

THERM. OVERLOAD RELAY 28...40 A FOR MOTOR PROTECTION
 SIZE S3, CLASS 10 FOR CONTACTOR MOUNTING MAIN
 CIRCUIT: SCREW TERMINAL AUX. CIRCUIT: SCREW TERM.
 MANUAL-AUTOMATIC-RESET

| | |
|--------------------------|------------------------|
| Product brand name | SIRIUS |
| Product designation | thermal overload relay |
| Product type designation | 3RU2 |

General technical data

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| Size of overload relay | S3 |
| Size of contactor can be combined company-specific | S3 |
| Insulation voltage with degree of pollution 3 rated value | 1 000 V |
| Surge voltage resistance rated value | 8 kV |
| maximum permissible voltage for safe isolation | |
| <ul style="list-style-type: none"> in networks with grounded star point between auxiliary and auxiliary circuit | 440 V |
| <ul style="list-style-type: none"> in networks with grounded star point between auxiliary and auxiliary circuit | 440 V |
| <ul style="list-style-type: none"> in networks with grounded star point between main and auxiliary circuit | 440 V |
| <ul style="list-style-type: none"> in networks with grounded star point between main and auxiliary circuit | 440 V |
| Protection class IP | |
| <ul style="list-style-type: none"> on the front | IP20 |
| <ul style="list-style-type: none"> of the terminal | IP00 |
| Shock resistance | |
| <ul style="list-style-type: none"> acc. to IEC 60068-2-27 | 8g / 11 ms |
| Recovery time | |
| <ul style="list-style-type: none"> after overload trip with automatic reset typical | 10 min |
| <ul style="list-style-type: none"> after overload trip with remote-reset | 10 min |
| <ul style="list-style-type: none"> after overload trip with manual reset | 10 min |
| Type of protection | on request |
| Certificate of suitability relating to ATEX | on request |
| Protection against electrical shock | finger-safe when touched vertically from front acc. to IEC 60529 |
| Equipment marking acc. to DIN EN 81346-2 | F |

Ambient conditions

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| Installation altitude at height above sea level | |
| <ul style="list-style-type: none"> maximum | 2 000 m |

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| 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 | 0 ... 90 % |

Main circuit

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|---|--------------|
| Number of poles for main current circuit | 3 |
| Adjustable pick-up value current of the current-dependent overload release | 28 ... 40 A |
| Operating voltage | |
| • rated value | 690 V |
| • at AC-3 rated value maximum | 690 V |
| Operating frequency rated value | 50 ... 60 Hz |
| Operating current rated value | 40 A |

Auxiliary circuit

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|---|---|
| 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 |
| Operating 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 |
| Operating 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 |
| 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) |
| 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 three-phase AC motor | |
| <ul style="list-style-type: none"> • at 480 V rated value • at 600 V rated value | 40 A 32 A |
| Short-circuit protection | |
| Design of the fuse link | |
| <ul style="list-style-type: none"> • for short-circuit protection of the main circuit <ul style="list-style-type: none"> — with type of coordination 1 required — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required | gG: 160 A gG: 80 A fuse gG: 6 A, quick: 10 A |
| Installation/ mounting/ dimensions | |
| Mounting position | any |
| Mounting type | direct mounting |
| Height | 105 mm |
| Width | 70 mm |
| Depth | 125 mm |
| Required spacing | |
| <ul style="list-style-type: none"> • with side-by-side mounting <ul style="list-style-type: none"> — forwards — Backwards — upwards — downwards — at the side • for grounded parts <ul style="list-style-type: none"> — forwards — Backwards — upwards — at the side — downwards • for live parts <ul style="list-style-type: none"> — forwards — Backwards — upwards — downwards — at the side | 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 6 mm 0 mm 0 mm 0 mm 0 mm 0 mm 6 mm |
| Connections/Terminals | |

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|---|---|
| Product function | |
| <ul style="list-style-type: none"> removable terminal for auxiliary and control circuit | No |
| Type of electrical connection | |
| <ul style="list-style-type: none"> for main current circuit for auxiliary and control current circuit | screw-type terminals screw-type terminals |
| Arrangement of electrical connectors for main current circuit | Top and bottom |
| Type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> for main contacts <ul style="list-style-type: none"> — solid — stranded — single or multi-stranded — finely stranded with core end processing at AWG conductors for main contacts | 2x (2.5 ... 16 mm ²) 2x (6 ... 16 mm ²), 2x (10 ... 50 mm ²), 1x (10 ... 70 mm ²) 2x (2,5 ... 50 mm ²), 1x (10 ... 70 mm ²) 2x (2.5 ... 35 mm ²), 1x (2.5 ... 50 mm ²) 2x (10 ... 1/0), 1x (10 ... 2/0) |
| Type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> for auxiliary contacts <ul style="list-style-type: none"> — single or multi-stranded — finely stranded with core end processing at AWG conductors for auxiliary contacts | 2x (0,5 ... 1,5 mm ²), 2x (0,75 ... 2,5 mm ²) 2x (0.5 ... 1.5 mm ²), 2x (0.75 ... 2.5 mm ²) 2x (20 ... 16), 2x (18 ... 14) |
| Tightening torque | |
| <ul style="list-style-type: none"> for ring cable lug <ul style="list-style-type: none"> — for main contacts | 4.5 ... 6 N·m |
| Outer diameter of the usable ring cable lug maximum | 19 mm |
| Tightening torque | |
| <ul style="list-style-type: none"> for main contacts with screw-type terminals for auxiliary contacts with screw-type terminals | 4.5 ... 6 N·m 0.8 ... 1.2 N·m |
| Design of screwdriver shaft | Hexagonal socket |
| Size of the screwdriver tip | 4 mm hexagon socket |
| Design of the thread of the connection screw | |
| <ul style="list-style-type: none"> for main contacts of the auxiliary and control contacts | M8 M3 |

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| Safety related data | |
| T1 value for proof test interval or service life acc. to IEC 61508 | 20 y |

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| Display | |
| Display version | |
| <ul style="list-style-type: none"> for switching status | Slide switch |

Certificates/approvals

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| General Product Approval | | | | Declaration of Conformity | Test Certificates |
|  CCC |  CSA |  UL |  |  EG-Konf. | Type Test Certificates/Test Report |

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|--|------------------------------|
| Test Certificates | other |
| Special Test Certificate | Confirmation |

Further information

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

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

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RU2146-4FB0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RU2146-4FB0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RU2146-4FB0>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RU2146-4FB0&lang=en

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