SRB-NA-R-C.21

Safety relay array for emergency stop devices, interlocking devices and others

- **5 enabling outputs and 1 monitoring output**
- **2 enabling outputs drop-out delayed: 0 ... 30 sec.**
- **Selectable extras:**
  - **Trailing edge function**
  - **Auto reset**
  - **Cross-short recognition**
- **Time set in 24 stages (at bottom of housing)**

Features

- Relay output: 3 NO, 2 NO time delayed, 1 NC (Auxiliary NC for monitoring must not be used in safety enabling circuits!)
- Reset, feedback loop
- Input for emergency stop or door monitoring
- LED's for K1, K2, K3, K4, U_B, U_i
- Housing 45 mm, made of thermoplastic in accordance with UL-94-V-0, red RAL 3000
- DIN rail mounting DIN EN 50 022

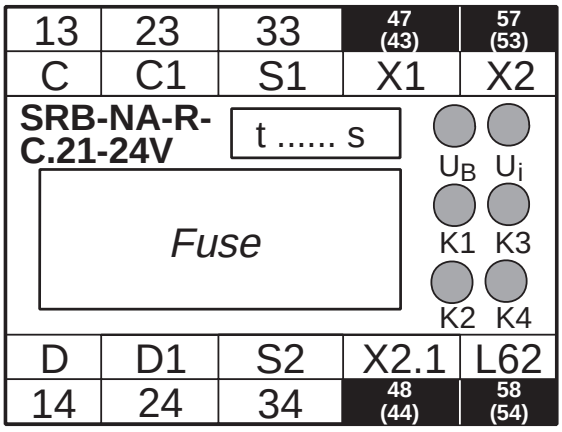
Approvals

BG-PRÜFZERT. 98107

LR 13571-30

E 54284 (M)

Front view

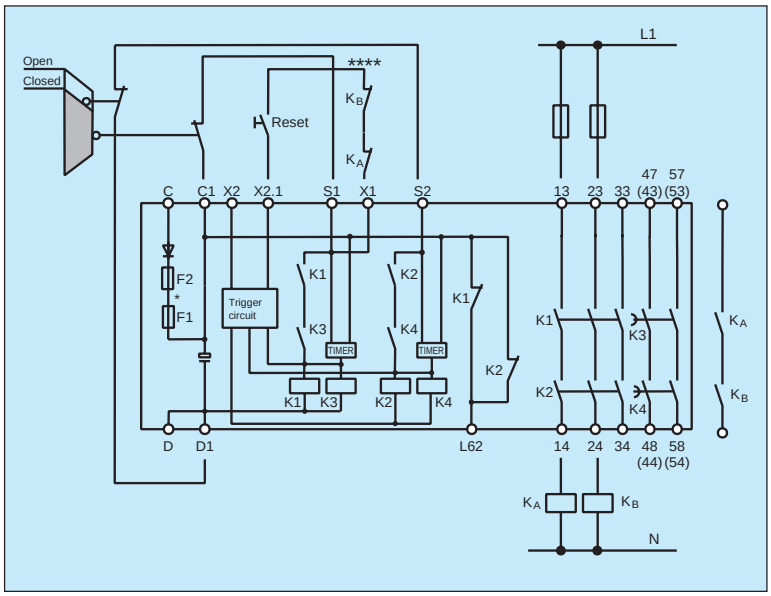


Product range

Type	Enabling outputs	Operating voltage	Part no.
SRB-NA-R-C.21-24V	3 NO/2 NO ∋/1 NC	24 VAC/VDC	600 0790

SRB-NA-R-C.21 (continued)

Wiring diagram



Example for dual-channel door monitoring using two limit switches (one with positive opening contacts) and external reset button.

Dual-channel output, suitable for contact reinforcement or contact multiplication, using relays or contactors with positively guided contacts.

**** = Feedback loop

Wire breakage and earth leakage in the monitoring circuits are detected.

* Fuse F2 (front cover) 1 A,
fuse F1 (internal) 1.25 A

For further examples refer to page 94/95

Model specific Technical data

(refer to page 157 for general data)

Operating voltage	24 VDC –15%/+20%, residual ripple max. 10% 24 VAC –15%/+6%
Frequency	50/60 Hz (for AC operating)
Fuse (power supply)	T 1.0 A/250 V (internal T 1.25 A/250 V)
Power consumption	max. 4.0 VA, plus monitoring output L62
Switching capacity (enabling contacts)	230 VAC, 4 A ohmic (inductive with suitable suppression) NO 43/44, 53/54: DC 13: 24 VDC/2 A; AC 15: 230 VAC/3 A
Fuse (enabling contacts)	4 A slow blowing
Switching capacity (monitoring contacts)	L62: max. 500 mA
Application category	AC 15/DC 13, DIN VDE 0660 Part 200
Pick-up delay	≤ 30 ms
Drop-out delay	≤ 60 ms
Contact material / contacts	AgSnO, self cleaning, positively driven
Contact resistance	max. 100 mOhm when new
Air and creeping distances	DIN VDE 0110-1 (04.97), 4 kV/2
Connections	Self lifting screw terminals min. 0.5 qmm, max. 2.5 qmm
Dimensions	H/W/D 83 mm/45 mm/140 mm
Weight	480 g
Ambient operating temperature	–25 °C ... +45 °C (derating curve page 157)
Mechanical life	10^7 switching cycles
Terminal labeling	DIN EN 60 445/DIN 40 719 Part 2

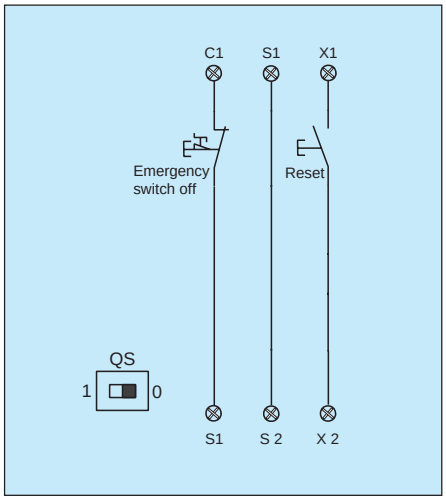
Wiring example: Input level

Single-channel emergency stop switch according to EN 60 204-1.

Wire breakage and earth leakage in the emergency stop circuits are detected.

With external reset button.

Safety category 2 in accordance with EN 954-1.



Wiring example: Input level

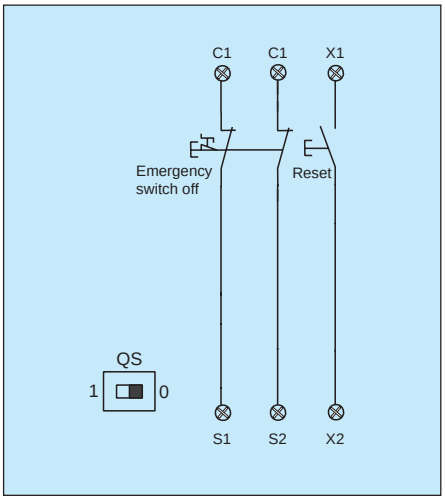
Dual-channel emergency stop switch according to EN 60 204-1.

Wire breakage and earth leakage in the emergency stop circuits are detected.

Cross-shorts in the emergency stop circuits are **not detected.**

With external reset button.

Safety category 3 or 4 in accordance with EN 954-1.



Wiring example: Input level

Dual-channel emergency stop switch according to EN 60 204-1.

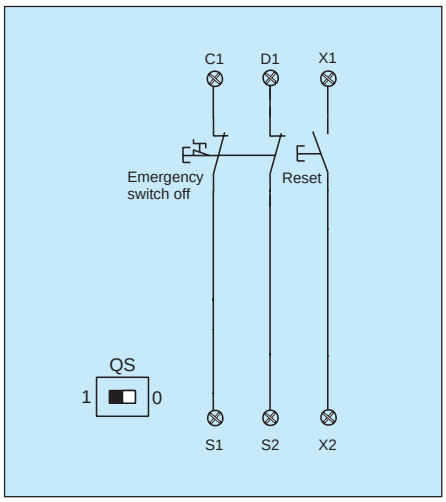
Wire breakage and earth leakage in the emergency stop circuits are detected.

Cross-shorts in the emergency stop circuits are detected.

To enable cross-short monitoring: Set switch "QS" (bottom of housing) to 1.

With external reset button.

Safety category 3 or 4 in accordance with EN 954-1.



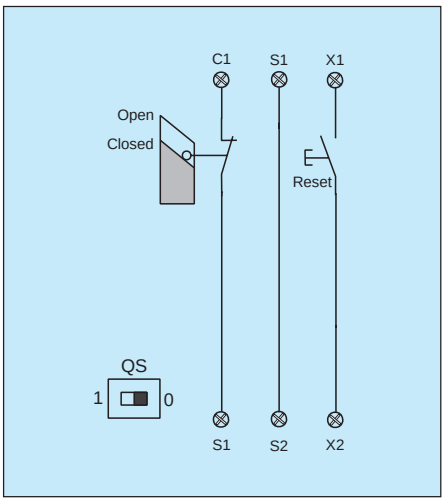
Wiring example: Input level

Single-channel door monitoring according to EN 1088 limit switch with positive opening contact.

Wire breakage and earth leakage in the door monitoring circuits are detected.

With external reset button for increased safety requirements.

Safety category 2 in accordance with EN 954-1.



Wiring example: Input level

Dual-channel door monitoring according to EN 1088, one limit switch with positive opening contact.

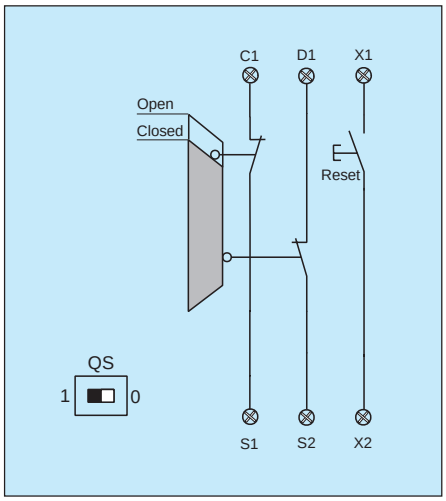
Wire breakage and earth leakage in the door monitoring circuits are detected.

Cross-shorts in the emergency stop circuits are detected.

To enable cross-short monitoring: Set switch "QS" (bottom of housing) to 1.

With external reset button for increased safety requirements.

Safety category 3 or 4 in accordance with EN 954-1.



Wiring example: Input level

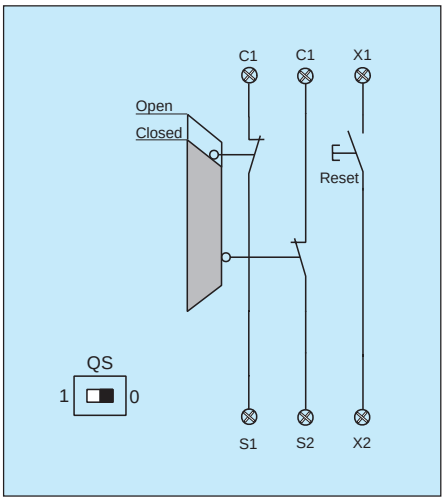
Dual-channel door monitoring according to EN 1088, one limit switch with positive opening contact.

Wire breakage and earth leakage in the door monitoring circuits are detected.

Cross-shorts in the emergency stop circuits are **not detected.**

With external reset button for increased safety requirements.

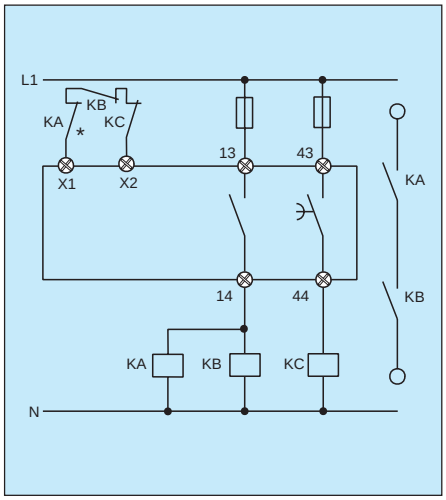
Safety category 3 or 4 in accordance with EN 954-1.



Wiring example: Power level

Single-channel output

Suitable for contact reinforcement or contact multiplication, using relays or contactors with positively guided contacts.



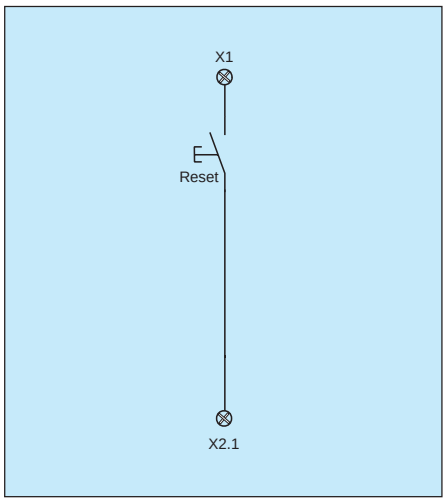
* Reset button wired in series to feedback loop.

Advice:

For "Automatic reset" apply jumper X1-X2.

When using external reset button (X1-X2.1), unit is triggered by trailing edge function.

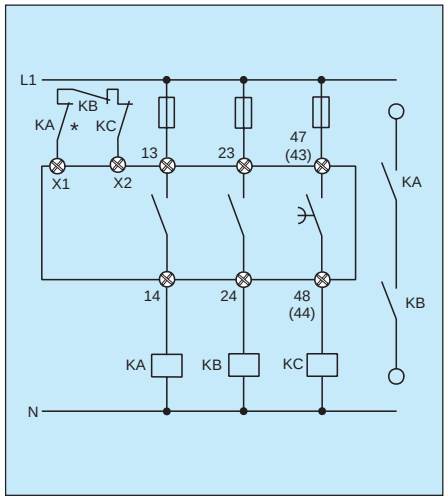
Reset button wired in series to feedback loop.



Wiring example: Power level

Dual-channel output

Suitable for contact reinforcement or contact multiplication, using relays or contactors with positively guided contacts.



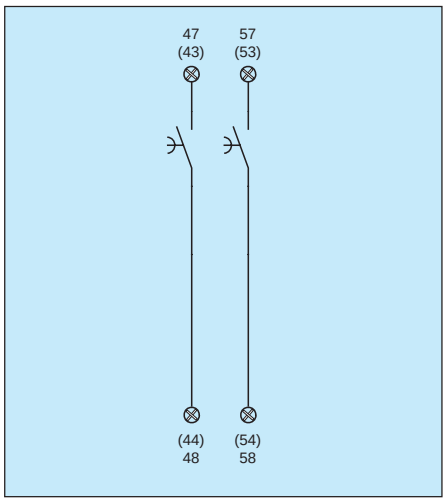
* Reset button wired in series to feedback loop.

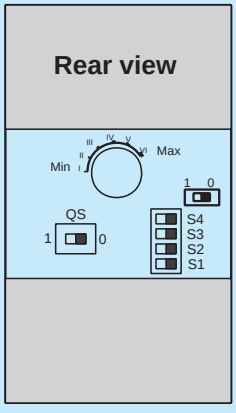
Advice:

Drop-out delay of the enabling outputs 47/48 and 57/58 adjustable from 0–30 sec.

Enabling outputs 43/44 and 53/54 correspond to STOP category 1 in accordance with EN 60 204-1.

Enabling outputs 47/48 and 57/58 correspond to STOP category 1 in accordance with EN 60 204-1.





Time in seconds	S1 = 1, S2 = 1, S3 = 1, S4 = 1	S1 = 0, S2 = 1, S3 = 0, S4 = 1	S1 = 1, S2 = 0, S3 = 1, S4 = 0	S1 = 0, S2 = 0, S3 = 0, S4 = 0
I	0.44	2.30	3.5	18
II	0.62	2.45	5.0	20
III	0.87	2.70	7.0	22
IV	1.05	2.85	8.5	23
V	1.27	3.05	10.2	25
VI	1.77	3.55	14.2	29

Tolerance: ± 5%