

Overload relay 20...80 A Electronic For motor protection Size S2,
Class 20E Stand-alone installation Main circuit: Straight-through
transformer 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	S2
Size of contactor can be combined company-specific	S2
Power loss [W] for rated value of the current	
• at AC in hot operating state	0.2 W
• at AC in hot operating state per pole	0.07 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

<ul style="list-style-type: none"> • in networks with grounded star point between main and auxiliary circuit 	690 V
Protection class IP	
<ul style="list-style-type: none"> • on the front 	IP20
<ul style="list-style-type: none"> • of the terminal 	IP20
Shock resistance	15g / 11 ms
<ul style="list-style-type: none"> • acc. to IEC 60068-2-27 	15g / 11 ms; Signaling contact 97 / 98 in position "Tripped": 8g / 11 ms
Vibration resistance	1-6 Hz, 15 mm; 6-500 Hz, 20 m/s ² ; 10 cycles
Thermal current	80 A
Recovery time	
<ul style="list-style-type: none"> • after overload trip with automatic reset typical 	3 min
<ul style="list-style-type: none"> • after overload trip with remote-reset 	0 min
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • maximum 	2 000 m
Ambient temperature	
<ul style="list-style-type: none"> • during operation 	-25 ... +60 °C
<ul style="list-style-type: none"> • during storage 	-40 ... +80 °C
<ul style="list-style-type: none"> • 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	20 ... 80 A
Operating voltage	
<ul style="list-style-type: none"> • rated value 	690 V
<ul style="list-style-type: none"> • at AC-3 rated value maximum 	690 V
Operating frequency rated value	50 ... 60 Hz
Operating current rated value	80 A
Operating power	
<ul style="list-style-type: none"> • for three-phase motors at 400 V at 50 Hz 	11 ... 37 kW
<ul style="list-style-type: none"> • for AC motors at 500 V at 50 Hz 	15 ... 55 kW
<ul style="list-style-type: none"> • for AC motors at 690 V at 50 Hz 	18.5 ... 75 kW

Auxiliary circuit

Design of the auxiliary switch	integrated
Number of NC contacts for auxiliary contacts • Note	1 for contactor disconnection
Number of NO contacts for auxiliary contacts • Note	1 for message "tripped"
Number of CO contacts • for auxiliary contacts	0
Operating current of auxiliary contacts at AC-15 • at 24 V • at 110 V • at 120 V • at 125 V • at 230 V	4 A 4 A 4 A 4 A 3 A
Operating current of auxiliary contacts at DC-13 • at 24 V • at 60 V • at 110 V • at 125 V • at 220 V	2 A 0.55 A 0.3 A 0.3 A 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 • at 600 V rated value	80 A 80 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 — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required	gG: 250 A, RK5: 300 A gG: 250 A fuse gG: 6 A
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Installation/ mounting/ dimensions

Mounting position	any
Mounting type	stand-alone installation
Height	81 mm
Width	55 mm
Depth	109 mm

Connections/ Terminals

Product function <ul style="list-style-type: none"> removable terminal for auxiliary and control circuit 	Yes
Type of electrical connection <ul style="list-style-type: none"> for main current circuit for auxiliary and control current circuit 	straight-through transformers screw-type terminals
Arrangement of electrical connectors for main current circuit	Top and bottom
Type of connectable conductor cross-sections <ul style="list-style-type: none"> for main contacts <ul style="list-style-type: none"> single or multi-stranded 	1x (1 ... 50 mm ²), 2x (1 ... 35 mm ²)
Type of connectable conductor cross-sections <ul style="list-style-type: none"> for auxiliary contacts <ul style="list-style-type: none"> solid single or multi-stranded finely stranded with core end processing at AWG conductors for auxiliary contacts 	1x (0.5 ... 4 mm ²), 2x (0.5 ... 2.5 mm ²) 1x (0,5 ... 4 mm ²), 2x (0,5 ... 2,5 mm ²) 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²) 1x (20 ... 14), 2x (20 ... 14)
Tightening torque <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> of the auxiliary and control contacts 	M3

Communication/ Protocol

Type of voltage supply via input/output link master	No
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Electromagnetic compatibility

Conducted interference <ul style="list-style-type: none"> due to burst acc. to IEC 61000-4-4 due to conductor-earth surge acc. to IEC 61000-4-5 due to conductor-conductor surge acc. to IEC 61000-4-5 due to high-frequency radiation acc. to IEC 61000-4-6 	2 kV (power ports), 1 kV (signal ports) corresponds to degree of severity 3 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
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 <ul style="list-style-type: none"> for switching status 	Slide switch
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Certificates/ approvals

General Product Approval	EMC	For use in hazardous locations
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CCC



CSA



UL



RCM



ATEX

Declaration of Conformity	Test Certificates	Marine / Shipping
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EG-Konf.

[Miscellaneous](#)

[Type Test Certificates/Test Report](#)

[Special Test Certificate](#)



ABS



LRS

Marine / Shipping	other
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PRS



RINA



RMRS



DNVGL.COM/AF

[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=3RB3036-2WW1>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3036-2WW1>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3036-2WW1>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

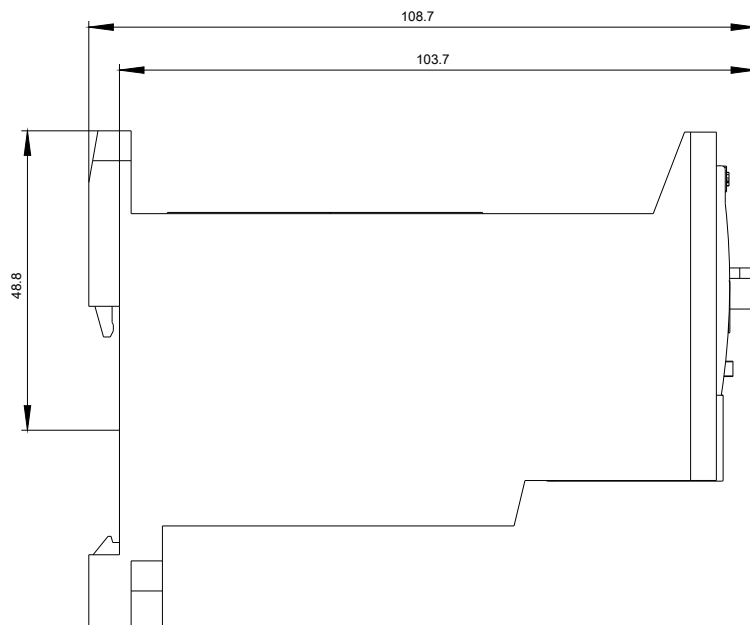
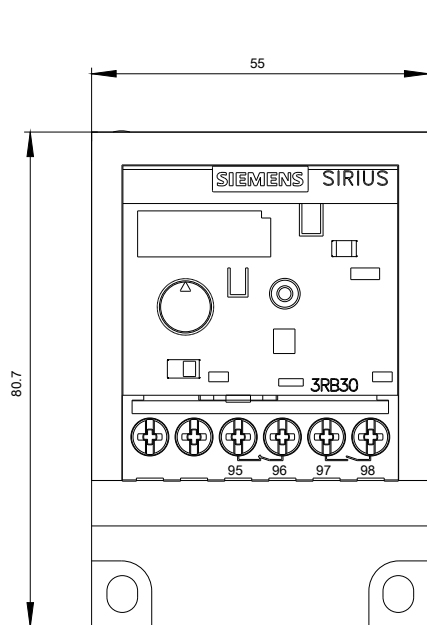
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3036-2WW1&lang=en

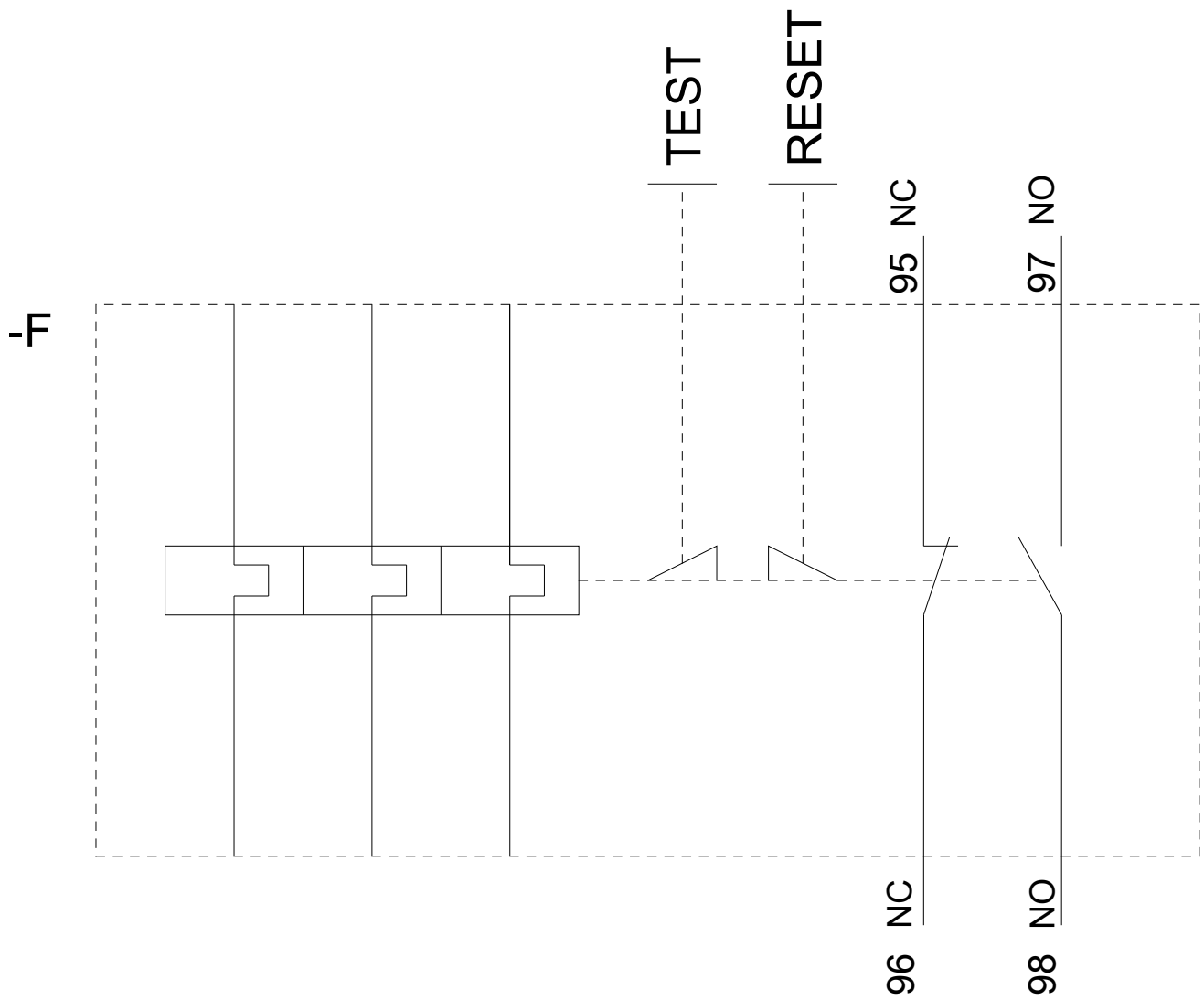
Characteristic: Tripping characteristics, I_{Δt}, Let-through current

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3036-2WW1/char>

Further characteristics (e.g. electrical endurance, switching frequency)

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB3036-2WW1&objecttype=14&gridview=view1>





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