

# IB IL 24 DI16-2MBD-PAC/SN - Inline terminal



2878120

<https://www.phoenixcontact.com/us/products/2878120>

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Inline, Digital input terminal, Digital inputs: 16, 24 V DC, connection technology: 3-conductor, transmission speed in the local bus: 2 Mbps, degree of protection: IP20, including Inline connectors and marking fields, connectors numbered individually

## Product description

Inline terminals with "2 MBD" added to their item designation work with a transmission speed of 2 Mbps. These terminal blocks are discontinued or no longer in the range. If you require this transmission speed, please ask your local Phoenix Contact representative. If you can work with a transmission speed of 500 kbps, select as a replacement the corresponding variant that does not have "2MBD" added to its item designation. Please note that a uniform transmission speed must always be used within one inline station. The terminal is designed for use within an Inline station. It is used to acquire digital signals.

## Your advantages

- Diagnostic and status indicators
- Maximum permissible load current per sensor: 250 mA
- Connection of sensors in 2- and 3-conductor technology
- 16 digital inputs

## Commercial data

Item number	2878120
Packing unit	1 pc
Note	Made to order (non-returnable)
Sales key	DR01
Product key	DRI131
GTIN	4046356298773
Weight per piece (including packing)	234 g
Weight per piece (excluding packing)	122 g
Customs tariff number	85389091
Country of origin	DE

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## Technical data

### Dimensions

Dimensional drawing	
Width	48.8 mm
Height	140.5 mm
Depth	71.5 mm
Note on dimensions	Housing dimensions

### Material specifications

Color	green
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### Interfaces

#### Inline local bus

Connection method	Inline data jumper
Transmission speed	2 Mbps

### System properties

#### Programming data (LocalbusSlave)

Length code (hex)	01
ID code (dec.)	190
Length code (dec)	01
Process data channel	16 bit
Input address area	2 Byte
Output address area	0 Byte
Parameter channel (PCP)	0 Byte
Register length (bus)	16 bit

#### Fieldbus data telegram

Required parameter data	1 Byte
Required configuration data	4 Byte

### Input data

#### Digital:

Input name	Digital inputs
Description of the input	IEC 61131-2 type 1
Number of inputs	16

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Connection method	Spring-cage connection
Connection technology	3-conductor
Input voltage	24 V DC
Input voltage range "0" signal	-3 V DC ... 5 V DC
Input voltage range "1" signal	15 V DC ... 30 V DC
Nominal input voltage $U_{IN}$	24 V DC
Nominal input current at $U_{IN}$	min. 3 mA (at nominal voltage)
Typical response time	< 1 ms
Protective circuit	Short-circuit and overload protection

## Product properties

Product type	I/O component
Product family	Inline
Type	modular Inline
Scope of supply	including Inline connectors and marking fields, connectors numbered individually
No. of channels	16
Operating mode	Process data mode with one word

## Electrical properties

Maximum power dissipation for nominal condition	14.5 W
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### Potentials: Communications power ( $U_L$ )

Supply voltage	7.5 V DC (via voltage jumper)
Current draw	max. 80 mA
Power consumption	max. 0.6 W

### Potentials: Segment circuit supply ( $U_S$ )

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. 4 A

### 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
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### Inline connector

Connection method	Spring-cage connection
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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

Degree of protection	IP20
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 % (according to DIN EN 61131-2)
Permissible humidity (storage/transport)	10 % ... 95 % (according to DIN EN 61131-2)

## 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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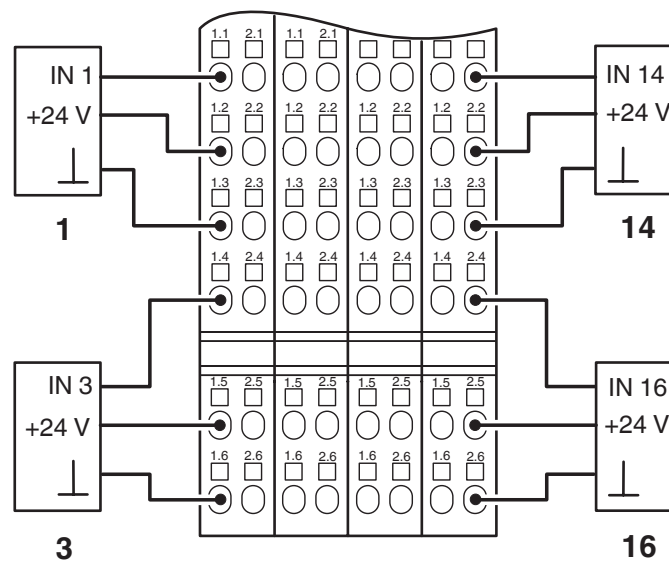
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## Drawings

Dimensional drawing



Connection diagram



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## Classifications

### UNSPSC

UNSPSC 21.0	32151602
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	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.)	No substance above 0.1 wt%
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