

PSR-SPP- 60UC/ESAM4/3X1/1X2/B - Safety relays



2901427

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The figure shows the 60 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, single or two-channel operation, 3 enabling current paths, nominal input voltage: of 60 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	2901427
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	DN01
Product key	DNA114
GTIN	4046356592055
Weight per piece (including packing)	242.55 g
Weight per piece (excluding packing)	242.55 g
Customs tariff number	85371098
Country of origin	DE

Technical data

Notes

Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area
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Product properties

Product type	Safety relays
Product family	PSRclassic
Application	Emergency stop Safety door
Control	1 and 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: Air clearances and creepage distances between the power circuits

Overvoltage category	III
Degree of pollution	2

Electrical properties

Maximum power dissipation for nominal condition	2.88 W
Nominal operating mode	100% operating factor

Air clearances and creepage distances between the power circuits

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)

Input data

General

Nominal input voltage U_N	60 V AC/DC
Input voltage range in reference to U_N	0.85 ... 1.1
Typical input current at U_N	48 mA
Voltage at input/start and feedback circuit	~ 24 V DC
Typical response time	40 ms (man. start)
Typ. starting time with U_s	330 ms (when controlled via A1)
Typical release time	90 ms (when controlled via A1) 20 ms (when controlled via S11/S12 and S21/S22)
Concurrence	∞
Recovery time	1 s
Maximum switching frequency	0.5 Hz
Protective circuit	Surge protection; Varistor 275 V _{RMS} (A1-A2)

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	Surge protection; Varistor
Max. permissible overall conductor resistance	50 Ω
Operating voltage display	Green LED
Status display	LED (green)

Output data

Contact switching type	3 enabling current paths
	1 signaling current path
Contact material	AgSnO ₂ , + 0.2 μm Au
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	10 V AC/DC
Limiting continuous current	6 A (N/O contact)
	5 A (N/C contact)
Maximum inrush current	6 A
Inrush current, minimum	10 mA
Sq. Total current	72 A ²
Interrupting rating (ohmic load) max.	144 W (24 V DC, τ = 0 ms)
	230 W (48 V DC, τ = 0 ms)
	68 W (110 V DC, τ = 0 ms)
	88 W (220 V DC, τ = 0 ms)
	2000 VA (250 V AC, τ = 0 ms)
Maximum interrupting rating (inductive load)	48 W (24 V DC, τ = 40 ms)
	40 W (48 V DC, τ = 40 ms)
	35 W (110 V DC, τ = 40 ms)
	33 W (220 V DC, τ = 40 ms)
Switching power min.	100 mW
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)
	6 A gL/gG NEOZED (N/C 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 ² ... 1.5 mm ²
Conductor cross-section, flexible	0.2 mm ² ... 1.5 mm ²
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 1.5 mm ² (only together with CRIMPFOX 6)
Conductor cross-section, flexible, with ferrule, without plastic sleeve	0.25 mm ² ... 1.5 mm ² (only together with CRIMPFOX 6)

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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	PA
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Characteristics

Safety data

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

Performance level (PL)	e
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Safety data: EN 50156

Safety Integrity Level (SIL)	3
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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	IP54 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

Standards and regulations

Air clearances and creepage distances between the power circuits

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Standards/regulations	DIN EN 50178/VDE 0160
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Mounting

Mounting type	DIN rail mounting
Mounting position	any

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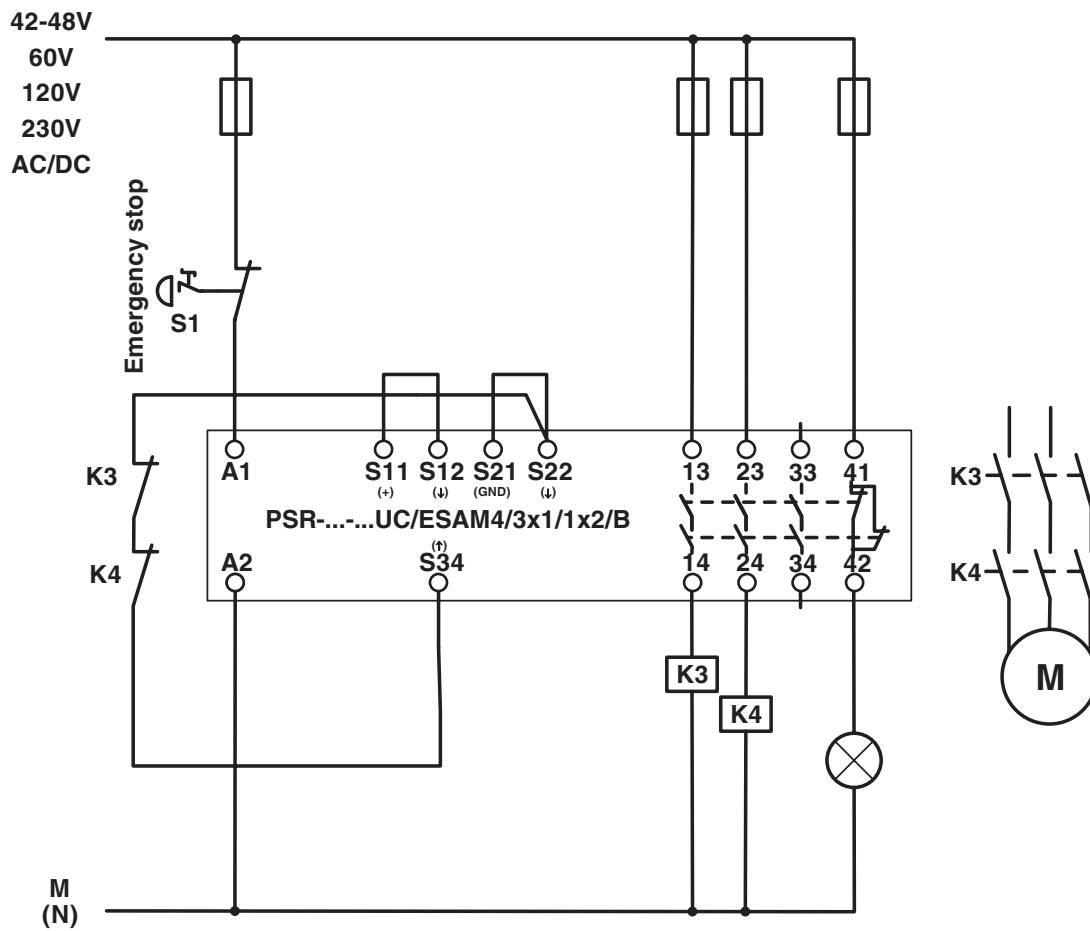


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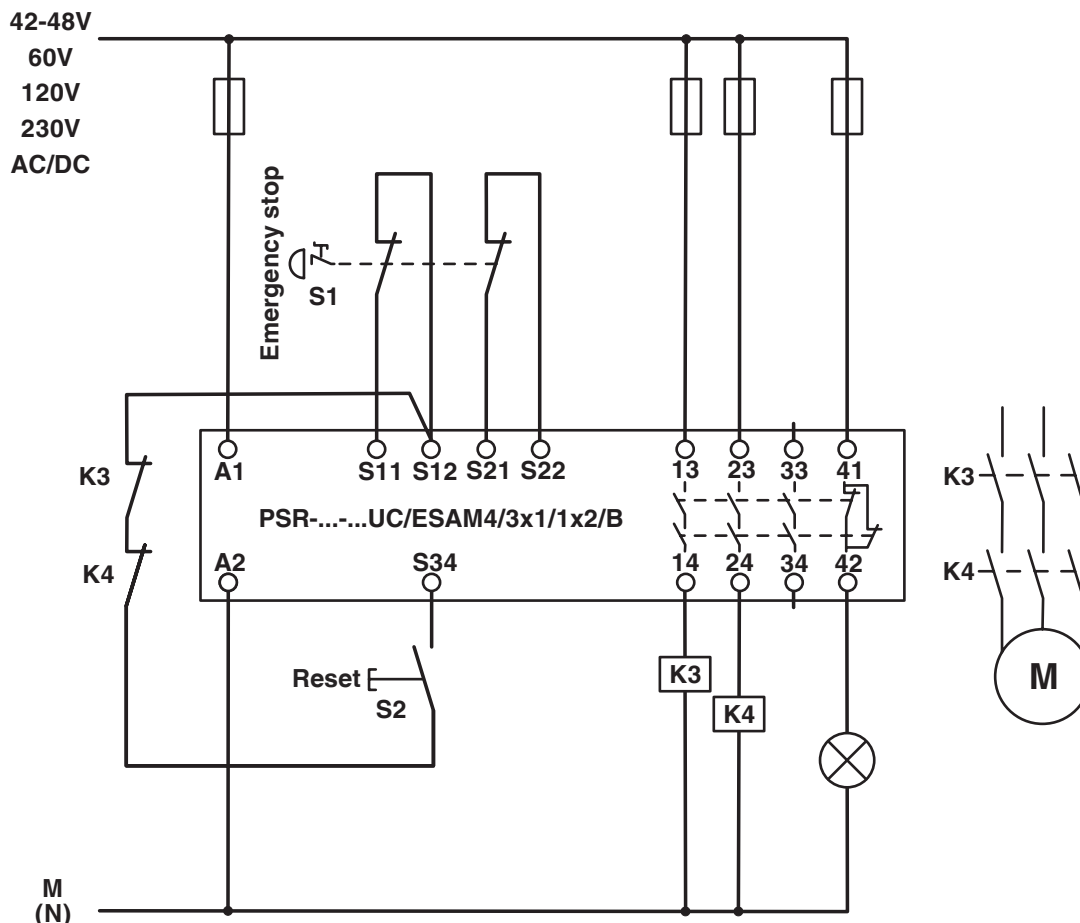
Drawings

Application drawing



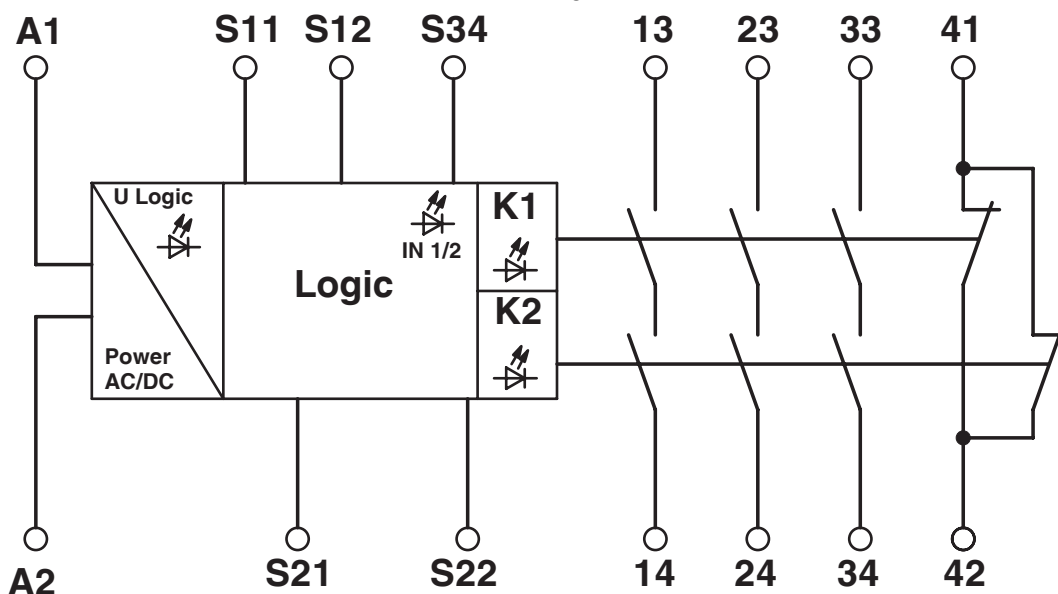
Single-channel emergency stop monitoring

Application drawing



2-channel emergency stop monitoring

Circuit diagram



Block diagram

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Environmental product compliance

EU REACH SVHC

REACH candidate substance (CAS No.)	
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	No substance above 0.1 wt%
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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com