SRB211-ST (V2)

- **1 Signalling output**
- **2 safety contacts, STOP 0; 1 safety contact, STOP 1**
- **Suitable for signal processing of outputs connected to potentials (AOPDs), e.g. safety light grids/curtains**
- **Suitable for signal processing of potential-free outputs, e.g. emergency stop command devices, position switches and solenoid interlocks**

Data

Ordering data	
Product type description	SRB 211ST V.2
Article number (order number)	101208309
EAN (European Article Number)	4030661448923
eCl@ss number, Version 9.0	27-37-18-19
Certifications	
Certificates	cULus CCC EAC TILVA
General data	
Product name	SRB 211ST
Standards	IEC 61508 IEC/EN 60204-1 ISO 13849-1 EN 60947-5-1
Climatic stress	EN 60068-2-78
Enclosure material	Glass-fibre reinforced thermoplastic, ventilated
Material of the contacts, electrical	AgSn0, Ag-Ni, self-cleaning, positive drive
Weight	250 g

General data - Features	
Stop-Category	0 1
Electronic Fuse	Yes
Wire breakage detection	Yes
Short-circuit recognition	Yes
Removable Terminals	Yes
Start input	Yes
Feedback circuit	Yes
Automatic reset function	Yes
Reset edge detection	Yes
Earth connection detection	Yes
Integral System Diagnostics, status	Yes
Number of LEDs	6
Number of openers	2
Number of safety contacts	3
Number of Safety contacts, STOP 0	3
Number of Safety contacts, STOP 1	2
Number of signalling outputs	1
Safety appraisal	
Standards	EN 60947-5-1 IEC 61508
Safety appraisal - Relay outputs	
Performance Level, Stop 0	e
Performance Level, Stop 1	d
Category, Stop 0	4
Category, Stop 1	3
Diagnostic Coverage (DC) Level, Stop 0	≥ 99 %
Diagnostic Coverage (DC) Level, Stop 1	> 60
PFH-Value Stop 0	2.00×10^{-8} /h
PFH-Value Stop 1	2.00×10^{-7} /h
Safety Integrity Level (SIL), Stop 0	3
Safety Integrity Level (SIL), Stop 1	2
PFD value	5.30×10^{-5}

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Mechanical data	
Mounting	Snaps onto standard DIN rail to EN 60715
Mechanical life, minimum	10,000,000 Operations
Mechanical data - Connection technique	
Terminal Connector	Screw connection rigid or flexible
Terminal designations	IEC/EN 60947-1
Cable section, minimum	0.25 mm²
Cable section, maximum	2.5 mm²
Tightening torque of Clips	0.6 Nm
Mechanical data - Dimensions	
Width	22.5 mm
Height	100 mm
Depth	121 mm
Ambient conditions	
Protection class of the enclosure	IP40
Protection class of the Clearance	IP54
Protection class of Clips or Terminals	IP20
Ambient temperature, minimum	-25 °C
Ambient temperature, maximum	+60 °C
Storage and transport temperature, minimum	-40 °C
Storage and transport temperature, maximum	+85 °C
Resistance to vibrations to EN 60068-2-6	10...55 Hz, Amplitude 0.35 mm, ± 15 %
Restistance to shock	30 g / 11 ms
Ambient conditions - Insulation value	
Rated impulse withstand voltage	4 kV
	III

Degree of pollution to VDE 0110	2
Electrical data	
Frequency range	50 Hz 60 Hz
Rated operating voltage	24 VAC -15% / +10% 24 VDC -15% / +20%, residual ripple max. 10 %
Rated AC voltage for controls, 50 Hz, minimum	20.4 VAC
Rated control voltage at AC 50 Hz, maximum	26.4 VAC
Rated AC voltage for controls, 60 Hz, minimum	20.4 VAC
Rated control voltage at AC 60 Hz, maximum	26.4 VAC
Rated AC voltage for controls at DC minimum	20.4 VDC
Rated control voltage at DC, maximum	28.8 VDC
Electrical power consumption	2.4 W
Electrical power consumption	5.9 VA
Contact resistance, maximum	0.1 Ω
Note (Contact resistance)	in new state
Drop-out delay in case of power failure, typically	80 ms
Drop-out delay in case of emergency, typically	30 ms
Pull-in delay at automatic start, maximum, typically	250 ms
Pull-in delay at RESET, typically	20 ms
Electrical data - Safe relay outputs	
Voltage, Utilisation category, AC15	230 VAC
Current, Utilisation category, AC15	6 A
Voltage, Utilisation category, DC13	24 VDC
Current, Utilisation category, DC13	6 A
Switching capacity, minimum	10 VDC
Switching capacity, minimum	10 mA
Switching capacity, maximum	250 VAC
Switching capacity, maximum	8 A

Voltage, Utilisation category, AC15	230 VAC
Current, Utilisation category, AC15	3 A
Voltage, Utilisation category, DC13	24 VDC
Current, Utilisation category, DC13	2 A
Switching capacity, minimum	10 VDC
Switching capacity, minimum	10 mA
Switching capacity, maximum	250 VAC
Switching capacity, maximum	6 A
Electrical data - Digital inputs	
Conduction resistance, maximum	40 Ω
Electrical data - Relay outputs (auxiliary contacts)	
Switching capacity, maximum	24 VDC
Switching capacity, maximum	2 A
Electrical data - Electromagnetic compatibility (EMC)	
	EMC-Directive
Status indication	
Indicated operating states	Position relay K2 Position relay K1 Internal operating voltage U_i Position relay K3/K4
Other data	
Note (applications)	Safety sensor Guard system Emergency-Stop button Pull-wire emergency stop switches Safety light curtain
Notes	
Note (General)	Inductive loads (e.g. contactors, relays, etc.) are to be suppressed by means of a suitable circuit.
Circuit example	

Note (Wiring diagram)	The wiring diagram is shown with guard doors closed and in de-energised condition. 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. Input level: The example shows a 2-channel control of a guard door monitoring with two position switches, whereof one with positive break, external reset button (R) and feedback circuit (H2). The control recognises cross-short, cable break and earth leakages in the monitoring circuit. For 1-channel control, connect NC contact to S11/S12 and bridge S12/S22 Connect potential p-type outputs of safety light grids/curtains to S12/S22. The devices must have the same reference potential. The safety enabling circuit 37/38 conforms to EN 60204-1 for STOP Category 1. The safety enabling circuits 13/14 and 23/24 conform to EN 60204-1 for STOP Category 0. F1 = Hybrid fuse

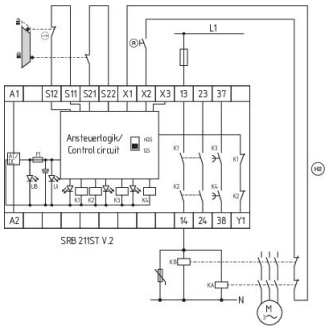
Pictures

Product picture (catalogue individual photo)

ID: ksrb2f23

| 99,1 kB | .png | 74.083 x 173.919 mm - 210 x 493 Pixel - 72 dpi
| 847,7 kB | .jpg | 265.994 x 625.122 mm - 754 x 1772 Pixel - 72 dpi
| 176,9 kB | .jpg | 27.093 x 63.669 mm - 320 x 752 Pixel - 300 dpi
| 2,8 kB | .jpg | 35.278 x 35.278 mm - 100 x 100 Pixel - 72 dpi

Wiring example



ID: ksrb2l03

| 167,1 kB | .jpg | 352.778 x 353.483 mm - 1000 x 1002 Pixel - 72 dpi
| 48,8 kB | .cdr |

Symbol (technical standard)

K	n-op/y	t-cycle
20 %	525.600	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

ID: kformm02

| 191,1 kB | .jpg | 352.778 x 246.592 mm - 1000 x 699 Pixel - 72 dpi