

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	• in networks with grounded 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 grounded star point between main and auxiliary circuit 600 V • in networks with grounded star point between main and auxiliary circuit 690 V
protection class IP	• on the front IP20

• of the terminal	IP20
shock resistance	15g / 11 ms
• 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	
• after overload trip with automatic reset typical	3 min
• after overload trip with remote-reset	0 min
• 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 IEC 81346-2	F

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	50 ... 200 A
operating voltage	
• rated value	1 000 V
• for remote-reset function at DC	24 V
• at AC-3 rated value maximum	1 000 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	200 A
operating power	
• for 3-phase motors at 400 V at 50 Hz	30 ... 90 kW
• for AC motors at 500 V at 50 Hz	30 ... 132 kW
• 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
• note	for contactor disconnection
number of NO contacts for auxiliary contacts	1

• note	for message "tripped"
number of CO contacts	
• for auxiliary contacts	0
operational current of auxiliary contacts at AC-15	
• at 24 V	4 A
• at 110 V	4 A
• at 120 V	4 A
• at 125 V	4 A
• at 230 V	3 A
operational current of auxiliary contacts at DC-13	
• at 24 V	2 A
• at 60 V	0.55 A
• at 110 V	0.3 A
• at 125 V	0.3 A
• 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 grounding protection minimum	$0.75 \times I_{\text{Motor}}$
response time of the grounding protection in settled state	1 000 ms
operating range of the grounding protection relating to current set value	
• minimum	$I_{\text{Motor}} > \text{lower current setting value}$
• maximum	$I_{\text{Motor}} < \text{upper current setting value} \times 3.5$

UL/CSA ratings	
full-load current (FLA) for 3-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	gG: 315 A
• for short-circuit protection of the auxiliary switch required	fuse gG: 6 A

Installation/ mounting/ dimensions	
mounting position	any
fastening method	Contactor mounting/stand-alone installation

height	119 mm
width	120 mm
depth	155 mm

Connections/ Terminals

product function removable terminal for auxiliary and control circuit	Yes
type of electrical connection - for main current circuit - for auxiliary and control circuit	straight-through transformers screw-type terminals
arrangement of electrical connectors for main current circuit	Top and bottom
- type of connectable conductor cross-sections for auxiliary contacts — solid — solid or stranded — finely stranded with core end processing - type of connectable conductor cross-sections at AWG cables for auxiliary contacts	1x (0.5 ... 4 mm ²), 2x (0.5 ... 2.5 mm ²) 1x (0,5 ... 4 mm ²), 2x (0,5 ... 2,5 mm ²) 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²) 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 - due to conductor-earth surge acc. to IEC 61000-4-5 - due to conductor-conductor surge acc. to IEC 61000-4-5 - due to high-frequency radiation acc. 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 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
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Certificates/ approvals

General Product Approval	EMC	For use in hazardous locations
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CSA



CCC



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, ...)

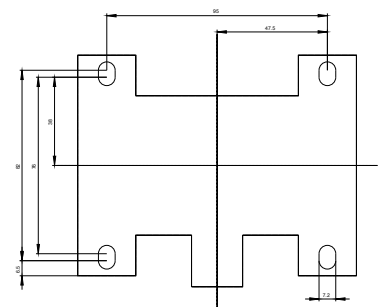
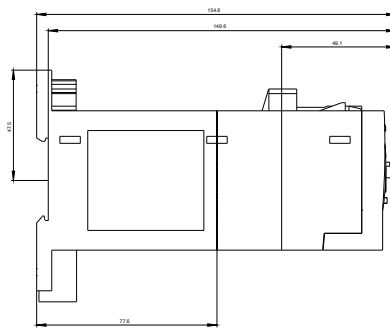
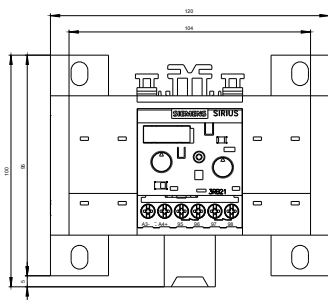
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB2153-4FW2&lang=en

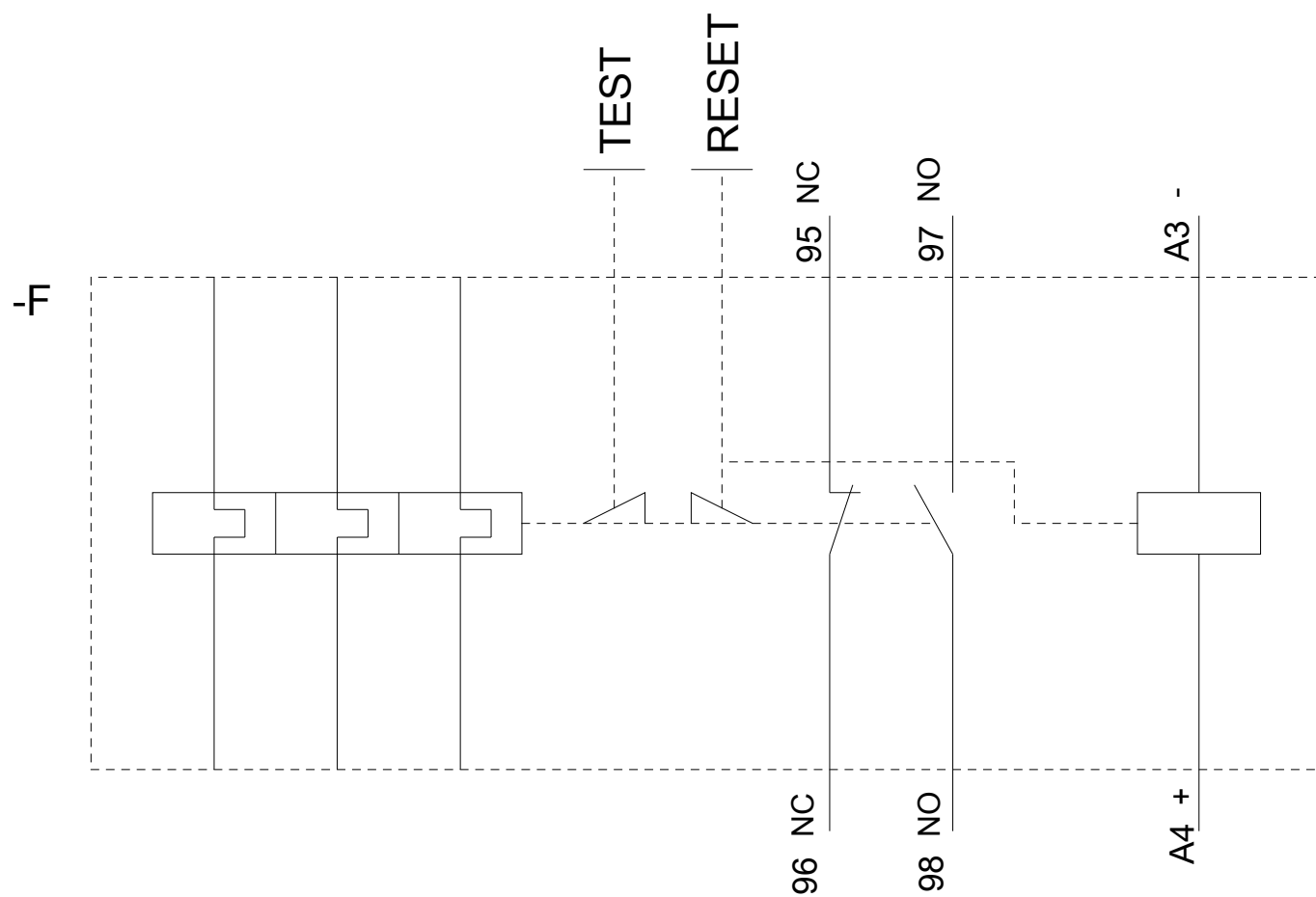
Characteristic: Tripping characteristics, I_t, Let-through current

<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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11/17/2020