

Datasheet - SRB 207AN-24V

Guard door monitors and Safety control modules for
Emergency Stop applications / General Purpose safety
controllers (Series PROTECT SRB) / SRB 207AN



- Fit for signal evaluation of outputs of safety magnetic switches
- 2 safety contacts, STOP 0
- 6 Signalling outputs
- Multi-evaluation of up to 6 safety guards
- Suitable for signal processing of potential-free outputs, e.g. emergency stop command devices, position switches and solenoid interlocks

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

Ordering details

Product type description	SRB 207AN-24V
Article number	1177685
EAN code	4030661309118

Approval

Approval



Classification

Standards	EN ISO 13849-1, IEC 61508, EN 60947-5-1
PL	up d (STOP 0)
Control category	up 3 (STOP 0)
DC	> 60% (STOP 0)
CCF	> 65 points
PFH value	$\leq 2 \times 10^{-7}/h$ (STOP 0)
SIL	up 2 (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.



Global Properties

Product name	SRB 207AN
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	, self-cleaning, positive action
Weight	422 g
Start conditions	Automatic or Start button (Optional monitored)
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)	Yes
Reset with edge detection (Y/N)	Yes
Pull-in delay	
- ON delay with automatic start	120 ms
- ON delay with reset button	30 ms
Drop-out delay	
- Drop-out delay in case of emergency stop	≤ 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	II To VDE 0110
- Degree of pollution	2 To VDE 0110

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	3.0 W, plus signalling outputs Y1...Y6
Type of actuation	DC
Switch frequency	max. 3 Hz
Rated operating voltage U_e	24 VDC -15% / +20%, residual ripple max. 10%
Operating current I_e	0,11 A
Frequency range	50 / 60 Hz
Electronic protection (Y/N)	Yes
Fuse rating for the operating voltage	Internal electronic trip, tripping current > 1 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	6 piece
Number of openers	6 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	1 piece
Number of signalling outputs	6 piece
Switching capacity	
- Switching capacity of the safety contacts	max. 230 VAC, 6 A ohmic (inductive in case of appropriate protective wiring)
- Switching capacity of the auxiliary contacts	24 VDC; 2 A
- Switching capacity of the signaling/diagnostic outputs	Y1...Y6: 24 VDC, 20 mA
Fuse rating	
- Protection of the safety contacts	6.3 A slow blow
- Fuse rating for the auxiliary contacts	2 A slow blow
- Fuse rating for the signaling/diagnostic outputs	Internal electronic trip, tripping current > 0,2 A
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)	7 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 piece
LED switching conditions display	
- The integrated LEDs indicate the following operating states.	
- Position relay K2	
- Position relay K1	
- Internal operating voltage U _i	

Miscellaneous data

Applications



Emergency-Stop button



Pull-wire emergency stop switches



Guard system



Safety sensor

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

To secure 6 guard doors up to PL d and Category 3

Monitoring 6 guard door(s), each with a magnetic safety sensor of the BNS range

Start button (S) with edge detection

The feedback circuit monitors the position of the contactors K3 and K4.

Automatic start: The automatic start is programmed by connecting the feedback circuit to the terminals X1/X3. If the feedback circuit is not required, establish a bridge

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

Documents

Operating instructions and Declaration of conformity (nl) 495 kB, 04.02.2011

Code: mrl_srb207an_nl

Operating instructions and Declaration of conformity (jp) 545 kB, 23.03.2011

Code: mrl_srb207an_jp

Operating instructions and Declaration of conformity (de) 895 kB, 25.06.2010

Code: mrl_srb207an_de

Operating instructions and Declaration of conformity (en) 833 kB, 16.02.2010

Code: mrl_srb207an_en

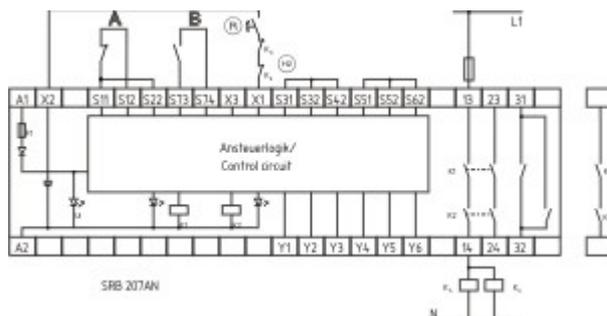
Operating instructions and Declaration of conformity (fr) 483 kB, 16.06.2011

Code: mrl_srb207an_fr

Wiring example (99) 18 kB, 04.08.2008

Code: ksr2114

Images



Wiring example

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

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