

# PSR-SPP- 24DC/ESD/5X1/1X2/300

Order No.: 2981431


The illustration shows the versions with screw connection



<http://eshop.phoenixcontact.co.uk/phoenix/treeViewClick.do?UID=2981431>

Safety relay to emergency stop and safety door monitoring up to SIL 3 or Cat. 4, PL e according to EN ISO 13849, one- or two-channel operation, automatic or manual activation, 3 N/O contacts, 1 N/C contact, 2 N/O contacts switch-off delay set at 0 to 300 s



Commercial data	
EAN	4 017918 975234 
Pack	1
Customs tariff	85044090
Product key	CNA131
Country of Origin	DE
Catalog page information	Page 14 (IF-2011)

### Product notes

WEEE/RoHS-compliant since: 23/11/2006



Please note that the data given here has been taken from the online catalog. For comprehensive information and data, please refer to the user documentation at <http://www.download.phoenixcontact.com>. The General Terms and Conditions of Use apply to Internet downloads.

## Technical data

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 $U_N$	155 mA DC
Voltage at input/start and feedback circuit	Approx. 24 V DC

Typical response time	70 ms (Monitored/manual start)
	600 ms (Auto-start)
Typical release time	20 ms (undelayed contacts)
Typical release time range	0.2 s ... 300 s
Concurrence input 1/2	Infinite
Recovery time	1 s
Max. permissible overall conductor resistance	11 Ω (Input and start circuits at U <sub>N</sub> )

#### Output data

Contact type	3 enabling current paths undelayed
	2 enabling current paths delayed
	1 signaling current path undelayed
Contact material	AgSnO <sub>2</sub>
Maximum switching voltage	250 V AC/DC
Minimum switching voltage	15 V AC/DC
Limiting continuous current	6 A (N/O contact)
	3 A (N/C contact)
Maximum inrush current	6 A
Inrush current, minimum	25 mA
Sq. Total current	55 A <sup>2</sup> ( $I_{TH}^2 = I_1^2 + I_2^2 + I_3^2 + I_4^2 + I_5^2$ )
Interrupting rating (ohmic load) max.	144 W (24 V DC, τ = 0 ms)
	288 W (48 V DC, τ = 0 ms)
	77 W (110 V DC, τ = 0 ms)
	88 W (220 V DC, τ = 0 ms)
	1500 VA (250 V AC, τ = 0 ms)
Maximum interrupting rating (inductive load)	42 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 capacity min.	0.4 W
Output fuse	6 A fast blow (undelayed)
	C6 (24 V AC/DC) automatic device (undelayed)
	10 A gL/gG NEOZED (delayed)

#### General data

Width	45 mm
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Height	112 mm
Depth	114.5 mm
Ambient temperature (operation)	-20 °C ... 55 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relay type	Electromechanically forcibly guided, dust-proof relay.
Mechanical service life	Approx. 10 <sup>7</sup> cycles
Mounting position	Any
Category according to EN 13849-1	3 (For delayed contacts) 4 (For non-delayed contacts)
Stop category	0 (For non-delayed contacts) 1 (For delayed contacts)
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 the enabling current paths (13/14, 23/24, 33/34) and the remaining current paths and between 13/14, 23/24, 33/34 between each other.)
Rated insulation voltage	250 V
Pollution degree	2
Surge voltage category	III

#### Connection data

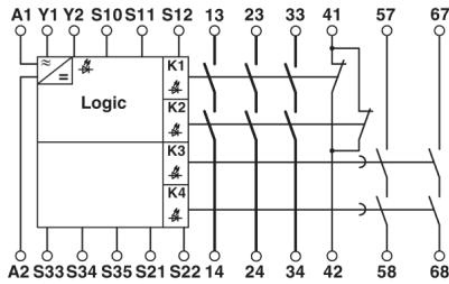
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	1.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil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

#### Certificates

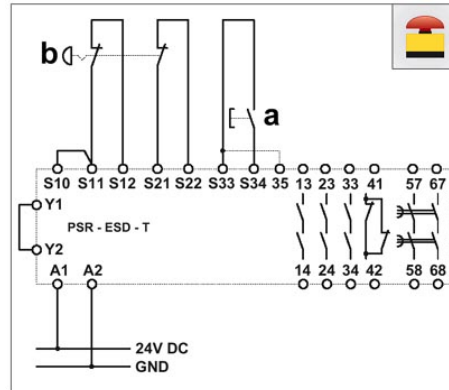
Certification CUL Listed, GOST, TUEV-RH, UL Listed

**Drawings**

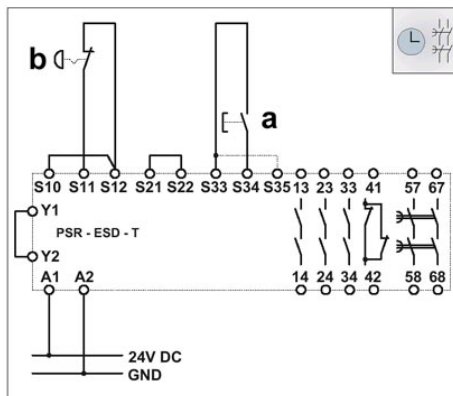
Circuit diagram



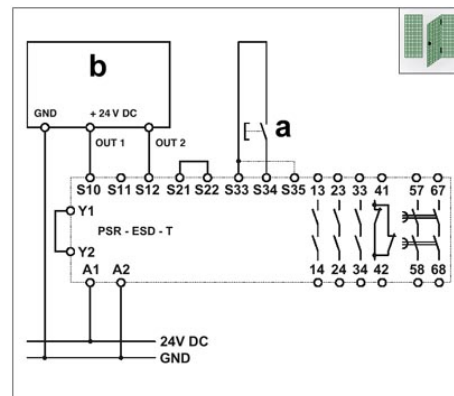
1 = logics



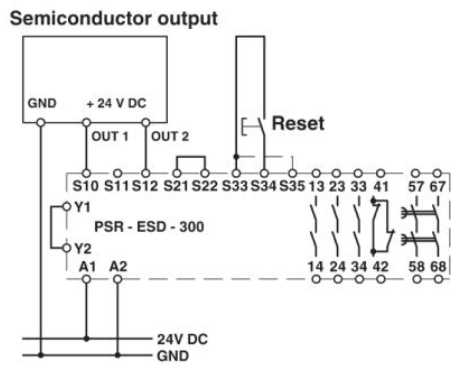
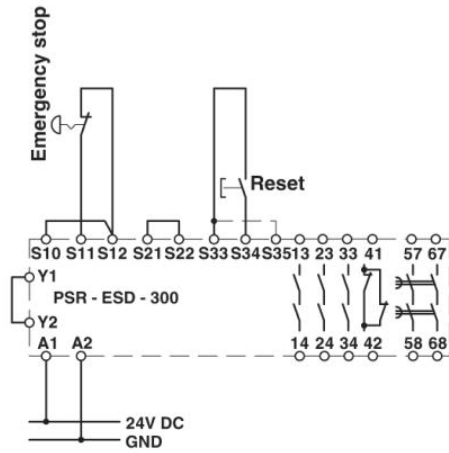
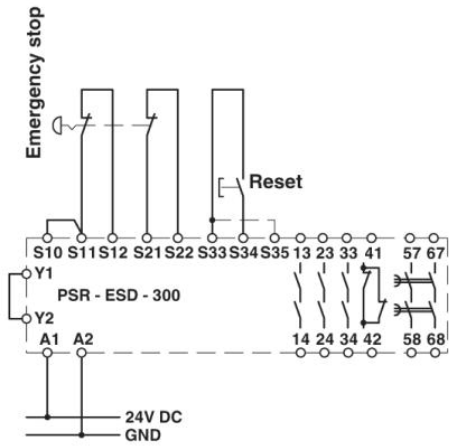
a = RESET  
 b = Emergency stop  
 Two-channel emergency stop circuit with cross circuiting detection and monitored reset button (bridge on S33/S35: Automatic activation), suitable up to safety category 4.



a = RESET  
 b = Emergency stop  
 Single-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.



a = RESET  
 b = semiconductor output  
 Two-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.



Connection data incl. use groups

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