

IB IL 24 LPSDO 8-PAC - Safety module



2916024

<https://www.phoenixcontact.com/us/products/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/EN 61508
- SIL 3 in accordance with EN IEC 62061
- PL e in accordance with EN ISO 13849-1

Commercial data

Item number	2916024
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	DN03
Product key	DNA411
Catalog page	Page 43 (AX-2011)
GTIN	4046356479110
Weight per piece (including packing)	351.3 g
Weight per piece (excluding packing)	246.5 g
Customs tariff number	85389091
Country of origin	DE

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Technical data

Dimensions

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

System properties

SafetyBridge properties

Connection to I/O modules	max. 3 (safe digital input modules)
Logic memory	6 kByte

Module

ID code (dec.)	199
ID code (hex)	C7
Length code (hex)	12
Length code (dec)	18
Process data channel	30 Byte
Input address area	max. 30 Byte ((Operating mode: SafetyBridge))
Output address area	max. 30 Byte ((Operating mode: SafetyBridge))
Register length	32 Byte
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-, 4-conductor
Number of outputs	4 (for 2-channel assignment)
	8 (for 1-channel assignment)
	8
Protective circuit	Overload protection, short-circuit protection of outputs

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Output voltage	24 V DC ($U_S - 1\text{ V}$)
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
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

Maximum power dissipation for nominal condition	150 W
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 (see safety data)
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)

Potentials: Segment circuit supply (U_S)

Supply voltage	24 V (see safety data)
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Supply: Module electronics

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

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 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)
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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Approvals


To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2916024>




UL Listed
Approval ID: FILE E 140324



cUL Listed
Approval ID: FILE E 140324



Functional Safety
Approval ID: 968/FSP 2449.00/22



Functional Safety
Approval ID: 968/FSP 2449.00/22

cULus Listed

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Classifications

ECLASS

ECLASS-11.0	27242604
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ETIM

ETIM 8.0	EC001599
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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)

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Accessories

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

2916927

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



IB IL FIELD 2 - Marking field

2727501

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Marking field, width: 12.2 mm



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IB IL FIELD 8 - Marking field

2727515

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Marking field, width: 48.8 mm



ESL 62X10 - Insert strip

0809492

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Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems, CMS-P1-PLOTTER, mounting type: insert, lettering field size: 62 x 10 mm, Number of individual labels: 72



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ESL 62X46 - Insert strip

0809502

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Insert strip, Sheet, white, unlabeled, can be labeled with: Office printing systems, CMS-P1-PLOTTER, mounting type: insert, lettering field size: 62 x 46 mm, Number of individual labels: 15



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