

IB IL 24 PSDO 8-PAC - Safety module



2985631

<https://www.phoenixcontact.com/us/products/2985631>

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Safety-related digital output module, IP20 degree of protection, for SafetyBridge, INTERBUS-Safety, and PROFIsafe systems. The module has four safe digital outputs for two-channel assignment or eight safe digital outputs for single-channel assignment

Product description

The safety module is an output 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 outputs for two-channel assignment or eight digital outputs for single-channel assignment.

Your advantages

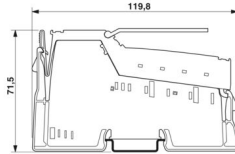
- SIL 3 according to IEC/EN 61508
- SIL 3 in accordance with EN IEC 62061
- PL e in accordance with EN ISO 13849-1

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 2985631 |
| Packing unit | 1 pc |
| Minimum order quantity | 1 pc |
| Sales key | DN03 |
| Product key | DNA431 |
| GTIN | 4046356131605 |
| Weight per piece (including packing) | 350.8 g |
| Weight per piece (excluding packing) | 245.6 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 |
|---------------------|-------------------------|

Material specifications

| | |
|-----------------|-------------------|
| Color (Housing) | yellow (RAL 1018) |
|-----------------|-------------------|

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 (LocalbusSlave)

| | |
|-------------------------|---|
| Length code (hex) | 04 |
| ID code (dec.) | 167 |
| 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)) |

Output data

Digital:

| | |
|---|--|
| Output name | Digital outputs |
| Connection method | Spring-cage connection |
| Connection technology | 2-, 3-conductor |
| Number of outputs | 4 (for 2-channel assignment) |
| | 8 (for 1-channel assignment) |
| | 8 |
| Protective circuit | Overload protection, short-circuit protection of outputs |
| Output voltage | 24 V DC ($U_S - 1 V$) |
| Output current | max. 6 A (Total current of all outputs, $-25\text{ °C} \dots 50\text{ °C}$) |
| | max. 4 A (Total current of all outputs, $>50\text{ °C} \dots 55\text{ °C}$) |
| Maximum output current per group | 3 A |
| Maximum output current per channel | 2 A |
| Max. current carrying capacity per output | See technical data |
| Maximum output current per module | 3 A (See technical data) |
| Nominal output voltage | 24 V DC |
| Nominal load, inductive | see safety data |
| Nominal load, lamp | see safety data |
| Nominal load, ohmic | see safety data |
| Behavior with inductive overload | Output can be destroyed |

Product properties

| | |
|----------------------|---|
| Product type | I/O component |
| Product family | Inline |
| Application | Functional safety |
| Type | modular |
| Diagnostics messages | Short-circuit or overload of the digital outputs Error message in diagnostics code (bus) and display by means of the LED on the motor |

Electrical properties

| | |
|---------------------|--------|
| Transmission medium | Copper |
|---------------------|--------|

Potentials: Communications power (U_L)

| | |
|----------------|-------------------------------|
| Supply voltage | 7.5 V DC (see safety data) |
| Current draw | max. 230 mA (see safety data) |

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. 6.03 A |
| | typ. 30 mA (all outputs set including actuator current) |

Supply: Module electronics

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| | |
|----------------------|------------------------------|
| 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 mm ² ... 1.5 mm ² |
| Conductor cross-section, flexible | 0.2 mm ² ... 1.5 mm ² |
| 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

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

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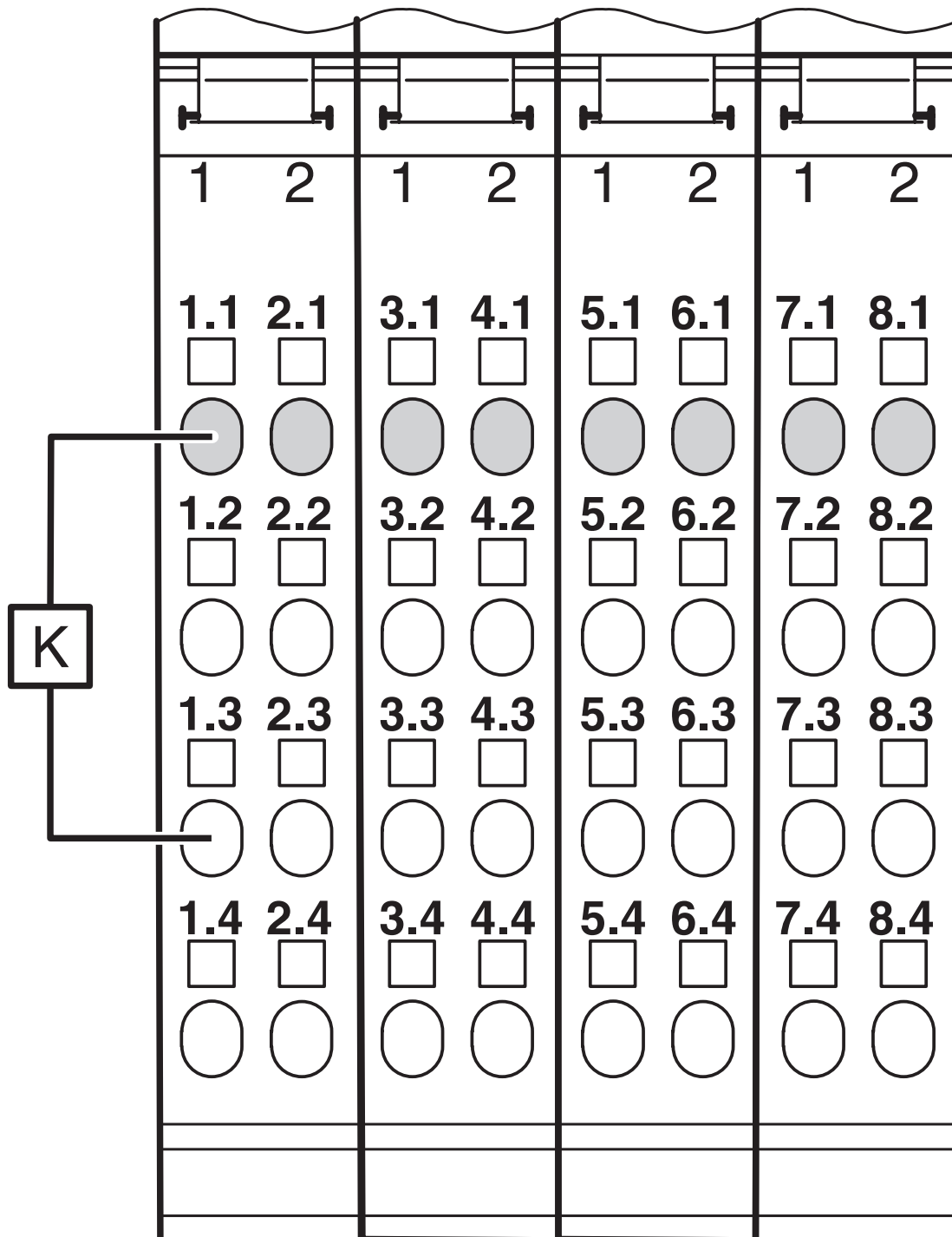
Drawings

Dimensional drawing



Dimensions (in mm)

Connection diagram



Example connection of a contactor

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Approvals

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PROFIsafe

Approval ID: Z20081



cULus Listed

Approval ID: E140324



Functional Safety

Approval ID: 968/FSP 2449.00/22

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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 |
|-------------|----------|

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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 | 90c06790-7b35-4495-a1c9-40ab602f2746 |

EF3.1 Climate Change

| | |
|---------|--------------|
| CO2e kg | 16.5 kg CO2e |
|---------|--------------|

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