



OVERLOAD RELAY 4.5...6.3 A FOR MOTOR  
PROTECTION SZ S00,  
CLASS 10,  
STAND-ALONE INSTALLATION MAIN CIRCUIT: SPRING  
TERMINAL AUX. CIRCUIT: SPRING TERMINAL MANUAL-  
AUTOMATIC-RESET

### General technical data:

|                                                                            |     |                             |
|----------------------------------------------------------------------------|-----|-----------------------------|
| <b>Product brand name</b>                                                  |     | SIRIUS                      |
| <b>product designation</b>                                                 |     | 3RU2 thermal overload relay |
| <b>Protection class IP / on the front</b>                                  |     | IP20                        |
| <b>Insulation voltage / with degree of pollution 3</b>                     |     |                             |
| • rated value                                                              | V   | 690                         |
| <b>Installation altitude / at a height over sea level / maximum</b>        | m   | 2,000                       |
| <b>Ambient temperature</b>                                                 |     |                             |
| • during transport                                                         | °C  | -55 ... 80                  |
| • during storage                                                           | °C  | -55 ... 80                  |
| • during operating                                                         | °C  | -40 ... 70                  |
| <b>Relative humidity</b>                                                   |     |                             |
| • during operating phase                                                   | / % | 90                          |
| <b>Resistance against shock</b>                                            |     | 8g / 10 ms                  |
| <b>Impulse voltage resistance / rated value</b>                            | kV  | 6                           |
| <b>Active power loss / total / typical</b>                                 | W   | 5.7                         |
| <b>Item designation</b>                                                    |     |                             |
| • according to DIN 40719 extendable after IEC 204-2 / according to IEC 750 |     | F                           |
| • according to DIN EN 61346-2                                              |     | F                           |

|                                                                      |  |          |
|----------------------------------------------------------------------|--|----------|
| <b>Trip class</b>                                                    |  | CLASS 10 |
| <b>Type of assignment</b>                                            |  | 2        |
| <b>Size of overload relay</b>                                        |  | S00      |
| <b>Size of the contactor / can be combined</b><br>• company-specific |  | S00      |

|                                                                                                                    |                |               |
|--------------------------------------------------------------------------------------------------------------------|----------------|---------------|
| <b>Main circuit:</b>                                                                                               |                |               |
| <b>Number of poles / for main current circuit</b>                                                                  |                | 3             |
| <b>Operating voltage / at AC-3 / rated value</b><br>• maximum                                                      | V              | 690           |
| <b>Operating current / at AC-3 / at 400 V</b><br>• rated value                                                     | A              | 6.3           |
| <b>Service power / at AC-3</b><br>• at 400 V / rated value<br>• at 500 V / rated value<br>• at 690 V / rated value | kW<br>kW<br>kW | 2.2<br>3<br>4 |
| <b>Adjustable response current</b><br>• of the current-dependent overload release                                  | A              | 4.5 ... 6.3   |
| <b>Operating current / of the fuse link / rated value</b>                                                          | A              | 20            |

|                                                                                                                                                                                                                            |                                                               |                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|-------------------------------------------------------------|
| <b>Auxiliary circuit:</b>                                                                                                                                                                                                  |                                                               |                                                             |
| <b>Contact reliability / of the auxiliary contacts</b>                                                                                                                                                                     |                                                               | < 1 error per 100 million operating cycles                  |
| <b>Number of NC contacts / for auxiliary contacts</b>                                                                                                                                                                      |                                                               | 1                                                           |
| <b>Number of NO contacts / for auxiliary contacts</b>                                                                                                                                                                      |                                                               | 1                                                           |
| <b>Number of change-over switches / for auxiliary contacts</b>                                                                                                                                                             |                                                               | 0                                                           |
| <b>Operating current / of the auxiliary contacts</b><br>• at AC-15<br>• at 24 V<br>• at 110 V<br>• at 120 V<br>• at 125 V<br>• at 230 V<br>• at 400 V<br>• at DC-13<br>• at 24 V<br>• at 110 V<br>• at 125 V<br>• at 220 V | A<br>A<br>A<br>A<br>A<br>A<br>A<br>A<br>A<br>A<br>A<br>A<br>A | 3<br>3<br>3<br>3<br>2<br>1<br><br>1<br>0.22<br>0.22<br>0.11 |

|                       |  |  |
|-----------------------|--|--|
| <b>Short-circuit:</b> |  |  |
|-----------------------|--|--|

|                                                                                                  |    |                                    |
|--------------------------------------------------------------------------------------------------|----|------------------------------------|
| <b>Design of the fuse link / for short-circuit protection of the auxiliary switch / required</b> |    | fuse gG: 10 A                      |
| <b>Installation/mounting/dimensions:</b>                                                         |    |                                    |
| <b>Built in orientation</b>                                                                      |    | vertical                           |
| <b>Type of mounting</b>                                                                          |    | stand-alone installation           |
| <b>Width</b>                                                                                     | mm | 45                                 |
| <b>Height</b>                                                                                    | mm | 87                                 |
| <b>Depth</b>                                                                                     | mm | 73                                 |
| <b>Distance, to be maintained, to the ranks assembly</b>                                         |    |                                    |
| • forwards                                                                                       | mm | 0                                  |
| • backwards                                                                                      | mm | 0                                  |
| • upwards                                                                                        | mm | 6                                  |
| • downwards                                                                                      | mm | 6                                  |
| • sideways                                                                                       | mm | 6                                  |
| <b>Distance, to be maintained, to earthed part</b>                                               |    |                                    |
| • forwards                                                                                       | mm | 0                                  |
| • backwards                                                                                      | mm | 0                                  |
| • upwards                                                                                        | mm | 6                                  |
| • downwards                                                                                      | mm | 6                                  |
| • sideways                                                                                       | mm | 6                                  |
| <b>Distance, to be maintained, conductive elements</b>                                           |    |                                    |
| • forwards                                                                                       | mm | 0                                  |
| • backwards                                                                                      | mm | 0                                  |
| • upwards                                                                                        | mm | 6                                  |
| • downwards                                                                                      | mm | 6                                  |
| • sideways                                                                                       | mm | 6                                  |
| <b>Connections:</b>                                                                              |    |                                    |
| <b>Design of the electrical connection</b>                                                       |    |                                    |
| • for main current circuit                                                                       |    | spring-loaded terminals            |
| • for auxiliary and control current circuit                                                      |    | spring-loaded terminals            |
| <b>Product function / removable terminal for auxiliary and control circuit</b>                   |    | No                                 |
| <b>Type of the connectable conductor cross-section</b>                                           |    |                                    |
| • for main contacts                                                                              |    |                                    |
| • solid                                                                                          |    | 2x (0.5 ... 4 mm <sup>2</sup> )    |
| • stranded                                                                                       |    | 2x (0.5 ... 4 mm <sup>2</sup> )    |
| • finely stranded                                                                                |    |                                    |
| • with conductor end processing                                                                  |    | 2 x (0.5 ... 2.5 mm <sup>2</sup> ) |
| • without conductor final cutting                                                                |    | 2x (0.5 ... 2.5 mm <sup>2</sup> )  |

- for AWG conductors / for main contacts
- for auxiliary contacts
  - solid
  - finely stranded
    - with conductor end processing
    - without conductor final cutting
- for AWG conductors / for auxiliary contacts

1x (20 ... 12)

2x (0.5 ... 2.5 mm<sup>2</sup>)

2x (0.5 ... 1.5 mm<sup>2</sup>)

2 x (0.5 ... 1.5 mm<sup>2</sup>)

2x (20 ... 14)

#### Certificates/approvals:

##### Verification of suitability

- ATEX

CE / UL / CSA

No

##### General Product Approval

For use in  
hazardous  
locations

##### Test Certificates



CQC



CSA

[ROSTEST](#)



UL

[DEKRA EXAM,](#)  
[DMT](#)

[Manufacturer](#)

##### Shipping Approval



ABS



DNV



GL



LRS



PRS



RINA

##### Shipping Approval

other



RMRS

[Manufacturer](#)

#### Reliability figures:

##### Mean time to failure (MTTF) / with high demand rate

a

2,280

##### Proportion of dangerous failures

- with low demand rate / according to SN 31920
- with high demand rate / according to SN 31920

%

50

%

50

##### Failure rate (FIT value) / with low demand rate

- according to SN 31920

FIT

50

##### T1 value / for proof test interval or service life

- according to IEC 61508

a

20

##### Protection against electrical shock

finger-safe

#### Further information:

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

<http://www.siemens.com/industrial-controls/catalogs>

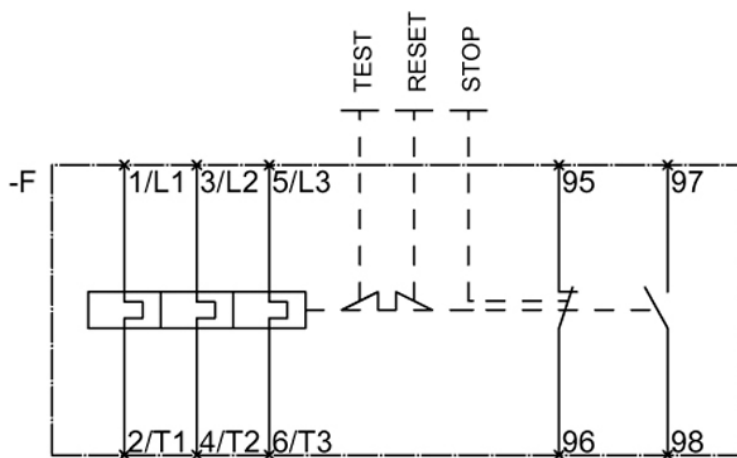
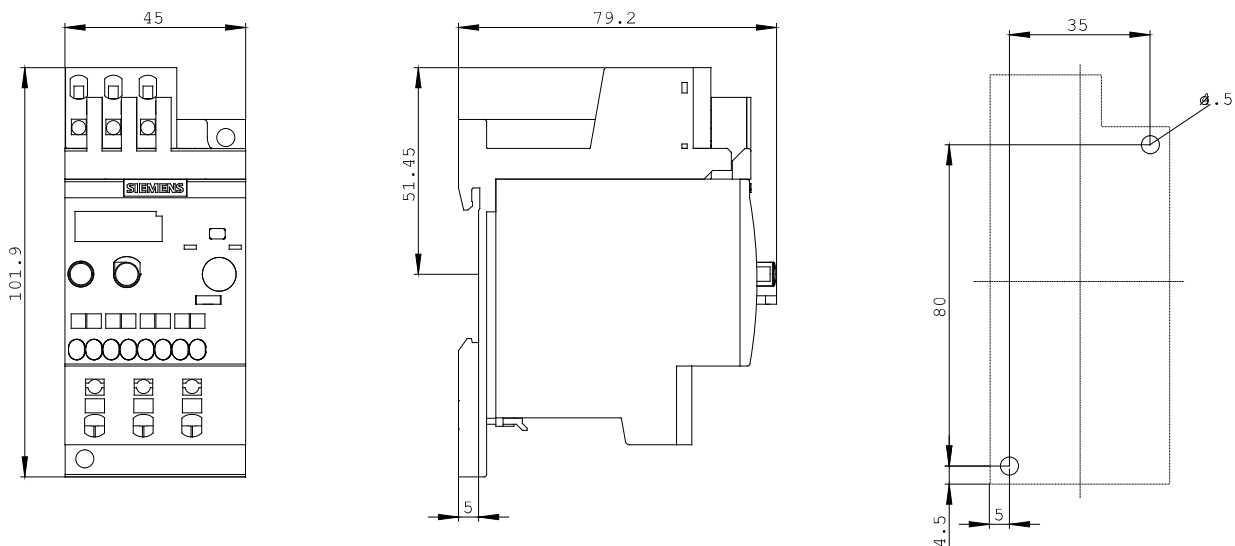
##### Industry Mall (Online ordering system)

<http://www.siemens.com/industrial-controls/mall>

Cax online generator:  
<http://www.siemens.com/cax>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)  
<http://support.automation.siemens.com/WW/view/en/3RU2116-1GC1/all>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)  
[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RU2116-1GC1](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RU2116-1GC1)



last change:

Oct 17, 2011