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

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
- Narrow housing width of just 22.6 mm
- Up to Cat. 4/PL e in accordance with ISO 13849-1, SIL 3 in accordance with 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
Note	Made to Order (non-returnable)
Sales Key	C18
Product Key	DNA362
GTIN	4055626971278
Weight per Piece (including packing)	239 g
Weight per Piece (excluding packing)	204 g
Customs tariff number	85371098
Country of origin	IT

Technical Data

Product properties

Product type	Safety device
Application	Safe shutdown

Insulation characteristics

Protection class	III
Overvoltage category	II

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
Rated insulation voltage	250 V AC
Rated surge voltage/insulation	Basic insulation 4 kV between all current paths and 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 % (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 (Δt = 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
	Suppressor diode

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
Filter time	250 ms ±2 ms (Test pulse rate > 500 ms)
Cable length	max. 100 m (per input)
Max. permissible overall conductor resistance	1.2 kΩ (Input and reset circuit at U_S)
Protective circuit	Suppressor diode

Current consumption	typ. 10 mA (typically 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 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 according to 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

Conductor connection

Connection method	Screw connection
Conductor cross section solid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross-section AWG	24 ... 12
Stripping length	7 mm
Screw thread	M3
Tightening torque	0.5 Nm ... 0.6 Nm

LED 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 green LED
Error indication	2 x LED (red)

Dimensions

Width	22.61 mm

Height	112.58 mm
Depth	113.6 mm

Material specifications

Housing material	Polyamide PA non-reinforced
Housing color	yellow

Characteristics

Safety data

Stop category	0

Safety data: EN ISO 13849

Performance level (PL)	e (2-channel wiring)
	c (1-channel wiring)

Safety data: IEC 61508 - High-demand for 2-channel wiring

Equipment type	Type B
Safety Integrity Level (SIL)	3
Probability of a hazardous failure per hour (PFH_D)	$1{,}61 \times 10^{-8}$ (3 A AC15, 8760 switching cycles/year)
Proof test interval	240 Months
Duration of use	240 Months
Integrity requirement	IEC 61508 - High-demand for 1-channel wiring
Equipment type	Type B
Safety Integrity Level (SIL)	1
Probability of a hazardous failure per hour (PFH_D)	$3{,}36 \times 10^{-7}$ (3 A AC15, 8760 switching cycles/year)
Proof test interval	240 Months
Duration of use	240 Months

Environmental and real-life conditions

Ambient conditions

Degree of protection	IP20
Min. degree of protection of inst. location	IP54

Approval data

CE

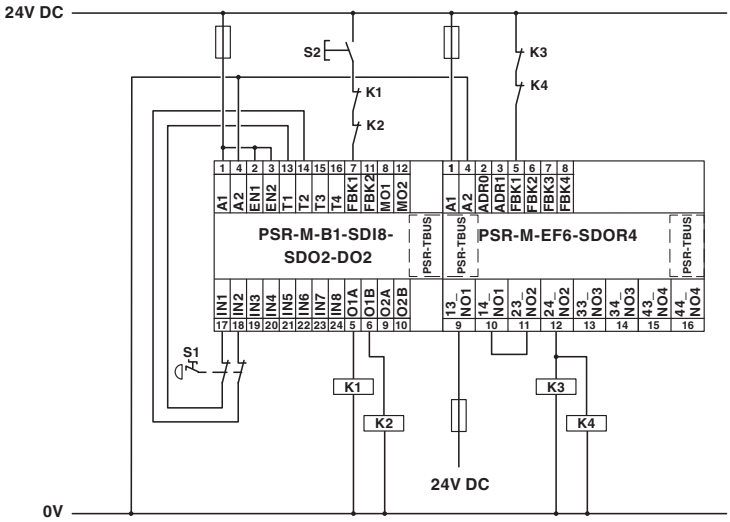
Certificate	CE-compliant

Mounting

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

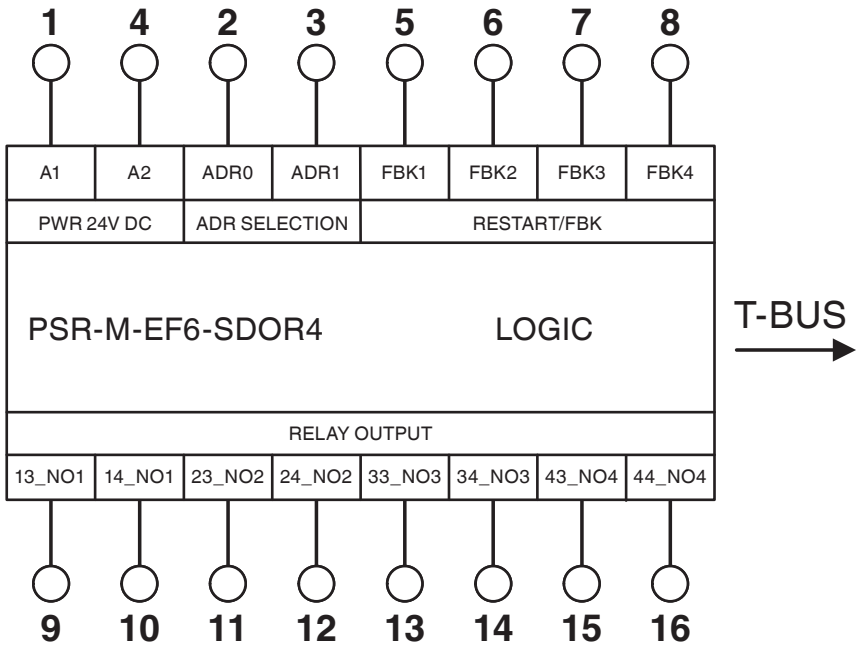
Drawings

Application drawing



Example application

Block diagram



Block diagram

Approvals

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

Classifications

ECLASS

ECLASS-9.0	27371819
ECLASS-10.0.1	27371819
ECLASS-11.0	27371819

ETIM

ETIM 8.0	EC001449

UNSPSC

UNSPSC 21.0	39122200

Environmental Product Compliance

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

Accessories

Coding profile

Coding profile - CP-MSTB - 1734634

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

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



Coding section

Coding section - CR-MSTB - 1734401

https://www.phoenixcontact.com/us/products/1734401

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



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