

# Safety relays - PSR-SCP-42-48UC/ESAM4/3X1/1X2B - 2901416

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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, 3 enabling current paths, nominal input voltage of 42 ... 48 V AC/DC, plug-in screw terminal blocks.

The figure shows 48 V AC/DC

## 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
- Basic insulation
- Single and two-channel control
- 3 enabling current paths, 1 signaling current path



## Key commercial data

package_quantity	1
GTIN	4046356591997

## 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)	-25 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Max. permissible relative humidity (operation)	75 %
Max. permissible humidity (storage/transport)	75 %

## Input data

Input voltage range	42 V AC/DC ... 48 V AC/DC
Input voltage range in reference to U <sub>N</sub>	0.85 ... 1.1
Typical input current at U <sub>N</sub>	95 mA

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## Technical data

### Input data

<b>Voltage at input/start and feedback circuit</b>	~ 24 V DC
<b>Typical response time</b>	40 ms (man. start)
<b>Typical pick-up time</b>	330 ms (when controlled via A1)
<b>Typical release time</b>	90 ms (when controlled via A1)
<b>Typical release time</b>	20 ms (when controlled via S11/S12 and S21/S22)
<b>Concurrence input 1/2</b>	Infinite
<b>Recovery time</b>	1 s
<b>Maximum switching frequency</b>	0.5 Hz
<b>Max. permissible overall conductor resistance</b>	50 Ω

### Output data

<b>Contact type</b>	3 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>	10 V AC/DC
<b>Limiting continuous current</b>	6 A (N/O contact)
<b>Limiting continuous current</b>	5 A (N/C contact)
<b>Maximum inrush current</b>	6 A
<b>Inrush current, minimum</b>	10 mA
<b>Sq. Total current</b>	$72 A^2 (I_{TH}^2 = I_1^2 + I_2^2 + I_3^2)$
<b>Interrupting rating (ohmic load) max.</b>	144 W (24 V DC, τ = 0 ms)
<b>Interrupting rating (ohmic load) max.</b>	230 W (48 V DC, τ = 0 ms)
<b>Interrupting rating (ohmic load) max.</b>	68 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>	2000 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>	33 W (220 V DC, τ = 40 ms)
<b>Switching capacity min.</b>	100 mW
<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 (undelayed contacts)
<b>Name</b>	Air and creepage distances between the power circuits
<b>Standards/regulations</b>	DIN EN 50178/VDE 0160

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## Technical data

### General

<b>Rated surge voltage / insulation</b>	4 kV / basic insulation (safe isolation, reinforced insulation, and 6 kV between A1-A2/logic/enabling and signaling current paths)
<b>Rated insulation voltage</b>	250 V AC
<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>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 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

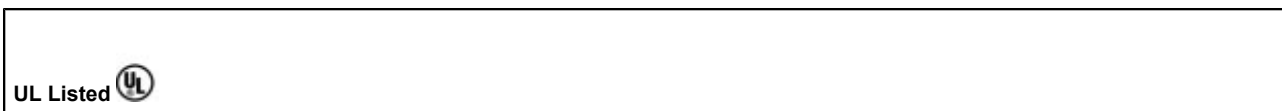
## approvals

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

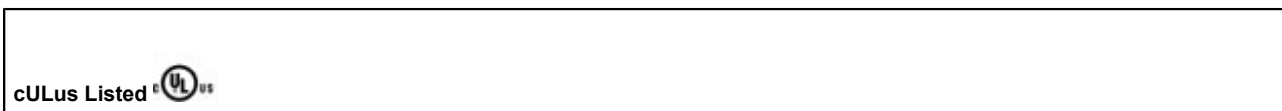
### Approval details

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approvals

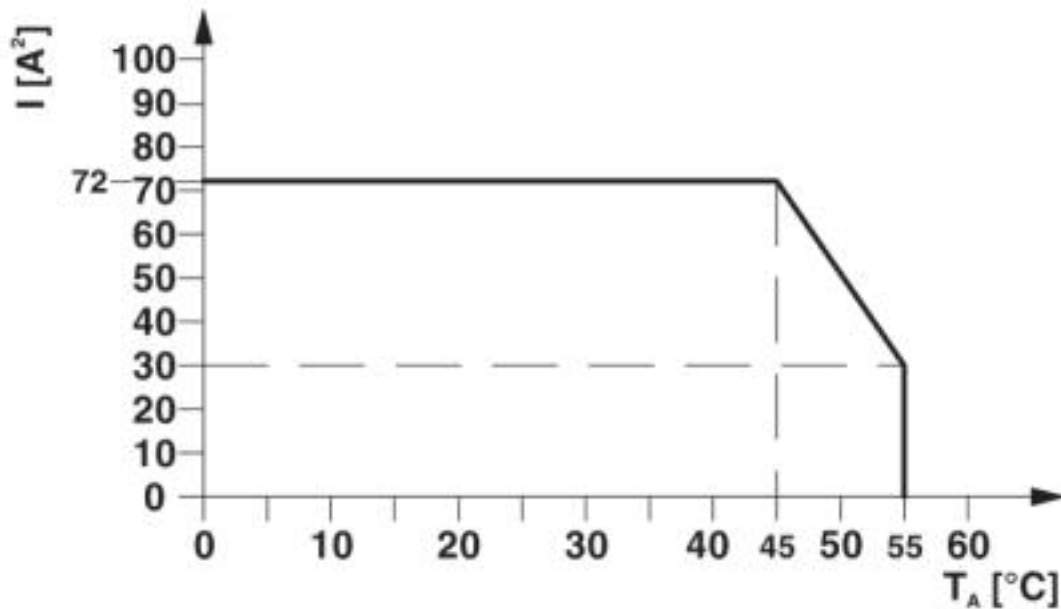


Functional Safety



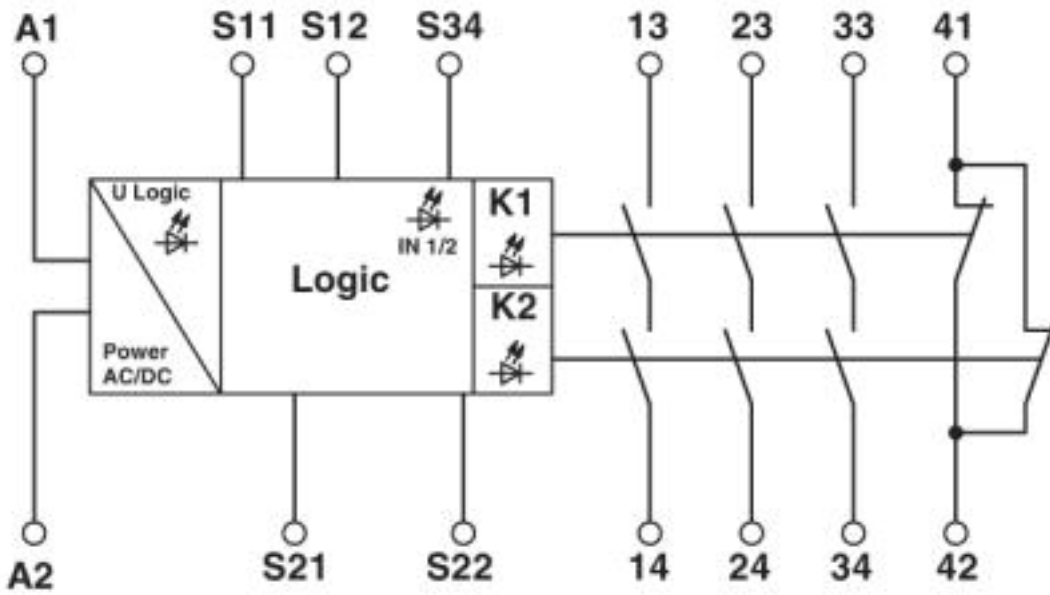
Drawings

Diagram



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Circuit diagram



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