

PSR-SCP- 24DC/TS/SDOR4/4X1 - Extension module



2986096

<https://www.phoenixcontact.com/us/products/2986096>

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PSR-TRISAFE-M relay output extension module with 4 safe relay output contacts (choice of 4 single-channel or 2 two-channel relay contacts), 4 alarm outputs; up to SIL 3, Cat.4/PLe, SIL 3, EN 50156, plug-in screw connection terminal blocks

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 2986096 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | DN02 |
| Product key | DNA332 |
| GTIN | 4046356536554 |
| Weight per piece (including packing) | 201.1 g |
| Weight per piece (excluding packing) | 140 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 device |
| Application | PSR-TRISAFE-M extension module |
| Control | 1 and 2 channel |

Insulation characteristics: Air clearances and creepage distances between the power circuits

| | |
|----------------------|-----|
| Overvoltage category | III |
| Pollution degree | 2 |

Times

| | |
|---------------|------------|
| Response time | max. 50 ms |
| Recovery time | < 10 s |

Electrical properties

| | |
|---|---|
| Maximum power dissipation for nominal condition | 3932 mW (up to 40°C ambient temperature, at m = 4, n = 4, I _{load} = 4 A, I _{signal} = 50 mA) |
| | 1532 mW (up to 55°C ambient temperature, at m = 4, n = 4, I _{load} = 1 A, I _{signal} = 50 mA) |
| Nominal operating mode | 100% operating factor |
| Interfaces | DIN rail TBUS for connection to the master module, supplied as standard |

Air clearances and creepage distances between the power circuits

| | |
|--------------------------------|--|
| Rated insulation voltage | 250 V AC |
| Rated surge voltage/insulation | 4 kV / basic insulation between output contact current paths (13/14, 23/24, 33/34, 43/44); 6 kV / safe isolation, reinforced insulation between output contact current paths (13/14, 23/24, 33/34, 43/44) and the other circuits |

Supply

| | |
|---|---|
| Rated control circuit supply voltage U _S | 18 V DC ... 30 V DC (Incl. all tolerances, incl. residual ripple) |
| Rated control circuit supply voltage U _S | 24 V DC (Electrical supply via PSR-TBUS) |
| Rated control supply current I _S | Electrical supply via PSR-TBUS |
| | 74 mA (At 24 V DC, relay outputs set) |
| | 54 mA (At 24 V DC, relay outputs not set) |
| Protective circuit | Yes, within the scope of the operating voltage limits |
| Status display | 1 x LED (green) , 1 x LED (red) |

Output data

| | |
|---------------------------|----------|
| Maximum switching voltage | 250 V AC |
| | 24 V DC |

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| | |
|------------------------------------|--------------------------|
| Minimum switching voltage | 5 V AC/DC |
| Limiting continuous current | 4 A (see derating curve) |
| Maximum inrush current | 6 A |
| Inrush current, minimum | 5 mA |
| Switching capacity (3600/h cycles) | 3 A (230 V (AC 15)) |
| | 5 A (24 V (DC13)) |
| Output fuse | 6 A gL/gG |
| Response time | max. 50 ms |

Relay

| | |
|---|--|
| Output description | Relay contacts, safety-related N/O contacts |
| Number of outputs | 4 (Single-channel) |
| | 2 (Two-channel, connected in pairs) |
| Contact switching type | 4 relay output contacts |
| Contact material | AgSnO ₂ (From HW03) AgCuNi +0.2 ... 0.4 µm Au (up to HW02) |
| Switching voltage | min. 12 V AC/DC (from HW 03) |
| | min. 5 V AC/DC (Up to HW02) |
| | max. 250 V AC/DC (For modules from HW03, see Section "Relay data" in the user manual.) |
| Switching current | min. 3 mA (from HW 03) |
| | min. 5 mA (Up to HW02) |
| Switching power | min. 60 mW |
| Switching capacity in accordance with IEC 60947-5-1 | 2 A (AC15) |
| | 4 A (DC13) |
| Limiting continuous current | 4 A (see to derating) |
| Mechanical service life | 10x 10 ⁶ cycles |
| Output fuse | 4 A (gL/gG) |
| Status display | 4 x LED (green) |

Signal

| | |
|-----------------------------|---|
| Output description | digital |
| Number of outputs | 4 |
| Voltage | 24 V DC (Supply via A1/A2) |
| Limiting continuous current | 50 mA |
| Protective circuit | Yes, within the scope of the operating voltage limits |
| Short-circuit protection | Yes |

Connection data

Connection technology

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

Conductor connection

| | |
|-------------------------------|---|
| Connection method | Screw connection |
| Conductor cross-section rigid | 0.2 mm ² ... 2.5 mm ² |

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| | |
|----------------------------------|--|
| Conductor cross-section flexible | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross-section AWG | 24 ... 12 |
| Stripping length | 7 mm |
| Screw thread | M3 |
| Tightening torque | 0.5 Nm ... 0.6 Nm 5 lb _f -in. ... 7 lb _f -in. |

Dimensions

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|--------|----------|
| Width | 22.5 mm |
| Height | 99 mm |
| Depth | 114.5 mm |

Material specifications

| | |
|------------------|-----------------------------|
| Color | yellow |
| Housing material | Polyamide PA non-reinforced |

Characteristics

Safety data

| | |
|----------------------------|---|
| Stop category (EN 60204-1) | 0 |
|----------------------------|---|

Safety data: EN ISO 13849

| | |
|------------------------|--------------------------------|
| Performance level (PL) | c (1-channel parameterization) |
| | e (2-channel parameterization) |

Safety data: EN 50156

| | |
|------------------------------|------------------------------|
| Safety Integrity Level (SIL) | max. 3 (Reference IEC 61508) |
|------------------------------|------------------------------|

Safety data: IEC 61508 - High demand

| | |
|------------------------------|--------------------------------|
| Safety Integrity Level (SIL) | 1 (1-channel parameterization) |
| | 3 (2-channel parameterization) |

Safety data: IEC 61508 - Low demand

| | |
|------------------------------|--------------------------------|
| Safety Integrity Level (SIL) | 1 (1-channel parameterization) |
| | 3 (2-channel parameterization) |

Safety data: EN IEC 62061

| | |
|------------------------------|--------------------------------|
| Safety Integrity Level (SIL) | 1 (1-channel parameterization) |
| | 3 (2-channel parameterization) |

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 (see to derating) |
| Ambient temperature (storage/transport) | -20 °C ... 70 °C |

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| | |
|--|---|
| Maximum altitude | max. 2000 m (See Appendix "Using PSR-TRISAFE modules at altitudes greater than 2000 m above sea level") |
| Max. permissible humidity (storage/transport) | 75 % (On average, 85 % occasionally) |
| Max. permissible relative humidity (operation) | 75 % (On average, 85 % occasionally) |
| Shock (operation) | 10g ($\Delta t = 11$ ms, three shocks in each space direction) |
| | 10g ($\Delta t = 16$ ms, continuous shock, 1000 shocks in each space direction) |
| Vibration (operation) | 2g |
| Air pressure (operation) | 70 kPa ... 108 kPa (up to 3000 m above sea level) |
| Air pressure (storage/transport) | 66 kPa ... 108 kPa (up to 3500 m above sea level) |

Standards and regulations

Air clearances and creepage distances between the power circuits

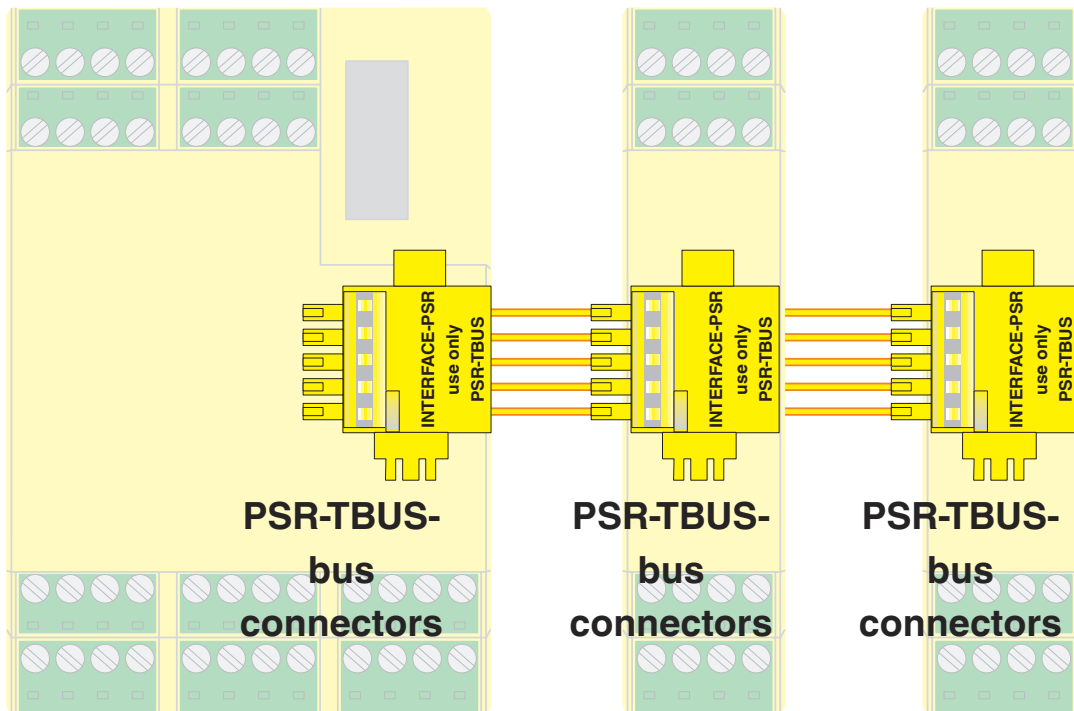
| | |
|-----------------------|--------------|
| Standards/regulations | DIN EN 50178 |
|-----------------------|--------------|

Mounting

| | |
|-------------------|------------------------|
| Mounting type | DIN rail mounting |
| Mounting position | On horizontal DIN rail |

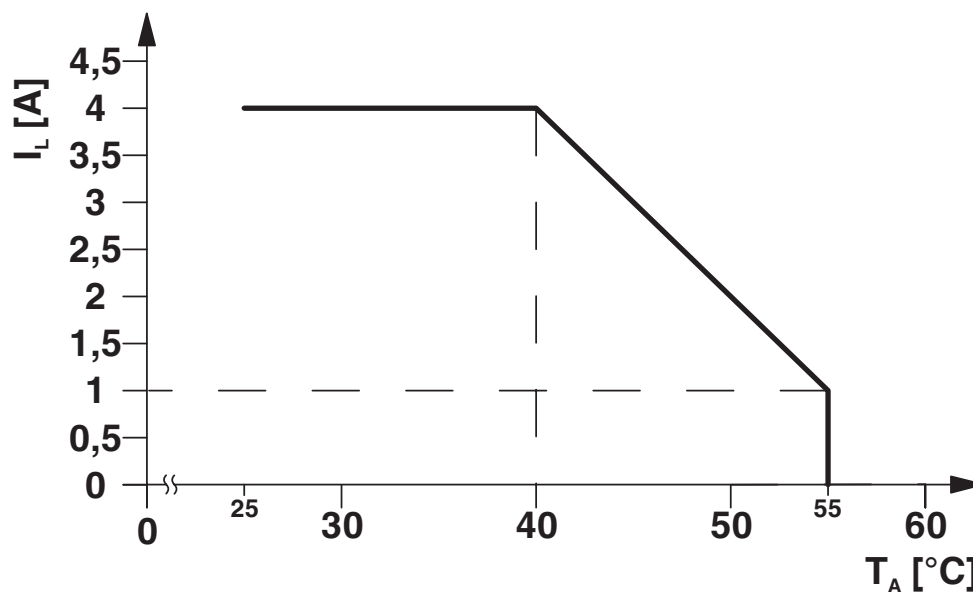
Drawings

Connection diagram

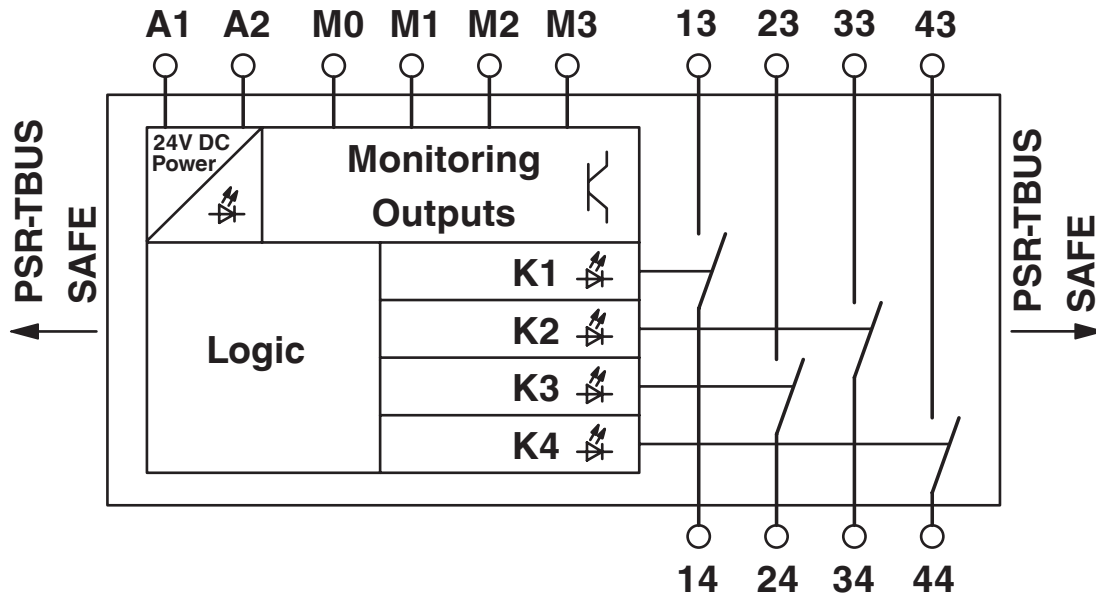


PSR-TBUS DIN rail connectors are used for cross-wiring between the modules.

Diagram



Circuit diagram



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Approvals

🔗 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2986096>



cULus Listed

Approval ID: E140324



Functional Safety

Approval ID: 01/205/5151.04/20



Functional Safety

Approval ID: 01/205/5151.05/25

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Classifications

ECLASS

ECLASS-13.0

27371819

ETIM

ETIM 9.0

EC001449

UNSPSC

UNSPSC 21.0

39122200

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Environmental product compliance

EU RoHS

| | |
|---|--------------|
| Fulfills EU RoHS substance requirements | Yes |
| Exemption | 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) |
| | 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol(CAS: 79-94-7) |

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