

PSR-SCP- 24UC/ESA4/2X1/1X2 - Safety relays

2963750

<https://www.phoenixcontact.com/us/products/2963750>



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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, 2 enabling current paths, nominal input voltage: 24 V DC, plug-in screw 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
- 2-channel
- 2 enabling current paths, 1 signaling current path
- Manually monitored and automatic activation in a single device

Commercial data

Item number	2963750
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN01
Product key	DNA113
GTIN	4017918823634
Weight per piece (including packing)	181.4 g
Weight per piece (excluding packing)	161 g
Customs tariff number	85371098
Country of origin	DE

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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
Control	Safety door
Mechanical service life	2-channel approx. 10^7 cycles
Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3

Insulation characteristics

Ovvoltage category	III
Degree of pollution	2

Electrical properties

Maximum power dissipation for nominal condition	16.44 W ($U_S = 26.4$ V, $I_L^2 = 72$ A 2 , $P_{Total\ max} = 2.04$ W + 14.4 W)
Nominal operating mode	100% operating factor
Rated insulation voltage	250 V
Rated surge voltage/insulation	See data sheet, section "Insulation coordination".

Input data

General

Rated control circuit supply voltage U_S	24 V DC -15 % / +10 %
Power consumption at U_S	typ. 1.68 W (DC)
Rated control supply current I_S	typ. 70 mA
Input voltage range in reference to U_N	0.85 ... 1.1
Typical input current at U_N	70 mA DC (at U_S)
Inrush current	< 3.5 A ($\Delta t = 3$ ms at U_S) < 100 mA ($\Delta t = 500$ ms, with U_S/I_x at S12) > -100 mA ($\Delta t = 300$ ms, with U_S/I_x at S22) < 6 mA (with U_S/I_x to S34)
Current consumption	typ. 38 mA (S12) typ. -38 mA (S22) typ. 1 mA (with U_S/I_x to S34)
Voltage at input/start and feedback circuit	approx. 24 V DC
Filter time	5 ms (at A1 in the event of voltage dips at U_S) No test pulses permitted

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Typical response time	150 ms (automatic start)
Typ. starting time with U_s	250 ms (with U_s when controlled via A1)
Typical release time	20 ms (on demand via the sensor circuit) 45 ms (on demand via A1)
Concurrence	∞
Recovery time	1 s (following demand of the safety function) < 1 s (Boot time)
Protective circuit	Surge protection; Suppressor diode
Max. permissible overall conductor resistance	approx. 50 Ω (Input and start circuits at U_s)
Operating voltage display	Green LED
Status display	LED (green)

Output data

Contact switching type	2 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)
Maximum inrush current	6 A
Inrush current, minimum	10 mA
Sq. Total current	72 A ² (Enabling current paths) 36 A ² (Signaling current path 31/32)
Interrupting rating (ohmic load) max.	see load limit curve
Switching power min.	100 mW
Output fuse	10 A gL/gG (Enabling current paths) 4 A gL/gG (Low-demand enabling current paths) 6 A gL/gG (Signaling current path)

Connection data

Connection technology	
pluggable	yes

Conductor connection	
Connection method	Screw connection
Conductor cross-section rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross-section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross-section AWG	24 ... 12
Stripping length	7 mm
Screw thread	M3

Dimensions

Width	22.5 mm
Height	99 mm

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Depth	114.5 mm
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Material specifications

Color (Housing)	yellow (RAL 1018)
Housing material	PA

Characteristics

Safety data

Stop category	0
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Safety data: EN ISO 13849

Category	4
Performance level (PL)	e (5 A DC13; 5 A AC15; 8760 switching cycles/year)

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
Ambient temperature (operation)	-20 °C ... 55 °C (observe derating)
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

Mounting

Mounting type	DIN rail mounting
Assembly note	See derating curve
Mounting position	vertical or horizontal

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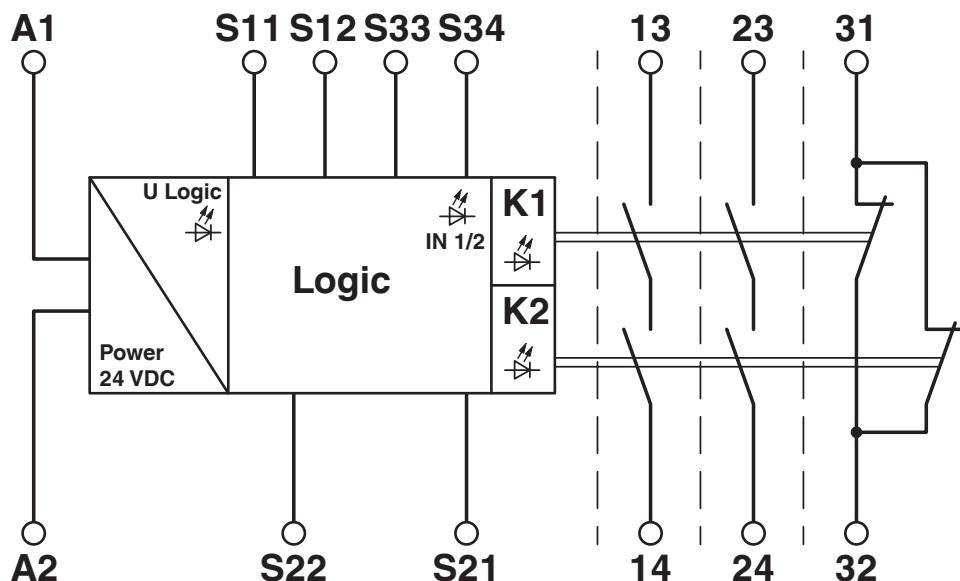


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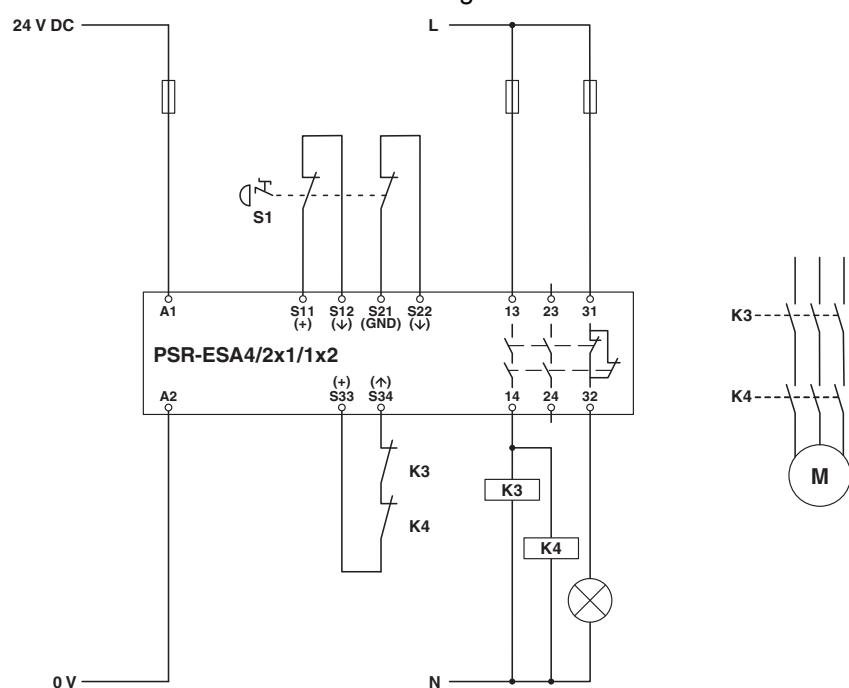
Drawings

Circuit diagram



Block diagram

Circuit diagram



2-channel emergency stop monitoring

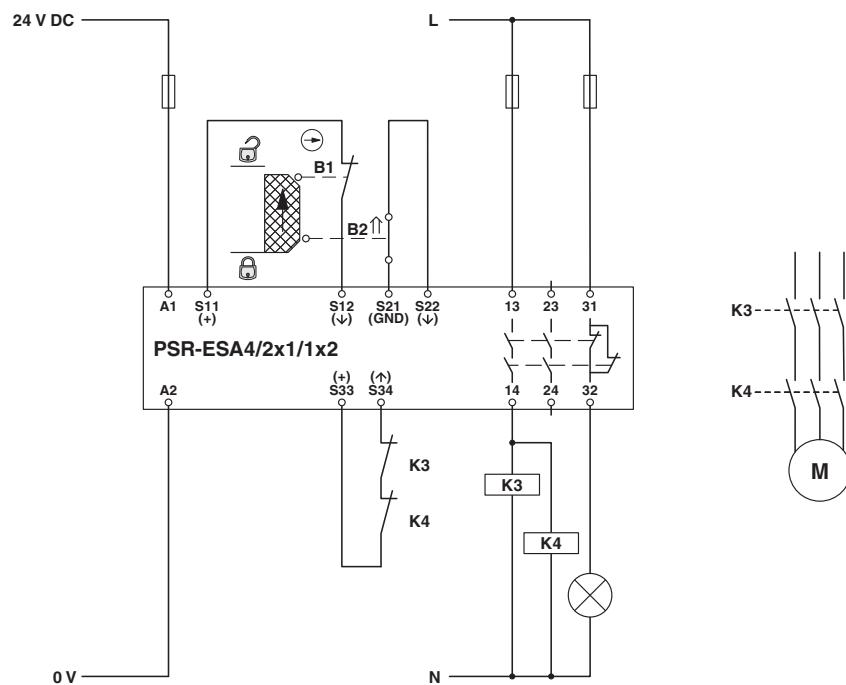
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Circuit diagram



Two-channel safety door monitoring

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Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2963750>



cULus Listed

Approval ID: E140324



Functional Safety

Approval ID: 01/205/0652.05/22

Classifications

ECLASS

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

ETIM

ETIM 9.0	EC001449
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UNSPSC

UNSPSC 21.0	39122205
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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	1416c32d-6324-49a2-9fdc-73de857d8f4a

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