

# PSR-SPP- 24UC/ESL4/3X1/1X2/B - Safety relays



2981062

<https://www.phoenixcontact.com/sk/products/2981062>

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Safety relay for emergency stop, safety door, and light grid monitoring up to SIL 3 or Cat. 4, PL e in accordance with EN ISO 13849, 1- or 2-channel operation, 3 enabling current paths, nominal input voltage: 24 V AC/DC, plug-in Push-in terminal block

## Your advantages

- Manually monitored and automatic activation
- Up to Cat. 4/PL e in accordance with ISO 13849-1, SIL 3 in accordance with EN IEC 62061, SIL 3 in accordance with IEC 61508
- Three enabling and one signaling current path
- 1- and 2-channel control

## Commercial data

Item number	2981062
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DNA
Product key	DNA123
Catalog page	Page 231 (C-6-2019)
GTIN	4017918927196
Weight per piece (including packing)	223.5 g
Weight per piece (excluding packing)	193.9 g
Customs tariff number	85371098
Country of origin	DE

## Technical data

### Product properties

Product type	Safety relays
Product family	PSRclassic
Application	Emergency stop
	Safety door
	Light grid
Mechanical service life	approx. $10^7$ cycles
Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3

### Electrical properties

Maximum power dissipation for nominal condition	1.68 W
Nominal operating mode	100% operating factor

#### Air clearances and creepage distances between the power circuits

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

### Input data

#### General

Nominal input voltage $U_N$	24 V AC/DC
Input voltage range in reference to $U_N$	0.85 ... 1.1
Typical input current at $U_N$	150 mA AC
	70 mA DC
Voltage at input/start and feedback circuit	approx. 24 V DC
Typical response time	25 ms (manual start)
	100 ms (automatic start)
Typical release time	10 ms
Concurrency	$\infty$
Recovery time	1 s
Protective circuit	Fuse; PTC resistor
	Surge protection; Suppressor diode
Operating voltage display	Green LED
Status display	Green LED

### Output data

Contact switching type	3 enabling current paths
	1 signaling current path
Contact material	AgSnO <sub>2</sub> , + 0.2 $\mu$ m Au
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	15 V AC/DC

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Limiting continuous current	6 A
Maximum inrush current	6 A
Inrush current, minimum	25 mA
Sq. Total current	$72 \text{ A}^2 (I_{TH}^2 = I_1^2 + I_2^2 + I_3^2)$
Interrupting rating (ohmic load) max.	144 W (24 V DC, $\tau = 0 \text{ ms}$ )
	288 W (48 V DC, $\tau = 0 \text{ ms}$ )
	77 W (110 V DC, $\tau = 0 \text{ ms}$ )
	88 W (220 V DC, $\tau = 0 \text{ ms}$ )
	1500 VA (250 V AC, $\tau = 0 \text{ ms}$ )
Maximum interrupting rating (inductive load)	48 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.	0.4 W
Switching capacity (360/h cycles)	6 A (24 V DC)
	5 A (230 V AC)
Switching capacity (3600/h cycles)	3 A (24 V (DC13))
	3 A (230 V (AC 15))
Output fuse	10 A gL/gG NEOZED (N/O contact)

## Connection data

### Connection technology

pluggable	yes
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### Conductor connection

Connection method	Push-in connection
Conductor cross section rigid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (only together with CRIMPFOX 6)
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (only together with CRIMPFOX 6)
Conductor cross-section AWG	24 ... 16
Stripping length	8 mm

## Dimensions

Width	22.5 mm
Height	112 mm
Depth	114.5 mm

## Material specifications

Housing material	Polyamide
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## Characteristics

### Safety data

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2981062

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Stop category	0
Safety data: EN ISO 13849	
Category	4
Performance level (PL)	e
Safety data: IEC 61508 - High demand	
Safety Integrity Level (SIL)	3
Safety data: IEC 61508 - Low demand	
Safety Integrity Level (SIL)	3
Safety data: EN IEC 62061	
Safety Integrity Level (SIL)	3

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Ambient temperature (operation)	-20 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Maximum altitude	≤ 2000 m (Above sea level)
Max. permissible humidity (storage/transport)	75 % (on average, 85% infrequently, non-condensing)
Max. permissible relative humidity (operation)	75 % (on average, 85% infrequently, non-condensing)
Shock	15g
Vibration (operation)	10 Hz ... 150 Hz, 2g

## Standards and regulations

### Air clearances and creepage distances between the power circuits

Standards/regulations	DIN EN 60947-1
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## Mounting

Mounting type	DIN rail mounting
Mounting position	any
Connection method	Push-in connection

# PSR-SPP- 24UC/ESL4/3X1/1X2/B - Safety relays

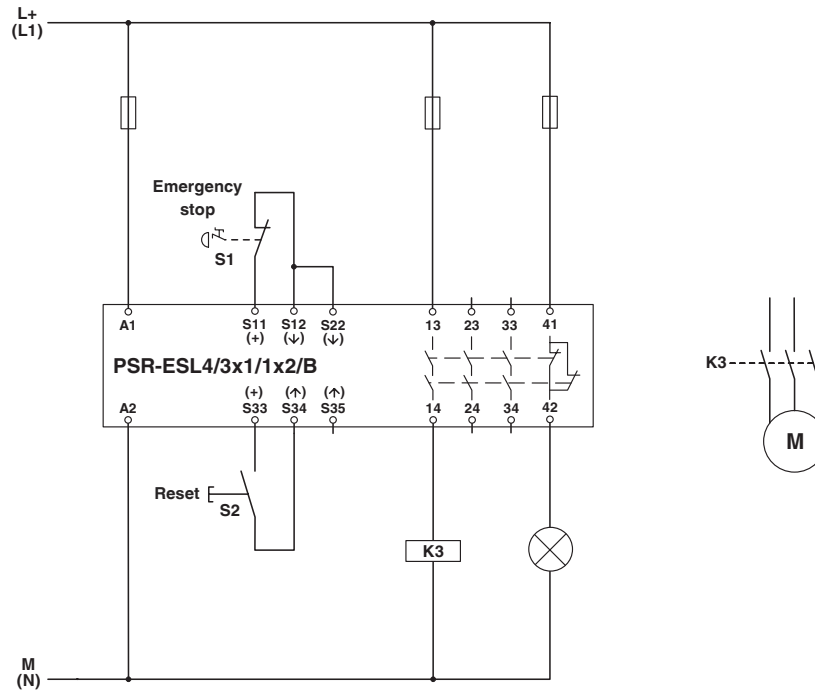


2981062

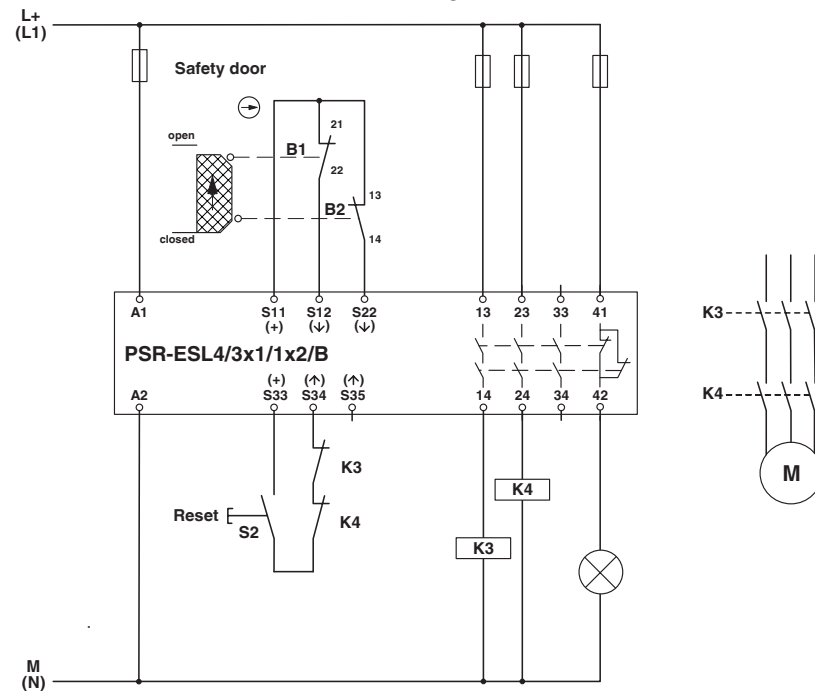
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## Drawings

Circuit diagram



Circuit diagram



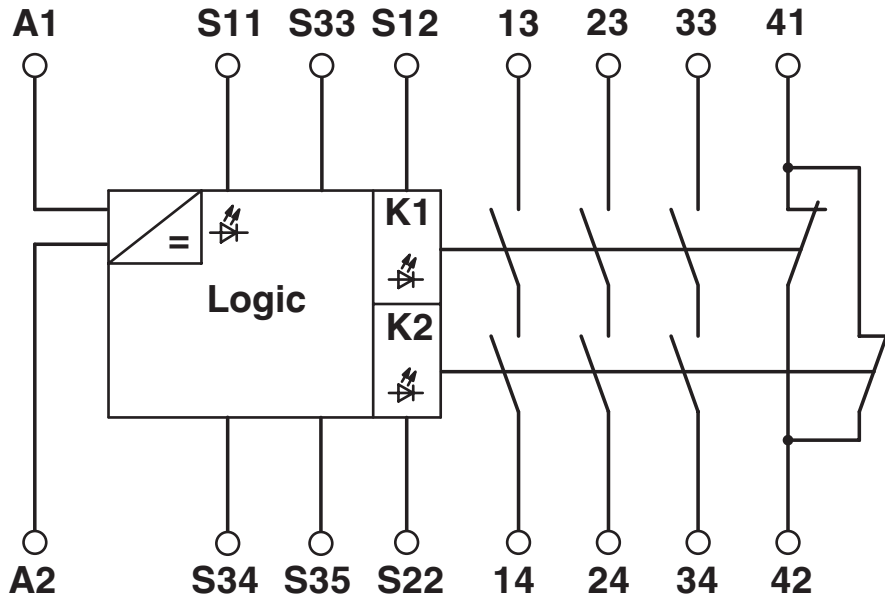
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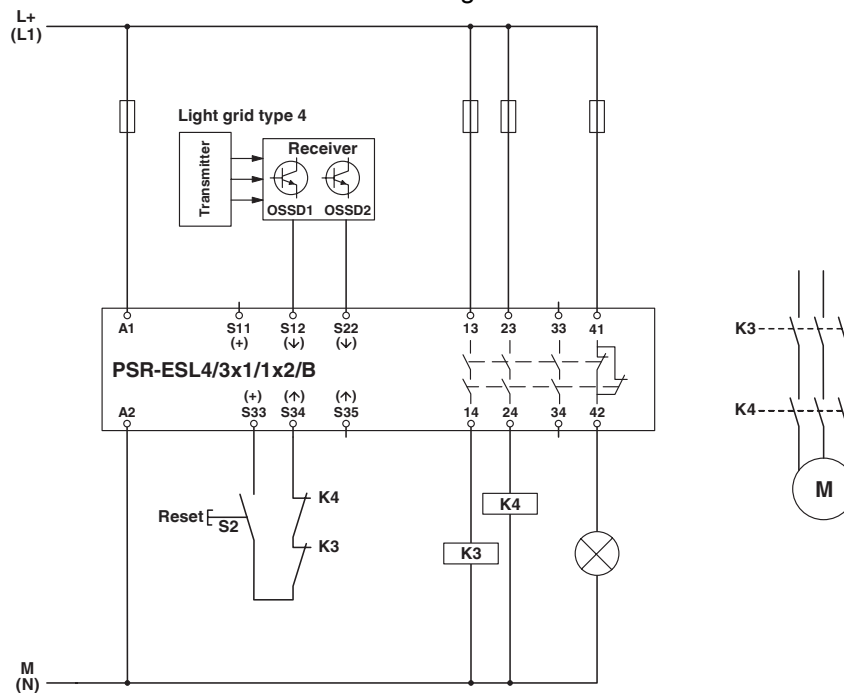
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Circuit diagram



Circuit diagram



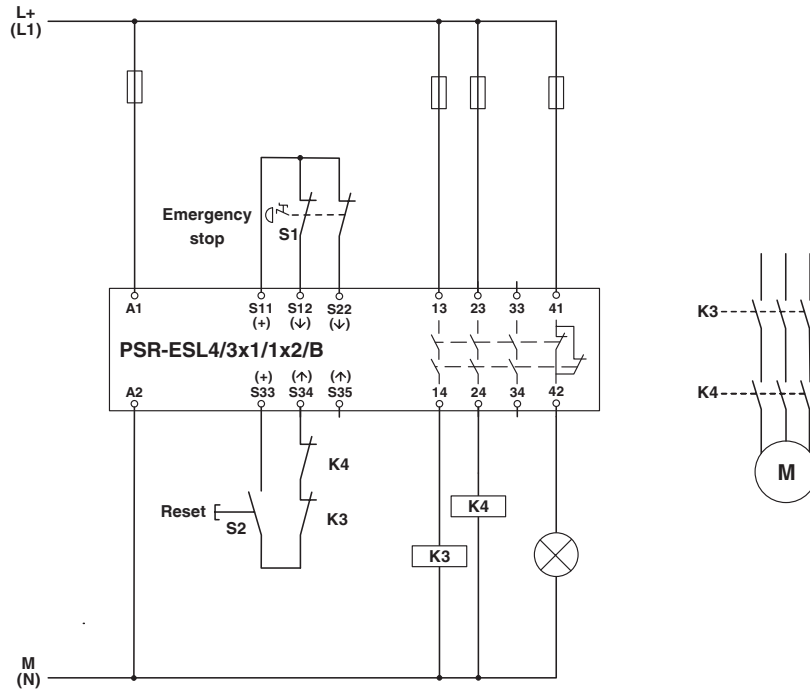
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Circuit diagram



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## Approvals

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**EAC**

Approval ID: TR\_TS\_D\_00573\_c



**UL Listed**

Approval ID: FILE E 140324



**cUL Listed**

Approval ID: FILE E 140324

**Functional Safety**

Approval ID: 968/EZ409.04/22

**cULus Listed**



2981062

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## Classifications

### ECLASS

ECLASS-11.0	27371819
ECLASS-13.0	27371819
ECLASS-12.0	27371819

### ETIM

ETIM 8.0	EC001449
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### UNSPSC

UNSPSC 21.0	39122200
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## Environmental product compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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