

# Safety module - PSR-SPP- 24DC/TS/M - 2986025

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Freely configurable safety module, with 20 safe inputs and 4 safe outputs; 4 alarm, 2 clock, and 2 ground switching outputs; can be extended via additional I/O modules, up to SILCL 3, Cat. 4/PL e, SIL 3, EN 50156, plug-in spring-cage terminal blocks

The figure shows a version with a screw connection

## Product Features

- Flexible extension with safe inputs and outputs
- Option for connecting fieldbus gateways for diagnostics and signaling functions
- Including IFS-CONFSTICK memory stick for easily storing and saving the configuration
- Including PSR-TBUS connector (DIN rail connector) for adapting safe extension modules
- Easy graphical configuration with the SAFECONF software
- Multifunctional use for a wide range of safety functions
- Quick startup thanks to user-friendly simulation and test options
- Easy graphical configuration instead of complex programming
- Up to Cat. 4/PL e according to ISO 13849-1, SILCL 3 according to IEC 62061, SIL 3 according to IEC 61508
- Safe and standard extension via INTERFACE DIN rail TBUS
- With 20 safe inputs, 4 safe outputs, 4 alarm outputs, and 2 clock outputs on a design width of just 67.5 mm
- EN 50156



## Key commercial data

package_quantity	1
GTIN	4046356345897

## Technical data

Note:

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

Width	67.5 mm
Height	112 mm
Depth	114.5 mm

## Ambient conditions

Ambient temperature (operation)	-20 °C ... 55 °C
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## Technical data

### Ambient conditions

<b>Ambient temperature (storage/transport)</b>	-20 °C ... 70 °C
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### Input data

<b>Nominal input voltage <math>U_N</math></b>	24 V DC
<b>Input voltage range in reference to <math>U_N</math></b>	0.85 ... 1.1
<b>Typical input current at <math>U_N</math></b>	110 mA
<b>Maximum response time</b>	< 30 ms
<b>Bypassing voltage dips</b>	20 ms
<b>Recovery time</b>	< 10 s
<b>Protective circuit</b>	Surge protection Suppressor diode
<b>Status display</b>	4 LEDs (green, red)
<b>Number of safe inputs</b>	20
<b>Nominal voltage <math>U_N</math></b>	24 V DC
<b>Typical current consumption</b>	4 mA
<b>Signal level "0" signal</b>	< 5 V
<b>Signal level "1" signal</b>	> 11 V
<b>Permissible cable length</b>	2000 m
<b>Error detection time at 1-channel structure</b>	< 1 s

### Output data

<b>Contact type</b>	20 safe digital inputs
<b>Contact type</b>	4 safe semiconductor outputs
<b>Contact type</b>	4 alarm outputs
<b>Contact type</b>	2 grounded switching outputs
<b>Contact type</b>	4 clock outputs
<b>Number of safe semiconductor outputs</b>	4 (Cat.4 / ISO 13849)
<b>Number of ground switching outputs</b>	2
<b>Nominal voltage <math>U_N</math></b>	24 V DC
<b>Limiting continuous current</b>	2 A (see derating curve)
<b>Max. capacitive load</b>	1 $\mu$ F (When using electromechanical components (e.g., contactors), the capacitive load can be disregarded.)
<b>Max. inductive load</b>	(A suitable and effective protective circuit is to be provided for inductive loads. A recommended measure is the use of free-wheeling diodes.)
<b>Test pulses</b>	< 1 ms (To ground)
<b>Short-circuit protection</b>	Yes
<b>Clock outputs</b>	Yes
<b>Number of outputs</b>	2
<b>Nominal voltage <math>U_N</math></b>	24 V DC (A1 / A2)
<b>Limiting continuous current</b>	100 mA
<b>Test pulses</b>	~ 100 ms
<b>Short-circuit protection</b>	Yes
<b>Alarm outputs</b>	Yes

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## Technical data

### Output data

<b>Number of outputs</b>	4
<b>Nominal voltage <math>U_N</math></b>	24 V DC (A1 / A2)
<b>Limiting continuous current</b>	100 mA
<b>Short-circuit protection</b>	Yes

### General

<b>Mounting position</b>	Horizontal
<b>Category according to EN 13849-1</b>	4
<b>Name</b>	Air and creepage distances between the power circuits
<b>Standards/regulations</b>	DIN EN 50178
<b>Rated surge voltage / insulation</b>	0.8 kV / Basic isolation
<b>Rated insulation voltage</b>	50 V
<b>Pollution degree</b>	2
<b>Surge voltage category</b>	III
<b>Housing material</b>	Polyamide PA non-reinforced
<b>Number of possible safe extension modules</b>	10
<b>Interfaces</b>	USB

### Connection data

<b>Conductor cross section solid min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section solid max.</b>	1.5 mm <sup>2</sup>
<b>Conductor cross section stranded min.</b>	0.2 mm <sup>2</sup>
<b>Conductor cross section stranded max.</b>	1.5 mm <sup>2</sup>
<b>Conductor cross section AWG/kcmil min.</b>	24
<b>Conductor cross section AWG/kcmil max</b>	16
<b>Stripping length</b>	8 mm
<b>Connection method</b>	Spring-cage conn.

## classifications

### eCl@ss

<b>eCl@ss 4.0</b>	27371102
<b>eCl@ss 4.1</b>	27371102
<b>eCl@ss 5.0</b>	27371901
<b>eCl@ss 5.1</b>	27371901
<b>eCl@ss 6.0</b>	27371819
<b>eCl@ss 7.0</b>	27371819
<b>eCl@ss 8.0</b>	27371819

### ETIM

<b>ETIM 2.0</b>	EC001449
<b>ETIM 3.0</b>	EC001449
<b>ETIM 4.0</b>	EC001449

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## classifications

### ETIM

<b>ETIM 5.0</b>	EC001449
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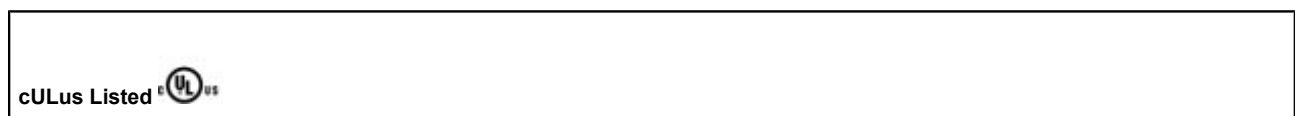
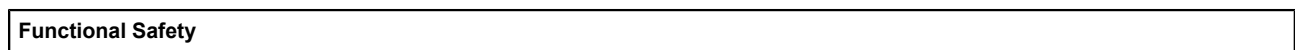
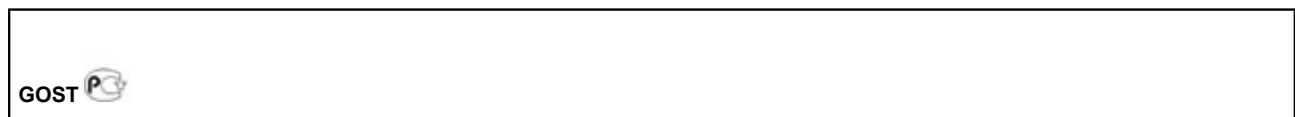
### UNSPSC

<b>UNSPSC 6.01</b>	30211901
<b>UNSPSC 7.0901</b>	39121501
<b>UNSPSC 11</b>	39121501
<b>UNSPSC 12.01</b>	39121501
<b>UNSPSC 13.2</b>	39121501

## approvals

UL Listed / GOST / cUL Listed / Functional Safety / cULus Listed /

### Approval details



## accessories

### Starter kit

ILC 130 SBT V2 STARTERKIT - 2700993



## Safety module - PSR-SPP- 24DC/TS/M - 2986025

### accessories

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#### Memory block

IFS-CONFSTICK - 2986122



#### Adapter cable

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



#### Configuration set

PSR-SAFECONF-BOX-EN - 2986164



PSR-SAFECONF-BOX-DE - 2986151



#### DIN rail connector

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### accessories

ME 22,5 TBUS 1,5/ 5-ST-3,81 GN - 2707437



PSR-TBUS - 2890425



### Gateways/Proxies

EM-PB-GATEWAY-IFS - 2297620



### Solid-state contactor

PSR-FTB/20/86 - 2904477



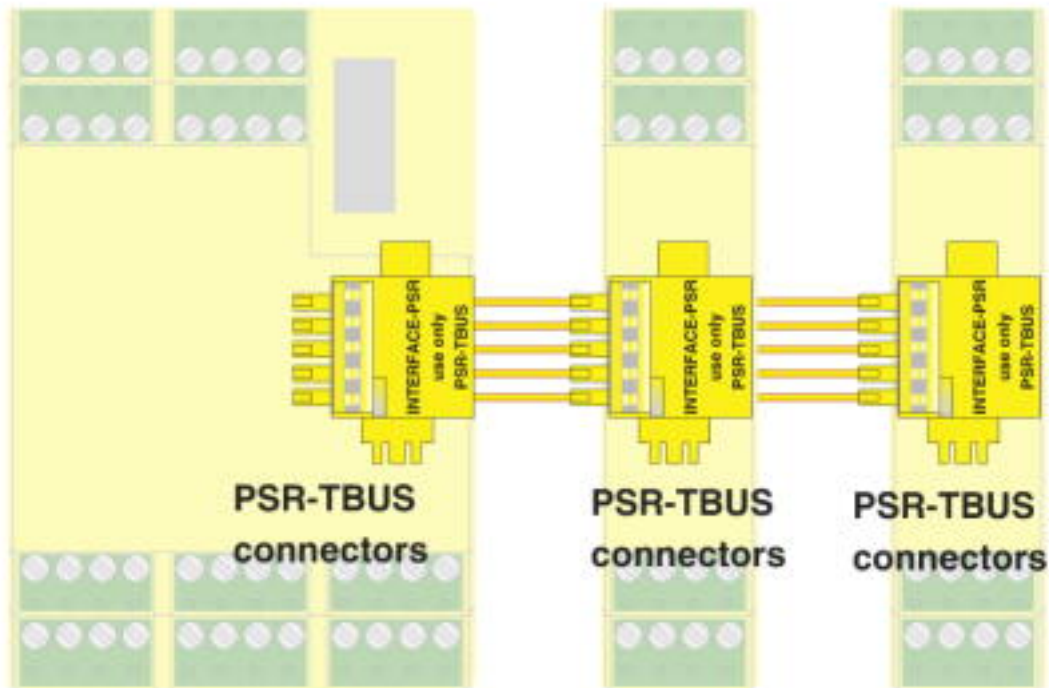
PSR-FTB/1.5/11.5 - 2904476



### Drawings

## Safety module - PSR-SPP- 24DC/TS/M - 2986025

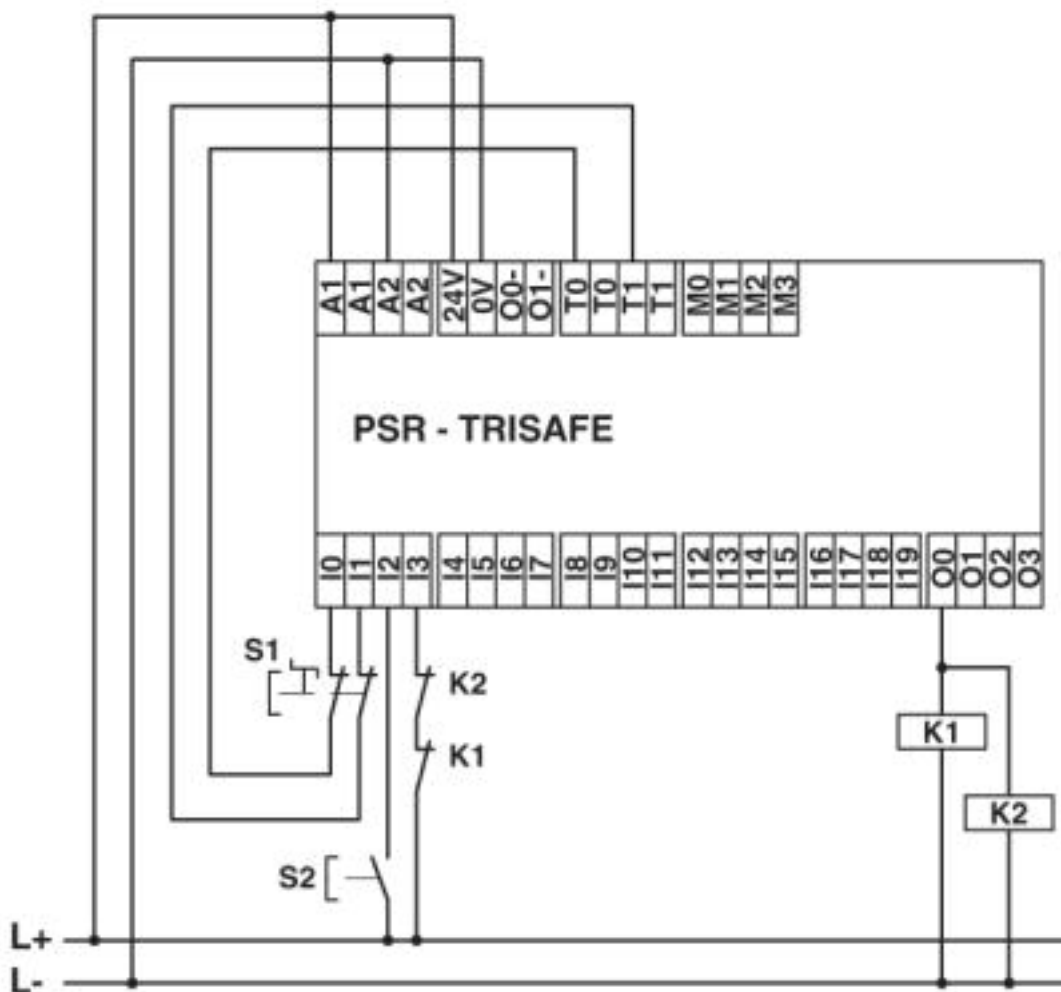
Connection diagram



The TBUS connectors carry out the cross-wiring between the modules.

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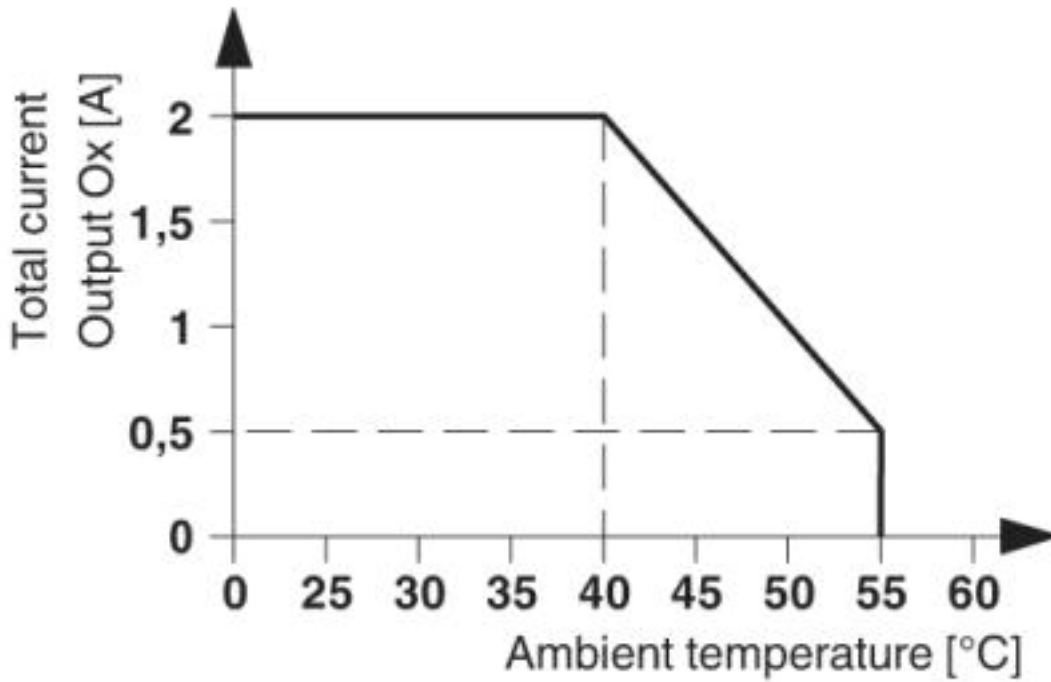
Application drawing





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Diagram



Circuit diagram

