SIEMENS

## Product data sheet 3RU2116-1DB0


OVERLOAD RELAY 2.2...3.2 A FOR MOTOR PROTECTION SZ S00,
CLASS 10,
F. MOUNTING ONTO CONTACTOR MAIN CIRCUIT: SCREW TERMINAL AUX. CIRCUIT: SCREW TERMINAL
MANUAL-AUTOMATIC-RESET

| General technical data: | | |
|---|---|---|
| **product brand name** | | SIRIUS |
| **product designation** | | 3RU2 thermal overload relay |
| **Protection class IP / on the front** | | IP20 |
| **Insulation voltage / with degree of pollution 3** | | |
| • rated value | V | 690 |
| **Installation altitude / at a height over sea level / maximum** | m | 2,000 |
| **Ambient temperature** | | |
| • during transport | °C | -55 … +80 |
| • during storage | °C | -55 … +80 |
| • during operating | °C | -40 … +70 |
| **Relative humidity** | | |
| • during operating phase | / % | 90 |
| **Resistance against shock** | | 8g / 11 ms |
| **Impulse voltage resistance / rated value** | kV | 6 |
| **Active power loss / total / typical** | W | 5.2 |
| **Item designation** | | |
| • according to DIN 40719 extendable after IEC 204-2 / according to IEC 750 | | F |
| • according to DIN EN 61346-2 | | F |

| | | |
|---|---|---|
| **Trip class** | | CLASS 10 |
| **Type of assignement** | | 2 |
| **Size of overload relay** | | S00 |
| **Size of the contactor / can be combined** | | |
| • company-specific | | S00 |

## Main circuit:

| | | |
|---|---|---|
| **Number of poles / for main current circuit** | | 3 |
| **Operating voltage / at AC-3 / rated value** | | |
| • maximum | V | 690 |
| **Operating current / at AC-3 / at 400 V** | | |
| • rated value | A | 3.2 |
| **Service power / at AC-3** | | |
| • at 400 V / rated value | kW | 1.1 |
| • at 500 V / rated value | kW | 1.5 |
| • at 690 V / rated value | kW | 2.2 |
| **Adjustable response current** | | |
| • of the current-dependent overload release | A | 2.2 … 3.2 |
| **Operating current / of the fuse link / rated value** | A | 10 |

## Auxiliary circuit:

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

## Short-circuit:

| | | |
|---|---|---|
| **Design of the fuse link / for short-circuit protection of the auxiliary switch / required** | | fuse gG: 10 A |

## Installation/mounting/dimensions:

| | | |
|---|---|---|
| **Built in orientation** | | vertical |
| **Type of mounting** | | direct mounting |
| **Width** | mm | 45 |
| **Height** | mm | 87 |
| **Depth** | mm | 73 |
| **Distance, to be maintained, to the ranks assembly** | | |
| • forwards | mm | 0 |
| • backwards | mm | 0 |
| • upwards | mm | 6 |
| • downwards | mm | 6 |
| • sidewards | mm | 6 |
| **Distance, to be maintained, to earthed part** | | |
| • forwards | mm | 0 |
| • backwards | mm | 0 |
| • upwards | mm | 6 |
| • downwards | mm | 6 |
| • sidewards | mm | 6 |
| **Distance, to be maintained, conductive elements** | | |
| • forwards | mm | 0 |
| • backwards | mm | 0 |
| • upwards | mm | 6 |
| • downwards | mm | 6 |
| • sidewards | mm | 6 |

## Connections:

| | | |
|---|---|---|
| **Design of the electrical connection** | | |
| • for main current circuit | | screw-type terminals |
| • for auxiliary and control current circuit | | screw-type terminals |
| **Product function / removable terminal for auxiliary and control circuit** | | No |
| **Type of the connectable conductor cross-section** | | |
| • for main contacts | | |
| • solid | | 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm² |
| • finely stranded | | |
| • with conductor end processing | | 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) |
| • for AWG conductors / for main contacts | | 2x (20 ... 16), 2x (18 ... 14), 2x 12 |
| • for auxiliary contacts | | |

| | | |
|---|---|---|
| • solid | | 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) |
| • finely stranded | | |
| • with conductor end processing | | 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²) |
| • for AWG conductors / for auxiliary contacts | | 2x (20 ... 16), 2x (18 ... 14) |

## Certificates/approvals:

| | | |
|---|---|---|
| **Verification of suitability** | | CE / UL / CSA |
| • ATEX | | Yes |

**General Product Approval** | **For use in hazardous locations**

CCC CSA GOST UL ATEX

**Test Certificates**

Special Test Certificate | Type Test Certificates/Test Report

**Shipping Approval**

ABS DNV GL LRS PRS RINA

**Shipping Approval** | **other**

RMRS | Declaration of Conformity

## UL/CSA ratings:

| | | |
|---|---|---|
| **Contact rating designation / for auxiliary contacts / according to UL** | | B600 / R300 |

## 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 | % | 50 |
| • with high demand rate / according to SN 31920 | % | 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:

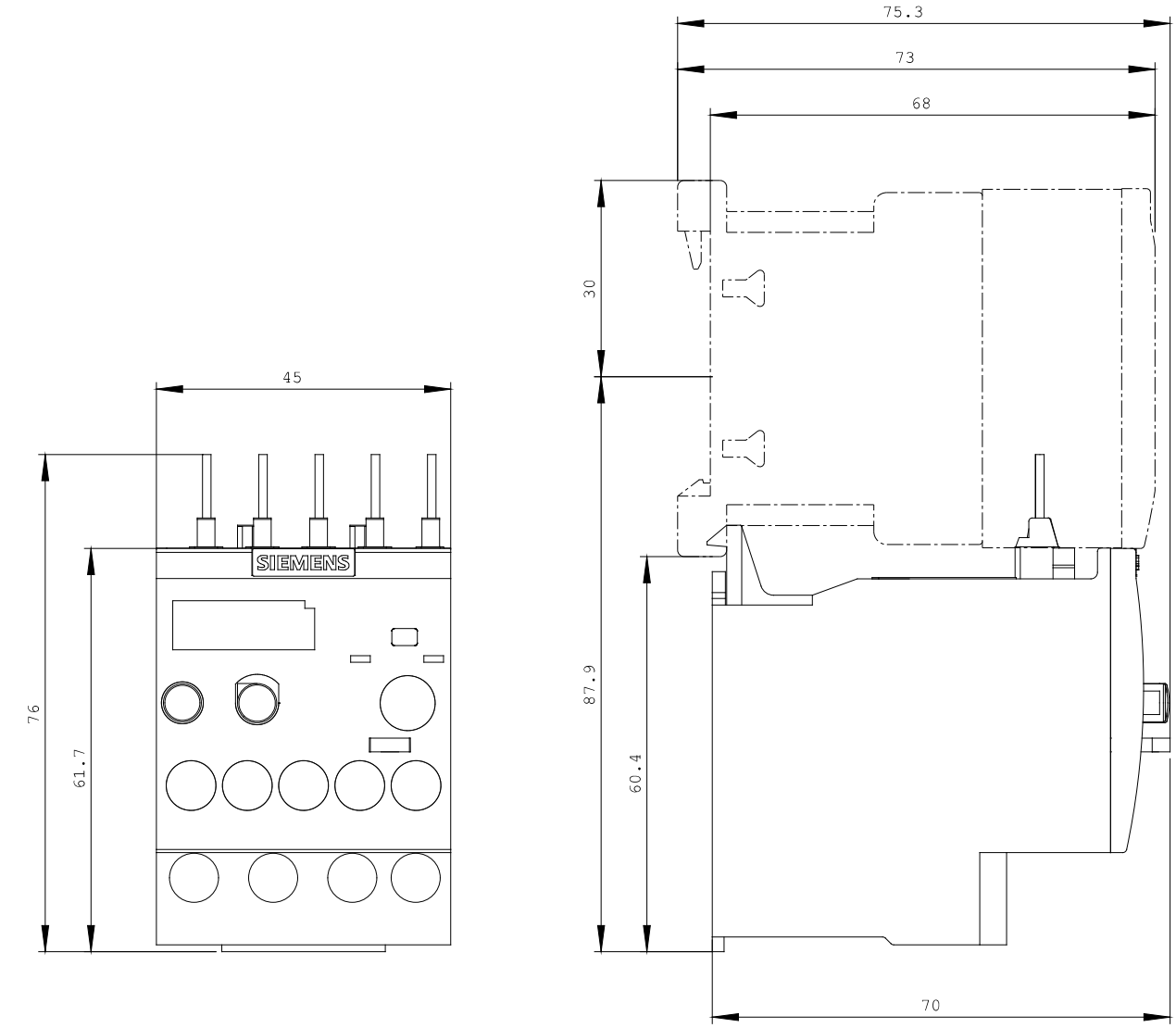
**Information- and Downloadcenter (Catalogs, Brochures,...)**
http://www.siemens.com/industrial-controls/catalogs

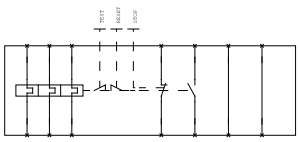
**Industry Mall (Online ordering system)**
http://www.siemens.com/industrial-controls/mall

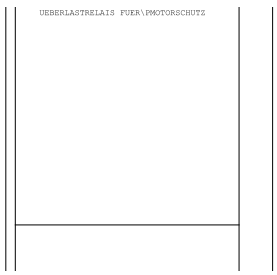
**Cax online generator:**
http://www.siemens.com/cax

**Service&Support (Manuals, Certificates, Characteristics, FAQs,...)**
http://support.automation.siemens.com/WW/view/en/3RU2116-1DB0/all

**Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, ...)**
http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RU2116-1DB0





**last change:** Mar 27, 2012