# IB IL 24 PSDI 16-PAC - Safety module

2700994

https://www.phoenixcontact.com/us/products/2700994

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Safety-related digital input module, IP20 protection, for the SafetyBridge V3 and PROFIsafe system. The module has 8 safe digital inputs for two-channel assignment or 16 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 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 eight safe digital inputs for two-channel assignment or sixteen digital inputs for single-channel assignment.

## Your advantages

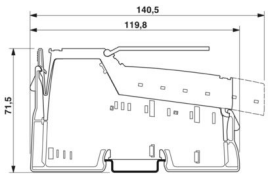
- SIL 3 in accordance with EN□IEC 62061
- SIL□3 according to IEC□61508/EN□61508
- PL e in accordance with EN ISO 13849-1

## Commercial data

| | |
|---|---|
| Item number | 2700994 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | DN03 |
| Product key | DNA421 |
| Catalog page | Page 266 (C-6-2019) |
| GTIN | 4046356678995 |
| Weight per piece (including packing) | 399 g |
| Weight per piece (excluding packing) | 222 g |
| Customs tariff number | 85389091 |
| Country of origin | DE |

## Technical data

### Dimensions

| | |
|---|---|
| Dimensional drawing |  |
| Width | 48.8 mm |
| Height | 141 mm |
| Depth | 71.5 mm |
| Note on dimensions | Housing dimensions |

### 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 | 8 (for 2-channel assignment) |
| | 16 (for 1-channel assignment) |
| Cable length | max. 500 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-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 | 2.7 mA (at 24 V) |

## Product properties

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

## Electrical properties

| | |
|---|---|
| Maximum power dissipation for nominal condition | 14.5 W |
| Transmission medium | Copper |

Potentials: Communications power ($U_L$)

| | |
|---|---|
| Supply voltage | 7.5 V DC (see safety data) |
| Current draw | max. 190 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. 415 mA |
| | typ. 15 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 rigid | 0.2 mm² ... 1.5 mm² |
| Conductor cross section flexible | 0.2 mm² ... 1.5 mm² |
| Conductor cross section AWG | 24 ... 16 |

Inline connector

| | |
|---|---|
| Connection method | Spring-cage connection |
| 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) |

## Mounting

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|---|---|
| Mounting type | DIN rail mounting |

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-11.0 | 27242604 |
| ECLASS-12.0 | 27242604 |
| ECLASS-13.0 | 27242604 |

### ETIM

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|---|---|
| ETIM 9.0 | EC001599 |

### UNSPSC

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|---|---|
| UNSPSC 21.0 | 32151600 |

## Environmental product compliance

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|---|---|
| REACh SVHC | Lead 7439-92-1 |

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|---|---|
| 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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