

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, plug-in spring-cage terminal block

The figure shows a version with a screw connection



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 536547
GTIN	4046356536547

Technical data

Note

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

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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 (from 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 (from 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	220 g
Mounting position	On horizontal DIN rail

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General

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

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
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)	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

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Standards and Regulations

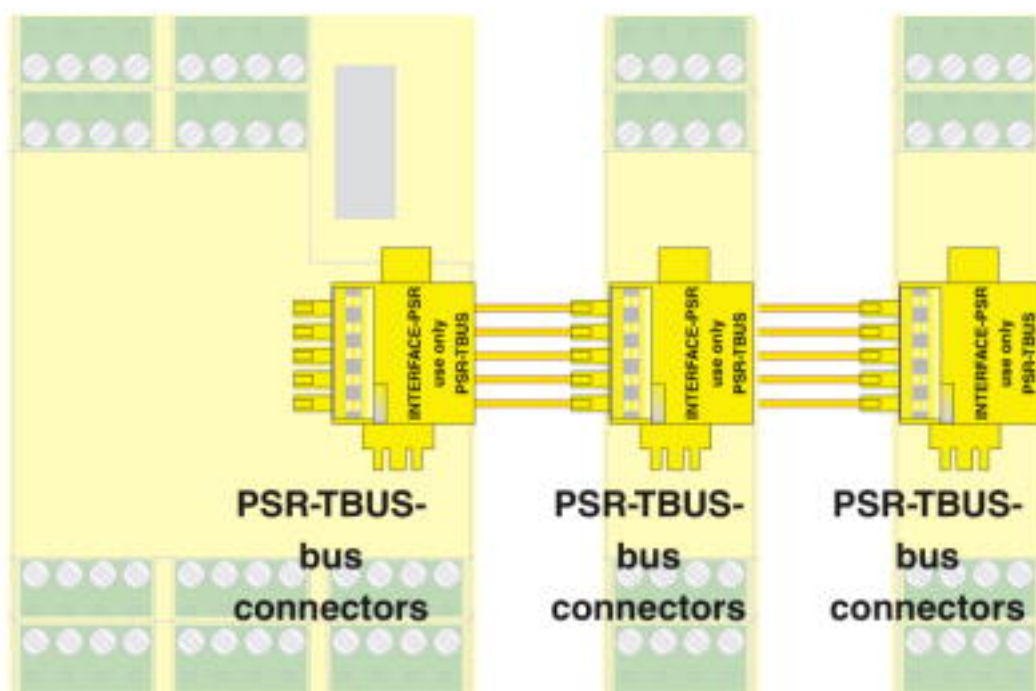
	output contact current paths (13/14, 23/24, 33/34, 43/44) and the other circuits
Degree of pollution	2
Overvoltage category	III
Vibration (operation)	2g
Shock (operation)	10g ($\Delta t = 11$ ms, three shocks in each space direction)
	10g ($\Delta t = 16$ ms, continuous shock, 1000 shocks in each space direction)

Environmental Product Compliance

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

Drawings

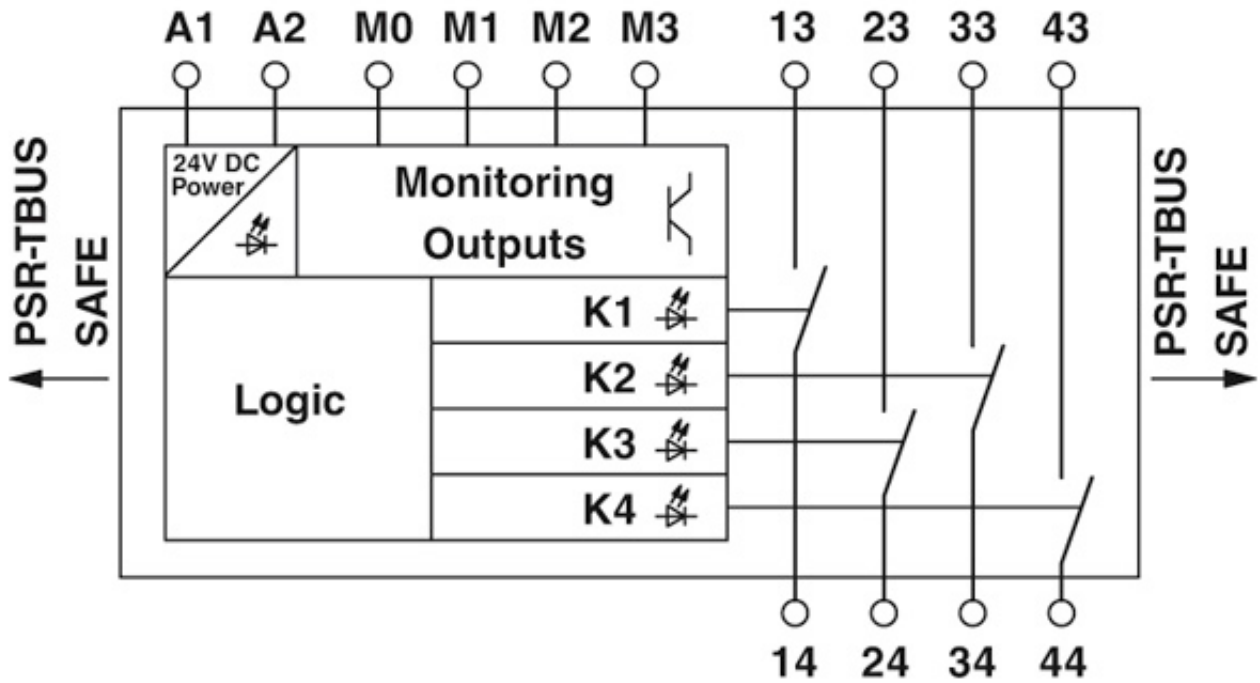
Connection diagram



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

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Circuit diagram



Approvals

Approvals

Approvals

UL Listed / cUL Listed / Functional Safety / EAC / cULus Listed

Ex Approvals

Approval details

UL Listed




<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>

FILE E 140324

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Approvals

cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 140324
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Functional Safety			01/205/5151.03/17
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EAC			RU C- DE.A*30.B.01082
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cULus Listed			
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