PHŒNIX CONTACT

Extension module - PSR-SPP- 24DC/TS/SDOR4/4X1 - 2986106

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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 signal outputs; up to SILCL 3, Cat. 4/PL e, SIL 3, EN 50156, pluggable Push-in terminal block

The figure shows a version with a screen connection

RoHS

Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4046356536547

Technical data

Note

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

Dimensions

Width	22.5 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 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

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Technical data

Power supply

Rated control circuit supply voltage U_S	24 V DC (Electrical supply via PSR-TBUS)
	18 V DC ... 30 V DC (Incl. all tolerances, incl. residual ripple)
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)
Status display	1 x green LED, 1 x red LED
Protective circuit	Yes, within the scope of the operating voltage limits

Relay outputs: enabling current path

Output description	Relay contacts, safety-related N/O contacts
Number of outputs	4 (Single-channel)
	2 (Two-channel, connected in pairs)
Contact 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 (as of HW 03)
	min. 5 V AC/DC (Up to HW02)
	max. 250 V AC/DC
Limiting continuous current	4 A (see to derating)
Switching current	min. 3 mA (as of HW 03)
	min. 5 mA (Up to HW02)
Switching capacity	min. 60 mW
Mechanical service life	10x 10^6 cycles
Output fuse	6 A (gL / gG)
	4 A (gL/gG for low-demand applications)
Status display	4 x green LEDs

Alarm outputs

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

Times

Response time	max. 50 ms
Recovery time	< 10 s

General

Nominal operating mode	100% operating factor
Net weight	140 g
Mounting position	On horizontal DIN rail

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Technical data

General

Mounting type	DIN rail mounting
Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Housing material	Polyamide PA non-reinforced
Housing color	yellow

Connection data

Connection method	Push-in connection
pluggable	Yes
Conductor cross section solid	0.2 mm² ... 1.5 mm²
Conductor cross-section AWG	24 ... 16
Conductor cross-section flexible with ferrule without plastic sleeve	0.25 mm² ... 1.5 mm² (only together with CRIMPFOX 6)
Conductor cross-section flexible with ferrule and plastic sleeve	0.25 mm² ... 1.5 mm² (only together with CRIMPFOX 6)
Stripping length	8 mm

Safety-related characteristic data

Stop category	0
Designation	IEC 61508 - High demand
Safety Integrity Level (SIL)	1 (1-channel parameterization)
	3 (2-channel parameterization)
Designation	IEC 61508 - Low demand
Safety Integrity Level (SIL)	1 (1-channel parameterization)
	3 (2-channel parameterization)
Designation	EN ISO 13849
Performance level (PL)	c (1-channel parameterization)
	e (2-channel parameterization)
Category	1 (1-channel parameterization)
	4 (2-channel parameterization)
Designation	EN 62061
Safety Integrity Level Claim Limit (SIL CL)	1 (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
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
Pollution degree	2

Extension module - PSR-SPP- 24DC/TS/SDOR4/4X1 - 2986106
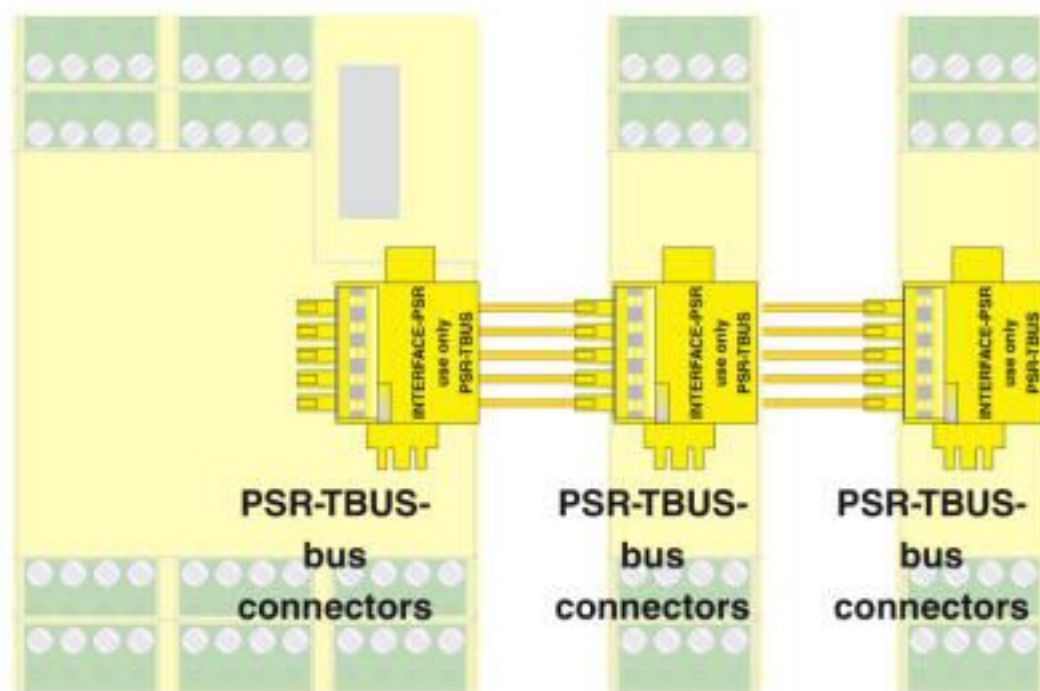
Technical data

Standards and Regulations

Overvoltage category	III
Vibration (operation)	2g
Shock (operation)	10g (Δt = 11 ms, three shocks in each space direction)
	10g (Δt = 16 ms, continuous shock, 1000 shocks in each space direction)

Environmental Product Compliance

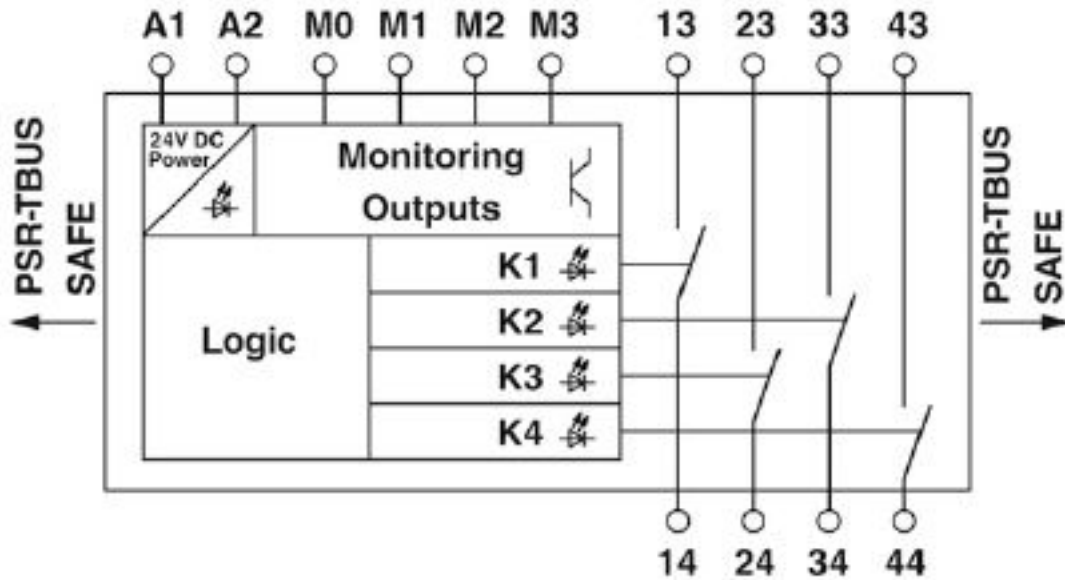| REACh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

Connection diagram

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

Extension module - PSR-SPP- 24DC/TS/SDOR4/4X1 - 2986106

Circuit diagram

Classifications

eCl@ss

eCl@ss 10.0.1	27371819
eCl@ss 4.0	27371100
eCl@ss 4.1	27371100
eCl@ss 5.0	27242700
eCl@ss 5.1	27242700
eCl@ss 6.0	27371800
eCl@ss 7.0	27371819
eCl@ss 8.0	27371819
eCl@ss 9.0	27371819

ETIM

ETIM 3.0	EC001449
ETIM 4.0	EC001417
ETIM 5.0	EC001449
ETIM 6.0	EC001449
ETIM 7.0	EC001449

UNSPSC

UNSPSC 6.01	30211901
UNSPSC 7.0901	39121501
UNSPSC 11	39121501
UNSPSC 12.01	39121501
UNSPSC 13.2	39122329

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Classifications

UNSPSC

UNSPSC 18.0	39122205
UNSPSC 19.0	39122205
UNSPSC 20.0	39122205
UNSPSC 21.0	39122205

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 | | | |

Accessories

Accessories

Device parameterization

Extension module - PSR-SPP- 24DC/TS/SDOR4/4X1 - 2986106

Accessories

Configuration package - SAFECONF - 2986119

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

DIN rail connector

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

DIN rail connector, nominal current: 8 A, rated voltage (III/2): 125 V, number of positions: 5, pitch: 3.81 mm, color: green, mounting: DIN rail, Item with gold-plated contacts, bus connectors for connecting with electronics housings, 5 parallel contacts

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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 µF/86 µF), 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 µF/11.5 µF), as well as for EMC filtering of 24 V signals up to an amperage of 2 A.

Gateways/Proxies

Extension module - PSR-SPP- 24DC/TS/SDOR4/4X1 - 2986106

Accessories

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®. The INTERFACE system devices are connected to the Gateway via DIN rail connectors, the DIN rail connectors are provided.

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.

Extension module - PSR-SPP- 24DC/TS/SDOR4/4X1 - 2986106

Accessories

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.

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

Extension module - PSR-SPP- 24DC/TS/SDOR4/4X1 - 2986106

Accessories

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

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Starter kit

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.

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