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

2901429

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The figure shows the 230 V version.

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, pluggable Push-in terminal block

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	2901429
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN01
Product key	DNA114
GTIN	4046356592208
Weight per piece (including packing)	236.41 g
Weight per piece (excluding packing)	175.68 g
Customs tariff number	85371098
Country of origin	DE

Technical data

Notes

Note on application

Note on application	Only for industrial use

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

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	2.88 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

Digital: Sensor circuit (S12, S22)

Description of the input	safety-related
Concurrence	∞
Max. permissible overall conductor resistance	50 Ω
Protective circuit	Surge protection
	Suppressor diode

Digital: Start circuit (S34)

Description of the input	non-safety-related
Concurrence	∞
Max. permissible overall conductor resistance	50 Ω
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	$AgSnO_2$, + 0.2 µm 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^2 (observe derating)
Switching frequency	max. 0.5 Hz
Mechanical service life	10x 10^6 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	$AgSnO_2$, + 0.2 µm 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^2 (observe derating)
Switching frequency	max. 0.5 Hz

Output fuse	6 A gL/gG NEOZED

Connection data

Connection technology

pluggable	yes

Conductor connection

Connection method	Push-in connection
Conductor cross-section rigid	0.2 mm² ... 1.5 mm²
Conductor cross-section flexible	0.2 mm² ... 1.5 mm²
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 1.5 mm² (only together with CRIMPFOX 6)
Conductor cross-section, flexible, with ferrule, without plastic sleeve	0.25 mm² ... 1.5 mm² (only together with CRIMPFOX 6)
Conductor cross-section AWG	24 ... 16
Stripping length	8 mm

Signaling

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

Dimensions

Width	22.5 mm
Height	112 mm
Depth	114.5 mm

Material specifications

Color	yellow (RAL 1018)
Housing material	PA

Characteristics

Safety data

Stop category (EN 60204-1)	0

Safety data: EN ISO 13849

Performance level (PL)	e (5 A DC13; 8760 switching cycles/year)

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)	-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

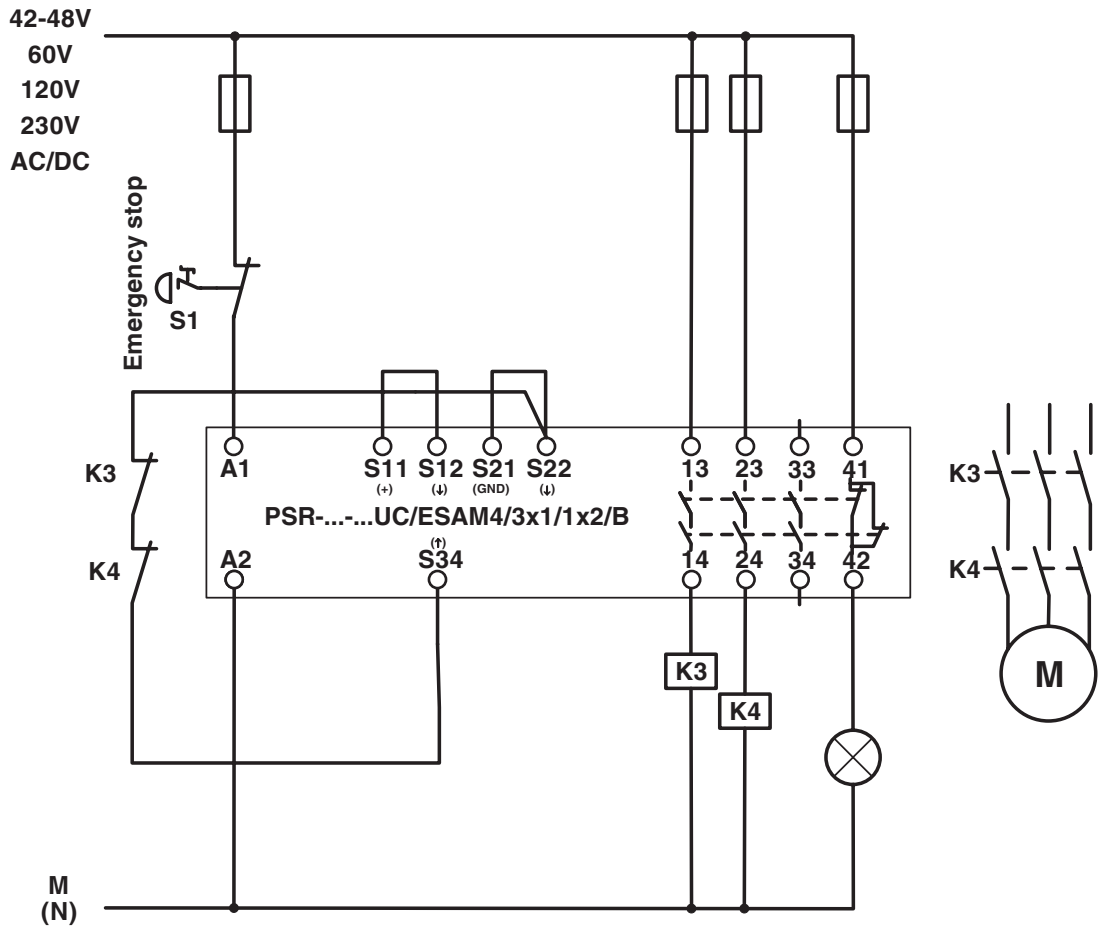
Conformance	CE-compliant

Mounting

Mounting type	DIN rail mounting
Mounting position	any

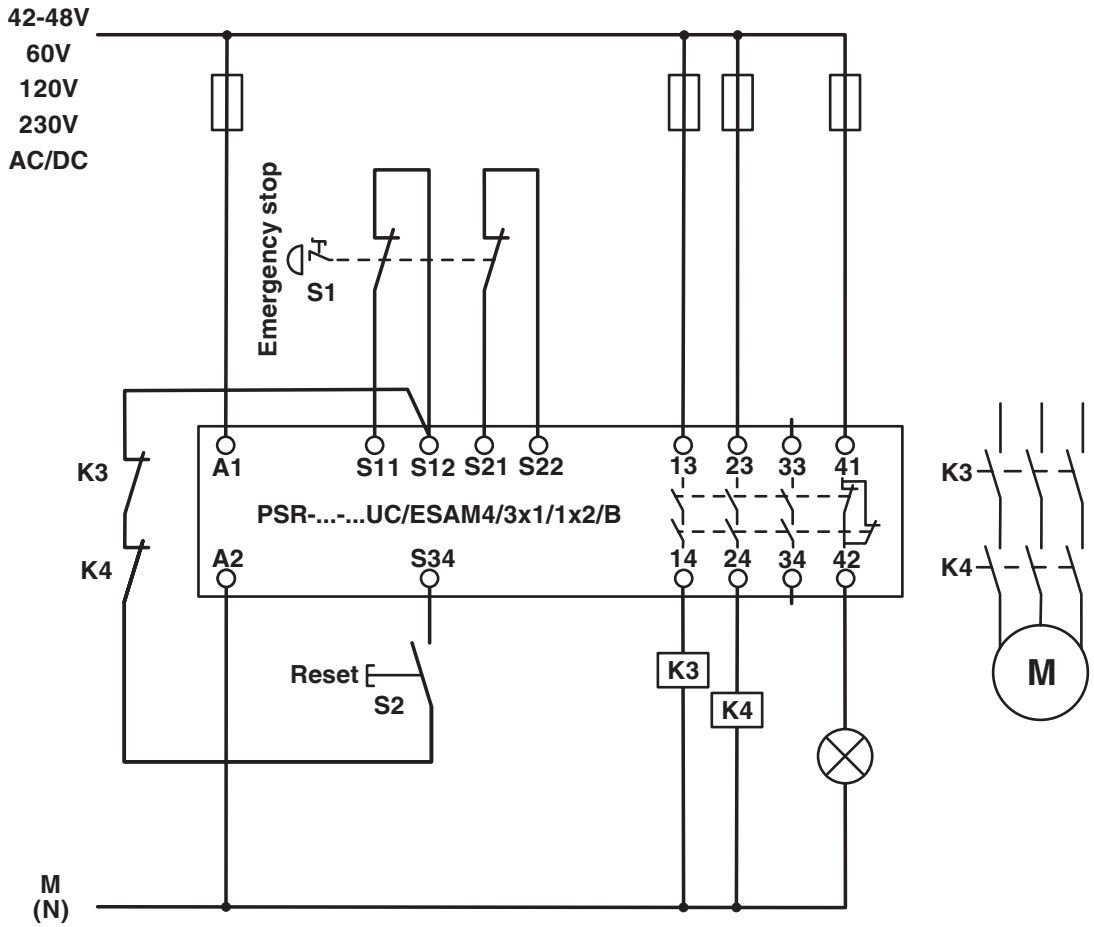
Drawings

Application drawing



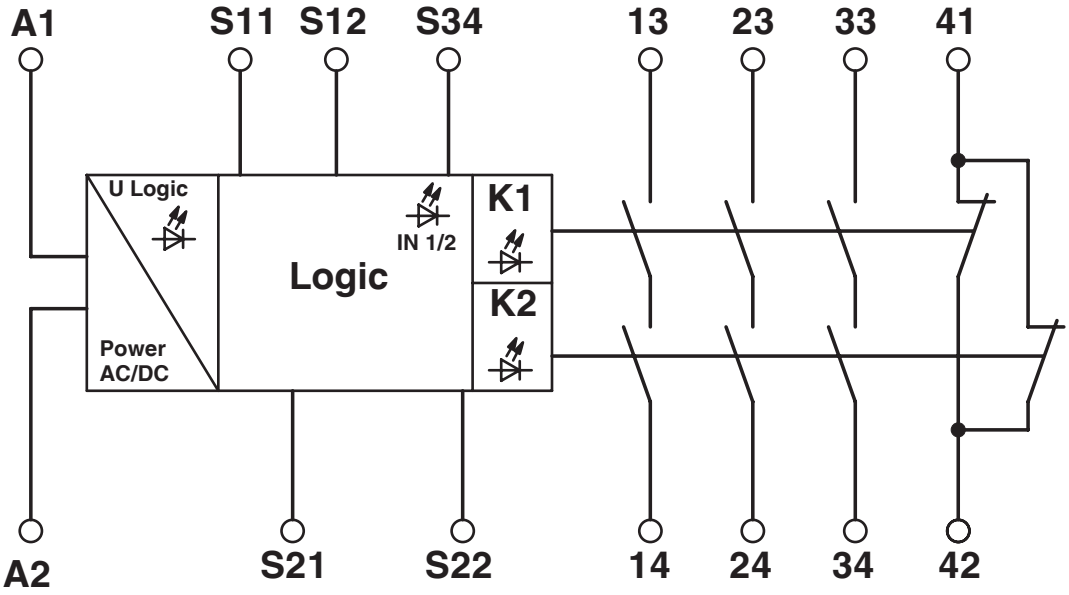
Single-channel emergency stop monitoring

Application drawing



2-channel emergency stop monitoring

Circuit diagram



Block diagram

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2901429

cULus Listed
Approval ID: E140324

Functional Safety
Approval ID: 01/205/5117.04/23

Classifications

ECLASS

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

ETIM

ETIM 10.0	EC001449

UNSPSC

UNSPSC 21.0	39122200

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(a)-I, 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	10fb3e6d-c1d6-477c-8df9-41a53a4f6877

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