Safety relays - PSR-SPP- 24DC/ESD/5X1/1X2/T10S - 2981509

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Safety relay for emergency stop and safety door monitoring up to SIL 3 or Cat. 4, PL e according to EN ISO 13849, automatic or manual activation, 3 N/O contacts, 1 N/C contact, 2 N/O contacts with fixed 10.0 s dropout delay, plug-in spring-cage connection terminal blocks

Product Features

- Up to Cat. 4/PL e according to ISO 13849-1, SILCL 3 according to IEC 62061, SIL 3 according to IEC 61508 for undelayed contacts
- Up to Cat. 3/PL d according to ISO 13849-1, SILCL 2 for delayed contacts
- For emergency stop and safety door monitoring, plus evaluation of light grids (suitable light grids available on request)
- Fixed delay times of 0.5 s ... 30 s
- 3 undelayed and 2 dropout delay contacts
- Single and two-channel control

Key commercial data

package_quantity	1
GTIN	4017918981105

Technical data

Note:

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

Dimensions

Width	45 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 DC
Input voltage range in reference to U_N	0.85 ... 1.1
Typical input current at U_N	150 mA DC
Voltage at input/start and feedback circuit	approx. 24 V DC
Typical response time	70 ms (Monitored manual start)

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Input data

Typical response time	600 ms (automatic start)
Typical release time	20 ms (undelayed contacts)
Typical release time range	10 s ±20 % (Delayed contacts (K3, K4))
Recovery time	approx. 1 s
Max. permissible overall conductor resistance	approx. 10 Ω (Input and start circuits at U_N)
Delay time	10 s ±20 %

Output data

Contact type	3 enabling current paths undelayed
Contact type	2 enabling current paths delayed
Contact type	1 signaling current path undelayed
Contact material	$AgSnO_2$
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	55 A^2 ($I_{TH}^2 = I_1^2 + I_2^2 + ... + I_5^2$)
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.	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)
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 (N/O contact (undelayed))
Output fuse	C6 (24 V AC/DC) automatic device (undelayed)
Output fuse	10 A gL/gG NEOZED (delayed)

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	3 (For delayed contacts)
Category according to EN 13849-1	(EN 574 Type IIIC/4)
Stop category	1 (For delayed contacts)
Stop category	0 (For non-delayed contacts)
Name	Air and creepage distances between the power circuits
Standards/regulations	DIN EN 50178/VDE 0160

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Technical data

General

Rated surge voltage / insulation	4 kV / Basic isolation, (safe isolation, increased insulation and 6 kV between the output contact current paths 13/14, 23/24, 33/34 and the remaining current paths and the output contact current paths 13/14, 23/24, 33/34 themselves.)
Rated insulation voltage	250 V
Pollution degree	2
Surge voltage category	III

Connection data

Conductor cross section solid min.	0.2 mm²
Conductor cross section solid max.	1.5 mm²
Conductor cross section stranded min.	0.2 mm²
Conductor cross section stranded max.	1.5 mm²
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

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approvals

UL Listed / GOST / cUL Listed / BG ETEM / UL Listed / GOST / cUL Listed / BG ETEM / cULus Listed /

Approval details

UL Listed

GOST

cUL Listed

BG ETEM	
Nominal voltage UN	
Nominal current IN	
mm²/AWG/kcmil	

cULus Listed

Drawings

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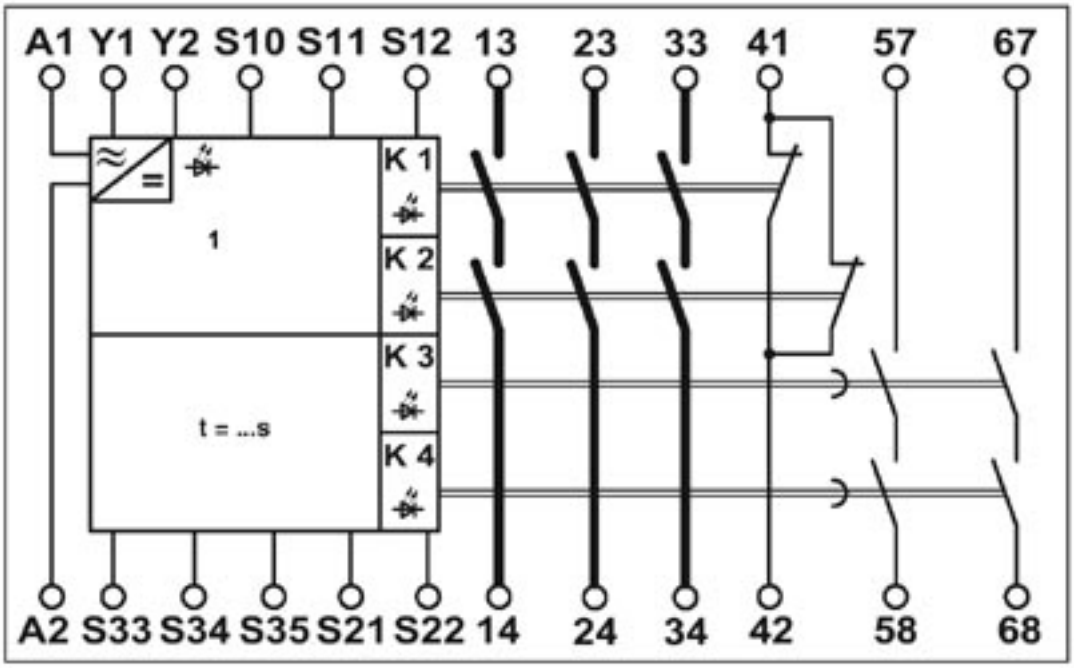
Circuit diagram



1 = logics

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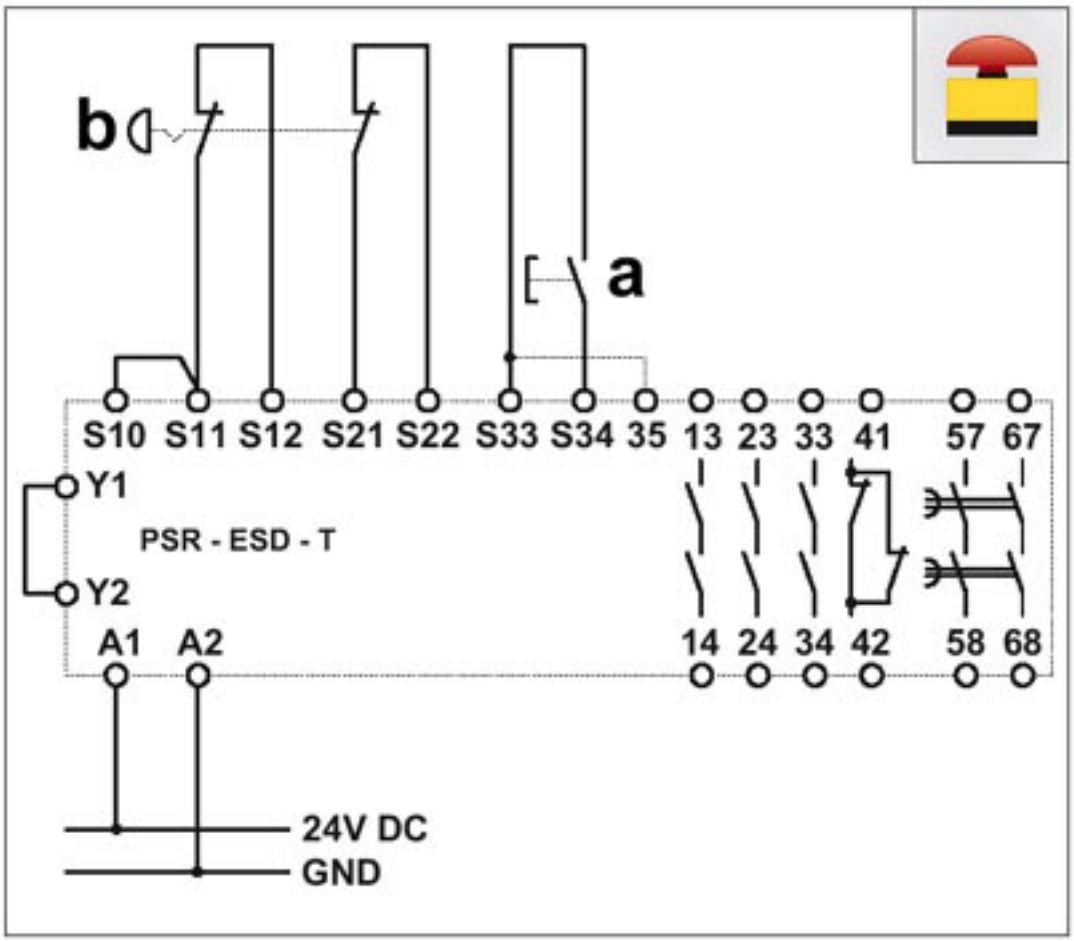
Circuit diagram



a = RESETb = Emergency stopTwo-channel emergency stop circuit with cross circuiting detection and monitored reset button (bridge on S33/S35: Automatic activation), suitable up to safety category 4.

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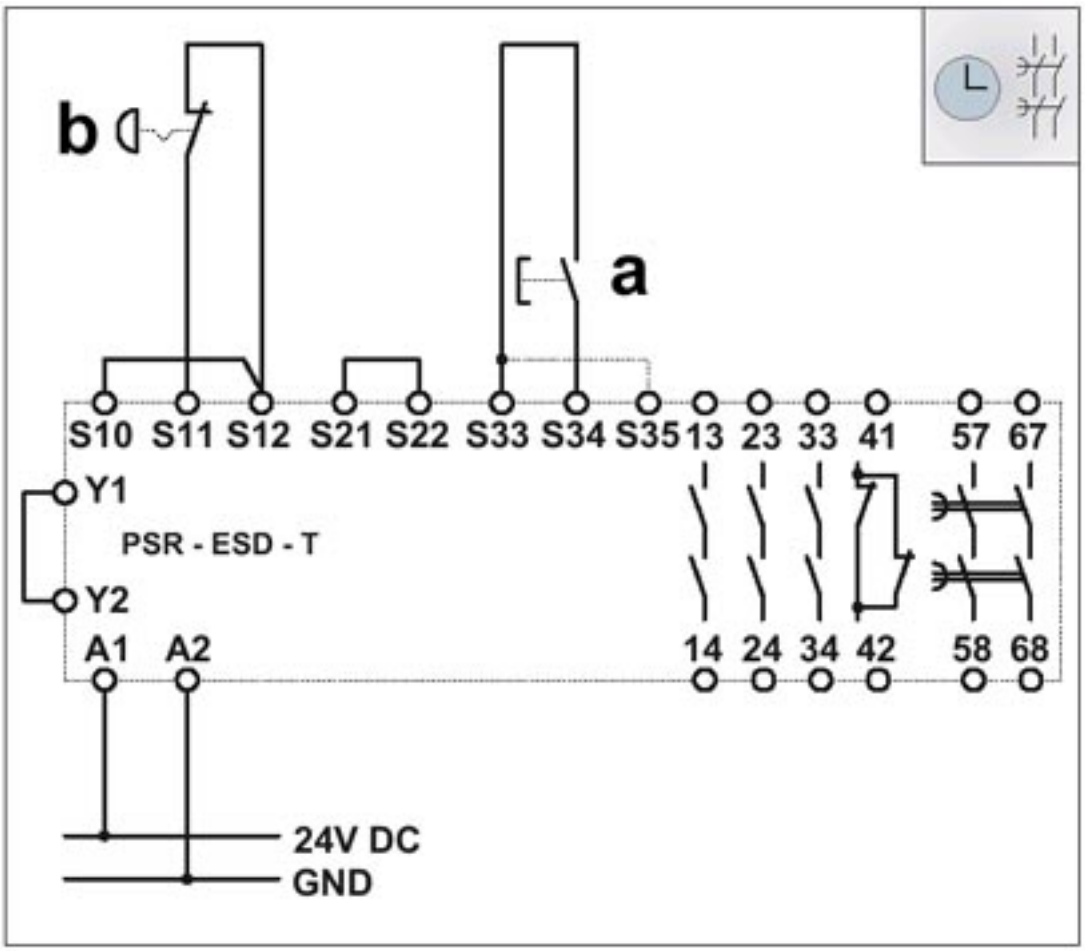
Circuit diagram



a = RESETb = Emergency stopSingle-channel emergency stop circuit with monitored reset button (bridge on S33/S35: Automatic activation), suitable up to safety category 2, safety category 4 only when automatically disconnecting switches are used and cables are installed in separate plastic sheaths.

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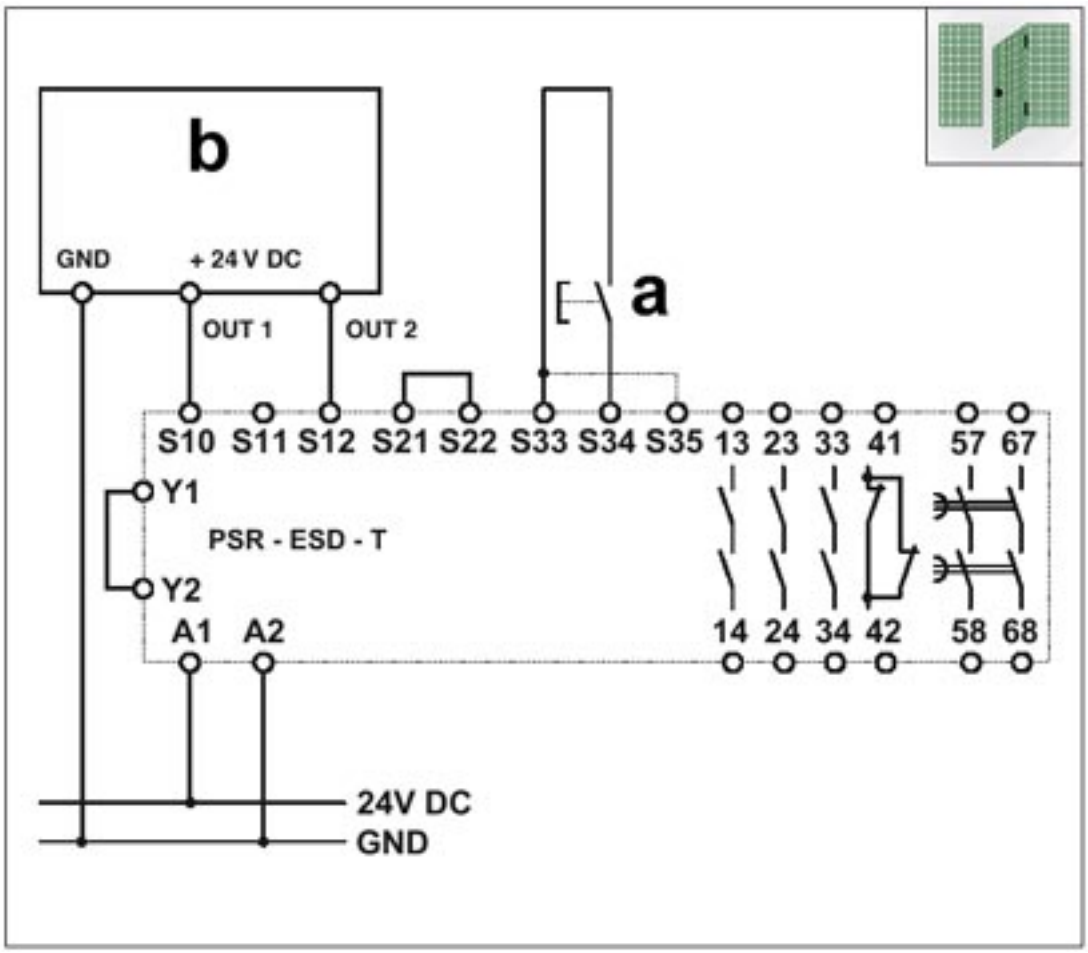
Circuit diagram



a = RESETb = semiconductor outputTwo-channel limit switch monitoring with semiconductor output and monitored reset button (bridge on S33/S35: Automatic activation), suitable up to safety category 4 depending on the limit switch.

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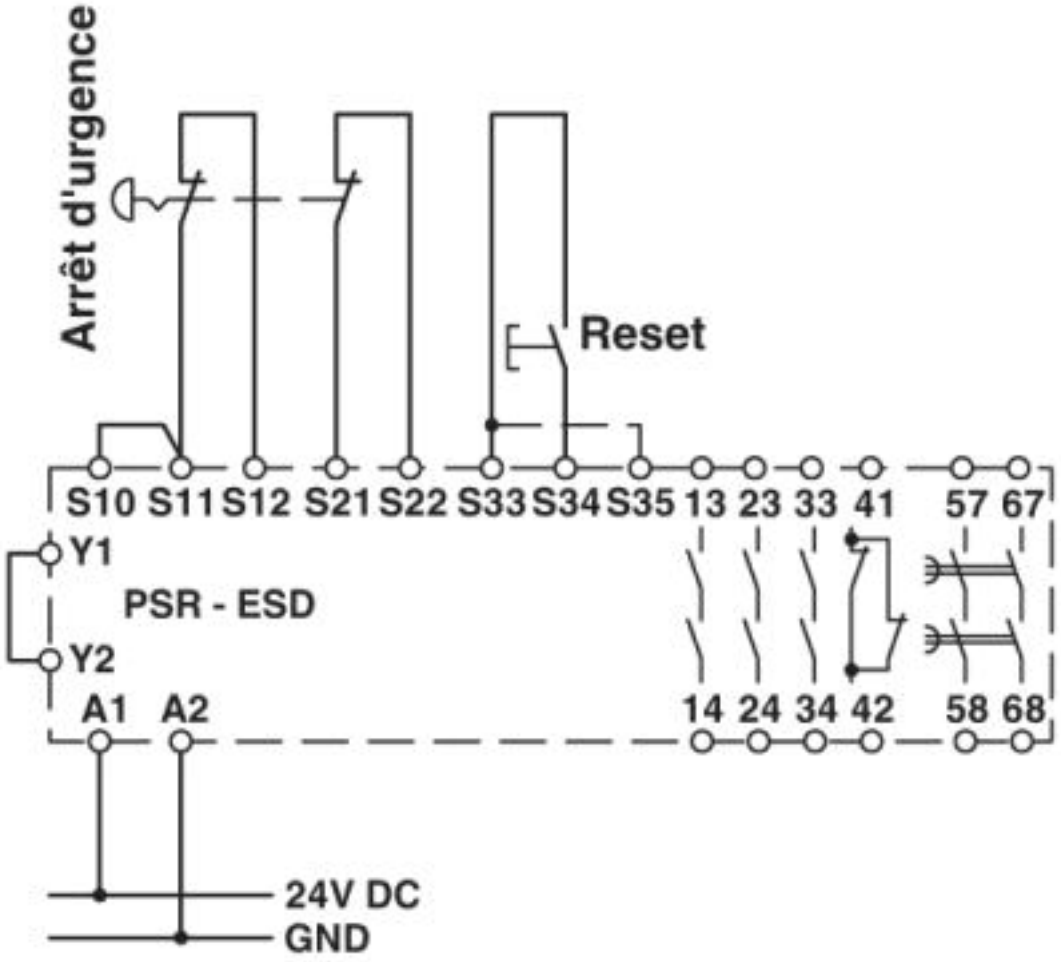
Circuit diagram



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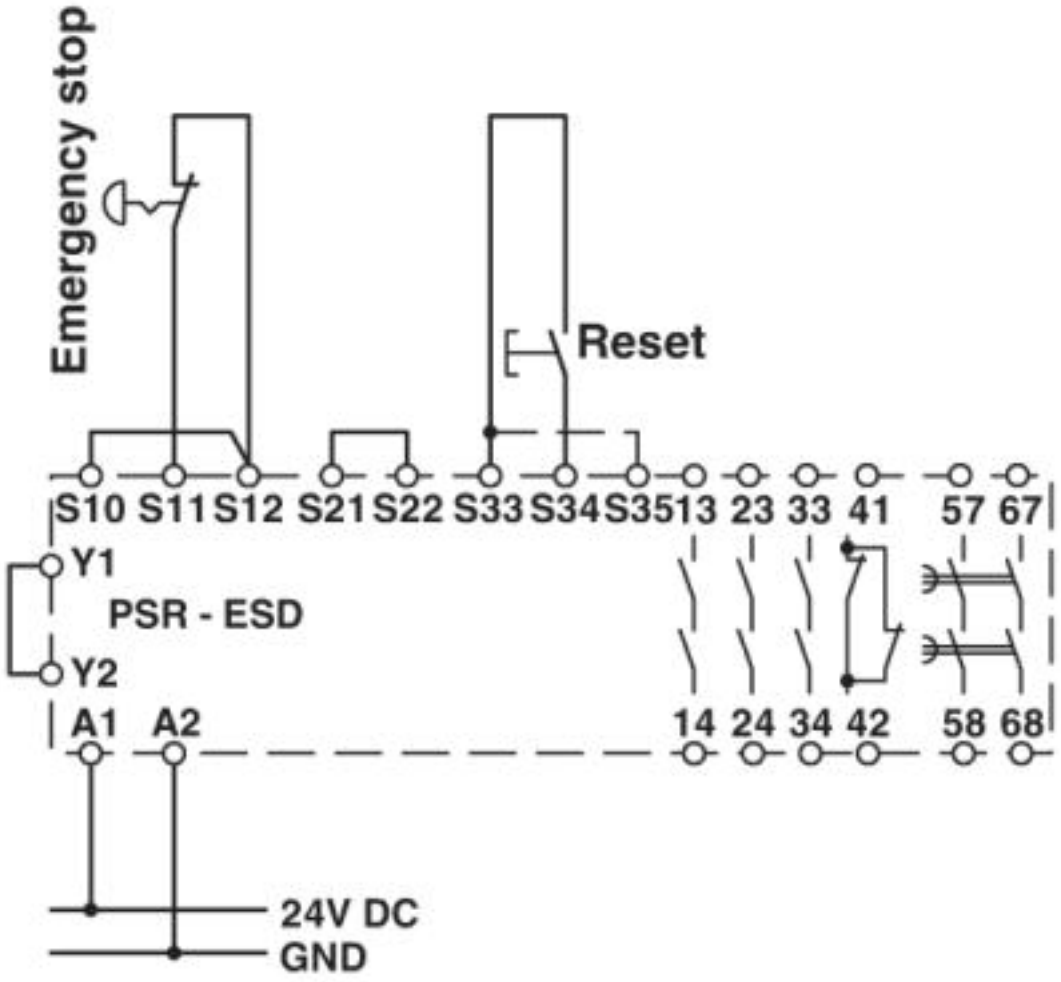
Circuit diagram



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Circuit diagram