DATASHEET



SRB402EM

- Expander module for contact expansion
- 4 safety contacts, STOP 0
- 2 Signalling outputs

Data

Ordering data

Product type description	SRB402EM
Article number (order number)	101170840
EAN (European Article Number)	4250116201518
eCl@ss number, Version 9.0	27-37-18-19
eCl@ss number, Version 11.0	27-37-18-19
ETIM number, version 6.0	EC001449
Replacement article number	101175611

Approval - Standards

Certificates	cULus CCC EAC

General data

Standards	IEC 61508 EN 60947-5-1 EN 60204-1 EN ISO 13849-1
Climatic stress	EN 60068-2-78
Enclosure material	Glass-fibre reinforced thermoplastic, ventilated
Material of the contacts, electrical	AgSn0. self-cleaning, positive drive
Gross weight	250 g

General data - Features

Stop-Category	0
Wire breakage detection	Yes
Removable Terminals	Yes
Feedback circuit	Yes
Automatic reset function	Yes
Earth connection detection	Yes
Integral System Diagnostics, status	Yes
Number of auxiliary contacts	2
Number of LEDs	1
Number of openers	1
Number of safety contacts	4

Safety appraisal

Standards	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	≥ 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 Connector	rigid or flexible Screw connection, plug-in
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	120 mm
Depth	121 mm

Ambient conditions

Degree of protection of the enclosure	IP40
Degree of protection of the mounting space	IP54
Degree of protection of clips or terminals	IP20

Ambient temperature, minimum	-25 °C
Ambient temperature, maximum	+45 °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	10 g / 11 ms

Ambient conditions - Insulation value

Rated impulse withstand voltage U_{imp}	4 kV
Overvoltage category	III
Degree of pollution to IEC/EN 60664-1	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	1 W
Electrical power consumption	1 VA

Contact resistance, maximum	0.1 Ω
Note (Contact resistance)	in new state
Drop-out delay, maximum	35 ms
Pull-in delay at automatic start, maximum, typically	30 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

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 K1/K2

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)	Relay outputs: 1-channel control of the expander module is suitable for contact reinforcement or multiplication of the connected safety relay module. Terminals X1 and X2 of the expander module must be connected to the feedback circuit or reset circuit of the safety relay module. The wiring diagram shows the control of the expander module by a SRB... safety relay module with the guard doors closed and in de-energised condition.

Pictures

Product picture (catalogue individual photo)



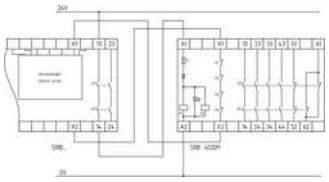
ID: ksrb4f02
| 793.2 kB | .jpg | 265.994 x 625.122 mm - 754 x 1772 px - 72 dpi
| 98.6 kB | .png | 74.083 x 173.919 mm - 210 x 493 px - 72 dpi

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

Wiring example



ID: ksrb4l02
| 38.0 kB | .cdr |
| 90.7 kB | .jpg | 352.778 x 188.383 mm - 1000 x 534 px - 72 dpi

Schmersal, Inc., 15 Skyline Drive, Hawthorne, NY 10532
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: 25/10/2021, 18:20