SIEMENS

Data sheet

3RB3016-1RB0



Overload relay 0.1...0.4 A 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] total typical	0.1 W
Insulation voltage with degree of pollution 3 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
 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
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	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
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 %
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Main circuit	
Number of poles for main current circuit	3
Adjustable pick-up value current of the current-	0.1 0.4 A
dependent overload release	
Operating voltage	690 V
rated value et AC 2 rated value maximum	690 V
at AC-3 rated value maximum	
Operating frequency rated value	50 60 Hz 0.4 A
Operating current rated value	U.4 A
Operating power	0.04 0.09 kW
• for three-phase motors at 400 V at 50 Hz	0.04 0.12 kW
• for AC motors at 500 V at 50 Hz	
• for AC motors at 690 V at 50 Hz	0.06 0.18 kW
Auxiliary circuit	
Design of the auxiliary switch	integrated
Number of NC contacts for auxiliary contacts	1
Note	for contactor disconnection

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 	fuse gG: 6 A	
required		
Installation/ mounting/ dimensions		
Mounting position	any	
Mounting type	direct mounting	
Height	79 mm	
Width	45 mm	
Depth	73 mm	
Required spacing		
 with side-by-side mounting 		
— forwards	0 mm	
— Backwards	0 mm	
— upwards	0 mm	

- downwards0 mm- at the side0 mm- for grounded parts0 mm- forwards0 mm- Backwards0 mm- upwards0 mm- at the side6 mm- downwards0 mm- for live parts0 mm- forwards0 mm- upwards0 mm- forwards0 mm- upwards0 mm- upwards0 mm- upwards0 mm- upwards0 mm- upwards0 mm- upwards0 mm- downwards0 mm- at the side6 mm- at the side1 mm- at the side1 mm- at the side1 mm- for auxiliary and control current circuitscrew-type terminals- for auxiliary and control current circuit		
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Arrangement of electrical connectors for main current circuitTop and bottomType of connectable conductor cross-sectionsTop and bottom• for main contacts- solid- solid1x (0.5 4 mm²), 2x (0.5 1.5 mm²), 2x (0.75 4 mm²)- single or multi-stranded1x (0.5 4 mm²), 2x (0.5 1,5 mm²), 2x (0.75 4 mm²)- finely stranded with core end processing1x (0.5 4 mm²), 2x (0.5 2,5 mm²)• for auxiliary contacts1x (20 12), 2x (20 12)Type of connectable conductor cross-sections1x (0.5 4 mm²), 2x (0.5 2,5 mm²)• for auxiliary contacts1x (0.5 4 mm²), 2x (0.5 2,5 mm²)- solid1x (0.5 4 mm²), 2x (0.5 2,5 mm²)- solid1x (0.5 4 mm²), 2x (0.5 2,5 mm²)- single or multi-stranded1x (0.5 4 mm²), 2x (0.5 2,5 mm²)- single or multi-stranded1x (0.5 4 mm²), 2x (0.5 1,5 mm²)- single or multi-stranded1x (0.5 4 mm²), 2x (0.5 1,5 mm²)- finely stranded with core end processing1x (0.5 4 mm²), 2x (0.5 1,5 mm²)- finely stranded with core end processing1x (0.5 4 mm²), 2x (0.5 1,5 mm²)- finely stranded with screw-type terminals0.8 1,2 N·m• for main contacts with screw-type terminals0.8 1,2 N·m• for auxiliary contacts with screw-type terminals0.8 1,2 N·m• for auxiliary contacts with screw-type terminals0.8 1,2 N·m• for screwdriver shaftDiameter 5 to 6 mmSize of the screwdriver tipPozidriv PZ 2Design of the thread of the connection screw	 for main current circuit 	screw-type terminals
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• for main contactsIx (0.5 4 mm²), 2x (0.5 1.5 mm²), 2x (0.75 4 mm²)- solid1x (0.5 4 mm²), 2x (0.5 1,5 mm²), 2x (0.75 4 mm²)- single or multi-stranded1x (0.5 4 mm²), 2x (0.5 1,5 mm²), 2x (0,75 4 mm²)- finely stranded with core end processing1x (0.5 2.5 mm²), 2x (0.5 2.5 mm²)• at AWG conductors for main contacts1x (20 12), 2x (20 12)Type of connectable conductor cross-sections1x (0.5 4 mm²), 2x (0.5 2.5 mm²)• for auxiliary contacts1x (0.5 4 mm²), 2x (0.5 2.5 mm²)- solid1x (0.5 4 mm²), 2x (0.5 2.5 mm²)- single or multi-stranded1x (0.5 4 mm²), 2x (0.5 2.5 mm²)- finely stranded with core end processing1x (0.5 4 mm²), 2x (0.5 2.5 mm²)• finely stranded with core end processing1x (0.5 4 mm²), 2x (0.5 1.5 mm²)• finely stranded with core end processing1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)• for main contacts for auxiliary contacts1x (20 14), 2x (20 14)Tightening torque0.8 1.2 N·m• for main contacts with screw-type terminals0.8 1.2 N·m• for auxiliary contacts with screw-type terminals0.8 1.2 N·m• for the screwdriver tipPozidriv PZ 2• Design of the thread of the connection	-	Top and bottom
solid1x (0.5 4 mm²), 2x (0.5 1.5 mm²), 2x (0.75 4 mm²) single or multi-stranded1x (0,5 4 mm²), 2x (0,5 1,5 mm²), 2x (0,75 4 mm²) finely stranded with core end processing1x (0.5 2.5 mm²), 2x (0.5 2.5 mm²)- at AWG conductors for main contacts1x (20 12), 2x (20 12)Type of connectable conductor cross-sections finely stranded with core end processing1x (0.5 4 mm²), 2x (0.5 2.5 mm²)- solid1x (0.5 4 mm²), 2x (0.5 2.5 mm²)- solid1x (0.5 4 mm²), 2x (0.5 2.5 mm²)- single or multi-stranded1x (0.5 4 mm²), 2x (0.5 2.5 mm²)- finely stranded with core end processing1x (0.5 4 mm²), 2x (0.5 1.5 mm²)- finely stranded with core end processing1x (0.5 4 mm²), 2x (0.5 1.5 mm²)- finely stranded with core end processing1x (0.5 4 mm²), 2x (0.5 1.5 mm²)- finely stranded with core end processing1x (0.5 4 mm²), 2x (0.5 1.5 mm²)- finely stranded with screw-type terminals0.8 1.2 N·m- for main contacts with screw-type terminals0.8 1.2 N·m- for auxiliary contacts with screw-type terminals0.8 1.2 N·m- for screwdriver shaftDiameter 5 to 6 mmSize of the screwdriver tipPozidriv PZ 2Design of the thread of the connection screwVir PZ 2	Type of connectable conductor cross-sections	
single or multi-stranded1x (0,5 4 mm²), 2x (0,5 1,5 mm²), 2x (0,75 4 mm²) finely stranded with core end processing1x (0,5 2,5 mm²), 2x (0,5 2,5 mm²)• at AWG conductors for main contacts1x (20 12), 2x (20 12)Type of connectable conductor cross-sections-• for auxiliary contacts1x (0,5 4 mm²), 2x (0,5 2,5 mm²)- solid1x (0,5 4 mm²), 2x (0,5 2,5 mm²)- single or multi-stranded1x (0,5 4 mm²), 2x (0,5 2,5 mm²)- finely stranded with core end processing1x (0,5 4 mm²), 2x (0,5 2,5 mm²)- finely stranded with core end processing1x (0,5 4 mm²), 2x (0,5 1,5 mm²)- finely stranded with core end processing1x (20 14), 2x (20 14)• for main contacts for auxiliary contacts1x (20 14), 2x (20 14)• for main contacts with screw-type terminals0.8 1.2 N·m• for auxiliary contacts with screw-type termina	• for main contacts	
finely stranded with core end processing1x (0.5 2.5 mm²), 2x (0.5 2.5 mm²)• at AWG conductors for main contacts1x (20 12), 2x (20 12)Type of connectable conductor cross-sections	— solid	1x (0.5 4 mm²), 2x (0.5 1.5 mm²), 2x (0.75 4 mm²)
• at AWG conductors for main contacts1x (20 12), 2x (20 12)Type of connectable conductor cross-sections1x (0.5 4 mm²), 2x (0.5 2.5 mm²)• for auxiliary contacts1x (0.5 4 mm²), 2x (0.5 2.5 mm²)- single or multi-stranded1x (0.5 4 mm²), 2x (0.5 2.5 mm²)- finely stranded with core end processing1x (0.5 4 mm²), 2x (0.5 1.5 mm²)• at AWG conductors for auxiliary contacts1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)• at AWG conductors for auxiliary contacts1x (20 14), 2x (20 14)Tightening torque0.8 1.2 N·m• for main contacts with screw-type terminals0.8 1.2 N·m• for auxiliary contacts with screw-type terminals0.8 1.2 N·m• Size of the screwdriver tipPozidriv PZ 2Design of the thread of the connection screwPozidriv PZ 2	— single or multi-stranded	1x (0,5 4 mm²), 2x (0,5 1,5 mm²), 2x (0,75 4 mm²)
Type of connectable conductor cross-sections• for auxiliary contacts- solid- solid- single or multi-stranded- finely stranded with core end processing+ for auxiliary contacts for auxiliary contacts+ at AWG conductors for auxiliary contacts+ at AWG conductors for auxiliary contacts+ for main contacts with screw-type terminals+ for auxiliary contacts with screw-type terminals+ for auxiliary contacts with screw-type terminals- for auxiliary contacts <th> finely stranded with core end processing </th> <th>1x (0.5 2.5 mm²), 2x (0.5 2.5 mm²)</th>	 finely stranded with core end processing 	1x (0.5 2.5 mm²), 2x (0.5 2.5 mm²)
• for auxiliary contacts1x (0.5 4 mm²), 2x (0.5 2.5 mm²)- solid1x (0.5 4 mm²), 2x (0.5 2.5 mm²)- single or multi-stranded1x (0.5 4 mm²), 2x (0.5 2,5 mm²)- finely stranded with core end processing1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)• at AWG conductors for auxiliary contacts1x (20 14), 2x (20 14)Tightening torque• for main contacts with screw-type terminals0.8 1.2 N·m• for auxiliary contacts with screw-type terminals0.8 1.2 N·m• for auxiliary contacts with screw-type terminals0.8 1.2 N·m• Size of the screwdriver shaftDiameter 5 to 6 mmSize of the screwdriver tipPozidriv PZ 2	 at AWG conductors for main contacts 	1x (20 12), 2x (20 12)
- solid1x (0.5 4 mm²), 2x (0.5 2.5 mm²)- single or multi-stranded1x (0,5 4 mm²), 2x (0,5 2,5 mm²)- finely stranded with core end processing1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)• at AWG conductors for auxiliary contacts1x (20 14), 2x (20 14)Tightening torque-• for main contacts with screw-type terminals0.8 1.2 N·m• for auxiliary contacts with screw-type terminals0.8 1.2 N·mDesign of screwdriver shaftDiameter 5 to 6 mmSize of the screwdriver tipPozidriv PZ 2	Type of connectable conductor cross-sections	
single or multi-stranded1x (0,5 4 mm²), 2x (0,5 2,5 mm²) finely stranded with core end processing1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)• at AWG conductors for auxiliary contacts1x (20 14), 2x (20 14)Tightening torque0.8 1.2 N·m• for main contacts with screw-type terminals0.8 1.2 N·m• for auxiliary contacts with screw-type terminals0.8 1.2 N·mDesign of screwdriver shaftDiameter 5 to 6 mmSize of the screwdriver tipPozidriv PZ 2Design of the thread of the connection screwImage: Content of the screwdriver tip	 for auxiliary contacts 	
- finely stranded with core end processing • at AWG conductors for auxiliary contacts1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²) 1x (20 14), 2x (20 14)Tightening torque • for main contacts with screw-type terminals • for auxiliary contacts with screw-type terminals • for auxiliary contacts with screw-type terminals0.8 1.2 N·mDesign of screwdriver shaftDiameter 5 to 6 mmSize of the screwdriver tipPozidriv PZ 2Design of the thread of the connection screwPozidriv PZ 2	— solid	1x (0.5 4 mm²), 2x (0.5 2.5 mm²)
• at AWG conductors for auxiliary contacts1x (20 14), 2x (20 14)Tightening torque0.8 1.2 N·m• for auxiliary contacts with screw-type terminals0.8 1.2 N·m• for auxiliary contacts with sc	— single or multi-stranded	1x (0,5 4 mm²), 2x (0,5 2,5 mm²)
Tightening torque 0.8 1.2 N·m • 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 Image: Content of the connection screw	— finely stranded with core end processing	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)
• 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 Image: Content of the connection screw	 at AWG conductors for auxiliary contacts 	1x (20 14), 2x (20 14)
for auxiliary contacts with screw-type terminals Design of screwdriver shaft Diameter 5 to 6 mm Pozidriv PZ 2 Design of the thread of the connection screw	Tightening torque	
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 Pozidriv PZ 2	 for main contacts with screw-type terminals 	0.8 1.2 N·m
Size of the screwdriver tip Pozidriv PZ 2 Design of the thread of the connection screw Pozidriv PZ 2	 for auxiliary contacts with screw-type terminals 	0.8 1.2 N·m
Design of the thread of the connection screw	-	Diameter 5 to 6 mm
-	•	Pozidriv PZ 2
• for main contacts M3	-	
	• for main contacts	M3

 of the auxiliary and control contacts 	M3
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 Display version	
for switching status	Slide switch
Certificates/approvals	
General Product Approval	EMC For use in haz- ardous loca- tions
	EHE $\underbrace{\widehat{c}}_{\text{C-Tick}}$ $\underbrace{\underbrace{\widehat{c}}_{\text{XTEX}}}_{\text{ATEX}}$
Declaration of Test Certificates Conformity	Marine / Shipping
EG-Konf.	
Marine / Shipping	other
PRS RINA RMRS	
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=3RB3016-1RB0

Cax online generator

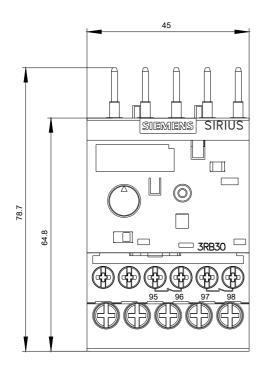
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3016-1RB0

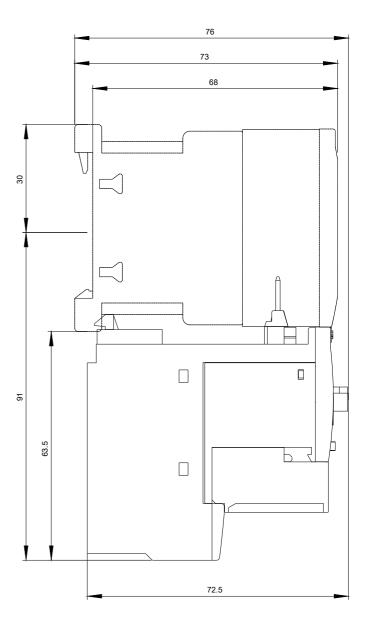
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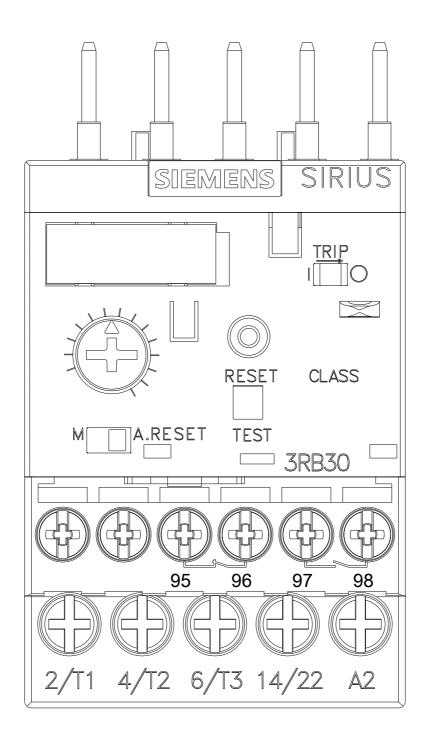
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3016-1RB0&lang=en

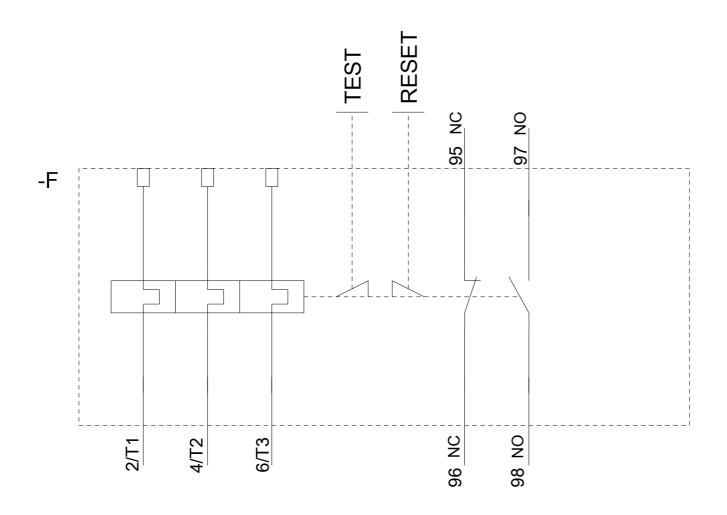
Characteristic: Tripping characteristics, I²t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RB3016-1RB0/char

Further characteristics (e.g. electrical endurance, switching frequency) http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB3016-1RB0&objecttype=14&gridview=view1









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07/16/2018

07/20/2018