PSR-M-B2-XC-SDI8-SDO4-DO4-PI - Safety module

1337849

https://www.phoenixcontact.com/in/products/1337849

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.

Configurable safety module (basic module), 8 safe inputs, 4 safe outputs, 4 reset inputs or 4 signal outputs, 4 clock outputs, can be extended via TBUS, up to SIL 3, Cat. 4/PL e, plug-in Push-in terminal block, TBUS connector not included

Product description

The configurable and individually scalable PSRmodular safety system is a flexible safety solution for monitoring your machine or system. The freely configurable base module is used to monitor various pieces of safety equipment such as emergency stop, safety doors, and light grids. The base module has safe inputs and outputs, as well as signal outputs and clock 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
- Flexible extension with safe inputs and outputs
- Possibility of connecting fieldbus gateways for bidirectional communication between the base module and the higher-level controller
- Low housing width of just 22.6 mm
- Tool-free and time-saving installation thanks to Push-in technology
- 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
- Corrosion protection through protective coating on the PCB

Commercial data

Item number	1337849
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	*****
Product key	DNA361
GTIN	4063151640835
Weight per piece (including packing)	186.3 g
Weight per piece (excluding packing)	159 g
Customs tariff number	85371098
Country of origin	IT

Technical data

Notes

Note on application

Note on application	Only for industrial use

Product properties

Product type	Safety device
Application	Emergency stop
	Light grid
	Safety door
	Safe shutdown
Control	1 and 2 channel

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	7.48 W (with max. permissible load)
Nominal operating mode	100% operating factor
Interfaces	DIN rail TBUS for connection to the master module, not supplied as standard

Air clearances and creepage distances between the power circuits

Rated surge voltage/insulation	See section “Insulation coordination”

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. 55 mA (Outputs inactive)
Power consumption at U_S	typ. 1.32 W (Outputs inactive)
Inrush current	9.16 A (Δt = 0.5 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

Digital: IN1, IN2, IN3, IN4, IN5, IN6, IN7, IN8

Description of the input	Safety-related digital inputs
	NPN
Number of inputs	8
Input voltage range "0" signal	0 V DC ... 5 V DC (for safe Off)

Input voltage range "1" signal	11 V DC ... 28.8 V DC
Input current range "0" signal	< 0.2 mA
Inrush current	max. 524 mA (Δt = 6 µs at U_s)
Filter time	min. 3 ms (adjustable)
	max. 250 ms (adjustable)
	Test pulse rate ≥ 2x set filter time, min. Test pulse rate = 10 ms
	max. 3 ms (Test pulse rate ≥ 10x configured filter time for low test pulse)
	max. 250 ms (Test pulse rate ≥ 10x configured filter time for high test pulse)
Cable length	max. 100 m
Max. permissible overall conductor resistance	max. 1.2 kΩ (Input and reset circuit at U_S)
Current consumption	typ. 3.7 mA (typ. with U_S)
	max. 4.6 mA (at a control voltage of 28.8 V DC)

Digital: Reset inputs (FBK)

Description of the input	configurable (as signal output or reset input)
	NPN, digital
Number of inputs	4
Input voltage range "0" signal	0 V DC ... 5 V DC (for safe Off)
Input voltage range "1" signal	11 V DC ... 28.8 V DC
Input current range "0" signal	< 0.2 mA
Inrush current	max. 906.53 mA (Δt = 10 µs at U_s)
Filter time	250 ms (constant)
	< 250 ms (Test pulse duration)
	> 1 s (Test pulse rate)
Cable length	max. 100 m
Max. permissible overall conductor resistance	1.2 kΩ (Input and reset circuit at U_S)
Current consumption	typ. 5.7 mA (typ. with U_S)
	max. 7 mA (at a control voltage of 28.8 V DC)

Output data

Digital: O1, O2, O3, O4

Output description	Safety-related digital outputs
	PNP, OSSD, digital
	IEC 61131-2 type 0.25 (observe limiting continuous current)
Number of outputs	4
Short-circuit protection	no
Output voltage	< 0.3 V (Low state)
Leakage current	< 500 µA (Low state)
Cable length	max. 100 m
Max. capacitive load	max. 820 nF
Max. inductive load	See "Protective circuit"
Limiting continuous current	400 mA (per channel)

	1.6 A (Total current of all safe digital outputs)
Inrush current	max. 600 mA (Δt = 25 ms at U_s)
Nominal output voltage	24 V DC (Supply via A1)
Nominal output voltage range	18.6 V DC ... 28.2 V DC (U_S - 0,7 V)
Switching frequency	max. 1/4 x t_{Cycle} [Hz]
Test pulses	< 235 µs (Test pulse width of low test pulses)
	≥ 650 ms (Test pulse rate for low test pulse)
	< 150 µs (Test pulse width, high test pulse)
	≥ 1.5 s (Test pulse rate, high test pulse)
Discharging circuit	Yes, internal

Signal: MO1, MO2, MO3, MO4

Output description	PNP, digital, IEC 61131-2 type 0.1
	non-safety-related, configurable (as signal output or reset input)
Number of outputs	4
Output voltage when switched off	max. 0.1 V
Voltage	24 V DC (via A1)
Maximum inrush current	1.1 A (Δt = 3 s at U_s)
Limiting continuous current	100 mA (per channel)
	400 mA (Total current of all digital signal outputs)
Leakage current	max. 4.5 mA (Low state)
Switching frequency	max. 1/4 x t_{Cycle} [Hz]
Short-circuit protection	Yes (self-limitation at 1.1 A)
Cable length	max. 100 m

Clock: T1, T2, T3, T4

Output description	PNP, digital, IEC 61131-2 type 0.1
Number of outputs	4
Voltage	24 V DC (via A1)
Maximum inrush current	1.1 A (Δt = 3 s at U_s)
Limiting continuous current	100 mA (per channel)
	400 mA (Total current of all outputs)
Test pulses	≤ 200 µs (Test pulse duration)
	Test pulse rate = 8 x t_{Cycle} [ms]
Short-circuit protection	Yes (self-limitation at 1.1 A)
Cable length	max. 100 m
Max. capacitive load	max. 470 nF
Max. inductive load	max. 2.4 mH
Discharging circuit	Yes, internal

Connection data

Connection technology

pluggable	yes

Conductor connection

Connection method	Push-in connection
Conductor cross section rigid	0.2 mm² ... 2.5 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross-section AWG	24 ... 14
Stripping length	10 mm

Interfaces

Data: Service interface

Connection method	USB 2.0 Hi-Speed
Number of connections	1

Data: Local bus

Note	via the PSR-TBUS DIN rail connector

Signaling

Status display	1 x LED (green), 1 x LED (orange), 1 x LED (blue)
	4 x LED (green, yellow, red)
	12 x LED (yellow)
Operating voltage display	1 x LED (green)
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

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

Safety Integrity Level (SIL)	2

Safety data: EN IEC 62061

Safety Integrity Level (SIL)	3 (2-channel wiring)

	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 ... 70 °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 Δt = 16 ms (continuous shock, 1000 shocks in each space direction)
Vibration (operation)	10 Hz ... 150 Hz, 2g

Approvals

CE

Identification	CE-compliant

Environmental simulation test

Identification	ISA-S71.04
Note	G3

DNV

Identification	C, EMC2
Certificate	XXX

Mounting

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

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/in/products/1337849

DNV
Approval ID: TAA000039N

cULus Listed
Approval ID: E238705

Classifications

ECLASS

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

ETIM

ETIM 9.0	EC001449

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%

Accessories

CP-MSTB - Coding profile

1734634

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

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

CR-MSTB - Coding section

1734401

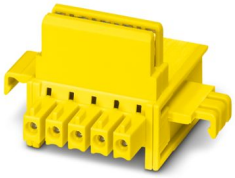
https://www.phoenixcontact.com/in/products/1734401

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

ME 22,5 TBUS 1,5/ 5-ST-3,81 YE - DIN rail bus connectors

2200244

https://www.phoenixcontact.com/in/products/2200244

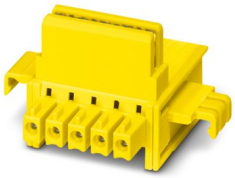


DIN rail connector, color: yellow, nominal current: 8 A (parallel contacts), rated voltage (III/2): 125 V, number of positions: 5, product range: TBUS5-22,5.., pitch: 3.81 mm, mounting: DIN rail mounting, locking: without, mounting method: without, type of packaging: packed in cardboard, Item with gold-plated contacts, bus connectors for connecting with electronics housings, 5 parallel contacts

ME 22,5 TBUS 1,5/ 5-ST-3,81 YE - 1PCS - DIN rail bus connectors

1225375

https://www.phoenixcontact.com/in/products/1225375



DIN rail connector, nominal current: 8 A (parallel contacts), rated voltage (III/2): 125 V, number of positions: 5, pitch: 3.81 mm, color: yellow, mounting: DIN rail, item with gold-plated contacts, bus connector for connecting to electronics housings, 5 parallel contacts

PSR-M-MEMORY - Configuration memory

1105142

https://www.phoenixcontact.com/in/products/1105142

Optional memory block for the PSRmodular system for easy storage and backup of configuration data. When using the PSR-M-B3 base module, use the memory card from item revision 1105142-1.

PSR-FTB/1.5/11.5 - Filter terminal block

2904476

https://www.phoenixcontact.com/in/products/2904476

Terminal block for filtering test pulses from safe semiconductor outputs with adjustable filter values (1.5 µF/11.5 µF), as well as for EMC filtering of 24 V signals up to an amperage of 2 A.

PSR-FTB/20/86 - Filter terminal block

2904477

https://www.phoenixcontact.com/in/products/2904477

Terminal block for filtering test pulses from safe semiconductor outputs with adjustable filter values (20 µF/86 µF), as well as for EMC filtering of 24 V signals up to an amperage of 2 A.

CRIMPFOX 6 - Crimping pliers

1212034

https://www.phoenixcontact.com/in/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^2 ... 6.0 mm^2, lateral entry, trapezoidal crimp

EBP 2- 5 - Insertion bridge

1733169

https://www.phoenixcontact.com/in/products/1733169

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

PHOENIX CONTACT (I) Pvt. Ltd.
A-58/2, Okhla Industrial Area, Phase - II, New Delhi-110 020

+91.1275.71420
info@phoenixcontact.co.in