



SRB 211ST V.2

- 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

	SRB 211ST V.2
	101208309
EAN (European Article Number)	4030661448923
eCl@ss number, Version 9.0	27-37-18-19
Available until	31.12.2022

Approval - Standards

cULus
CCC
EAC
TILVA

General data

	SRB 211ST
	IEC 61508
	IEC/EN 60204-1
	ISO 13849-1
	EN 60947-5-1
	EN 60068-2-78
Enclosure material	Glass-fibre reinforced thermoplastic, ventilated
Material of the contacts, electrical	AgSn0, Ag-Ni, self-cleaning, positive drive

Gross weight	280 g
--------------	-------

General data - Features

Stop-Category	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

EN 60947-5-1
IEC 61508

Safety appraisal - Relay outputs

Performance level, stop 0, up to	e
Performance level, stop 1, up to	d
Category, Stop 0	4
Category, Stop 1	3
Diagnostic Coverage (DC) Level, Stop 0	$\geq 99 \%$
Diagnostic Coverage (DC) Level, Stop 1	> 60
PFH-Value Stop 0	$2.00 \times 10^{-8} /h$
PFH-Value Stop 1	$2.00 \times 10^{-7} /h$
Safety Integrity Level (SIL), Stop 0, applicable for	3

Safety Integrity Level (SIL), Stop 1, applicable for	2
Mission time	20 Year(s)
Common Cause Failure (CCF), minimum	65
PFD value	5.30×10^{-5}
PFD value	5.30×10^{-5}

Mechanical data

Mounting	Snap 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 0.25 mm ² 2.5 mm ²
Tightening torque of Clips	0.6 Nm

Mechanical data - Dimensions

Width	22.5 mm
Height	100 mm
Depth	121 mm

Ambient conditions

	IP40
	IP54
	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, $\pm 15\%$ 30 g / 11 ms

Ambient conditions - Insulation value

Rated impulse withstand voltage	4 kV
	III
	2

Electrical data

Frequency range	60 Hz
	24 VAC -15% / +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 - Digital Output

Voltage, Utilisation category DC12	24 VDC
Current, Utilisation category DC12	0.1 A

Electrical data - Relay outputs (auxiliary contacts)

Switching capacity, maximum	24 VDC
Switching capacity, maximum	2 A

Electrical data - Electromagnetic compatibility (EMC)

EMC rating	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

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).

Note (Wiring diagram) 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

Photo/Product/Catalogue



ID: ksrb2f23

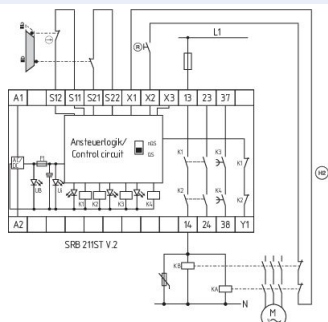
| 847,7 kB | .jpg | 265.994 x 625.122 mm - 754 x 1772

Pixel - 72 dpi

| 99,1 kB | .png | 74.083 x 173.919 mm - 210 x 493

Pixel - 72 dpi

Graphic/Product/Wiring



ID: ksrb2l03

| 167,1 kB | .jpg | 352.778 x 353.483 mm - 1000 x

1002 Pixel - 72 dpi

| 48,8 kB | .cdr |

Graphic/Product/Icon

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

K.A. Schmersal GmbH & Co. KG, Möddinghofe 3, D-42279 Wuppertal

The details and data referred to have been carefully checked. Images may diverge from original. Further technical data can be found in the manual. Technical amendments and errors possible.

Generated on 052021-01-31T12:34:05+01:001201Europe/BerlinSun, 31 Jan 2021 12:34:05

+010005pmSunday.31pm31Europe/BerlinCET3401Europe/BerlinJanuary2021Sun, 31 Jan 2021 12:34:05
+010001pm31