DATASHEET

SRB304ST

- Suitable for the signal processing of outputs with contact sensors
- Suitable for signal processing of outputs connected to potentials (AOPDs), e.g. safety light grids/curtains
- Suitable for the signal processing of outputs with contact sensors
- 3 safety contacts, STOP 0
- 4 Signalling outputs

Data

Ordering data

Replacement article number	101193475
Product type description	SRB304ST
Article number (order number)	101190715
EAN (European Article Number)	4250116202294
eCl@ss number, version 12.0	27-37-18-19
eCl@ss number, version 11.0	27-37-18-19
eCl@ss number, version 9.0	27-37-18-19
ETIM number, version 7.0	EC001449
ETIM number, version 6.0	EC001449
Notice	Discontinued product

Approvals - Standards

Certificates	TÜV cULus

General data

Standards	EN IEC 62061 EN ISO 13849-1 EN IEC 60947-5-1 EN IEC 60947-5-3 EN IEC 60947-5-5 EN IEC 61508 EN IEC 60204-1 EN IEC 60947-1
Climatic stress	EN 60068-2-78
Housing material	Glass-fibre reinforced thermoplastic, ventilated
Gross weight	420 g

General data - Features

Electronic Fuse	Yes
Wire breakage detection	Yes
Cross-circuit detection	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 auxiliary contacts	1
Number of LEDs	4
Number of normally closed (NC)	2
Number of undelayed semi-conductor outputs with signaling function	3
Number of safety contacts	3
Number of signalling outputs	3

Safety classification

Vorschriften	EN IEC 60947-5-1 EN IEC 61508
Stop-Category	0

Safety classification - Relay outputs

Performance Level, stop 0, up to	e
Category, Stop 0	4
Diagnostic Coverage (DC) Level, Stop 0	≥ 99 %
PFH value, Stop 0	2.00 x 10^{-8} /h
Safety Integrity Level (SIL), Stop 0, suitable for applications in	3
Mission time	20 Year(s)
Common Cause Failure (CCF), minimum	65

Mechanical data

Mechanical life, minimum	10,000,000 Operations
Mounting	Snaps onto standard DIN rail to EN 60715

Mechanical data - Connection technique

Terminal designations	IEC/EN 60947-1
Termination	rigid or flexible Screw terminals M20 x 1.5
Cable section, minimum	0.25 mm²
Cable section, maximum	2.5 mm²
Tightening torque of Clips	0.6 Nm

Mechanical data - Dimensions

Width	45 mm
Height	120 mm
Depth	121 mm

Ambient conditions

Degree of protection of the enclosure	IP40
Degree of protection of the installation space	IP54
Degree of protection of clips or terminals	IP20
Ambient temperature	-25 ... +60 °C
Storage and transport temperature	-40 ... +85 °C
Resistance to vibrations	10 ... 55 Hz, Amplitude 0.35 mm
Restistance to shock	30 g / 11 ms

Ambient conditions - Insulation values

Rated impulse withstand voltage U_{imp}	4 kV
Overvoltage category	III
Degree of pollution	2

Electrical data

Frequency range	50 Hz 60 Hz
Operating voltage	24 VAC -15 % / +10 % 24 VDC -10 % / +20 %
Ripple voltage	10 %
Rated operating voltage	24 VAC
Rated operating voltage	24 VDC

Rated AC voltage for controls, 50 Hz, minimum	20.4
Rated control voltage at AC 50 Hz, maximum	26.4
Rated AC voltage for controls, 60 Hz, minimum	20.4
Rated control voltage at AC 60 Hz, maximum	26.4
Rated AC voltage for controls at DC minimum	20.4 VDC
Rated control voltage at DC, maximum	28.8 VDC
Electrical power consumption	1.9 W
Electrical power consumption	4.9 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	20 ms
Pull-in delay at automatic start, maximum, typically	100 ms
Pull-in delay at RESET, typically	20 ms
Material of the contacts, electrical	AgSn0. self-cleaning, positive drive

Electrical data - Safe relay outputs

Voltage, Utilisation category AC-15	230 VAC
Current, Utilisation category AC-15	6 A
Voltage, Utilisation category DC-13	24 VDC
Current, Utilisation category DC-13	6 A
Switching capacity, minimum	10 VDC
Switching capacity, minimum	10 mA
Switching capacity, maximum	250 VAC

Switching capacity, maximum	8 A

Electrical data - Digital inputs

Conduction resistance, maximum	40 Ω

Electrical data - Digital Output

Voltage, Utilisation category DC-12	24 VDC
Current, Utilisation category DC-12	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

Other data

Note (applications)	Safety sensor Guard system Emergency-Stop button Pull-wire emergency stop switches Safety light curtain

Note

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

Wiring example

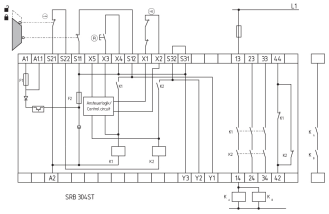
Note (Wiring diagram)	The wiring diagram is shown with guard doors closed and in de-energised condition. Relay outputs: Suitable for 2 channel control, for increase in capacity or number of contacts by means of contactors or relays with positive-guided contacts. The control recognises cross-short, cable break and earth leakages in the monitoring circuit. 2 channel control shown for a guard-door monitor with two contacts, of which at least one contact has positive break, with external reset button (R). (H2) = Feedback circuit

Pictures

Product picture (catalogue individual photo)

ID: ksrb3f19
| 1,4 MB | .jpg | 342.547 x 625.122 mm - 971 x 1772 px - 72 dpi
| 94,7 kB | .png | 74.083 x 135.114 mm - 210 x 383 px - 72 dpi
| 60,1 kB | .jpg | 67.733 x 123.472 mm - 192 x 350 px - 72 dpi

Wiring example



ID: ksrb3l21
| 96,9 kB | .ai | 112.065 x 73.145 mm - 317 x 207 px - 72 dpi
| 111,9 kB | .jpg | 352.778 x 227.189 mm - 1000 x 644 px - 72 dpi

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 px - 72 dpi

Schmersal, Inc., 115 E Stevens Ave, Suite 208, Valhalla, NY 10595

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