

# Safety module - IB IL 24 PSDI 8-PAC



2985688

<https://www.phoenixcontact.com/pc/products/2985688>

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

## Commercial Data

Item number	2985688
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	DNA421
Catalog Page	Page 267 (C-6-2019)
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

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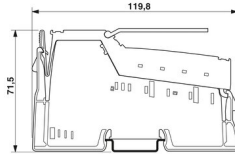


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## Technical Data

### Dimensions

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

### Material specifications

Color	yellow
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### Interfaces

#### Inline local bus

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

### System properties

#### Module

ID code (dec.)	163
ID code (hex)	A3
Length code (hex)	04
Length code (dec)	04
Process data channel	8 Byte
Input address area	8 Byte ((Operating mode: SafetyBridge))
Output address area	8 Byte ((Operating mode: SafetyBridge))
Register length	8 Byte
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)

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	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

Type	modular
Product type	I/O component
Application	Functional safety

## Electrical properties

Maximum power dissipation for nominal condition	24.12 W
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

## Connection data

### Connection technology

Connection name	Inline connector
pluggable	yes

### Conductor connection

Connection method	Spring-cage connection
Conductor cross section solid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 16

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## Inline connector

Connection method	Spring-cage connection
Conductor cross section, rigid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section, flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 16

## 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)
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## Mounting

Mounting type	DIN rail mounting
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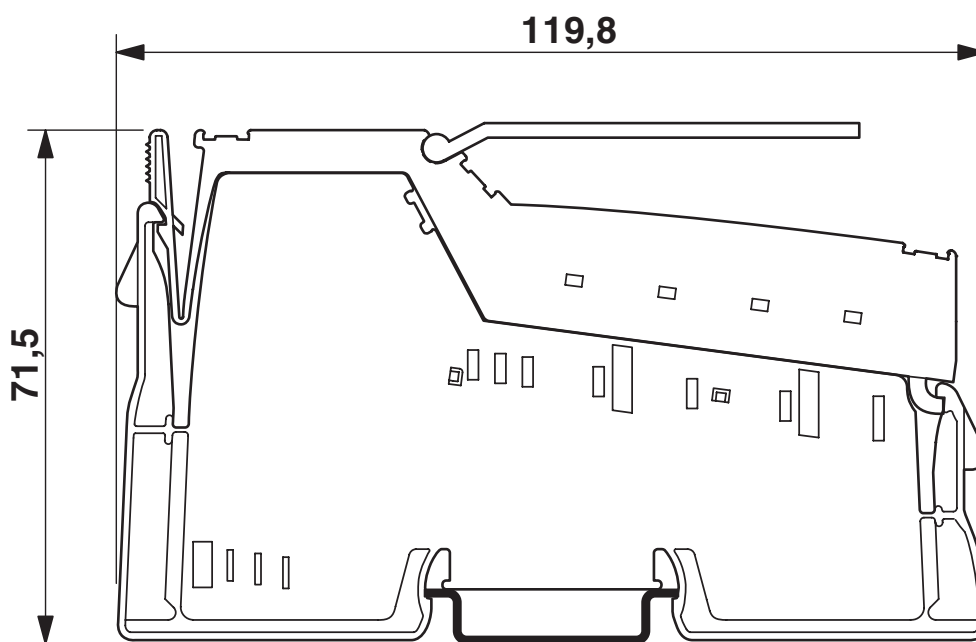


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## Drawings

Dimensional drawing



Dimensions (in mm)

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## Approvals



**UL Listed**

Approval ID: FILE E 140324



**cUL Listed**

Approval ID: FILE E 140324



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Approval ID: FILE E 140324



**UL Listed**

Approval ID: FILE E 140324



**Functional Safety**

Approval ID: 968/FSP 2449.00/22



**Functional Safety**

Approval ID: 968/FSP 2449.00/22

**PROFIsafe**

Approval ID: Z20079

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Approval ID: Z20079



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**Functional Safety**

Approval ID: 968/EZ 650.02/17



**Functional Safety**

Approval ID: 968/EZ 650.02/17

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## **PROFIsafe**

Approval ID: Z20206

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Approval ID: Z20206



## **Functional Safety**

Approval ID: 968/EZ 650.04/20



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Approval ID: 968/EZ 650.04/20

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## Classifications

### ECLASS

ECLASS-9.0	27242604
ECLASS-10.0.1	27242604
ECLASS-11.0	27242604

### ETIM

ETIM 8.0	EC001599
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### UNSPSC

UNSPSC 21.0	32151600
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## Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"

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## Accessories

### Connector set

Connector set - IB IL 24 SDI 8-PLSET/CP - 2916930

<https://www.phoenixcontact.com/pc/products/2916930>

Connector set (yellow), color coded, for safe SDI boards.



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### Labeling field

Labeling field - IB IL FIELD 2 - 2727501

<https://www.phoenixcontact.com/pc/products/2727501>

Labeling field, width: 12.2 mm



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## Labeling field

Labeling field - IB IL FIELD 8 - 2727515

<https://www.phoenixcontact.com/pc/products/2727515>

Labeling field, width: 48.8 mm



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## Insert strip

Insert strip - ESL 62X10 - 0809492

<https://www.phoenixcontact.com/pc/products/0809492>

Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems:  
Laser printer, mounting type: insert, lettering field size: 62 x 10 mm, Number of individual labels: 72



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## Insert strip

Insert strip - ESL 62X46 - 0809502

<https://www.phoenixcontact.com/pc/products/0809502>

Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems:  
Laser printer, mounting type: insert, lettering field size: 62 x 46 mm, Number of  
individual labels: 15



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