SIEMENS

Data sheet 3RB3016-2NB0

Overload relay 0.32...1.25 A Electronic For motor protection Size S00, Class 20E 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

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

Protection class IP on the front Protection class IP of the terminal Protection condition of the terminal Protection district IP of the terminal Protection conditions Protection according to ATEX directive Protection conditions Protection conditio	 in networks with grounded star point between main and auxiliary circuit 	690 V
Shock resistance • acc. to IEC 60068-2-27 15g / 11 ms; Signaling contact 97 / 98 in position "Tripped": 9g / 10 contact 97 / 98 in position "Tripped": 9g / 10 contact 97 / 98 in position "Tripped": 9g / 10 contact 97 / 98 in position "Tripped": 9g / 11 ms; Signaling contact 97 / 98 in position "Tripped": 9g / 11 ms; Signaling contact 97 / 98 in position "Tripped": 9g / 11 ms; Signaling contact 97 / 98 in position 10 contact 97 / 98 in position 10 contact 97 / 98 in position "Tripped": 9g / 11 ms; Signaling contact 97 / 98 in position 10 contact 97 / 98 in in position 10 co	• protection class IP on the front	IP20
* acc. to IEC 60088-2-27 15g / 11 ms; Signaling contact 97 / 98 in position "Tripped": 9g / 11 ms 11 ms 1-6 Hz, 15 mm; 6-500 Hz, 20 m/s²; 10 cycles	Protection class IP of the terminal	IP20
Vibration resistance thermal current Recovery time • after overload trip with automatic reset typical • after overload trip with remote-reset • after overload trip with manual reset • after overload trip with remote-reset • after overload trip with manual reset • Type of protection according to ATEX directive • 2014/34/EU PTB 09 ATEX 3001 PTB 09 ATEX 3001 PTB 09 ATEX 3001 • TB 09 ATEX 3001	Shock resistance	15g / 11 ms
Thermal current Recovery time • after overload trip with automatic reset typical • after overload trip with remote-reset • after overload trip with manual reset • Drim Drim Drim Drim Drim Drim Drim Drim	• acc. to IEC 60068-2-27	
Recovery time • after overload trip with automatic reset typical • after overload trip with remote-reset • after overload trip with manual reset • after overload trip with manual reset • after overload trip with manual reset • after overload trip with manual reset • after overload trip with manual reset • after overload trip with manual reset • after overload trip with manual reset • all (2) G [Ex e] [Ex d] [Ex px] ; Ex II (2) D [Ex t] [Ex p] **PTB 09 ATEX 3001 **PTB 09 ATEX 3	Vibration resistance	1-6 Hz, 15 mm; 6-500 Hz, 20 m/s²; 10 cycles
after overload trip with automatic reset typical after overload trip with remote-reset after overload trip with manual reset Type of protection according to ATEX directive 2014/34/EU Certificate of suitability according to ATEX directive 2014/34/EU Reference code acc. to DIN EN 81346-2 F Ambient conditions Installation altitude at height above sea level amaximum and a trip operation adding storage adding storage adding transport Temperature compensation Relative humidity during operation 25 +60 °C 40 +80 °C 40 +80 °C 10 95 % Main circuit Number of poles for main current circuit adjustable pick-up value current of the current-dependent overload release Operating ourent rated value at AC-3 rated value maximum Operating ourent rated value at AC-3 rated value maximum Operating ourent rated value of or AC motors at 500 V at 50 Hz o min 0 min 0 min 0 min EX II (2) G [Ex e] [Ex d] [Ex px] ; Ex II (2) D [Ex t] [Ex p] 2x II (2) D [Ex t] [Ex p] 2x II (2) G [Ex e] [Ex d] [Ex px] ; Ex II (2) D [Ex t] [Ex p] 2x II (2) G [Ex e] [Ex d] [Ex px] ; Ex II (2) D [Ex t] [Ex px] Ex II (2) G [Ex e] [Ex d] [Ex px] ; Ex II (2) D [Ex t] [Ex px] 2x II (2) G [Ex e] [Ex d] [Ex px] ; Ex II (2) D [Ex t] [Ex px] 2x II (2) G [Ex e] [Ex d] [Ex px] ; Ex II (2) D [Ex t] [Ex px] 2x II (2) G [Ex e] [Ex d] [Ex px] ; Ex II (2) D [Ex t] [Ex px] 2x II (2) G [Ex e] [Ex d] [Ex px] ; Ex II (2) D [Ex t] [Ex px] 2x II (2) G [Ex e] [Ex d] [Ex px] ; Ex II (2) D [Ex t] [thermal current	1.25 A
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Installation altitude at height above sea level • maximum Ambient temperature • during operation • during storage • during transport -40 +80 °C • during transport -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 Operating voltage • rated value • at AC-3 rated value maximum Operating frequency rated value • at AC-3 rated value • for three-phase motors at 400 V at 50 Hz • for AC motors at 500 V at 50 Hz • for AC motors at 690 V v at 50 Hz • for AC motors at 690 V at 50 Hz	Ambient conditions	
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Number of poles for main current circuit adjustable pick-up value current of the current-dependent overload release Operating voltage • rated value • at AC-3 rated value maximum Operating frequency rated value Operating current rated value 1.25 A Operating power • for three-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 Auxiliary circuit	Main aircuit	
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Operating power • for three-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 Auxiliary circuit O.12 0.37 kW 0.12 0.55 kW	Operating frequency rated value	50 60 Hz
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for AC motors at 500 V at 50 Hz for AC motors at 690 V at 50 Hz O.12 0.55 kW O.18 0.75 kW Auxiliary circuit	Operating power	
• for AC motors at 690 V at 50 Hz 0.18 0.75 kW Auxiliary circuit	• for three-phase motors at 400 V at 50 Hz	0.12 0.37 kW
Auxiliary circuit	• for AC motors at 500 V at 50 Hz	0.12 0.55 kW
<u> </u>	• for AC motors at 690 V at 50 Hz	0.18 0.75 kW
Design of the auxiliary switch integrated	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
 Operating current of auxiliary contacts at AC-15 at 110 V 	4 A
 Operating current of auxiliary contacts at AC-15 at 120 V 	4 A
 Operating current of auxiliary contacts at AC-15 at 125 V 	4 A
 Operating current of auxiliary contacts at AC-15 at 230 V 	3 A
 operating current of auxiliary contacts at DC-13 at 24 V 	2 A
 Operating current of auxiliary contacts at DC-13 at 60 V 	0.55 A
 Operating current of auxiliary contacts at DC-13 at 110 V 	0.3 A
 operating current of auxiliary contacts at DC-13 at 125 V 	0.3 A
 Operating current of auxiliary contacts at DC-13 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	1.25 A
at 600 V rated value	1.25 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	aC. 25 A DIVE. C A
— with type of coordination 1 required	gG: 35 A, RK5: 6 A
 — with type of assignment 2 required 	gG: 6 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	79 mm
Width	45 mm
Depth	73 mm
Connections/ Terminals	
Product function	
 removable terminal for auxiliary and control 	Yes

Connections/ Terminals	
Product function	
 removable terminal for auxiliary and control circuit 	Yes
 Type of electrical connection for main current circuit 	screw-type terminals
 Type of electrical connection for auxiliary and control current 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)
— single or multi-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 conductors 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)
 single or multi-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 conductors for auxiliary contacts 	1x (20 14), 2x (20 14)
Tightening torque	
 for main contacts with screw-type terminals 	0.8 1.2 N·m
 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

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
Communication/ Protocol	

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
due to conductor conductor surge acc. to

• due to conductor-conductor surge acc. to IEC 61000-4-5

• due to high-frequency radiation acc. to IEC 61000-4-6

Field-bound parasitic coupling acc. to IEC 61000-4-3

Electrostatic discharge acc. to IEC 61000-4-2

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

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













Declaration of Conformity

Test Certificates

Marine / Shipping



Miscellaneous

Special Test Certificate

Type Test Certificates/Test Report





Marine / Shipping

other











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=3RB3016-2NB0

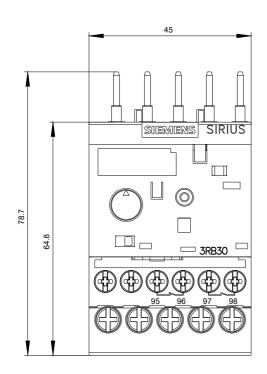
Cax online generator

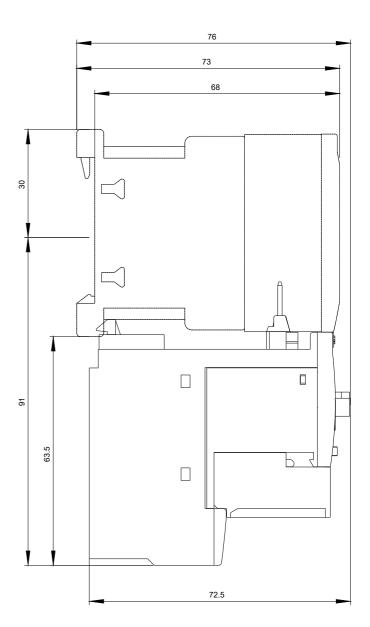
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3016-2NB0

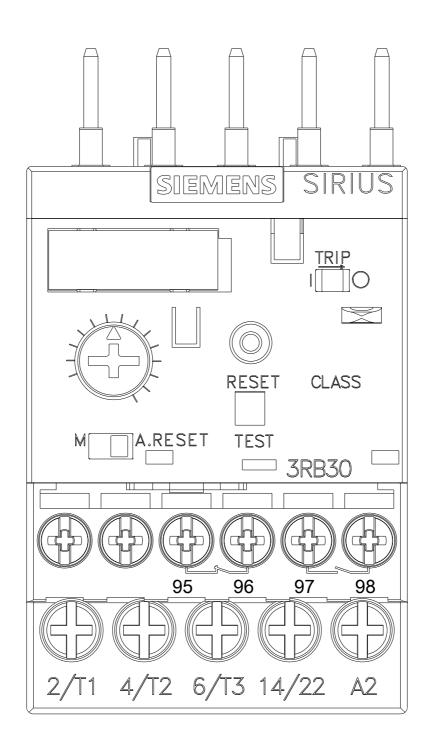
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RB3016-2NB0

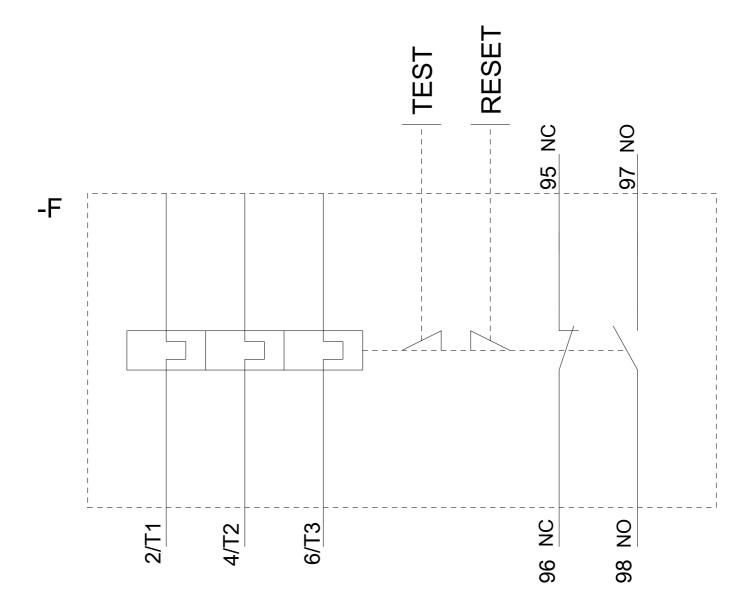
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3016-2NB0&lang=en

Characteristic: Tripping characteristics, I²t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RB3016-2NB0/char









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