

# Safety relays - PSR-SPP- 24UC/ESAM4/2X1/1X2 - 2900526

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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, 2 enabling current paths, nominal input voltage of 24 V AC/DC, plug-in spring-cage terminal blocks

The figure shows a version with a screw connection

## Product Features

- Up to Cat. 4/PL e according to ISO 13849-1, SIL CL 3 according to IEC 62061, SIL 3 according to IEC 61508
- Manually monitored and automatic activation in a single device
- Single and two-channel control
- Reinforced insulation
- 2 enabling current paths, 1 signaling current path



## Key commercial data

<b>package_quantity</b>	1
<b>GTIN</b>	4046356515665

## Technical data

Note:

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

<b>Width</b>	22.5 mm
<b>Height</b>	112 mm
<b>Depth</b>	114.5 mm

## Ambient conditions

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

## Input data

<b>Nominal input voltage <math>U_N</math></b>	24 V AC/DC
<b>Input voltage range in reference to <math>U_N</math></b>	0.85 ... 1.1
<b>Typical input current at <math>U_N</math></b>	140 mA AC
<b>Typical input current at <math>U_N</math></b>	65 mA DC

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## Technical data

### Input data

<b>Voltage at input/start and feedback circuit</b>	approx. 24 V DC
<b>Typical response time</b>	20 ms (manual start)
<b>Typical response time</b>	150 ms (automatic start)
<b>Typical release time</b>	45 ms (single-channel)
<b>Typical release time</b>	10 ms (two-channel)
<b>Concurrence input 1/2</b>	Infinite
<b>Recovery time</b>	1 s
<b>Max. permissible overall conductor resistance</b>	approx. 50 Ω (Input and start circuits at U <sub>N</sub> )

### Output data

<b>Contact type</b>	2 enabling current paths
<b>Contact type</b>	1 signaling current path
<b>Contact material</b>	AgSnO <sub>2</sub> , + 0.2 μm Au
<b>Maximum switching voltage</b>	250 V AC/DC
<b>Minimum switching voltage</b>	15 V AC/DC
<b>Limiting continuous current</b>	6 A (N/O contact)
<b>Maximum inrush current</b>	6 A
<b>Inrush current, minimum</b>	25 mA
<b>Sq. Total current</b>	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> )
<b>Interrupting rating (ohmic load) max.</b>	144 W (24 V DC, τ = 0 ms)
<b>Interrupting rating (ohmic load) max.</b>	288 W (48 V DC, τ = 0 ms)
<b>Interrupting rating (ohmic load) max.</b>	77 W (110 V DC, τ = 0 ms)
<b>Interrupting rating (ohmic load) max.</b>	88 W (220 V DC, τ = 0 ms)
<b>Interrupting rating (ohmic load) max.</b>	1500 VA (250 V AC, τ = 0 ms)
<b>Maximum interrupting rating (inductive load)</b>	48 W (24 V DC, τ = 40 ms)
<b>Maximum interrupting rating (inductive load)</b>	40 W (48 V DC, τ = 40 ms)
<b>Maximum interrupting rating (inductive load)</b>	35 W (110 V DC, τ = 40 ms)
<b>Maximum interrupting rating (inductive load)</b>	35 W (220 V DC, τ = 40 ms)
<b>Switching capacity min.</b>	0.4 W
<b>Output fuse</b>	10 A gL/gG NEOZED (N/O contact)
<b>Output fuse</b>	6 A gL/gG NEOZED (N/C contact)

### General

<b>Relay type</b>	Electromechanically forcibly guided, dust-proof relay.
<b>Mechanical service life</b>	Approx. 10 <sup>7</sup> cycles
<b>Mounting position</b>	Any
<b>Category according to EN 13849-1</b>	4
<b>Stop category</b>	0
<b>Name</b>	Air and creepage distances between the power circuits
<b>Standards/regulations</b>	DIN EN 50178/VDE 0160
<b>Rated surge voltage / insulation</b>	6 kV / Safe isolation, increased insulation
<b>Rated insulation voltage</b>	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>	1.5 mm <sup>2</sup>
<b>Conductor cross section stranded min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section stranded max.</b>	1.5 mm <sup>2</sup>
<b>Conductor cross section AWG/kcmil min.</b>	24
<b>Conductor cross section AWG/kcmil max</b>	16
<b>Stripping length</b>	8 mm
<b>Connection method</b>	Spring-cage conn.

## classifications

### eCl@ss

<b>eCl@ss 4.0</b>	27250313
<b>eCl@ss 4.1</b>	27250313
<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 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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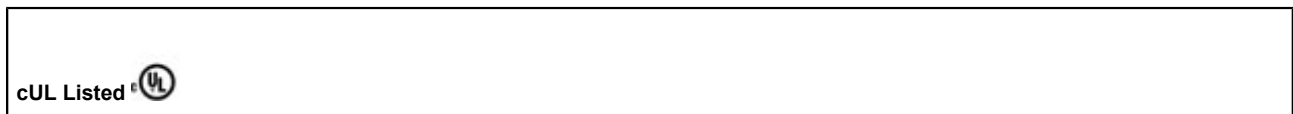
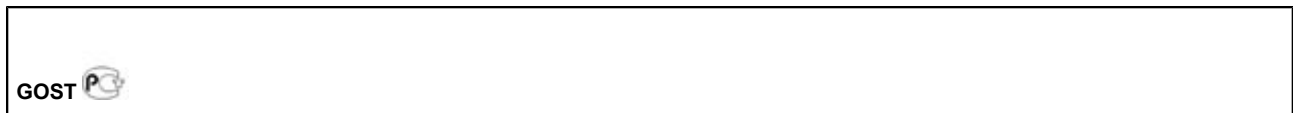
UL Listed / GOST / cUL Listed / Functional Safety / cULus Listed /

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### Approval details

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approvals

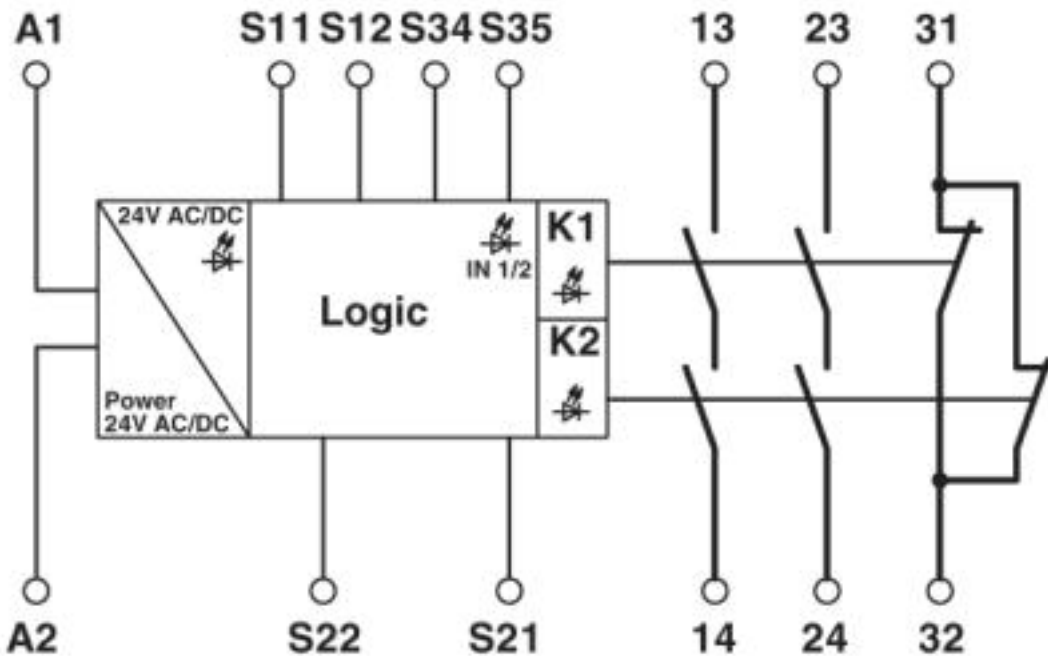


Functional Safety



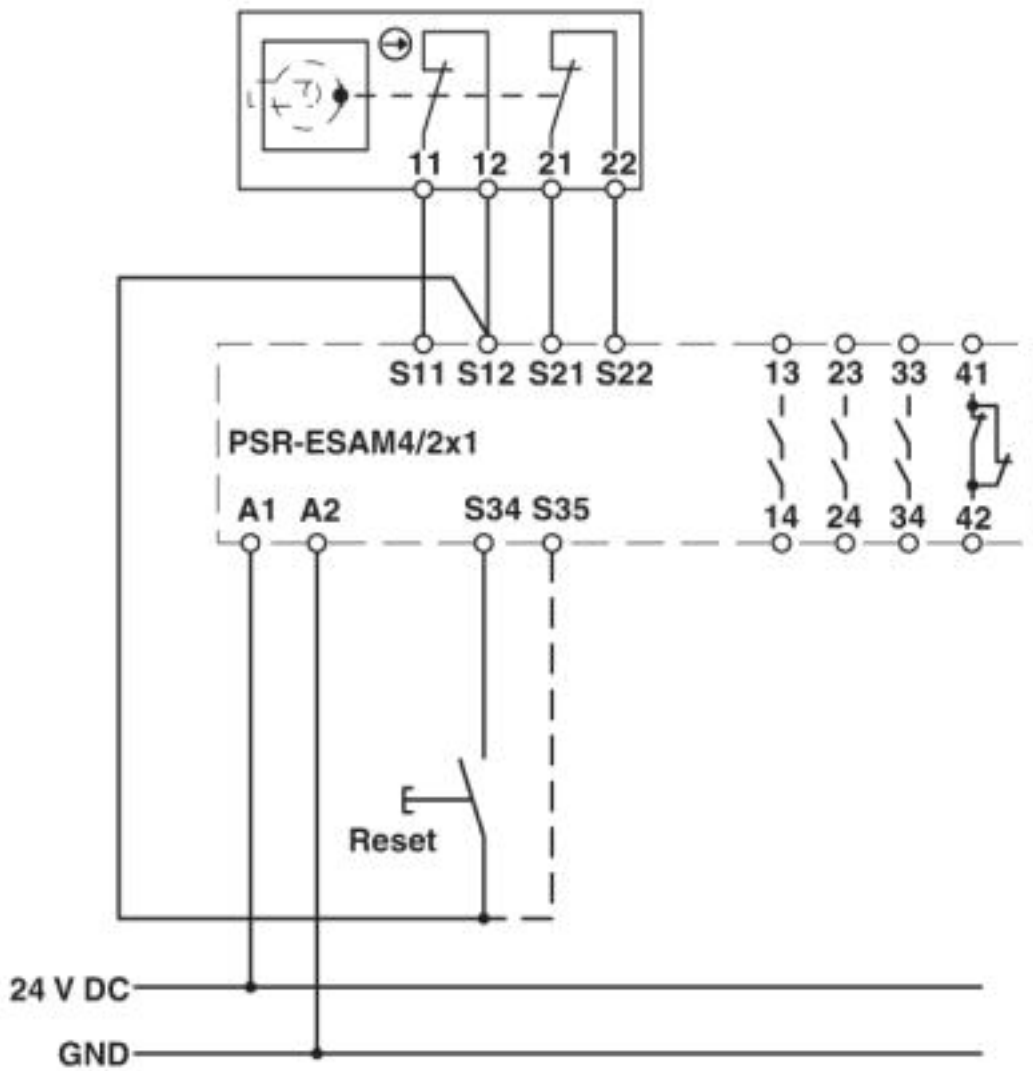
## Drawings

Circuit diagram



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Circuit diagram



Hinge switch

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