

## Safety relays - PSR-SCP- 24DC/ESP4/2X1/1X2 - 2981020

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Safety relay for SIL 3 high and low-demand applications, also approved according to EN 50156, Germanischer Lloyd, and EN ISO 13849, emergency stop and safety door monitoring, single-channel, 2 enabling current paths, 1 alarm contact, plug-in screw terminal blocks, width: 22.5 mm

### Product Features

- Up to Cat. 4/PL e according to ISO 13849-1, SILCL 3 according to IEC 62061, SIL 3 according to IEC 61508
- Single-channel control
- Safe isolation
- With inrush current reduction, therefore suitable for coupling to failsafe controllers (PSR-ESP4)



### Key commercial data

Packing unit	1 1
Weight per Piece (excluding packing)	240.0 GRM
Custom tariff number	85364190
Country of origin	Germany

### 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

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### Technical data

#### Ambient conditions

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

#### Input data

Nominal input voltage $U_N$	24 V DC
Input voltage range in reference to $U_N$	0.85 ... 1.1
Typical input current at $U_N$	50 mA DC
Typical inrush current	< 1 A
Voltage at input/start and feedback circuit	24 V DC
Typical response time	60 ms (Automatic/manual start)
Typical release time	20 ms
Recovery time	approx. 1 s

#### Output data

Contact type	2 enabling current paths
	1 signaling current path (type B according to EN 50205)
Contact material	AgSnO <sub>2</sub> , gold-flashed
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	10 V
Limiting continuous current	6 A (N/O contact/N/C contact, high demand)
	4 A (N/O contact/N/C contact, low demand)
Maximum inrush current	6 A
Inrush current, minimum	10 mA
Sq. Total current	$72 \text{ A}^2 (I_{TH}^2 = I_1^2 + I_2^2)$
Interrupting rating (ohmic load) max.	144 W (24 V DC, $\tau = 0 \text{ ms}$ )
	200 W (48 V DC, $\tau = 0 \text{ ms}$ )
	77 W (110 V DC, $\tau = 0 \text{ ms}$ )
	70 W (220 V DC, $\tau = 0 \text{ ms}$ )
	1500 VA (250 V AC, $\tau = 0 \text{ ms}$ )
Maximum interrupting rating (inductive load)	42 W (24 V DC, $\tau = 40 \text{ ms}$ )
	40 W (48 V DC, $\tau = 40 \text{ ms}$ )
	35 W (110 V DC, $\tau = 40 \text{ ms}$ )
	33 W (220 V DC, $\tau = 40 \text{ ms}$ )
Switching capacity min.	0.2 W
Output fuse	6 A gL/gG NEOZED (High demand)
	4 A gL/gG NEOZED (Low demand)

#### General

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### Technical data

#### General

Relay type	Electromechanically forcibly guided, dust-proof relay.
Mechanical service life	Approx. 10 <sup>7</sup> cycles
Mounting position	On horizontal and vertical DIN rail
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	6 kV / Safe isolation, increased insulation
Rated insulation voltage	250 V
Pollution degree	2
Surge voltage category	III
Housing material	Polyamide PA non-reinforced

#### 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	EC001449
ETIM 3.0	EC001449

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## Classifications

### ETIM

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

### Approvals

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#### Approvals

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

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#### Ex Approvals

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#### Approvals submitted

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## Approval details

UL Listed 
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GOST 
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cUL Listed 
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GL
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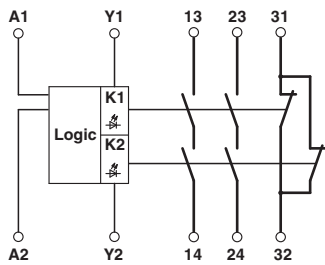
## Approvals

Functional Safety

cULus Listed

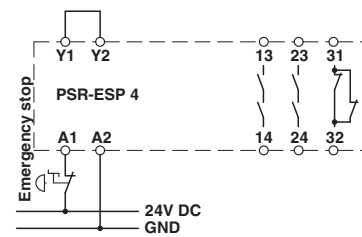
## Drawings

Circuit diagram

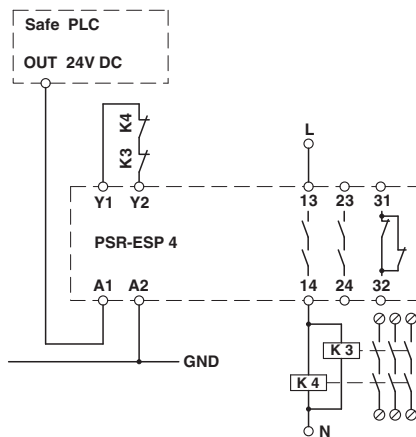


1 = logics

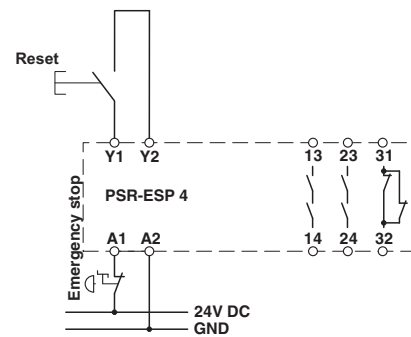
Circuit diagram



Circuit diagram

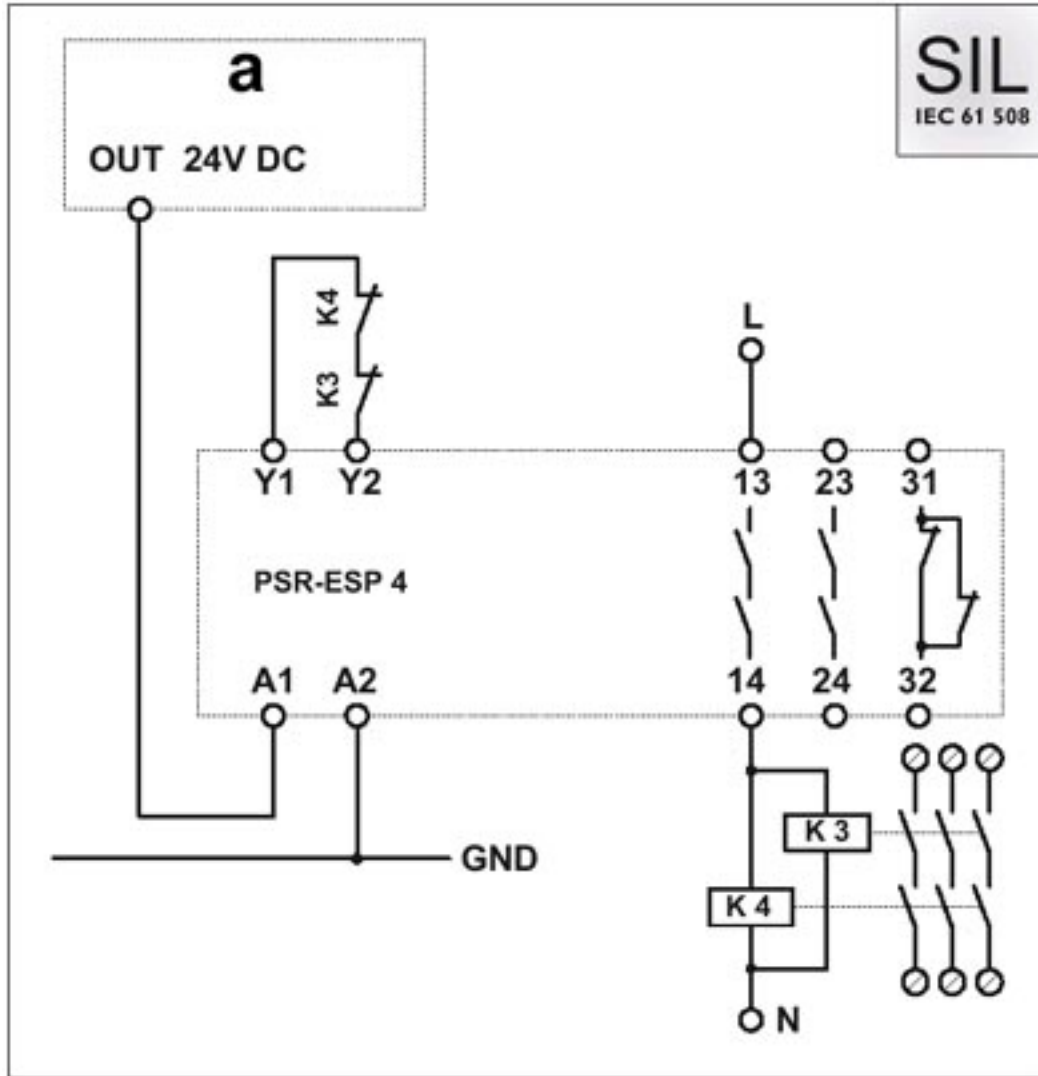


Circuit diagram



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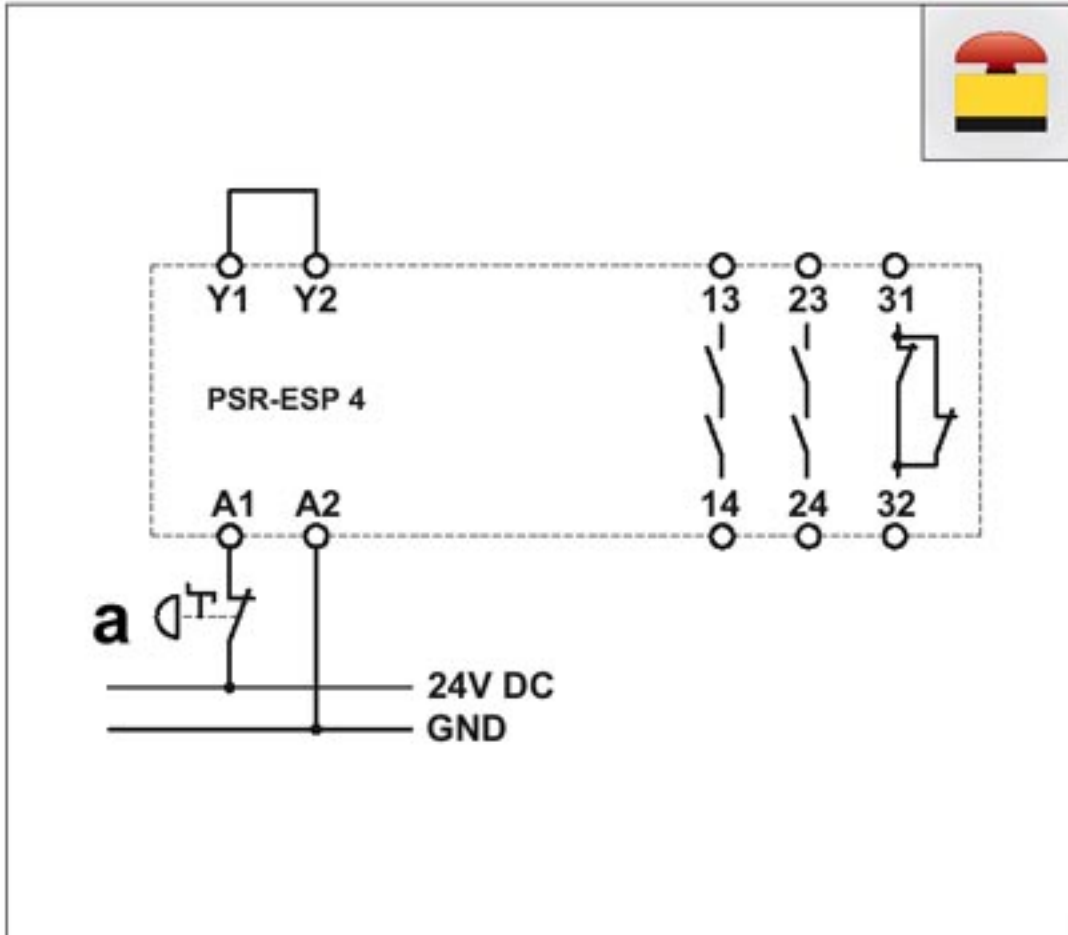
Circuit diagram



One-channel evaluation of a safety controller with automatic activation, suitable up to SIL 3.

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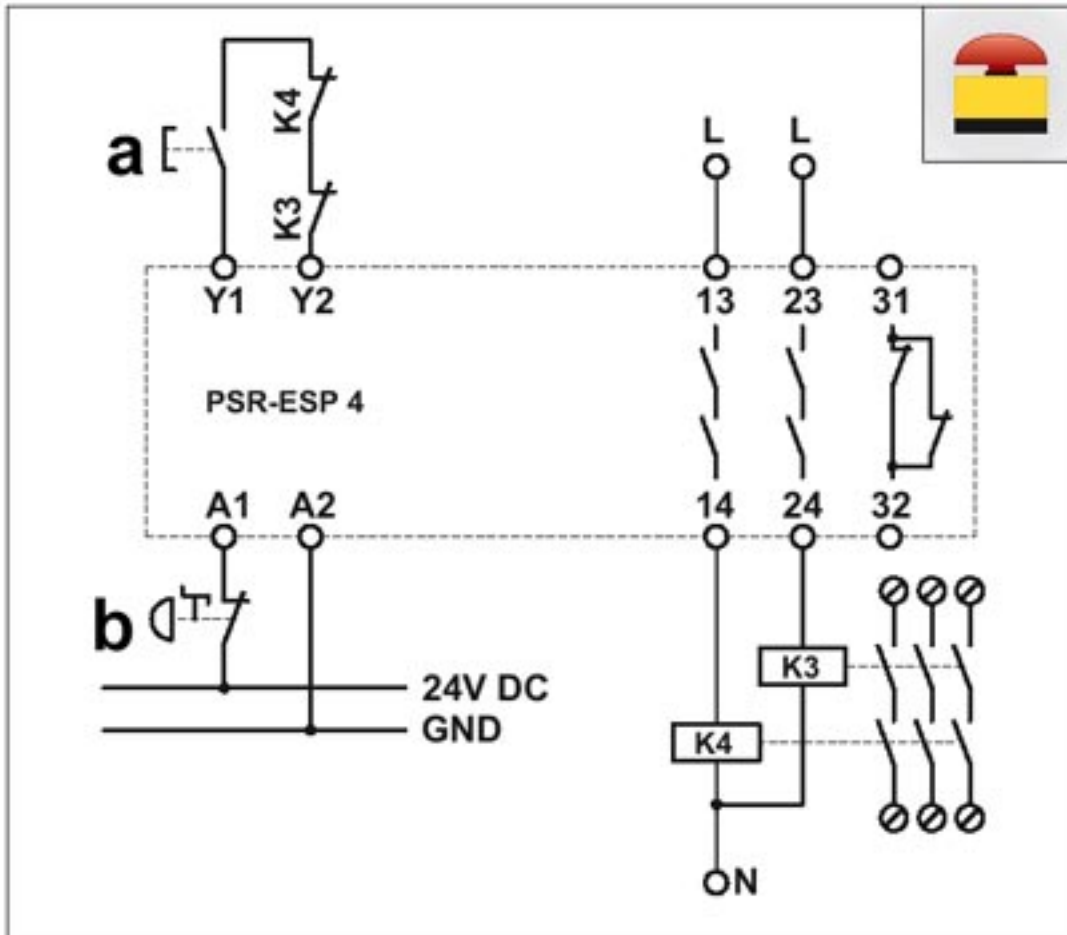
Circuit diagram



One-channel emergency stop circuit with automatic activation, suitable up to safety category 2.

# Safety relays - PSR-SCP- 24DC/ESP4/2X1/1X2 - 2981020

Circuit diagram



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



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