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 rated value	1 000 V
Surge voltage resistance rated value	8 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
• in networks with grounded star point between main and auxiliary circuit	690 V
Protection class IP	
• on the front	IP20

• of the terminal	IP00
Shock resistance	15g / 11 ms
• acc. to IEC 60068-2-27	15g / 11 ms; Signaling contact 97 / 98 in position "Tripped": 8g / 11 ms
Thermal current	630 A
Recovery time	
• after overload trip with automatic reset typical	3 min
• after overload trip with remote-reset	0 min
• after overload trip with manual reset	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 06 ATEX 3001
Protection against electrical shock	Finger-safe with terminal covers for vertical contact from the front
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	-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	160 ... 630 A
Operating voltage	
• rated value	1 000 V
• for remote-reset function at DC	24 V
• at AC-3 rated value maximum	1 000 V
Operating frequency rated value	50 ... 60 Hz
Operating current rated value	200 A
Operating power	
• for three-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
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 5E, 10E, 20E and 30E adjustable
Design of the overload release	electronic
Response value current	
• of the ground fault protection minimum	0.75 x IMotor
Response time of the ground fault protection in settled state	1 000 ms
Operating range of the ground fault protection relating to current setting value	
• minimum	IMotor > lower current setting value
• maximum	IMotor < upper current setting value x 3.5

UL/CSA ratings

Full-load current (FLA) for three-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: 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
Mounting type	Mounting contactor / stand-alone assembly
Height	119 mm

Width	120 mm
Depth	155 mm
Required spacing	
• with side-by-side mounting	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm
• 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 function	
• removable terminal for auxiliary and control circuit	Yes
Type of electrical connection	
• for main current circuit	busbar connection
• for auxiliary and control current 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)
— single or multi-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)
• at AWG conductors for auxiliary contacts	2x (20 ... 14)
Tightening torque	
• 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	
• for main contacts	M10
• of the auxiliary and control contacts	M3

Communication/ Protocol

Type of voltage supply via input/output link master	No

Electromagnetic compatibility

Conducted interference	
• due to burst acc. to IEC 61000-4-4	2 kV (power ports), 1 kV (signal ports) corresponds to degree of severity 3
• due to conductor-earth surge acc. to IEC 61000-4-5	2 kV (line to earth) corresponds to degree of severity 3
• due to conductor-conductor surge acc. to IEC 61000-4-5	1 kV (line to line) corresponds to degree of severity 3
• due to high-frequency radiation acc. to IEC 61000-4-6	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	
• for switching status	Slide switch

Certificates/approvals

General Product Approval				EMC	For use in hazardous locations
CCC	CSA	UL		C-Tick	ATEX

Declaration of Conformity	Test Certificates			Marine / Shipping	
EG-Konf.	Type Test Certificates/Test Report	Declaration of the Compliance with the order	Special Test Certificate	ABS	LRS

Marine / Shipping		other	
RINA		Miscellaneous	Confirmation

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=3RB2163-4MC2

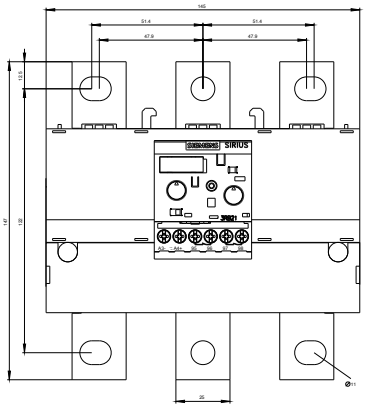
Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB2163-4MC2

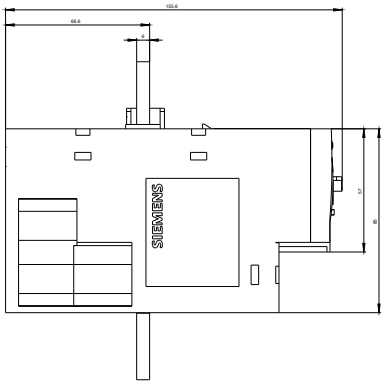
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RB2163-4MC2

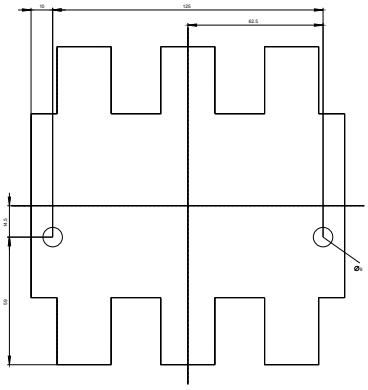
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB2163-4MC2&lang=en

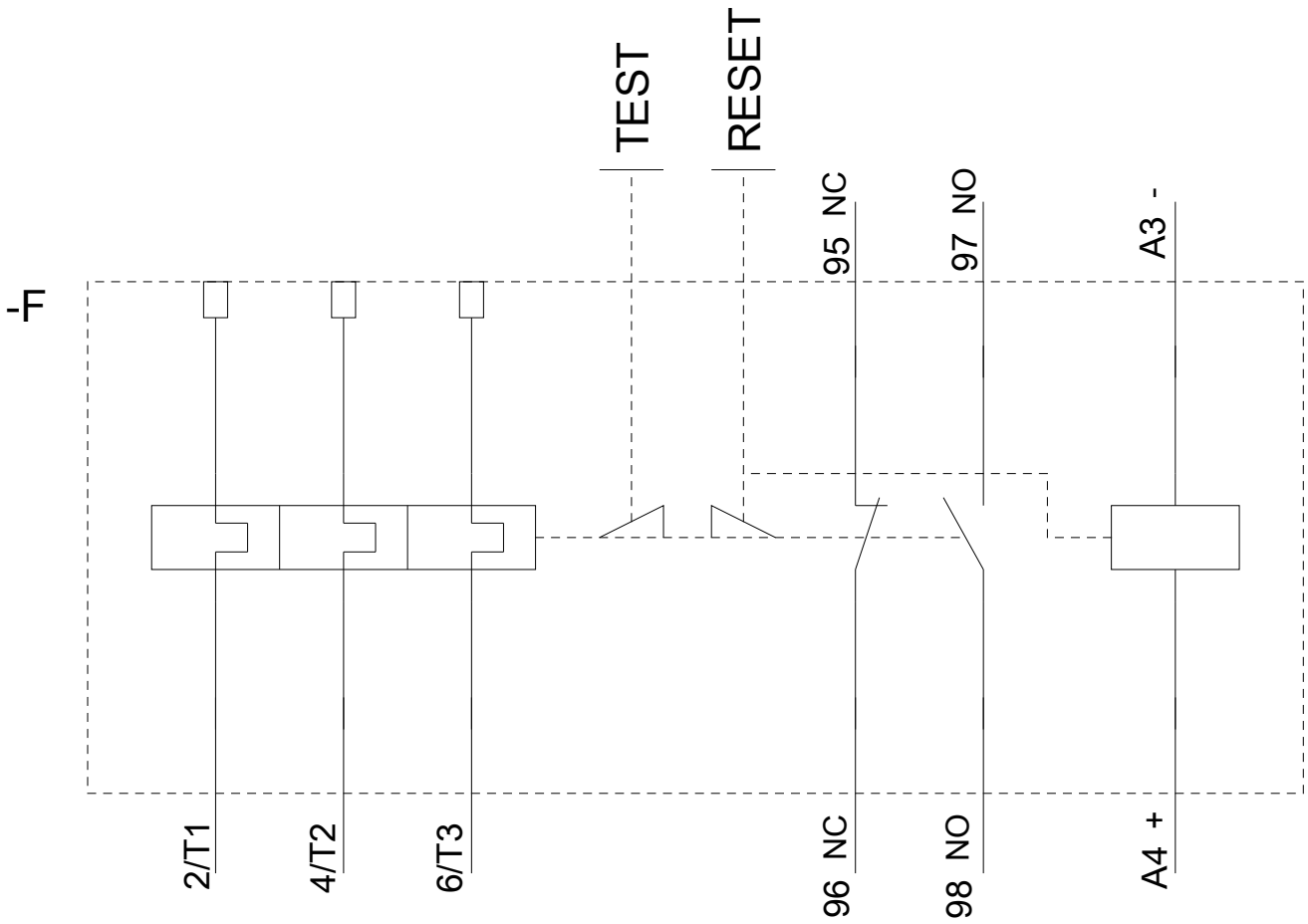
Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3RB2163-4MC2/char

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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