

Overload relay 12.5...50 A Electronic For motor protection Size S3, Class 10E
Stand-alone installation Main circuit: Straight-through transformer Auxiliary circuit:
Spring-type terminal Manual-Automatic-Reset

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| product brand name | SIRIUS |
| product designation | solid-state overload relay |
| product type designation | 3RB3 |
| General technical data | |
| size of overload relay | S3 |
| size of contactor can be combined company-specific | S3 |
| power loss [W] for rated value of the current at AC in hot operating state | 0.2 W |
| • per pole | 0.07 W |
| type of calculation of power loss current-dependent | quadratic |
| insulation voltage with degree of pollution 3 at AC rated value | 1 000 V |
| surge voltage resistance rated value | 8 kV |
| maximum permissible voltage for protective separation | |
| • in networks with ungrounded star point between auxiliary and auxiliary circuit | 300 V |
| • in networks with grounded star point between auxiliary and auxiliary circuit | 300 V |
| • in networks with ungrounded star point between main and auxiliary circuit | 600 V |
| • in networks with grounded star point between main and auxiliary circuit | 690 V |
| shock resistance | 8 g / 11 ms |
| • according to IEC 60068-2-27 | 15 g / 11 ms; Signaling contact 97 / 98 in position "Tripped": 8g / 11 ms |
| vibration resistance | 1 ... 6 Hz, 15 mm; 6 ... 500 Hz, 20 m/s ² ; 10 cycles |
| thermal current | 50 A |
| recovery time after overload trip | |
| • with automatic reset typical | 3 min |
| • with remote-reset | 0 min |
| • with manual reset | 0 min |
| reference code according to IEC 81346-2 | F |
| Substance Prohibitance (day/month/year) | 03/01/2017 |
| SVHC substance name | Lead CAS-No. 7439-92-1 Lead monoxide (lead oxide) CAS-No. 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5 Melamine CAS-No. 108-78-1 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol CAS-No. 119-47-1 |
| Net Weight | 356 g |
| Ambient conditions | |
| installation altitude at height above sea level maximum | 2 000 m |
| ambient temperature | |
| • during operation | -25 ... +60 °C |
| • during storage | -40 ... +80 °C |
| • during transport | -40 ... +80 °C |
| temperature compensation | -25 ... +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 | 12.5 ... 50 A |
| operating voltage | |
| • rated value | 1 000 V |

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| <ul style="list-style-type: none"> • at AC-3e rated value maximum | 1 000 V |
| operating frequency rated value | 50 ... 60 Hz |
| operational current rated value | 50 A |
| operational current at AC-3e at 400 V rated value | 50 A |
| operating power | |
| <ul style="list-style-type: none"> • for 3-phase motors at 400 V at 50 Hz | 7.5 ... 22 kW |
| <ul style="list-style-type: none"> • for AC motors at 500 V at 50 Hz | 11 ... 30 kW |
| <ul style="list-style-type: none"> • for AC motors at 690 V at 50 Hz | 11 ... 45 kW |

Auxiliary circuit

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| design of the auxiliary switch | integrated |
| number of NC contacts for auxiliary contacts | 1 |
| <ul style="list-style-type: none"> • note | for contactor disconnection |
| number of NO contacts for auxiliary contacts | 1 |
| <ul style="list-style-type: none"> • note | for message "tripped" |
| number of CO contacts for auxiliary contacts | 0 |
| operational current of auxiliary contacts at AC-15 | |
| <ul style="list-style-type: none"> • at 24 V | 4 A |
| <ul style="list-style-type: none"> • at 110 V | 4 A |
| <ul style="list-style-type: none"> • at 120 V | 4 A |
| <ul style="list-style-type: none"> • at 125 V | 4 A |
| <ul style="list-style-type: none"> • at 230 V | 3 A |
| operational current of auxiliary contacts at DC-13 | |
| <ul style="list-style-type: none"> • at 24 V | 2 A |
| <ul style="list-style-type: none"> • at 60 V | 0.55 A |
| <ul style="list-style-type: none"> • at 110 V | 0.3 A |
| <ul style="list-style-type: none"> • at 125 V | 0.3 A |
| <ul style="list-style-type: none"> • at 220 V | 0.11 A |

Protective and monitoring functions

| | |
|---------------------------------------|------------|
| trip class | CLASS 10E |
| design of the overload release | electronic |

UL/CSA ratings

| | |
|--|-------------|
| full-load current (FLA) for 3-phase AC motor | |
| <ul style="list-style-type: none"> • at 480 V rated value | 50 A |
| <ul style="list-style-type: none"> • at 600 V rated value | 50 A |
| contact rating of auxiliary contacts according to UL | B600 / R300 |

Short-circuit protection

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|--|------------------------|
| 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 coordination 2 required | gG: 200 A gG: 200 A |
| <ul style="list-style-type: none"> • for short-circuit protection of the auxiliary switch required | fuse gG: 6 A |

Installation/ mounting/ dimensions

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| mounting position | any |
| fastening method | stand-alone installation |
| height | 106 mm |
| width | 70 mm |
| depth | 124 mm |
| required spacing | |
| <ul style="list-style-type: none"> • for grounded parts <ul style="list-style-type: none"> — forwards — backwards — upwards — at the side — downwards | 0 mm 0 mm 0 mm 6 mm 0 mm |
| <ul style="list-style-type: none"> • for live parts <ul style="list-style-type: none"> — forwards — backwards — upwards — downwards | 0 mm 0 mm 0 mm 0 mm |

— at the side

6 mm

Connections/ Terminals

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|--|--|
| product component removable terminal for auxiliary and control circuit | Yes |
| type of electrical connection | straight-through transformers spring-loaded terminals |
| <ul style="list-style-type: none"> • for main current circuit • for auxiliary and control circuit | |
| arrangement of electrical connectors for main current circuit | Top and bottom |
| type of connectable conductor cross-sections | |
| <ul style="list-style-type: none"> • for auxiliary contacts — solid — solid or stranded — finely stranded with core end processing — finely stranded without core end processing • for AWG cables for auxiliary contacts | 2x (0.25 ... 1.5 mm ²) 2x (0,25 ... 1,5 mm ²) 2x (0.25 ... 1.5 mm ²) 2x (0.25 ... 1.5 mm ²) 2x (24 ... 16) |
| design of screwdriver shaft | Diameter 5 to 6 mm |
| size of the screwdriver tip | Pozidriv PZ 2 |

Electrical Safety

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| 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 |

Communication/ Protocol

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| type of voltage supply via input/output link master | No |
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Electromagnetic compatibility

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|---|---|
| conducted interference | |
| <ul style="list-style-type: none"> • due to burst according to IEC 61000-4-4 • due to conductor-earth surge according to IEC 61000-4-5 • due to conductor-conductor surge according to IEC 61000-4-5 • due to high-frequency radiation according to IEC 61000-4-6 | 2 kV (power ports), 1 kV (signal ports) corresponds to degree of severity 3 2 kV (line to earth) corresponds to degree of severity 3 1 kV (line to line) corresponds to degree of severity 3 10 V in frequency range 0.15 to 80 MHz, modulation 80 % AM with 1 kHz |
| field-based interference according to IEC 61000-4-3 | 10 V/m |
| electrostatic discharge according to IEC 61000-4-2 | 6 kV contact discharge / 8 kV air discharge |

Display

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| display version for switching status | Slide switch |
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Approvals Certificates

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|--------------------|---------------------------------|
| Environment | General Product Approval |
|--------------------|---------------------------------|

[Environmental Confirmations](#)



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|------------|---------------------------------------|--------------------------|-----------------------------|
| EMV | For use in hazardous locations | Test Certificates | Maritime application |
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[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



| | |
|-----------------------------|--------------|
| Maritime application | other |
|-----------------------------|--------------|



[Confirmation](#)

[Confirmation](#)



Further information

Information on the packaging
<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3RB3046-1UX1>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3046-1UX1>

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

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3046-1UX1&lang=en

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3046-1UX1>

Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP="HAUPT"></mmp_prod_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP=)

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