# 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 signaling current path, 1 confirmation current path, with off-delay, configurable from 0.5 s ... 38 s, Cat. 3, PL e in accordance with EN ISO 13849, width: 22.5 mm, pluggabe 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

ELEKTROGERÄTE RÜCKNAHME

## 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) | 191.51 g |
| Weight per piece (excluding packing) | 168.77 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 Us on demand via sensor circuit) |
| Delay time range | 0.5 s ... 38 s ±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 | 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. 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: 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 |

| | |
|---|---|
| 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 |

Conductor connection

| | |
|---|---|
| Connection method | Push-in connection |
| Conductor cross-section rigid | 0.2 mm² ... 1.5 mm² |
| Conductor cross-section flexible | 0.2 mm² ... 1.5 mm² |

| | |
|---|---|
| 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 |

Safety data: EN ISO 13849

| | |
|---|---|
| Performance level (PL) | e (In conjunction with suitable evaluating device) |

Safety data: IEC 61508 - High demand

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

Safety data: IEC 61508 - Low demand

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

Safety data: EN IEC 62061

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

## Environmental and real-life conditions

Ambient conditions

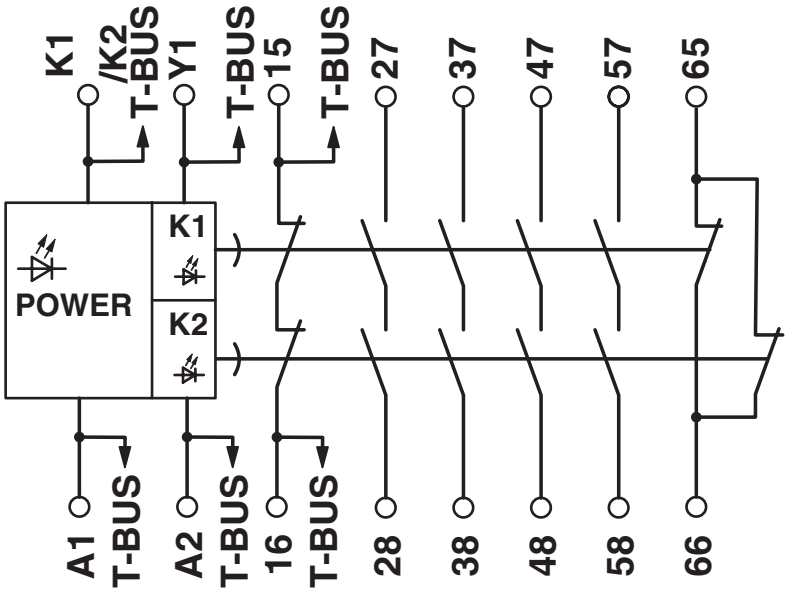
| | |
|---|---|
| Degree of protection | IP20 |
| Min. degree of protection of inst. location | IP54 |
| Ambient temperature (operation) | -20 °C ... 55 °C |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Maximum altitude | ≤ 2000 m (Above sea level) |
| Max. permissible humidity (storage/transport) | 75 % (on average, 85% infrequently, non-condensing) |
| Max. permissible relative humidity (operation) | 75 % (on average, 85% infrequently, non-condensing) |

## Mounting

| | |
|---|---|
| Mounting type | DIN rail mounting |
| Mounting position | any |

## Drawings

Circuit diagram




Block diagram

## 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

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27371819 |
| ECLASS-15.0 | 27371819 |

### ETIM

| | |
|---|---|
| ETIM 10.0 | EC001449 |

### UNSPSC

| | |
|---|---|
| UNSPSC 21.0 | 39122200 |

## Environmental product compliance

EU RoHS

| | |
|---|---|
| Fulfills EU RoHS substance requirements | Yes |
| Exemption | 34, 7(a), 7(a)-I, 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 |

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