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Data sheet 3RB3016-1RE0

Overload relay 0.1...0.4 A Electronic For motor protection Size S00, Class 10E Contactor mounting Main circuit: Spring-type terminal 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	S00
Size of contactor can be combined company-specific	S00
Power loss [W] for rated value of the current	
• at AC in hot operating state	0.1 W
• at AC in hot operating state 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	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

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• 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; Signaling contact 97 / 98 in position "Tripped": 9g / 11 ms
Vibration resistance	1-6 Hz, 15 mm; 6-500 Hz, 20 m/s²; 10 cycles
Thermal current	0.4 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	0.1 ... 0.4 A
Operating voltage	
• rated value	690 V
• at AC-3 rated value maximum	690 V
Operating frequency rated value	50 ... 60 Hz
Operating current rated value	0.4 A
Operating power	
• for three-phase motors at 400 V at 50 Hz	0.04 ... 0.09 kW
• for AC motors at 500 V at 50 Hz	0.04 ... 0.12 kW
• for AC motors at 690 V at 50 Hz	0.06 ... 0.18 kW

Auxiliary circuit

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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 10E
Design of the overload release	electronic

UL/CSA ratings

Full-load current (FLA) for three-phase AC motor	
• at 480 V rated value	0.4 A
• at 600 V rated value	0.4 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: 35 A, RK5: 3 A
— with type of assignment 2 required	gG: 4 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	72 mm
Width	45 mm
Depth	90 mm

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Connections/ Terminals	
Product function	
• removable terminal for auxiliary and control circuit	Yes
Type of electrical connection	
• for main current circuit	spring-loaded 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	1x (0.5 ... 4 mm²)
— single or multi-stranded	1x (0,5 ... 4 mm²)
— finely stranded with core end processing	1x (0.5 ... 2.5 mm²)
— finely stranded without core end processing	1x (0.5 ... 2.5 mm²)
• at AWG conductors for main contacts	1x (20 ... 12)
Type of connectable conductor cross-sections	
• for auxiliary contacts	
— solid	2x (0.25 ... 1.5 mm²)
— single or multi-stranded	2x (0,25 ... 1,5 mm²)
— finely stranded with core end processing	2x (0.25 ... 1.5 mm²)
— finely stranded without core end processing	2x (0.25 ... 1.5 mm²)
• at AWG conductors for auxiliary contacts	1x (24 ... 16), 2x (24 ... 16)
Design of screwdriver shaft	Diameter 5 to 6 mm
Size of the screwdriver tip	Pozidriv PZ 2

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	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

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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	
	Miscellaneous	Type Test Certificates/Test Report	Special Test Certificate		
EG-Konf.				ABS	BUREAU VERITAS

Marine / Shipping					other
					Confirmation
LRS	PRS	RINA	RMRS		

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=3RB3016-1RE0

Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3016-1RE0

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RB3016-1RE0

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3016-1RE0&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3RB3016-1RE0/char

Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB3016-1RE0&objecttype=14&gridview=view1

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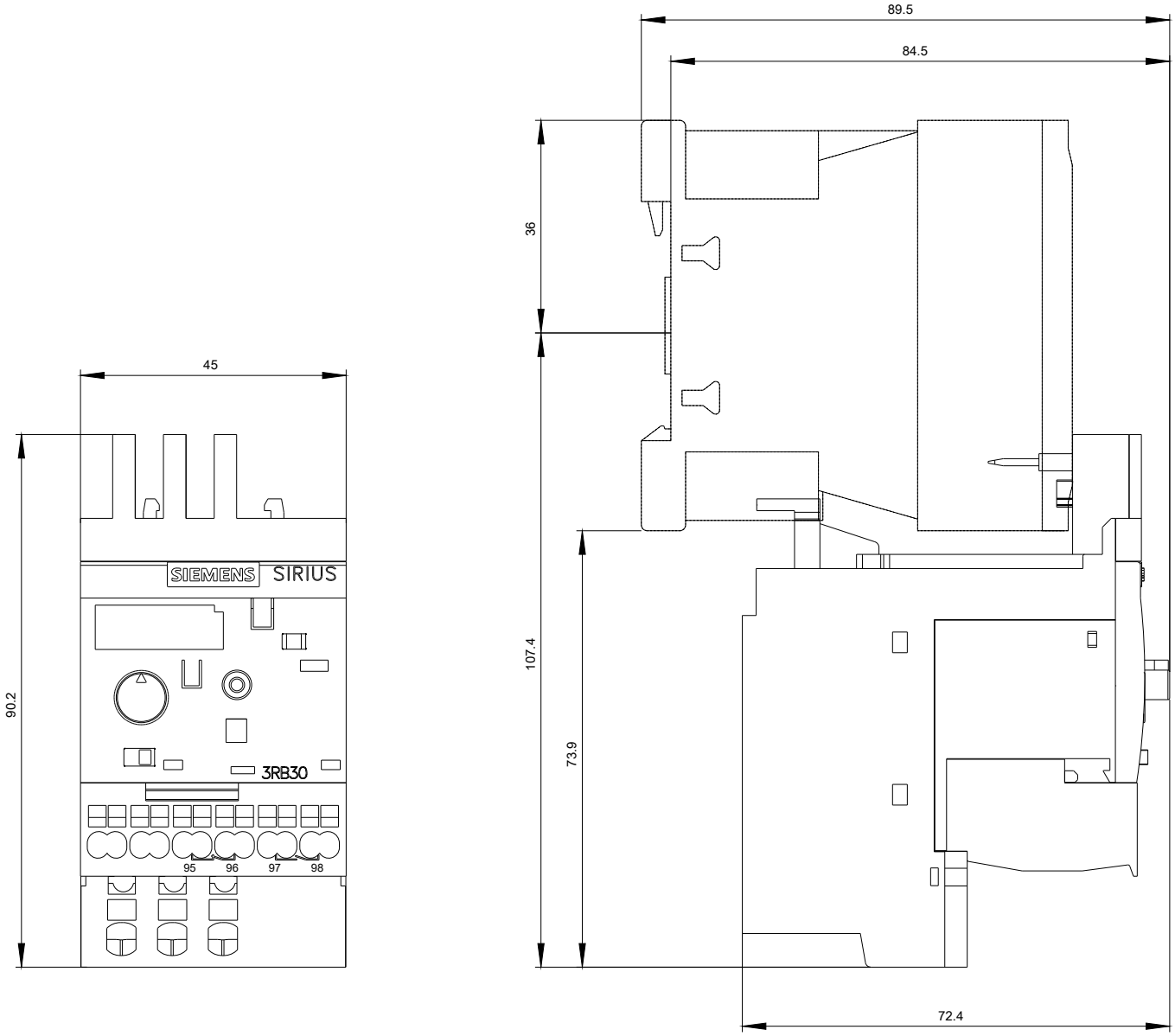

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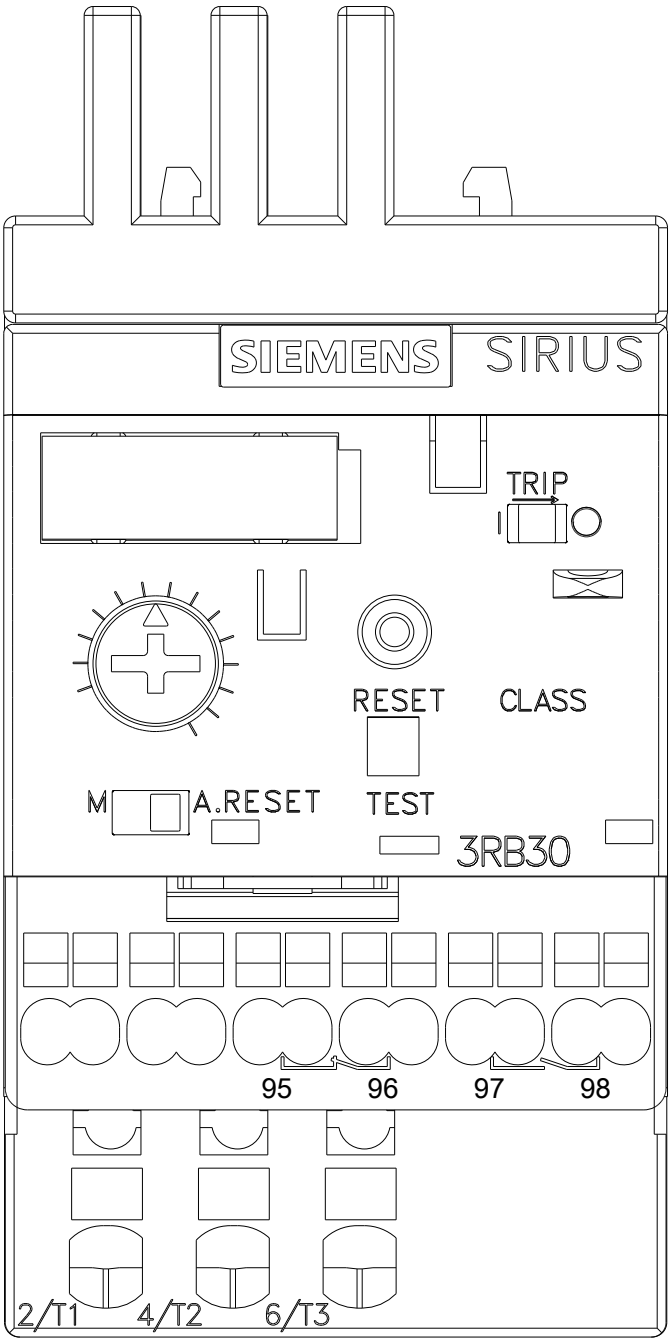

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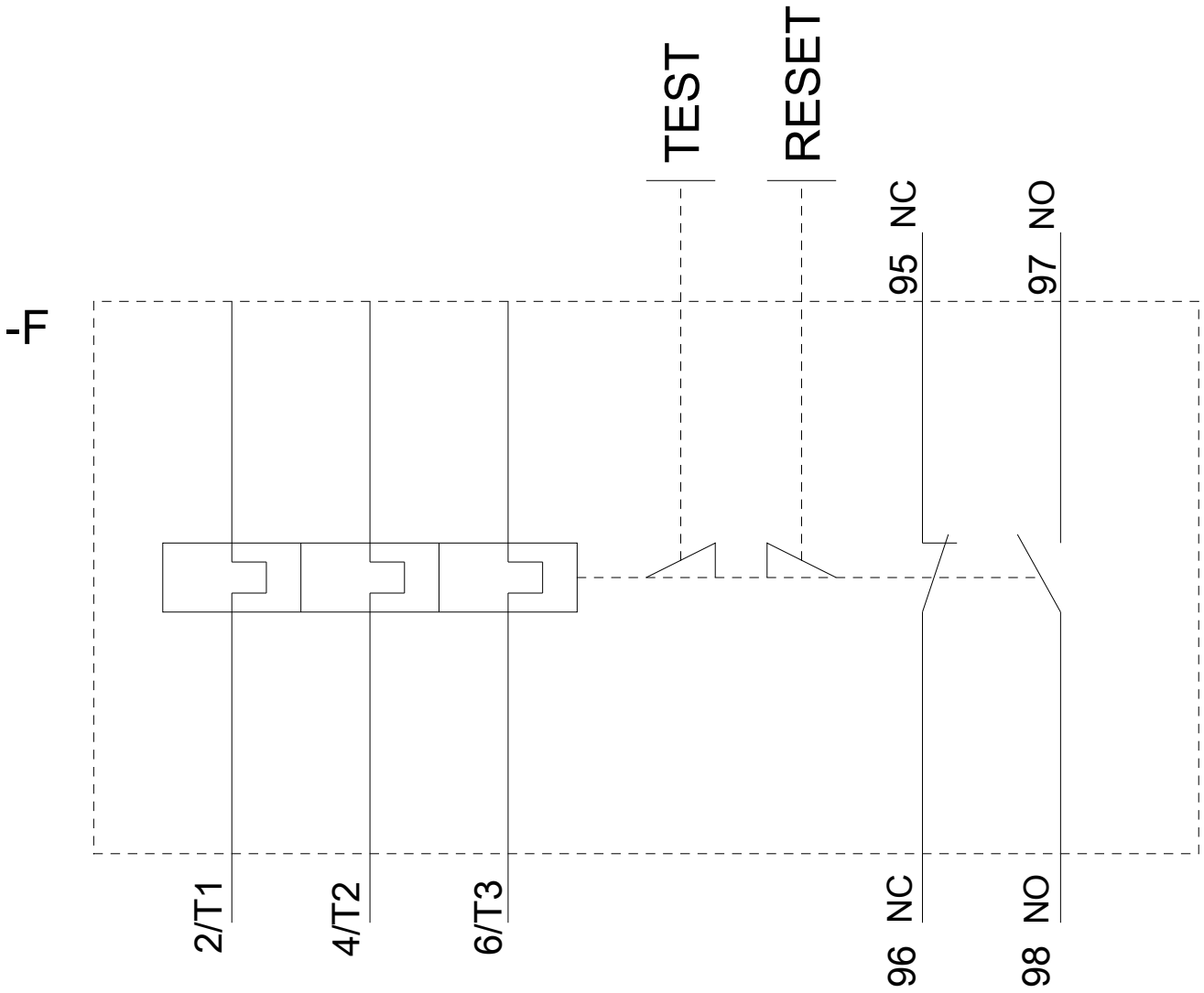

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