

SRB400CA 24VDC



- **Two-functions safety monitoring module (double evaluation)**
- **Level 1: Reset without edge detection, Optional Automatic reset function, Level 2: / Opener (NC) Normally open contact (NO)**
- **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

	SRB400CA 24VDC
	101176198
EAN (European Article Number)	4250116202003
eCl@ss number, Version 9.0	27-37-18-19
Available until	31.12.2022
Replacement article number	101175610

Approval - Standards

cULus
EAC

General data

SRB400CA 24VDC

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	Ag-Ni, self-cleaning, positive drive
Gross weight	235 g

General data - Features

Stop-Category	0
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 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	$2.00 \times 10^{-8} / \text{h}$
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	+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 10 g / 11 ms

Ambient conditions - Insulation value

Rated impulse withstand voltage	4 kV
	III
	2

Electrical data

Rated operating voltage	24 VDC -15%/+20%, residual ripple max. 10%
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

Electrical data - Safe relay outputs

Voltage, Utilisation category AC15	250 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 K2
Position relay K1
Internal operating voltage $U_{i</sub>}$
Position relay K3

Other data

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

Notes

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

Note (Short-circuit recognition) Level 1

Circuit 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

Photo/Product/Catalogue

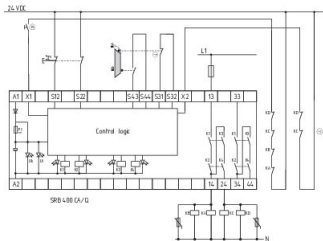


ID: ksrb4f13

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

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

Graphic/Product/Wiring

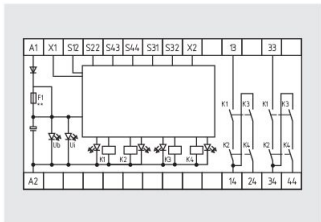


ID: ksrb4l01

| 41,2 kB | .cdr |

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

Graphic/Product/Wiring



ID: 1srb4l01

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

| 29,6 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