

## Safety module - IB IL 24 LPSDO 8-PAC - 2916024

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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 and is used in a SafetyBridge system. The safety module can be used as a part of an Inline station at any point within an INTERBUS, PROFINET or PROFIBUS system. The transmission speed of the safety module can be set to 500 kbaud or 2 Mbaud using a switch. Only one transmission speed must be used uniformly within a station. The module has four safe digital outputs with two-channel occupancy or eight safe digital outputs with single-channel occupancy. In the SafetyBridge system, you can achieve the following safety integrity by using this safety module depending on the installation and parameterization:


- up to category 4 according to EN 954-1 standard,
- up to SIL 3 according to EN 61508 standard,
- up to SIL CL 3 according to EN 62061 standard,
- up to PL e according to EN ISO 13849-1 standard.

### 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                                 | <br>4 046356 479110 |
| GTIN                                 | 4046356479110   |
| Weight per Piece (excluding packing) | 246.500 g   |
| Custom tariff number                 | 85389091  |
| Country of origin                    | Germany   |
| Note                                 | Made to Order (non-returnable)  |

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### 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            |
| 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 hPa ... 108 kPa (up to 2000 m above sea level)   |
| Air pressure (storage/transport)         | 66 hPa ... 108 kPa (up to 3500 m above sea level)   |
| Degree of protection                     | IP20  |

#### Interfaces

|                    |                    |
|--------------------|--------------------|
| Designation        | Inline local bus   |
| No. of channels    | 2                  |
| Connection method  | Inline data jumper |
| Transmission speed | 500 kbps / 2 Mbps  |

#### 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)<br>8 (for single-channel assignment)<br>8  |
| Protective circuit                 | Overload protection, short-circuit protection of outputs   |
| Output voltage                     | 24 V DC ( $U_S - 1$ V)   |
| Nominal output voltage             | 24 V DC  |
| Output current                     | max. 6 A (Total current of all outputs, -25 °C ... 50 °C)<br>max. 4 A (Total current of all outputs, >50 °C ... 55 °C) |
| Maximum output current per channel | 2 A  |
| Maximum output current per group   | 3 A  |
| Nominal load, inductive            | see safety data  |
| Nominal load, lamp                 | see safety data  |
| Nominal load, ohmic                | see safety data  |

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### Technical data

#### Digital outputs

|                                  |                         |
|----------------------------------|-------------------------|
| 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                    | 246.5 g  |
| Note on weight specifications | with connectors  |
| Diagnostics messages          | Short-circuit / 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. 3 (safe digital input modules) |
| Logic memory              | 6 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

<https://www.phoenixcontact.com/gb/products/2916024>

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### Technical data

#### Environmental Product Compliance

|            |   |
|------------|---|
| REACH SVHC | Lead 7439-92-1  |
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
|            | No hazardous substances above threshold values          |

### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27240400 |
| eCl@ss 4.1 | 27240400 |
| eCl@ss 5.0 | 27250600 |
| eCl@ss 5.1 | 27242900 |
| 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 | EC001599 |
| 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 |

### Approvals

#### Approvals

##### Approvals


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


##### Ex Approvals


#### Approval details


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## 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 |  |
|--------------|---|



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