

# PSR-SCP-230UC/ESAM4/3X1/1X2/B - Safety relays



2901428

<https://www.phoenixcontact.com/us/products/2901428>

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Safety relay for emergency stop and safety door monitoring up to SIL 3 or Cat. 4, PL e in accordance with EN ISO 13849, 2-channel operation, 3 enabling current paths, nominal input voltage: 230 V AC/DC, plug-in screw terminal blocks

The figure shows the 230 V version.

## Your advantages

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

## Commercial data

Item number	2901428
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN01
Product key	DNA114
GTIN	4046356592062
Weight per piece (including packing)	199.51 g
Weight per piece (excluding packing)	177.09 g
Customs tariff number	85371098
Country of origin	DE

## Technical data

### Notes

#### Note on application

Note on application	Only for industrial use
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### Product properties

Product type	Safety relays
Product family	PSRclassic
Application	Emergency stop Safety door
Control	2-channel
Mechanical service life	approx. $10^7$ cycles
Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3

#### Insulation characteristics

Overvoltage category	II, III (See the section "Insulation coordination")
Degree of pollution	2

#### Times

Typical response time	300 ms (automatic start)
	40 ms (manual, monitored start)
Typ. starting time with $U_S$	330 ms (when controlled via A1)
Typical release time	20 ms (when controlled via S11/S12 and S21/S22)
	150 ms (when controlled via A1)
Recovery time	1 s

### Electrical properties

Maximum power dissipation for nominal condition	16.4 W (At $I_L^2 = 72 A^2, P_{Total max} = 2 W + 14.4 W$ )
Nominal operating mode	100% operating factor
Rated insulation voltage	250 V AC
Rated surge voltage/insulation	4 kV / basic insulation (safe isolation, reinforced insulation, and 6 kV between A1-A2/logic/enabling and signaling current paths)

#### Supply

Designation	A1/A2
Rated control circuit supply voltage $U_S$	230 V AC -15 % / +10 %
Rated control supply current $I_S$	typ. 22 mA (at $U_N$ )
Apparent power	typ. 4.5 VA (at $U_N$ )
Protective circuit	Surge protection
	Varistor

### Input data

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## Digital: Sensor circuit (S12, S22)

Description of the input	safety-related
Concurrence	$\infty$
Max. permissible overall conductor resistance	50 $\Omega$
Protective circuit	Surge protection
	Suppressor diode

## Digital: Start circuit (S34)

Description of the input	non-safety-related
Concurrence	$\infty$
Max. permissible overall conductor resistance	50 $\Omega$
Protective circuit	Surge protection
	Suppressor diode

## Output data

### Relay: Enabling current paths (13/14, 23/24, 33/34)

Number of outputs	3 (undelayed)
Contact switching type	3 enabling current paths
Contact material	AgSnO <sub>2</sub> , + 0.2 $\mu$ m Au
Switching voltage	min. 10 V AC/DC
	max. 250 V AC/DC
Switching power	min. 100 mW
Inrush current	min. 10 mA
	max. 6 A
Switching capacity	6 A (24 V (DC13))
	5 A (230 V (AC15))
Limiting continuous current	6 A (observe derating)
Sq. Total current	72 A <sup>2</sup> (observe derating)
Switching frequency	max. 0.5 Hz
Mechanical service life	10x 10 <sup>6</sup> cycles
Interrupting rating (ohmic load) max.	see load limit curve
Output fuse	10 A gL/gG NEOZED

### Relay: Signaling current path (41/42)

Number of outputs	1 (undelayed)
Contact switching type	1 signaling current path
Contact material	AgSnO <sub>2</sub> , + 0.2 $\mu$ m Au
Switching voltage	min. 10 V AC/DC
	max. 250 V AC/DC
Switching power	min. 100 mW
Inrush current	min. 10 mA
	max. 6 A
Limiting continuous current	5 A
Sq. Total current	72 A <sup>2</sup> (observe derating)

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Switching frequency	max. 0.5 Hz
Output fuse	6 A gL/gG NEOZED

## Connection data

### Connection technology

pluggable	yes
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### Conductor connection

Connection method	Screw connection
Conductor cross-section rigid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 12

## Signaling

Status display	3 x LED (green)
Operating voltage display	1 x LED (green)

## Dimensions

Width	22.5 mm
Height	99 mm
Depth	114.5 mm

## Material specifications

Color	yellow (RAL 1018)
Housing material	PA

## Characteristics

### Safety data

Stop category (EN 60204-1)	0
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### Safety data: EN ISO 13849

Performance level (PL)	e (5 A DC13; 8760 switching cycles/year)
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### Safety data: IEC 61508 - High demand

Safety Integrity Level (SIL)	3
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### Safety data: IEC 61508 - Low demand

Safety Integrity Level (SIL)	3
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### Safety data: EN IEC 62061

Safety Integrity Level (SIL)	3
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## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP20
Min. degree of protection of inst. location	IP54

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Ambient temperature (operation)	-25 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °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

## Approvals

### Conformity/Approvals

Conformance	CE-compliant
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## Mounting

Mounting type	DIN rail mounting
Mounting position	any

# PSR-SCP-230UC/ESAM4/3X1/1X2/B - Safety relays

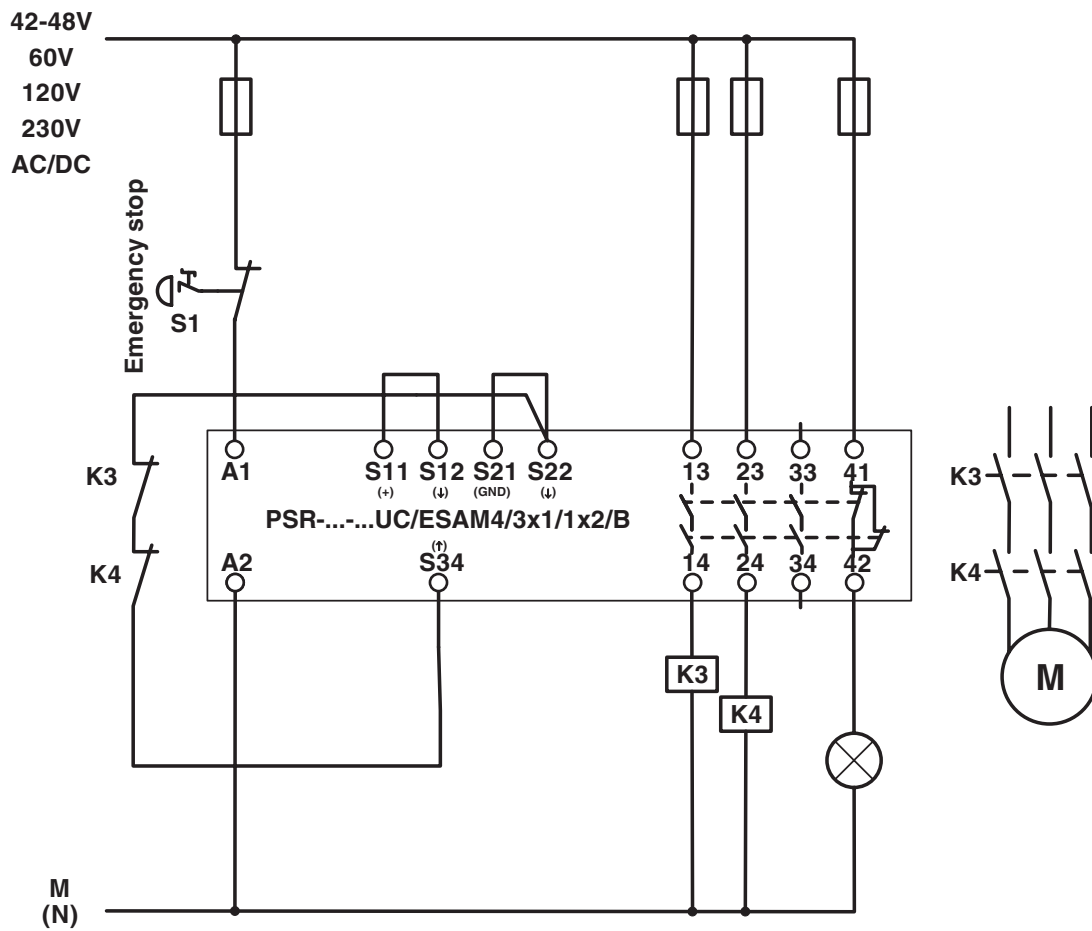


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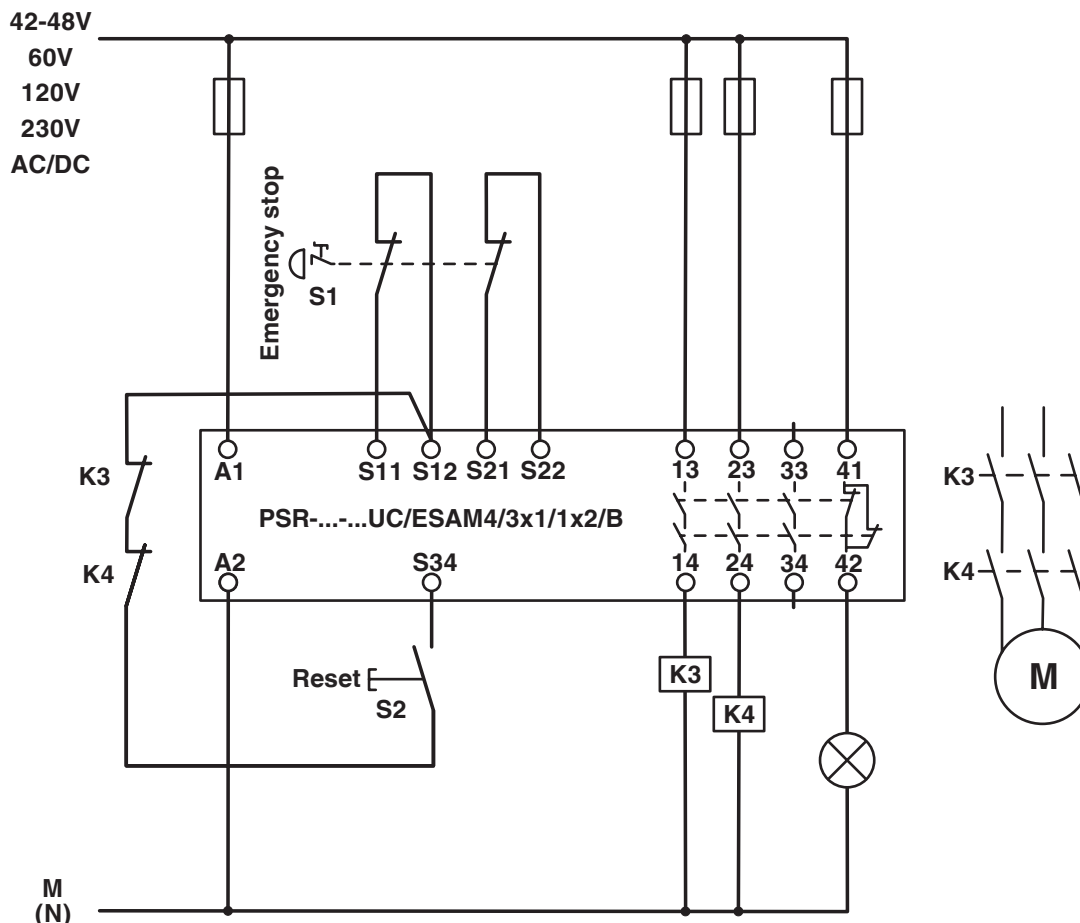
## Drawings

Application drawing



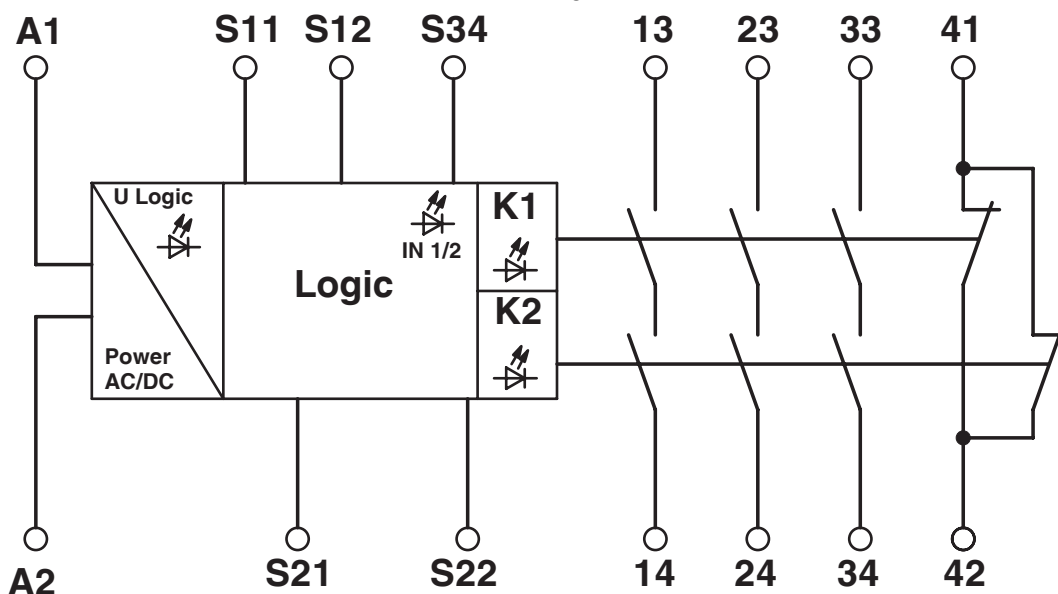
Single-channel emergency stop monitoring

Application drawing



2-channel emergency stop monitoring

Circuit diagram



Block diagram

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2901428>



**cULus Listed**

Approval ID: E140324



**Functional Safety**

Approval ID: 01/205/5117.04/23

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## Classifications

### ECLASS

ECLASS-13.0	27371819
ECLASS-15.0	27371819
ECLASS-15.0 ASSET	27250101

### ETIM

ETIM 10.0	EC001449
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### UNSPSC

UNSPSC 21.0	39122200
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	573d5547-f8c2-4c90-b439-dabfe824bf4e

### EF3.1 Climate Change

CO2e kg	6.063 kg CO2e
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