

# IB IL 24 DI 16-NPN-PAC - Digital module



2863520

<https://www.phoenixcontact.com/us/products/2863520>

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Inline, Digital input terminal, Digital inputs: 16 (NPN), 24 V DC, connection technology: 3-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 acquire digital signals.

## Your advantages

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

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2863520       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | DR01          |
| Product key                          | DRI131        |
| GTIN                                 | 4017918941208 |
| Weight per piece (including packing) | 224.4 g       |
| Weight per piece (excluding packing) | 210 g         |
| Customs tariff number                | 85389099      |
| Country of origin                    | DE            |

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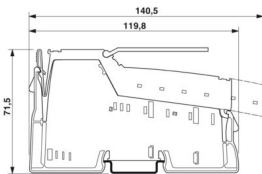


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## Technical data

### Dimensions

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

### Notes

|                         |                                                               |
|-------------------------|---------------------------------------------------------------|
| Note on application     |                                                               |
| Note on application     | Only for industrial use                                       |
| Utilization restriction |                                                               |
| CCCex note              | Use in potentially explosive areas is not permitted in China. |

### Interfaces

|                      |                    |
|----------------------|--------------------|
| Inline local bus     |                    |
| Number of interfaces | 2                  |
| Connection method    | Inline data jumper |
| Transmission speed   | 500 kbps           |

### System properties

|                             |        |
|-----------------------------|--------|
| Module                      |        |
| ID code (dec.)              | 190    |
| ID code (hex)               | BE     |
| Length code (hex)           | 01     |
| Length code (dec)           | 01     |
| Process data channel        | 16 bit |
| Input address area          | 2 Byte |
| Output address area         | 0 Byte |
| Register length             | 16 bit |
| Required parameter data     | 1 Byte |
| Required configuration data | 4 Byte |

### Input data

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## Digital:

|                                |                                       |
|--------------------------------|---------------------------------------|
| Input name                     | Digital inputs                        |
| Description of the input       | EN 61131-2 type 1                     |
| Number of inputs               | 16 (NPN)                              |
| 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                               |
| Typical response time          | < 1 ms                                |
| Protective circuit             | Short-circuit and overload protection |

## Product properties

|                 |                                                |
|-----------------|------------------------------------------------|
| Product type    | I/O component                                  |
| Product family  | Inline                                         |
| Type            | modular                                        |
| Scope of supply | including Inline connectors and marking fields |
| No. of channels | 16                                             |

## Electrical properties

|                                                 |       |
|-------------------------------------------------|-------|
| Maximum power dissipation for nominal condition | 1.6 W |
|-------------------------------------------------|-------|

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

|                |                               |
|----------------|-------------------------------|
| Supply voltage | 7.5 V DC (via voltage jumper) |
| Current draw   | max. 60 mA                    |

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

### Conductor connection

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

## 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 % (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) |
|------------------|---------------------------------------|

## Mounting

|               |                   |
|---------------|-------------------|
| Mounting type | DIN rail mounting |
|---------------|-------------------|

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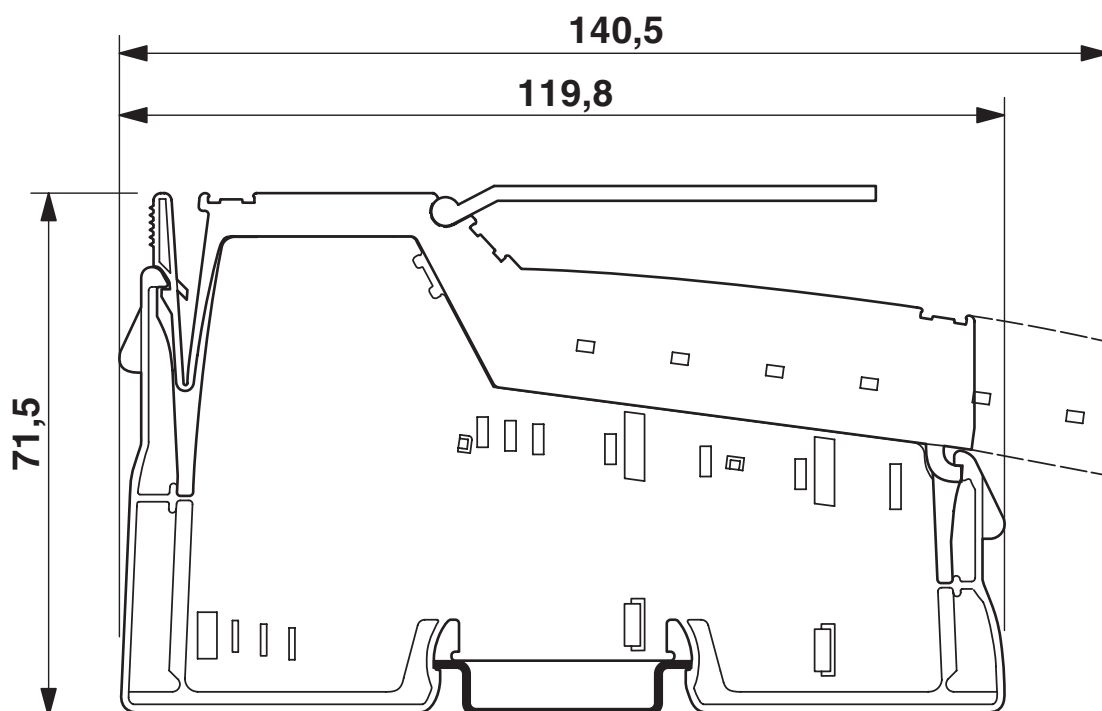
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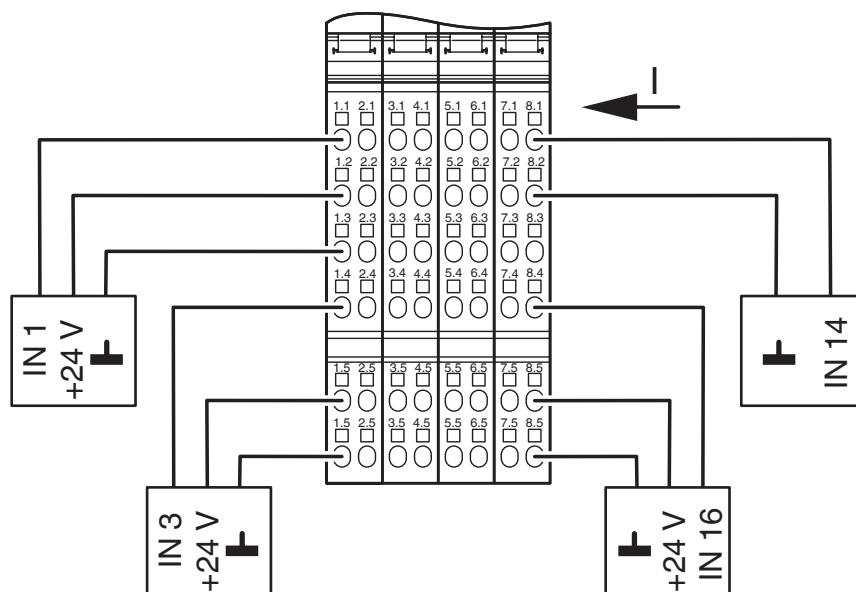


## Drawings

Dimensional drawing



Connection diagram



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2863520>



**BV**

Approval ID: 20989\_C1 BV

**ABS**

Approval ID: 22-2226444-PDA

**DNV**

Approval ID: TAA00002CU



**cULus Recognized**

Approval ID: E140324



**cULus Listed**

Approval ID: E199827

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27242604 |
| ECLASS-15.0 | 27242604 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC001599 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 32151600 |
|-------------|----------|

## 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                                | 398c065b-dd4d-42fd-8e8c-f4e5d2f384cb |