                                                                                                                                                                                                                                                                  | Hexagonal socket                                                                                                                                                                                                                                                                                                    |
| <b>size of the screwdriver tip</b>                                                                                                                                                                                                                                                                                                                  | 4 mm hexagon socket                                                                                                                                                                                                                                                                                                 |
| <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>                                                                                                                                                                          | M8<br>M3                                                                                                                                                                                                                                                                                                            |
| 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                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                     |
| General Product Approval                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                     |
| For use in hazardous locations                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                     |



For use in hazardous locations

Test Certificates

Maritime application



[Miscellaneous](#)

[Special Test Certificate](#)

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Maritime application

other



| other | Railway | Environment |
|-------|---------|-------------|
|-------|---------|-------------|

[Confirmation](#)

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#### 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=3RU2146-4KB1>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2146-4KB1>

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

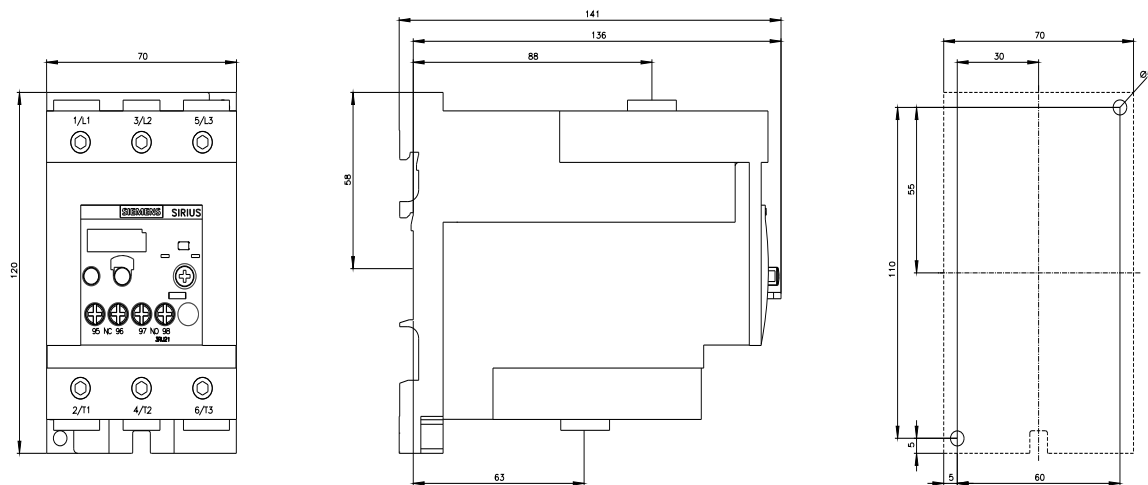
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RU2146-4KB1&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RU2146-4KB1&lang=en)

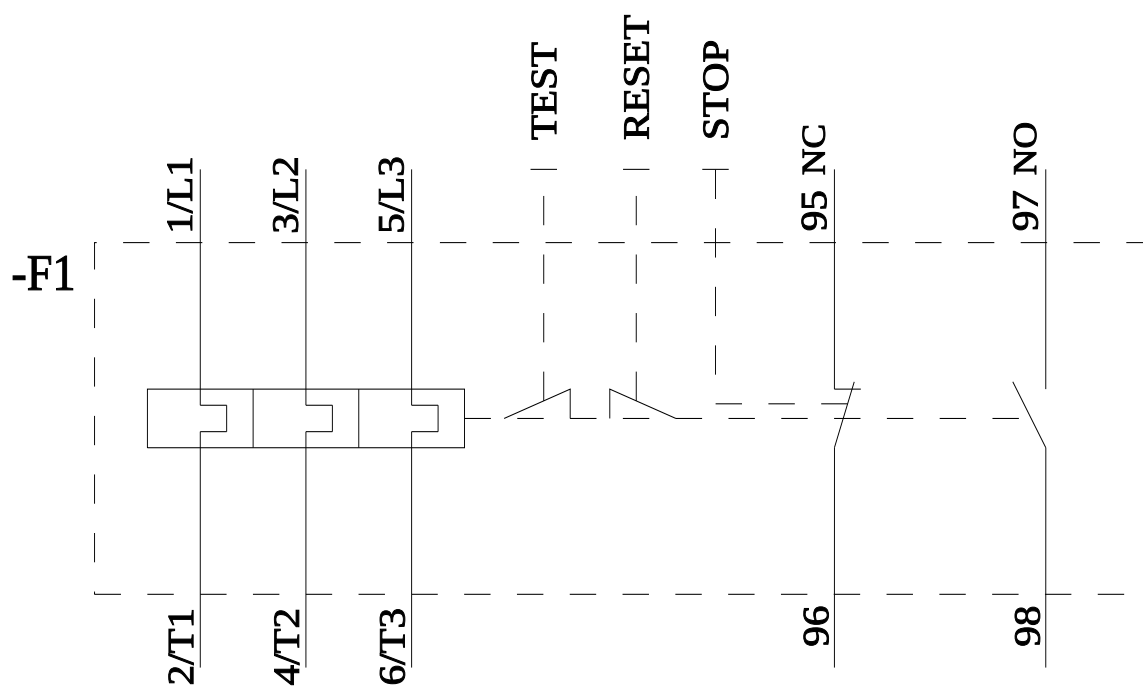
##### Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2146-4KB1>

##### 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>)





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