

Datasheet - SRB207AN 24V



Guard door monitors and Safety control modules for Emergency Stop applications / General Purpose safety controllers (Series PROTECT SRB) / SRB207AN



- 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
- Fit for signal evaluation of outputs of safety magnetic switches
- 2 safety contacts, STOP 0
- 6 Signalling outputs

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

Ordering details

Product type description	SRB207AN 24V
Article number	101170117
EAN Code	4250116201525
Replaced article number 101177685	
eCI@ss	27-37-19-01

Approval

Approval



Classification

Standards	EN ISO 13849-1, IEC 61508, EN 60947-5-1
PL	up e
Control category	up 3
DC	> 99%
CCF	> 65 points
PFH value	$\leq 2,0.0 \times 10^{-8}/h$
SIL	up 3
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 %	525.800	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

Global Properties

Permanent light	SRB207AN
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	300
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	typ. 120 ms
- ON delay with reset button	typ. 30 ms
Drop-out delay	
- Drop-out delay in case of power failure	typ. 20 ms, max. 35 ms
- Drop-out delay in case of emergency stop	typ. 20 ms, max. 35 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)	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
------------	-----------------------------

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	-
- 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, 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	1 ... 6 piece
Number of openers	1 ... 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
LED switching conditions display	
- The integrated LEDs indicate the following operating states.	
- Position relay K2	
- Position relay K1	
- Internal operating voltage Ui	

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 (sv) 227 kB, 18.01.2013

Code: mrl_srb207an_sv

Operating instructions and Declaration of conformity (cs) 246 kB, 18.01.2013

Code: mrl_srb207an_cs

Operating instructions and Declaration of conformity (da) 232 kB, 18.01.2013

Code: mrl_srb207an_da

Operating instructions and Declaration of conformity (jp) 428 kB, 27.01.2014

Code: mrl_srb207an_jp

Operating instructions and Declaration of conformity (it) 331 kB, 28.11.2017

Code: mrl_srb207an_it

Operating instructions and Declaration of conformity (pl) 351 kB, 01.03.2018

Code: mrl_srb207an_pl

Operating instructions and Declaration of conformity (es) 331 kB, 19.12.2017

Code: mrl_srb207an_es

Operating instructions and Declaration of conformity (pt) 336 kB, 19.12.2017

Code: mrl_srb207an_pt

Operating instructions and Declaration of conformity (fr) 336 kB, 19.12.2017

Code: mrl_srb207an_fr

Operating instructions and Declaration of conformity (nl) 339 kB, 03.08.2018

Code: mrl_srb207an_nl

Operating instructions and Declaration of conformity (de) 315 kB, 19.11.2018

Code: mrl_srb207an_de

Operating instructions and Declaration of conformity (en) 341 kB, 19.11.2018

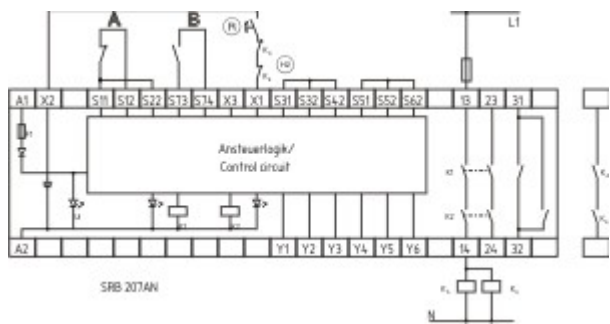
Code: mrl_srb207an_en

TÜV certification (en, de) 234 kB, 28.08.2014

Code: z_srbp06

EAC certification (ru) 1 MB, 15.03.2018

Code: q_aes01



Wiring example

K.A. Schmersal GmbH & Co. KG, Möddinghofe 30, D-42279 Wuppertal
The data and values have been checked thoroughly. Technical modifications and errors excepted.
Generiert am 13.02.2019 - 13:03:19h Kasbase 3.3.0.F.64I