



Overload relay 12.5...50 A Electronic For motor protection Size S3, 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
General technical data	
size of overload relay	S3
size of contactor can be combined company-specific	S3
power loss [W] for rated value of the current at AC in hot operating state	0.9 W
• per pole	0.3 W
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	
• in networks with ungrounded 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 ungrounded star point between main and auxiliary circuit	600 V
• in networks with grounded star point between main and auxiliary circuit	690 V
shock resistance	8 g / 11 ms
• according to IEC 60068-2-27	15 g / 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	50 A
recovery time after overload trip	
• with automatic reset typical	3 min
• with remote-reset	0 min
• with manual reset	0 min
reference code according to IEC 81346-2	F
Substance Prohibitance (day/month/year)	03/01/2017
SVHC substance name	Lead CAS-No. 7439-92-1 Lead monoxide (lead oxide) CAS-No. 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5 Melamine CAS-No. 108-78-1 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol CAS-No. 119-47-1
Net Weight	565 g
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
• 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	12.5 ... 50 A
operating voltage	
<ul style="list-style-type: none"> rated value 	1 000 V
<ul style="list-style-type: none"> at AC-3e rated value maximum 	1 000 V
operating frequency rated value	50 ... 60 Hz
operational current rated value	50 A
operational current at AC-3e at 400 V rated value	50 A
operating power	
<ul style="list-style-type: none"> for 3-phase motors at 400 V at 50 Hz 	7.5 ... 22 kW
<ul style="list-style-type: none"> for AC motors at 500 V at 50 Hz 	11 ... 30 kW
<ul style="list-style-type: none"> for AC motors at 690 V at 50 Hz 	11 ... 45 kW

Auxiliary circuit

design of the auxiliary switch	integrated
number of NC contacts for auxiliary contacts	1
<ul style="list-style-type: none"> note 	for contactor disconnection
number of NO contacts for auxiliary contacts	1
<ul style="list-style-type: none"> note 	for message "tripped"
number of CO contacts for auxiliary contacts	0
operational current of auxiliary contacts at AC-15	
<ul style="list-style-type: none"> at 24 V 	4 A
<ul style="list-style-type: none"> at 110 V 	4 A
<ul style="list-style-type: none"> at 120 V 	4 A
<ul style="list-style-type: none"> at 125 V 	4 A
<ul style="list-style-type: none"> at 230 V 	3 A
operational current of auxiliary contacts at DC-13	
<ul style="list-style-type: none"> at 24 V 	2 A
<ul style="list-style-type: none"> at 60 V 	0.55 A
<ul style="list-style-type: none"> at 110 V 	0.3 A
<ul style="list-style-type: none"> at 125 V 	0.3 A
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> at 480 V rated value 	50 A
<ul style="list-style-type: none"> at 600 V rated value 	50 A
contact rating of auxiliary contacts according to UL	B600 / R300

Short-circuit protection

design of the fuse link	
<ul style="list-style-type: none"> for short-circuit protection of the main circuit <ul style="list-style-type: none"> with type of coordination 1 required 	gG: 200 A
<ul style="list-style-type: none"> with type of coordination 2 required 	gG: 200 A
<ul style="list-style-type: none"> for short-circuit protection of the auxiliary switch required 	fuse gG: 6 A

Installation/ mounting/ dimensions

mounting position	any
fastening method	Contacting mounting
height	106 mm
width	70 mm
depth	124 mm
required spacing	
<ul style="list-style-type: none"> 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	
• for main current circuit	screw-type terminals
• for auxiliary and control 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	2x (2.5 ... 16 mm ²)
• stranded	2x 16 mm ²
• solid or stranded	1x (2,5 ... 70 mm ²), 2x (2,5 ... 50 mm ²)
• finely stranded with core end processing	1x (2,5 ... 50 mm ²), 2x (2,5 ... 35 mm ²)
type of connectable conductor cross-sections	
• for auxiliary contacts	
— solid	1x (0.5 ... 4 mm ²), 2x (0.5 ... 2.5 mm ²)
— solid or stranded	1x (0,5 ... 4 mm ²), 2x (0,5 ... 2,5 mm ²)
— finely stranded with core end processing	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²)
• for AWG cables for auxiliary contacts	2x (20 ... 14)
tightening torque	
• for main contacts with screw-type terminals	4.5 ... 6 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	M6
• of the auxiliary and control contacts	M3
Electrical Safety	
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe, for vertical contact from the front
Communication/ Protocol	
type of voltage supply via input/output link master	No
Electromagnetic compatibility	
conducted interference	
• 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
Approvals Certificates	
Environment	General Product Approval

[Environmental Con-
firmations](#)



EMV	For use in hazard- ous locations	Test Certificates		Maritime application	
 RCM	 ATEX	Type Test Certificates/Test Report	Special Test Certificate	 DNV	 LRS
Maritime application		other			
 PRS	 RINA	Confirmation	Confirmation		

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=3RB3046-2UB0>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RB3046-2UB0>

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

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3046-2UB0&lang=en

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3046-2UB0>

Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP="HAUPT"></mmp_prod_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP=)



