SIEMENS

Data sheet 3RB2163-4MC2

Overload relay 160...630 A for motor protection Size S10/S12, CLASS 5...30E Contactor mounting/stand-alone installation Main circuit: busbar connection Auxiliary circuit: Screw terminal Manual-Automatic-Reset Internal ground fault detection

product brand name	SIRIUS
product designation	solid-state overload relay
product type designation	3RB2
General technical data	
size of overload relay	S10, S12
size of contactor can be combined company-specific	S10, S12
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 grounded star point	
● between auxiliary and auxiliary circuit	300 V
● between auxiliary and auxiliary circuit	300 V
● between main and auxiliary circuit	600 V
● between main and auxiliary circuit	690 V
shock resistance	15g / 11 ms
● according 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/s²; 10 cycles
thermal current	630 A
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 06 ATEX 3001
reference code according to IEC 81346-2	F
Substance Prohibitance (Date)	07/01/2006
SVHC substance name	Blei - 7439-92-1 Bleimonoxid (Bleioxid) - 1317-36-8
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 %
Main circuit	
number of poles for main current circuit	3
adjustable current response value current of the current-dependent overload release	160 ... 630 A
operating voltage	
● rated value	1 000 V
● for remote-reset function at DC	24 V
● at AC-3e rated value maximum	1 000 V
operating frequency rated value	50 ... 60 Hz

operational current rated value	630 A
operational current at AC-3e at 400 V rated value	630 A
operating power	
● for 3-phase motors at 400 V at 50 Hz	90 ... 355 kW
● for AC motors at 500 V at 50 Hz	132 ... 400 kW
● for AC motors at 690 V at 50 Hz	160 ... 560 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 5E, 10E, 20E and 30E adjustable
design of the overload release	electronic
response value current of the grounding protection minimum	0.75 x IMotor
response time of the grounding protection in settled state	1 000 ms
operating range of the grounding protection relating to current set value	
● minimum	IMotor > lower current setting value
● maximum	IMotor < upper current setting value x 3.5
UL/CSA ratings	
full-load current (FLA) for 3-phase AC motor	
● at 480 V rated value	630 A
● at 600 V rated value	630 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: 800 A, Class L: 1600 A
— with type of assignment 2 required	gG: 630 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
Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	Yes
type of electrical connection	
● for main current circuit	busbar connection
● 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 auxiliary contacts	

— 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	
● for main contacts with screw-type terminals	20 ... 22 N·m
● for auxiliary contacts with screw-type terminals	0.8 ... 1.2 N·m
design of the thread of the connection screw	
● for main contacts	M10
● of the auxiliary and control contacts	M3
Safety related data	
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
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

Certificates/ approvals

General Product Approval					EMC
CSA	CCC	Confirmation	UL	EAC	RCM

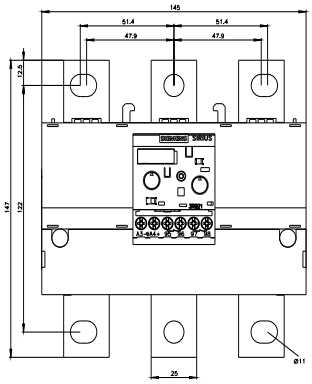
For use in hazardous locations	Declaration of Conformity		Test Certificates		Marine / Shipping
ATEX	UKCA	EG-Konf.	Type Test Certificates/Test Report	Special Test Certificate	ABS

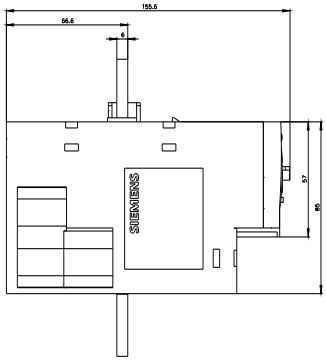
Marine / Shipping			other	
LRS	RINA	DNV·GL	Miscellaneous	Confirmation

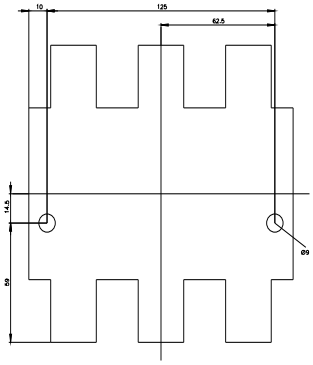
Further information

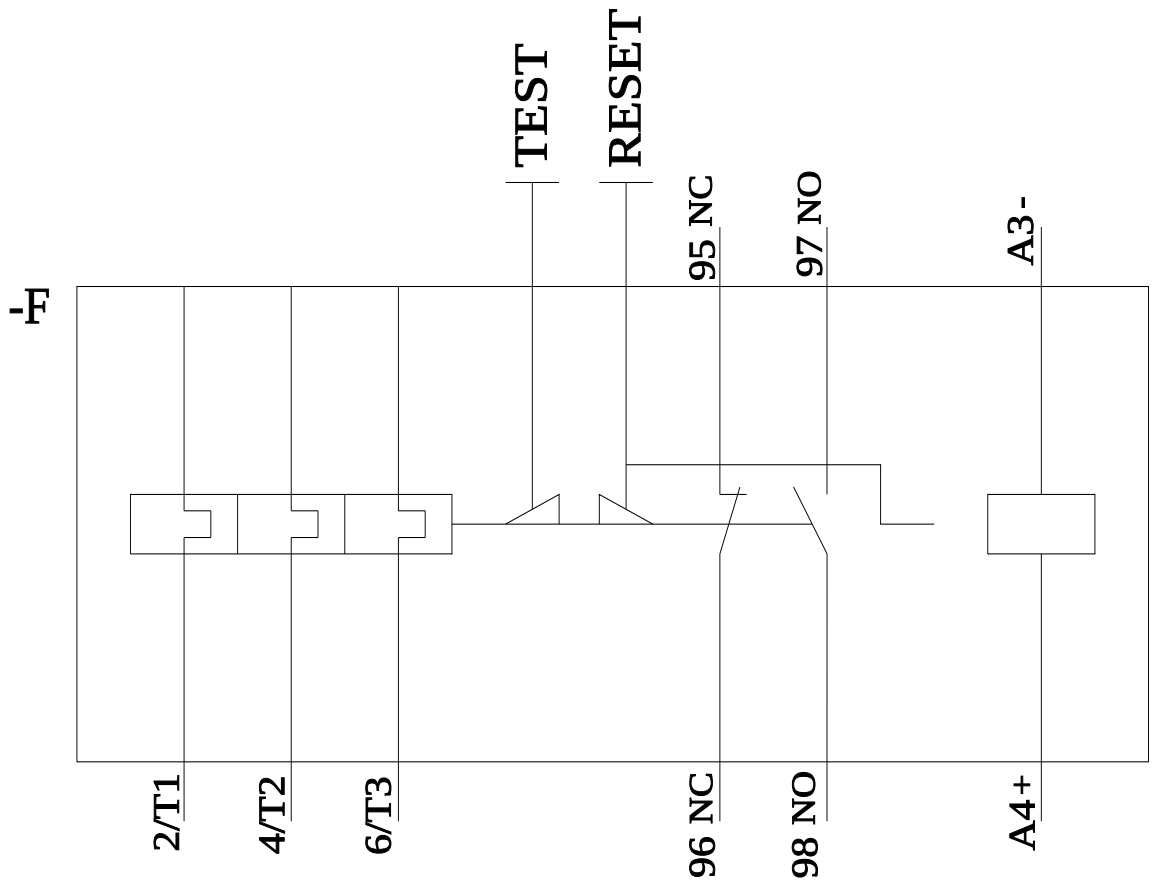
Siemens has decided to exit the Russian market (see here).
https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business
Siemens is working on the renewal of the current EAC certificates.
Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).
Information on the packaging
https://support.industry.siemens.com/cs/ww/en/view/109813875
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=3RB2163-4MC2
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB2163-4MC2

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RB2163-4MC2
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB2163-4MC2&lang=en
Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3RB2163-4MC2/char
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB2163-4MC2&objecttype=14&gridview=view1









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