

PSR-SPP- 24DC/URD3/4X1/2X2/3 - Extension module



2981745

<https://www.phoenixcontact.com/us/products/2981745>

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1-channel contact extension with TBUS interface, 4 N/O contacts, 1 N/C contact, 1 confirmation current path, the contacts have an off-delay (0.3 ... 3 s), Cat. 3, PL e in accordance with EN ISO 13849, width: 22.5 mm, pluggable Push-in terminal block

The figure shows a version with a screw connection

Your advantages

- Up to Cat. 3/PL e in accordance with EN ISO 13849-1, SIL 3 in accordance with EN IEC 62061, SIL 3 in accordance with IEC 61508
- Each with 4 enabling, 1 signaling, and 1 confirmation current path, all with dropout delay
- 1-channel control



Commercial data

Item number	2981745
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN01
Product key	DNA233
GTIN	4046356103688
Weight per piece (including packing)	235.2 g
Weight per piece (excluding packing)	197.1 g
Customs tariff number	85371098
Country of origin	DE

Technical data

Product properties

Product type	Safety relays
Product family	PSRclassic
Application	Extension module
Control	1-channel
Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3

Insulation characteristics

Overvoltage category	II, III (See the section "Insulation coordination")
Degree of pollution	2

Times

Typical response time	typ. 20 ms (For U_S manual, monitored start)
	typ. 150 ms (For U_S autostart)
Typical release time	typ. 20 ms (At U_S on demand via sensor circuit)
Delay time range	0.3 s ... 3 s $\pm$ 50 %
Recovery time	1 s (following demand of the safety function)

Electrical properties

Nominal operating mode	100% operating factor
Rated insulation voltage	250 V
Rated surge voltage/insulation	See data sheet, section "Insulation coordination".

Supply

Designation	A1/A2, PSR-TBUS
Rated control circuit supply voltage U_S	24 V DC -15 % / +10 %
Rated control supply current I_S	typ. 94 mA (at U_S)
Power consumption at U_S	typ. 2.3 W
Protective circuit	Serial protection against polarity reversal
	Suppressor diode

Input data

Digital: Control input (K1/K2)

Description of the input	safety-related
Protective circuit	Suppressor diode

Output data

Relay: Enabling current paths (27/28, 37/38, 47/48, 57/58)

Output description	2 N/O contacts in series, safety-related, floating
Number of outputs	4
Contact switching type	4 enabling current paths

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Contact material	AgSnO ₂
Switching voltage	min. 15 V AC/DC
	max. 250 V AC/DC
Switching power	min. 0.4 W
Inrush current	min. 25 mA AC/DC
	max. 6 A
Switching capacity (360/h cycles)	5 A (AC15)
Switching capacity (3600/h cycles)	3 A (AC15)
	3 A (DC13)
Limiting continuous current	6 A
Sq. Total current	50 A ² (observe derating)
Switching frequency	1 Hz
Mechanical service life	10x 10 ⁶ cycles
Output fuse	10 A gL/gG NEOZED (High demand)
	4 A gL/gG (Low demand)

Relay: Confirmation current path (15/16)

Output description	2 NC in series, non-floating, safety-related
Number of outputs	1
Contact switching type	1 confirmation current path
Contact material	AgSnO ₂
Switching voltage	max. 26.4 V
Switching frequency	1 Hz

Relay: Signaling current path (65/66)

Output description	2 N/C contacts parallel, non-safety-related, floating
Number of outputs	1
Contact switching type	1 signaling current path
Contact material	AgSnO ₂
Switching voltage	min. 15 V
	max. 250 V AC/DC
Switching power	min. 0.4 W
Inrush current	min. 25 mA
	max. 3 A
Limiting continuous current	3 A
Switching frequency	1 Hz

Connection data

Connection technology

pluggable	yes
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Conductor connection

Connection method	Push-in connection
Conductor cross-section rigid	0.2 mm ² ... 1.5 mm ²
Conductor cross-section flexible	0.2 mm ² ... 1.5 mm ²

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Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 1.5 mm² (only together with CRIMPFOX 6)
Conductor cross-section, flexible, with ferrule, without plastic sleeve	0.25 mm² ... 1.5 mm² (only together with CRIMPFOX 6)
Conductor cross-section AWG	24 ... 16
Stripping length	8 mm

Signaling

Status display	2 x LED (green)
Operating voltage display	1 x LED (green)

Dimensions

Width	22.5 mm
Height	112 mm
Depth	114.5 mm

Material specifications

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

Characteristics

Safety data

Stop category (EN 60204-1)	1
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Safety data: EN ISO 13849

Performance level (PL)	e (In conjunction with suitable evaluating device)
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Safety data: IEC 61508 - High demand

Safety Integrity Level (SIL)	3 (In conjunction with suitable evaluating device)
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Safety data: IEC 61508 - Low demand

Safety Integrity Level (SIL)	3 (In conjunction with suitable evaluating device)
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Safety data: EN IEC 62061

Safety Integrity Level (SIL)	3 (In conjunction with suitable evaluating device)
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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
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)

Mounting

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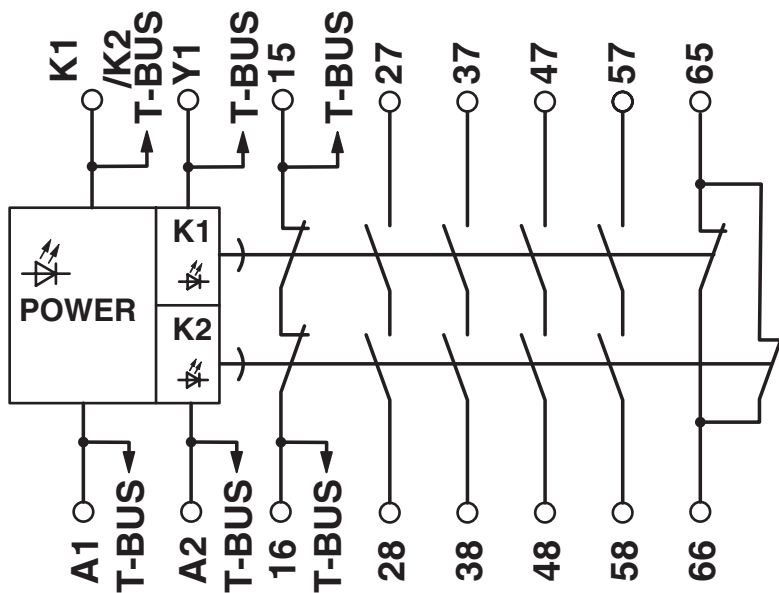
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Mounting type	DIN rail mounting
Mounting position	any

Drawings

Circuit diagram



Block diagram

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Approvals

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cULus Listed

Approval ID: E140324



Functional Safety

Approval ID: 968/EZ 366.05/23

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Classifications

ECLASS

ECLASS-13.0	27371819
ECLASS-15.0	27371819

ETIM

ETIM 10.0	EC001449
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UNSPSC

UNSPSC 21.0	39122200
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	34, 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	bd324e43-a959-4144-90d2-61c1c6a49b60

EF3.1 Climate Change

CO2e kg	3.521 kg CO2e
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