

Datasheet - SRB 202MSL-24V

Safety control modules for specific applications / Muting light curtains / SRB 202MSL



- Muting signalling device monitoring
- 2 safety contacts, STOP 0
- 2 Signalling outputs

(Minor differences between the printed image and the original product may exist!)

Ordering details

Product type description	SRB 202MSL-24V
Article number	101181998
EAN code	4250116202577

Approval

Approval




Classification

Standards	EN ISO 13849-1, IEC 61508, EN 60947-5-1
PL	up e (STOP 0)
Control category	up 4 (STOP 0)
DC	99% (STOP 0)
CCF	>65 points
PFH value	$\leq 2,0 \times 10^{-8}/h$ (STOP 0)
SIL	up 3 (STOP 0)
Mission time	20 Years
- notice	The PFH value is applicable for the combinations listed in the table for contact load (K) (current through enabling paths) and switching cycle number (n-op/y). In case of 365 operating days per year and a 24-hour operation, this results in the specified switching cycle times (t-cycle) for the relay contacts.

Diverging applications on request.

K	n-oply	t-cycle
20 %	525.800	1,0 min
40 %	210.240	2,5 min
60 %	75.087	7,0 min
80 %	30.918	17,0 min
100 %	12.223	43,0 min

Global Properties

Product name	SRB 202MSL
Standards	IEC/EN 60204-1, EN 60947-5-1, EN ISO 13849-1, IEC 61508
Compliance with the Directives (Y/N) 	Yes
Climatic stress	EN 60068-2-78
Mounting	snaps onto standard DIN rail to EN 60715
Terminal designations	IEC/EN 60947-1
Materials	
- Material of the housings	Plastic, glass-fibre reinforced thermoplastic, ventilated
- Material of the contacts	, Ag-Ni, self-cleaning, positive action
Weight	400 g
Start conditions	Automatic with Muting sensors
Start input (Y/N)	No
Feedback circuit (Y/N)	Yes
Start-up test (Y/N)	No
Reset after disconnection of supply voltage (Y/N)	Yes
Automatic reset function (Y/N)	Yes
Reset with edge detection (Y/N)	No
Pull-in delay	
- ON delay with automatic start	200 ms
Drop-out delay	
- Drop-out delay in case of power failure	60 ms
- Drop-out delay in case of emergency stop	17 ms / ≤ 20 ms

Mechanical data

Connection type	Screw connection
Cable section	
- Min. Cable section	0,25 mm ²
- Max. Cable section	2.5 mm ²
Pre-wired cable	rigid or flexible
Tightening torque for the terminals	0,6 Nm
Detachable terminals (Y/N)	Yes
Mechanical life	10.000.000 operations
Electrical lifetime	Derating curve available on request
restistance to shock	30 g / 11 ms
Resistance to vibration To EN 60068-2-6	10...55 Hz, Amplitude 0,35 mm, ± 15 %

Ambient conditions

Ambient temperature	
- Min. environmental temperature	-25 °C
- Max. environmental temperature	+45 °C
Storage and transport temperature	
- Min. Storage and transport temperature	-40 °C
- Max. Storage and transport temperature	+85 °C
Protection class	

- Protection class-Enclosure	IP40
- Protection class-Terminals	IP20
- Protection class-Clearance	IP54
Air clearances and creepage distances To IEC/EN 60664-1	
- Rated impulse withstand voltage U_{imp}	4 kV
- Overvoltage category	III To VDE 0110
- Degree of pollution	2 To IEC/EN 60664-1

Electromagnetic compatibility (EMC)

EMC rating	conforming to EMC Directive
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Electrical data

Rated DC voltage for controls	
- Min. rated DC voltage for controls	20.4 V
- Max. rated DC voltage for controls	28.8 V
Rated AC voltage for controls, 50 Hz	
- Min. rated AC voltage for controls, 50 Hz	-
- Max. rated AC voltage for controls, 50 Hz	-
Rated AC voltage for controls, 60 Hz	
- Min. rated AC voltage for controls, 60 Hz	-
- Max. rated AC voltage for controls, 60 Hz	-
Contact resistance	max. 100 mΩ
Power consumption	5.6 W, plus Signalling outputs
Type of actuation	DC
Rated operating voltage U_e	24 VDC -15% / +20%, residual ripple max. 10%
Frequency range	50 / 60 Hz
Electronic protection (Y/N)	Yes
Fuse rating for the operating voltage	Internal electronic trip, tripping current > 1.25 A, Reset after approximately 1 second/s

Inputs

Monitored inputs

- Short-circuit recognition (Y/N)	Yes
- Wire breakage detection (Y/N)	Yes
- Earth connection detection (Y/N)	Yes
Number of shutters	0 piece
Number of openers	2 piece
Cable length	1500 m with 1.5 mm ² ; 2500 m with 2.5 mm ²
Conduction resistance	max. 40 Ω

Outputs

Stop category	0
Number of safety contacts	2 piece
Number of auxiliary contacts	0 piece
Number of signalling outputs	2 piece
Switching capacity	
- Switching capacity of the safety contacts	max. 24 VDC, 4 A ohmic (inductive in case of appropriate protective wiring)
- Switching capacity of the signaling/diagnostic outputs	L54/L84: max. 50 mA LA1/LA2: max. 500 mA; min. 150 mA

Fuse rating	
- Protection of the safety contacts	4 A slow blow
- Fuse rating for the signaling/diagnostic outputs	T 0,5 A slow blow
Utilisation category To EN 60947-5-1	DC-13: 24 V / 2 A
Number of undelayed semi-conductor outputs with signaling function	0 piece
Number of undelayed outputs with signaling function (with contact)	2 piece
Number of delayed semi-conductor outputs with signaling function.	0 piece
Number of delayed outputs with signalling function (with contact).	0 piece
Number of secure undelayed semi-conductor outputs with signaling function	0 piece
Number of secure, undelayed outputs with signaling function, with contact.	2 piece
Number of secure, delayed semi-conductor outputs with signaling function	0 piece
Number of secure, delayed outputs with signaling function (with contact).	0 piece

LED switching conditions display

LED switching conditions display (Y/N)	Yes
Number of LED's	8 piece
LED switching conditions display	
- The integrated LEDs indicate the following operating states.	
- Position relay K2	
- Position relay K1	
- Position relay K5	
- Position relay K4	
- Position relay K3	
- Supply voltage	
- Internal operating voltage U_i	
- Position of the muting signalling device LA	

Miscellaneous data

Applications



muting function

Dimensions

Dimensions	
- Width	45 mm
- Height	100 mm
- Depth	121 mm

notice

Inductive loads (e.g. contactors, relays, etc.) are to be suppressed by means of a suitable circuit.

notice - Wiring example

The example shows a 2-channel control of 2 muting sensors and an external master reset button.

Relay outputs: Suitable for 2 channel control, for increase in capacity or number of contacts by means of contactors or relays with positive-guided contacts.

(H2) = Feedback circuit

The control recognises cross-short, cable break and earth leakages in the monitoring circuit.

F1 = Electronic fuse

The wiring diagram is shown with non-actuated muting sensors and in de-energised condition.

Documents

Operating instructions and Declaration of conformity (en) 1 MB, 15.02.2010

Code: mrl_srb202msl_en

Operating instructions and Declaration of conformity (fr) 568 kB, 16.06.2011

Code: mrl_srb202msl_fr

Operating instructions and Declaration of conformity (es) 1 MB, 21.12.2011

Code: mrl_srb202msl_es

Operating instructions and Declaration of conformity (jp) 1 MB, 26.05.2011

Code: mrl_srb202msl_jp

Operating instructions and Declaration of conformity (it) 1 MB, 12.10.2011

Code: mrl_srb202msl_it

Operating instructions and Declaration of conformity (de) 1 MB, 25.06.2010

Code: mrl_srb202msl_de

Operating instructions and Declaration of conformity (nl) 824 kB, 04.02.2011

Code: mrl_srb202msl_nl

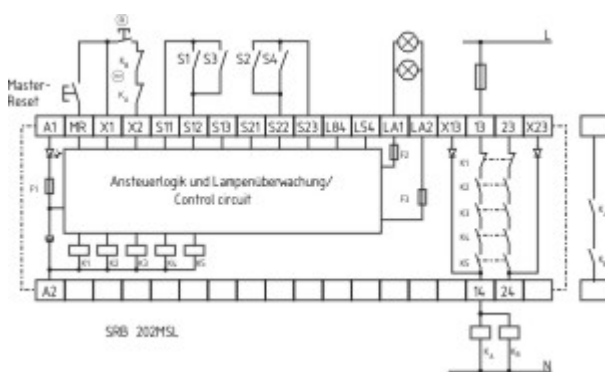
Operating instructions and Declaration of conformity (pl) 479 kB, 27.01.2014

Code: mrl_srb202msl_pl

Wiring example (99) 99 kB, 26.03.2013

Code: ksr2115

Images



Wiring diagram

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The data and values have been checked thoroughly. Technical modifications and errors excepted.

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