

SRB400CA/QT 24VDC



- **Two-functions safety monitoring module (double evaluation)**
- **Level 1: Reset with edge detection, Short-circuit recognition, 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/QT 24VDC
	101176215
EAN (European Article Number)	4250116201990
eCl@ss number, Version 9.0	27-37-18-19
Available until	31.12.2022
Replacement article number	101177158

Approval - Standards

cULus
EAC

General data

SRB400CA/QT 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
Short-circuit recognition	Yes
Removable Terminals	Yes
Start input	Yes
Feedback circuit	Yes
Reset edge detection	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 mm²

2.5 mm²

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}
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.

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: ksrb4f14

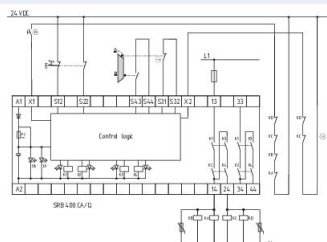
| 808,2 kB | .jpg | 265.994 x 625.122 mm - 754 x 1772

Pixel - 72 dpi

| 101,3 kB | .png | 74.083 x 173.919 mm - 210 x 493

Pixel - 72 dpi

Graphic/Product/Wiring



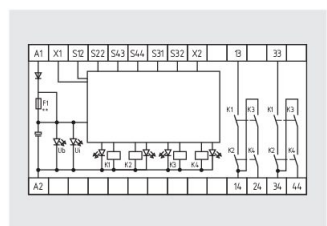
ID: ksrb4l01

| 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

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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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