

# IB IL 24 DI8/HD-PAC - Digital module

2700173

<https://www.phoenixcontact.com/us/products/2700173>



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Inline, Digital input terminal, Digital inputs: 8, 24 V DC, connection technology: 1-conductor, transmission speed in the local bus: 500 kbps, degree of protection: IP20, including Inline connector and labeling field

## Product description

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

## Your advantages

- 8 digital inputs
- Connection of sensors in 1-conductor technology

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2700173       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | DR01          |
| Product key                          | DRI131        |
| GTIN                                 | 4046356492485 |
| Weight per piece (including packing) | 83.2 g        |
| Weight per piece (excluding packing) | 60 g          |
| Customs tariff number                | 85389099      |
| Country of origin                    | DE            |

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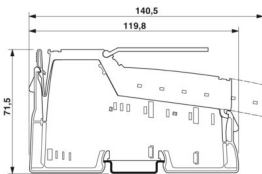
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## Technical data

### Dimensions

|                     |                                                                                    |
|---------------------|------------------------------------------------------------------------------------|
| Dimensional drawing |  |
| Width               | 12.2 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                                       |
| 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)           | 81     |
| Length code (dec)           | 129    |
| Process data channel        | 8 bit  |
| Input address area          | 1 Byte |
| Output address area         | 0 Byte |
| Register length             | 8 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 types 1 and 3 |
| Number of inputs                   | 8                        |
| Connection method                  | Spring-cage connection   |
| Connection technology              | 1-conductor              |
| Input voltage                      | 24 V DC                  |
| Input voltage range "0" signal     | -3 V DC ... 5 V DC       |
| Input voltage range "1" signal     | 11 V DC ... 30 V DC      |
| Nominal input voltage $U_{IN}$     | 24 V DC                  |
| Nominal input current at $U_{IN}$  | typ. 2.4 mA              |
| Typical input current per channel  | 2.4 mA                   |
| Typical response time              | 1 ms                     |
| Delay at signal change from 0 to 1 | 1 ms                     |
| Delay at signal change from 1 to 0 | 1 ms                     |

## Product properties

|                 |                                                                    |
|-----------------|--------------------------------------------------------------------|
| Product type    | I/O component                                                      |
| Product family  | Inline                                                             |
| Type            | modular                                                            |
| Scope of supply | including Inline connector and labeling field                      |
| No. of channels | 8                                                                  |
| Operating mode  | Process data mode with one byte<br>Process data mode with one byte |

## Electrical properties

|                                                 |       |
|-------------------------------------------------|-------|
| Maximum power dissipation for nominal condition | 0.8 W |
|-------------------------------------------------|-------|

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

|                |                               |
|----------------|-------------------------------|
| Supply voltage | 7.5 V DC (via voltage jumper) |
| Current draw   | max. 30 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. 5.5 mA                                                        |

### 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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## Conductor connection

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

## 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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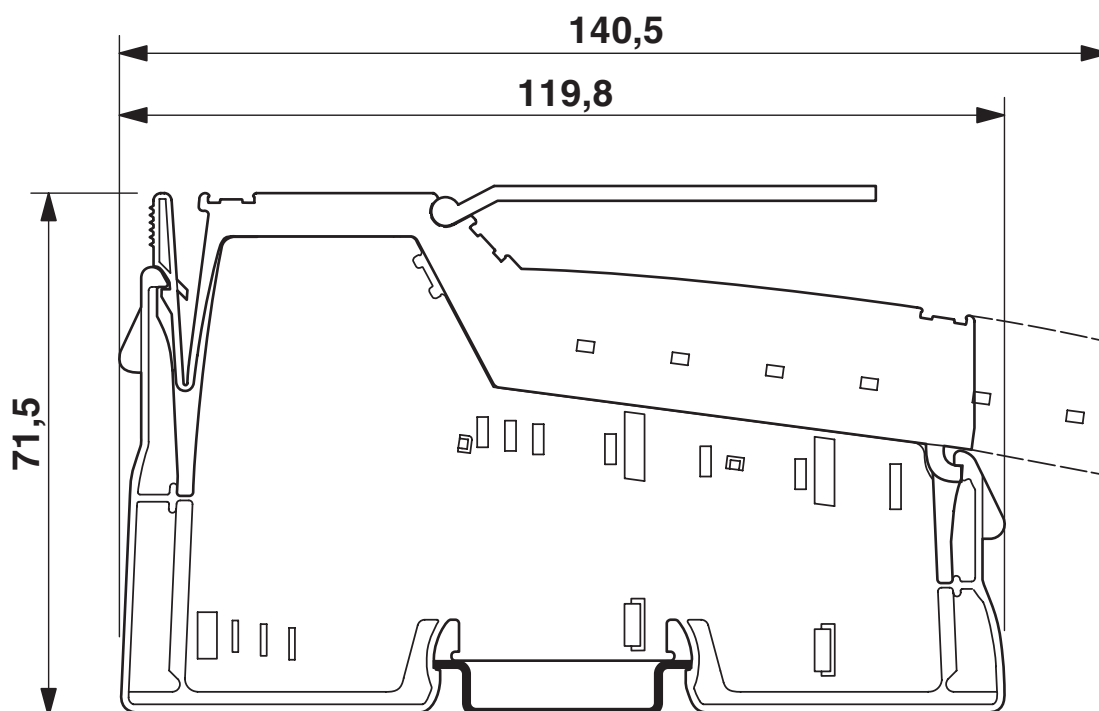
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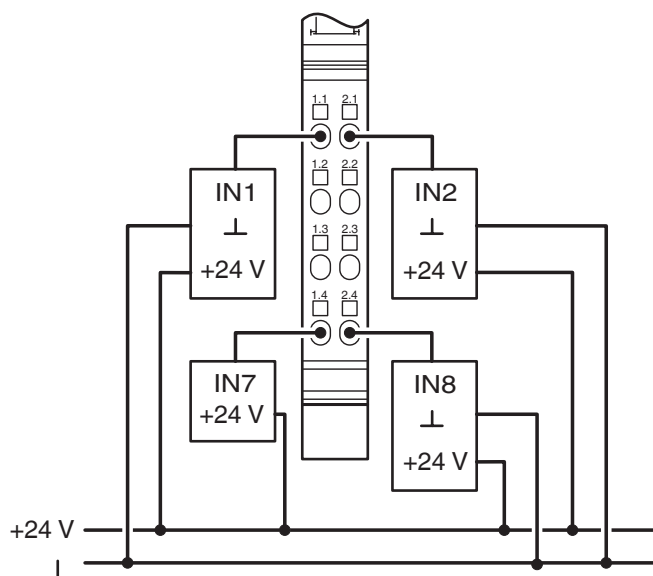
## Drawings

Dimensional drawing



Dimensions (in mm)

Connection diagram



Connection example

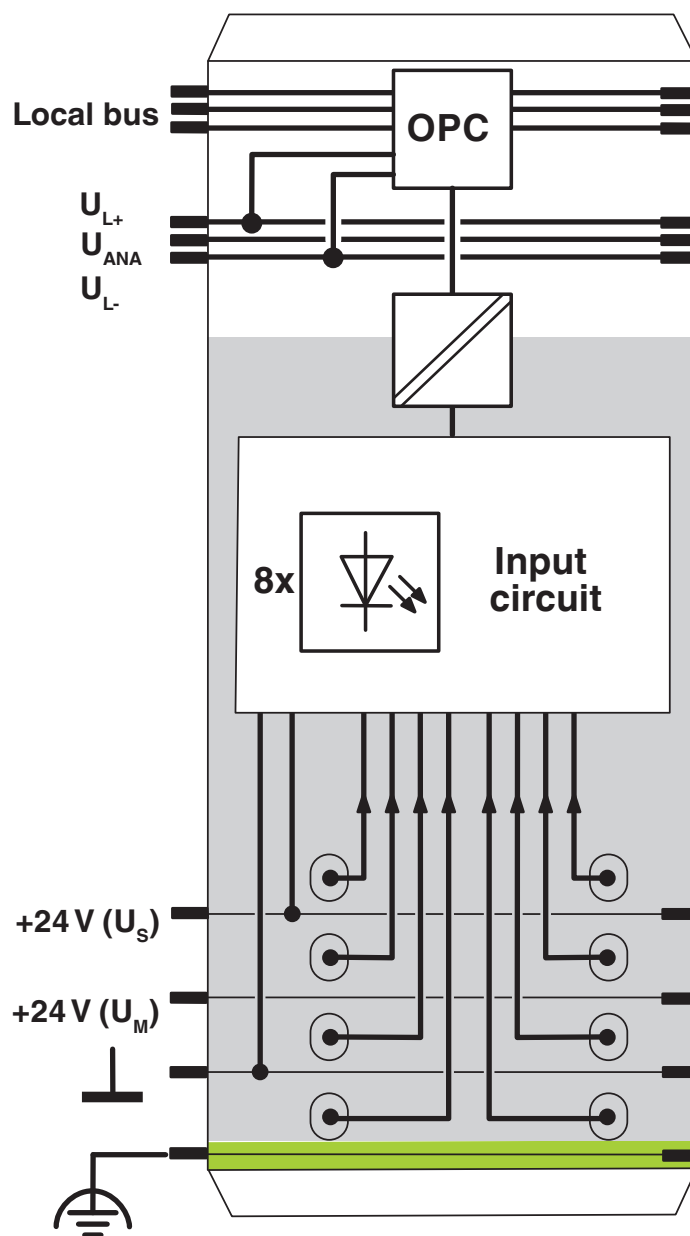
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Block diagram



Internal wiring of the terminal points

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2700173>



**BV**

Approval ID: 21595/C1 BV



**RINA**

Approval ID: ELE121121XG

**ABS**

Approval ID: 22-2226444-PDA

**DNV**

Approval ID: TAA00002CU



**cULus Listed**

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                                | 040bdeac-04b0-4493-835f-cde42f15ec52 |

### EF3.0 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 2.639 kg CO2e |
|---------|---------------|

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