

PSR-M-EF6-SDOR4-SC - Extension module



1104982

<https://www.phoenixcontact.com/us/products/1104982>

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Safe extension module with 4 safe relay outputs, 4 reset inputs, TBUS interface, up to SIL 3, Cat. 4/PL e, pluggable screw 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 provides the system with additional safe relay outputs.

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
- Low housing width of just 22.6 mm
- Up to Cat. 4/PL e in accordance with 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	1104982
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN02
Product key	DNA362
GTIN	4055626971278
Weight per piece (including packing)	242.7 g
Weight per piece (excluding packing)	204 g
Customs tariff number	85371098
Country of origin	IT

Technical data

Notes

Note on application

Note on application	Only for industrial use
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Product properties

Product type	Safety device
Application	Safe shutdown
Control	1 and 2 channel

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	7.07 W
Nominal operating mode	100% operating factor
Interfaces	DIN rail TBUS for connection to the master module, supplied as standard

Air clearances and creepage distances

Rated surge voltage/insulation	Basic insulation 4 kV between all current paths and housing
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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 % (external fuse, typically 4 A)
Rated control supply current I_S	typ. 120 mA
Power consumption at U_S	typ. 2.88 W
Inrush current	2 A ($\Delta t = 1$ ms at U_S)
Filter time	typ. 5 ms (at A1 in the event of voltage dips at U_S)
Protective circuit	Serial protection against polarity reversal

Input data

Digital: Reset inputs (FBK1, FBK2, FBK3, FBK4)

Description of the input	IEC 61131-2 type 3
Number of inputs	4
Input voltage range "0" signal	0 V DC ... 5 V DC
Input voltage range "1" signal	11 V DC ... 28.8 V DC
Input current range "0" signal	< 1 mA

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Filter time	250 ms $\pm$ 2 ms (Test pulse rate > 500 ms)
Cable length	max. 100 m (per input)
Max. permissible overall conductor resistance	1.2 k Ω (Input and reset circuit at U_S)
Current consumption	typ. 10 mA (typ. with U_S)
	max. 13 mA (at a control voltage of 28.8 V DC)

Output data

Relay: Enabling current paths (13_NO1/14_NO1, 23_NO2/24_NO2, 33_NO3/34_NO3, 43_NO4/44_NO4)

Output description	safety-related N/O contacts
Number of outputs	4 (1 NO per output)
Contact switching type	4 safe outputs
Switching voltage	min. 10 V AC/DC
	max. 250 V AC/DC (Observe the load curve)
Switching capacity	min. 200 mW
Inrush current	min. 20 mA
	max. 6 A
Switching capacity in accordance with IEC 60947-5-1	3 A (250 V (AC15))
	2 A (24 V (DC13))
Limiting continuous current	4 A (observe derating)
Sq. Total current	64 A ² (for 4x single-channel, observe derating)
	32 A ² (for 2x two-channel, observe derating)
Switching frequency	0.5 Hz
Mechanical service life	40x 10 ⁶ switching cycles
Output fuse	4 A gL/gG

Connection data

Connection technology

pluggable	yes
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Conductor connection

Connection method	Screw connection
Conductor cross section rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross-section AWG	24 ... 12
Stripping length	7 mm
Screw thread	M3
Tightening torque	0.5 Nm ... 0.6 Nm

Signaling

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

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Dimensions

Width	22.61 mm
Height	112.58 mm
Depth	113.6 mm

Material specifications

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

Characteristics

Safety data

Stop category	0
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Safety data: EN ISO 13849

Performance level (PL)	e (2-channel wiring) c (1-channel wiring)
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Safety data: IEC 61508 - High-demand for 2-channel wiring

Safety Integrity Level (SIL)	3
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Safety data: IEC 61508 - High-demand for 1-channel wiring

Safety Integrity Level (SIL)	1
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Safety data: EN IEC 62061

Safety Integrity Level (SIL)	3 (2-channel wiring) 1 (1-channel wiring)
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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, amplitude 0.15 mm, 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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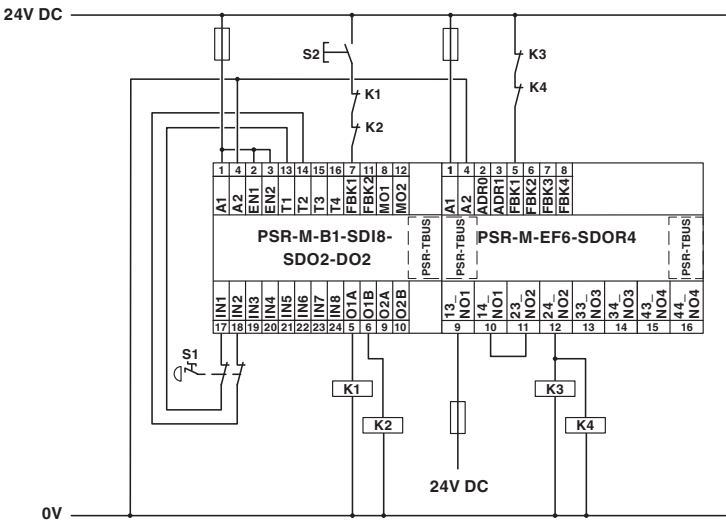
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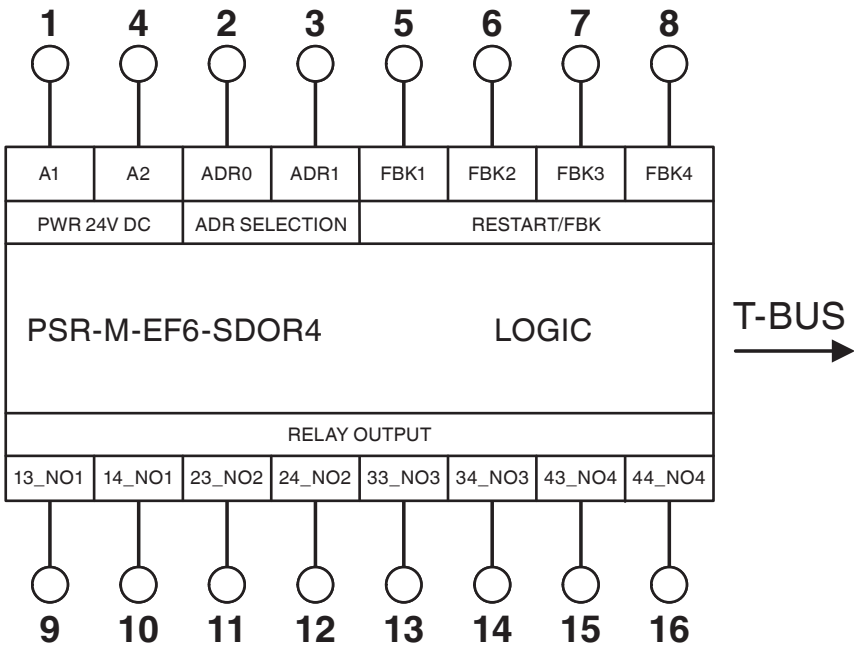
Drawings

Application drawing



Example application

Block diagram



Block diagram

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Approvals

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Functional Safety

Approval ID: Z10 029429 0013



cULus Listed

Approval ID: E238705

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Classifications

ECLASS

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

ETIM

ETIM 9.0	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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