SIEMENS

Data sheet 3RB2163-4GC2

Overload relay 55...250 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 safe isolation 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	250 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
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	55 ... 250 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	250 A
operational current at AC-3e at 400 V rated value	250 A
operating power	
● for 3-phase motors at 400 V at 50 Hz	30 ... 132 kW
● for AC motors at 500 V at 50 Hz	45 ... 160 kW
● for AC motors at 690 V at 50 Hz	55 ... 250 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	250 A
● at 600 V rated value	250 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: 500 A, Class L: 700 A
— with type of assignment 2 required	gG: 500 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)
● at 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**

Confirmation

For use in hazard-ous locations | **Declaration of Conformity** | **Test Certificates** | **Marine / Shipping**

Type Test Certific-ates/Test Report | Special Test Certific-ate

Marine / Shipping | **other**

Miscellaneous | 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=3RB2163-4GC2
Cax online generator

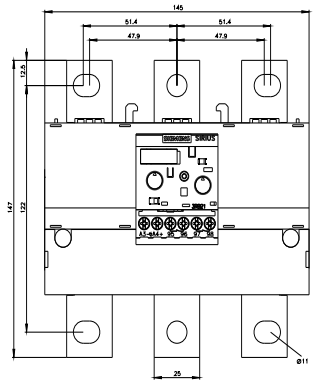
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB2163-4GC2

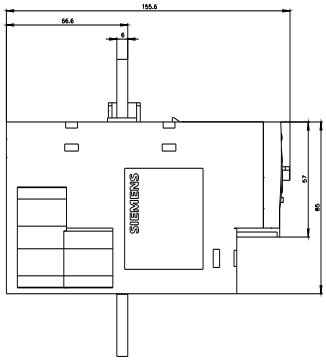
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RB2163-4GC2

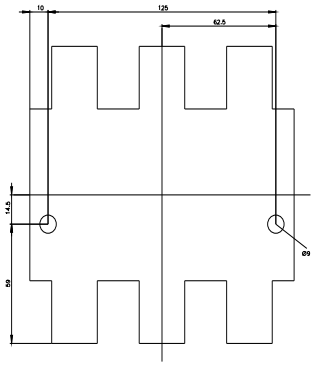
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB2163-4GC2&lang=en

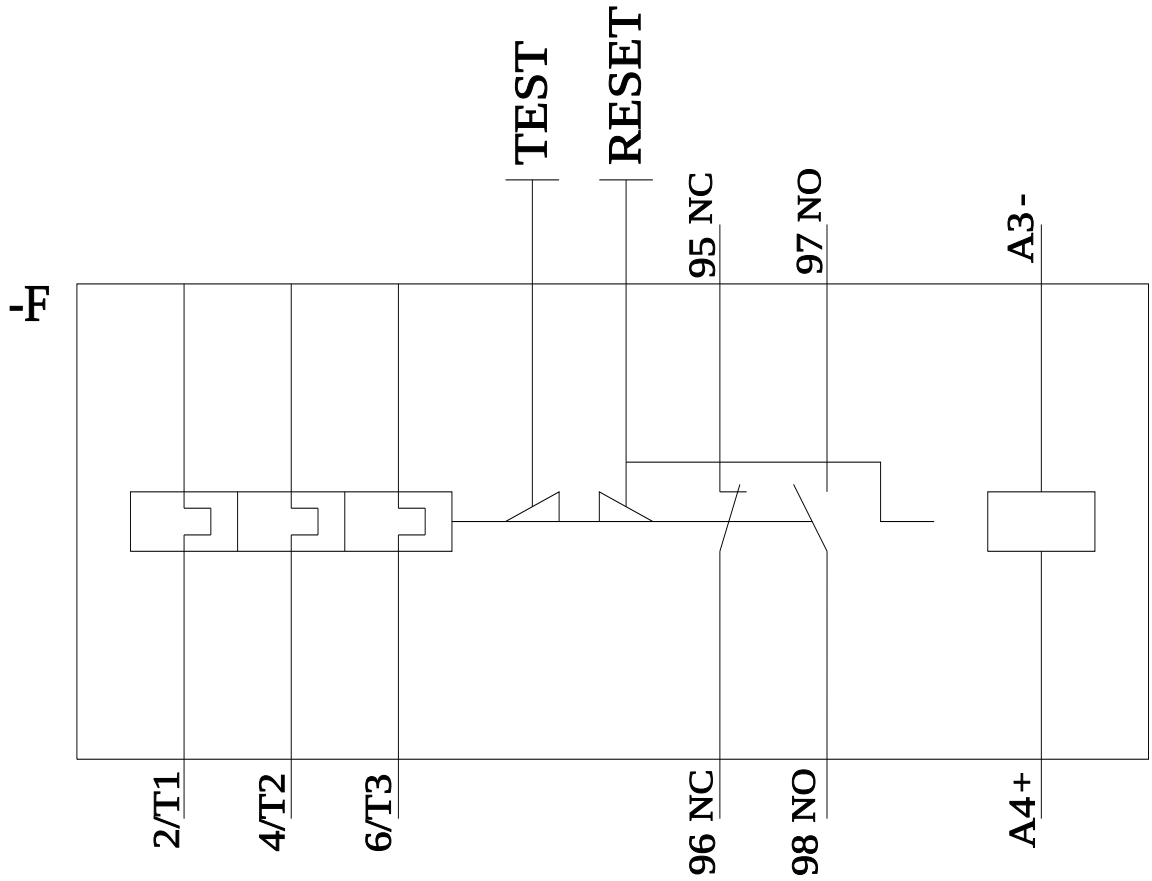
Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3RB2163-4GC2/char

Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB2163-4GC2&objecttype=14&gridview=view1









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