SIEMENS

Data sheet 3RB2153-4FX2



Overload relay 50...200 A for motor protection Size S6, CLASS 5...30E Contactor mounting/stand-alone installation Main circuit: straight-through transformer Auxiliary circuit: Spring-type 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	S6
size of contactor can be combined company-specific	S6
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
● acc. to IEC 60068-2-27	15g / 11 ms
vibration resistance	1-6 Hz, 15 mm; 6-500 Hz, 20 m/s²; 10 cycles
thermal current	200 A
recovery time after overload trip	
● with automatic reset typical	3 min
● with remote-reset	0 min
● with manual reset	0 min
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 acc. to IEC 81346-2	F
Substance Prohibitance (Date)	01.07.2006 00:00:00
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
● ambient temperature during operation	-25 ... +60 °C
● ambient temperature during storage	-40 ... +80 °C
● ambient temperature 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

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adjustable current response value current of the current-dependent overload release	50 ... 200 A
● operating voltage rated value	1 000 V
● operating voltage for remote-reset function at DC	24 V
● operating voltage at AC-3 rated value maximum	1 000 V
operating frequency rated value	50 ... 60 Hz
operational current 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 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	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 assignment 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

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Connections/ Terminals	
product function removable terminal for auxiliary and control circuit	Yes
type of electrical connection	
● for main current circuit	straight-through transformers
● for auxiliary and control circuit	spring-loaded terminals
arrangement of electrical connectors for main current circuit	Top and bottom
type of connectable conductor cross-sections	
● for auxiliary contacts	
— solid	2x (0.25 ... 1.5 mm²)
— solid or stranded	2x (0,25 ... 1,5 mm²)
— finely stranded with core end processing	2x (0.25 ... 1.5 mm²)
— finely stranded without core end processing	2x (0.25 ... 1.5 mm²)
● at AWG cables for auxiliary contacts	2x (24 ... 16)
Safety related data	
protection class IP on the front acc. to IEC 60529	IP20
touch protection on the front acc. 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 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-based interference 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

CSA CCC UL EAC RCM ATEX

Declaration of Conformity	Test Certificates	Marine / Shipping

Miscellaneous EG-Konf. Type Test Certificates/Test Report Special Test Certificate ABS LRS

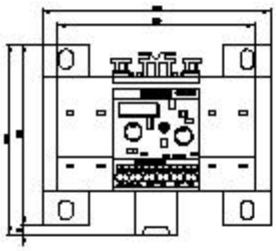
Marine / Shipping	other

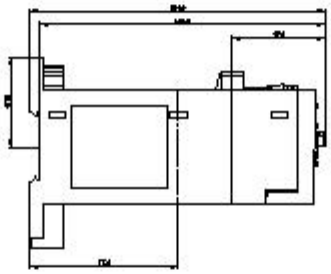
RINA DNV·GL Confirmation Miscellaneous

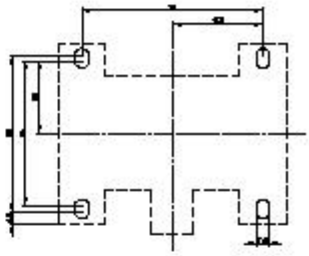
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Further information

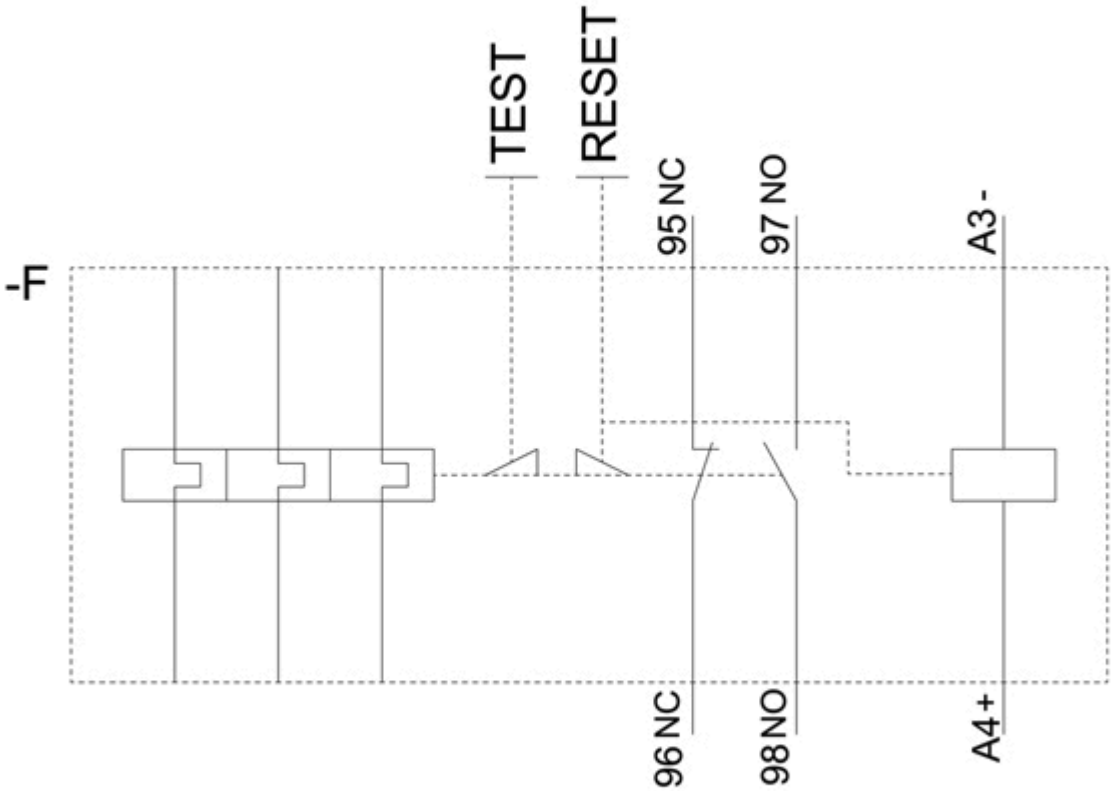
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Industry Mall (Online ordering system)
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Cax online generator
http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB2153-4FX2
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)
https://support.industry.siemens.com/cs/ww/en/ps/3RB2153-4FX2
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)
http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB2153-4FX2&lang=en
Characteristic: Tripping characteristics, I²t, Let-through current
https://support.industry.siemens.com/cs/ww/en/ps/3RB2153-4FX2/char
Further characteristics (e.g. electrical endurance, switching frequency)
http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB2153-4FX2&objecttype=14&gridview=view1







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