



# 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			
<ul> <li>in networks with grounded star point between auxiliary and auxiliary circuit</li> </ul>	300 V		
<ul> <li>in networks with grounded star point between auxiliary and auxiliary circuit</li> </ul>	300 V		
<ul> <li>in networks with grounded star point between main and auxiliary circuit</li> </ul>	600 V		
<ul> <li>in networks with grounded star point between main and auxiliary circuit</li> </ul>	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			
<ul> <li>after overload trip with automatic reset typical</li> </ul>	3 min		
<ul> <li>after overload trip with remote-reset</li> </ul>	0 min		
<ul> <li>after overload trip with manual reset</li> </ul>	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			
Relative humidity during operation	10 95 %		
· · · ·			
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 movimum			
at AC-3 rated value maximum	690 V		
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			
• 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			
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			
<ul> <li>for auxiliary contacts</li> </ul>	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			
<ul> <li>for short-circuit protection of the main circuit</li> </ul>			
— with type of coordination 1 required	gG: 35 A, RK5: 3 A		
— with type of assignment 2 required	gG: 4 A		
<ul> <li>for short-circuit protection of the auxiliary switch</li> </ul>	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			
<ul> <li>with side-by-side mounting</li> </ul>			
— 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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	— at the side	0 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       screw-type terminals         • for auxiliary and control current circuit       screw-type terminals         Arrangement of electrical connectors for main current circuit       Top and bottom         • for main contacts       • for main contacts         • solid       1x (0.5 4 mm²), 2x (0.5 1.5 mm²), 2x (0.75 4 mm²)         - 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)         - 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 2.5 mm²)         - solid       1x (0.5 4 mm²), 2x (0.5 2.5 mm²)         - solid       1x (0.5 4 mm²), 2x (0.5 2.5 mm²)         - solid       1x (0.5 4 mm²), 2x (0.5 1.5 mm²)         - solid       1x (0.5 4 mm²), 2x (0.5 1.5 mm²)         - solid       1x (0.5 4 mm²), 2x (0.5 1.5 mm²)         - solid       1x (0.5 4 mm²), 2x (0.5 1.5 mm²)         - solid       1x (0.5 4 mm²), 2x (0.5 1.5 mm²)         - solid	— downwards	0 mm				
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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	<ul> <li>for main current circuit</li> </ul>	screw-type terminals				
circuitiType of connectable conductor cross-sections• for main contacts- 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)- 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 4 mm²), 2x (0.5 1.5 mm²)- finely stranded with core end processing1x (20 14), 2x (20 14)Tightening torque0.8 1.2 N·m• for main 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 screw1	<ul> <li>for auxiliary and control current circuit</li> </ul>					
• 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><ul> <li>finely stranded with core end processing</li> </ul></th> <th colspan="3">1x (0.5 2.5 mm²), 2x (0.5 2.5 mm²)</th>	<ul> <li>finely stranded with core end processing</li> </ul>	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	<ul> <li>at AWG conductors for main contacts</li> </ul>	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					
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- 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	<ul> <li>at AWG conductors for auxiliary contacts</li> </ul>	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	<ul> <li>for main contacts with screw-type terminals</li> </ul>	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	<ul> <li>for auxiliary contacts with screw-type terminals</li> </ul>	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				

<ul> <li>of the auxiliary and co</li> </ul>	ntrol contacts	M3					
Communication/ Protocol	Communication/ Protocol						
Type of voltage supply via in	nput/output link master	No					
Electromagnetic compatib	ilitv						
Conducted interference	5						
• due to burst acc. to IE	• due to burst acc. to IEC 61000-4-4		2 kV (power ports), 1 kV (signal ports) corresponds to degree of severity 3				
<ul> <li>due to conductor-earth</li> <li>61000-4-5</li> </ul>	• due to conductor-earth surge acc. to IEC 61000-4-5		2 kV (line to earth) corresponds to degree of severity 3				
<ul> <li>due to conductor-cond 61000-4-5</li> </ul>	<ul> <li>due to conductor-conductor surge acc. to IEC 61000-4-5</li> </ul>		1 kV (line to line) corresponds to degree of severity 3				
<ul> <li>due to high-frequency 61000-4-6</li> </ul>	radiation acc. to IEC	10 V in frequency rang with 1 kHz	10 V in frequency range 0.15 to 80 MHz, modulation 80 % AM with 1 kHz				
Field-bound parasitic coupli	ng acc. to IEC 61000-4-3	10 V/m					
Electrostatic discharge acc.	to IEC 61000-4-2	6 kV contact discharge	e / 8 kV air discharge				
Display							
Display version							
<ul> <li>for switching status</li> </ul>		Slide switch					
Contificates / ana revela							
Certificates/approvals	wol		EMC	For use in			
General Product Appro	, vai		EMC	hazardous			
				locations			
		rnr					
$(\mathbf{m})$	₽ ( <sup>V</sup> L)	FHI		(Ex)			
CCC CS	GA UL	LIIL	C-Tick	ATEX			
Declaration of Test	Cortificatos	Marine / Shin	ving				
Conformity			Marine / Shipping				
CE <u>Cert</u>	ype Test Special T ificates/Test Certifica Report			Lloyd's Register			
EG-Konf.		ABS	VERITAS	LRS			
Marine / Shipping			other				
Real Real		* PRROVED PROD	Confirmation				
PRS RI	NA RMRS	DNVGL.COM/AF					
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

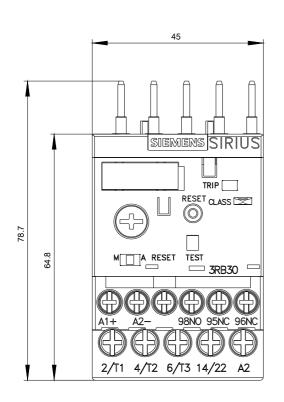
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3016-1RB0

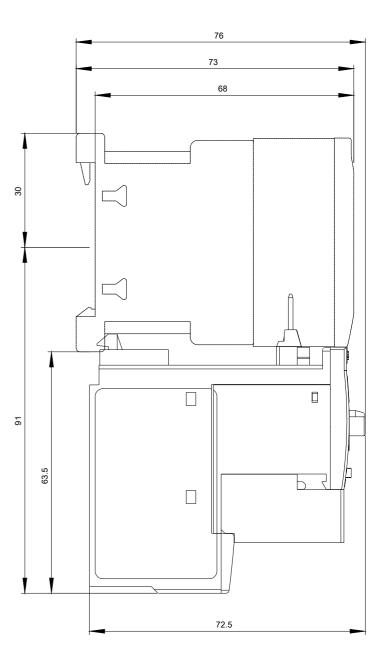
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3RB3016-1RB0

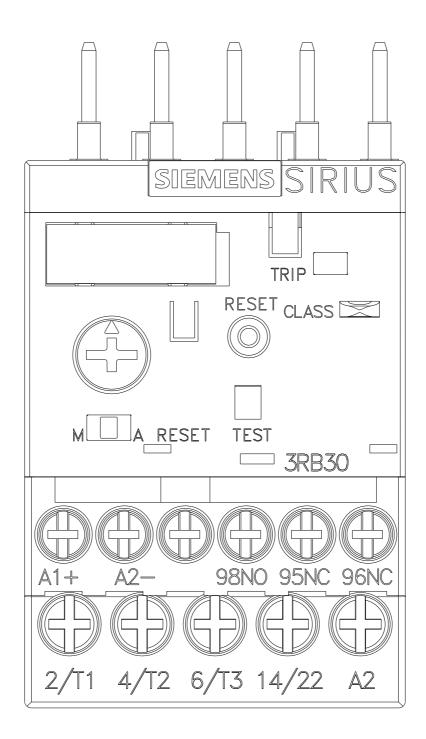
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RB3016-1RB0&lang=en

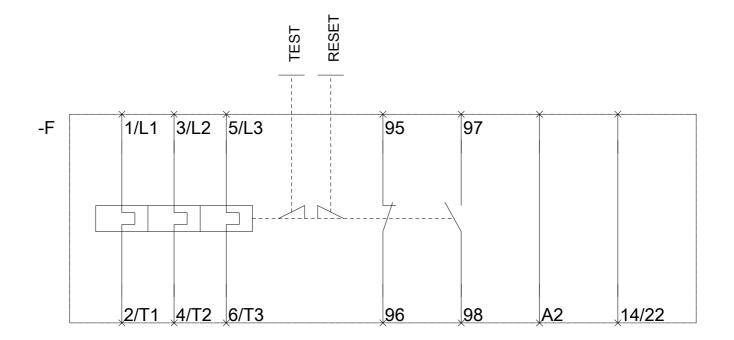
Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current https://support.industry.siemens.com/cs/ww/en/ps/3RB3016-1RB0/char

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









last modified:

05/25/2018