

OVERLOAD RELAY 12,5...50 A FOR MOTOR PROTECTION SIZE S3, CLASS 20E F. MOUNTING ONTO CONTACTORS MAIN CIRCUIT: SCREW TERMINAL AUX. CIRCUIT: SPRING-T. TERM. MANUAL-AUTOMATIC RESET



Figure similar

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] total typical	0.9 W
Insulation voltage with degree of pollution 3 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
Protection class IP	
<ul style="list-style-type: none"> on the front 	IP20
<ul style="list-style-type: none"> of the terminal 	IP00
Shock resistance	8g / 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	50 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	II (2) G [Ex e] [Ex d] [Ex px] II (2) D [Ex t] [Ex p]
Certificate of suitability relating to ATEX	PTB 09 ATEX 3001
Protection against electrical shock	finger-safe when touched vertically from front acc. to IEC 60529
Equipment marking 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 	-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	60 ... -25 °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	
<ul style="list-style-type: none"> rated value 	1 000 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	50 A
Operating power for three-phase motors at 400 V at 50 Hz	7.5 ... 22 kW

Auxiliary circuit

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

Number of NO contacts	
<ul style="list-style-type: none"> • for auxiliary contacts 	1
— Note	for message "tripped"
Number of CO contacts	
<ul style="list-style-type: none"> • for auxiliary contacts 	0
Operating current of auxiliary contacts at AC-15	
<ul style="list-style-type: none"> • at 24 V 	4 A
<ul style="list-style-type: none"> • at 110 V 	4 A
<ul style="list-style-type: none"> • at 120 V 	4 A
<ul style="list-style-type: none"> • at 125 V 	4 A
<ul style="list-style-type: none"> • at 230 V 	3 A
Operating current of auxiliary contacts at DC-13	
<ul style="list-style-type: none"> • at 24 V 	2 A
<ul style="list-style-type: none"> • at 60 V 	0.55 A
<ul style="list-style-type: none"> • at 110 V 	0.3 A
<ul style="list-style-type: none"> • at 125 V 	0.3 A
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • at 480 V rated value 	50 A
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • for short-circuit protection of the auxiliary switch required 	fuse gG: 6 A

Installation/ mounting/ dimensions

Mounting position	any
Mounting type	direct mounting
Height	106 mm
Width	70 mm
Depth	124 mm
Required spacing	
<ul style="list-style-type: none"> • with side-by-side mounting 	
— forwards	0 mm

— Backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm
• for grounded parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— at the side	6 mm
— downwards	0 mm
• for live parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	6 mm

Connections/Terminals

Product function	
• removable terminal for auxiliary and control circuit	Yes
Type of electrical connection	
• for main current circuit	screw-type terminals
• 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 main contacts	
— solid	2x (2.5 ... 16 mm ²)
— stranded	2x 16 mm ²
— single or multi-stranded	1x (2,5 ... 70 mm ²), 2x (2,5 ... 50 mm ²)
— finely stranded with core end processing	1x (2,5 ... 50 mm ²), 2x (2,5 ... 35 mm ²)
• at AWG conductors for main contacts	1x (10 ... 2/0), 2x (10 ... 1/0)
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)
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 <ul style="list-style-type: none"> • for main contacts 	M6

Communication/ Protocol

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



Conducted interference <ul style="list-style-type: none"> • 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 	<p>2 kV (power ports), 1 kV (signal ports) corresponds to degree of severity 3</p> <p>2 kV (line to earth) corresponds to degree of severity 3</p> <p>1 kV (line to line) corresponds to degree of severity 3</p> <p>10 V in frequency range 0.15 to 80 MHz, modulation 80 % AM with 1 kHz</p>
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 <ul style="list-style-type: none"> • for switching status 	Slide switch
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Certificates/approvals

General Product Approval	For use in hazardous locations	Declaration of Conformity	Test Certificates
 CSA  UL  EAC	 ATEX	 EG-Konf.	Type Test Certificates/Test Report

Marine / Shipping	other
 PRS  RINA	Confirmation

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)
<http://www.siemens.com/industrial-controls/catalogs>
 Industry Mall (Online ordering system)
<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RB3046-2UD0>

Cax online generator

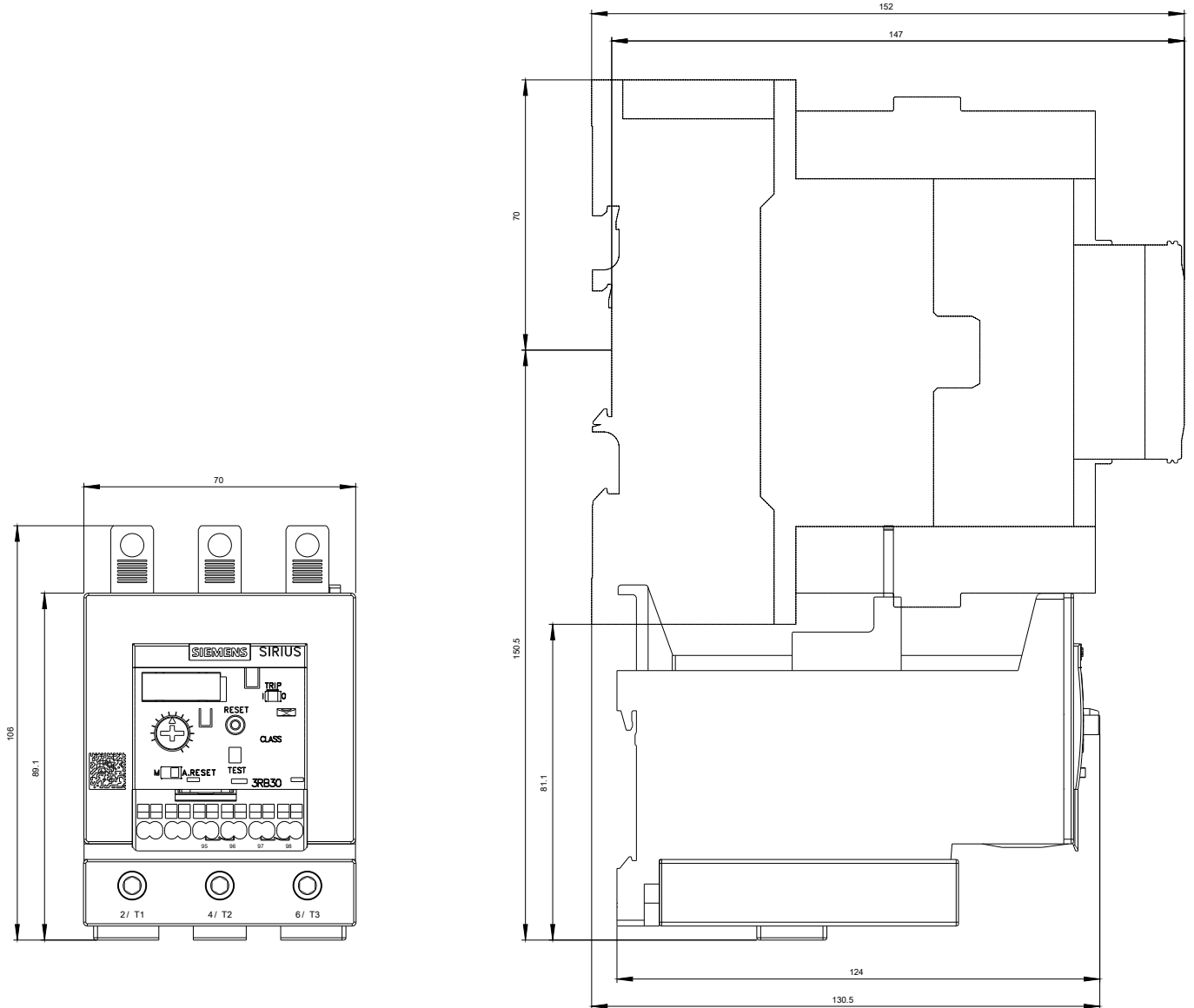
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mfb=3RB3046-2UD0>

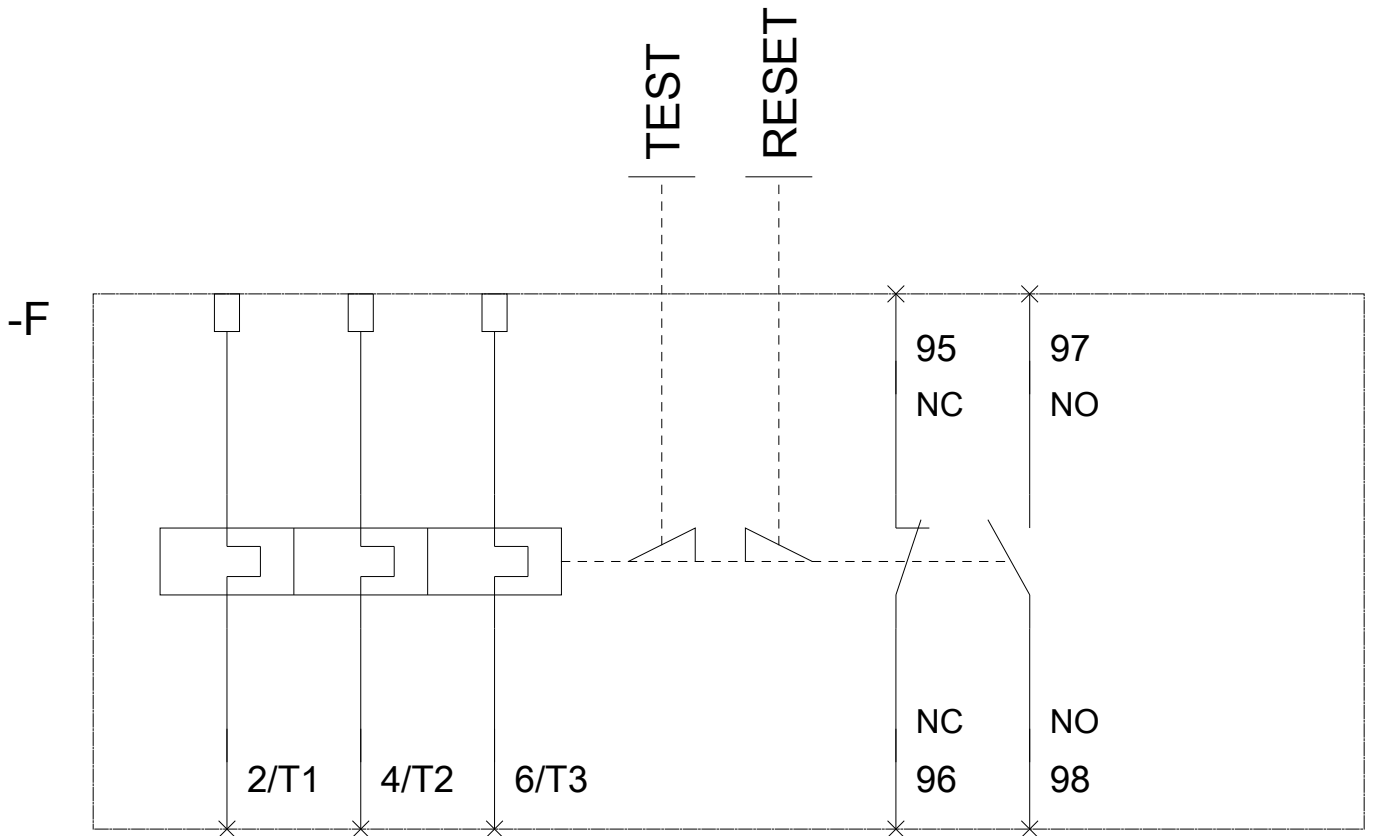
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<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?mfb=3RB3046-2UD0&lang=en





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