

Overload relay 50...200 A for motor protection Size S6, CLASS 5...30E Contactor mounting/stand-alone installation Main circuit: straight-through transformer Auxiliary circuit: Spring-type terminal Manual-Automatic-Reset Internal ground fault detection



| | |
|--------------------------|----------------------------|
| product brand name | SIRIUS |
| Product designation | solid-state overload relay |
| Product type designation | 3RB2 |

| General technical data | |
|--------------------------------------------------------------------------------------------------------------------------------|---------|
| Size of overload relay | S6 |
| Size of contactor can be combined company-specific | S6 |
| 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 safe isolation | |
| <ul style="list-style-type: none"> in networks with grounded star point between auxiliary and auxiliary circuit | 300 V |
| <ul style="list-style-type: none"> in networks with grounded star point between auxiliary and auxiliary circuit | 300 V |
| <ul style="list-style-type: none"> in networks with grounded star point between main and auxiliary circuit | 600 V |
| <ul style="list-style-type: none"> in networks with grounded star point between main and auxiliary circuit | 690 V |
| <ul style="list-style-type: none"> protection class IP on the front | IP20 |

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|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| <ul style="list-style-type: none"> • Protection class IP of the terminal | IP20 |
| Shock resistance | 15g / 11 ms |
| <ul style="list-style-type: none"> • acc. to IEC 60068-2-27 | 15g / 11 ms |
| Vibration resistance | 1-6 Hz, 15 mm; 6-500 Hz, 20 m/s ² ; 10 cycles |
| thermal current | 200 A |
| Recovery time | |
| <ul style="list-style-type: none"> • after overload trip with automatic reset typical | 3 min |
| <ul style="list-style-type: none"> • after overload trip with remote-reset | 0 min |
| <ul style="list-style-type: none"> • after overload trip with manual reset | 0 min |
| Type of protection according to ATEX directive 2014/34/EU | Ex II (2) G [Ex e] [Ex d] [Ex px] ; Ex II (2) D [Ex t] [Ex p] |
| Certificate of suitability according to ATEX directive 2014/34/EU | PTB 06 ATEX 3001 |
| Reference code 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 |
| Ambient temperature | |
| <ul style="list-style-type: none"> • during operation | -25 ... +60 °C |
| <ul style="list-style-type: none"> • during storage | -40 ... +80 °C |
| <ul style="list-style-type: none"> • during transport | -40 ... +80 °C |
| Temperature compensation | -25 ... +60 °C |
| Relative humidity during operation | 10 ... 95 % |

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 | 50 ... 200 A |
| Operating voltage | |
| <ul style="list-style-type: none"> • rated value | 1 000 V |
| <ul style="list-style-type: none"> • for remote-reset function at DC | 24 V |
| <ul style="list-style-type: none"> • at AC-3 rated value maximum | 1 000 V |
| Operating frequency rated value | 50 ... 60 Hz |
| Operating current rated value | 200 A |
| Operating power | |
| <ul style="list-style-type: none"> • for three-phase motors at 400 V at 50 Hz | 30 ... 90 kW |
| <ul style="list-style-type: none"> • for AC motors at 500 V at 50 Hz | 30 ... 132 kW |
| <ul style="list-style-type: none"> • for AC motors at 690 V at 50 Hz | 55 ... 160 kW |

Auxiliary circuit

| | |
|----------------------------------------------------------|-----------------------------|
| 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 |

| | |
|-------------------------------------------------------------|-----------------------|
| • Note | for message "tripped" |
| Number of CO contacts | |
| • for auxiliary contacts | 0 |
| • operating current of auxiliary contacts at AC-15 at 24 V | 4 A |
| • Operating current of auxiliary contacts at AC-15 at 110 V | 4 A |
| • Operating current of auxiliary contacts at AC-15 at 120 V | 4 A |
| • Operating current of auxiliary contacts at AC-15 at 125 V | 4 A |
| • Operating current of auxiliary contacts at AC-15 at 230 V | 3 A |
| • operating current of auxiliary contacts at DC-13 at 24 V | 2 A |
| • Operating current of auxiliary contacts at DC-13 at 60 V | 0.55 A |
| • Operating current of auxiliary contacts at DC-13 at 110 V | 0.3 A |
| • operating current of auxiliary contacts at DC-13 at 125 V | 0.3 A |
| • Operating current of auxiliary contacts at DC-13 at 220 V | 0.11 A |

Protective and monitoring functions

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|-----------------------------------------------------------------------------------------|--------------------------------------------|
| Trip class | CLASS 5E, 10E, 20E and 30E adjustable |
| Design of the overload release | electronic |
| Response value current | |
| • of the ground fault protection minimum | 0.75 x IMotor |
| Response time of the ground fault protection in settled state | 1 000 ms |
| Operating range of the ground fault protection relating to current setting value | |
| • minimum | IMotor > lower current setting value |
| • maximum | IMotor < upper current setting value x 3.5 |

UL/CSA ratings

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|-------------------------------------------------------------|-------------|
| Full-load current (FLA) for three-phase AC motor | |
| • at 480 V rated value | 200 A |
| • at 600 V rated value | 200 A |
| Contact rating of auxiliary contacts according to UL | B600 / R300 |

Short-circuit protection

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|----------------------------------------------------------------------------------------------|---------------------------|
| Design of the fuse link | |
| • for short-circuit protection of the main circuit — with type of coordination 1 required | gG: 355 A, Class L: 601 A |

- with type of assignment 2 required
- for short-circuit protection of the auxiliary switch required

gG: 315 A
fuse gG: 6 A

Installation/ mounting/ dimensions

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|----------------------------|----------------------------------------------|
| • mounting position | any |
| Mounting type | Contacteur mounting/stand-alone installation |
| Height | 119 mm |
| Width | 120 mm |
| Depth | 155 mm |

Connections/ Terminals

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|---------------------------------------------------------------------------|------------------------------------|
| Product function | |
| • removable terminal for auxiliary and control circuit | Yes |
| • Type of electrical connection for main current circuit | straight-through transformers |
| • Type of electrical connection for auxiliary and control current circuit | spring-loaded terminals |
| Arrangement of electrical connectors for main current circuit | Top and bottom |
| Type of connectable conductor cross-sections | |
| • for auxiliary contacts | |
| — solid | 2x (0.25 ... 1.5 mm ²) |
| — single or multi-stranded | 2x (0,25 ... 1,5 mm ²) |
| — finely stranded with core end processing | 2x (0.25 ... 1.5 mm ²) |
| — finely stranded without core end processing | 2x (0.25 ... 1.5 mm ²) |
| • at AWG conductors for auxiliary contacts | 2x (24 ... 16) |

Communication/ Protocol

| | |
|------------------------------------------------------------|----|
| Type of voltage supply via input/output link master | No |
|------------------------------------------------------------|----|

Electromagnetic compatibility

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|-------------------------------------------------------------|-----------------------------------------------------------------------------|
| Conducted interference | |
| • due to burst acc. to IEC 61000-4-4 | 2 kV (power ports), 1 kV (signal ports) corresponds to degree of severity 3 |
| • due to conductor-earth surge acc. to IEC 61000-4-5 | 2 kV (line to earth) corresponds to degree of severity 3 |
| • due to conductor-conductor surge acc. to IEC 61000-4-5 | 1 kV (line to line) corresponds to degree of severity 3 |
| • due to high-frequency radiation acc. to IEC 61000-4-6 | 10 V in frequency range 0.15 to 80 MHz, modulation 80 % AM with 1 kHz |
| Field-bound parasitic coupling acc. to IEC 61000-4-3 | 10 V/m |
| Electrostatic discharge acc. to IEC 61000-4-2 | 6 kV contact discharge / 8 kV air discharge |

Display

Display version

- for switching status

Slide switch

Certificates/ approvals

| | | |
|--------------------------|-----|--------------------------------|
| General Product Approval | EMC | For use in hazardous locations |
|--------------------------|-----|--------------------------------|



Declaration of Conformity



EG-Konf.

[Miscellaneous](#)

Test Certificates

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

Marine / Shipping



ABS



LRS

Marine / Shipping

other



RINA



DNVGL.COM/AF

[Miscellaneous](#)

[Confirmation](#)

Further information

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=3RB2153-4FX2>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB2153-4FX2>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RB2153-4FX2>

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

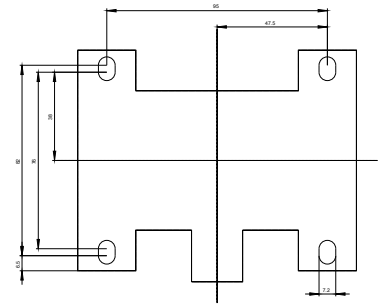
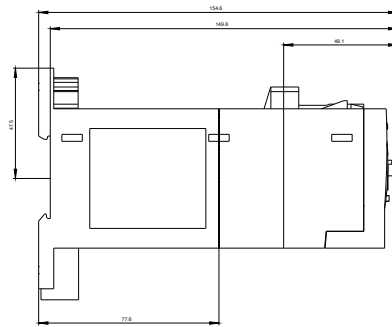
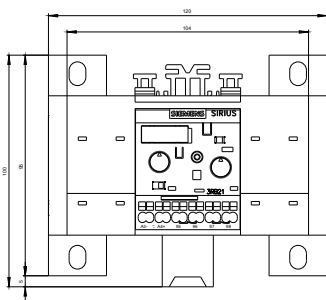
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB2153-4FX2&lang=en

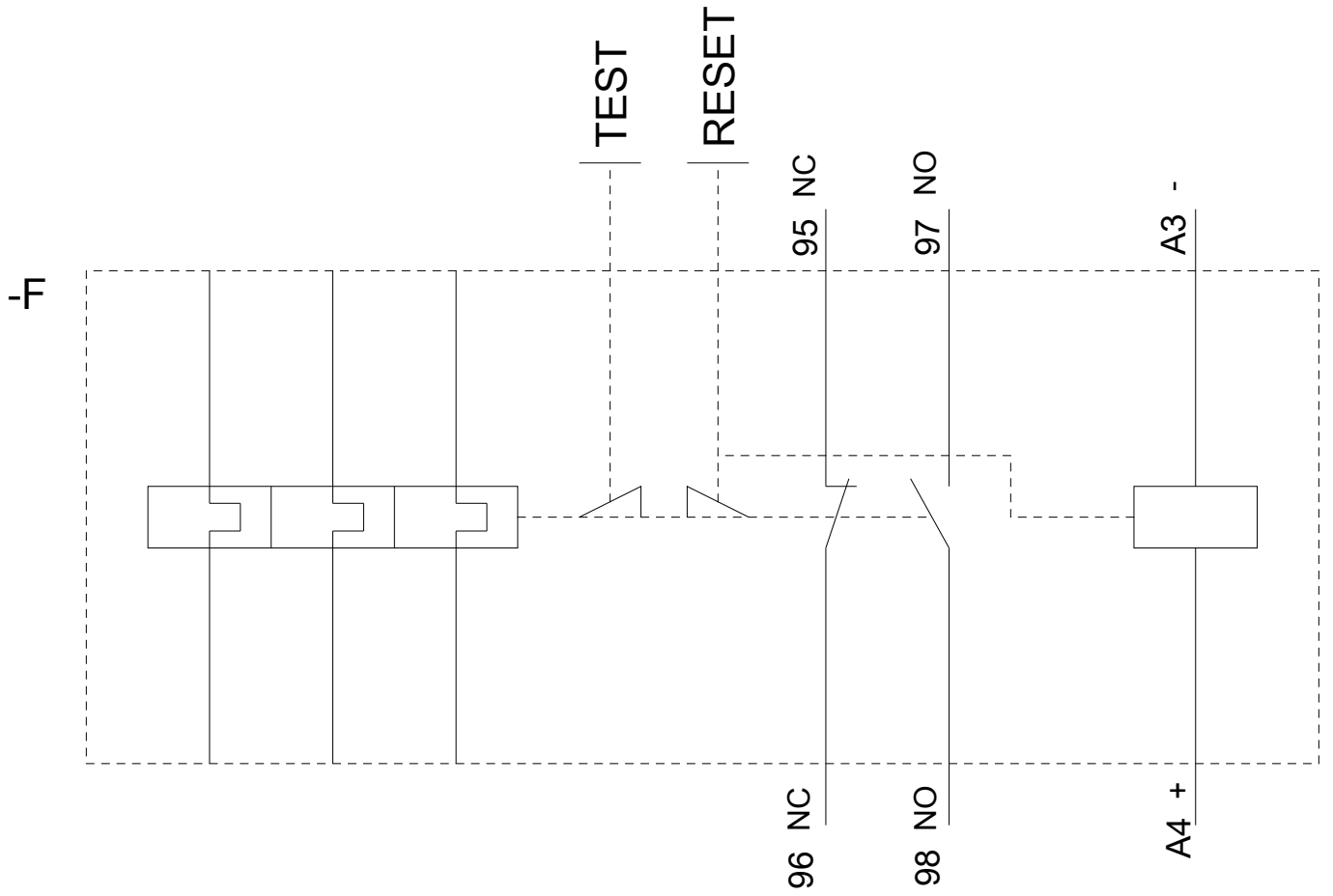
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RB2153-4FX2/char>

Further characteristics (e.g. electrical endurance, switching frequency)

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB2153-4FX2&objecttype=14&gridview=view1>





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