## **SIEMENS**

Data sheet 3RB3123-4SE0



OVERLOAD RELAY 3...12 A FOR MOTOR
PROTECTION SIZE S0, CLASS 5...30 CONTACTOR
ASS. MAIN CIRCUIT: SPR.-LOAD.TERM.
AUX.CIRCUIT: SPR.-LOAD.TERM. MANUAL-AUTOM.RESET INT. GROUND FAULT DETECTION

product brand name	SIRIUS
Product designation	solid-state overload relay

General technical data:		
Active power loss total typical	W	0.6
Insulation voltage		
<ul> <li>with degree of pollution 3 Rated value</li> </ul>	V	690
Shock resistance		
• acc. to IEC 60068-2-27		15g / 11 ms
Vibration resistance		1-6 Hz, 15 mm; 6-500 Hz, 20 m/s²; 10 cycles
Surge voltage resistance Rated value	kV	6
Size of contactor can be combined company-specific		S0
Type of assignment		2
Protection class IP		
• on the front		IP20
• of the terminal		IP20
Type of protection		II (2) G [Ex e] [Ex d] [Ex px] II (2) D [Ex t] [Ex p]
Equipment marking		
• acc. to DIN EN 61346-2		F
• acc. to DIN EN 81346-2		F

Main circuit:		
Number of poles for main current circuit		3
Adjustable response value current of the current-	Α	3 12
dependent overload release		
Operating voltage		
<ul> <li>for remote-reset function for DC</li> </ul>	V	24

Operating expends  • at AC-3  — at 400 V Rated value  A 12  Auxiliary circuit:  Number of NC contacts  • for auxiliary contacts at AC-15  • at 24 V  • at 110 V  • at 1125 V  • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 125 V  • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 110 V  • at 125 V  • at 220 V  A 0.3  • at 110 V  • at 125 V  • at 220 V  • at	<ul> <li>at AC-3 Rated value maximum</li> </ul>	V	690
at AC-3     — at 400 V Rated value     A 12  Auxiliary circuit:  Number of NC contacts     • for auxiliary contacts     • Note     Note     Number of NO contacts     • for auxiliary contacts at AC-15     • at 24 V     • at 110 V     • at 120 V     • at 120 V     • at 125 V     • at 230 V     Operating current of the auxiliary contacts at DC-13     • at 24 V     • at 60 V     • at 110 V     • at 125 V     • at 110 V     • at 125 V     • at 110 V     • at 125 V     • at 220 V     • at 220 V     A 0.3     • at 125 V     • at 220 V     A 0.3     • at 125 V     • at 220 V     Bosign of the overload circuit breaker  Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  UL/CSA ratings:  Contact ratings of the auxiliary contacts acc. to UL  B300 / R300  Short-circuit:  Design of the fuse link     • for short-circuit protection of the main circuit     — required  Installation/ mounting/ dimensions:	Operating frequency Rated value	Hz	50 60
Auxiliary circuit:  Number of NC contacts  • for auxiliary contacts  0  Design of the auxiliary switch  Operating current of the auxiliary contacts at AC-15  • at 24 V  • at 110 V  • at 125 V  • at 230 V  • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 60 V  • at 125 V  • at 60 V  • at 125 V  • at 110 V  • at 125 V  • at 220 V  • at	Operating current		
Auxiliary circuit:  Number of NC contacts  • for auxiliary contacts  — Note  Number of NO contacts  • for auxiliary contacts  — Note  Number of CO contacts  • for auxiliary contacts  — Note  Number of CO contacts  • for auxiliary contacts  • for auxiliary switch  Operating current of the auxiliary switch  Operating current of the auxiliary contacts at AC-15  • at 24 V  • at 110 V  • at 120 V  • at 125 V  • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 60 V  • at 110 V  • at 24 V  • at 125 V  • at 20 V  • at 20 V  • at 20 V  • at 110 V  • at 24 V  • at 10 V  • at 24 V  • at 10 V  • at 25 V  • at 20 V  • at 110 V  • at 25 V  • at 20 V  • at 110 V  • at 125 V  • at 20 V  • at 110 V  • at 125 V  • at 20 V  • at 110 V  • at 125 V  • at 110 V  • at 125 V  • at 20 V  • at 110 V  • at 125 V  • at 20 V  • at 100 V  • at 110 V  • at 125 V  • at 20 V  • at 100 V  • at 200 V  • at 20	• at AC-3		
Number of NC contacts  • for auxiliary contacts  — Note  Number of NO contacts  • for auxiliary contacts  — Note  Number of CO contacts  • for auxiliary contacts  — Note  Number of CO contacts  • for auxiliary contacts  Design of the auxiliary switch  Operating current of the auxiliary contacts at AC-15  • at 24 V  • at 110 V  • at 120 V  • at 125 V  • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 60 V  • at 150 V  • at 150 V  • at 125 V  • at 20 V  • at 20 V  • at 20 V  • at 20 V  • at 30 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 60 V  • at 125 V  • at 20 V  • at 100 V  • at 110 V  • at 125 V  • at 220 V  • at 125 V  • at 20 V  • at 20 V  • at 125 V  • at 20 V  • at 2	— at 400 V Rated value	Α	12
Note     Number of NO contacts     • for auxiliary switch     Operating current of the auxiliary contacts at AC-15     • at 24 V     • at 110 V     • at 120 V     • at 125 V     • at 230 V  Operating current of the auxiliary contacts at DC-13     • at 24 V     • at 25 V     • at 25 V     • at 20 V  Operating current of the auxiliary contacts at DC-13     • at 24 V     • at 25 V     • at 25 V     • at 25 V     • at 20 V  Operating current of the auxiliary contacts at DC-13     • at 24 V     • at 60 V     • at 110 V     • at 20 V  Operating current of the auxiliary contacts at DC-13     • at 24 V     • at 60 V     • at 125 V     • at 110 V     • at 125 V     • at 20 V  Operating current of the auxiliary contacts at DC-13      • at 25 V     • at 10 V	Auxiliary circuit:		
Number of NO contacts  • for auxiliary switch  Operating current of the auxiliary switch  Operating current of the auxiliary contacts at AC-15  • at 24 V  • at 110 V  • at 120 V  • at 125 V  • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 24 V  • at 20 V  • at 110 V  • at 24 V  • at 20 V  • at 110 V  • at 24 V  • at 20 V  • at 110 V  • at 10 V  • at 20 V  • at 20 V  • at 10 V  • at 20 V  • at 20 V  • at 20 V  • at 10 V  • at 20 V  • at 10 V  • at 20 V  • at 20 V  • at 20 V  • at 20 V  • at 10 V  • at 20 V	Number of NC contacts		
Number of NO contacts  • for auxiliary contacts  - Note  Number of CO contacts  • for auxiliary contacts  • for auxiliary contacts  • for auxiliary switch  Operating current of the auxiliary contacts at AC-15  • at 24 V  • at 110 V  • at 120 V  • at 125 V  • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 10 V  • at 22 V  • at 230 V  A  Operating current of the auxiliary contacts at DC-13  • at 25 V  • at 26 V  • at 27 V  • at 28 V  • at 60 V  • at 110 V  • at 1	<ul><li>for auxiliary contacts</li></ul>		1
Note     Number of CO contacts	— Note		for contactor disconnection
Number of CO contacts  • for auxiliary contacts  • for auxiliary switch  Operating current of the auxiliary contacts at AC-15  • at 24 V  • at 110 V  • at 125 V  • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 25 V  • at 20 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 20 V  • at 20 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 60 V  • at 110 V  • at 125 V  • at 20 V  • at 110 V  • at 20 V  • at 110 V  • at 20 V  •	Number of NO contacts		
Number of CO contacts  • for auxiliary contacts  Design of the auxillary switch  Operating current of the auxillary contacts at AC-15  • at 24 V  • at 110 V  • at 125 V  • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 10 V  • at 125 V  • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 60 V  • at 110 V  • at 125 V  • at 20 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 60 V  • at 110 V  • at	• for auxiliary contacts		1
• for auxiliary contacts  Design of the auxiliary switch Operating current of the auxiliary contacts at AC-15      • at 24 V     • at 110 V     • at 125 V     • at 230 V  Operating current of the auxiliary contacts at DC-13      • at 24 V     • at 125 V     • at 230 V  Operating current of the auxiliary contacts at DC-13      • at 24 V     • at 60 V     • at 60 V     • at 110 V     • at 110 V     • at 125 V     • at 110 V     • at 110 V     • at 125 V     • at 110 V     • at 125 V     • at 120 V  Protective and monitoring functions:  Trip class     Design of the overload circuit breaker  Design of the auxiliary contacts acc. to UL  Short-circuit:  Design of the fuse link     • for short-circuit protection of the main circuit     — required     • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions:  Installation/ mounting/ dimensions:	— Note		for message "tripped"
Design of the auxiliary switch  Operating current of the auxiliary contacts at AC-15  • at 24 V  • at 110 V  • at 120 V  • at 125 V  • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 60 V  • at 60 V  • at 100 V  • at 100 V  • at 100 V  • at 100 V  • at 60 V  • at 100 V  • a	Number of CO contacts		
Operating current of the auxiliary contacts at AC-15  • at 24 V  • at 110 V  • at 120 V  • at 125 V  • at 230 V  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 25 V  • at 20 V  • at 20 V  • at 60 V  • at 110 V  • at 125 V  • at 110 V  • at 20 V  • at 30 O  Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 60 V  • at 30 O  • at 110 V  • at 110 V  • at 125 V  • at 110 V  • at 125 V  • at 110 V  • at 20 V  A  O.3  • at 125 V  • at 110 V  • at 20 V  A  O.31  • at 220 V  CLASS 5, 10, 20 and 30 adjustable electronic  UL/CSA ratings:  Contact rating of the auxiliary contacts acc. to UL  B300 / R300  Short-circuit:  Design of the fuse link  • for short-circuit protection of the main circuit  — required  • for short-circuit protection of the auxiliary switch required  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions:	• for auxiliary contacts		0
at 24 V at 110 V at 120 V A at 125 V A at 230 V  Operating current of the auxiliary contacts at DC-13  at 24 V at 60 V at 60 V A A A A A A A A A A A A A A A A A A A			integrated
at 110 V     at 120 V     at 125 V     at 230 V  Operating current of the auxillary contacts at DC-13     at 24 V     at 60 V     at 100 V     at 110 V     at 125 V     at 220 V  A 0.3     at 110 V     at 125 V     at 110 V     at 220 V  A 0.3     at 220 V  A 0.11  Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  UL/CSA ratings:  Contact rating of the auxiliary contacts acc. to UL  B300 / R300  Short-circuit:  Design of the fuse link     for short-circuit protection of the main circuit     — required     for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions:	Operating current of the auxiliary contacts at AC-15		
at 120 V at 125 V at 230 V A Departing current of the auxiliary contacts at DC-13  at 24 V at 60 V A at 110 V A at 125 V A at 110 V A at 125 V B at 220 V A D.11   Protective and monitoring functions:  Trip class Design of the overload circuit breaker  UL/CSA ratings:  Contact rating of the auxiliary contacts acc. to UL  B300 / R300  Short-circuit:  Design of the fuse link for short-circuit protection of the main circuit — required for short-circuit protection of the auxiliary switch required  fuse gG: 50 A fuse gG: 6 A  Installation/ mounting/ dimensions:	● at 24 V	Α	4
at 125 V at 230 V  Operating current of the auxiliary contacts at DC-13  at 24 V at 60 V at 110 V at 110 V at 125 V at 125 V at 125 V at 125 V be at 220 V  A  O.3  CLASS 5, 10, 20 and 30 adjustable  Design of the overload circuit breaker  UL/CSA ratings:  Contact rating of the auxiliary contacts acc. to UL  Short-circuit:  Design of the fuse link for short-circuit protection of the main circuit required  for short-circuit protection of the auxiliary switch required  fuse gG: 50 A fuse gG: 6 A  Installation/ mounting/ dimensions:	● at 110 V	Α	4
otal 230 V Operating current of the auxiliary contacts at DC-13     otal 24 V     at 60 V     at 110 V     at 125 V     at 125 V     at 220 V A Outlier  Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  UL/CSA ratings:  Contact rating of the auxiliary contacts acc. to UL  B300 / R300  Short-circuit:  Design of the fuse link     of or short-circuit protection of the main circuit         — required     of or short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions:	● at 120 V	Α	4
Operating current of the auxiliary contacts at DC-13  • at 24 V  • at 60 V  • at 110 V  • at 125 V  • at 220 V  A  O.3  • at 220 V  A  O.3  • at 220 V  Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  UL/CSA ratings:  Contact rating of the auxiliary contacts acc. to UL  Short-circuit:  Design of the fuse link  • for short-circuit protection of the main circuit  — required  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions:	● at 125 V	Α	4
at 24 V at 60 V at 60 V A 0.55  at 110 V A 0.3  at 125 V A 0.3  at 220 V A 0.11   Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  UL/CSA ratings:  Contact rating of the auxiliary contacts acc. to UL  B300 / R300  Short-circuit:  Design of the fuse link  for short-circuit protection of the main circuit  — required  for short-circuit protection of the auxiliary switch required  fuse gG: 50 A fuse gG: 6 A  Installation/ mounting/ dimensions:	● at 230 V	Α	3
at 10 V at 110 V A 0.3  at 125 V A 0.11   Protective and monitoring functions:  Trip class  CLASS 5, 10, 20 and 30 adjustable electronic  UL/CSA ratings:  Contact rating of the auxiliary contacts acc. to UL  Short-circuit:  Design of the fuse link  for short-circuit protection of the main circuit required  for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions:	Operating current of the auxiliary contacts at DC-13		
at 110 V at 125 V A 0.3  at 220 V A 0.11   Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  UL/CSA ratings:  Contact rating of the auxiliary contacts acc. to UL  Short-circuit:  Design of the fuse link  for short-circuit protection of the main circuit  required  fuse gG: 50 A fuse gG: 6 A  Installation/ mounting/ dimensions:	● at 24 V	Α	2
at 125 V     at 220 V     A 0.11  Protective and monitoring functions:  Trip class     CLASS 5, 10, 20 and 30 adjustable  Design of the overload circuit breaker  UL/CSA ratings:  Contact rating of the auxiliary contacts acc. to UL  B300 / R300  Short-circuit:  Design of the fuse link     • for short-circuit protection of the main circuit     — required     • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions:	● at 60 V	Α	0.55
at 220 V     A 0.11  Protective and monitoring functions:  Trip class     CLASS 5, 10, 20 and 30 adjustable  Design of the overload circuit breaker  UL/CSA ratings:  Contact rating of the auxiliary contacts acc. to UL  B300 / R300  Short-circuit:  Design of the fuse link  • for short-circuit protection of the main circuit  — required  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions:	● at 110 V	Α	0.3
Protective and monitoring functions:  Trip class  Design of the overload circuit breaker  UL/CSA ratings:  Contact rating of the auxiliary contacts acc. to UL  Short-circuit:  Design of the fuse link  • for short-circuit protection of the main circuit  — required  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions:	● at 125 V	Α	0.3
Trip class  Design of the overload circuit breaker  UL/CSA ratings:  Contact rating of the auxiliary contacts acc. to UL  Short-circuit:  Design of the fuse link  • for short-circuit protection of the main circuit  — required  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions:	● at 220 V	Α	0.11
Design of the overload circuit breaker  UL/CSA ratings:  Contact rating of the auxiliary contacts acc. to UL  B300 / R300  Short-circuit:  Design of the fuse link  • for short-circuit protection of the main circuit  — required  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions:	Protective and monitoring functions:		
UL/CSA ratings:  Contact rating of the auxiliary contacts acc. to UL  Short-circuit:  Design of the fuse link  • for short-circuit protection of the main circuit  — required  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions:	Trip class		CLASS 5, 10, 20 and 30 adjustable
Contact rating of the auxiliary contacts acc. to UL  Short-circuit:  Design of the fuse link  • for short-circuit protection of the main circuit  — required  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions:	Design of the overload circuit breaker		electronic
Contact rating of the auxiliary contacts acc. to UL  Short-circuit:  Design of the fuse link  • for short-circuit protection of the main circuit  — required  • for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions:	UL/CSA ratings:		
Design of the fuse link  ● for short-circuit protection of the main circuit  — required  ● for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions:			B300 / R300
for short-circuit protection of the main circuit         — required	Short-circuit:		
— required Fuse gG: 50 A  • for short-circuit protection of the auxiliary switch required fuse gG: 6 A  Installation/ mounting/ dimensions:	Design of the fuse link		
• for short-circuit protection of the auxiliary switch required  Installation/ mounting/ dimensions:	• for short-circuit protection of the main circuit		
Installation/ mounting/ dimensions:	— required		Fuse gG: 50 A
			fuse gG: 6 A
mounting position any	Installation/ mounting/ dimensions:		
	mounting position		any

Mounting type		direct mounting
Height	mm	109
Width	mm	45
Depth	mm	85
Required spacing		
<ul><li>with side-by-side mounting</li></ul>		
— forwards	mm	0
— Backwards	mm	0
— upwards	mm	0
— downwards	mm	0
— at the side	mm	0
for grounded parts		
— forwards	mm	6
— Backwards	mm	0
— upwards	mm	6
— at the side	mm	6
— downwards	mm	6
• for live parts		
— forwards	mm	6
— Backwards	mm	0
— upwards	mm	6
— downwards	mm	6
— at the side	mm	6

Connections/ Terminals:	
Type of electrical connection	
for main current circuit	spring-loaded terminals
<ul> <li>for auxiliary and control current circuit</li> </ul>	spring-loaded terminals
Arrangement of electrical connectors for main current circuit	Top and bottom
Product function	
<ul> <li>removable terminal for auxiliary and control circuit</li> </ul>	Yes
Type of connectable conductor cross-section	
• for main contacts	
<ul><li>— single or multi-stranded</li></ul>	1x (1 10 mm²)
- finely stranded with core end processing	1x (1 6 mm²)
<ul> <li>finely stranded without core end processing</li> </ul>	1x (1 6 mm²)
<ul> <li>for AWG conductors for main contacts</li> </ul>	1x (18 8)
• for auxiliary contacts	
<ul> <li>single or multi-stranded</li> </ul>	1x (0,5 1,5 mm²), 2x (0,5 1,5 mm²)
— finely stranded with core end processing	1x (0.25 1.5 mm²), 2x (0.25 1.5 mm²)

<ul> <li>finely stranded without core end processing</li> </ul>		1x (0.25 1.5 mm²), 2x (0.25 1.5 mm²)
for AWG conductors for auxiliary contacts		1x (24 16), 2x (24 16)
Safety related data:		
Protection against electrical shock		finger-safe
Mechanical data:		
Size of overload relay		S0
Communication/ Protocol:		
Protocol is supported		
<ul> <li>IO-Link protocol</li> </ul>		No
Type of voltage supply via input/output link master		No
Ambient conditions:		
Installation altitude at height above sea level maximum	m	2 000
Ambient temperature		
<ul><li>during operation</li></ul>	°C	-25 +60
during storage	°C	-40 <b>+</b> 80
during transport	°C	-40 +80
Relative humidity during operation	%	95
Electromagnetic compatibility:		
EMC emitted interference		
● acc. to IEC 60947-1		CISPR 11, environment B (residential area)
EMI immunity acc. to IEC 60947-1		corresponds to degree of severity 3
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
Conducted interference due to conductor-earth surge acc. to IEC 61000-4-5		2 kV (line to earth) corresponds to degree of severity 3
Conducted interference due to conductor-conductor surge acc. to IEC 61000-4-5		1 kV (line to line) corresponds to degree of severity 3
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















Declaration of	Test Certificates	Shipping Approval
Conformity		



Special Test Certificate Type Test
Certificates/Test
Report







GL

**Shipping Approval** 

other





Environmental Confirmations

Confirmation

Further informatior

Information- and Downloadcenter (Catalogs, Brochures,...)

http://www.siemens.com/industrial-controls/catalogs

Industry Mall (Online ordering system)

http://www.siemens.com/industrymall

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RB31234SE0}$ 

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

http://support.automation.siemens.com/WW/view/en/3RB31234SE0/all

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3RB31234SE0&lang=en



