



SRB400CA 24VDC

- Level 1: Reset without edge detection, Optional Automatic reset function, Level 2: / Opener (NC) Normally open contact (NO)
- Two-functions safety monitoring module (double evaluation)
- 2 x 2 enabling paths with different shut-down behaviour, e.g. emergency exit opens both enabling paths (level 1); guard door monitoring only opens the second enabling path (level 2)
- Suitable for signal processing of potential-free contacts, e.g. Emergency Stop command devices (level 1), position switches with safety function, solenoid interlocks and safety sensors (level 2)

Data

Ordering data

Replacement article number	101175610
Product type description	SRB400CA 24VDC
Article number (order number)	101176198
EAN (European Article Number)	4250116202003
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	cULus
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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	235 g

General data - Features

Electronic Fuse	Yes
Wire breakage detection	Yes
Removable Terminals	Yes
Start input	Yes
Feedback circuit	Yes
Automatic reset function	Yes
Earth connection detection	Yes
Integral system diagnostics, status	Yes
Number of inputs for NC	3
Number of inputs for NO	1
Number of LEDs	6
Number of safety contacts	4

Safety classification

Standards	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	2.00×10^{-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 lifetime, minimum	10,000,000 Operations
Mounting	Snaps onto standard DIN rail to EN 60715

Mechanical data - Connection technique

Terminal designations	IEC/EN 60947-1
Cable section, minimum	0.25 mm ²
Cable section, maximum	2.5 mm ²
Tightening torque of Clips	0.6 Nm
Allowed type of cable	solid single-wire flexible
Terminal (mechanical)	Schraubklemmen

Mechanical data - Dimensions

Width	22.5 mm
Height	100 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 ... +45 °C
Storage and transport temperature	-40 ... +85 °C
Resistance to vibrations	10 ... 55 Hz, Amplitude 0.35 mm
Resistance to shock	10 g / 11 ms

Ambient conditions - Insulation values

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

Electrical data

Operating voltage	24 VDC -10 % / +20 %
Ripple voltage	10 %
Rated operating voltage	24 VDC
Rated AC voltage for controls at DC minimum	20.4 VDC
Rated control voltage at DC, maximum	28.8 VDC

Electrical power consumption	4.4 W
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
ON delay at automatic start	Adjustable
Pull-in delay at RESET, typically	20 ms
Material of the contacts, electrical	Ag-Ni, self-cleaning, positive drive

Electrical data - Safe relay outputs

Voltage, Utilisation category AC-15	250 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 - 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

Other data

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

Note

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

Note (Cross-circuit detection) Level 1

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.

Input level: the example shows a 2-channel control of an Emergency Stop command device (level 1) with external reset button (R), and guard door monitoring (level 2) with feedback circuit (H2).

Automatic start (level 1): The automatic start is programmed by connecting the feedback circuit to the terminals X1/+24 V DC. Automatic start (level 2): The automatic start is programmed by connecting the feedback circuit to the terminals X2/+24 V DC. If the feedback circuit is not required, establish a bridge.

Pictures

Product picture (catalogue individual photo)



ID: ksr4f13

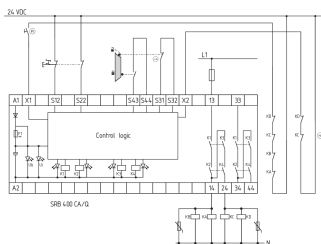
| 808,0 kB | .jpg | 265.994 x 625.122 mm - 754 x 1772 px - 72 dpi

| 101,1 kB | .png | 74.083 x 173.919 mm - 210 x 493 px - 72 dpi

| 39,3 kB | .jpg | 52.564 x 123.472 mm - 149 x 350 px - 72 dpi

| 31,1 kB | .png | 74.083 x 74.083 mm - 210 x 210 px - 72 dpi

Wiring example

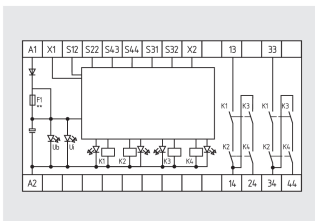


ID: ksr4l01

| 41,2 kB | .cdr |

| 125,7 kB | .jpg | 352.778 x 260.35 mm - 1000 x 738 px - 72 dpi

Wiring example



ID: 1srb4l01

| 29,6 kB | .cdr |

| 108,4 kB | .jpg | 352.778 x 248.003 mm - 1000 x 703 px - 72 dpi

Symbol (technical standard)

K	n-op/y	t-cycle	ID: kformm02
20 %	525.600	1,0 min	191,1 kB .jpg 352.778 x 246.592 mm - 1000 x 699 px - 72 dpi
40 %	210.240	2,5 min	
60 %	75.087	7,0 min	
80 %	30.918	17,0 min	
100 %	12.223	43,0 min	

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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.

Generated on: 19/12/2025, 14:29