

## Safety module - IB IL 24 LPSDO 8 V3-PAC - 2701625

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Safety-related digital output module, IP20 protection, for the SafetyBridge system. The module has four safe digital outputs with two-channel occupancy or 8 safe digital outputs with single-channel occupancy

### Product Description

The safety module is an output module from the Inline product range designed for use in a SafetyBridge system. The safety module can be used as part of an Inline station at any point within an INTERBUS, EtherCAT®, DeviceNet™, CANopen®, EtherNet/IP™, Sercos, Modbus, PROFINET or PROFIBUS 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 safe digital outputs for single-channel assignment.

### Your advantages

- ✓ Generation and monitoring of the SafetyBridge protocol
- ✓ Processing of the parameterized safety logic
- ✓ SIL 3 according to IEC 61508/EN 61508
- ✓ SILCL 3 according to EN 62061
- ✓ PL e according to EN ISO 13849-1



### Key Commercial Data

|              |                                                                                      |
|--------------|--------------------------------------------------------------------------------------|
| Packing unit | 1 pc                                                                                 |
| GTIN         |  |
| GTIN         | 4046356770033                                                                        |

### Technical data

#### Note

|                         |                                                                           |
|-------------------------|---------------------------------------------------------------------------|
| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area |
|-------------------------|---------------------------------------------------------------------------|

#### Dimensions

|        |          |
|--------|----------|
| Width  | 48.8 mm  |
| Height | 119.8 mm |
| Depth  | 71.5 mm  |

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## Technical data

### Dimensions

|                    |                    |
|--------------------|--------------------|
| Note on dimensions | Housing dimensions |
|--------------------|--------------------|

### Ambient conditions

|                                          |                                                                                                               |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Ambient temperature (operation)          | -25 °C ... 55 °C                                                                                              |
| 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.) |
| 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)                                                             |
| Degree of protection                     | IP20                                                                                                          |

### Interfaces

|                    |                                     |
|--------------------|-------------------------------------|
| Designation        | Inline local bus                    |
| Connection method  | Inline data jumper                  |
| Transmission speed | 500 kbps / 2 Mbps (can be switched) |

### Digital outputs

|                                  |                                                           |
|----------------------------------|-----------------------------------------------------------|
| Output name                      | Digital outputs                                           |
| Connection method                | Spring-cage connection                                    |
| Connection technology            | 2, 3, 4-wire                                              |
| Number of outputs                | 4 (with two-channel assignment)                           |
|                                  | 8 (for single-channel assignment)                         |
|                                  | 8                                                         |
| Protective circuit               | Overload protection, short-circuit protection of outputs  |
| Output voltage                   | 24 V DC ( $U_S - 1 \text{ V}$ )                           |
| Nominal output voltage           | 24 V DC                                                   |
| Output current                   | max. 6 A (Total current of all outputs, -25 °C ... 50 °C) |
|                                  | max. 4 A (Total current of all outputs, >50 °C ... 55 °C) |
| 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                                   |

### Power supply for module electronics

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

### General

|                               |                 |
|-------------------------------|-----------------|
| Mounting type                 | DIN rail        |
| Color                         | yellow          |
| Net weight                    | 343 g           |
| Note on weight specifications | with connectors |

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## Technical data

### General

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

### Inline potentials

|                      |                                                                    |
|----------------------|--------------------------------------------------------------------|
| Designation          | Communications power ( $U_L$ )                                     |
| Supply voltage       | 7.5 V DC (see safety data)                                         |
| Current consumption  | max. 230 mA (see safety data)                                      |
| Designation          | Main circuit supply ( $U_M$ )                                      |
| Supply voltage       | 24 V DC (see safety data)                                          |
| Supply voltage range | 19.2 V DC ... 30 V DC (including all tolerances, including ripple) |
| Current consumption  | typ. 30 mA (all outputs set including actuator current)            |
|                      | max. 6.03 A                                                        |
| Designation          | Segment circuit supply ( $U_S$ )                                   |
| Supply voltage       | 24 V (see safety data)                                             |

### SafetyBridge properties

|                           |                                    |
|---------------------------|------------------------------------|
| Connection to I/O modules | max. 16 (safe digital I/O modules) |
| Logic memory              | 60 kByte                           |

### Safety-related characteristic data

|                                             |                                                                |
|---------------------------------------------|----------------------------------------------------------------|
| Designation                                 | IEC 61508 - High demand                                        |
| Safety Integrity Level (SIL)                | max. 3 (two channel; dependent in parameterization and wiring) |
| Designation                                 | IEC 61508 - Low demand                                         |
| Safety Integrity Level (SIL)                | max. 3 (two channel; dependent in parameterization and wiring) |
| Designation                                 | EN ISO 13849                                                   |
| Performance level (PL)                      | max. e (two channel; dependent in parameterization and wiring) |
| Category                                    | max. 4 (two channel; dependent in parameterization and wiring) |
| Designation                                 | EN 62061                                                       |
| Safety Integrity Level Claim Limit (SIL CL) | max. 3 (two channel; dependent in parameterization and wiring) |

### Standards and Regulations

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

### Environmental Product Compliance

|            |                                                                                                     |
|------------|-----------------------------------------------------------------------------------------------------|
| REACH SVHC | Lead 7439-92-1                                                                                      |
| China RoHS | Environmentally Friendly Use Period = 50 years                                                      |
|            | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

## Classifications

### eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27242604 |
| eCl@ss 11.0   | 27242604 |

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### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27240400 |
| eCl@ss 4.1 | 27240400 |
| eCl@ss 5.0 | 27242200 |
| eCl@ss 5.1 | 27242600 |
| eCl@ss 6.0 | 27242600 |
| eCl@ss 7.0 | 27242604 |
| eCl@ss 8.0 | 27242604 |
| eCl@ss 9.0 | 27242604 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001599 |
| ETIM 4.0 | EC002498 |
| ETIM 5.0 | EC001599 |
| ETIM 6.0 | EC001599 |
| ETIM 7.0 | EC001599 |

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 43172015 |
| UNSPSC 7.0901 | 43201404 |
| UNSPSC 11     | 43172015 |
| UNSPSC 12.01  | 43201404 |
| UNSPSC 13.2   | 32151602 |
| UNSPSC 18.0   | 32151602 |
| UNSPSC 19.0   | 32151602 |
| UNSPSC 20.0   | 32151602 |
| UNSPSC 21.0   | 32151602 |

### Approvals

#### Approvals

##### Approvals

Functional Safety / UL Listed / cUL Listed / Functional Safety / cULus Listed

##### Ex Approvals

#### Approval details

## Safety module - IB IL 24 LPSDO 8 V3-PAC - 2701625

### Approvals

|                   |                                                                                   |                  |
|-------------------|-----------------------------------------------------------------------------------|------------------|
| Functional Safety |  | 968/EZ 424.05/17 |
|-------------------|-----------------------------------------------------------------------------------|------------------|

|           |                                                                                   |                                                                                                                                                                     |
|-----------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UL Listed |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> FILE E 140324 |
|-----------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|            |                                                                                   |                                                                                                                                                                     |
|------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| cUL Listed |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> FILE E 140324 |
|------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                   |                                                                                   |                  |
|-------------------|-----------------------------------------------------------------------------------|------------------|
| Functional Safety |  | 968/EZ 424.05/17 |
|-------------------|-----------------------------------------------------------------------------------|------------------|

|              |                                                                                     |  |
|--------------|-------------------------------------------------------------------------------------|--|
| cULus Listed |  |  |
|--------------|-------------------------------------------------------------------------------------|--|

### Accessories

#### Accessories

##### Connector set

Connector set - IB IL 24 SDO 8-PLSET/CP - 2916927



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

##### Filter terminal block

Filter terminal block - PSR-FTB/20/86 - 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.

## Safety module - IB IL 24 LPSDO 8 V3-PAC - 2701625

### Accessories

Filter terminal block - PSR-FTB/1.5/11.5 - 2904476



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

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### Parameterization memory

Program / configuration memory - SD FLASH 2GB EASY SAFE BASIC - 2403297



Program and configuration memory, plug-in, 2 GB, with license key and application program for easy web-based configuration and startup of a SafetyBridge solution.

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Program / configuration memory - SD FLASH 2GB EASY SAFE PRO - 2403298



Program and configuration memory, plug-in, 2 GB, with license key and application program for easy web-based configuration and startup of a SafetyBridge solution including communication via Modbus/TCP, PROFINET, and e-mail.

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PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>