

# Safety relays - PSR-SCP- 24UC/ESA2/4X1/1X2/B - 2963802

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Safety relay for emergency stop and safety door monitoring up to SIL 2 or Cat. 2, PL d according to EN ISO 13849, single-channel operation, 4 enabling current paths, nominal input voltage of 24 V AC/DC, plug-in screw terminal blocks

## Product Features

- Up to Cat. 1/PL d according to ISO 13849-1, SIL CL 1 according to IEC 62061, SIL 1 according to IEC 61508
- Abhängig von der Applikation bis Kat.4/PL e nach ISO 13849-1, SIL CL 3 nach IEC 62061, SIL 3 nach IEC 61508
- Basic insulation
- Single-channel control



## Key commercial data

package_quantity	1
GTIN	4017918892661

## Technical data

Note:

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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## Dimensions

Width	22.5 mm
Height	99 mm
Depth	114.5 mm

## Ambient conditions

Ambient temperature (operation)	-20 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C

## Input data

Nominal input voltage $U_N$	24 V AC/DC
Input voltage range in reference to $U_N$	0.85 ... 1.1
Typical input current at $U_N$	140 mA AC
Typical input current at $U_N$	65 mA DC
Voltage at input/start and feedback circuit	approx. 24 V DC
Typical response time	65 ms

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## Technical data

### Input data

Typical release time	45 ms
Recovery time	1 s
Max. permissible overall conductor resistance	approx. 22 Ω (Input and start circuits at U <sub>N</sub> )

### Output data

Contact type	4 enabling current paths
Contact type	1 signaling current path
Contact material	AgSnO <sub>2</sub> , + 0.2 μm Au
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	15 V AC/DC
Limiting continuous current	6 A (N/O contact)
Limiting continuous current	3 A (N/C contact)
Maximum inrush current	6 A
Inrush current, minimum	25 mA
Sq. Total current	72 A <sup>2</sup> (I <sub>TH</sub> <sup>2</sup> = I <sub>1</sub> <sup>2</sup> + I <sub>2</sub> <sup>2</sup> + I <sub>3</sub> <sup>2</sup> + I <sub>4</sub> <sup>2</sup> )
Interrupting rating (ohmic load) max.	144 W (24 V DC, τ = 0 ms, N/C contact 51/52: 72 W)
Interrupting rating (ohmic load) max.	288 W (48 V DC, τ = 0 ms, N/C contact 51/52: 144 W)
Interrupting rating (ohmic load) max.	110 W (110 V DC, τ = 0 ms)
Interrupting rating (ohmic load) max.	88 W (220 V DC, τ = 0 ms)
Interrupting rating (ohmic load) max.	1500 VA (250 V AC, τ = 0 ms, N/C contact 51/52: 750 VA)
Maximum interrupting rating (inductive load)	42 W (24 V DC, τ = 40 ms)
Maximum interrupting rating (inductive load)	42 W (48 V DC, τ = 40 ms)
Maximum interrupting rating (inductive load)	42 W (110 V DC, τ = 40 ms)
Maximum interrupting rating (inductive load)	42 W (220 V DC, τ = 40 ms)
Switching capacity min.	0.4 W
Output fuse	6 A fast blow
Output fuse	C6 (24 V AC/DC) automatic device

### General

Relay type	Electromechanically forcibly guided, dust-proof relay.
Mechanical service life	Approx. 10 <sup>7</sup> cycles
Mounting position	Any
Category according to EN 13849-1	1 ([NO ASSET AVAILABLE: TXB,7278399,P])
Stop category	0
Name	Air and creepage distances between the power circuits
Standards/regulations	DIN EN 50178/VDE 0160
Rated surge voltage / insulation	4 kV / basic isolation (safe isolation, reinforced insulation and 6 kV between input circuit/N/C contacts and enabling current paths).
Rated insulation voltage	250 V
Pollution degree	2
Surge voltage category	III

### Connection data

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### Connection data

Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	12
Stripping length	7 mm
Screw thread	M3
Connection method	Screw connection

## classifications

### eCl@ss

eCl@ss 4.0	27371102
eCl@ss 4.1	27371102
eCl@ss 5.0	27371901
eCl@ss 5.1	27371901
eCl@ss 6.0	27371819
eCl@ss 7.0	27371819
eCl@ss 8.0	27371819

### ETIM

ETIM 2.0	EC000196
ETIM 3.0	EC001449
ETIM 4.0	EC001449
ETIM 5.0	EC001449

### UNSPSC

UNSPSC 6.01	30211901
UNSPSC 7.0901	39121501
UNSPSC 11	39121501
UNSPSC 12.01	39121501
UNSPSC 13.2	39121501

## approvals

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UL Listed / GOST / cUL Listed / Functional Safety / cULus Listed /

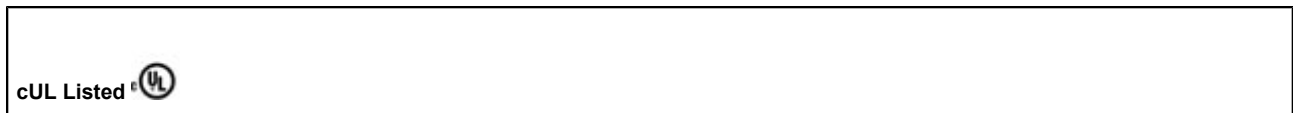
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### Approval details


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approvals

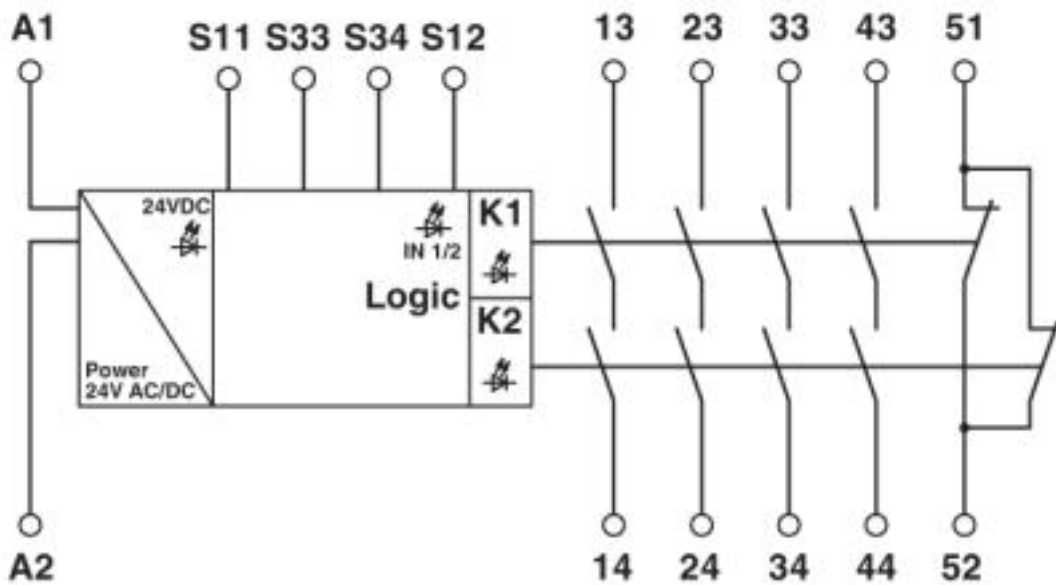


Functional Safety



## Drawings

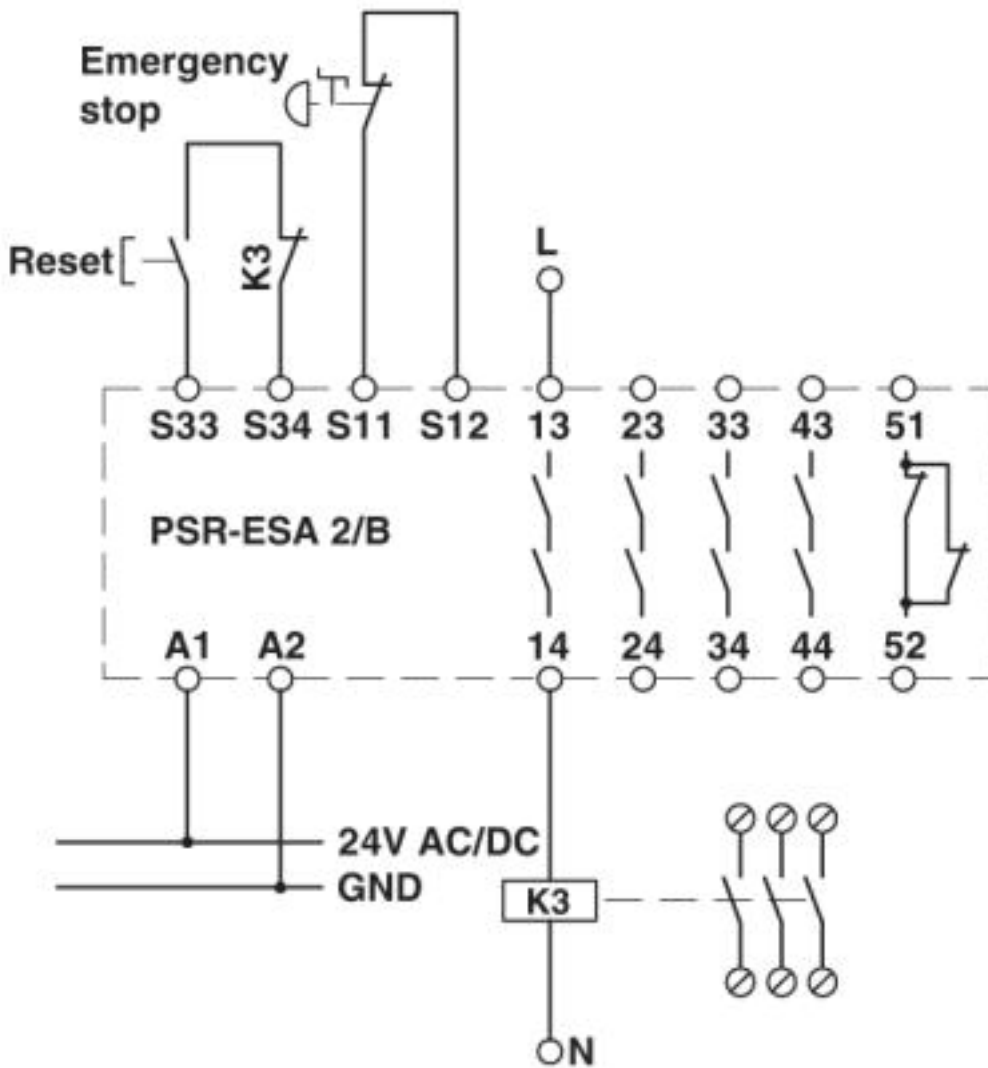
Circuit diagram



1 = logics

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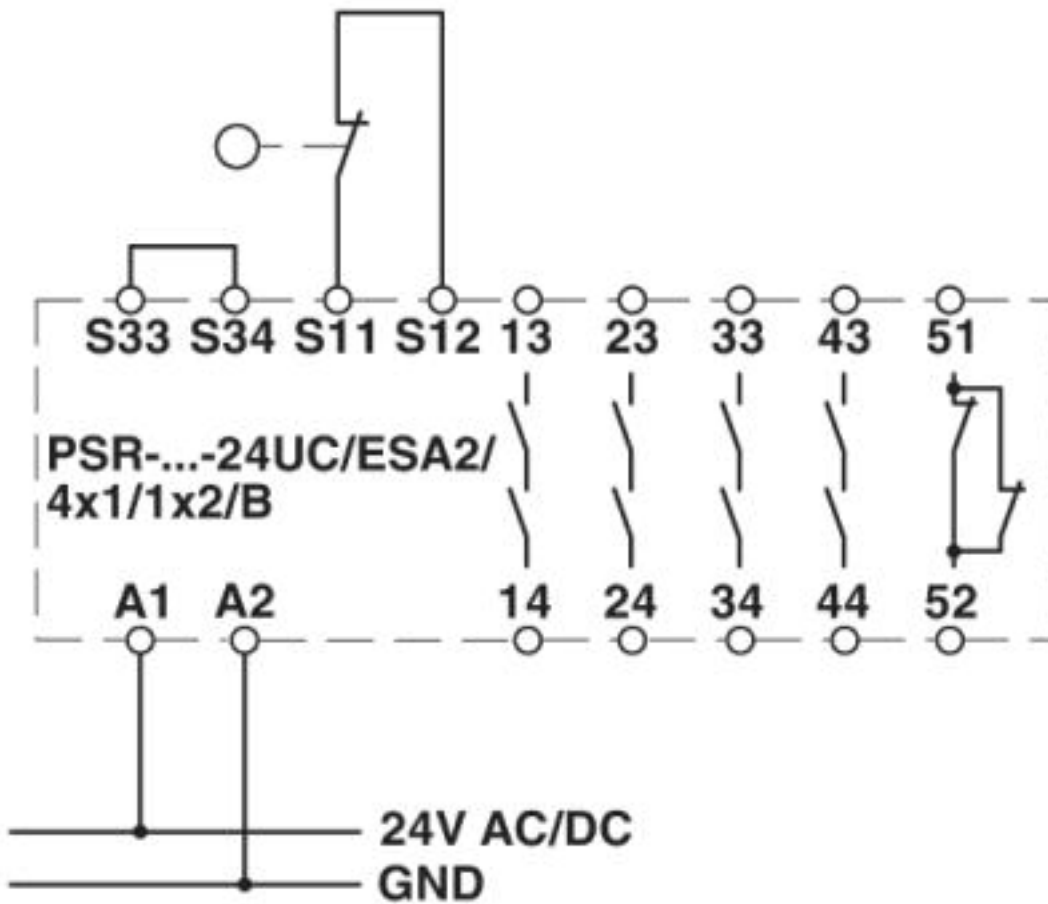
Circuit diagram



a = RESET  
b = Emergency stop  
One-channel emergency stop circuit with manual activation and monitored contact expansion, suitable up to safety category 2.

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Circuit diagram



One-channel safety door monitoring with automatic activation, suitable up to safety category 1.

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Circuit diagram

