



SRB301MA-24V

- 1 Signalling output
- 3 safety contacts, STOP 0
- Fit for signal evaluation of outputs of safety magnetic switches
- 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

	SRB301MA-24V
	101212415
EAN (European Article Number)	4030661446561
eCl@ss number, Version 9.0	27-37-18-19
Available until	31.12.2022
Replacement article number	101215369

Approval - Standards

TÜV
cULus
EAC

General data

SRB301MA
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	250 g

General data - Features

Stop-Category	0
Electronic Fuse	Yes
Wire breakage detection	Yes
Short-circuit recognition	Yes
Start input	Yes
Feedback circuit	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 openers	2
Number of safety contacts	3

Safety appraisal

EN 60947-5-1
IEC 61508

Safety appraisal - Relay outputs

Performance level, stop 0, up to	e
Category, Stop 0	4
Diagnostic Coverage (DC) Level, Stop 0	$\geq 99 \%$
PFH-Value Stop 0	$2.00 \times 10^{-8} /h$
Safety Integrity Level (SIL), Stop 0, applicable for	3
Mission time	20 Year(s)
Common Cause Failure (CCF), minimum	65

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 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 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	1.8 W
Electrical power consumption	4.4 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

Electrical data - Safe relay outputs

Voltage, Utilisation category AC15	230 VAC
Current, Utilisation category AC-15	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

Electrical data - Digital inputs

Conduction resistance, maximum	40 Ω
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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
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Status indication

Indicated operating states	Position relay K2 Position relay K1 Internal operating voltage U _i
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Other data

Note (applications)	Safety sensor Guard system Emergency-Stop button Pull-wire emergency stop switches Safety light curtain
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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. Monitoring 1 guard door(s), each with a magnetic safety sensor of the BNS range To secure a guard door up to PL e and Category 4 The feedback circuit monitors the position of the contactors KA and KB. Switch setting: The cross-wire short detection function (factory default) is programmed by means of the switch located underneath the front cover of the module: Pposition nQS (top): no cross-wire short protection, suitable for 1-channel applications and applications with outputs with potential in the control circuits. Position QS (bottom): cross-wire short protection, suitable for 2-channel applications without outputs with potential in the control circuits. For 1-channel control, connect NC contact to S11/S12 and bridge S12/S22 (QS-switch = nQS) Connect potential p-type outputs of safety light grids/curtains to S12/S22. The devices must have the same reference potential. QS-switch = nQS

Pictures

Photo/Product/Catalogue



ID: ksrb3f30

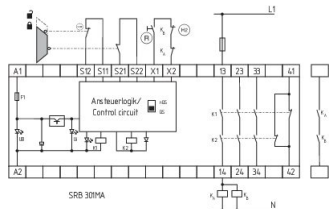
| 85,1 kB | .png | 74.083 x 147.461 mm - 210 x 418

Pixel - 72 dpi

| 714,1 kB | .jpg | 265.642 x 529.167 mm - 753 x 1500

Pixel - 72 dpi

Graphic/Product/Wiring



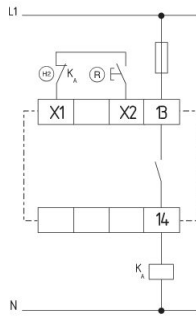
ID: ksrb3l289

| 37,8 kB | .cdr |

| 112,9 kB | .jpg | 352.778 x 226.483 mm - 1000 x 642

Pixel - 72 dpi

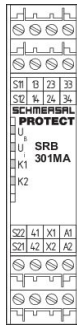
Graphic/Product/Wiring



ID: ksrb3l293

| 100,6 kB | .jpg | 352.778 x 601.486 mm - 1000 x 1705 Pixel - 72 dpi

Graphic/Product/Wiring



ID: ksrb3l295

| 622,7 kB | .jpg | 352.778 x 1502.833 mm - 1000 x 4260 Pixel - 72 dpi

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

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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.

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