



Overload relay 45...63 A Thermal For motor protection Size S3, Class 10  
 Contactor mounting Main circuit: Screw Auxiliary circuit: Screw Manual-  
 Automatic-Reset

|                                                                                            |                        |
|--------------------------------------------------------------------------------------------|------------------------|
| <b>product brand name</b>                                                                  | SIRIUS                 |
| <b>product designation</b>                                                                 | thermal overload relay |
| <b>product type designation</b>                                                            | 3RU2                   |
| <b>General technical data</b>                                                              |                        |
| <b>size of overload relay</b>                                                              | S3                     |
| <b>size of contactor can be combined company-specific</b>                                  | S3                     |
| power loss [W] for rated value of the current at AC in hot operating state                 | 17.1 W                 |
| • per pole                                                                                 | 5.7 W                  |
| insulation voltage with degree of pollution 3 at AC rated value                            | 1 000 V                |
| <b>surge voltage resistance rated value</b>                                                | 8 kV                   |
| <b>maximum permissible voltage for safe isolation in networks with grounded star point</b> |                        |
| • between auxiliary and auxiliary circuit                                                  | 440 V                  |
| • between auxiliary and auxiliary circuit                                                  | 440 V                  |
| • between main and auxiliary circuit                                                       | 440 V                  |
| • between main and auxiliary circuit                                                       | 440 V                  |
| shock resistance acc. to IEC 60068-2-27                                                    | 8g / 11 ms             |
| <b>recovery time after overload trip</b>                                                   |                        |
| • with automatic reset typical                                                             | 10 min                 |
| • with remote-reset                                                                        | 10 min                 |
| • with manual reset                                                                        | 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 IEC 81346-2</b>                                                  | F                      |
| Substance Prohibitance (Date)                                                              | 01.03.2017 00:00:00    |
| <b>Ambient conditions</b>                                                                  |                        |
| installation altitude at height above sea level maximum                                    | 2 000 m                |
| <b>ambient temperature</b>                                                                 |                        |
| • during operation                                                                         | -40 ... +70 °C         |
| • during storage                                                                           | -55 ... +80 °C         |
| • during transport                                                                         | -55 ... +80 °C         |
| <b>temperature compensation</b>                                                            | -40 ... +60 °C         |
| relative humidity during operation                                                         | 10 ... 95 %            |
| <b>Main circuit</b>                                                                        |                        |
| <b>number of poles for main current circuit</b>                                            | 3                      |

|                                                                                                       |                                                               |
|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| <b>adjustable current response value current of the current-dependent overload release</b>            | 45 ... 63 A                                                   |
| <b>operating voltage</b>                                                                              |                                                               |
| • rated value                                                                                         | 690 V                                                         |
| • at AC-3 rated value maximum                                                                         | 690 V                                                         |
| <b>operating frequency rated value</b>                                                                | 50 ... 60 Hz                                                  |
| <b>operational current rated value</b>                                                                | 63 A                                                          |
| <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                                                           |
| <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                                                                                | 52 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                                                                | gG: 200 A                                                     |
| — with type of assignment 2 required                                                                  | gG: 125 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>                                                                              | any                                                           |
| <b>fastening method</b>                                                                               | Contactor mounting                                            |
| <b>height</b>                                                                                         | 105 mm                                                        |
| <b>width</b>                                                                                          | 70 mm                                                         |
| <b>depth</b>                                                                                          | 125 mm                                                        |
| <b>Connections/ Terminals</b>                                                                         |                                                               |
| product component 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 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</li> <li>— stranded</li> <li>— solid or stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at 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>• at 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                                                                                                                                                                                                                                                                                                            |

| Safety related data                                                       |                                                  |
|---------------------------------------------------------------------------|--------------------------------------------------|
| <b>T1 value for proof test interval or service life acc. to IEC 61508</b> | 20 y                                             |
| <b>protection class IP on the front acc. to IEC 60529</b>                 | IP20                                             |
| <b>touch protection on the front acc. to IEC 60529</b>                    | finger-safe, for vertical contact from the front |

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

| Certificates/ approvals  |                                |
|--------------------------|--------------------------------|
| General Product Approval | For use in hazardous locations |



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



[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



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



[Confirmation](#)

[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=3RU2146-4JB0>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2146-4JB0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2146-4JB0>

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

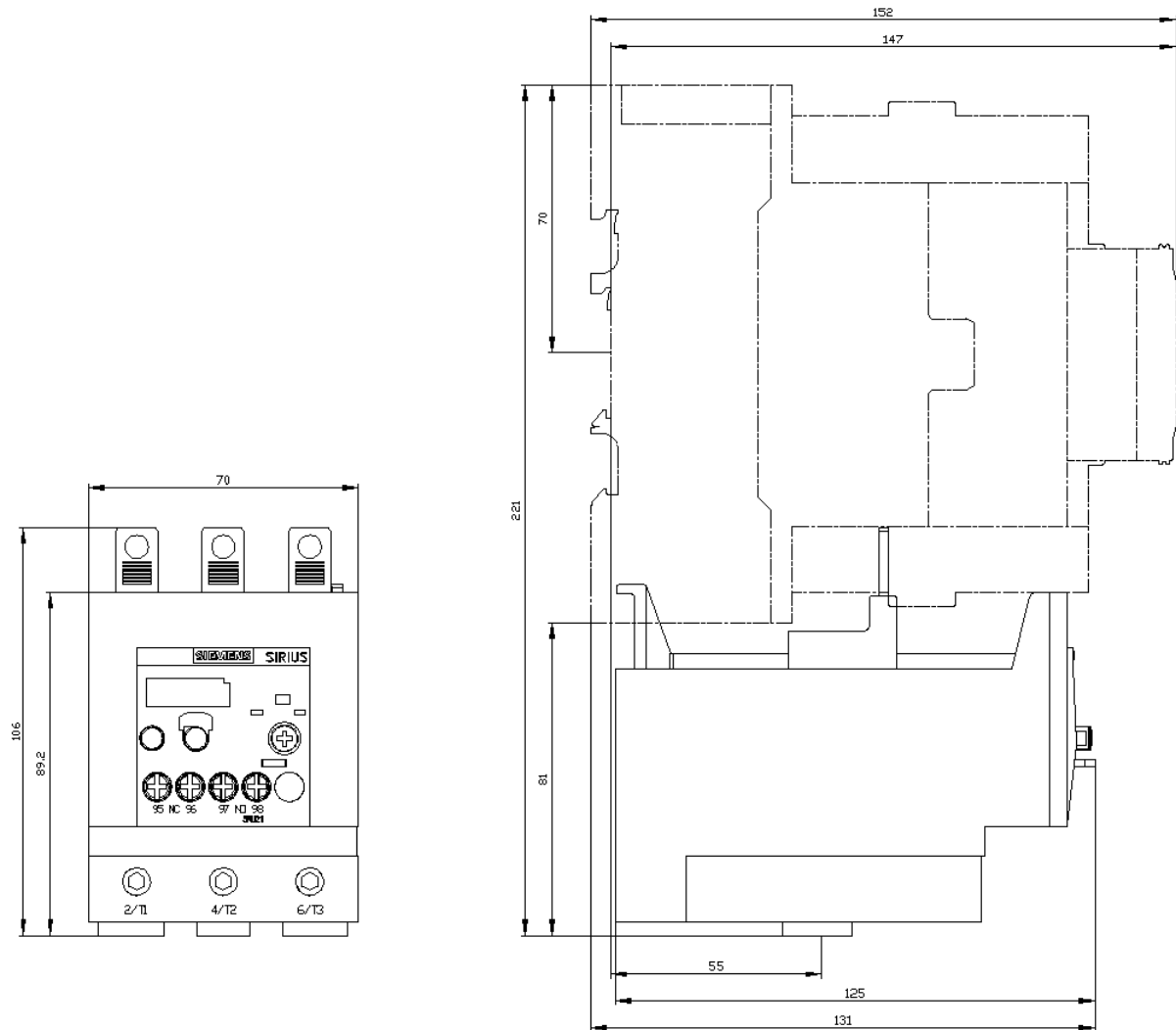
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RU2146-4JB0&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RU2146-4JB0&lang=en)

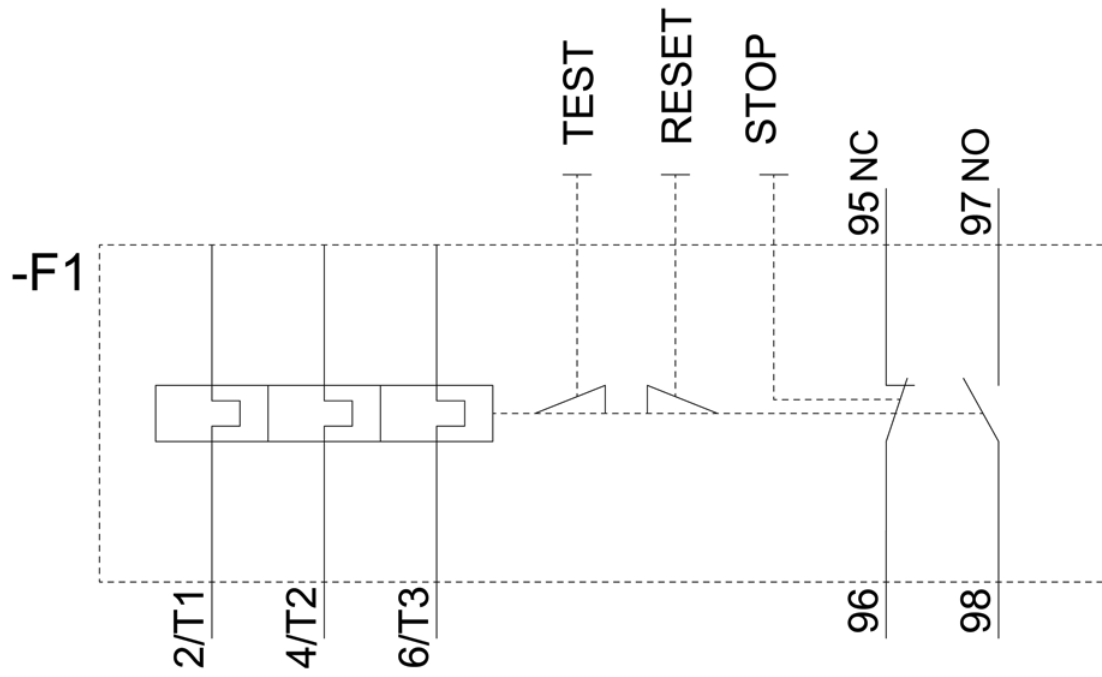
**Characteristic: Tripping characteristics,  $I^2t$ , Let-through current**

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2146-4JB0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RU2146-4JB0&objecttype=14&gridview=view1>





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