

Overload relay 50...200 A for motor protection Size S6, Class 20E Contactor mounting/stand-alone installation Main circuit: busbar connection Auxiliary circuit: Screw terminal Manual-Automatic-Reset



product brand name	SIRIUS
product designation	solid-state overload relay
product type designation	3RB2
General technical data	
size of overload relay	S6
size of contactor can be combined company-specific	S6
type of calculation of power loss current-dependent	quadratic
insulation voltage with degree of pollution 3 at AC rated value	1 000 V
surge voltage resistance rated value	8 kV
maximum permissible voltage for protective separation	
<ul style="list-style-type: none"> in networks with ungrounded star point between auxiliary and auxiliary circuit 	300 V
<ul style="list-style-type: none"> in networks with grounded star point between auxiliary and auxiliary circuit 	300 V
<ul style="list-style-type: none"> in networks with ungrounded 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
shock resistance	15 g / 11 ms
<ul style="list-style-type: none"> according to IEC 60068-2-27 	15 g / 11 ms
vibration resistance	1 ... 6 Hz, 15 mm; 6 ... 500 Hz, 20 m/s ² ; 10 cycles
thermal current	200 A
recovery time after overload trip	
<ul style="list-style-type: none"> with automatic reset typical 	3 min
<ul style="list-style-type: none"> with remote-reset 	0 min
<ul style="list-style-type: none"> with manual reset 	0 min
reference code according to IEC 81346-2	F
Substance Prohibitance (day/month/year)	07/01/2006
SVHC substance name	Lead CAS-No. 7439-92-1 Lead monoxide (lead oxide) CAS-No. 1317-36-8 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol CAS-No. 119-47-1
Net Weight	1.045 kg
Ambient conditions	
installation altitude at height above sea level 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 current response value current of the current-dependent overload release	50 ... 200 A
operating voltage	
• rated value	1 000 V
• at AC-3e rated value maximum	1 000 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	200 A
operational current at AC-3e at 400 V rated value	200 A
operating power	
• for 3-phase motors at 400 V at 50 Hz	30 ... 90 kW
• for AC motors at 500 V at 50 Hz	30 ... 132 kW
• for AC motors at 690 V at 50 Hz	55 ... 160 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 20E
design of the overload release	electronic
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
• at 480 V rated value	200 A
• at 600 V rated value	200 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: 355 A, Class L: 601 A
— with type of coordination 2 required	gG: 315 A
• for short-circuit protection of the auxiliary switch required	fuse gG: 6 A
Installation/ mounting/ dimensions	
mounting position	any
fastening method	Contactor mounting/stand-alone installation
height	119 mm
width	120 mm
depth	155 mm
required spacing	
• for grounded parts	
— forwards	0 mm
— backwards	0 mm
— upwards	0 mm
— at the side	6 mm
— downwards	0 mm

- for live parts
 - forwards 0 mm
 - backwards 0 mm
 - upwards 0 mm
 - downwards 0 mm
 - at the side 6 mm

Connections/ Terminals

product component 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 circuit 	busbar connection 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 auxiliary contacts <ul style="list-style-type: none"> — 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) • for AWG cables for auxiliary contacts 2x (20 ... 14) 	
tightening torque <ul style="list-style-type: none"> • for main contacts with screw-type terminals 10 ... 12 N·m • for auxiliary contacts with screw-type terminals 0.8 ... 1.2 N·m 	
design of the thread of the connection screw <ul style="list-style-type: none"> • for main contacts M8 • of the auxiliary and control contacts M3 	

Electrical Safety

protection class IP on the front according to IEC 60529	IP00; IP20 with box terminal/cover
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front with box terminal/cover

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 according to IEC 61000-4-4 2 kV (power ports), 1 kV (signal ports) corresponds to degree of severity 3 • due to conductor-earth surge according to IEC 61000-4-5 2 kV (line to earth) corresponds to degree of severity 3 • due to conductor-conductor surge according to IEC 61000-4-5 1 kV (line to line) corresponds to degree of severity 3 • due to high-frequency radiation according to IEC 61000-4-6 10 V in frequency range 0.15 to 80 MHz, modulation 80 % AM with 1 kHz 	
field-based interference according to IEC 61000-4-3	10 V/m
electrostatic discharge according to IEC 61000-4-2	6 kV contact discharge / 8 kV air discharge

Display

display version for switching status	Slide switch
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Approvals Certificates

Environment	General Product Approval
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[Environmental Conformations](#)



EMV	For use in hazardous locations	Test Certificates	Maritime application
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[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



Maritime application	other
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Confirmation

Confirmation



other

[Miscellaneous](#)

Further information

Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3RB2056-2FC2>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RB2056-2FC2>

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

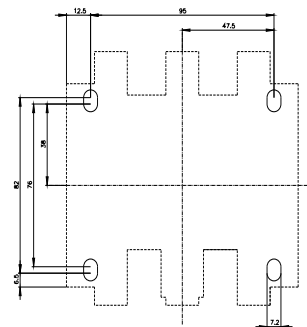
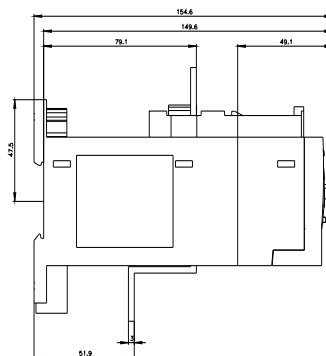
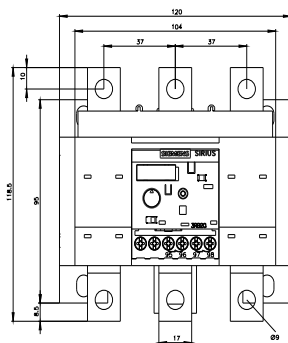
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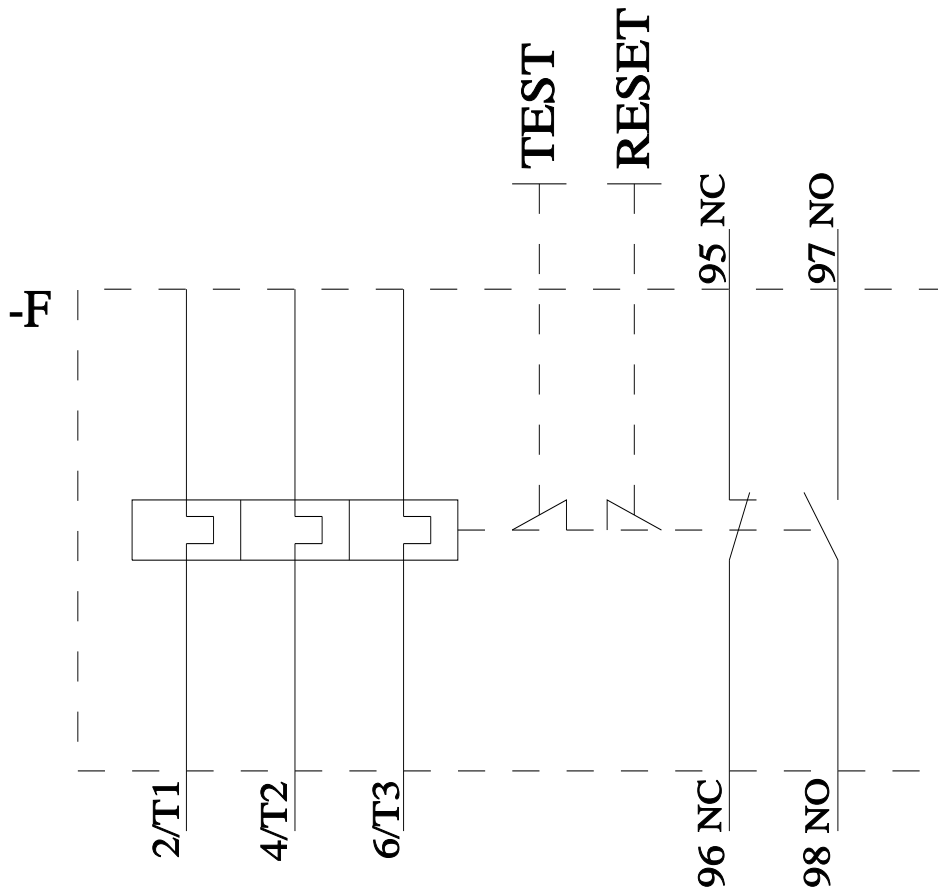
Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB2056-2FC2>

Characteristic curves

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last modified:

4/21/2026 