

# PSR-M-EM1-PROX2-PI - Extension module



1104988

<https://www.phoenixcontact.com/us/products/1104988>

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Safe extension module for monitoring zero-speed and speed, monitoring of 2 axes, suitable for NPN/PNP proximity switch, TBUS interface, up to SIL 3, Cat. 4/PL e, pluggable Push-in terminal block, TBUS connector included

## Product description

The configurable and individually scalable PSRmodular safety system is a flexible safety solution for monitoring your machine or system. The safe extension module is used to monitor downtimes and speed. The module is suitable for connection of NPN/PNP proximity switches.

## Your advantages

- Cost-effective safety solution with a high level of adaptability to individual requirements
- Fast startup, thanks to easy hardware and software configuration
- Machine downtimes minimized with comprehensive, easy-to-understand diagnostics
- Tool-free and time-saving installation thanks to Push-in technology
- Narrow housing width of just 22.6 mm
- Up to Cat. 4/PL e in accordance with EN ISO 13849-1, SIL 3 in accordance with EN IEC 62061, SIL 3 in accordance with IEC 61508
- Suitable for elevator applications in accordance with EN 81-20

## Commercial data

Item number	1104988
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN02
Product key	DNA363
GTIN	4055626971742
Weight per piece (including packing)	154.5 g
Weight per piece (excluding packing)	154.5 g
Customs tariff number	85371098
Country of origin	IT

## Technical data

### Product properties

Product type	Safety device
Application	Over-speed safety relay
	Zero-speed safety relay

### Insulation characteristics

Protection class	III
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### Times

Response time	see user manual
Restart time	min. 5 s (Boot time)
	max. 10 s (Boot time)

### Electrical properties

Maximum power dissipation for nominal condition	2.18 W ( $U_B = 28,8 \text{ V}$ , $IN1 = IN2 = 50 \text{ mA}$ )
Nominal operating mode	100% operating factor
Interfaces	DIN rail TBUS for connection to the master module, supplied as standard
	Proximity switches

### Air clearances and creepage distances between the power circuits

Rated insulation voltage	250 V AC
Rated surge voltage/insulation	Basic insulation 4 kV between 24 V power supply and I/Os to the housing

### Supply

Designation	A1/A2
Rated control circuit supply voltage $U_S$	19.2 V DC ... 28.8 V DC
Rated control circuit supply voltage $U_S$	24 V DC -20 % / +20 % (provide external protection, typically 200 mA)
Rated control supply current $I_S$	typ. 35 mA
Power consumption at $U_S$	typ. 0.84 W
Inrush current	3.5 A ( $\Delta t = 1 \text{ ms}$ at $U_S$ )
Filter time	typ. 20 ms (at A1 in the event of voltage dips at $U_S$ )
Protective circuit	Serial protection against polarity reversal
	Suppressor diode

### Input data

#### Measurement

Input name	Proximity switch inputs
	IN1, IN2
Description of the input	NPN / PNP (3- or 4-wire)
Number of inputs	2
Input voltage range "0" signal	0 V DC ... 5 V DC (NPN)

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	16 V DC ... 28.8 V DC (PNP)
Input voltage range "1" signal	16 V DC ... 28.8 V DC (NPN)
	0 V DC ... 5 V DC (PNP)
Input current range "0" signal	< 2 mA (NPN)
Precision	5 % (in reference to the parameterized limit value)
Limit frequency	max. 5 kHz
Max. permissible overall conductor resistance	150 $\Omega$
Protective circuit	Suppressor diode
Current consumption	typ. 13 mA (NPN, at $U_S$ )
	typ. -13 mA (PNP, at $U_S$ )
	max. 17 mA (NPN, at 28.8 V DC)
	max. -15 mA (PNP, at 28.8 V DC)

## Output data

Digital: Proximity switch supply (24V/0V)

Short-circuit protection	no
Nominal output voltage range	16.7 V DC ... 26.3 V DC ( $U_S - 2,5$ V)

## Connection data

Connection technology

pluggable	yes
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Conductor connection

Connection method	Push-in connection
Conductor cross section rigid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 14
Stripping length	10 mm

## Signaling

Status display	4 x LED (yellow), 1 x LED (green), 2 x LED (orange)
Operating voltage display	1 x green LED
Error indication	2 x LED (red)

## Dimensions

Width	22.61 mm
Height	107.74 mm
Depth	113.6 mm

## Material specifications

Color (Housing)	yellow (RAL 1018)
Housing material	Polyamide PA non-reinforced

## Characteristics

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Safety data: EN ISO 13849

Category	3
Performance level (PL)	e

Safety data: IEC 61508 - High demand

Safety Integrity Level (SIL)	3
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Safety data: EN IEC 62061

Safety Integrity Level (SIL)	3
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## Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Min. degree of protection of inst. location	IP54
Ambient temperature (operation)	-10 °C ... 55 °C (observe derating)
Ambient temperature (storage/transport)	-20 °C ... 85 °C
Maximum altitude	≤ 2000 m (Above sea level)
Max. permissible humidity (storage/transport)	95 % (non-condensing)
Max. permissible relative humidity (operation)	95 % (non-condensing)
Shock	10g for $\Delta t = 16$ ms (continuous shock, 1000 shocks in each space direction)
Vibration (operation)	10 Hz ... 150 Hz, 2g

## Approvals

CE

Identification	CE-compliant
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## Mounting

Mounting type	DIN rail mounting
Assembly note	Observe derating
Mounting position	vertical or horizontal

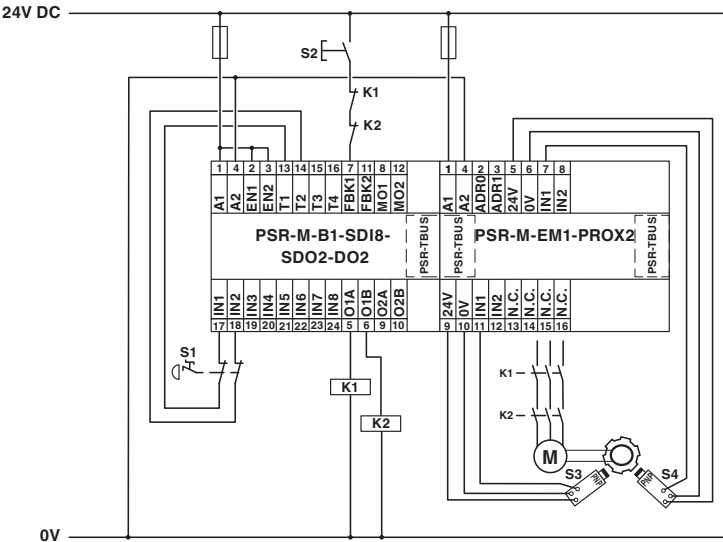
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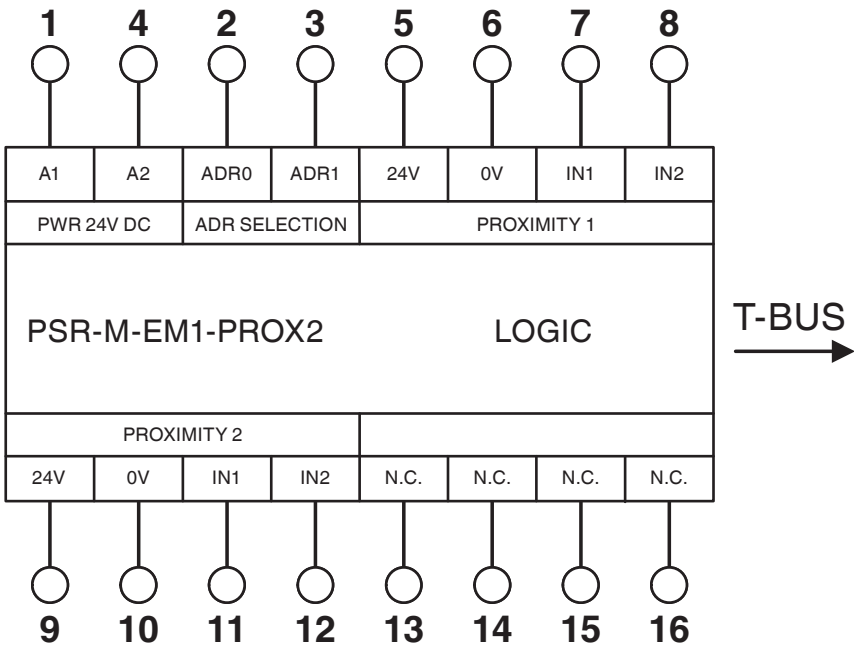
Drawings

Application drawing



Example application

Block diagram



Block diagram

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## Approvals


To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1104988>




**UL Listed**  
Approval ID: FILE E 238705



**cUL Listed**  
Approval ID: FILE E 238705



**EAC**  
Approval ID: RU\*-DE\*B.00606/20



**Functional Safety**  
Approval ID: Z10 029429 0013

**cULus Listed**

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## Classifications

### ECLASS

ECLASS-11.0	27371819
ECLASS-13.0	27371819
ECLASS-12.0	27371819

### ETIM

ETIM 8.0	EC001449
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### UNSPSC

UNSPSC 21.0	39122200
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Environmental product compliance

EU RoHS	
Fulfills EU RoHS substance requirements	Yes, No exemptions
China RoHS	
Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits
EU REACH SVHC	
REACH candidate substance (CAS No.)	No substance above 0.1 wt%

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## Accessories

### CP-MSTB - Coding profile

1734634

<https://www.phoenixcontact.com/us/products/1734634>

Coding profile, is inserted into the slot on the plug or inverted header, red insulating material



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### CR-MSTB - Coding section

1734401

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Coding section, inserted into the recess in the header or the inverted plug, red insulating material



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## CRIMPFOX 6 - Crimping pliers

1212034

<https://www.phoenixcontact.com/us/products/1212034>



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm<sup>2</sup> ... 6.0 mm<sup>2</sup>, lateral entry, trapezoidal crimp

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