

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: Screw 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

<ul style="list-style-type: none"> Protection class IP of the terminal 	IP20
Shock resistance <ul style="list-style-type: none"> acc. to IEC 60068-2-27 	15g / 11 ms 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 after overload trip with remote-reset after overload trip with manual reset 	3 min 0 min 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

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 during storage during transport 	-25 ... +60 °C -40 ... +80 °C -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 pick-up value current of the current-dependent overload release	50 ... 200 A
Operating voltage <ul style="list-style-type: none"> rated value for remote-reset function at DC at AC-3 rated value maximum 	1 000 V 24 V 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 for AC motors at 500 V at 50 Hz for AC motors at 690 V at 50 Hz 	30 ... 90 kW 30 ... 132 kW 55 ... 160 kW

Auxiliary circuit

Design of the auxiliary switch	integrated
Number of NC contacts for auxiliary contacts <ul style="list-style-type: none"> Note 	1 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

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

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

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

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

Connections/ Terminals

Product function	Yes
• removable terminal for auxiliary and control circuit	
• Type of electrical connection for main current circuit	straight-through transformers
• Type of electrical connection for auxiliary and control current circuit	screw-type terminals
Arrangement of electrical connectors for main current circuit	Top and bottom
Type of connectable conductor cross-sections	
• for auxiliary contacts	
— solid	1x (0.5 ... 4 mm ²), 2x (0.5 ... 2.5 mm ²)
— single or multi-stranded	1x (0,5 ... 4 mm ²), 2x (0,5 ... 2,5 mm ²)
— finely stranded with core end processing	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²)
• at AWG conductors for auxiliary contacts	2x (20 ... 14)
Tightening torque	
• for auxiliary contacts with screw-type terminals	0.8 ... 1.2 N·m
Design of the thread of the connection screw	
• of the auxiliary and control contacts	M3

Communication/ Protocol

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

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
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CCC



CSA



UL



RCM



ATEX

Declaration of Conformity	Test Certificates	Marine / Shipping
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EG-Konf.

[Miscellaneous](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



ABS



LRS

Marine / Shipping	other
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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=3RB2153-4FW2>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB2153-4FW2>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RB2153-4FW2>

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

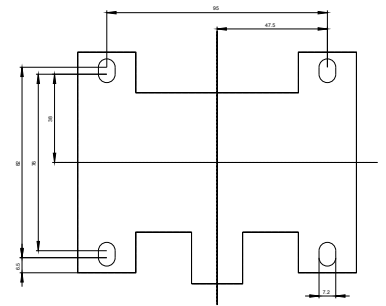
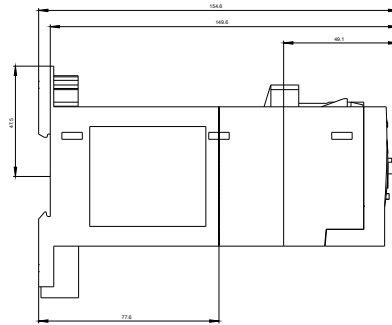
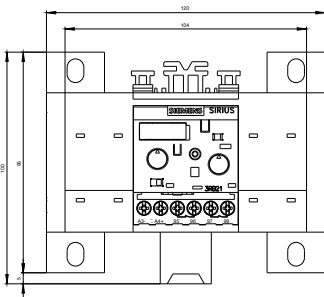
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB2153-4FW2&lang=en

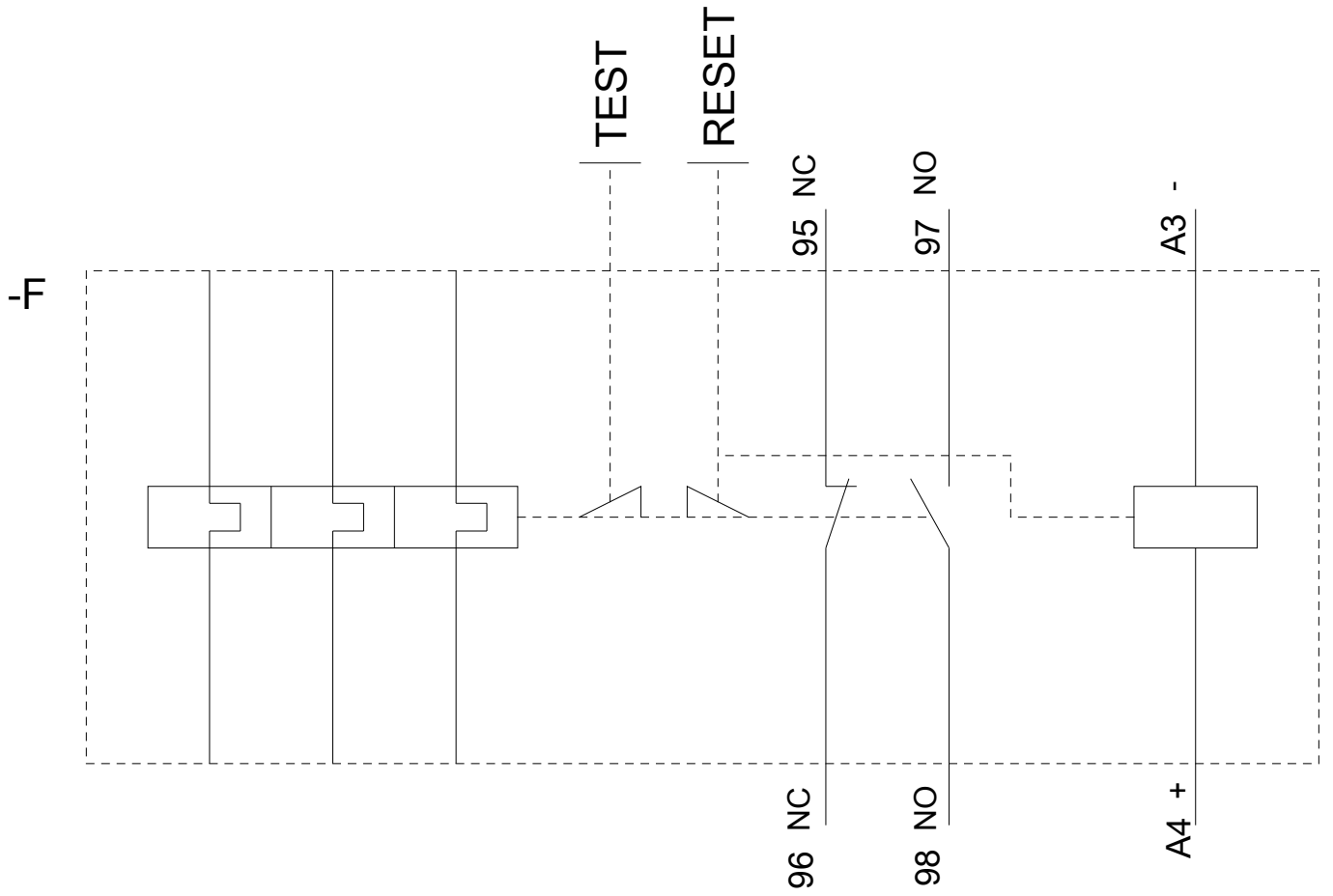
Characteristic: Tripping characteristics, I^t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RB2153-4FW2/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB2153-4FW2&objecttype=14&gridview=view1>





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