SIEMENS

Data sheet 3RB3016-1SB0

Overload relay 3...12 A Electronic For motor protection Size S00, Class 10E Contactor mounting Main circuit: Screw Auxiliary circuit: Screw 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	0.6 W
● per pole	0.2 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
● between auxiliary and auxiliary circuit	300 V
● between main and auxiliary circuit	600 V
● between main and auxiliary circuit	690 V
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	12 A
recovery time after overload trip	
● with automatic reset typical	3 min
● with remote-reset	0 min
● 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 IEC 81346-2	F
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
● ambient temperature during operation	-25 ... +60 °C
● ambient temperature during storage	-40 ... +80 °C
● ambient temperature 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	3 ... 12 A
● operating voltage rated value	690 V
● operating voltage at AC-3 rated value maximum	690 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	12 A
operating power	
● for 3-phase motors at 400 V at 50 Hz	1.5 ... 5.5 kW
● for AC motors at 500 V at 50 Hz	1.5 ... 5.5 kW
● for AC motors at 690 V at 50 Hz	2.2 ... 7.5 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 10E
design of the overload release	electronic
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
● at 480 V rated value	12 A
● at 600 V rated value	12 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: 50 A, RK5: 45 A
— with type of assignment 2 required	gG: 50 A, J: 45 A
● for short-circuit protection of the auxiliary switch required	fuse gG: 6 A
Installation/ mounting/ dimensions	
mounting position	any
fastening method	Contactor mounting
height	79 mm
width	45 mm
depth	73 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 circuit	screw-type 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), 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 4 mm²)
— solid or stranded	1x (0,5 ... 4 mm²), 2x (0,5 ... 1,5 mm²), 2x (0,75 ... 4 mm²)
— finely stranded with core end processing	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 2.5 mm²)
● at AWG cables for main contacts	1x (20 ... 12), 2x (20 ... 12)
type of connectable conductor cross-sections	
● for auxiliary contacts	
— solid	1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²)
— solid or stranded	1x (0,5 ... 4 mm²), 2x (0,5 ... 2,5 mm²)
— finely stranded with core end processing	1x (0.5 ... 2.5 mm²), 2x (0.5 ... 1.5 mm²)
● at AWG cables for auxiliary contacts	1x (20 ... 14), 2x (20 ... 14)
● tightening torque for main contacts with screw-type terminals	0.8 ... 1.2 N·m
● tightening torque for auxiliary contacts with screw-type terminals	0.8 ... 1.2 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	M3
● of the auxiliary and control contacts	M3
Safety related data	
protection class IP on the front acc. to IEC 60529	IP20
touch protection on the front acc. 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 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-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

Certificates/ approvals

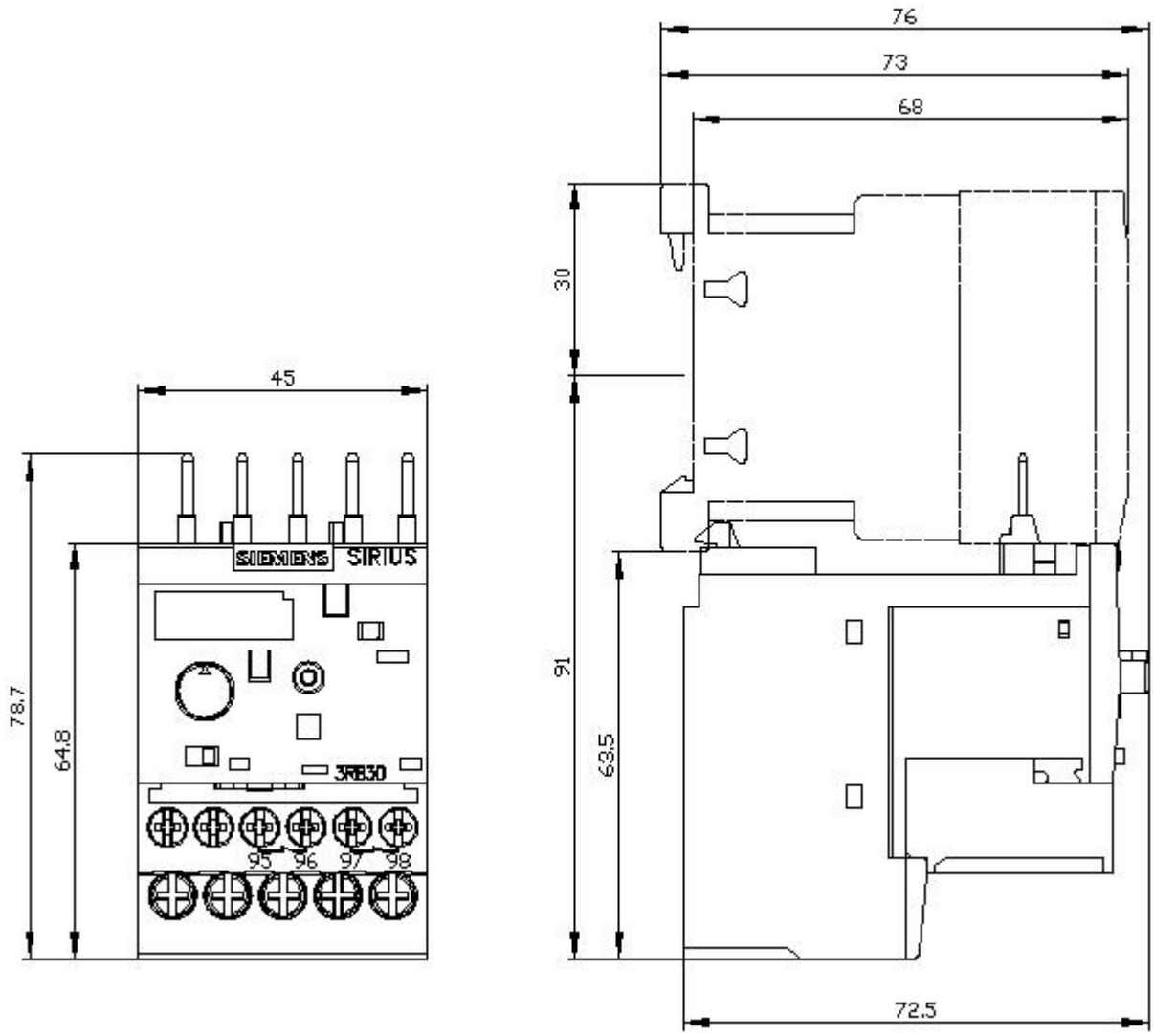
General Product Approval				EMC	For use in hazardous locations
CSA	CCC	UL	EAC	RCM	ATEX

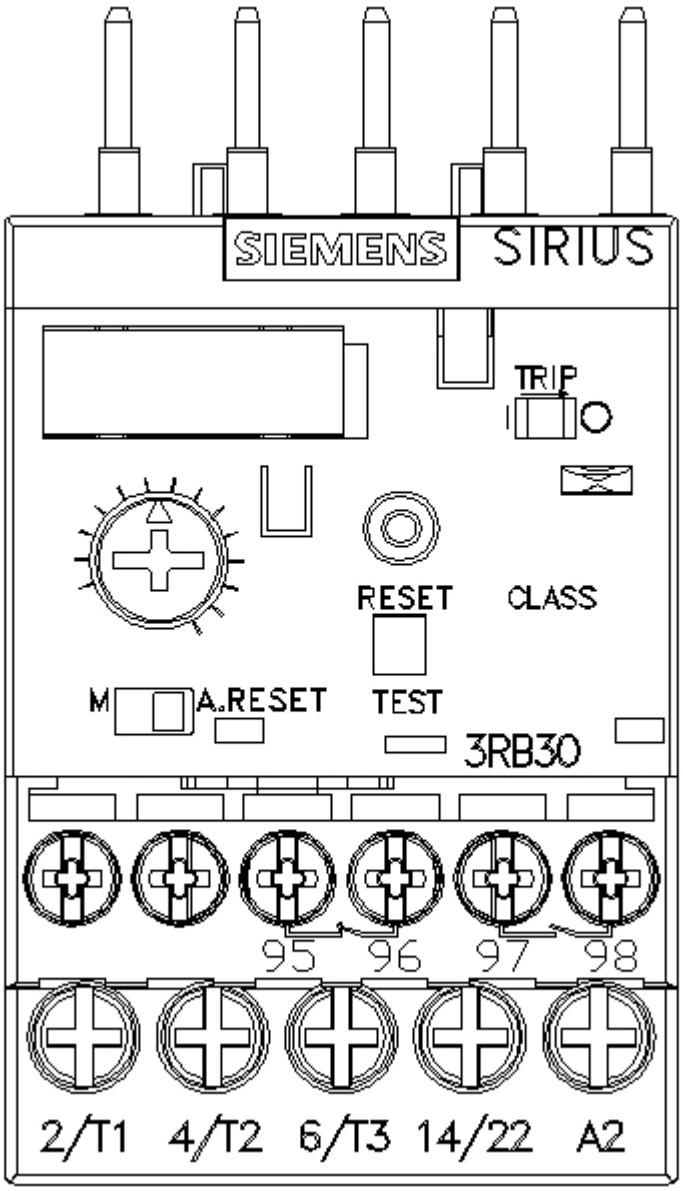
Declaration of Conformity		Test Certificates		Marine / Shipping	
Miscellaneous	EG-Konf.	Special Test Certificate	Type Test Certificates/Test Report	ABS	BUREAU VERITAS

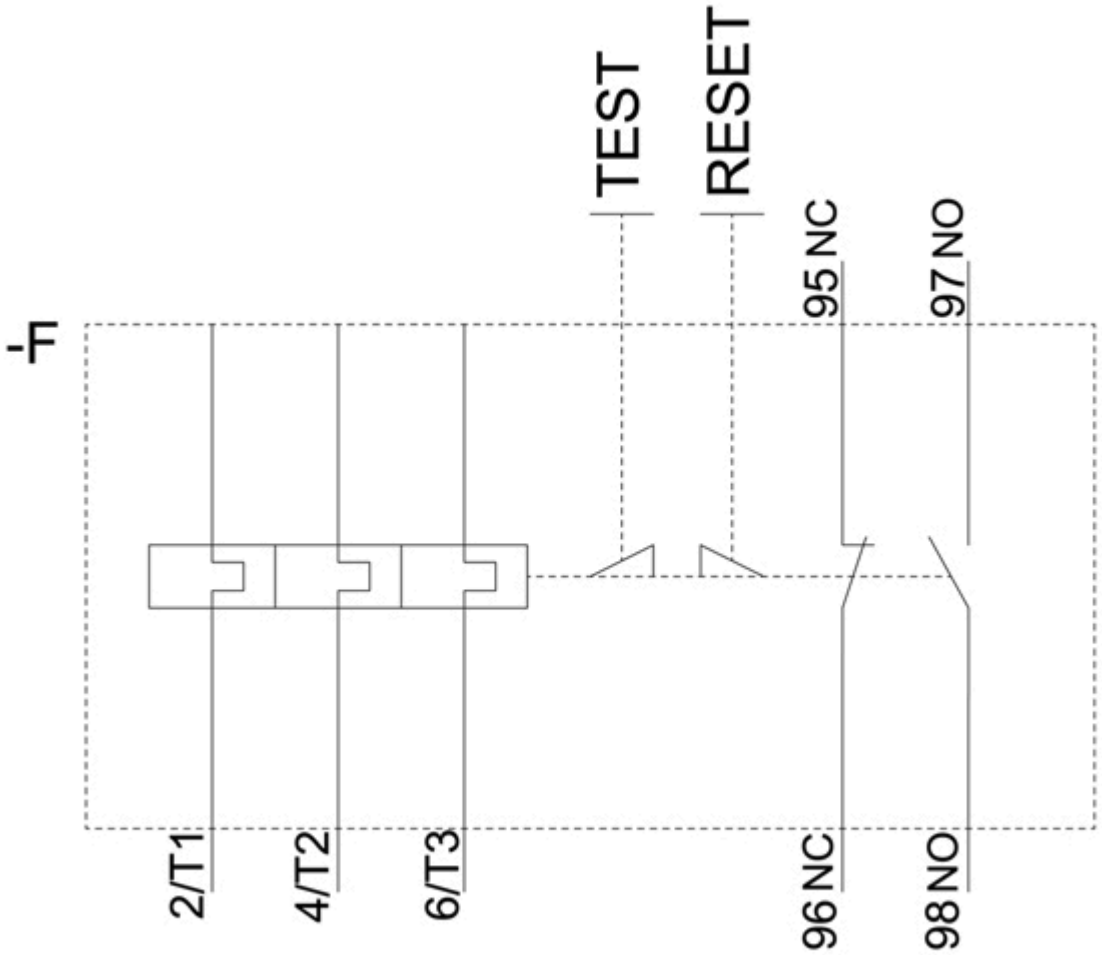
Marine / Shipping	other
LRS PRS RINA RMRS DNV·GL	Confirmation

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=3RB3016-1SB0
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3016-1SB0
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RB3016-1SB0
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3016-1SB0&lang=en
Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3RB3016-1SB0/char
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB3016-1SB0&objecttype=14&gridview=view1







last modified: 12/15/2020