

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



2981525

<https://www.phoenixcontact.com/us/products/2981525>

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The figure shows a version with a screw connection

1-channel contact extension with TBUS interface, 4 N/O contacts, 1 N/C contact, 1 confirmation current path, adjustable dropout delay of 0.5 ... 30 s, Cat. 3, PL e in accordance with EN ISO 13849, width: 22.5 mm, pluggable Push-in terminal block

## 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	2981525
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN01
Product key	DNA233
GTIN	4017918996819
Weight per piece (including packing)	190.8 g
Weight per piece (excluding packing)	168.02 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
Mechanical service life	approx. $10^7$ cycles
Relay type	Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3

### Insulation characteristics

Overvoltage category	III
Degree of pollution	2

### Times

Typical response time	typ. 20 ms (manual, monitored start)
	typ. 150 ms (automatic start)
Typical release time	typ. 20 ms (on demand via the sensor circuit)
Delay time range	0.5 s ... 38 s $\pm 20$ %
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	4 kV / basic isolation (safe isolation, reinforced insulation and 6 kV between input circuit/N/C contacts and enabling current paths).

### Supply

Rated control circuit supply voltage $U_S$	24 V DC -15 % / +10 %
Rated control supply current $I_S$	typ. 84 mA (at $U_S$ )
Power consumption at $U_S$	typ. 2 W
Protective circuit	Serial protection against polarity reversal
	Suppressor diode

### Input data

#### Digital: 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

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Contact switching type	4 enabling current paths
Contact material	AgSnO <sub>2</sub>
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 <sup>2</sup> (observe derating)
Switching frequency	1 Hz
Interrupting rating (ohmic load) max.	144 W (24 V DC, τ = 0 ms, N/C contact 65/66: 72 W)
	288 W (48 V DC, τ = 0 ms, N/C contact 65/66: 144 W)
	77 W (110 V DC, τ = 0 ms)
	88 W (220 V DC, τ = 0 ms)
	1500 VA (250 V AC, τ = 0 ms, N/C contact 65/66: 750 VA)
Maximum interrupting rating (inductive load)	48 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)
Output fuse	10 A gL/gG NEOZED (High demand)
	4 A gL/gG (Low demand)

## Relay: Confirmation current path (15/16)

Output description	2 N/C contacts in series, delayed, not floating, safety-related
Number of outputs	1
Contact switching type	1 confirmation current path
Contact material	AgSnO <sub>2</sub>
Switching voltage	max. 26.4 V
Switching frequency	1 Hz

## Relay: Confirmation 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 <sub>2</sub>
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 <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (only together with CRIMPFOX 6)
Conductor cross-section, flexible, with ferrule, without plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> (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

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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

Mounting type	DIN rail mounting
Mounting position	any

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## Drawings

Circuit diagram



Block diagram

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2981525>



**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	9523db36-0851-4e1c-ac0e-e3555eac1c4f

### EF3.1 Climate Change

CO2e kg	3.401 kg CO2e
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