

Safety relays - PSR-SPP- 24UC/ESL4/3X1/1X2/B - 2981062

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Safety relay for emergency stop and safety door and light grid monitoring up to SIL 3 or Cat. 4, PL e according to EN ISO 13849, single or two-channel operation, 3 enabling current paths, nominal input voltage of 24 V AC/DC, plug-in spring-cage terminal blocks

Product Features

- Manually monitored and automatic activation
- Up to Cat. 4/PL e according to ISO 13849-1, SILCL 3 according to IEC 62061, SIL 3 according to IEC 61508
- Single and two-channel control
- Three enabling and one signaling current path



Key commercial data

package_quantity	1
GTIN	4017918927196

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	150 mA AC
Typical input current at U_N	70 mA DC
Voltage at input/start and feedback circuit	approx. 24 V DC
Typical response time	25 ms (manual start)

Safety relays - PSR-SPP- 24UC/ESL4/3X1/1X2/B - 2981062

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Input data

Typical response time	100 ms (automatic start)
Typical release time	10 ms
Concurrence input 1/2	Infinite
Recovery time	1 s

Output data

Contact type	3 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
Maximum inrush current	6 A
Inrush current, minimum	25 mA
Sq. Total current	72 A ² ($I_{TH}^2 = I_1^2 + I_2^2 + I_3^2$)
Interrupting rating (ohmic load) max.	144 W (24 V DC, τ = 0 ms)
Interrupting rating (ohmic load) max.	288 W (48 V DC, τ = 0 ms)
Interrupting rating (ohmic load) max.	77 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)
Maximum interrupting rating (inductive load)	48 W (24 V DC, τ = 40 ms)
Maximum interrupting rating (inductive load)	40 W (48 V DC, τ = 40 ms)
Maximum interrupting rating (inductive load)	35 W (110 V DC, τ = 40 ms)
Maximum interrupting rating (inductive load)	33 W (220 V DC, τ = 40 ms)
Switching capacity min.	0.4 W
Output fuse	10 A gL/gG NEOZED (N/O contact)

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	4
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 insulation (safe isolation, reinforced insulation, and 6 kV between A1-A2/logic/enabling and signaling current paths)
Rated insulation voltage	250 V
Pollution degree	2
Surge voltage category	III

Connection data

Conductor cross section solid min.	0.2 mm ²
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Safety relays - PSR-SPP- 24UC/ESL4/3X1/1X2/B - 2981062

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Connection data

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	EC001449
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

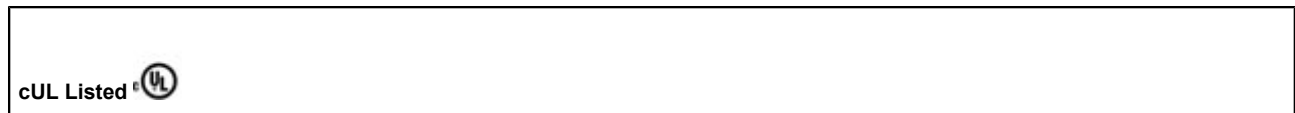
UL Listed / GOST / cUL Listed / Functional Safety / cULus Listed /

Approval details



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approvals

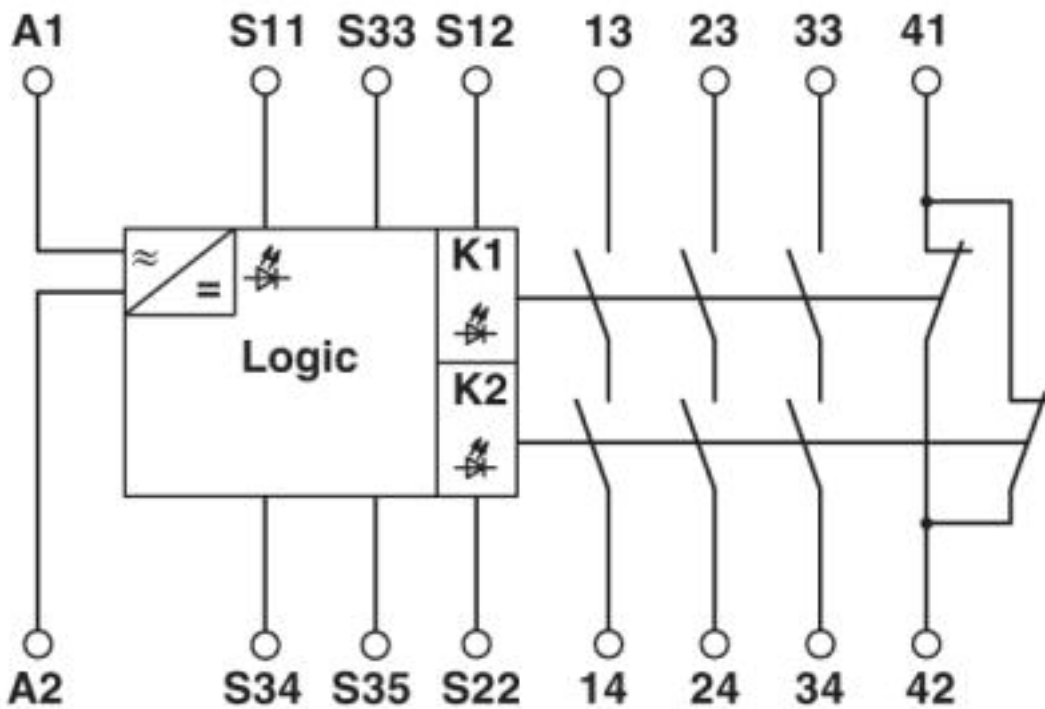


Functional Safety



Drawings

Circuit diagram



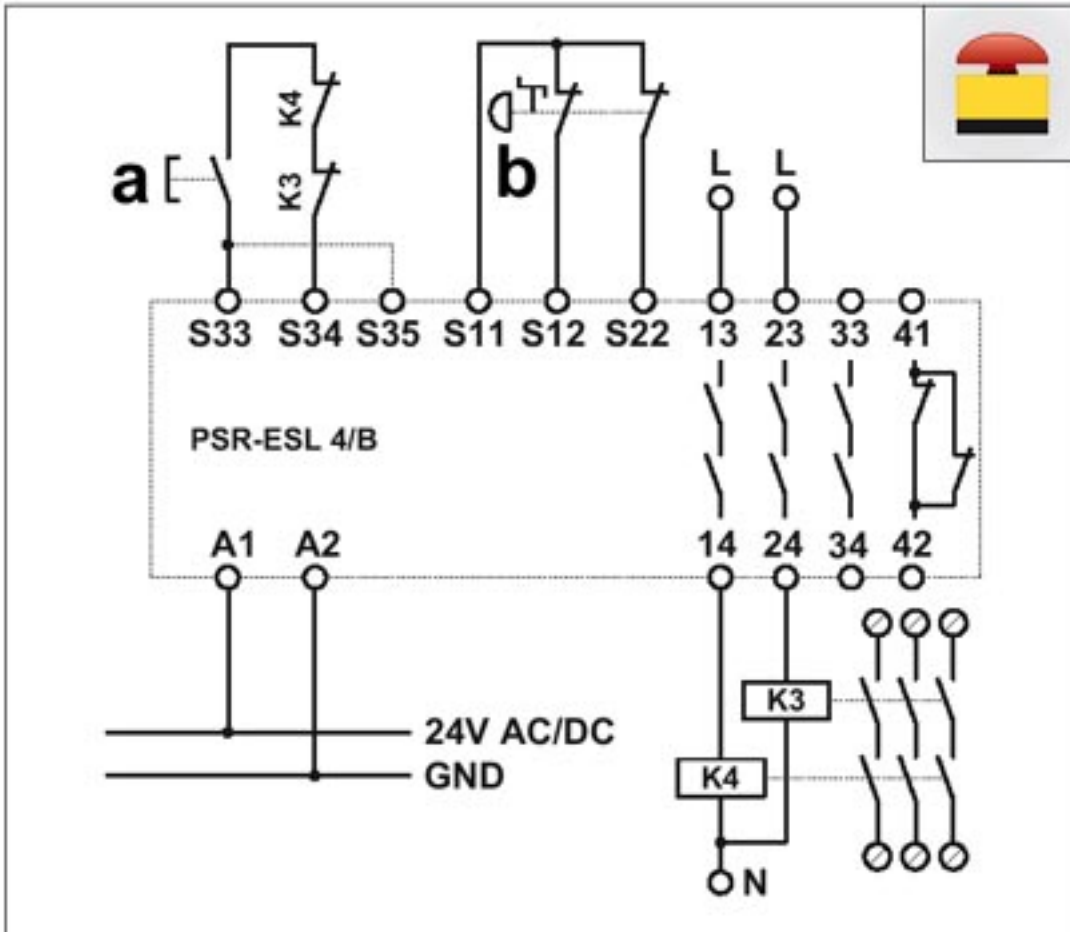
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Circuit diagram

a = RESET
 b = light barrier
 Two-channel light barrier monitoring with cross-circuiting monitoring and manual activation (automatic activation: Bridge on S33/S35), suitable up to safety category 4.

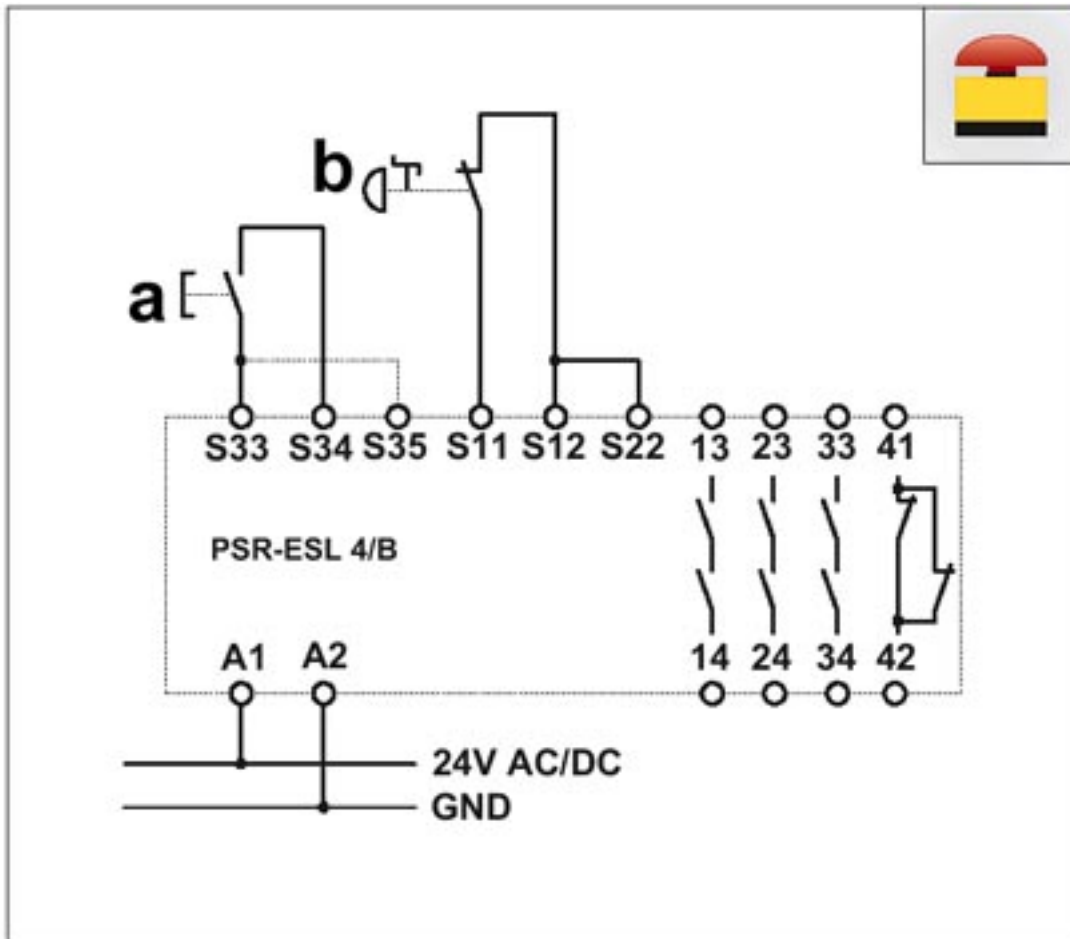
Circuit diagram



a = RESET
 b = Emergency stop
 Two-channel emergency-stop circuit with manual activation and monitored contact expansion (automatic activation: Bridge on S33/S35), suitable up to safety category 3.

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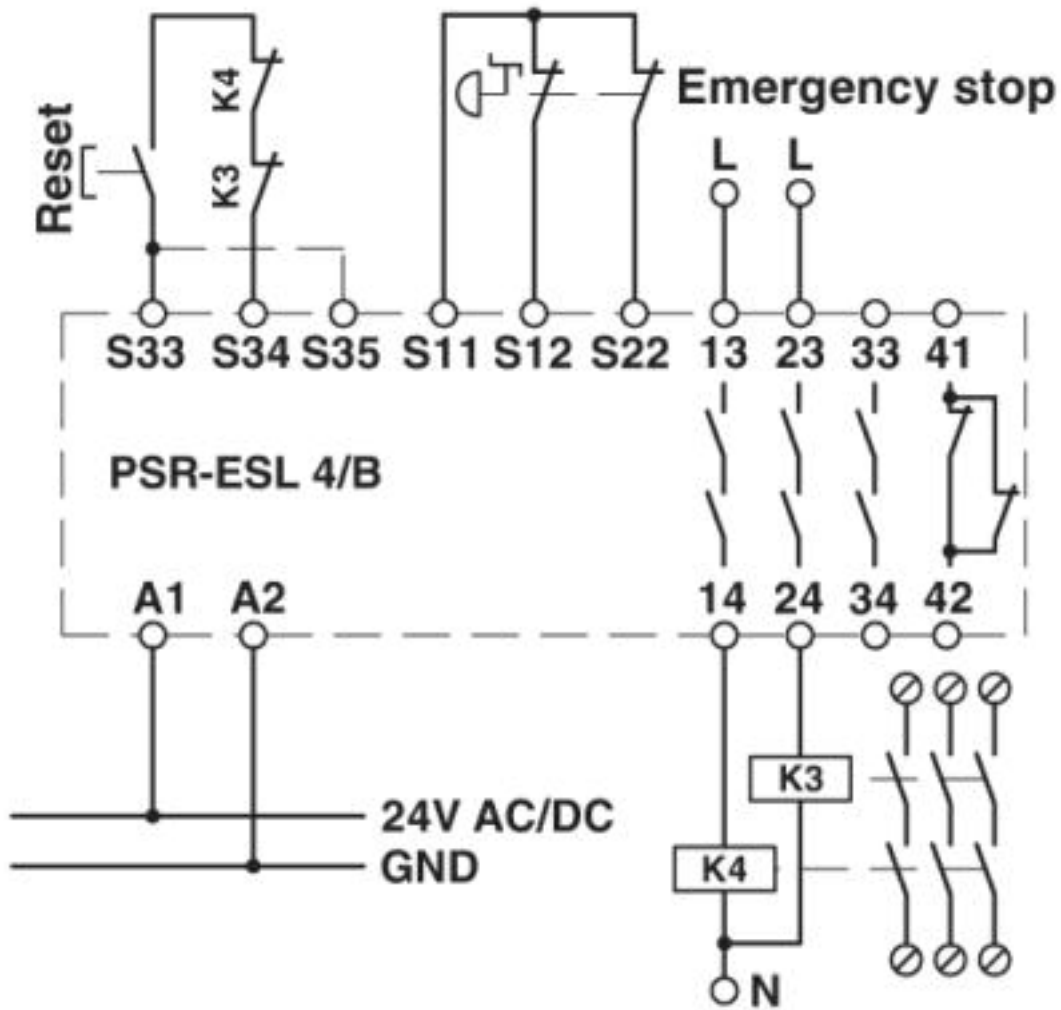
Circuit diagram



a = RESET
b = Emergency stop
One-channel emergency-stop circuit with manual activation (automatic activation: Bridge on S33/S35), suitable up to safety category 2.

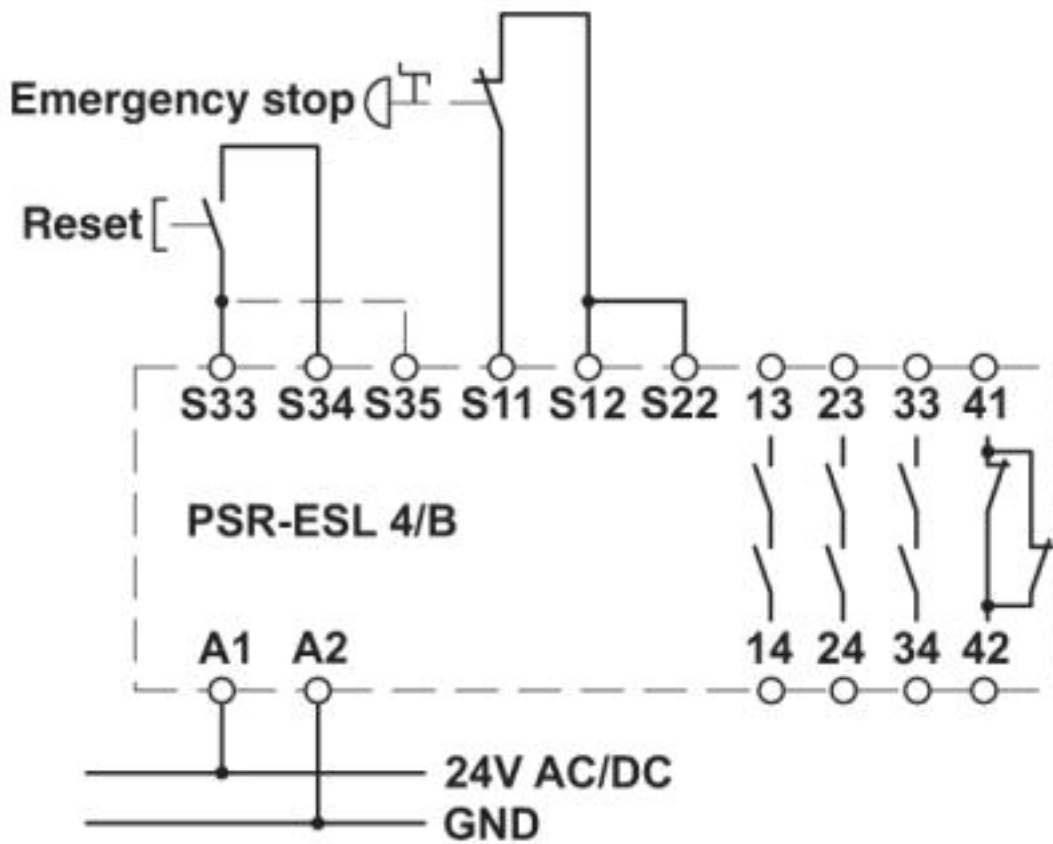
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Circuit diagram



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Circuit diagram



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