

Safety module - PSR-SPP- 24DC/TS/S - 2986232

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Freely configurable safety module with 20 safe inputs and 4 safe outputs, 4 signal, 2 clock, and 2 ground switching outputs; diagnostics possible via bus gateways, up to SILCL 3, Cat. 4/PL e, SIL 3, EN 50156, plug-in spring-cage terminal block


The figure shows a version with a screw connection

Your advantages

- ✓ Freely configurable safety module for monitoring emergency stops, safety doors, light grids, etc.
- ✓ With 20 safe inputs, 4 safe outputs, 4 alarm outputs, and 2 clock outputs on a design width of just 67.5 mm
- ✓ Multifunctional use for a wide range of safety functions
- ✓ Including IFS-CONFSTICK memory stick for easily storing and saving the configuration
- ✓ Easy graphical configuration with the SAFECONF software
- ✓ Easy graphical configuration instead of complex programming
- ✓ Quick startup thanks to comprehensive simulation and test functions
- ✓ Option for connecting fieldbus gateways for diagnostics and signaling functions
- ✓ Up to Cat. 4/PL e according to ISO 13849-1, SILCL 3 according to IEC 62061, SIL 3 according to IEC 61508
- ✓ EN 50156



Key Commercial Data

| | |
|--------------|---|
| Packing unit | 1 pc |
| GTIN |  4 046356 477185 |
| GTIN | 4046356477185 |

Technical data

Note

| | |
|-------------------------|---|
| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area |
|-------------------------|---|

Dimensions

| | |
|-------|---------|
| Width | 67.5 mm |
|-------|---------|

Safety module - PSR-SPP- 24DC/TS/S - 2986232

Technical data

Dimensions

| | |
|--------|----------|
| Height | 112 mm |
| Depth | 114.5 mm |

Ambient conditions

| | |
|--|---|
| Ambient temperature (operation) | -20 °C ... 55 °C |
| Ambient temperature (storage/transport) | -20 °C ... 70 °C |
| Max. permissible relative humidity (operation) | 75 % (On average, 85 % occasionally) |
| Max. permissible humidity (storage/transport) | 75 % (On average, 85 % occasionally) |
| 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) |
| Maximum altitude | max. 2000 m (See Appendix "Using PSR-TRISAFE modules at altitudes greater than 2000 m above sea level") |

Power supply

| | |
|--|---|
| Rated control circuit supply voltage U_s | 24 V DC (A1/A2) |
| | 18 V DC ... 30 V DC (Incl. all tolerances, incl. residual ripple) |
| Rated control supply current I_s | typ. 110 mA |
| Limiting continuous current | max. 6 A (For looped-through current paths A1/A1 and A2/A2) |
| Filter time | typ. 20 ms (Load-dependent, in the event of voltage dips at U_s) |
| Status display | 3x LED green, 1x LED red |
| Protective circuit | Yes, within the scope of the operating voltage limits |

Digital inputs

| | |
|--------------------------------|----------------------------------|
| Description of the input | Digital, type HTL |
| Number of inputs | 10 (Two-channel, up to SIL 3) |
| | 20 (Single-channel, up to SIL 2) |
| Input voltage range "0" signal | 0 V DC ... 5 V DC (for safe Off) |
| Input voltage range "1" signal | 11 V DC ... 30 V DC |
| Current consumption | typ. 4 mA |
| Cable length | max. 2000 m |
| Status display | 20 x LED green (1 LED per input) |

Digital outputs

| | |
|------------------------------|--|
| Number of outputs | 4 (Safe semiconductor outputs, up to Cat. 4 in accordance with EN ISO 13849-1) |
| | 2 (Ground switching outputs) |
| Nominal output voltage | 24 V DC (Supply via 24 V/0 V) |
| Nominal output voltage range | 18 V DC ... 30 V DC (Incl. all tolerances, incl. residual ripple) |
| Limiting continuous current | 2 A (Per channel, see Derating) |
| | 2 A (Total current of all outputs) |
| Output voltage | < 5 V (Low state) |
| Leakage current | max. 2 mA |
| Max. capacitive load | max. 1 µF (Electronic components) |

Safety module - PSR-SPP- 24DC/TS/S - 2986232

Technical data

Digital outputs

| | |
|----------------------------|---|
| Max. inductive load | See "Protective circuit" |
| Test pulses | < 1 ms |
| Short-circuit protection | Yes |
| Note on protection circuit | Yes, within the scope of the operating voltage limits |
| Status display | 4 x LED green (1 LED per output) |

Clock outputs

| | |
|-----------------------------|-------------------------------|
| Output description | Digital |
| Number of outputs | 2 |
| Voltage | 24 V DC (Supply via 24 V/0 V) |
| Limiting continuous current | 100 mA |
| Test pulses | < 1 ms |
| Short-circuit protection | Yes |

Alarm outputs

| | |
|-----------------------------|-------------------------------|
| Output description | Digital |
| Number of outputs | 4 |
| Voltage | 24 V DC (Supply via 24 V/0 V) |
| Limiting continuous current | 100 mA |
| Short-circuit protection | Yes |

Times

| | |
|---------------|---|
| Response time | max. 30 ms (plus response time of PSR-TS-SDOR4) |
| Recovery time | < 10 s |

General

| | |
|---|---|
| Nominal operating mode | 100% operating factor |
| Net weight | 154 g |
| Mounting position | On horizontal DIN rail |
| Mounting type | DIN rail mounting |
| Degree of protection | IP20 |
| | IP54 |
| Min. degree of protection of inst. location | IP54 |
| Housing material | Polyamide PA non-reinforced |
| Housing color | yellow |
| Number of possible extension modules | 1 (Max. continuous current via PSR-TBUS: 4 A) |

Connection data

| | |
|---------------------------------------|------------------------|
| Connection method | Spring-cage connection |
| pluggable | Yes |
| Conductor cross section solid min. | 0.2 mm ² |
| Conductor cross section solid max. | 1.5 mm ² |
| Conductor cross section flexible min. | 0.2 mm ² |

Safety module - PSR-SPP- 24DC/TS/S - 2986232

Technical data

Connection data

| | |
|---------------------------------------|---------------------|
| Conductor cross section flexible max. | 1.5 mm ² |
| Conductor cross section AWG min. | 24 |
| Conductor cross section AWG max. | 16 |
| Stripping length | 8 mm |

Safety-related characteristic data

| | |
|---|--------------------------------|
| Stop category | 0 |
| Designation | IEC 61508 - High demand |
| Safety Integrity Level (SIL) | 2 (1-channel parameterization) |
| | 3 (2-channel parameterization) |
| Designation | IEC 61508 - Low demand |
| Safety Integrity Level (SIL) | 2 (1-channel parameterization) |
| | 3 (2-channel parameterization) |
| Designation | EN ISO 13849 |
| Performance level (PL) | d (1-channel parameterization) |
| | e (2-channel parameterization) |
| Category | 2 (1-channel parameterization) |
| | 4 (2-channel parameterization) |
| Designation | EN 62061 |
| Safety Integrity Level Claim Limit (SIL CL) | 2 (1-channel parameterization) |
| | 3 (2-channel parameterization) |
| Designation | EN 50156 |
| Safety Integrity Level (SIL) | max. 3 (Reference IEC 61508) |

Standards and Regulations

| | |
|-----------------------|--|
| Designation | Air clearances and creepage distances between the power circuits |
| Standards/regulations | DIN EN 50178 |
| Degree of pollution | 2 |
| Overvoltage category | III |
| Vibration (operation) | 2g |
| 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) |

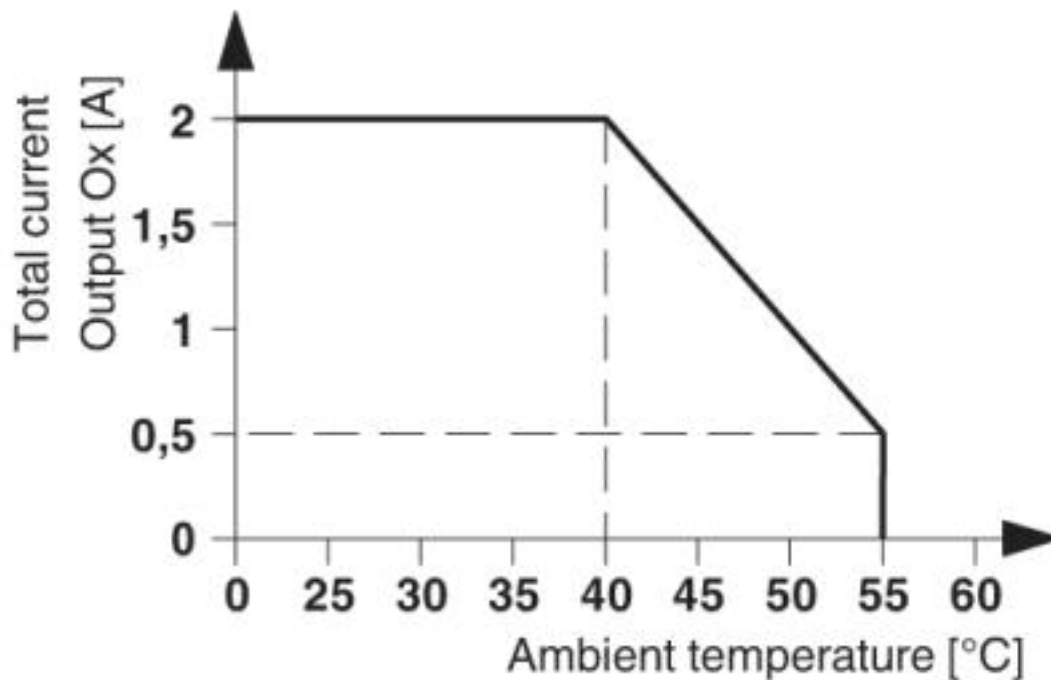
Environmental Product Compliance

| | |
|------------|---|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
| | No hazardous substances above threshold values |

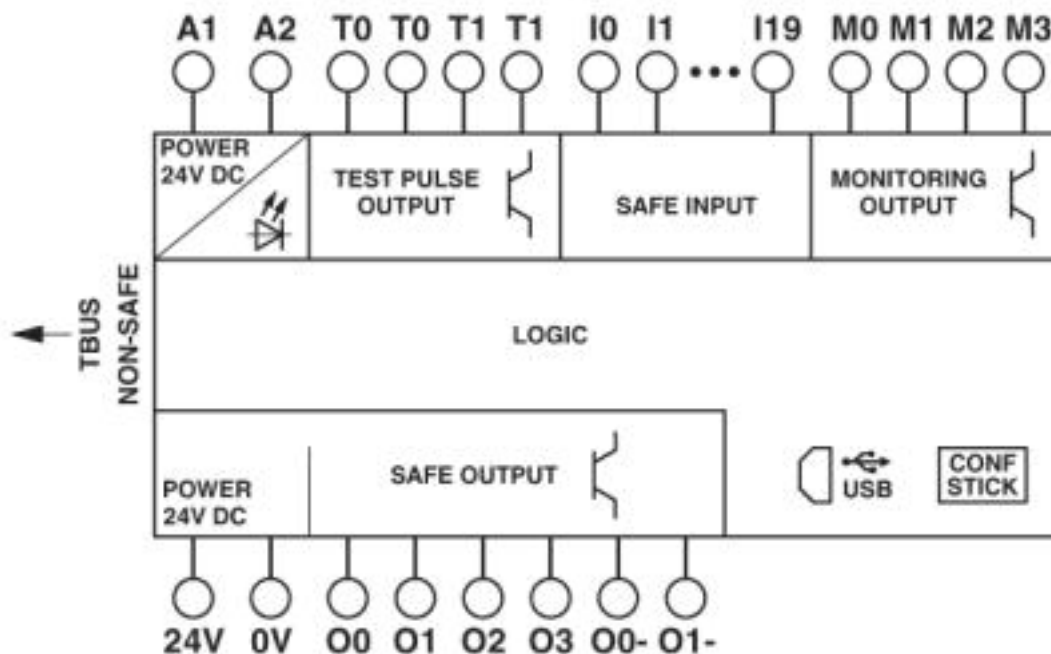
Drawings

Safety module - PSR-SPP- 24DC/TS/S - 2986232

Diagram

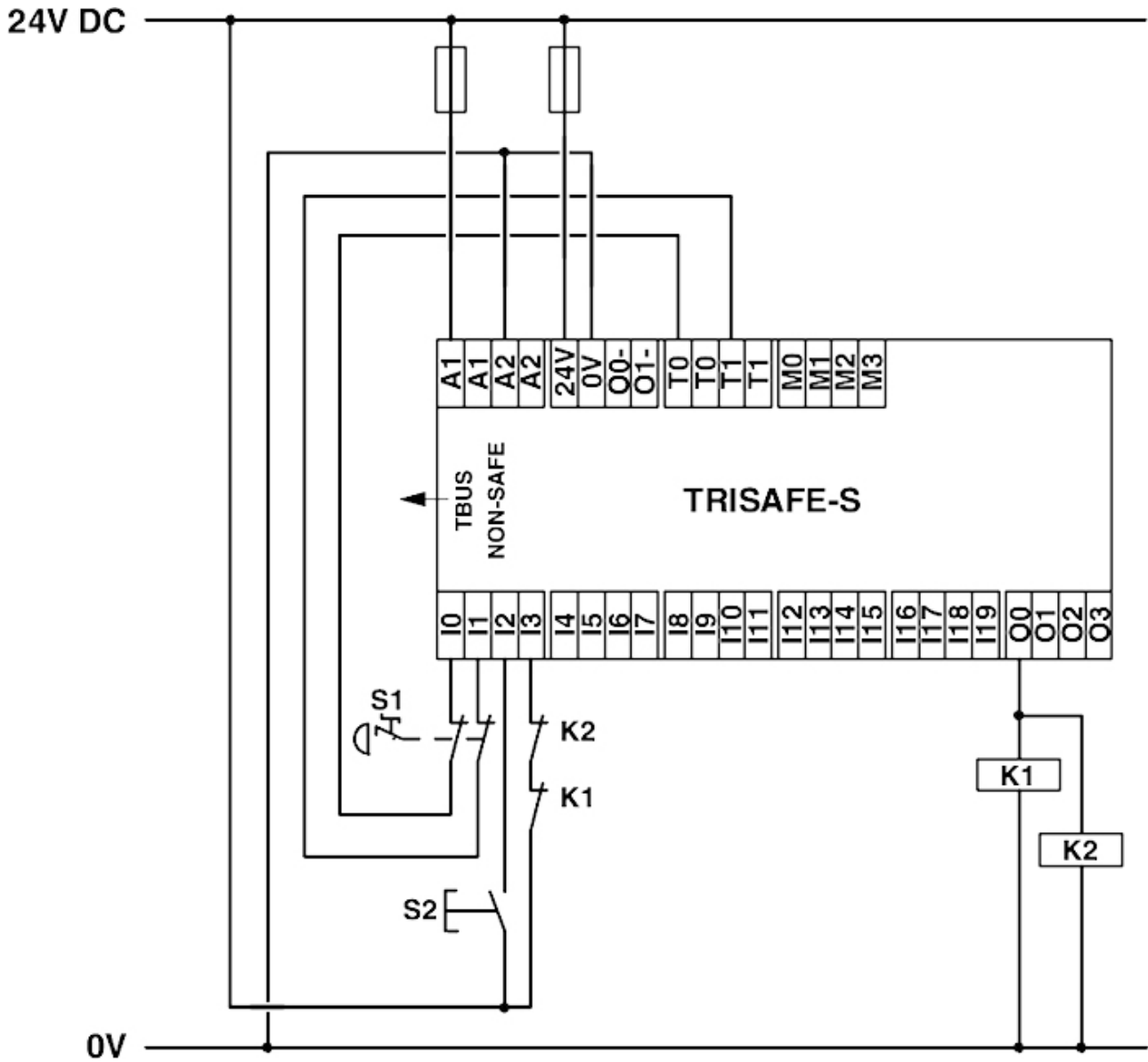


Circuit diagram



Safety module - PSR-SPP- 24DC/TS/S - 2986232

Application drawing



Safety module - PSR-SPP- 24DC/TS/S - 2986232

Approvals

Approvals

Approvals

UL Listed / cUL Listed / Functional Safety / cULus Listed

Ex Approvals

Approval details

| | | | |
|-------------------|--|---|-------------------|
| UL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 140324 |
| cUL Listed | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | FILE E 140324 |
| Functional Safety | | | 01/205/5151.03/17 |
| cULus Listed | | | |

Phoenix Contact 2019 © - all rights reserved
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG
Flachsmarktstr. 8
32825 Blomberg
Germany
Tel. +49 5235 300
Fax +49 5235 3 41200
<http://www.phoenixcontact.com>