

# Safety relays - PSR-SPP- 24DC/ESD/4X1/30 - 2981813

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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, automatic or manual activation, 2 N/O contacts dropout delayed from 0.1 s to 30 s, plug-in spring-cage connection terminal blocks

The figure shows a version with a screw connection

## Product Features

- Maximum of 3 undelayed and 2 dropout delay contacts
- Manually monitored and automatic activation
- Up to Cat. 3/4 and PL d/e according to ISO 13849-1, SILCL 3 according to IEC 62061, SIL 3 according to IEC 61508
- For emergency stop and safety door monitoring, plus evaluation of light grids (suitable light grids available on request)
- Protective labels to prevent manipulation of the set time (PSR-ESD-300) or electronic protection against manipulation (PSR-ESD-30)
- Single and two-channel control



## Key commercial data

package_quantity	1
GTIN	4046356117265

## 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	112 mm
Depth	114.5 mm

### Ambient conditions

Ambient temperature (operation)	-20 °C ... 45 °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 DC
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### Input data

Input voltage range in reference to $U_N$	0.85 ... 1.1
Typical input current at $U_N$	75 mA DC
Voltage at input/start and feedback circuit	approx. 24 V DC
Typical response time	150 ms (Monitored/manual and auto-start)
Typical release time	20 ms (undelayed contacts)
Typical release time	100 ms (delayed contacts)
Typical release time range	0.1 s ... 30 s
Recovery time	330 ms (Restart)
Recovery time	1 s (Electric torque)
Max. permissible overall conductor resistance	50 $\Omega$ (Input and reset circuit at $U_N$ )

### Output data

Contact type	2 undelayed enabling current paths
Contact type	2 enabling current paths delayed
Contact material	AgSnO <sub>2</sub>
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	15 V AC/DC
Limiting continuous current	6 A (N/O contact)
Maximum inrush current	6 A
Inrush current, minimum	25 mA
Sq. Total current	120 A <sup>2</sup> (see to derating)
Interrupting rating (ohmic load) max.	144 W (24 V DC, $\tau = 0$ ms)
Interrupting rating (ohmic load) max.	288 W (48 V DC, $\tau = 0$ ms)
Interrupting rating (ohmic load) max.	90 W (110 V DC, $\tau = 0$ ms)
Interrupting rating (ohmic load) max.	88 W (220 V DC, $\tau = 0$ ms)
Interrupting rating (ohmic load) max.	1500 VA (250 V AC, $\tau = 0$ ms)
Maximum interrupting rating (inductive load)	42 W (24 V DC, $\tau = 40$ ms)
Maximum interrupting rating (inductive load)	33 W (48 V DC, $\tau = 40$ ms)
Maximum interrupting rating (inductive load)	25 W (110 V DC, $\tau = 40$ ms)
Maximum interrupting rating (inductive load)	23 W (220 V DC, $\tau = 40$ ms)
Switching capacity min.	0.4 W
Output fuse	10 A gL/gG NEOZED (N/O contact)

### 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 (undelayed contacts)
Stop category	1 (delayed contacts)
Name	Air and creepage distances between the power circuits
Standards/regulations	DIN EN 60947-1

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## Technical data

### General

<b>Rated surge voltage / insulation</b>	4 kV / basic insulation
<b>Rated insulation voltage</b>	250 V
<b>Pollution degree</b>	2
<b>Surge voltage category</b>	II

### 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>	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>	EC001449
<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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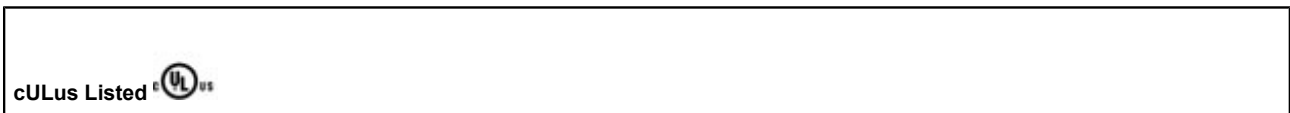
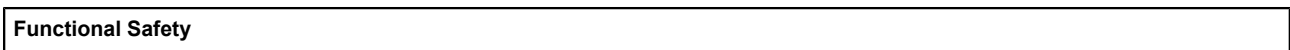
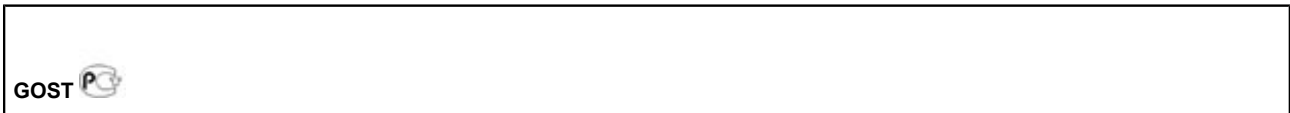
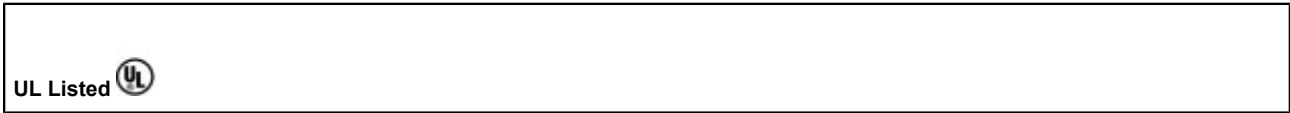
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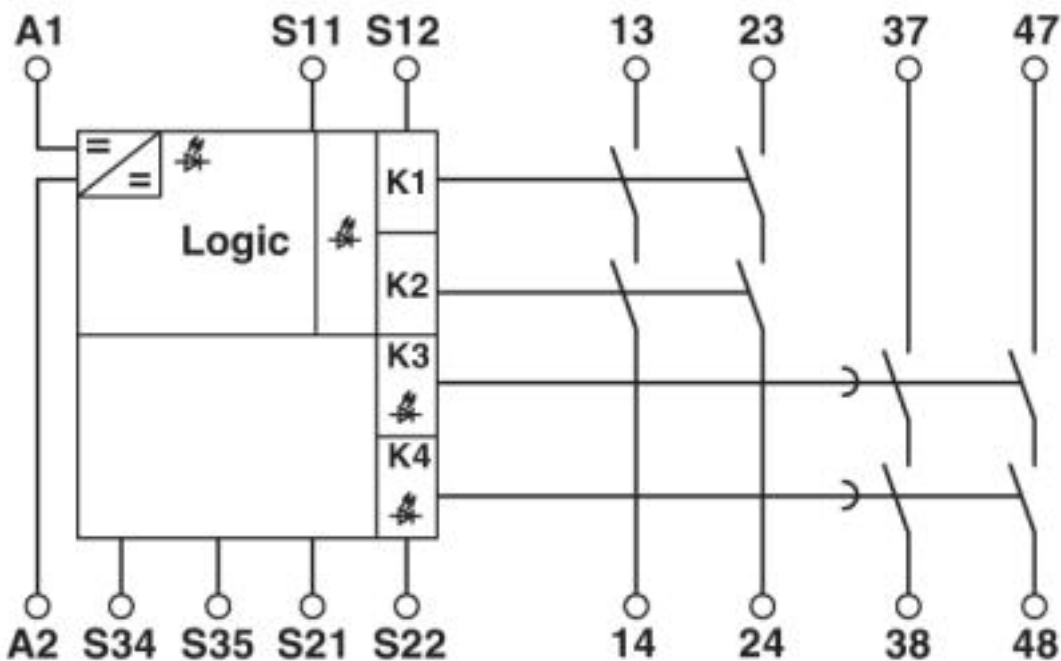
approvals

Approval details



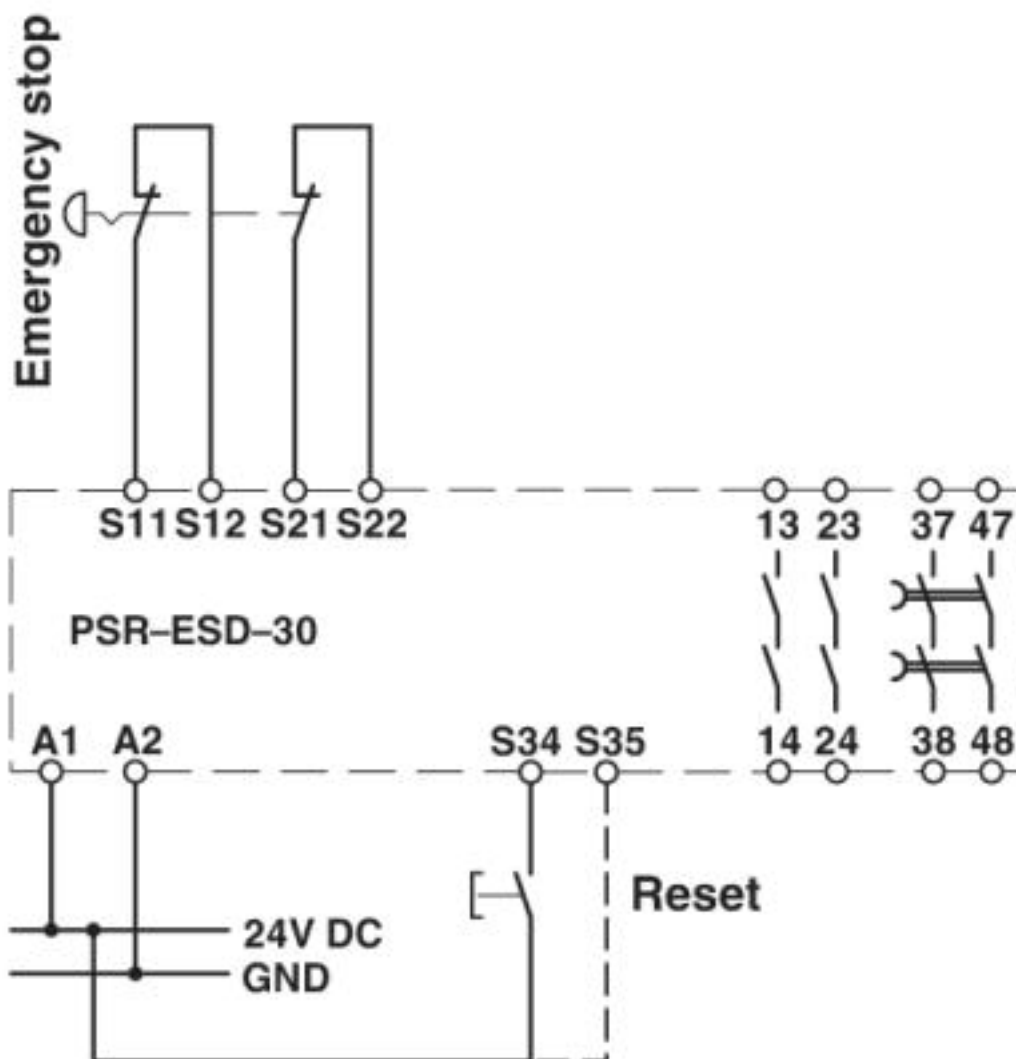
## Drawings

Circuit diagram



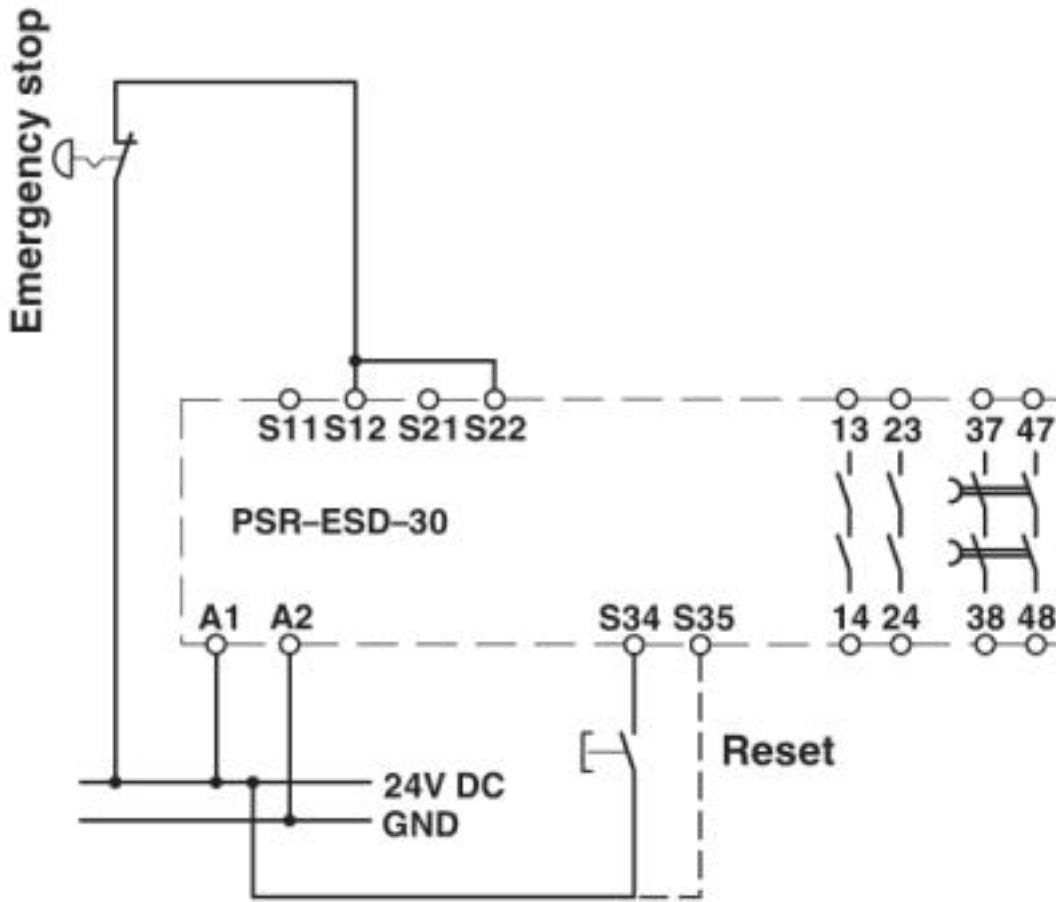
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Circuit diagram



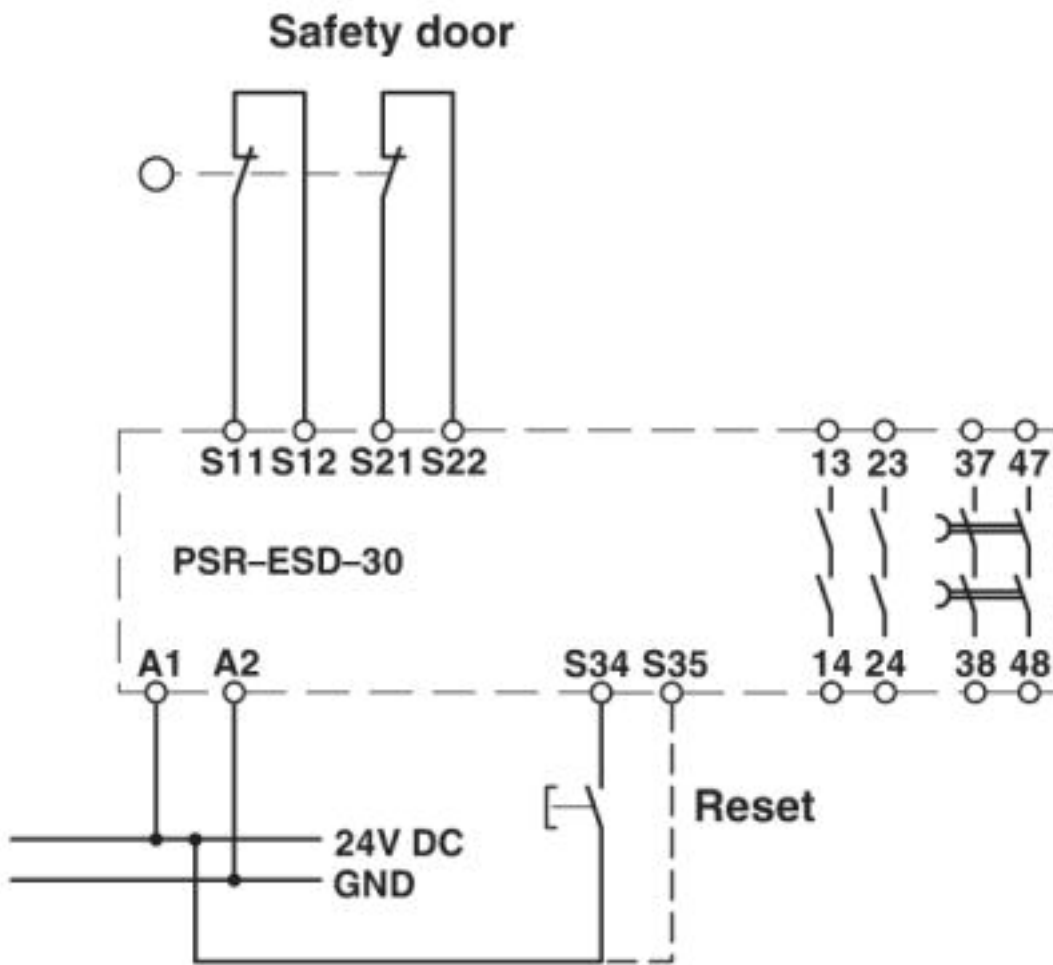
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Circuit diagram



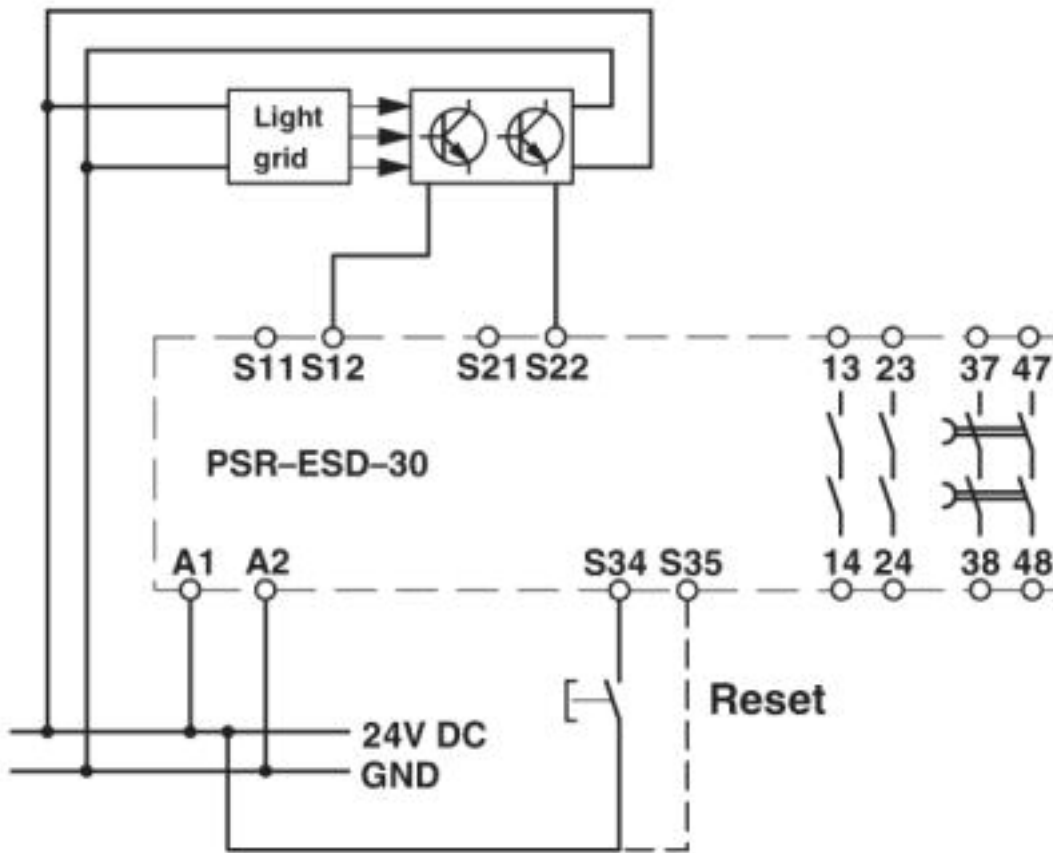
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Circuit diagram



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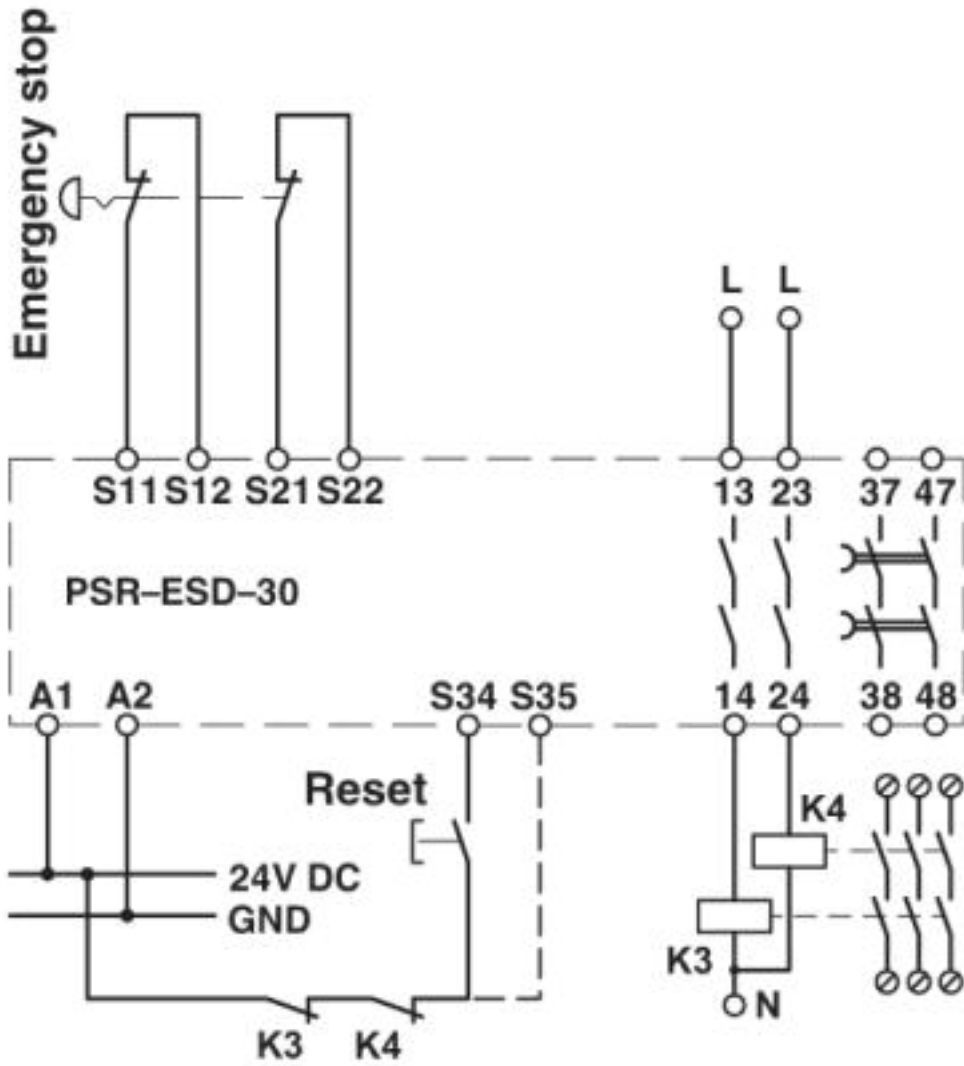
Circuit diagram





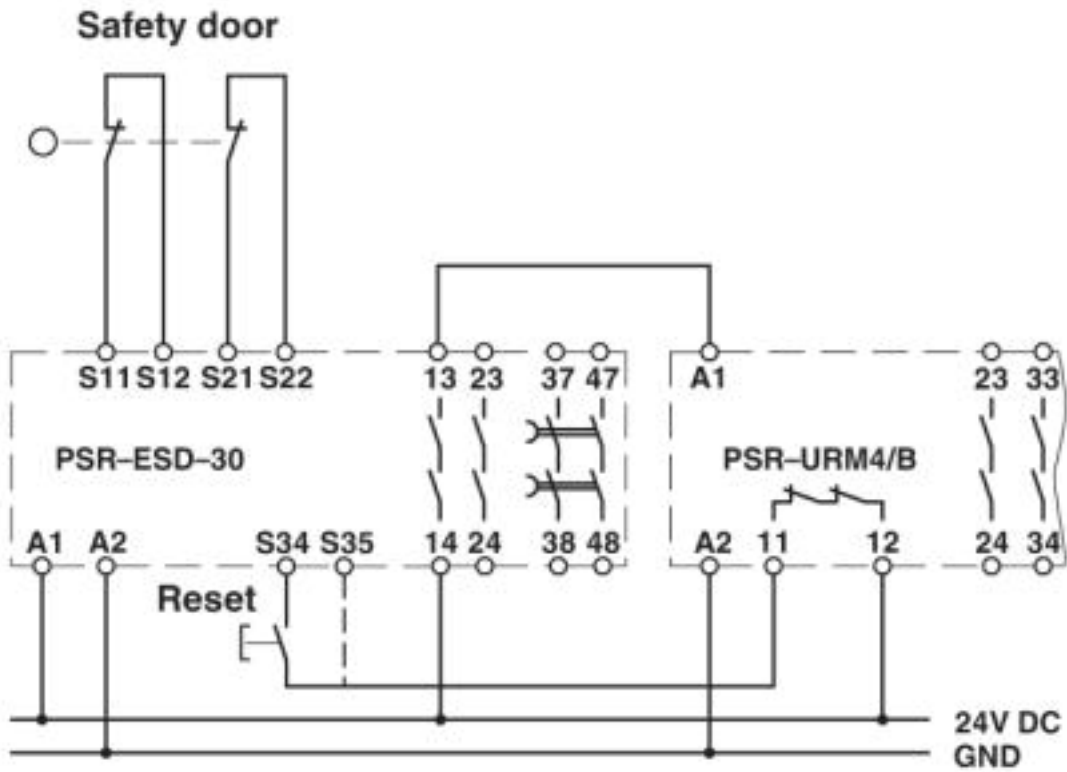
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Circuit diagram



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Circuit diagram



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