

PSR-M-EF7-SAI4-SC - Extension module

1104985

<https://www.phoenixcontact.com/us/products/1104985>



Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



Safe extension module with 4 safe analog inputs, 0 V ... 10 V; 0 mA or 4 mA ... 20 mA; TBUS interface, up to Cat. 4/PL e, SIL 3, plug-in 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 analog inputs.

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	1104985
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DN02
Product key	DNA362
GTIN	4055626971063
Weight per piece (including packing)	208 g
Weight per piece (excluding packing)	160 g
Customs tariff number	85371098
Country of origin	IT

PSR-M-EF7-SAI4-SC - Extension module

1104985

<https://www.phoenixcontact.com/us/products/1104985>



Technical data

Notes

Note on application

Note on application

Only for industrial use

Product properties

Product type	Safety device
Application	Analog IN
Control	1 and 2 channel

Insulation characteristics

Protection class	III
------------------	-----

Insulation characteristics

Overvoltage category	II
Degree of pollution	2

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	2.76 W (with max. permissible load)
Nominal operating mode	100% operating factor
Interfaces	DIN rail TBUS for connection to the master module, supplied as standard
Rated surge voltage/insulation	Basic insulation 4 kV between all current paths and housing
	Electrical isolation, 0.5 kV functional insulation between logic and analog inputs and between the analog inputs

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 6 A)
Rated control supply current I_S	typ. 82 mA (without sensor supply)
	typ. 212 mA (with sensor supply)
Power consumption at U_S	typ. 1.96 W (without sensor supply)
	typ. 5.08 W (with sensor supply)
Inrush current	max. 14 A ($\Delta t = 1$ ms at U_S)
Filter time	typ. 5 ms (in the event of voltage dips at U_S)
Protective circuit	Serial protection against polarity reversal

Input data

PSR-M-EF7-SAI4-SC - Extension module

1104985

<https://www.phoenixcontact.com/us/products/1104985>



Analog

Input name	IN S1, IN S2, IN S3, IN S4
Description of the input	Safety-oriented analog inputs, configurable as current or voltage inputs, galvanically isolated
Number of inputs	4
Connection technology	2-conductor, 3-conductor or 4-conductor (2-conductor sensor signal + 2-conductor sensor supply)
Note regarding the connection technology	shielded
Scanning rate	2.5/10/16.6/20/50/60/100/200/400/800/1000/2000/4000 Hz
Current input signal	0 mA ... 25 mA (Measuring range) 0 mA ... 20 mA (Configurable measuring range with diagnostics range 20.1 mA ... 23 mA)
	4 mA ... 20 mA (Configurable measuring range with diagnostics range 20.1 mA ... 23 mA (upper limit), 2.5 mA ... 3.8 mA (lower limit))
Voltage input signal	0 V ... 12 V (Measuring range) 0 V ... 10 V (Configurable measuring range with diagnostics range 10.05 V ... 11.5 V (upper limit), 0.1 V (lower limit))
Max. permissible current	max. 35 mA (as current input)
Permissible voltage	max. 24 V (as current input) max. 14 V (as voltage input)
Input resistance current input	290 Ω ±25 % (incl. internal protective circuit)
Input resistance of voltage input	185 kΩ ±25 %
A/D converter resolution	16 bit
Resolution (current)	381 nA
Resolution (voltage)	152 μV
Precision	typ. ± 2 % (as current input, relative to the measuring range final value) max. ± 2.5 % (as current input) typ. ± 1 % (as voltage input, relative to the measuring range final value) max. ± 1.5 % (as voltage input)
Temperature coefficients	typ. ± 0.07 %/K max. ± 0.07 %/K
Limit frequency (3 dB)	160 Hz (RC low pass, 1st order, as current input) 4 Hz (RC low pass, as voltage input)
Frequency	see user manual
Permissible cable length	max. 100 m (per input)
Protective circuit	Overload protection of the current inputs Overload protection of the voltage inputs

Output data

Sensor supply: OUT S1/0V ...OUT S4/0V

Description	Sensor supply voltage per analog input
Supply voltage	24 V DC ±3 %

PSR-M-EF7-SAI4-SC - Extension module



1104985

<https://www.phoenixcontact.com/us/products/1104985>

Current	max. 30 mA (Sensor current recording per channel)
Short-circuit-proof	yes
Protective circuit	Overload protection Overload detection at $\geq 125\text{ mA}$

Connection data

Connection technology	
pluggable	yes

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, red)
Operating voltage display	1 x LED (green)

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

Safety data: EN ISO 13849	
Performance level (PL)	e (2-channel wiring) d (1-channel wiring)

Safety data: IEC 61508 - High-demand for 2-channel wiring	
Safety Integrity Level (SIL)	3

Safety data: IEC 61508 - High-demand for 1-channel wiring	
Safety Integrity Level (SIL)	2

Safety data: EN IEC 62061	
Safety Integrity Level (SIL)	3 (2-channel wiring)

PSR-M-EF7-SAI4-SC - Extension module

1104985

<https://www.phoenixcontact.com/us/products/1104985>



2 (1-channel wiring)

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
----------------	--------------

Mounting

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

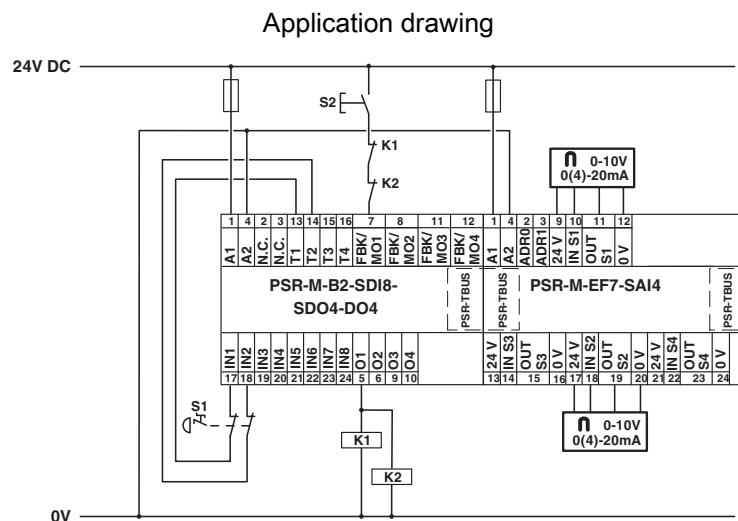
PSR-M-EF7-SAI4-SC - Extension module

1104985

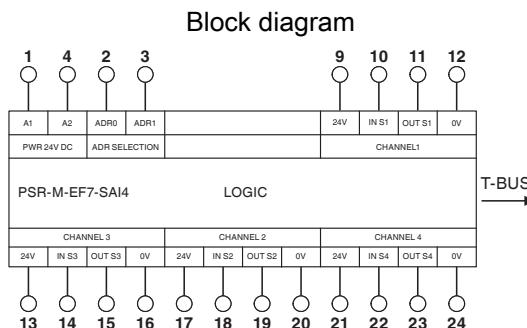


<https://www.phoenixcontact.com/us/products/1104985>

Drawings



Example application



Block diagram

PSR-M-EF7-SAI4-SC - Extension module

1104985

<https://www.phoenixcontact.com/us/products/1104985>



Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1104985>



Functional Safety

Approval ID: Z10029429 0013Rev.02

PSR-M-EF7-SAI4-SC - Extension module

1104985

<https://www.phoenixcontact.com/us/products/1104985>



Classifications

ECLASS

ECLASS-13.0	27371819
ECLASS-15.0	27371819
ECLASS-15.0 ASSET	27250101

ETIM

ETIM 9.0	EC001449
----------	----------

UNSPSC

UNSPSC 21.0	39122200
-------------	----------

PSR-M-EF7-SAI4-SC - Extension module

1104985

<https://www.phoenixcontact.com/us/products/1104985>



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%
-------------------------------------	----------------------------

Phoenix Contact 2025 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com