



Overload relay 12.5...50 A Electronic For motor protection Size S2, Class 5E...30E Stand-alone installation Main circuit: Straight-through transformer Auxiliary circuit: Screw Manual-Automatic-Reset Internal ground fault detection

product brand name	SIRIUS
product designation	solid-state overload relay
product type designation	3RB3

General technical data

size of overload relay	S2
size of contactor can be combined company-specific	S2
power loss [W] for rated value of the current at AC in hot operating state	0.1 W
per pole	0.03 W
insulation voltage with degree of pollution 3 at AC rated value	690 V
surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation in networks with grounded star point	
- between auxiliary and auxiliary circuit - between auxiliary and auxiliary circuit - between main and auxiliary circuit - between main and auxiliary circuit	300 V 300 V 600 V 690 V
shock resistance	15g / 11 ms
according to IEC 60068-2-27	15g / 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
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 09 ATEX 3001
reference code according to IEC 81346-2	F
Substance Prohibition (Date)	10/15/2014

Ambient conditions

installation altitude at height above sea level maximum	2 000 m
ambient temperature	
- 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 current response value current of the current-dependent overload release	12.5 ... 50 A
operating voltage	
- rated value - for remote-reset function at DC	690 V 24 V

• at AC-3e rated value maximum operating frequency rated value operational current rated value operational current at AC-3e at 400 V rated value operating power • for 3-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	690 V 50 ... 60 Hz 50 A 50 A 7.5 ... 22 kW 11 ... 30 kW 11 ... 45 kW
Auxiliary circuit	
design of the auxiliary switch number of NC contacts for auxiliary contacts • note number of NO contacts for auxiliary contacts • note number of CO contacts for auxiliary contacts operational current of auxiliary contacts at AC-15 • at 24 V • at 110 V • at 120 V • at 125 V • at 230 V operational current of auxiliary contacts at DC-13 • at 24 V • at 60 V • at 110 V • at 125 V • at 220 V	integrated 1 for contactor disconnection 1 for message "tripped" 0 4 A 4 A 4 A 4 A 3 A 2 A 0.55 A 0.3 A 0.3 A 0.11 A
Protective and monitoring functions	
trip class design of the overload release response value current of the grounding protection minimum response time of the grounding protection in settled state operating range of the grounding protection relating to current set value • minimum • maximum	CLASS 5E, 10E, 20E and 30E adjustable electronic 0.75 x IMotor 1 000 ms IMotor > lower current setting value IMotor < upper current setting value x 3.5
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value contact rating of auxiliary contacts according to UL	50 A 50 A B600 / R300
Short-circuit protection	
design of the fuse link • for short-circuit protection of the main circuit — with type of coordination 1 required — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required	gG: 250 A gG: 200 A fuse gG: 6 A
Installation/ mounting/ dimensions	
mounting position fastening method height width depth	any stand-alone installation 81 mm 55 mm 109 mm
Connections/ Terminals	
product component removable terminal for auxiliary and control circuit type of electrical connection • for main current circuit • for auxiliary and control circuit arrangement of electrical connectors for main current	Yes straight-through transformers screw-type terminals Top and bottom

circuit

type of connectable conductor cross-sections for main contacts

- solid or stranded

type of connectable conductor cross-sections

- for auxiliary contacts
 - solid
 - solid or stranded
 - finely stranded with core end processing
- at AWG cables for auxiliary contacts

tightening torque

- for auxiliary contacts with screw-type terminals

design of screwdriver shaft**size of the screwdriver tip****design of the thread of the connection screw**

- of the auxiliary and control contacts

1x (1 ... 50 mm²), 2x (1 ... 35 mm²)

1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²)

1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²)

1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)

1x (20 ... 14), 2x (20 ... 14)

0.8 ... 1.2 N·m

Diameter 5 to 6 mm

Pozidriv PZ 2

M3

Safety related data

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

type of voltage supply via input/output link master

No

Electromagnetic compatibility**conducted interference**

- 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

10 V/m

field-based interference according to IEC 61000-4-3

electrostatic discharge according 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



[Confirmation](#)



For use in hazardous locations

Declaration of Conformity

Test Certificates

Marine / Shipping



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Marine / Shipping

other



[Confirmation](#)

Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

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=3RB3133-4UW1>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3133-4UW1>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3133-4UW1>

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

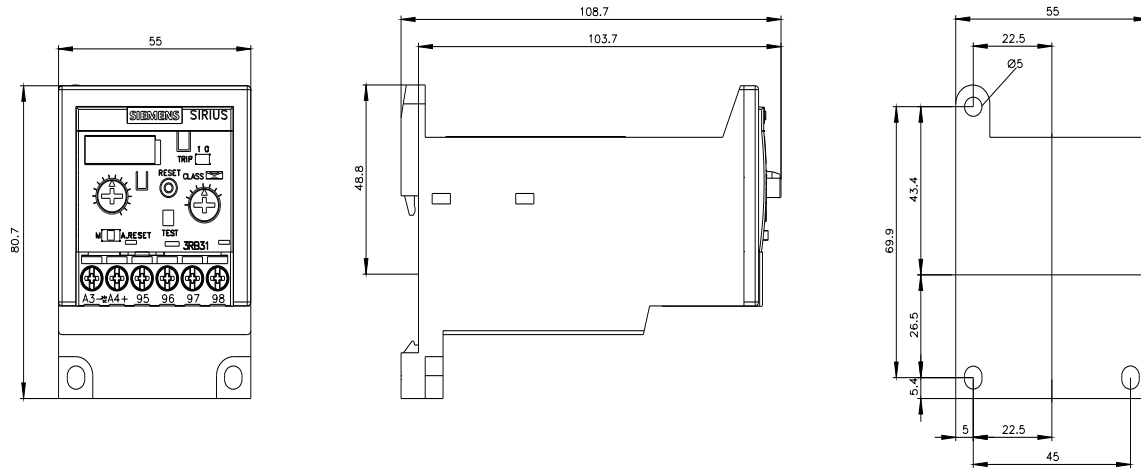
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3133-4UW1&lang=en

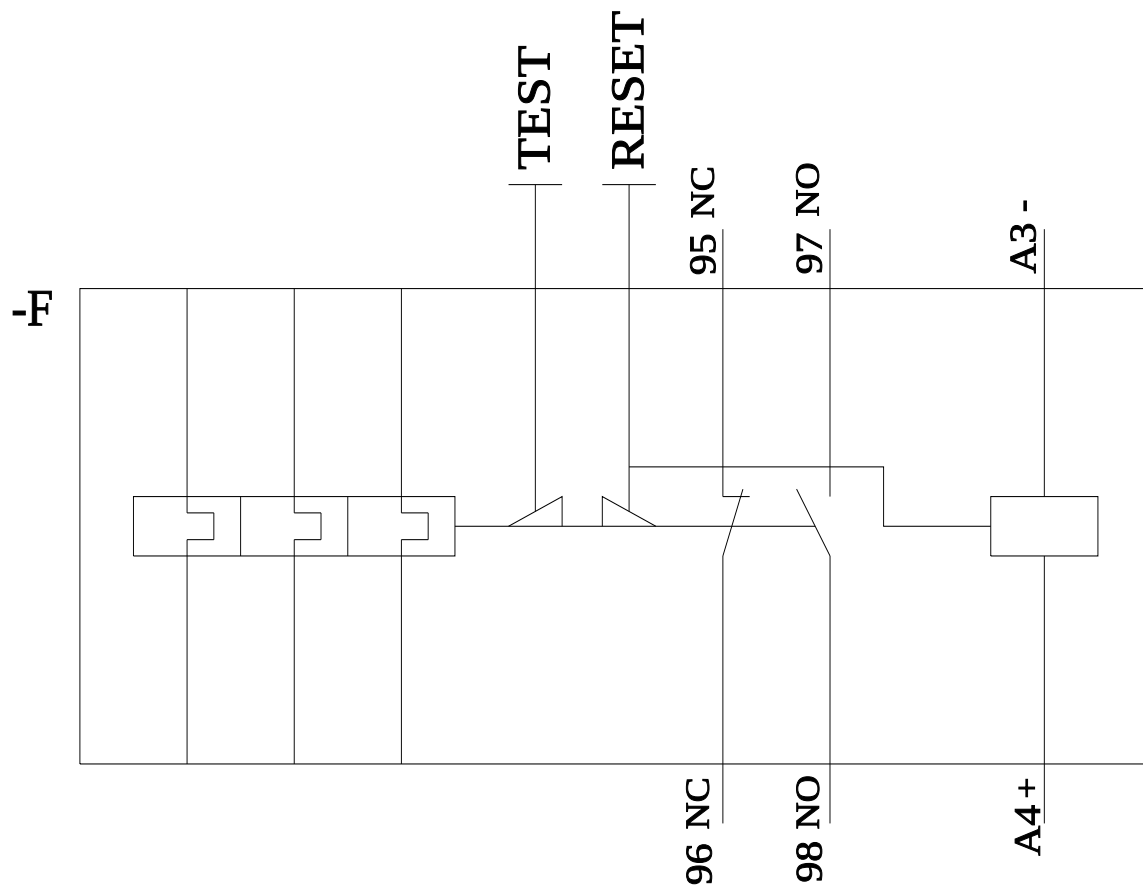
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3133-4UW1/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB3133-4UW1&objecttype=14&gridview=view1>





last modified:

2/9/2022 