SIEMENS

Data sheet 3RB3123-4VB0



Overload relay 10...40 A Electronic For motor protection Size S0, Class 5...30 Contactor mounting Main circuit: Screw Auxiliary circuit: Screw Manual-Automatic-Reset Internal ground fault detection

product brand name	SIRIUS	
product designation	solid-state overload relay	
product type designation	3RB3	
General technical data		
size of overload relay	S0	
size of contactor can be combined company-specific	S0	
power loss [W] for rated value of the current at AC in hot operating state	3 W	
• per pole	1 W	
insulation voltage with degree of pollution 3 at AC rated value	690 V	
surge voltage resistance rated value	6 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	15g / 11 ms	
 according to IEC 60068-2-27 	15g / 11 ms; Signaling contact 97 / 98 in position "Tripped": 9g / 11 ms	
vibration resistance	1-6 Hz, 15 mm; 6-500 Hz, 20 m/s ² ; 10 cycles	
thermal current	40 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 (Date)	10/01/2009	
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8	
Weight	0.26 kg	
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	10 40 A
operating voltage	
• rated value	690 V
for remote-reset function at DC	24 V
at AC-3e rated value maximum	690 V
operating frequency rated value	50 60 Hz
operational current rated value	40 A
operational current at AC-3e at 400 V rated value	40 A
operating power	70 A
• for 3-phase motors at 400 V at 50 Hz	5.5 18.5 kW
• for AC motors at 500 V at 50 Hz	7.5 22 kW
• for AC motors at 690 V at 50 Hz	11 37 kW
Auxiliary circuit	11 37 KW
	intermedial
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	4.4
• 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
response time of the grounding protection in settled state operating range of the grounding protection relating to current set value	1 000 ms
operating range of the grounding protection relating to	IMotor > lower current setting value
operating range of the grounding protection relating to current set value	
operating range of the grounding protection relating to current set value • minimum	IMotor > lower current setting value
operating range of the grounding protection relating to current set value • minimum • maximum	IMotor > lower current setting value
operating range of the grounding protection relating to current set value • minimum • maximum UL/CSA ratings	IMotor > lower current setting value
operating range of the grounding protection relating to current set value • minimum • maximum UL/CSA ratings full-load current (FLA) for 3-phase AC motor	IMotor > lower current setting value IMotor < upper current setting value x 3.5
operating range of the grounding protection relating to current set value • minimum • maximum UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value	IMotor > lower current setting value IMotor < upper current setting value x 3.5
operating range of the grounding protection relating to current set value • minimum • maximum UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value	IMotor > lower current setting value IMotor < upper current setting value x 3.5 40 A 40 A
operating range of the grounding protection relating to current set value • minimum • maximum UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value contact rating of auxiliary contacts according to UL	IMotor > lower current setting value IMotor < upper current setting value x 3.5 40 A 40 A
operating range of the grounding protection relating to current set value • minimum • maximum UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value contact rating of auxiliary contacts according to UL Short-circuit protection	IMotor > lower current setting value IMotor < upper current setting value x 3.5 40 A 40 A
operating range of the grounding protection relating to current set value • minimum • maximum UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value contact rating of auxiliary contacts according to UL Short-circuit protection design of the fuse link	IMotor > lower current setting value IMotor < upper current setting value x 3.5 40 A 40 A
operating range of the grounding protection relating to current set value • minimum • maximum UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value contact rating of auxiliary contacts according to UL Short-circuit protection design of the fuse link • for short-circuit protection of the main circuit	IMotor > lower current setting value IMotor < upper current setting value x 3.5 40 A 40 A B600 / R300
operating range of the grounding protection relating to current set value • minimum • maximum UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value contact rating of auxiliary contacts according to UL Short-circuit protection design of the fuse link • for short-circuit protection of the main circuit — with type of coordination 1 required	IMotor > lower current setting value IMotor < upper current setting value x 3.5 40 A 40 A B600 / R300 gG: 125 A, J: 150 A
operating range of the grounding protection relating to current set value • minimum • maximum UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value contact rating of auxiliary contacts according to UL Short-circuit protection design of the fuse link • for short-circuit protection of the main circuit — with type of coordination 1 required — with type of assignment 2 required	IMotor > lower current setting value IMotor < upper current setting value x 3.5 40 A 40 A B600 / R300 gG: 125 A, J: 150 A gG: 80 A, J: 100 A
operating range of the grounding protection relating to current set value • minimum • maximum UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value contact rating of auxiliary contacts according to UL Short-circuit protection design of the fuse link • for short-circuit protection of the main circuit — with type of coordination 1 required — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required	IMotor > lower current setting value IMotor < upper current setting value x 3.5 40 A 40 A B600 / R300 gG: 125 A, J: 150 A gG: 80 A, J: 100 A
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operating range of the grounding protection relating to current set value • minimum • maximum UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value contact rating of auxiliary contacts according to UL Short-circuit protection design of the fuse link • for short-circuit protection of the main circuit — with type of coordination 1 required — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required Installation/ mounting/ dimensions mounting position	IMotor > lower current setting value IMotor < upper current setting value x 3.5 40 A 40 A B600 / R300 gG: 125 A, J: 150 A gG: 80 A, J: 100 A fuse gG: 6 A any
operating range of the grounding protection relating to current set value • minimum • maximum UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value contact rating of auxiliary contacts according to UL Short-circuit protection design of the fuse link • for short-circuit protection of the main circuit — with type of coordination 1 required — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required Installation/ mounting/ dimensions mounting position fastening method	IMotor > lower current setting value IMotor < upper current setting value x 3.5 40 A 40 A B600 / R300 gG: 125 A, J: 150 A gG: 80 A, J: 100 A fuse gG: 6 A any Contactor mounting
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operating range of the grounding protection relating to current set value • minimum • maximum UL/CSA ratings full-load current (FLA) for 3-phase AC motor • at 480 V rated value • at 600 V rated value contact rating of auxiliary contacts according to UL Short-circuit protection design of the fuse link • for short-circuit protection of the main circuit — with type of coordination 1 required — with type of assignment 2 required • for short-circuit protection of the auxiliary switch required Installation/ mounting/ dimensions mounting position fastening method height width	IMotor > lower current setting value IMotor < upper current setting value x 3.5 40 A 40 A B600 / R300 gG: 125 A, J: 150 A gG: 80 A, J: 100 A fuse gG: 6 A any Contactor mounting 87 mm 45 mm
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control circuit	
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 (1 2.5 mm²), 2x (2.5 10 mm²)
• stranded	2x 10 mm²
solid or stranded	1x (1 10 mm²), 2x (1 10 mm²)
 finely stranded with core end processing 	1x (1 6 mm²), 2 x (1 6 mm²), 1x 10 mm²
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	1x (20 14), 2x (20 14)
tightening torque	
for main contacts with screw-type terminals	2 2.5 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	Pozidriy PZ 2
design of the thread of the connection screw	. 0
• for main contacts	M4
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
ommunication/ Protocol	inger said, for vertical contact from the front
type of voltage supply via input/output link master	No
lectromagnetic compatibility	140
conducted interference	
	2 kV (power ports), 1 kV (signal ports) corresponds to degree of severity 3
due to burst according to IEC 61000-4-4 due to conductor couth current according to IEC 61000 4 F.	
due to conductor-earth surge according to IEC 61000-4-5 due to conductor conductor surge according to IEC.	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
isplay	
display version for switching status	Slide switch
pprovals Certificates	

Approvals Certificates

General Product Approval





Confirmation







EMV For use in hazardous locations Test Certificates Marine / Shipping



<u>KC</u>



Type Test Certificates/Test Report

Special Test Certificate



Marine / Shipping other Environment









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=3RB3123-4VB0

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RB3123-4VB0

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

https://support.industry.siemens.com/cs/ww/en/ps/3RB3123-4VB0

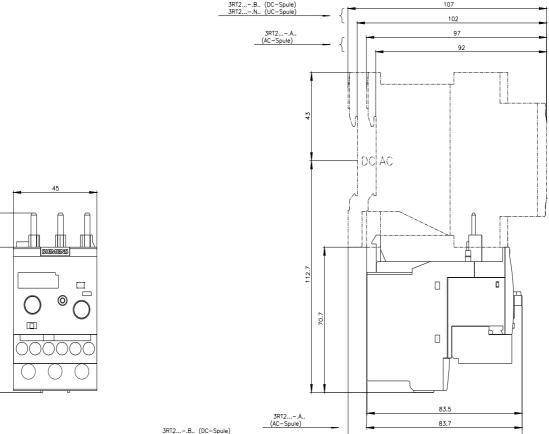
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RB3123-4VB0&lang=en

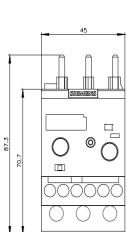
Characteristic: Tripping characteristics, I2t, Let-through current

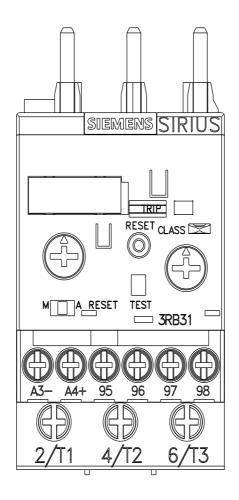
https://support.industry.siemens.com/cs/ww/en/ps/3RB3123-4VB0/char

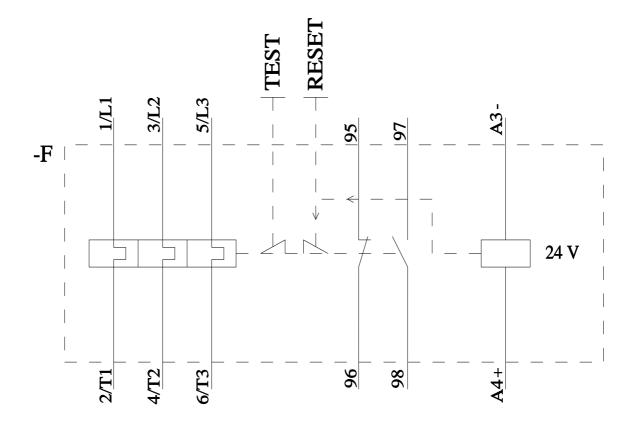
Further characteristics (e.g. electrical endurance, switching frequency)

http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RB3123-4VB0&objecttype=14&gridview=view1









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