SIEMENS

## Data sheet 3RU2116-1BB0




Overload relay 1.4...2.0 A Thermal For motor protection Size S00, Class 10 Contactor mounting Main circuit: Screw Auxiliary circuit: Screw Manual-Automatic-Reset

| | |
|---|---|
| **product brand name** | SIRIUS |
| **product designation** | thermal overload relay |
| **product type designation** | 3RU2 |
| **General technical data** | |
| **size of overload relay** | S00 |
| **size of contactor can be combined company-specific** | S00 |
| power loss [W] for rated value of the current at AC in hot operating state | 5.7 W |
| ● per pole | 1.9 W |
| **type of calculation of power loss current-dependent** | quadratic |
| insulation voltage with degree of pollution 3 at AC rated value | 690 V |
| **surge voltage resistance rated value** | 6 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 |
| **reference code according to IEC 81346-2** | F |
| **Substance Prohibitance (day/month/year)** | 10/01/2009 |
| **Net Weight** | 0.129 kg |
| **Ambient conditions** | |
| 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 % |
| **Main circuit** | |
| **number of poles for main current circuit** | 3 |
| **adjustable current response value current of the current-dependent overload release** | 1.4 ... 2 A |
| **operating voltage** | |
| ● rated value | 690 V |
| ● at AC-3e rated value maximum | 690 V |
| **operating frequency rated value** | 50 ... 60 Hz |


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| | |
|---|---|
| **operational current rated value** | 2 A |
| operational current at AC-3e at 400 V rated value | 2 A |
| **operating power** | |
| ● at AC-3 | |
| — at 400 V rated value | 0.75 kW |
| — at 500 V rated value | 0.75 kW |
| — at 690 V rated value | 1.1 kW |
| ● at AC-3e | |
| — at 400 V rated value | 0.75 kW |
| — at 500 V rated value | 0.75 kW |
| — at 690 V rated value | 1.1 kW |
| **Auxiliary circuit** | |
| **design of the auxiliary switch** | integrated |
| **number of NC contacts for auxiliary contacts** | 1 |
| ● note | for contactor disconnection |
| **number of NO contacts for auxiliary contacts** | 1 |
| ● note | for message "Tripped" |
| number of CO contacts for auxiliary contacts | 0 |
| **operational current of auxiliary contacts at AC-15** | |
| ● 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 |
| **operational current of auxiliary contacts at DC-13** | |
| ● 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 |
| **contact rating of auxiliary contacts according to UL** | B600 / R300 |
| **Protective and monitoring functions** | |
| **trip class** | CLASS 10 |
| **design of the overload release** | thermal |
| **UL/CSA ratings** | |
| **full-load current (FLA) for 3-phase AC motor** | |
| ● at 480 V rated value | 2 A |
| ● at 600 V rated value | 2 A |
| **Short-circuit protection** | |
| **design of the fuse link** | |
| ● for short-circuit protection of the auxiliary switch required | fuse gG: 6 A, quick: 10 A |
| **Installation/ mounting/ dimensions** | |
| **mounting position** | for mounting on contactors: with a vertical mounting plane +/-135° rotatable & +/- 22.5° tiltable, stand-alone installation: with a vertical mounting plane +/-135° rotatable and +/-45° tiltable; for more details see manual |
| **fastening method** | Contactor mounting |
| **height** | 76 mm |
| **width** | 45 mm |
| **depth** | 70 mm |
| **Connections/ Terminals** | |
| **product component removable terminal for auxiliary and control circuit** | No |
| **type of electrical connection** | |
| ● for main current circuit | screw-type terminals |
| ● for auxiliary and control circuit | screw-type terminals |
| **arrangement of electrical connectors for main current circuit** | Top and bottom |
| **type of connectable conductor cross-sections** | |


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| | |
|---|---|
| ● for main contacts | |
| — solid or stranded | 2x (0,5 ... 1,5 mm²), 2x (0,75 ... 2,5 mm²), 2x 4 mm² |
| — finely stranded with core end processing | 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) |
| ● for AWG cables for main contacts | 2x (20 ... 16), 2x (18 ... 14), 2x 12 |
| **type of connectable conductor cross-sections** | |
| ● for auxiliary contacts | |
| — solid or stranded | 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) |
| — finely stranded with core end processing | 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) |
| ● for AWG cables for auxiliary contacts | 2x (20 ... 16), 2x (18 ... 14) |
| **tightening torque** | |
| ● for main contacts with screw-type terminals | 0.8 ... 1.2 N·m |
| ● for auxiliary contacts with screw-type terminals | 0.8 ... 1.2 N·m |
| **design of screwdriver shaft** | Diameter 5 ... 6 mm |
| **size of the screwdriver tip** | Pozidriv PZ 2 |
| **design of the thread of the connection screw** | |
| ● for main contacts | M3 |
| ● of the auxiliary and control contacts | M3 |
| **Safety related data** | |
| **failure rate [FIT] with low demand rate according to SN 31920** | 50 FIT |
| **MTTF with high demand rate** | 2 280 a |
| IEC 61508 | |
| **T1 value** | |
| **● for proof test interval or service life according to IEC 61508** | 20 a |
| Electrical Safety | |
| **protection class IP on the front according to IEC 60529** | IP20 |
| **touch protection on the front according to IEC 60529** | finger-safe, for vertical contact from the front |
| **Display** | |
| display version for switching status | Slide switch |
| **Approvals Certificates** | |
| Environmental Product Declaration | |
| ● global warming potential [CO2 eq] / during manufacturing | 0.921 kg |
| ● global warming potential [CO2 eq] / during sales | 0.0394 kg |
| ● global warming potential [CO2 eq] / during operation | 39 kg |
| ● global warming potential [CO2 eq] / after end of life | -0.0145 kg |
| ● global warming potential [CO2 eq] / total | 39.9 kg |

**Environment**

Environmental Confirmations

**General Product Approval**

**General Product Approval**

**For use in hazardous locations**

**Test Certificates**

Type Test Certificates/Test Report

Special Test Certificate

**Maritime application**

**other**

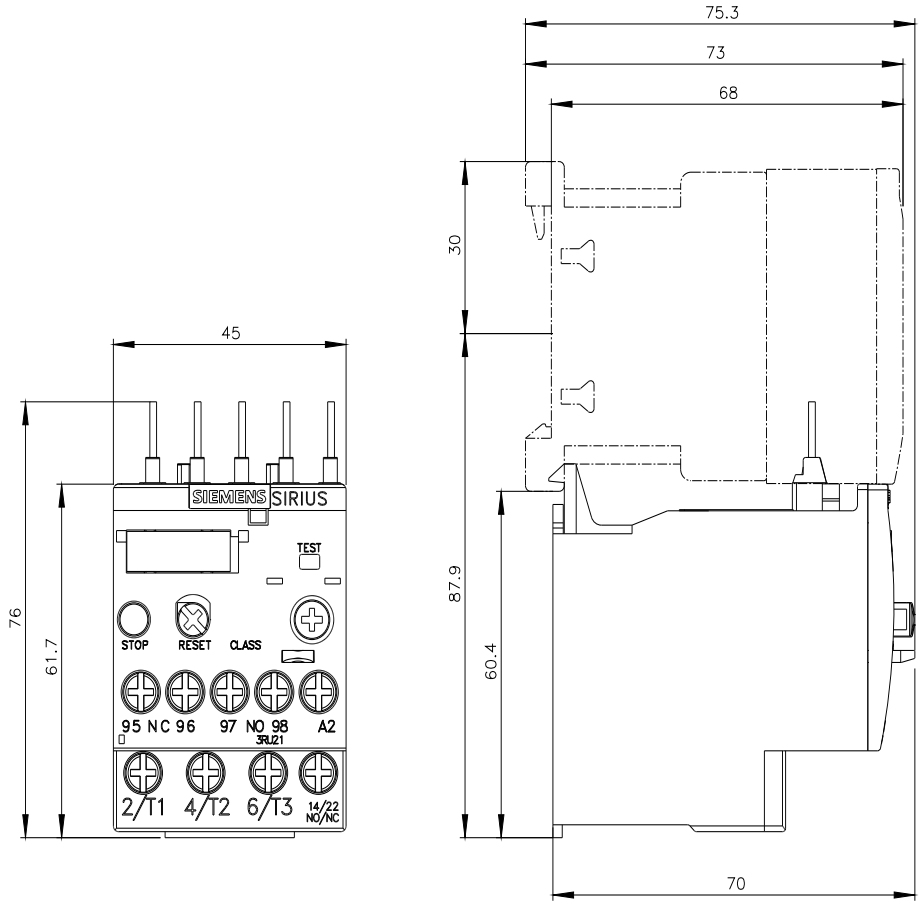
**Railway**


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Miscellaneous | Confirmation | 产品合格 QC PASS | Special Test Certific-ate

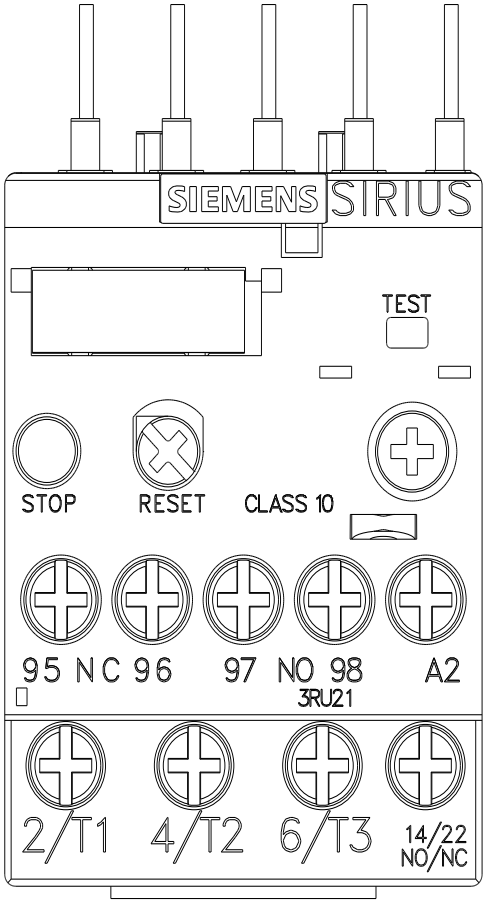
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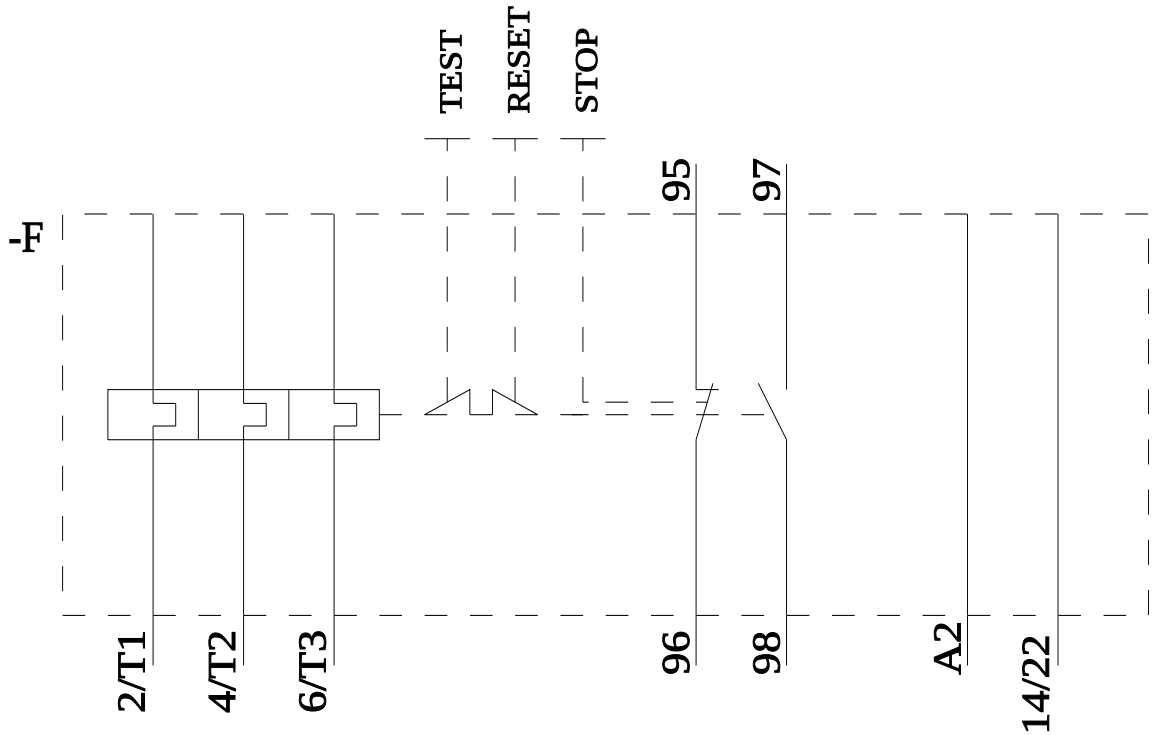
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