

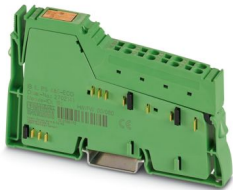
# IB IL RS 485-ECO - Communication module



2702141

<https://www.phoenixcontact.com/us/products/2702141>

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Inline, Communication module; Serial data transmission; interface: RS-485: 1; Transmission speed: 110 bps ... 38400 bps; transmission speed in the local bus: 500 kbps; Communication via process data; degree of protection: IP20; Scope of supply: including Inline connector

## Product description

The terminal is designed for use within an Inline station. The terminal is used to operate standard I/O devices with serial interfaces on a bus system. Inline ECO terminals are approved for the temperature range from 0°C to +55°C. The electronics base and Inline connector are supplied as standard.

## Your advantages

- One serial input and output channel in RS-485 format
- Data is transmitted in transparent mode
- Transmission speed can be set up to 38400 bps
- Number of data bits, stop bits and parity can be set
- Parameterization and data exchange via process data

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2702141       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 1 pc          |
| Sales key                            | DR01          |
| Product key                          | DRI151        |
| GTIN                                 | 4046356983235 |
| Weight per piece (including packing) | 74.4 g        |
| Weight per piece (excluding packing) | 84.8 g        |
| Customs tariff number                | 85389099      |
| Country of origin                    | DE            |

## Technical data

### Dimensions

|                     |  |
|---------------------|--|
| Dimensional drawing |  |
| Width               | 12.2 mm  |
| Height              | 119.8 mm   |
| Depth               | 71.5 mm  |

### Notes

#### Note on application

|                     |                         |
|---------------------|-------------------------|
| Note on application | Only for industrial use |
|---------------------|-------------------------|

### Interfaces

#### Inline local bus

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

#### RS-485

|                               |  |
|-------------------------------|--|
| Number of interfaces          | 1  |
| Connection method             | Spring-cage connection                       |
| Note on the connection method | Use shielded cables.                         |
| Transmission speed            | 110 bps ... 38400 bps (can be parameterized) |
| Transmission physics          | Copper                                       |
| Protocols supported           | Transparent                                  |
| Termination resistor          | typ. 120 $\Omega$ (active, integrated)       |
| Data bits                     | 6 ... 8                                      |
| Stop bits                     | 1 or 2                                       |
| Input buffer                  | 4 kByte                                      |
| Output buffer                 | 1 kByte                                      |

### System properties

#### Module

|                   |     |
|-------------------|-----|
| ID code (dec.)    | 191 |
| ID code (hex)     | BF  |
| Length code (hex) | 07  |
| Length code (dec) | 07  |

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|                             |         |
|-----------------------------|---------|
| Process data channel        | 112 bit |
| Input address area          | 14 Byte |
| Output address area         | 14 Byte |
| Register length             | 112 bit |
| Required parameter data     | 16 Byte |
| Required configuration data | 5 Byte  |

## Product properties

|                       |                                |
|-----------------------|--------------------------------|
| Product type          | I/O component                  |
| Product family        | Inline                         |
| Type                  | modular                        |
| Installation location | Control cabinet                |
| Scope of supply       | including Inline connector     |
| Special properties    | Communication via process data |

## 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 | 0.7 W |
|---|-------|

## Potentials: Communications power ( $U_L$ )

|                |                               |
|----------------|-------------------------------|
| Supply voltage | 7.5 V DC (via voltage jumper) |
| Current draw   | max. 85 mA<br>typ. 70 mA      |

## Electrical isolation/isolation of the voltage ranges

|  |                        |
|--|------------------------|
| Test voltage: Serial interface/7.5 V supply (bus logic)  | 500 V AC, 50 Hz, 1 min |
| Test voltage: Serial interface/24 V supply $U_M$         | 500 V AC, 50 Hz, 1 min |
| Test voltage: Serial interface/functional ground         | 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 ( $U_M$ )/functional ground    | 500 V AC, 50 Hz, 1 min |

## Connection data

### Connection technology

|                 |                  |
|-----------------|------------------|
| Connection name | Inline connector |
|-----------------|------------------|

### 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

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## Ambient conditions

|  |   |
|--|---|
| Ambient temperature (operation)          | 0 °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)                    |

## Standards and regulations

|                  |                                       |
|------------------|---------------------------------------|
| Protection class | III (IEC 61140, EN 61140, VDE 0140-1) |
|------------------|---------------------------------------|

## Mounting

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

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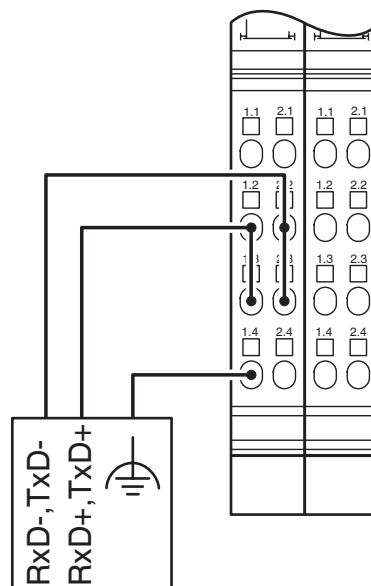
## Drawings

Dimensional drawing



## Dimensions

Connection diagram



Inline terminal as network end point

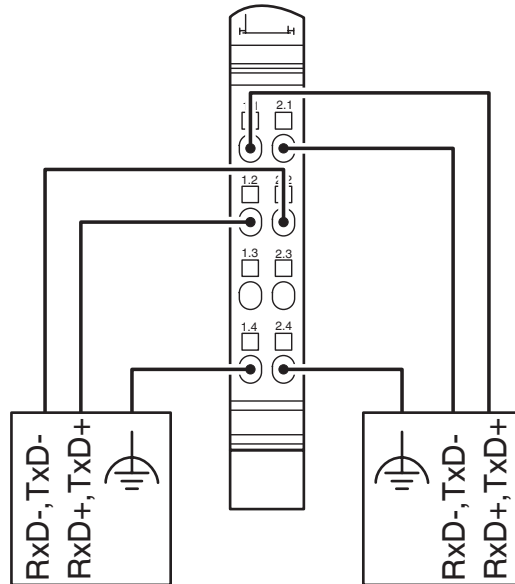
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Connection diagram



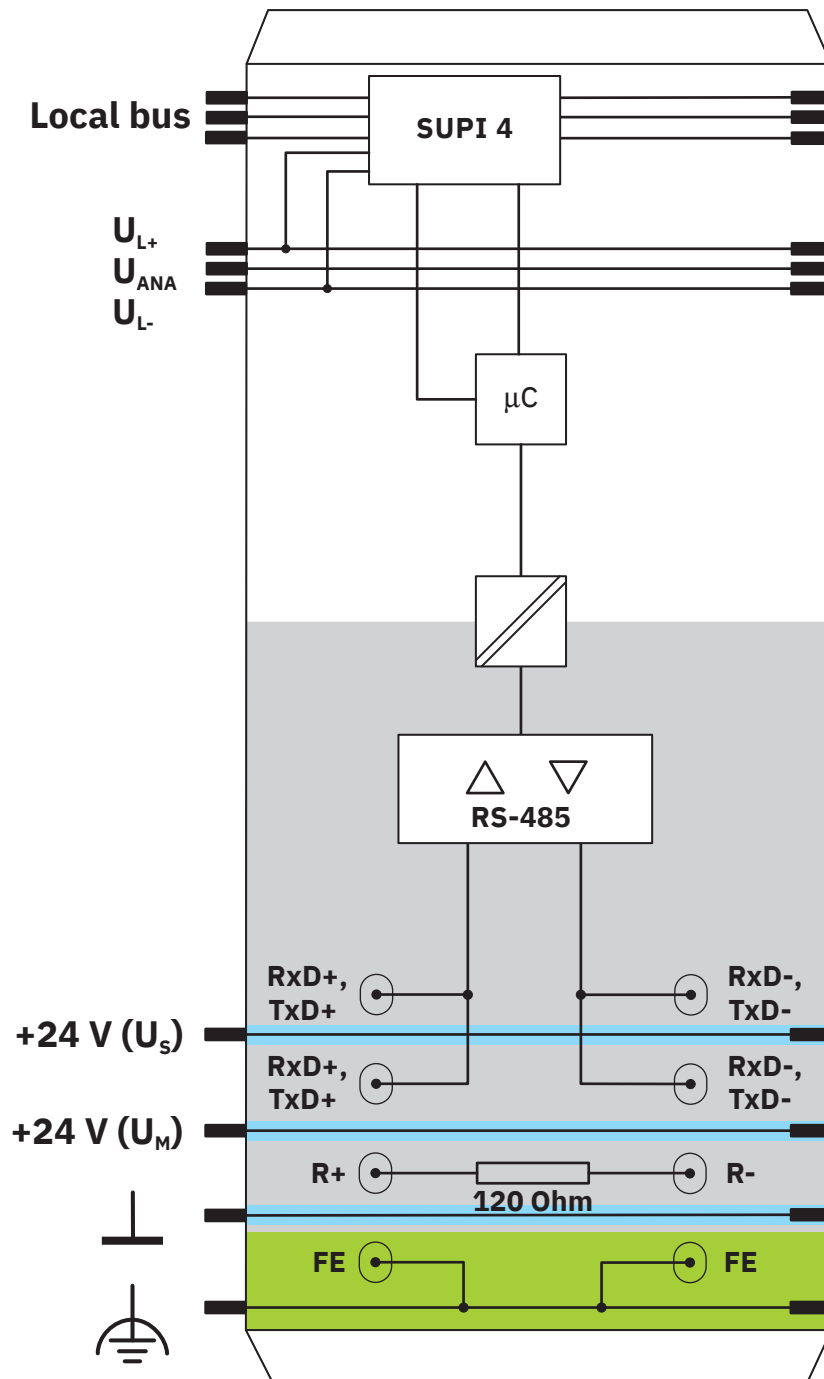
Inline terminal in the network center

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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/2702141>



**cULus Listed**

Approval ID: E238705

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27242608 |
| ECLASS-15.0 | 27242608 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC001604 |
|-----------|----------|

### UNSPSC

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

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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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