

# Safety relays - PSR-SCP- 24UC/ESAM4/8X1/1X2 - 2963912

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Safety relay for emergency stop and safety door monitoring up to SIL 3 or Cat. 4, PL e according to EN ISO 13849, single or two-channel operation, 8 enabling current paths, nominal input voltage of 24 V AC/DC, plug-in screw terminal blocks

## Product Features

- Up to Cat.4/PL e according to ISO 13849-1, SILCL3 according to IEC 62061
- Manually monitored and automatic activation in a single device
- Single and two-channel control
- 8 enabling current paths, 1 signaling current path



## Key commercial data

package_quantity	1
GTIN	4017918899707

## Technical data

Note:

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

Width	45 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
Max. permissible relative humidity (operation)	75 %
Max. permissible humidity (storage/transport)	75 %

## 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 $U_N$	210 mA AC
Typical input current at $U_N$	120 mA DC

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## Technical data

### Input data

Voltage at input/start and feedback circuit	approx. 24 V DC
Typical response time	60 ms (man. start)
Typical response time	250 ms (Auto-start)
Typical release time	20 ms
Concurrency input 1/2	Infinite
Recovery time	1 s
Max. permissible overall conductor resistance	approx. 11 Ω (Input and start circuits at U <sub>N</sub> )

### Output data

Contact type	8 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
Maximum inrush current	6 A
Inrush current, minimum	25 mA
Sq. Total current	50 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>8</sub> <sup>2</sup> )
Interrupting rating (ohmic load) max.	144 W (24 V DC, τ = 0 ms)
Interrupting rating (ohmic load) max.	288 W (48 V DC, τ = 0 ms)
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)
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	4
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 insulation, (safe isolation, reinforced insulation and 6 kV between input circuit and enabling current paths (63/64, 73/74, 83/84) and between 63/64, 73/74, 83/84 between each other.)
Rated insulation voltage	250 V

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## Technical data

### General

<b>Pollution degree</b>	2
<b>Surge voltage category</b>	III

### Connection data

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

## classifications

### eCl@ss

<b>eCl@ss 4.0</b>	27371102
<b>eCl@ss 4.1</b>	27371102
<b>eCl@ss 5.0</b>	27371901
<b>eCl@ss 5.1</b>	27371901
<b>eCl@ss 6.0</b>	27371819
<b>eCl@ss 7.0</b>	27371819
<b>eCl@ss 8.0</b>	27371819

### ETIM

<b>ETIM 2.0</b>	EC000196
<b>ETIM 3.0</b>	EC001449
<b>ETIM 4.0</b>	EC001449
<b>ETIM 5.0</b>	EC001449

### UNSPSC

<b>UNSPSC 6.01</b>	30211901
<b>UNSPSC 7.0901</b>	39121501
<b>UNSPSC 11</b>	39121501
<b>UNSPSC 12.01</b>	39121501
<b>UNSPSC 13.2</b>	39121501

## approvals

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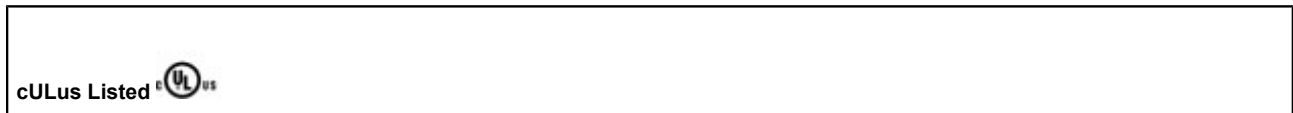
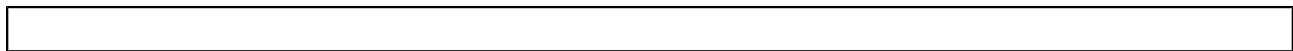
UL Listed / GOST / cUL Listed / BG ETEM / BG ETEM / cULus Listed /

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### Approval details

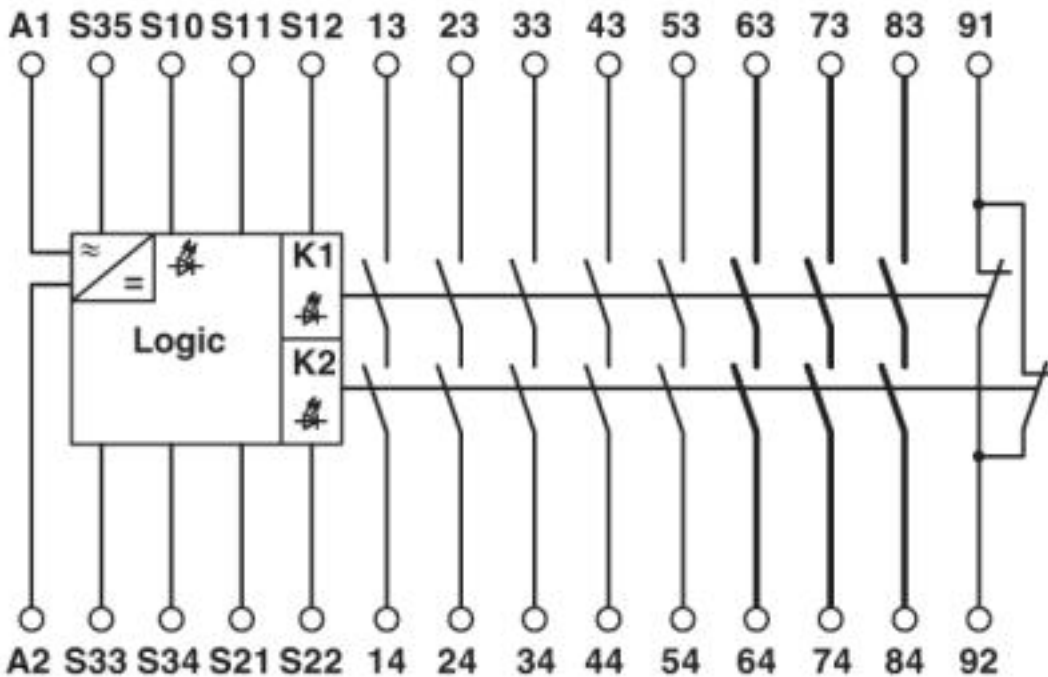
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approvals



## Drawings

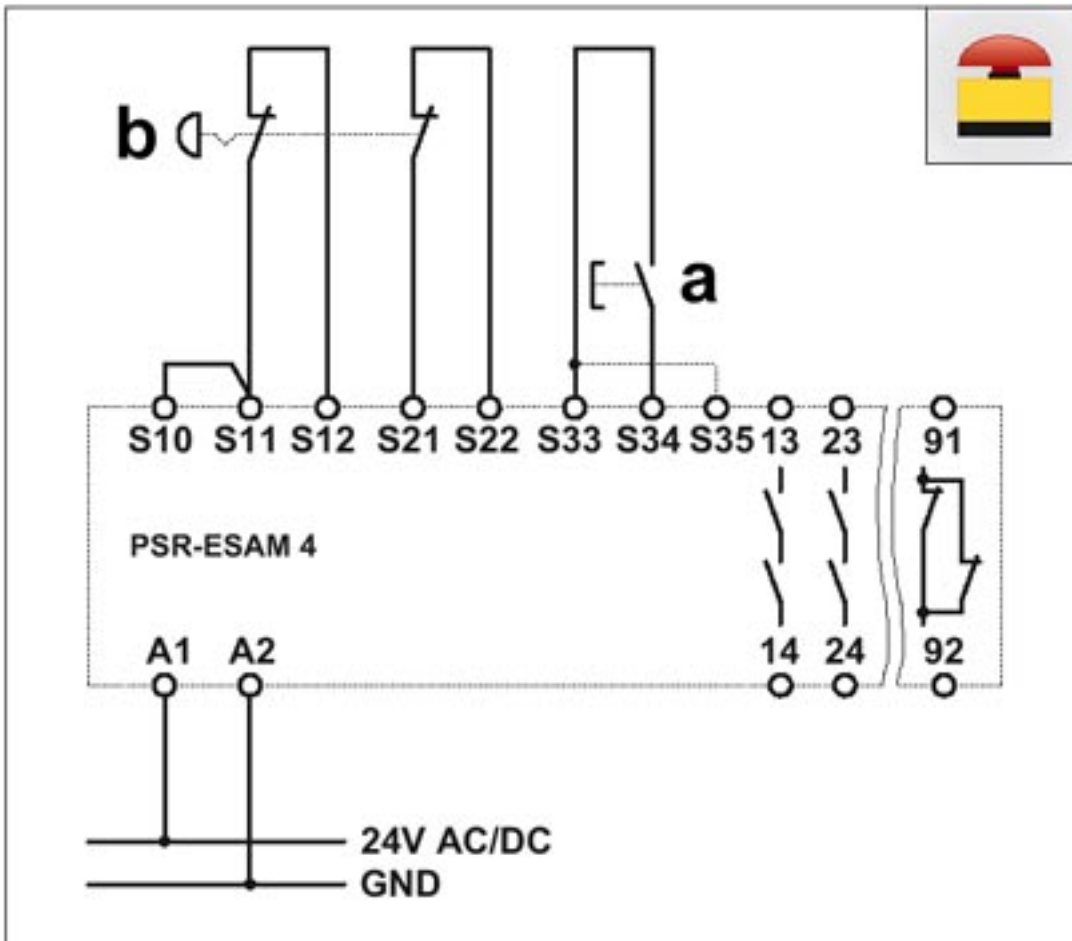
Circuit diagram



1 = logics

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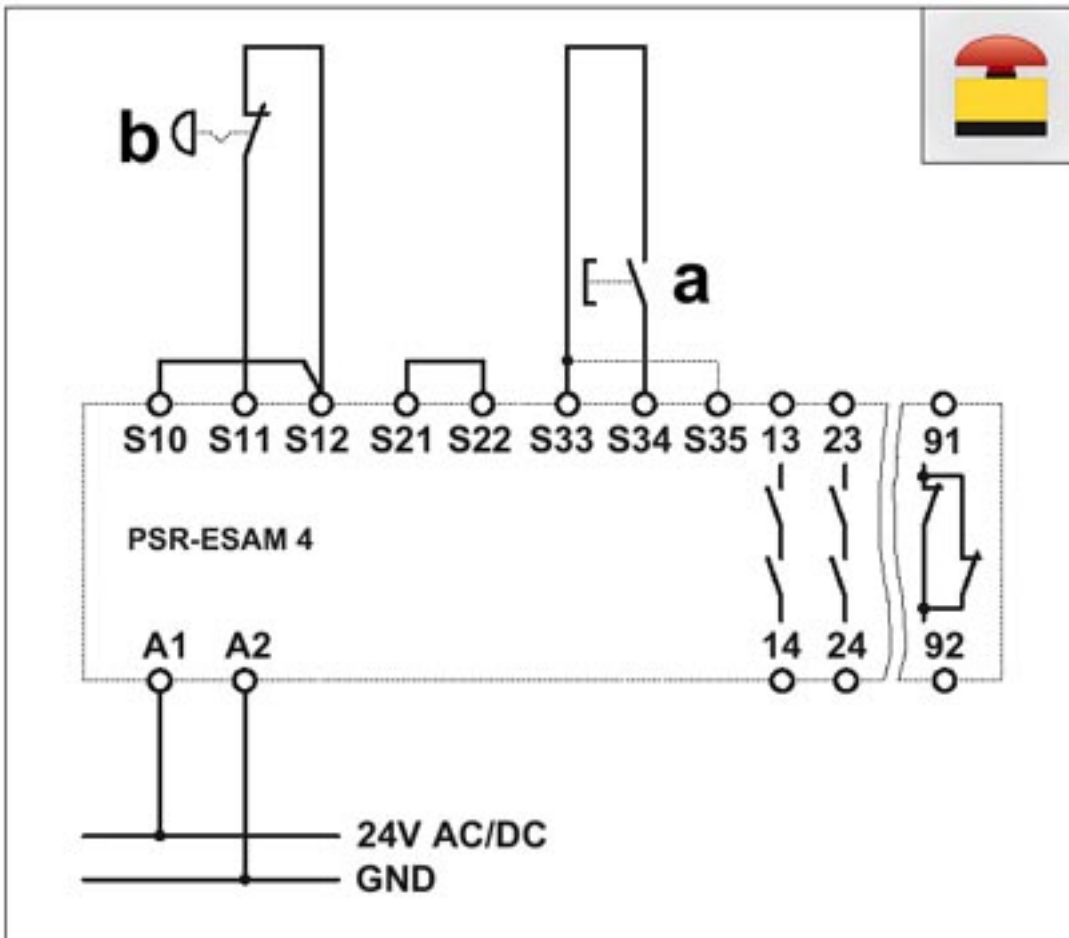
Circuit diagram



a = RESET  
b = Emergency stop  
Two-channel emergency stop circuit with cross-circuiting detection and monitored reset button, suitable up to safety category 4.

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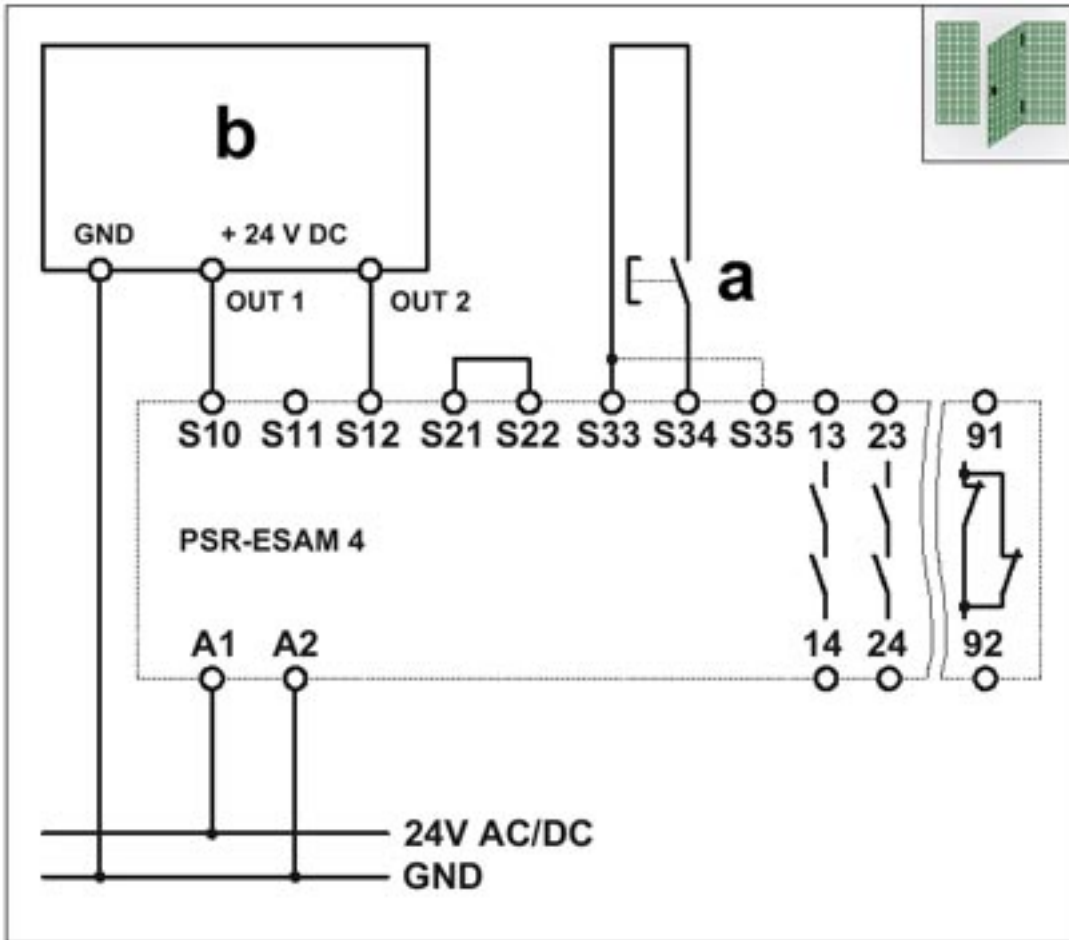
Circuit diagram



a = RESET  
b = Emergency stop  
Two-channel emergency stop circuit with monitored reset button (bridge on S33/S35: Automatic activation), suitable up to safety category 2.

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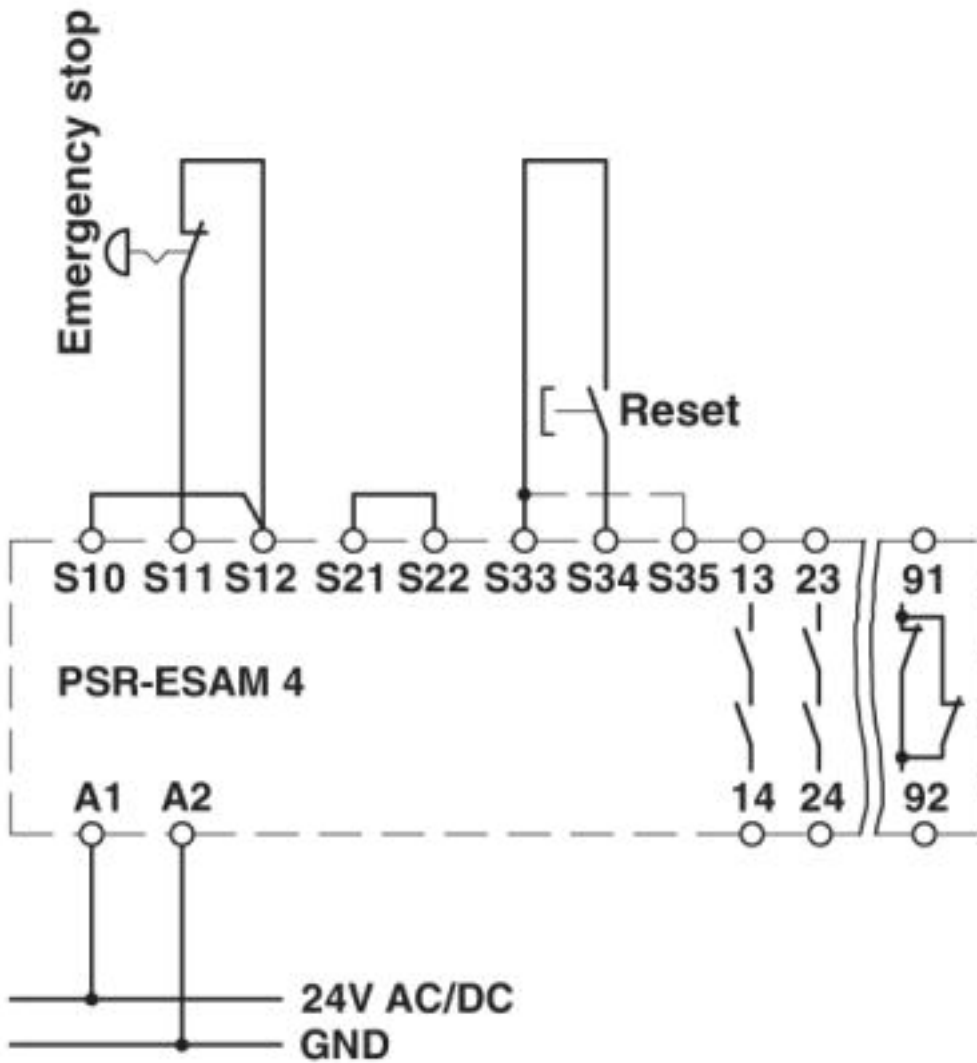
Circuit diagram



a = RESET  
 b = semiconductor input  
 Two-channel limit switch monitoring with semiconductor output and monitored reset button (automatic activation: Bridge S33/S35), suitable up to safety category 4 depending on the limit switch.

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Circuit diagram





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Circuit diagram

## Semiconductor output

