

Safety relays - PSR-SPP- 24UC/ESA2/4X1/1X2/B - 2963954

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Safety relay for emergency stop and safety door monitoring up to SIL 2 or Cat. 2, PL d according to EN ISO 13849, single-channel operation, 4 enabling current paths, nominal input voltage of 24 V AC/DC, plug-in screw terminal blocks

The figure shows a version with a screw connection

Product Features

- Up to Cat. 1/PL d according to ISO 13849-1, SIL CL 1 according to IEC 62061, SIL 1 according to IEC 61508
- Abhängig von der Applikation bis Kat.4/PL e nach ISO 13849-1, SIL CL 3 nach IEC 62061, SIL 3 nach IEC 61508
- Single-channel control
- Basic insulation



Key commercial data

package_quantity	1
GTIN	4017918904821

Technical data

Note:

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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Dimensions

Width	22.5 mm
Height	112 mm
Depth	114.5 mm

Ambient conditions

Ambient temperature (operation)	-20 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C

Input data

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	140 mA AC
Typical input current at U_N	65 mA DC
Voltage at input/start and feedback circuit	approx. 24 V DC

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Input data

Typical response time	65 ms
Typical release time	45 ms
Recovery time	1 s
Max. permissible overall conductor resistance	approx. 22 Ω (Input and start circuits at U _N)

Output data

Contact type	4 enabling current paths
Contact type	1 signaling current path
Contact material	AgSnO ₂ , + 0.2 μm Au
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	15 V AC/DC
Limiting continuous current	6 A (N/O contact)
Limiting continuous current	3 A (N/C contact)
Maximum inrush current	6 A
Inrush current, minimum	25 mA
Sq. Total current	$72 A^2 (I_{TH}^2 = I_1^2 + I_2^2 + I_3^2 + I_4^2)$
Interrupting rating (ohmic load) max.	144 W (24 V DC, τ = 0 ms, N/C contact 51/52: 72 W)
Interrupting rating (ohmic load) max.	288 W (48 V DC, τ = 0 ms, N/C contact 51/52: 144 W)
Interrupting rating (ohmic load) max.	110 W (110 V DC, τ = 0 ms)
Interrupting rating (ohmic load) max.	88 W (220 V DC, τ = 0 ms)
Interrupting rating (ohmic load) max.	1500 VA (250 V AC, τ = 0 ms, N/C contact 51/52: 750 VA)
Maximum interrupting rating (inductive load)	42 W (24 V DC, τ = 40 ms)
Maximum interrupting rating (inductive load)	42 W (48 V DC, τ = 40 ms)
Maximum interrupting rating (inductive load)	42 W (110 V DC, τ = 40 ms)
Maximum interrupting rating (inductive load)	42 W (220 V DC, τ = 40 ms)
Switching capacity min.	0.4 W
Output fuse	6 A fast blow
Output fuse	C6 (24 V AC/DC) automatic device

General

Relay type	Electromechanically forcibly guided, dust-proof relay.
Mechanical service life	Approx. 10 ⁷ cycles
Mounting position	Any
Category according to EN 13849-1	1 ([NO ASSET AVAILABLE: TXB,7278399,P])
Stop category	0
Name	Air and creepage distances between the power circuits
Standards/regulations	DIN EN 50178/VDE 0160
Rated surge voltage / insulation	4 kV / basic isolation (safe isolation, reinforced insulation and 6 kV between input circuit/N/C contacts and enabling current paths).
Rated insulation voltage	250 V
Pollution degree	2
Surge voltage category	III

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Connection data

Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	1.5 mm ²
Conductor cross section stranded min.	0.2 mm ²
Conductor cross section stranded max.	1.5 mm ²
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	16
Stripping length	8 mm
Connection method	Spring-cage conn.

classifications

eCl@ss

eCl@ss 4.0	27371102
eCl@ss 4.1	27371102
eCl@ss 5.0	27371901
eCl@ss 5.1	27371901
eCl@ss 6.0	27371819
eCl@ss 7.0	27371819
eCl@ss 8.0	27371819

ETIM

ETIM 2.0	EC000196
ETIM 3.0	EC001449
ETIM 4.0	EC001449
ETIM 5.0	EC001449

UNSPSC

UNSPSC 6.01	30211901
UNSPSC 7.0901	39121501
UNSPSC 11	39121501
UNSPSC 12.01	39121501
UNSPSC 13.2	39121501

approvals

UL Listed / GOST / cUL Listed / Functional Safety / cULus Listed /

Approval details



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approvals

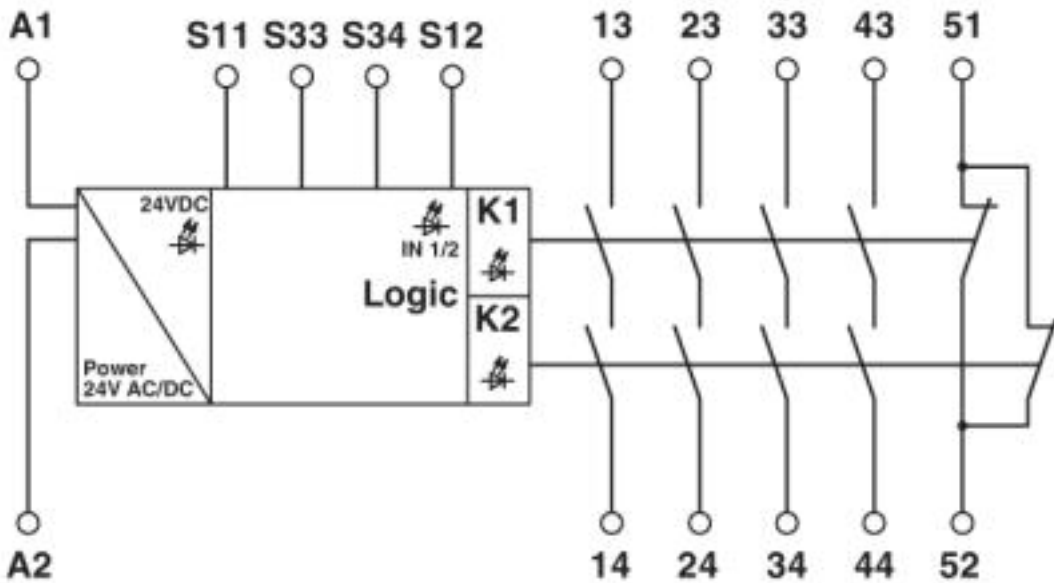


Functional Safety



Drawings

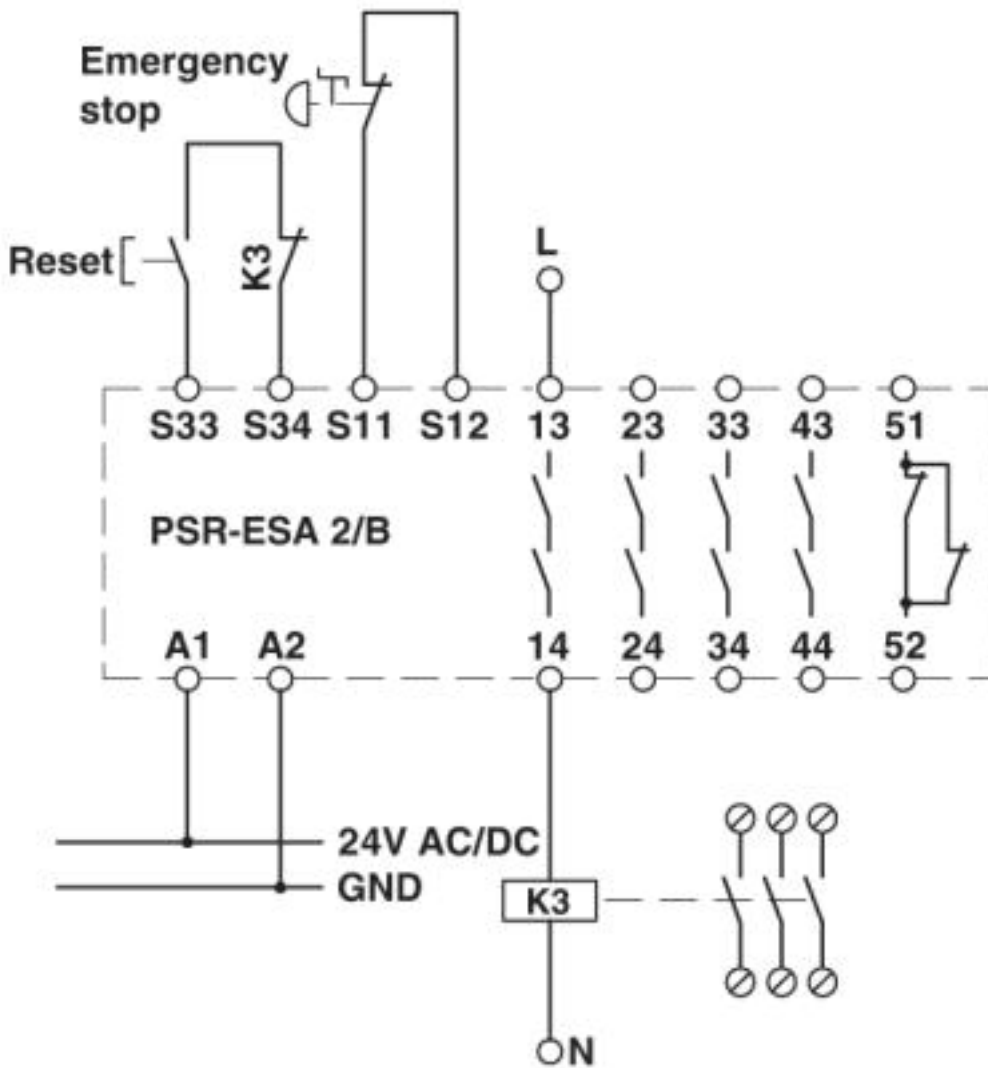
Circuit diagram



1 = logics

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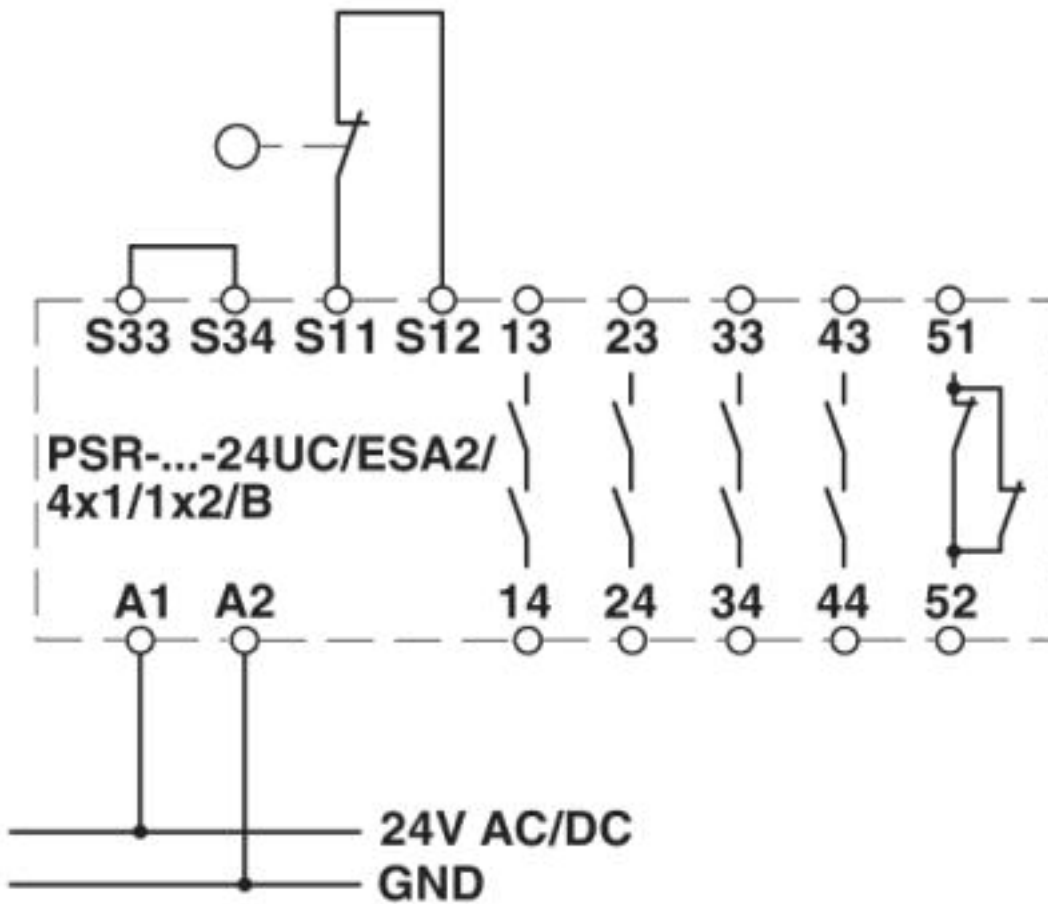
Circuit diagram



a = RESET
b = Emergency stop
One-channel emergency stop circuit with manual activation and monitored contact expansion, suitable up to safety category 2.

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Circuit diagram



One-channel safety door monitoring with automatic activation, suitable up to safety category 1.

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Circuit diagram

