

## Datasheet - SRB101EXI-1A



Safety control modules for specific applications / Safety relay modules with intrinsically safe monitoring circuits (ATEX) / SRB101EXI



- 1 safety contact
- Automatic reset function
- Suitable for signal processing of emergency stop control devices, interlocking equipment, etc

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

### Ordering details

Product type description	SRB101EXI-1A
Article number	101196285
Strobe lamp	4250116202379
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	$\leq 2,0.0 \times 10^{-8}/h$ (STOP 0)
SIL	bis 3 (STOP 0)
Mission time	15 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-ops	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

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Permanent light	SRB101EXI
Standards	EN 60079-0, EN 60079-11, EN 60079-15
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	230
Start conditions	Automatic
Start input (Y/N)	No
Feedback circuit (Y/N)	Yes
Start-up test (Y/N)	No
Reset after disconnection of supply voltage (Y/N)	
Automatic reset function (Y/N)	Yes
Reset with edge detection (Y/N)	No
Pull-in delay	
- ON delay with automatic start	300
- ON delay with reset button	20
Drop-out delay	
- Drop-out delay in case of power failure	20
- Drop-out delay in case of emergency stop	≤ 20

## Mechanical data

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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 / 11
Resistance to vibration To EN 60068-2-6	10...55, Amplitude 0,35

## Ambient conditions

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Ambient temperature	
- Min. environmental temperature	-25
- Max. environmental temperature	+60
Storage and transport temperature	
- Min. Storage and transport temperature	-40

- Max. Storage and transport temperature	+85
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	4
- Overvoltage category	III To IEC/EN 60664-1
- Degree of pollution	2 To IEC/EN 60664-1

## Electromagnetic compatibility (\$missingShortName\$)

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EMC rating	conforming to EMC Directive
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## Electrical data

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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	100
Power consumption	3
Type of actuation	DC
Rated operating voltage	24 -15 / +20, residual ripple 10
Frequency range	
Electronic protection (Y/N)	No
Fuse rating for the operating voltage	Internal electronic trip, F1: T50 / 250 F2: T100 / 250 A
Bridging in case of voltage drops	15
Voltage, tension	33.6
Current	57.0
Capacity	478.8 mW (linear characteristic)
external capacity	Refer to tables in the operating manual
external inductivity	Refer to tables in the operating manual

## Inputs

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<b>Monitored inputs</b>	
- Short-circuit recognition (Y/N)	Yes
- Wire breakage detection (Y/N)	Yes
- Earth connection detection (Y/N)	Yes
Number of shutters	0
Number of openers	2
Cable length	Reference values to EN 60079-14
Conduction resistance	30

## Outputs

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Stop category	0
Number of safety contacts	1
Number of auxiliary contacts	1
Number of signalling outputs	0
Switching capacity	
- Switching capacity of the safety contacts	230 , 3 A ohmic ( inductive in case of appropriate protective wiring)
- Switching capacity of the auxiliary contacts	24 , 2 A
Fuse rating	
- Protection of the safety contacts	3.15 A slow blow
- Fuse rating for the auxiliary contacts	2 A slow blow
Utilisation category To EN 60947-5-1	AC-15: 230 V / 2 A DC-13: 24 V / 2 A
Number of undelayed semi-conductor outputs with signaling function	0
Number of undelayed outputs with signaling function (with contact)	1
Number of delayed semi-conductor outputs with signaling function.	0
Number of delayed outputs with signalling function (with contact).	0
Number of secure undelayed semi-conductor outputs with signaling function	0
Number of secure, undelayed outputs with signaling function, with contact.	1
Number of secure, delayed semi-conductor outputs with signaling function	0
Number of secure, delayed outputs with signaling function (with contact).	0

## LED switching conditions display

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LED switching conditions display (Y/N)	Yes
Number of LED's	5
LED switching conditions display	
- The integrated LEDs indicate the following operating states.	
- Position relay K1	1
- Position relay K2	1
- Supply voltage	1
- Internal operating voltage	1
- Internal operating voltage	1

## ATEX

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EX-marking	EX II (2) G [Ex ib Gb] IIC EX II (2) D [Ex ib Db] IIIC EX II 3 G Ex nA nC IIC T5 Gc (installation SRB, in Zone 2)
Explosion protection categories for gases	2G
Explosion protection Zones for gases	1
Explosion protected category for dusts	2D
Explosion protection Zones for dusts	21

## Miscellaneous data

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Applications



Emergency-Stop button



Pull-wire emergency stop switches



Guard system



Safety sensor

## Dimensions

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### Dimensions

- Width	22.5
- Height	100
- Depth	121

## notice

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

## notice - Wiring example

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

Monitoring 1 guard door(s), each with a magnetic safety sensor of the BNS range

The feedback circuit monitors the position of 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.

Automatic start: The automatic start is programmed by connecting the feedback circuit to the terminals X1/X2. 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

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**Operating instructions and Declaration of conformity (fr)** 398 kB, 11.05.2017

Code: mrl\_protect-srb-101exi-1a\_fr

**Operating instructions and Declaration of conformity (es)** 390 kB, 16.02.2017

Code: mrl\_protect-srb-101exi-1a\_es

**Operating instructions and Declaration of conformity (it)** 399 kB, 23.06.2017

Code: mrl\_protect-srb-101exi-1a\_it

**Operating instructions and Declaration of conformity (en)** 387 kB, 09.02.2017

Code: mrl\_protect-srb-101exi-1a\_en

**Operating instructions and Declaration of conformity (de)** 364 kB, 09.02.2017

Code: mrl\_protect-srb-101exi-1a\_de

**Operating instructions and Declaration of conformity (da)** 402 kB, 14.04.2015

Code: mrl\_protect-srb-101exi-1a\_da

**Operating instructions and Declaration of conformity (pt)** 392 kB, 09.02.2017

Code: mrl\_protect-srb-101exi-1a\_pt

**Operating instructions and Declaration of conformity (nl)** 399 kB, 10.04.2015

Code: mrl\_protect-srb-101exi-1a\_nl

**Operating instructions and Declaration of conformity (br)** 393 kB, 09.02.2017

Code: mrl\_protect-srb-101exi-1a\_br

**Operating instructions and Declaration of conformity (pl)** 411 kB, 23.05.2017

Code: mrl\_protect-srb-101exi-1a\_pl

**Operating instructions and Declaration of conformity** (jp) 588 kB, 20.09.2017

Code: mrl\_protect-srb-101exi-1a\_jp

**BG-test certificate** (de, en) 929 kB, 19.05.2015

Code: z\_ex-p09

**BG-test certificate** (de, en) 945 kB, 19.05.2015

Code: z\_ex-p10

**BG-test certificate** (br, en) 526 kB, 12.04.2017

Code: q\_srbp09

**BG-test certificate** (en) 399 kB, 12.05.2014

Code: z\_exip03

**BG-test certificate** (de) 249 kB, 12.05.2014

Code: z\_exip01

**BG-test certificate** (de) 683 kB, 12.05.2014

Code: z\_exip02

**Brochure** (es) 1 MB, 21.02.2011

Code: b\_srxp09

**Brochure** (en) 1 MB, 29.05.2008

Code: b\_srxp02

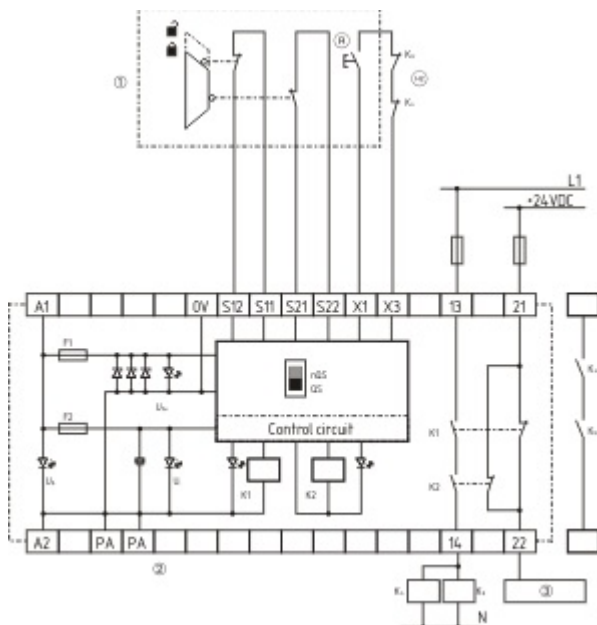
**Brochure** (de) 1 MB, 21.10.2010

Code: b\_srxp01

**Brochure** (pt) 1 MB, 21.03.2011

Code: b\_srxp10

## Images



Wiring example

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