# PSR-SPP- 24DC/URM4/4X1/2X2/B - Extension module

2981680

https://www.phoenixcontact.com/us/products/2981680

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The figure shows a version with a screw connection

Single-channel contact extension with TBUS interface, 4 N/O contacts, 1 N/C contact, 1 confirmation current path, undelayed, Cat. 4, PL e in accordance with EN ISO 13849, width: 22.5 mm, pluggable Push-in terminal block

## Your advantages

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

ELEKTROGERÄTE RÜCKNAHME

## Commercial data

| | |
|---|---|
| Item number | 2981680 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | DN01 |
| Product key | DNA231 |
| GTIN | 4046356081542 |
| Weight per piece (including packing) | 175 g |
| Weight per piece (excluding packing) | 153.35 g |
| Customs tariff number | 85371098 |
| Country of origin | DE |

# Technical data

## Notes

Note on application

| | |
|---|---|
| Note on application | Only for industrial use |

## 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

| | |
|---|---|
| Typ. starting time with $U_s$ | 10 ms (when controlled via K1/K2) |
| Typical release time | 10 ms (when requested via K1/K2) |

## Electrical properties

| | |
|---|---|
| Maximum power dissipation for nominal condition | 16.14 W ($U_N$ = 26.4 V, $I_L^2$ = 72 A², $P_{Total\ max}$ = 1.74 W + 14.4 W) |
| 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). |

## Input data

Digital: K1/K2

| | |
|---|---|
| Description of the input | safety-related |
| Number of inputs | 1 |
| Input voltage range "1" signal | 21.6 V DC ... 26.4 V DC |
| Inrush current | < 130 mA (Δt = 800 ms) |
| Protective circuit | Suppressor diode |
| Current consumption | typ. 60 mA |

## Output data

Relay: Enabling current paths (23/24, 33/34, 43/44, 53/54)

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

| | |
|---|---|
| Contact material | $AgSnO_2$ |
| Switching voltage | min. 5 V AC/DC |
| | max. 250 V AC/DC |
| Switching power | min. 50 mW |
| Inrush current | min. 10 mA |
| | max. 6 A |
| Switching capacity | 5 A (AC15) |
| | 6 A (DC13) |
| Limiting continuous current | 6 A (Observe derating and load limit curve) |
| Sq. Total current | 72 $A^2$ (observe derating) |
| Switching frequency | max. 0.5 Hz |
| Mechanical service life | 10x $10^6$ cycles |
| Output fuse | 10 A gL/gG |
| | 4 A gL/gG (for low-demand applications) |

Relay: Confirmation current path (11/12)

| | |
|---|---|
| Output description | Diagnostic contact, 2 NC in series, floating |
| Number of outputs | 1 |
| Contact switching type | 2 N/C contacts in series, floating |
| Contact material | $AgSnO_2$ |
| Switching voltage | min. 5 V AC/DC |
| | max. 26.4 V AC/DC |
| Switching power | min. 50 mW |
| Inrush current | min. 10 mA |
| | max. 6 A |
| Switching capacity | 1 A (AC15) |
| | 1 A (DC13) |
| Limiting continuous current | 1 A |
| Sq. Total current | 1 $A^2$ |
| Switching frequency | max. 0.5 Hz |
| Mechanical service life | 10x $10^6$ cycles |
| Output fuse | 1 A gL/gG |

Relay: Signaling current path (61/62)

| | |
|---|---|
| Output description | 2 N/C contacts in parallel, floating |
| Number of outputs | 1 |
| Switching voltage | min. 5 V AC/DC |
| | max. 250 V AC/DC |
| Switching power | min. 50 mW |
| Inrush current | min. 10 mA |
| | max. 6 A |
| Switching capacity | 1 A (AC15) |
| | 1 A (DC13) |
| Limiting continuous current | 1 A |
| Sq. Total current | 1 $A^2$ |

| | |
|---|---|
| Switching frequency | max. 0.5 Hz |
| Mechanical service life | 10x $10^6$ cycles |
| Output fuse | 1 A (gL/gG) |

## 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

| | |
|---|---|
| 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) | 0 |

Safety data: EN ISO 13849

| | |
|---|---|
| Performance level (PL) | e (5 A DC13; 5 A AC15; 8760 switching cycles/year) |

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) |

## Approvals

### CE

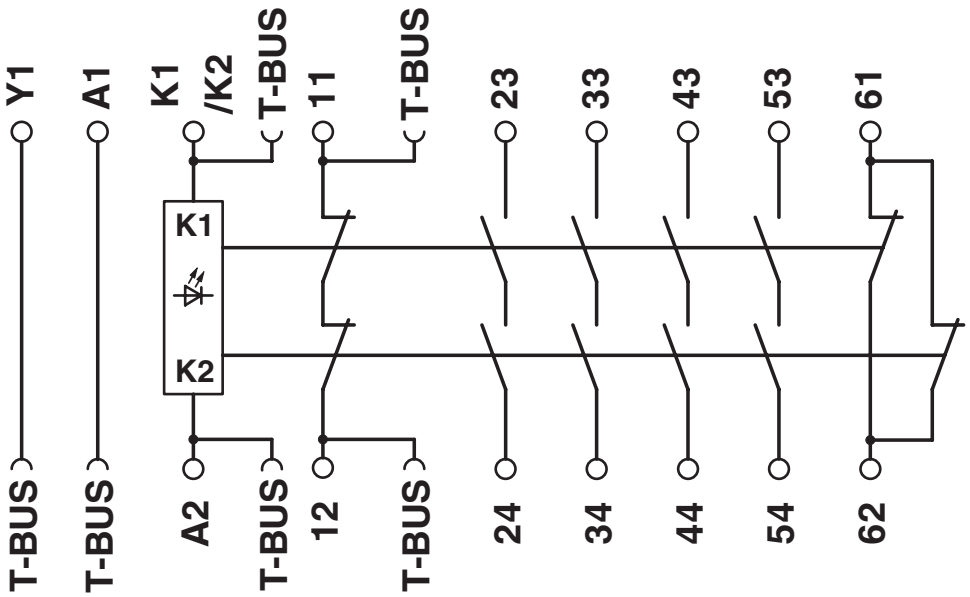
| | |
|---|---|
| Identification | CE-compliant |

## Mounting

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

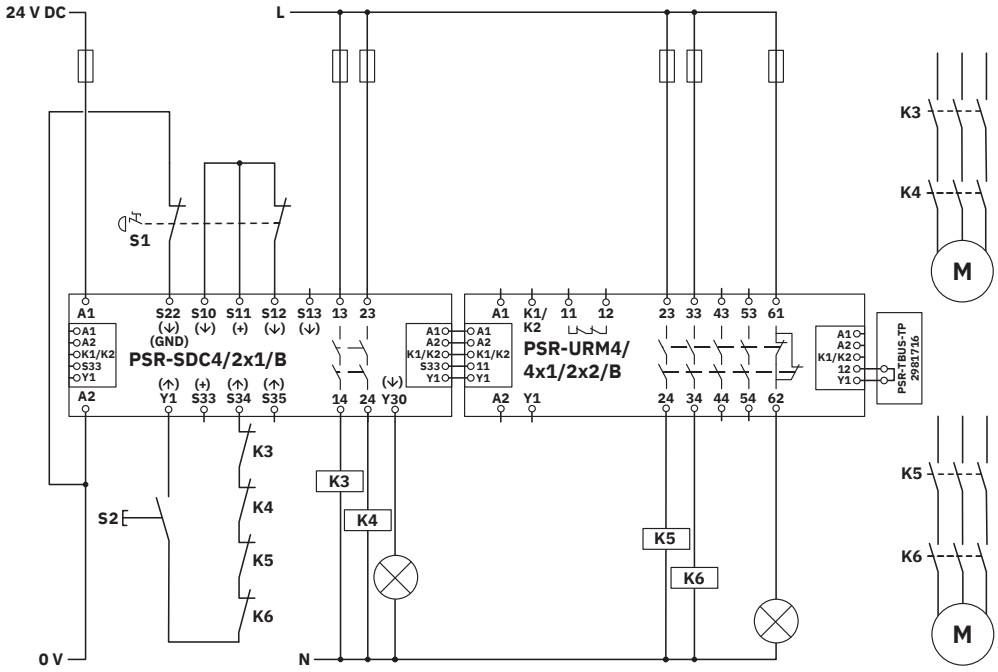
## Drawings

Circuit diagram




Block diagram

Circuit diagram




Two-channel emergency stop monitoring with contact extension

## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2981680

**Functional Safety**
Approval ID: 968/FSP 1678.01/23

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-13.0 | 27371819 |
| ECLASS-15.0 | 27371819 |
| ECLASS-15.0 ASSET | 27250101 |

### ETIM

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

### UNSPSC

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

## Environmental product compliance

EU RoHS

| | |
|---|---|
| Fulfills EU RoHS substance requirements | Yes |
| Exemption | 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 | 97932f17-76d8-46ba-af76-ef954f33e30c |


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