

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



2981680

<https://www.phoenixcontact.com/sk/products/2981680>

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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

Commercial data

| | |
|--------------------------------------|---------------------|
| Item number | 2981680 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | DNA |
| Product key | DNA231 |
| Catalog page | Page 233 (C-6-2019) |
| GTIN | 4046356081542 |
| Weight per piece (including packing) | 225 g |
| Weight per piece (excluding packing) | 196.5 g |
| Customs tariff number | 85371098 |
| Country of origin | DE |

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Technical data

Product properties

| | |
|-------------------------|--|
| Product type | Safety relays |
| Product family | PSRclassic |
| Application | Extension module |
| Mechanical service life | approx. 10^7 cycles |
| Relay type | Electromechanical relay with force-guided contacts in accordance with IEC/EN 61810-3 |

Electrical properties

| | |
|---|-----------------------|
| Maximum power dissipation for nominal condition | 1.01 W |
| Nominal operating mode | 100% operating factor |

Air clearances and creepage distances between the power circuits

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

General

| | |
|--|------------------------------------|
| Rated control circuit supply voltage U_S | 24 V DC |
| Voltage range with reference to U_S | 0.9 ... 1.1 |
| Rated control supply current I_S | 42 mA |
| Typical response time | 10 ms |
| Typical release time | 10 ms |
| Recovery time | 1 s |
| Protective circuit | Surge protection; Suppressor diode |
| Status display | Green LED |

Output data

| | |
|-----------------------------|---|
| Contact switching type | 4 enabling current paths |
| | 1 signaling current path |
| | 1 confirmation current path |
| Contact material | AgSnO ₂ |
| Maximum switching voltage | 250 V AC/DC |
| Minimum switching voltage | 15 V AC/DC |
| Limiting continuous current | 6 A (N/O contact, DC1/AC1) |
| | 3 A (N/C contact) |
| Maximum inrush current | 6 A (N/O contact, DC1/AC1) |
| | 3 A (N/C contact) |
| Inrush current, minimum | 25 mA |
| Sq. Total current | $72 \text{ A}^2 (I_{TH}^2 = I_1^2 + I_2^2 + I_3^2 + I_4^2)$ |

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| | |
|---|--|
| Interrupting rating (ohmic load) max. | 144 W (24 V DC, $\tau = 0$ ms, N/C contact 61/62: 72 W) |
| | 288 W (48 V DC, $\tau = 0$ ms, N/C contact 61/62: 144 W) |
| | 77 W (110 V DC, $\tau = 0$ ms) |
| | 88 W (220 V DC, $\tau = 0$ ms) |
| | 1500 VA (250 V AC, $\tau = 0$ ms, N/C contact 61/62: 750 VA) |
| Maximum interrupting rating (inductive load) | 48 W (24 V DC, $\tau = 40$ ms) |
| | 40 W (48 V DC, $\tau = 40$ ms) |
| | 35 W (110 V DC, $\tau = 40$ ms) |
| | 33 W (220 V DC, $\tau = 40$ ms) |
| Switching capacity min. | 0.4 W |
| Switching capacity in accordance with IEC 60947-5-1 | 5 A (DC13) |
| | 5 A (AC15) |
| Switching capacity (360/h cycles) | 6 A (24 V DC) |
| | 5 A (230 V AC) |
| Switching capacity (3600/h cycles) | 3 A (24 V (DC13)) |
| | 3 A (230 V (AC15)) |
| Output fuse | 10 A gL/gG NEOZED (N/O contact) |
| | 4 A gL/gG NEOZED (N/C contact) |

Connection data

Connection technology

| | |
|-----------|-----|
| pluggable | yes |
|-----------|-----|

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 |
| Conductor cross section, flexible, with ferrule, with plastic sleeve | 0.25 mm ² ... 1.5 mm ² (only together with CRIMPFOX 6) |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm ² ... 1.5 mm ² (only together with CRIMPFOX 6) |
| Conductor cross-section AWG | 24 ... 16 |
| Stripping length | 8 mm |

Dimensions

| | |
|--------|----------|
| Width | 22.5 mm |
| Height | 112 mm |
| Depth | 114.5 mm |

Material specifications

| | |
|------------------|-----------|
| Housing material | Polyamide |
|------------------|-----------|

Characteristics

Safety data

| | |
|---------------|---|
| Stop category | 0 |
|---------------|---|

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Safety data: EN ISO 13849

| | |
|------------------------|--|
| Category | 4 (In conjunction with suitable evaluating device) |
| 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) |

Standards and regulations

Air clearances and creepage distances between the power circuits

| | |
|-----------------------|-------------|
| Standards/regulations | IEC 60947-1 |
|-----------------------|-------------|

Mounting

| | |
|-------------------|--------------------|
| Mounting type | DIN rail mounting |
| Mounting position | any |
| Connection method | Push-in connection |

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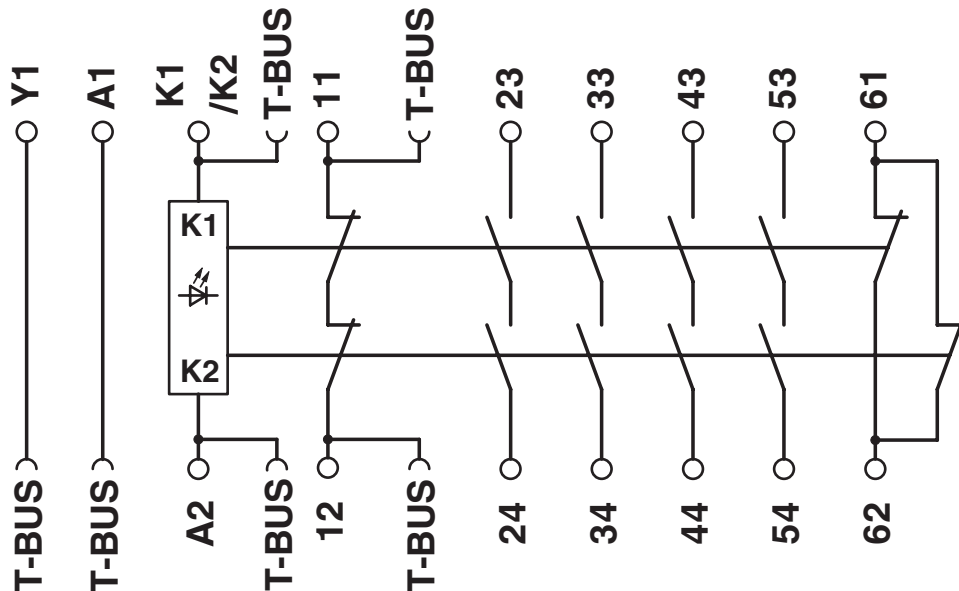


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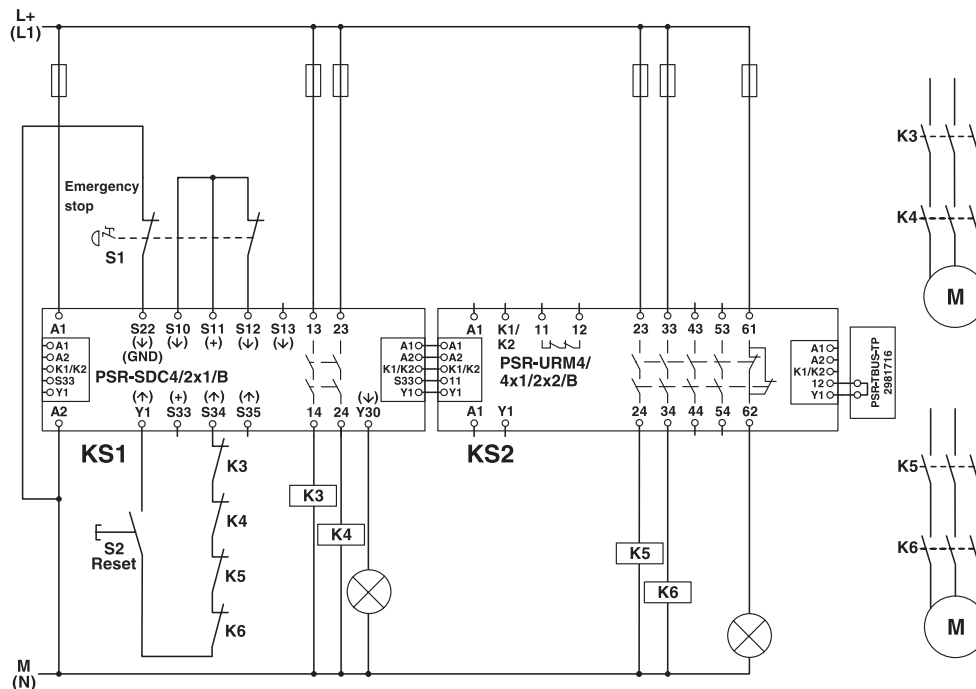
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Drawings

Circuit diagram



Circuit diagram



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Approvals

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EAC

Approval ID: RU C-DE.A*30.B.01082



UL Listed

Approval ID: FILE E 140324



cUL Listed

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-11.0 | 27371819 |
| ECLASS-12.0 | 27371819 |
| ECLASS-13.0 | 27371819 |

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC001449 |
|----------|----------|

UNSPSC

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

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Environmental product compliance

| | |
|------------|--|
| REACH SVHC | Lead 7439-92-1 |
| | Hexahydromethylphthalic anhydride |
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads" |

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Accessories

PSR-TBUS - DIN rail bus connectors

2890425

<https://www.phoenixcontact.com/sk/products/2890425>

DIN rail connector for safety switching devices, for supplying/controlling/monitoring (depending on the module)



PSR-TBUS-TP - DIN rail bus connectors

2981716

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Blind plug for the PSR-TBUS DIN rail connector used with the modular safety relay system (PSR-SDC4)



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PSR-TBUS - 1PCS - DIN rail bus connectors

1326060

<https://www.phoenixcontact.com/sk/products/1326060>

DIN rail connector for safety switching devices, for supplying/controlling/monitoring (depending on the module)



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