

Datasheet - SRB200X2



Guard door monitors and Safety control modules for Emergency Stop applications / General Purpose safety controllers (Series PROTECT SRB) / SRB200X2



- Suitable for signal processing of potential-free outputs, e.g. emergency stop command devices, position switches and solenoid interlocks
- 2 safety contacts, STOP 0

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

Ordering details

Product type description	SRB200X2
Article number	101181911
EAN Code	4250116202089
eCl@ss	27-37-19-01

Approval

Approval



Classification

Standards	EN ISO 13849-1, IEC 61508, EN 60947-5-1
PL	bis e (STOP 0)
Control category	bis 4 (STOP 0)
DC	99% (STOP 0)
CCF	> 65 points
PFH value	$\leq 2,0 \times 10^{-8}/h$ (STOP 0)
SIL	bis 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-op/y	t-cycle
20 %	525.600	1,0 min
40 %	210.240	2,5 min
60 %	75.067	7,0 min
80 %	30.918	17,0 min
100 %	12.223	43,0 min

Low-load range 20%	20.000.000
Low-load range 40%	7.500.000
Low-load range 60%	2.500.000
Low-load range 80%	1.000.000
Low-load range 100%	400.000

Global Properties

Permanent light	SRB200X2
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	AgSn0, self-cleaning, positive action
Weight	230
Start conditions	Start button
Start input (Y/N)	Yes
Feedback circuit (Y/N)	Yes
Start-up test (Y/N)	No
Reset after disconnection of supply voltage (Y/N)	No
Automatic reset function (Y/N)	No
Reset with edge detection (Y/N)	Yes
Pull-in delay	
- ON delay with reset button	typ. 20 ms
Drop-out delay	
- Drop-out delay in case of emergency stop	1-channel control: ≤ 50 ms 2-channel control: ≤ 20 ms

Mechanical data

Connection type	Screw connection
Cable section	
- Min. Cable section	0,25
- Max. Cable section	2.5
Pre-wired cable	rigid or flexible
Tightening torque for the terminals	0,6
Detachable terminals (Y/N)	No
Mechanical life	10.000.000 operations
Electrical lifetime	Derating curve available on request
resistance to shock	30 g / 11 ms
Resistance to vibration To EN 60068-2-6	10...55 HZ, Amplitude 0,35 mm, ± 15 %
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	+60 °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 IEC/EN 60664-1
- 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	
- Max. rated DC voltage for controls	20.4
- Max. rated DC voltage for controls	28.8
Rated AC voltage for controls, 50 Hz	
- Min. rated AC voltage for controls, 50 Hz	20.4
- Max. rated AC voltage for controls, 50 Hz	26.4
Rated AC voltage for controls, 60 Hz	
- Min. rated AC voltage for controls, 60 Hz	20.4
- Max. rated AC voltage for controls, 60 Hz	26.4
Contact resistance	max. 100 mΩ
Power consumption	1.5 W; 3.0 VA
Type of actuation	AC/DC
Rated operating voltage U_e	24 VDC -15% / +20%, residual ripple max. 10% 24 VAC -15% / +10%
Frequency range	50 / 60 HZ
Electronic protection (Y/N)	Yes
Fuse rating for the operating voltage	Internal electronic trip, tripping current > 1.0 A (Reset after approximately 1 second/s)
Current and tension on control circuits	
- S11, S12, S21, S22	24 VDC, Test current: 40 mA, Start pulse: 700 mA / 5 ms
- S33, S34	24 VDC, Test current: 40 mA, Start pulse: 200 mA / 5 ms
Bridging in case of voltage drops	typ. 50 ms

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	0 piece
Switching capacity	
- Switching capacity of the safety contacts	max. 230 VAC, 8 A ohmic (inductive in case of appropriate protective wiring) min. 10 V / 10 mA
Fuse rating	
- Protection of the safety contacts	8 A slow blow
Utilisation category To EN 60947-5-1	AC-15: 230 V / 6 A DC-13: 24 V / 6 A
Number of undelayed semi-conductor outputs with signaling function	0 piece
Number of undelayed outputs with signaling function (with contact)	0 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	3
LED switching conditions display	
- The integrated LEDs indicate the following operating states.	
- Position relay K2	
- Position relay K1	
- Supply voltage	

Miscellaneous data

Applications	 Emergency-Stop button  Pull-wire emergency stop switches  Guard system
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Dimensions

Dimensions	
- Width	22.5 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

To secure a guard door up to PL 4 and Category #03#

The feedback circuit monitors the positions of the positive-guided NC contacts on the contactors Ka and Kb.

If only one external relay or contactor is used to switch the load, the system can be classified in Control Category 3 to EN 954-1, if exclusion of the fault "Failure of the external contactor" can be substantiated and is documented, e.g. by using a reliable down-rated contactor. A second contactor leads to an increase in the level of security by redundant switching to switch the load off.

The wiring diagram is shown with guard doors closed and in de-energised condition.

Documents

Operating instructions and Declaration of conformity (de) 331 kB, 16.11.2017

Code: mrl_srb200x2_de

Operating instructions and Declaration of conformity (jp) 968 kB, 01.09.2010

Code: mrl_srb200x2_jp

Operating instructions and Declaration of conformity (es) 358 kB, 12.01.2018

Code: mrl_srb200x2_es

Operating instructions and Declaration of conformity (fr) 361 kB, 19.03.2018

Code: mrl_srb200x2_fr

Operating instructions and Declaration of conformity (en) 353 kB, 16.11.2017

Code: mrl_srb200x2_en

Operating instructions and Declaration of conformity (pl) 438 kB, 17.05.2018

Code: mrl_srb200x2_pl

Operating instructions and Declaration of conformity (nl) 355 kB, 02.08.2018

Code: mrl_srb200x2_nl

Operating instructions and Declaration of conformity (pt) 358 kB, 12.01.2018

Code: mrl_srb200x2_pt

Operating instructions and Declaration of conformity (it) 356 kB, 12.01.2018

Code: mrl_srb200x2_it

Wiring example (99) 18 kB, 04.08.2008

Code: ksr2113

BG-test certificate (de) 70 kB, 05.10.2006

Code: z_20xp01

CCC certification (en) 739 kB, 24.07.2017

Code: q_srbp03

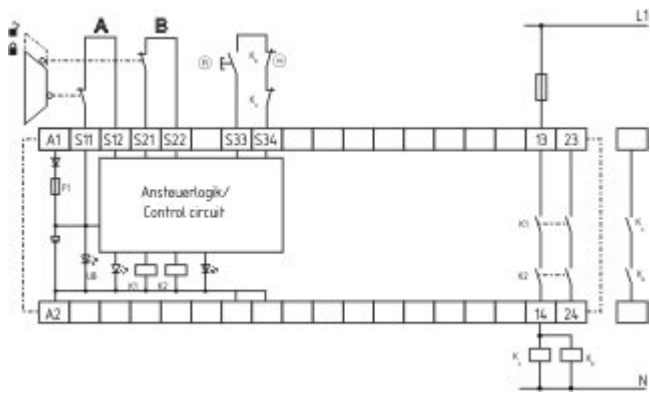
CCC certification (cn) 738 kB, 24.07.2017

Code: q_srbp04

EAC certification (ru) 1 MB, 15.03.2018

Code: q_aesp01

Images



Wiring example

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

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