

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 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 PCE |
| Catalog page | Page 39 (IF-2011) |
| GTIN | 4 017918 911065 |
| 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 |
|-------------------------|---|

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 |

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Input data

| | |
|---|--------------------------------|
| 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 |
| Contact type | 1 signaling current path (type B according to EN 50205) |
| Contact material | AgSnO ₂ , 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) |
| Limiting continuous current | 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, $\tau = 0 \text{ ms}$) |
| Interrupting rating (ohmic load) max. | 200 W (48 V DC, $\tau = 0 \text{ ms}$) |
| Interrupting rating (ohmic load) max. | 77 W (110 V DC, $\tau = 0 \text{ ms}$) |
| Interrupting rating (ohmic load) max. | 70 W (220 V DC, $\tau = 0 \text{ ms}$) |
| Interrupting rating (ohmic load) max. | 1500 VA (250 V AC, $\tau = 0 \text{ ms}$) |
| Maximum interrupting rating (inductive load) | 42 W (24 V DC, $\tau = 40 \text{ ms}$) |
| Maximum interrupting rating (inductive load) | 40 W (48 V DC, $\tau = 40 \text{ ms}$) |
| Maximum interrupting rating (inductive load) | 35 W (110 V DC, $\tau = 40 \text{ ms}$) |
| Maximum interrupting rating (inductive load) | 33 W (220 V DC, $\tau = 40 \text{ ms}$) |
| Switching capacity min. | 0.2 W |
| Output fuse | 6 A gL/gG NEOZED (High demand) |
| Output fuse | 4 A gL/gG NEOZED (Low demand) |

General data

| | |
|--|--|
| Width | 22.5 mm |
| Height | 99 mm |
| Depth | 114.5 mm |
| 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 % |
| Relay type | Electromechanically forcibly guided, dust-proof relay. |

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General data

| | |
|----------------------------------|---|
| Mechanical service life | Approx. 10 ⁷ 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 ² |
| Conductor cross section solid max. | 2.5 mm ² |
| Conductor cross section stranded min. | 0.2 mm ² |
| Conductor cross section stranded max. | 2.5 mm ² |
| 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

ETIM

| | |
|----------|----------|
| ETIM 2.0 | EC001449 |
| ETIM 3.0 | EC001449 |
| ETIM 4.0 | EC001449 |
| ETIM 5.0 | EC001449 |

UNSPSC

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

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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 |

Approvals

Approvals

Approvals


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

Ex Approvals

Approvals submitted

Approval details

UL Listed 

GOST 

cUL Listed 

GL

Functional Safety

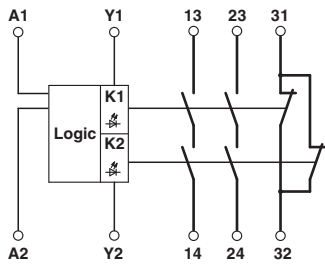
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Approvals



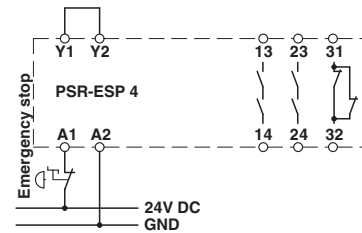
Drawings

Circuit diagram

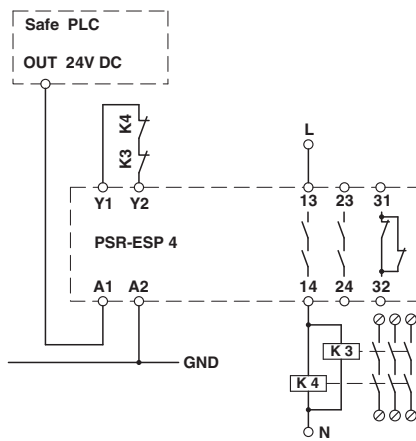


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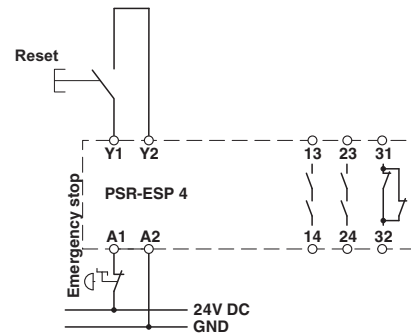
Circuit diagram



Circuit diagram

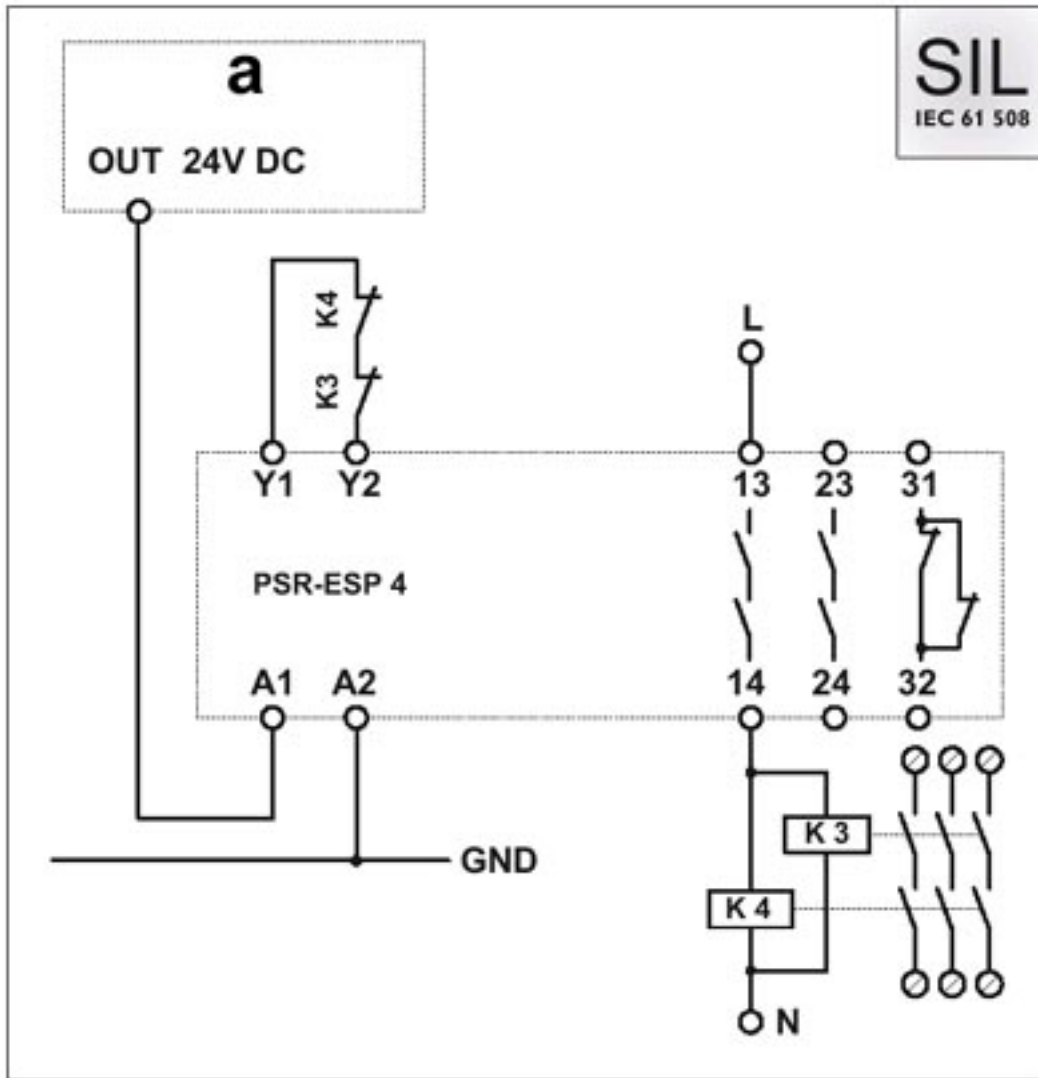


Circuit diagram



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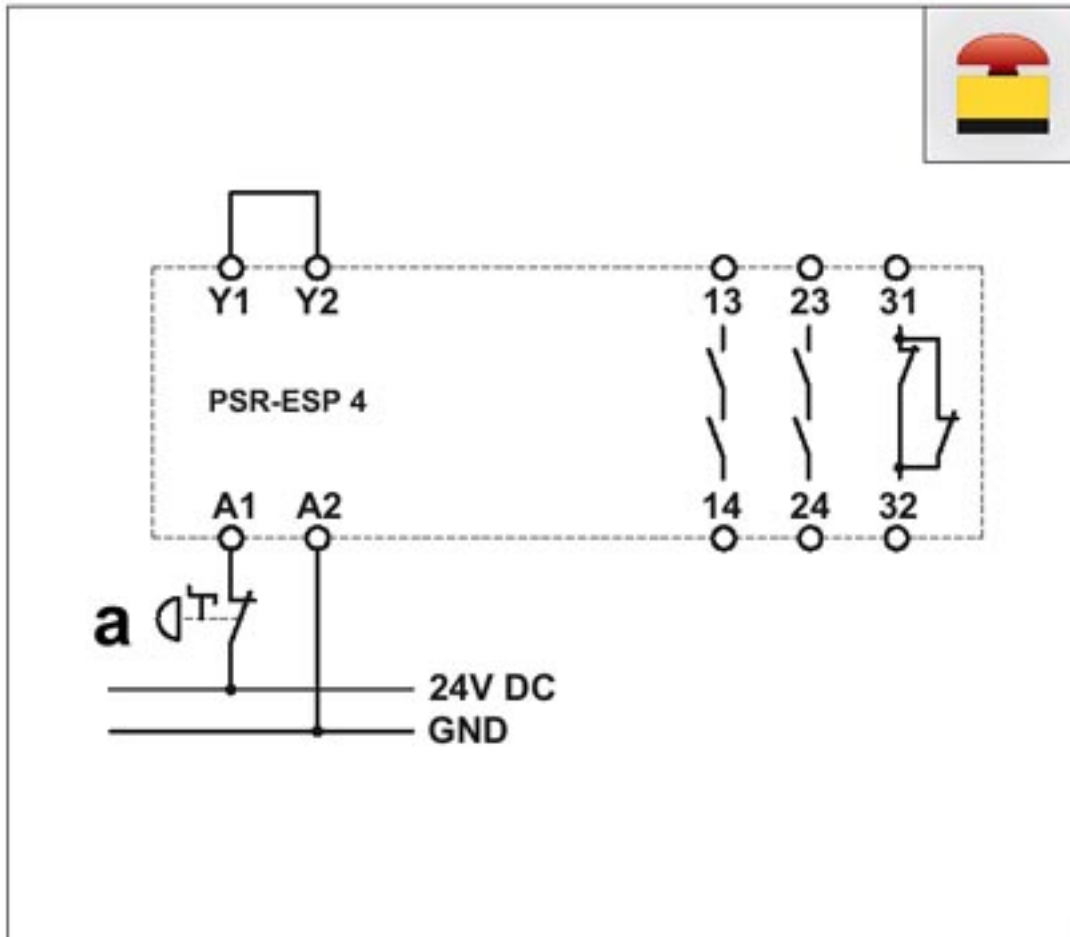
Circuit diagram



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

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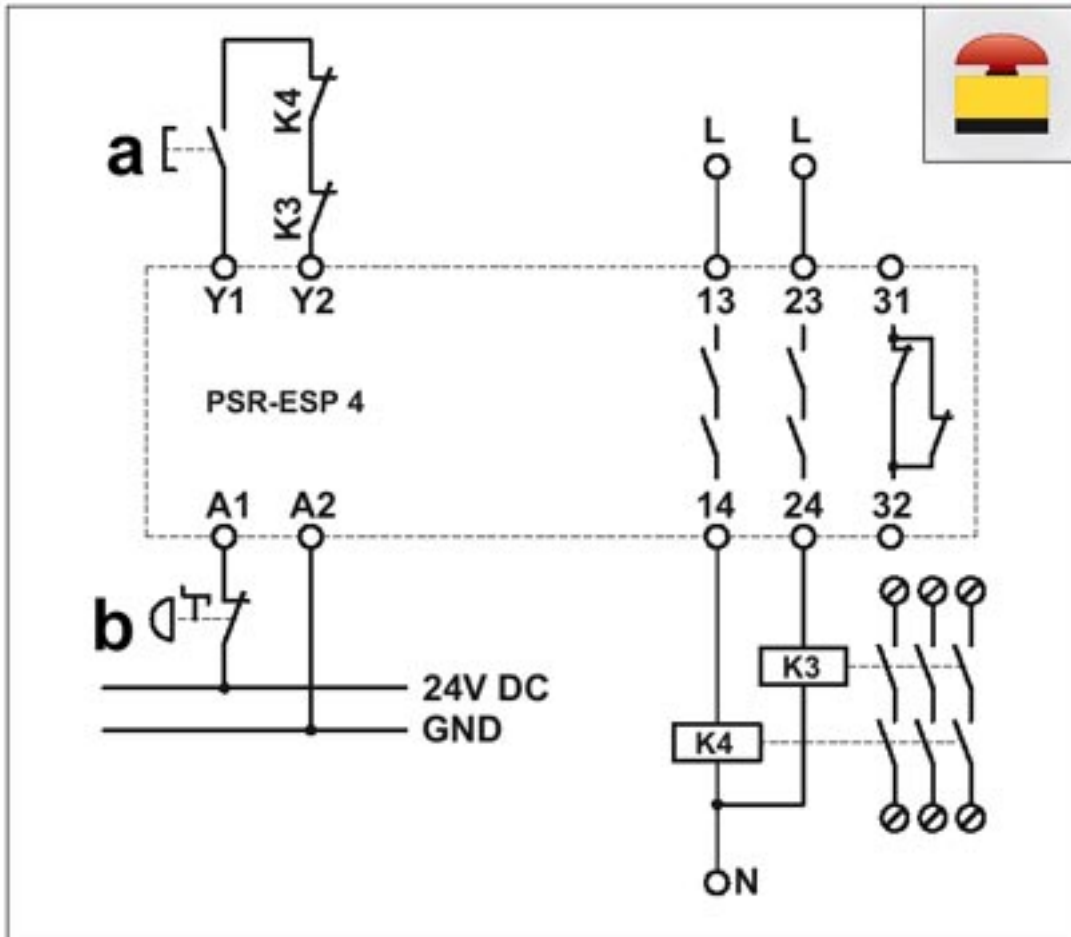
Circuit diagram



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

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Circuit diagram



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