

## 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

### Why buy this product

- ✓ 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 STK
GTIN	 4 046356 477185
GTIN	4046356477185
Weight per Piece (excluding packing)	392.000 g
Custom tariff number	85371098
Country of origin	Germany

### Technical data

Note

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

## Technical data

### Note

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

### Dimensions

Width	67.5 mm
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 mean sea level)
Air pressure (storage/transport)	66 kPa ... 108 kPa (up to 3500 m above mean sea level)
Maximum altitude	max. 2000 m ()

### Power supply

Rated control circuit supply voltage $U_s$	24 V DC (A1/A2)
	18 V DC ... 30 V DC ()
Rated control supply current $I_s$	typ. 110 mA
Limiting continuous current	max. 6 A ()
Filter time	typ. 20 ms ()

### Digital inputs

Number of inputs	10 ()
	20 ()
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

### Digital outputs

Number of outputs	4 ()
	2 (Ground switching outputs)
Nominal output voltage	24 V DC ()
Nominal output voltage range	18 V DC ... 30 V DC ()
Limiting continuous current	2 A ()
	2 A (Total current of all outputs)
Output voltage	< 5 V ()
Leakage current	max. 2 mA
Max. capacitive load	max. 1 $\mu$ F ()
Test pulses	< 1 ms
Short-circuit protection	Yes

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

### Technical data

#### Clock outputs

Number of outputs	2
Voltage	24 V DC ()
Limiting continuous current	100 mA
Test pulses	< 1 ms
Short-circuit protection	Yes

#### Alarm outputs

Number of outputs	4
Voltage	24 V DC ()
Limiting continuous current	100 mA
Short-circuit protection	Yes

#### Times

Response time	max. 30 ms ()
Recovery time	< 10 s

#### General

Nominal operating mode	100% operating factor
Net weight	392 g
Mounting type	DIN rail mounting
Mounting position	On horizontal DIN rail
Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Housing material	Polyamide PA non-reinforced
Housing color	yellow
Number of possible extension modules	1 ()

#### Connection data

Connection method	Spring-cage connection
pluggable	Yes
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	1.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	1.5 mm <sup>2</sup>
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
	IEC 61508 - Low demand
	EN ISO 13849

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

Technical data

Safety-related characteristic data

	EN 62061
	EN 50156

Standards and Regulations

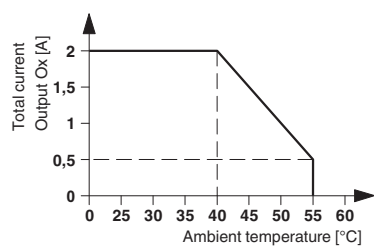
Designation	Air clearances and creepage distances between the power circuits
Standards/regulations	DIN EN 50178
Degree of pollution	2
Overvoltage category	III
Vibration (operation)	2g
Shock (operation)	10g ()
	10g ()

Environmental Product Compliance

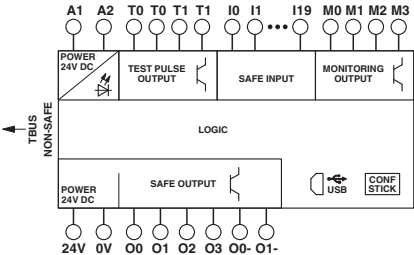
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

Drawings

Diagram

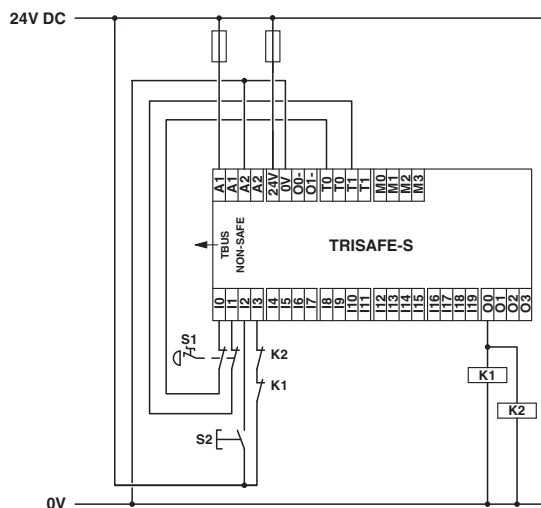


Circuit diagram



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

Application drawing



### Classifications

#### eCl@ss

eCl@ss 4.0	27371102
eCl@ss 4.1	27371102
eCl@ss 5.0	27371901
eCl@ss 5.1	27371901
eCl@ss 6.0	27371001
eCl@ss 7.0	27371001
eCl@ss 8.0	27371819
eCl@ss 9.0	27371819

#### ETIM

ETIM 2.0	EC001449
ETIM 3.0	EC001449
ETIM 4.0	EC001449
ETIM 5.0	EC001449
ETIM 6.0	EC001449

#### UNSPSC

UNSPSC 6.01	30211901
UNSPSC 7.0901	39121501
UNSPSC 11	39121501
UNSPSC 12.01	39121501
UNSPSC 13.2	39121501

## 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		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
Functional Safety			01/205/5151.03/17
cULus Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	

### Accessories

#### Accessories

#### Device parameterization

Configuration package - SAFECONF - 2986119



Configuration software for SafetyBridge technology and PSR-TRISAFE modules, connecting cable for PSR-TRISAFE

---

#### DIN rail connector

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

### Accessories

DIN rail bus connectors - ME 22,5 TBUS 1,5/ 5-ST-3,81 GN - 2707437



Plug component, nominal current: 8 A, nominal current (Ex): 8 A, nominal voltage (Ex): 125 V, number of positions: 5, pitch: 3.81 mm, Articles with gold-plated contacts, bus connectors for connecting with electronic housings

---

DIN rail bus connectors - PSR-TBUS - 2890425



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

---

### Filter terminal block

Filter terminal block - PSR-FTB/20/86 - 2904477



Terminal block for filtering test pulses from safe semiconductor outputs with adjustable filter values (20  $\mu$ F/86  $\mu$ F), as well as for EMC filtering of 24 V signals up to an amperage of 2 A.

---

Filter terminal block - PSR-FTB/1.5/11.5 - 2904476



Terminal block for filtering test pulses from safe semiconductor outputs with adjustable filter values (1.5  $\mu$ F/11.5  $\mu$ F), as well as for EMC filtering of 24 V signals up to an amperage of 2 A.

---

### Gateways/Proxies

Data interface - EM-CAN-GATEWAY-IFS - 2901504



Gateway for the connection of up to 32 INTERFACE system devices to a higher-level controller via CANopen<sup>®</sup>. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

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

### Accessories

#### Data interface - EM-MODBUS-GATEWAY-IFS - 2901528



Gateway for the connection of up to 32 INTERFACE system devices via Modbus/TCP to a higher-level controller. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

---

#### Data interface - EM-DNET-GATEWAY-IFS - 2901529



Gateway for the connection of up to 32 INTERFACE system devices to a higher-level controller via DeviceNet™. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

---

#### Data interface - EM-ETH-GATEWAY-IFS - 2901988



Gateway for the connection of up to 32 INTERFACE system devices to a higher-level controller via EtherNet/IP™. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

---

#### Data interface - EM-PNET-GATEWAY-IFS - 2904472



Gateway for the connection of up to 32 INTERFACE system devices via PROFINET to a higher-level controller. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

---

#### Data interface - EM-PB-GATEWAY-IFS - 2297620



Gateway for the connection of up to 32 INTERFACE system devices to a higher-level controller via PROFIBUS DP. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.



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

### Accessories

#### Data interface - EM-RS232-GATEWAY-IFS - 2901526



Gateway for the connection of up to 32 INTERFACE system devices to a higher-level controller via Modbus/RS-232. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

---

#### Data interface - EM-RS485-GATEWAY-IFS - 2901527



Gateway for the connection of up to 32 INTERFACE system devices to a higher-level controller via Modbus/RS-485. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

---

### Memory block

#### Memory block - IFS-CONFSTICK - 2986122



Multi-functional memory block for the INTERFACE systemf for easy storage and backup of the configuration.

---

#### Copy and delete station - COPYSTATION - IFS - 2901985



Copy and delete station for IFS-CONFSTICK memory modules for copying data from a master stick to up to four slave sticks and for deleting data on one ore more slave sticks, connection via USB/mini USB cable.

---

### Programming cable

#### USB cable - CABLE-USB/MINI-USB-3,0M - 2986135



USB connecting cable: USB plug type A to USB plug type Mini-B; length: 3 m

---

### Starter kit

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

### Accessories

Starter kit - PSR-TRISAFE STARTER KIT - 2986300



STARTER kit for the PSR-TRISAFE safety module consisting of: PSR-TRISAFE demoboard (with inputs & outputs), SAFECONF CD, Quick Start Guide, USB cable (3m) , voltage supply with international connector adapters and package inserts.