

Overload relay 12.5...50 A Electronic For motor protection Size S3,
Class 20E Contactor mounting Main circuit: Screw Auxiliary circuit:
Spring-type terminal Manual-Automatic-Reset



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	0.9 W
• at AC in hot operating state per pole	0.3 W
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	IP00
Shock resistance	8g / 11 ms
acc. 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
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 09 ATEX 3001
Reference code acc. to DIN EN 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 pick-up value current of the current-dependent overload release	12.5 ... 50 A
Operating voltage	
rated value	1 000 V
at AC-3 rated value maximum	1 000 V
Operating frequency rated value	50 ... 60 Hz
Operating current rated value	50 A
Operating power	
for three-phase motors at 400 V at 50 Hz	7.5 ... 22 kW
for AC motors at 500 V at 50 Hz	11 ... 30 kW
for AC motors at 690 V at 50 Hz	11 ... 45 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
Operating 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
Operating 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 20E
Design of the overload release	electronic

UL/CSA ratings

Full-load current (FLA) for three-phase AC motor	
• at 480 V rated value	50 A
• at 600 V rated value	50 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: 200 A
— with type of assignment 2 required	gG: 200 A
• for short-circuit protection of the auxiliary switch required	fuse gG: 6 A

Installation/ mounting/ dimensions

Mounting position	any
Mounting type	Contactor mounting
Height	106 mm
Width	70 mm
Depth	124 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 current circuit	screw-type terminals spring-loaded terminals
Arrangement of electrical connectors for main current circuit	Top and bottom
Type of connectable conductor cross-sections - for main contacts — solid — stranded — single or multi-stranded — finely stranded with core end processing - at AWG conductors for main contacts	2x (2.5 ... 16 mm ²) 2x 16 mm ² 1x (2,5 ... 70 mm ²), 2x (2,5 ... 50 mm ²) 1x (2,5 ... 50 mm ²), 2x (2,5 ... 35 mm ²) 1x (10 ... 2/0), 2x (10 ... 1/0)
Type of connectable conductor cross-sections - for auxiliary contacts — solid — single or multi-stranded — finely stranded with core end processing — finely stranded without core end processing - at AWG conductors 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)
Tightening torque for main contacts with screw-type terminals	4.5 ... 6 N·m
Design of screwdriver shaft	Diameter 5 to 6 mm
Size of the screwdriver tip	Pozidriv PZ 2
Design of the thread of the connection screw for main contacts	M6

Communication/ Protocol

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

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-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
--------------------------	-----	--------------------------------



CCC



CSA



UL



RCM



ATEX

Declaration of Conformity	Test Certificates	Marine / Shipping
---------------------------	-------------------	-------------------



EG-Konf.

[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



LRS



PRS

Marine / Shipping	other
-------------------	-------



RINA



DNVGL.COM/AF

[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=3RB3046-2UD0>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3046-2UD0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3046-2UD0>

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

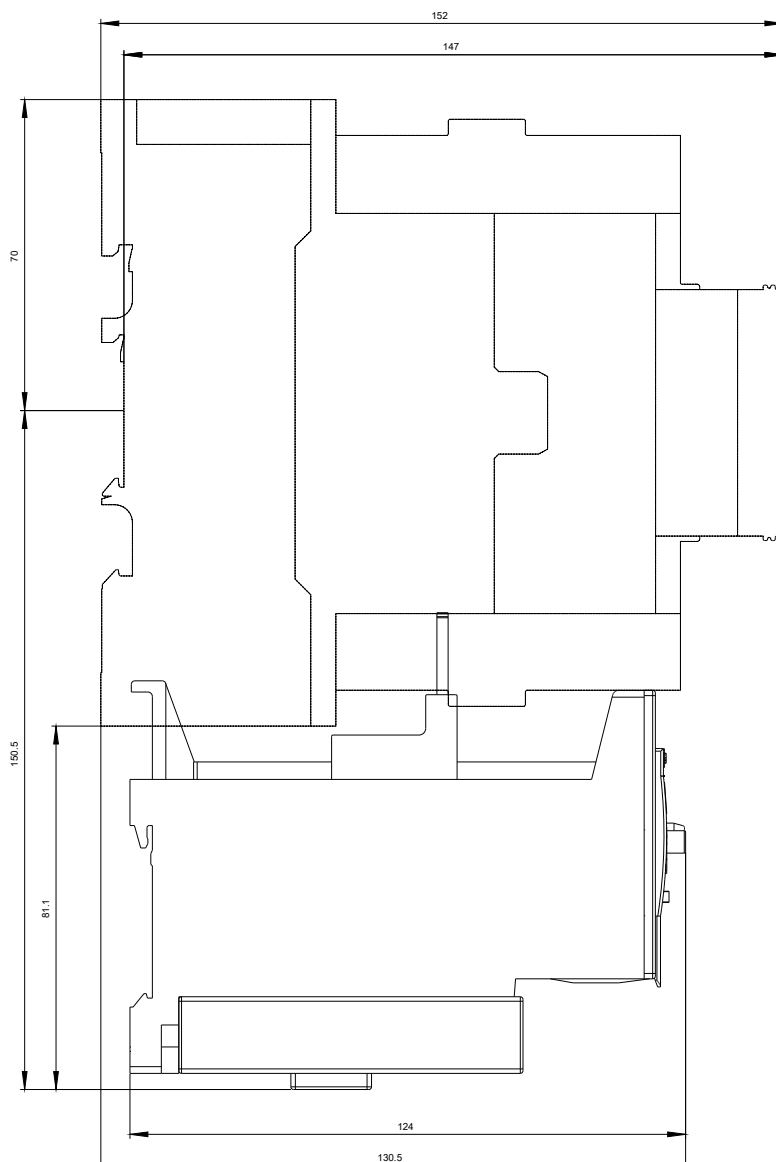
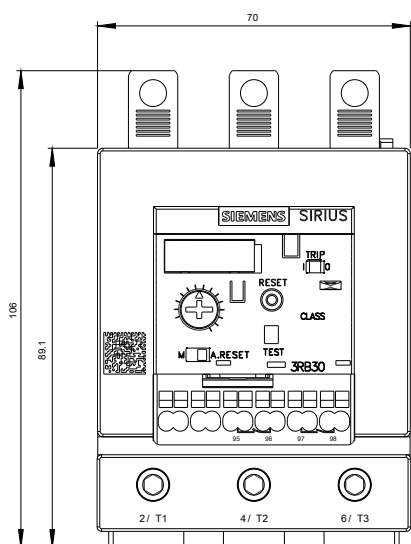
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3046-2UD0&lang=en

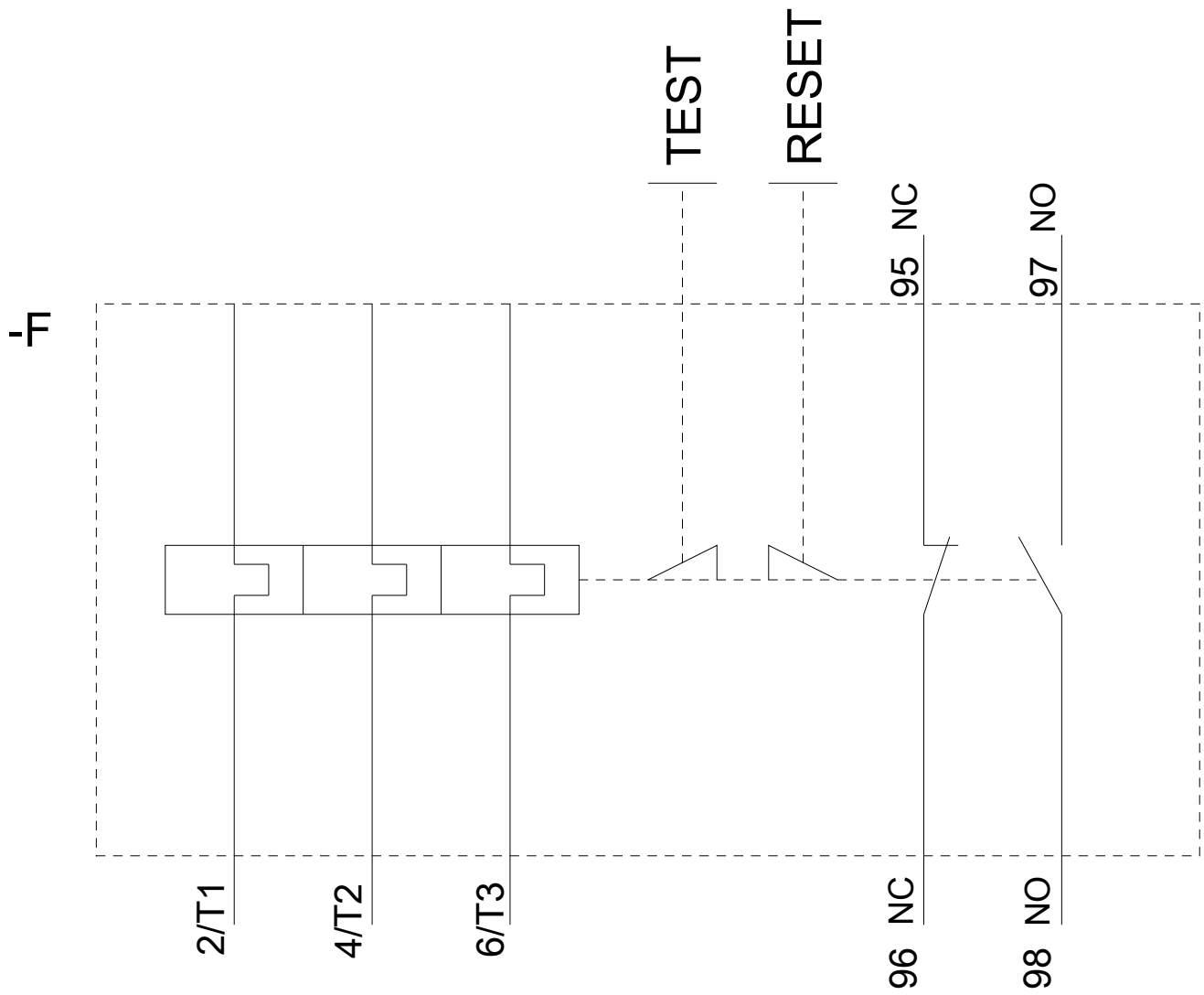
Characteristic: Tripping characteristics, I²t, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3046-2UD0/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB3046-2UD0&objecttype=14&gridview=view1>





last modified:

03/11/2020