

# IB IL 24 DO 32/HD-NPN-PAC - Digital module



2878340

<https://www.phoenixcontact.com/us/products/2878340>

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The figure shows the version IB IL 24 DO 32/HD-PAC

Inline, Digital output terminal, Digital outputs: 32 (NPN), 24 V DC, connection technology: 1-conductor, transmission speed in the local bus: 500 kbps, degree of protection: IP20, including Inline connectors and marking fields

## Product description

The terminal is designed for use within an Inline station. It is used to output digital signals.

## Your advantages

- 32 digital outputs, NPN-wired
- Connection of actuators in 1-conductor technology
- Nominal current per output: 500 mA
- Total current of the terminal: 8 A
- Short-circuit and overload-protected outputs

## Commercial data

Item number	2878340
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR01
Product key	DRI132
GTIN	4046356048538
Weight per piece (including packing)	206.8 g
Weight per piece (excluding packing)	135 g
Customs tariff number	85389099
Country of origin	DE

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## 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
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### Material specifications

Color (Housing)	green (RAL 6021)
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### Interfaces

#### Inline local bus

Number of interfaces	2
Connection method	Inline data jumper
Transmission speed	500 kbps

### System properties

#### Programming data (LocalbusSlave)

Length code (hex)	02
ID code (dec.)	189
Length code (dec)	02
Process data channel	32 bit
Input address area	0 Byte
Output address area	4 Byte
Parameter channel (PCP)	0 Byte
Register length (bus)	32 bit

#### Fieldbus data telegram (PROFIBUS)

Required parameter data	6 Byte
Required configuration data	4 Byte

## Output data

### Digital:

Output name	Digital outputs
Connection method	Spring-cage connection
Connection technology	1-conductor
Number of outputs	32 (NPN)
Protective circuit	Overload protection, short-circuit protection of outputs; electronic
Output voltage	24 V ( $U_S - 1$ V)
Maximum inrush current	max. 1.5 A (at nominal lamp load for 20 ms)
Maximum output current per channel	500 mA
Maximum output current per module	8 A
Nominal output voltage	24 V DC
Output current when switched off	max. 300 $\mu$ A
Nominal load, inductive	12 VA (1.2 H, 48 $\Omega$ )
Nominal load, lamp	12 W
Nominal load, ohmic	12 W (48 $\Omega$ )
Maximum operating frequency with ohmic nominal load	max. 300 Hz (this switching frequency is limited by the number of bus devices, the structure of the bus, the software used and the control or computer system used)
Behavior with overload	Auto restart
Behavior with inductive overload	Output can be destroyed
Behavior at voltage switch-off	The output follows the power supply without delay
Overcurrent shut-down	min. 0.7 A

## Product properties

Product type	I/O component
Product family	Inline
Type	modular
Scope of supply	including Inline connectors and marking fields
No. of channels	32
Operating mode	Process data operation with 2 words

### Insulation characteristics

Overvoltage category	II (IEC 60664-1, EN 60664-1)
Pollution degree	2 (IEC 60664-1, EN 60664-1)

## Electrical properties

Maximum power dissipation for nominal condition	4.15 W
Protective circuit	Overload protection, short-circuit protection in the segment circuit; Electronic with 16 2-channel drivers

### Potentials: Communications power ( $U_L$ )

Supply voltage	7.5 V DC (via voltage jumper)
Current draw	max. 140 mA

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## Potentials: Segment circuit supply (U<sub>S</sub>)

Supply voltage	24 V DC (via voltage jumper)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 8 A

## Electrical isolation/isolation of the voltage ranges

Test voltage: 7.5 V supply (bus logics)/24 V supply (I/O)	500 V AC, 50 Hz, 1 min
Test voltage: 7.5 V supply (bus logic)/functional ground	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
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### Inline connector

Connection method	Spring-cage connection
Conductor cross-section, rigid	0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section, flexible	0.08 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section AWG	28 ... 16
Stripping length	8 mm

## Environmental and real-life conditions

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 55 °C
Degree of protection	IP20
Air pressure (operation)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)

### Mechanical test

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	5g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	25g

## 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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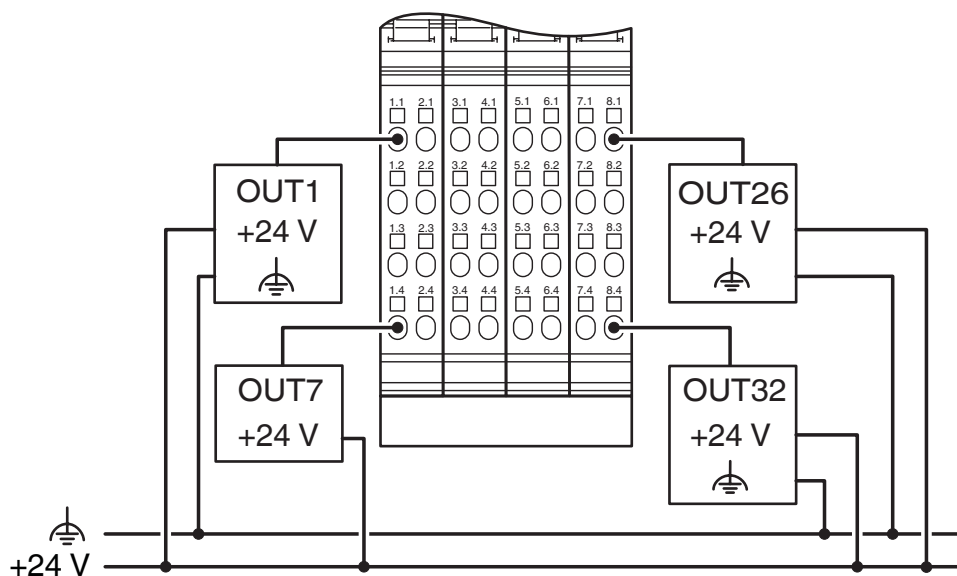
<https://www.phoenixcontact.com/us/products/2878340>

## Drawings

Dimensional drawing



Connection diagram



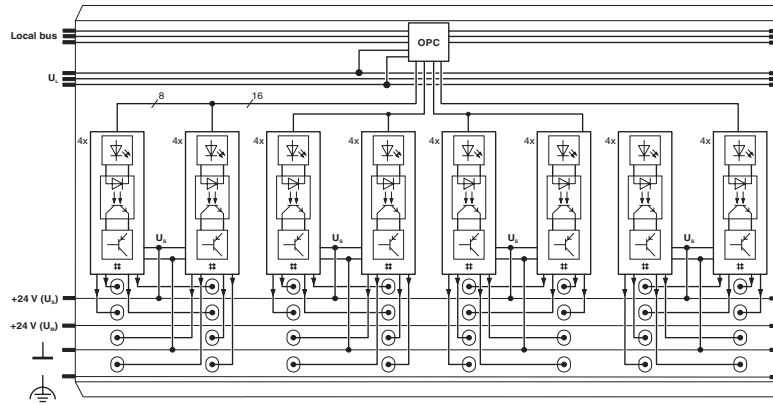
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Block diagram



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## Approvals

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**BV**

Approval ID: 20989\_C1 BV

**ABS**

Approval ID: 22-2226444-PDA

**DNV**

Approval ID: TAA00002CU



**cULus Recognized**

Approval ID: E140324

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## Classifications

### ECLASS

ECLASS-13.0	27242604
ECLASS-15.0	27242604

### ETIM

ETIM 10.0	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)
SCIP	95041e16-220b-4846-a2d8-b8354c693f5c

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