IB IL 24 PSDI 8-PAC - Safety module

2985688

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CRA-READY



Safety-related digital input module, IP20 protection, for the SafetyBridge, INTERBUS-Safety, and PROFIsafe system. The module has 4 safe digital inputs for two-channel assignment or 8 safe digital inputs for single-channel assignment.

Product description

The safety module is an input module from the Inline product range designed for use at any point within a SafetyBridge, INTERBUS-Safety or PROFIsafe system. The transmission speed of the safety module can be set to 500 kBaud or 2 Mbaud using a switch. One transmission speed must be used consistently within a station. The module has four safe digital inputs for two-channel assignment or eight digital inputs for single-channel assignment.

Your advantages

- SIL 3 according to IEC/EN 61508
- SIL 3 in accordance with EN IEC 62061
- PL e in accordance with EN ISO 13849-1

ELEKTROGERÄTE RÜCKNAHME

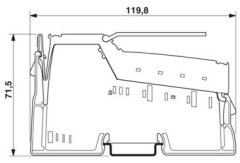
Commercial data

Item number	2985688
Packing unit	1 pc
Minimum order quantity	1 pc

Sales key	DN03
Product key	DNA421
GTIN	4046356131582
Weight per piece (including packing)	350.5 g
Weight per piece (excluding packing)	349.4 g
Customs tariff number	85389091
Country of origin	DE

Technical data

Dimensions

Dimensional drawing	
Width	48.8 mm
Height	119.8 mm
Depth	71.5 mm
Note on dimensions	Housing dimensions

Notes

Note on application

Note on application	Only for industrial use
Note on application	As things stand now, we are preparing the product so that, as of December 11, 2027, it will comply with the requirements of the EU Cyber Resilience Act (CRA) based on the information currently available regarding the CRA.

Mounting

Mounting type	DIN rail mounting

Material specifications

Color (Housing)	yellow (RAL 1018)
Material	PBT
Flammability rating according to UL 94	V-0

Interfaces

Inline local bus

No. of channels	2
Connection method	Inline data jumper
Transmission speed	500 kbps / 2 Mbps (can be switched)

System properties

Programming data

Length code (hex)	04
ID code (dec.)	163
Length code (dec)	04
Process data channel	8 Byte ((Operating mode: SafetyBridge))

Input address area	8 Byte ((Operating mode: SafetyBridge))
Output address area	8 Byte ((Operating mode: SafetyBridge))
Parameter channel (PCP)	0 Byte ((Operating mode: SafetyBridge))
Register length (bus)	8 Byte ((Operating mode: SafetyBridge))

Fieldbus data telegram

Required parameter data	1 Byte ((Operating mode: SafetyBridge))
Required configuration data	5 Byte ((Operating mode: SafetyBridge))

Input data

Digital:

Input name	Digital inputs
Description of the input	IEC 61131-2 type 3
Number of inputs	4 (for 2-channel assignment)
	8 (for 1-channel assignment)
Cable length	max. 200 m (200 m from the clock output to the safe input (total based on forward and return path))
Connection method	Spring-cage connection
Connection technology	2-, 3-, 4-conductor
Input voltage	24 V DC (via clock outputs UT1 and UT2 or external supply)
Input voltage range	-3 V DC ... 30 V DC
Input voltage range "0" signal	-3 V DC ... 5 V DC
Input voltage range "1" signal	11 V DC ... 30 V DC
Typical input current per channel	4.2 mA (at 24 V)
Typical response time	See technical data

Product properties

Product type	I/O component
Product family	Inline
Application	Functional safety
Type	modular

Electrical properties

Transmission medium	Copper

Potentials: Communications power (U_L)

Supply voltage	7.5 V DC (see safety data)
Current draw	max. 180 mA

Potentials: Main circuit supply (U_M)

Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 825 mA (see safety data)
	typ. 25 mA (plus current consumption of the inputs when supplied via the clock outputs, plus current consumption of the connected initiators when via through the clock outputs)

Supply: Module electronics

Supply voltage	24 V DC (via voltage jumper)
Supply voltage range	19.2 V DC ... 30 V DC

Electrical isolation/isolation of the voltage ranges

Test voltage: 5 V supply, incoming remote bus/7.5 V supply (bus logics)	500 V AC, 50 Hz, 1 min
Test voltage: 5 V supply, outgoing remote bus/7.5 V supply (bus logics)	500 V AC, 50 Hz, 1 min
Test voltage: 7.5 V supply (bus logics)/24 V supply (I/O)	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (I/O) / functional ground	500 V AC, 50 Hz, 1 min

Connection data

Connection technology

Connection name	Inline connector
pluggable	yes

Inline connector

Connection method	Spring-cage connection
pluggable	yes
Conductor cross-section, rigid	0.2 mm² ... 1.5 mm²
Conductor cross-section, flexible	0.2 mm² ... 1.5 mm²
Conductor cross-section AWG	24 ... 16

Environmental and real-life conditions

Ambient conditions

Ambient temperature (operation)	-25 °C ... 55 °C
Degree of protection	IP20
Air pressure (operation)	80 kPa ... 108 kPa (up to 2000 m above sea level)
Air pressure (storage/transport)	66 kPa ... 108 kPa (up to 3500 m above sea level)
Ambient temperature (storage/transport)	-25 °C ... 70 °C
Permissible humidity (operation)	10 % ... 85 % (Take suitable measures against increased air humidity within the permitted temperature range.)
Permissible humidity (storage/transport)	10 % ... 85 % (Take suitable measures against increased air humidity within the permitted temperature range.)

Standards and regulations

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

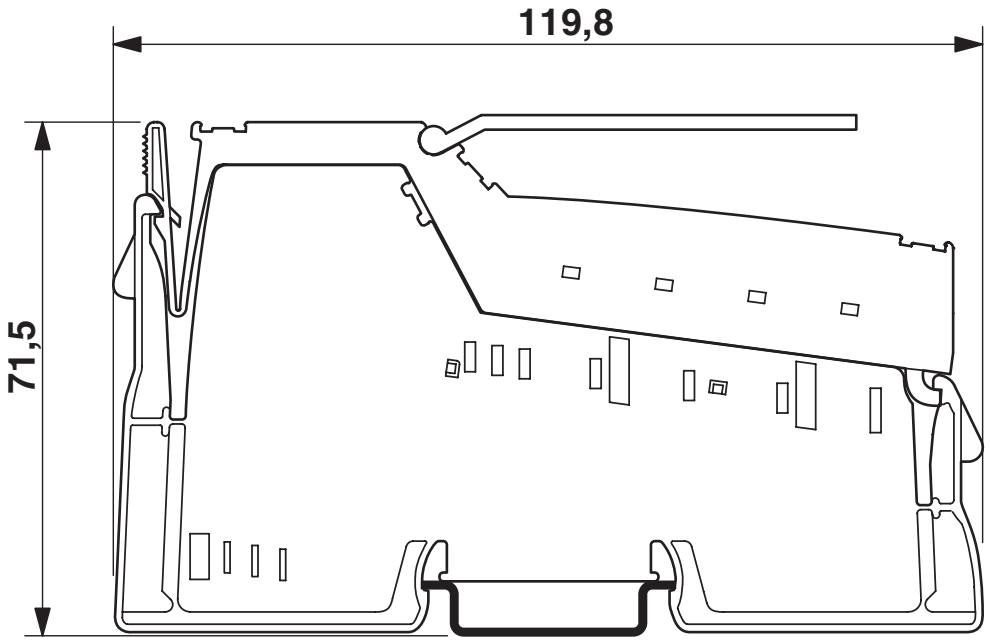
Characteristics

Safety data: EN ISO 13849

Performance level (PL)	max. e (two channel; dependent in parameterization and wiring)

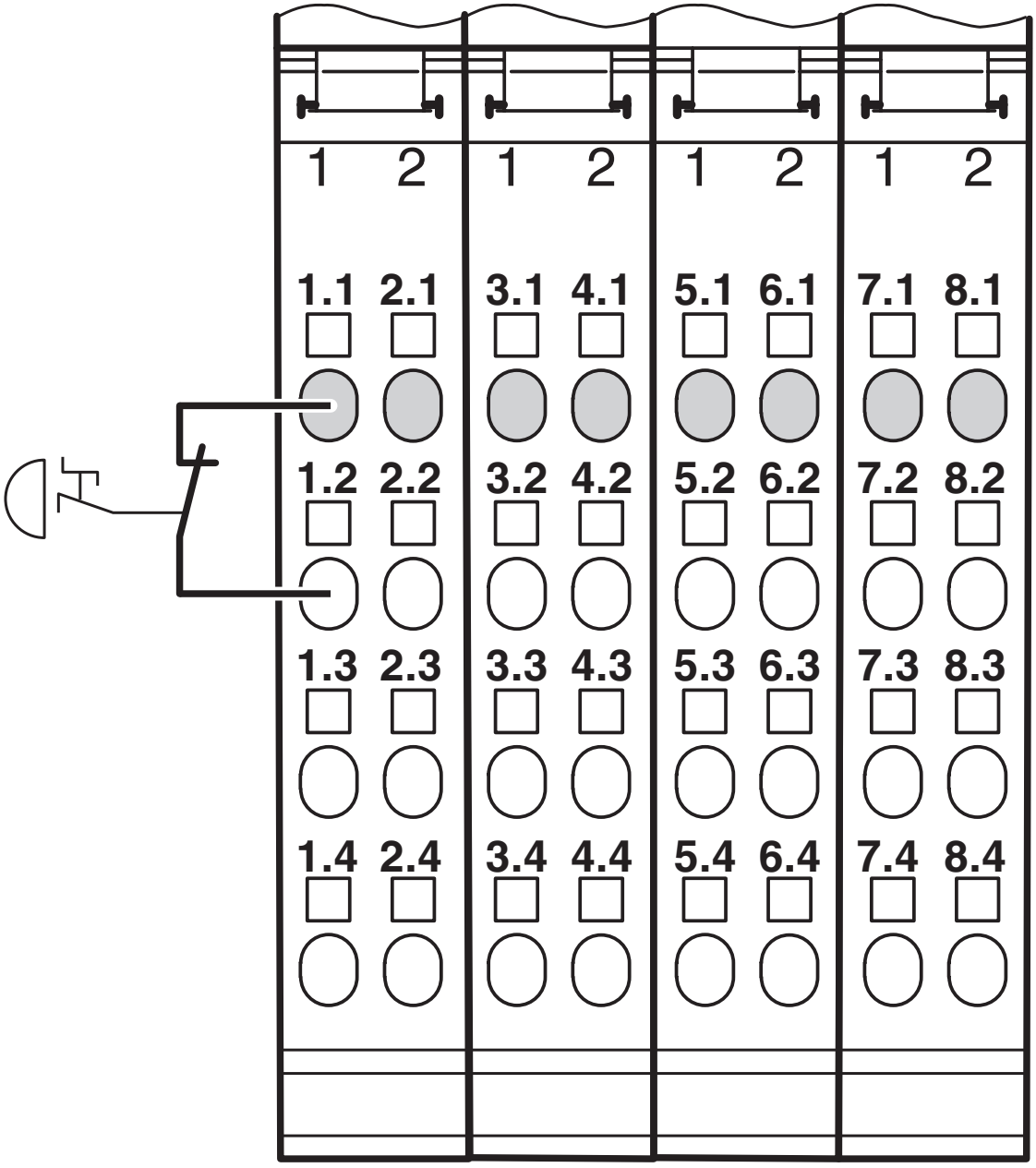
Drawings

Dimensional drawing



Dimensions (in mm)

Connection diagram



Connection example for an emergency stop circuit

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2985688

PROFIsafe
Approval ID: Z20079

cULus Listed
Approval ID: E140324

Functional Safety
Approval ID: 968/FSP 2449.00/22

TUEV RH FS
Approval ID: 968/EZ650.17/26

Classifications

ECLASS

ECLASS-13.0	27242604
ECLASS-15.0	27242604
ECLASS-15.0 ASSET	27250101

ETIM

ETIM 10.0	EC001599

UNSPSC

UNSPSC 21.0	32151600

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	aa3b175d-1dc9-4105-81b3-1536a8212398

EF3.1 Climate Change

CO2e kg	15.87 kg CO2e

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