

# IB IL CAN-MA-XC-PAC - Communication module



2701160

<https://www.phoenixcontact.com/us/products/2701160>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.

Inline function terminal, version for extreme conditions, for connecting a CAN bus system, complete with accessories (connector and labeling field)



## Product description

The terminal is designed for use within an Inline station. It can be used to integrate a lower-level CAN bus system into the Inline station and therefore into the bus system used. Within the Inline station, the terminal acts as a CAN master for the lower-level CAN system. Thanks to special engineering measures and tests, the terminal can be used under extreme ambient conditions.

## Your advantages

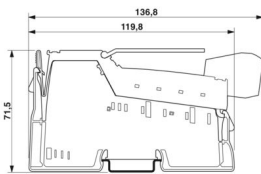
- Protocol: Transparent mode
- Transmission speed of CAN bus: 250 kbps
- Smallest data type: 1 byte
- Maximum data width of 2 x 64 bytes (= 128 bytes = 64 words)
- DIP switches for setting the data width
- Can be used under extreme ambient conditions
- Extended temperature range of -40 °C ... +70 °C (see "Tested successfully: use under extreme ambient conditions" in the data sheet)
- Coated PCBs

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 2701160       |
| Packing unit                         | 1 pc          |
| Sales key                            | DR01          |
| Product key                          | DRI153        |
| GTIN                                 | 4046356713856 |
| Weight per piece (including packing) | 108.7 g       |
| Weight per piece (excluding packing) | 108.7 g       |
| Customs tariff number                | 85389091      |
| Country of origin                    | DE            |

## Technical data

### Dimensions

|                     |  |
|---------------------|--|
| Dimensional drawing |  |
| Width               | 12.2 mm  |
| Height              | 136.8 mm   |
| Depth               | 71.5 mm  |

### Material specifications

|       |       |
|-------|-------|
| Color | green |
|-------|-------|

### Interfaces

#### Inline local bus

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

#### CAN bus

|                      |                         |
|----------------------|-------------------------|
| Number of interfaces | 1                       |
| Connection method    | Inline shield connector |
| Transmission speed   | 250 kbps                |
| Protocols supported  | CAN                     |

#### S-PORT

|                      |  |
|----------------------|--|
| Number of interfaces | 1 (Interface with plugged in memory stick) |
|----------------------|--|

## System properties

#### Local diagnostics

|                            |                        |
|----------------------------|------------------------|
| Error messages via the bus | CAN bus voltage faulty |
|                            | Bus stop               |

#### Module

|                      |              |
|----------------------|--------------|
| ID code (dec.)       | 191          |
| ID code (hex)        | BF           |
| Length code (hex)    | 20           |
| Length code (dec)    | 32           |
| Process data channel | 64 Byte      |
| Input address area   | max. 64 Byte |

|                             |              |
|-----------------------------|--------------|
| Output address area         | max. 64 Byte |
| Register length             | 64 Byte      |
| Required parameter data     | 1 Byte       |
| Required configuration data | 5 Byte       |

## Product properties

|                    |   |
|--------------------|---|
| Product type       | I/O component                                 |
| Product family     | Inline  |
| Type               | modular                                       |
| Scope of supply    | including Inline connector and labeling field |
| Operating mode     | Process data mode with up to 64 words         |
| Special properties | Extreme conditions version                    |

## Electrical properties

|                   |                |
|-------------------|----------------|
| Power dissipation | 0.9 W (Module) |
|-------------------|----------------|

### Potentials

|                   |                                |
|-------------------|--------------------------------|
| Power consumption | typ. 1.06 W (Module, complete) |
|                   | max. 1.16 W (Module, complete) |

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

|                |                               |
|----------------|-------------------------------|
| Supply voltage | 7.5 V DC (via voltage jumper) |
| Current draw   | max. 115 mA                   |
|                | typ. 110 mA                   |

### Potentials: Main circuit supply ( $U_M$ )

|                |                              |
|----------------|------------------------------|
| Supply voltage | 24 V DC (via voltage jumper) |
| Current draw   | max. 12 mA                   |
|                | typ. 10 mA                   |

### Electrical isolation/isolation of the voltage ranges

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

## Connection data

### Connection technology

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

### 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 mm² ... 1.5 mm²   |
| Conductor cross-section, flexible | 0.08 mm² ... 1.5 mm²   |
| Conductor cross-section AWG       | 28 ... 16              |
| Stripping length                  | 8 mm                   |

## Environmental and real-life conditions

### Ambient conditions

|  |   |
|--|---|
| Ambient temperature (operation)          | -25 °C ... 55 °C (Standard)   |
|  | -40 °C ... 70 °C (Extended, see section "Tested successfully: use under extreme ambient conditions" in the data sheet.) |
| 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

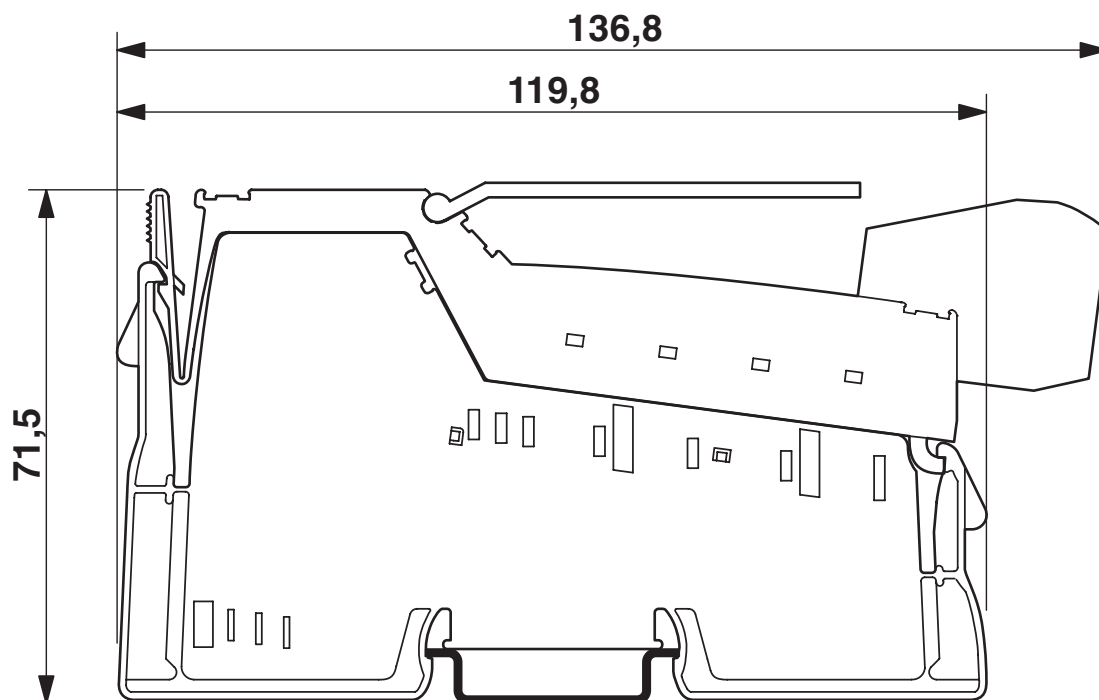
|                  |                                       |
|------------------|---------------------------------------|
| Protection class | III (IEC 61140, EN 61140, VDE 0140-1) |
|------------------|---------------------------------------|

## Mounting

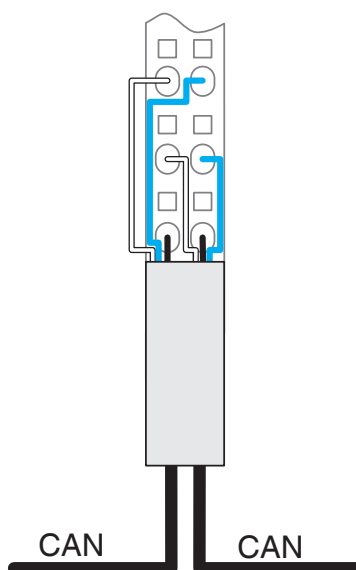
|               |                   |
|---------------|-------------------|
| Mounting type | DIN rail mounting |
|---------------|-------------------|

## Drawings

Dimensional drawing

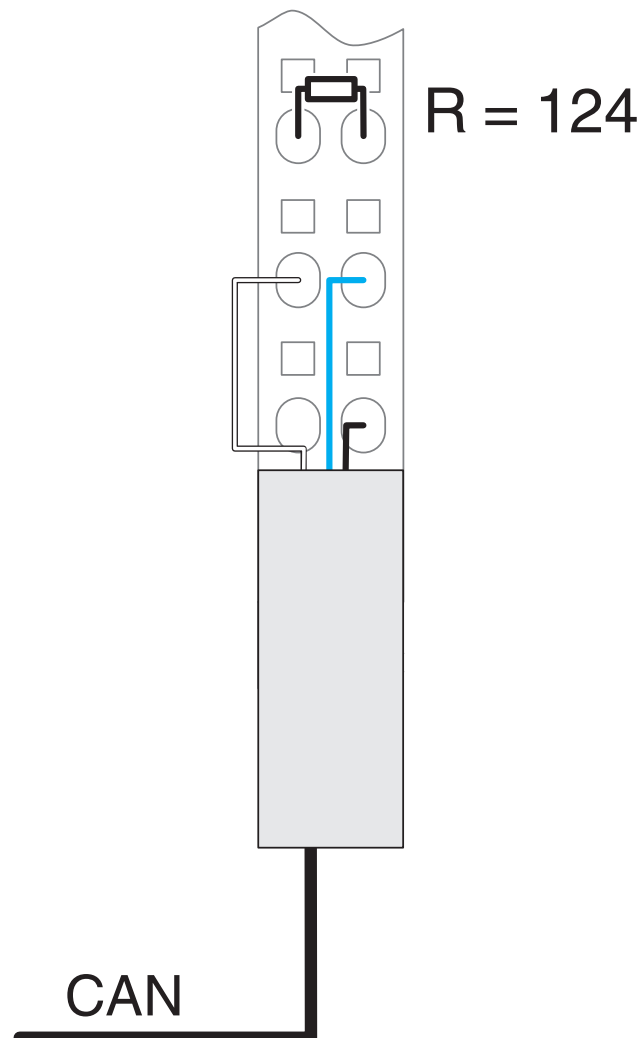


Connection diagram



CAN master in the center of a CAN bus when using the original connector

Connection diagram



CAN master at the end of a CAN bus  
( $R = 124\ \Omega$  termination resistor)

2701160

<https://www.phoenixcontact.com/us/products/2701160>

Classifications

ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | EC001601 |
|----------|----------|

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-E                                   |
|  | No hazardous substances above the limits |

### EU REACH SVHC

|                                     |                      |
|-------------------------------------|----------------------|
| REACH candidate substance (CAS No.) | Lead(CAS: 7439-92-1) |
|-------------------------------------|----------------------|