

# AXL E PN DI16 M12 6M

**Axioline E PROFINET device, metal housing,  
16 inputs, 24 V DC,  
M12 fast connection technology**



Data sheet  
8442\_en\_04

© PHOENIX CONTACT 2015-10-15

## 1 Description

The Axioline E device is designed for use within a PROFINET network.

It is used to acquire digital signals.

The device is designed for use in systems manufacturing.

It is suitable for use without a control cabinet under harsh industrial conditions.

The Axioline E device can be used on tool platforms, directly on welding robots or in conveying technology, for example.

### PROFINET features

- Connection to PROFINET network using M12 connectors (D-coded)
  - 2 Ethernet ports (with integrated switch)
  - Transmission speed 100 Mbps

- PROFINET RT (RTC 1) supported with minimum cycle time of 1 ms
- Supported protocols: SNMP, LLDP, MRP, DCP
- PROFINET features:
  - FSU, shared device, MRP client, I&M functions 0 - 4
- Specification:
  - Mapping in accordance with PROFINET specification v2.2
  - Mapping as PROFINET IO device (conformance class B)
- Device description using GSDML file
- Firmware can be updated
- Integrated web server for web-based management

### Axioline E features

- Connection of digital sensors to M12 connectors (A-coded)
- Diagnostic and status indicators
- Short-circuit and overload protection of the sensor supply
- IP65/67 degree of protection



This data sheet is only valid in association with the associated user manual.

Make sure you always use the latest documentation.

It can be downloaded from the product at [phoenixcontact.net/products](http://phoenixcontact.net/products).



### Abbreviations used

- FSU: Fast Start Up
- MRP: Media Redundancy Protocol
- I&M: Identification & Maintenance

|          |  |    |
|----------|--|----|
| <b>2</b> | <b>Table of contents</b>                             |    |
| 1        | Description .....                                    | 1  |
| 2        | Table of contents .....                              | 2  |
| 3        | Ordering data .....                                  | 3  |
| 4        | Technical data .....                                 | 4  |
| 5        | Internal circuit diagram .....                       | 7  |
| 6        | Pin assignment .....                                 | 8  |
| 6.1      | PROFINET and power supply connection .....           | 8  |
| 6.2      | PROFINET pin assignment .....                        | 8  |
| 6.3      | Pin assignment of the power supply $U_S/U_A$ .....   | 8  |
| 6.4      | Input connection .....                               | 9  |
| 6.5      | Pin assignment of the inputs .....                   | 9  |
| 7        | Connection example .....                             | 10 |
| 8        | Connection notes .....                               | 10 |
| 9        | Local status and diagnostic indicators .....         | 11 |
| 9.1      | Indicators for Ethernet ports and power supply ..... | 11 |
| 9.2      | Input indicators .....                               | 12 |
| 10       | PROFINET IO Device .....                             | 13 |
| 10.10    | I&M functions .....                                  | 15 |
| 10.1     | Status module .....                                  | 13 |
| 10.2     | IO module .....                                      | 13 |
| 10.3     | Swap byte order .....                                | 13 |
| 10.4     | Diagnostic messages .....                            | 14 |
| 10.5     | LLDP - Link Layer Discovery Protocol .....           | 14 |
| 10.6     | MRP - Media Redundancy Protocol .....                | 14 |
| 10.7     | FSU - Fast Startup .....                             | 14 |
| 10.8     | Shared device .....                                  | 14 |
| 10.9     | Device replacement .....                             | 14 |
| 11       | Startup .....  | 16 |
| 11.1     | Delivery state/default settings .....                | 16 |
| 11.2     | Starting the firmware .....                          | 16 |
| 11.3     | Firmware update .....                                | 16 |
| 11.4     | Restoring the default settings .....                 | 16 |
| 12       | WBM - Web-based management .....                     | 17 |
| 13       | SNMP - Simple Network Management Protocol .....      | 17 |
| 14       | Device description file (GSDML) .....                | 17 |

### 3 Ordering data

| Description   | Type                 | Order No. | Pcs./Pkt. |
|---|----------------------|-----------|-----------|
| Axioline E PROFINET device in a metal housing with 16 digital inputs, 24 V DC, M12 fast connection technology | AXL E PN DI16 M12 6M | 2701516   | 1         |

| Accessories  | Type          | Order No. | Pcs./Pkt. |
|--|---------------|-----------|-----------|
| An M12 screw plug for the unoccupied M12 sockets of the sensor/actuator cable, boxes and flush-type connectors (Protection and sealing elements)   | PROT-M12      | 1680539   | 5         |
| Mounting plate for Axioline E metal devices (Assembly)   | AXL E MP 60   | 2701761   | 1         |
| Snap-in markers, Sheet, white, unlabeled, can be labeled with: THERMOMARK CARD, BLUEMARK CLED, BLUEMARK LED, TOPMARK LASER, Mounting type: snapped into marker carrier, Lettering field: 7 x 10 mm (Marking) | UCT-EM (7X10) | 0830765   | 10        |

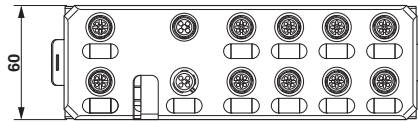
| Documentation  | Type                    | Order No. | Pcs./Pkt. |
|--|-------------------------|-----------|-----------|
| User manual, English, Axioline E: system and installation  | UM EN AXL E SYS INST    | -         | -         |
| Application note, English, Starting up Axioline E PROFINET devices using PC Worx   | AH EN AXL E PN PCWORX   | -         | -         |
| Application note, English, Startup of Axioline E PROFINET devices on a SIMATIC® S7 controller (for experienced S7 users) | AH EN S7 - AXL E PN PRO | -         | -         |

#### Additional ordering data

For additional accessories, visit [phoenixcontact.net/products](http://phoenixcontact.net/products).

## 4 Technical data

### Dimensions (nominal sizes in mm)



|                    |  |
|--------------------|--|
| Width              | 60 mm  |
| Height             | 185 mm   |
| Depth              | 38 mm  |
| Note on dimensions | The height is 194.5 mm including the mounting plate. With fixing clips pulled out, the height is 212 mm. The depth is 38 mm including the mounting plate (30.5 mm without the mounting plate). |

### General data

|                                 |                  |
|---------------------------------|------------------|
| Housing material                | Zinc die-cast    |
| Weight                          | 750 g            |
| Ambient temperature (operation) | -25 °C ... 60 °C |



**CAUTION: Risk of burns**

If the device is used at an ambient temperature above 50°C, the contact temperature of metal surfaces may exceed 70°C.

|  |   |
|--|---|
| Ambient temperature (storage/transport)  | -25 °C ... 85 °C                                  |
| Permissible humidity (operation)         | 5 % ... 95 %                                      |
| Permissible humidity (storage/transport) | 5 % ... 95 %                                      |
| 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) |
| Degree of protection                     | IP65/IP67   |
| Protection class                         | III, IEC 61140, EN 61140, VDE 0140-1              |

### Connection data

|                   |               |
|-------------------|---------------|
| Connection method | M12 connector |
|-------------------|---------------|

### Interface PROFINET

|                              |                                    |
|------------------------------|------------------------------------|
| Number                       | 2                                  |
| Connection method            | M12 connectors, D-coded            |
| Designation connection point | Copper cable                       |
| Number of positions          | 4                                  |
| Transmission speed           | 100 MBit/s (with auto negotiation) |

### PROFINET

|  |                                |
|--|--------------------------------|
| Equipment type                                     | PROFINET Device                |
| Conformance class                                  | B                              |
| Update rate  | 1 ms                           |
| Number of supported application relationships (AR) | 2                              |
| PROFINET protocols                                 | LLDP, MRP client, DCP, DCE-RPC |
| Additional protocols                               | SNMP v1, HTTP, TFTP, FTP       |

### Supply: Module electronics and sensors (U<sub>S</sub>)

|                              |  |
|------------------------------|--|
| Connection method            | M12 connector (T-coded)  |
| Number of positions          | 4  |
| Supply voltage               | 24 V DC  |
| Nominal supply voltage range | 18 V DC ... 31.2 V DC (including all tolerances, including ripple) |
| Typical current consumption  | 190 mA ±15 % (at 24 V DC)  |
| Current consumption          | max. 12 A  |

### Supply: Actuators (U<sub>A</sub>) for additional devices

|                              |  |
|------------------------------|--|
| Connection method            | M12 connector (T-coded)  |
| Number of positions          | 4  |
| Supply voltage               | 24 V DC  |
| Nominal supply voltage range | 18 V DC ... 31.2 V DC (including all tolerances, including ripple) |
| Typical current consumption  | 3 mA ±15 % (at 24 V DC)  |
| Current consumption          | max. 12 A  |

### Digital inputs

|  |                                     |
|--|-------------------------------------|
| Number of inputs   | 16 (EN 61131-2 types 1 and 3)       |
| Connection method  | M12 connector, double occupancy     |
| Connection method  | 2, 3, 4-wire                        |
| Nominal input voltage  | 24 V DC                             |
| Nominal input current  | typ. 3 mA                           |
| Sensor current per channel                                     | typ. 0.75 mA (from U <sub>S</sub> ) |
| Total sensor current   | max. 1.2 A (per device)             |
| Input voltage range "0" signal                                 | -30 V DC ... 5 V DC                 |
| Input voltage range "1" signal                                 | 11 V DC ... 30 V DC                 |
| Input filter time  | < 1000 µs                           |
| Permissible conductor length to the sensor                     | 30 m                                |
| Overload protection, short-circuit protection of sensor supply | Yes                                 |

**Electrical isolation/isolation of the voltage areas**

| Test section   | Test voltage           |
|--|------------------------|
| 24 V supply (communications power and sensor supply, digital inputs)/ bus connection (Ethernet 1)      | 500 V AC, 50 Hz, 1 min |
| 24 V supply (communications power and sensor supply, digital inputs)/ bus connection (Ethernet 2)      | 500 V AC, 50 Hz, 1 min |
| 24 V supply (communications power and sensor supply, digital inputs)/FE                                | 500 V AC, 50 Hz, 1 min |
| Bus connection (Ethernet 1)/FE   | 500 V AC, 50 Hz, 1 min |
| Bus connection (Ethernet 2)/FE   | 500 V AC, 50 Hz, 1 min |
| Bus connection (Ethernet 1)/bus connection (Ethernet 2)  | 500 V AC, 50 Hz, 1 min |
| 24 V supply (actuator supply)/<br>24 V supply (communications power and sensor supply, digital inputs) | 500 V AC, 50 Hz, 1 min |
| 24 V supply (actuator supply)/bus connection (Ethernet 1)  | 500 V AC, 50 Hz, 1 min |
| 24 V supply (actuator supply)/bus connection (Ethernet 2)  | 500 V AC, 50 Hz, 1 min |
| 24 V supply (actuator supply)/FE   | 500 V AC, 50 Hz, 1 min |

**Mechanical tests**

|  |  |
|--|--|
| Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 | 5g                                       |
| Shock in acc. with EN 60068-2-27/IEC 60068-2-27              | 30g, 11 ms period, half-sine shock pulse |
| Continuous shock according to EN 60068-2-27/IEC 60068-2-27   | 10g                                      |

**Conformance with EMC Directive 2004/108/EC**

**Noise immunity test in accordance with EN 61000-6-2**

|  |   |
|--|---|
| Electrostatic discharge (ESD) EN 61000-4-2/IEC 61000-4-2   | Criterion B; 6 kV contact discharge, 8 kV air discharge                             |
| Electromagnetic fields EN 61000-4-3/IEC 61000-4-3          | Criterion A; Field intensity: 10 V/m  |
| Fast transients (burst) EN 61000-4-4/IEC 61000-4-4         | Criterion B, 2 kV   |
| Transient surge voltage (surge) EN 61000-4-5/IEC 61000-4-5 | Criterion B; DC supply lines: $\pm 0.5$ kV/ $\pm 0.5$ kV (symmetrical/asymmetrical) |
| Conducted interference EN 61000-4-6/IEC 61000-4-6          | Criterion A; Test voltage 10 V  |

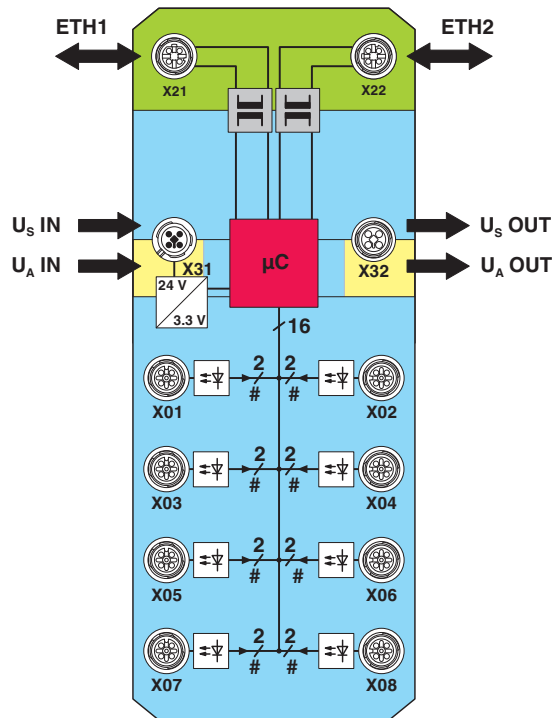
**Noise emission test as per EN 61000-6-4**

|  |         |
|--|---------|
| Radio interference properties EN 55022 | Class A |
|--|---------|

**Approvals**

For the latest approvals, please visit [phoenixcontact.net/products](http://phoenixcontact.net/products).

## 5 Internal circuit diagram



Key:



Transmitter with electrical isolation



Power supply unit with electrical isolation



Microcontroller



Digital input



LED

Figure 1 Internal wiring of connections

Key:

|              |         |
|--------------|---------|
| Green area:  | Network |
| Blue area:   | $U_S$   |
| Yellow area: | $U_A$   |

## 6 Pin assignment

### 6.1 PROFINET and power supply connection



Figure 2 Connections for PROFINET and power supply

| Designation              | Meaning  |
|--------------------------|--|
| Port 1 (X21)             | Ethernet port 1                                    |
| Port 2 (X22)             | Ethernet port 2                                    |
| U <sub>S</sub> IN (X31)  | Power supply IN (logic and sensors)                |
| U <sub>A</sub> IN (X31)  | Power Supply IN (actuators) for additional devices |
| U <sub>S</sub> OUT (X32) | Power supply OUT for additional devices            |
| U <sub>A</sub> OUT (X32) | Power supply OUT for additional devices            |



Ground the device by means of the mounting screws of the fixing clips or the mounting plate or the DIN rail.

### 6.2 PROFINET pin assignment



Figure 3 Pin assignment, D-coded

| Pin | Ethernet port 1 (X21) | Ethernet port 2 (X22) |
|-----|-----------------------|-----------------------|
| 1   | TX+                   | TX+                   |
| 2   | RX+                   | RX+                   |
| 3   | TX-                   | TX-                   |
| 4   | RX-                   | RX-                   |



The shield is connected to FE in the device.



The thread is used for additional shielding.

### 6.3 Pin assignment of the power supply U<sub>S</sub>/U<sub>A</sub>



Figure 4 Pin assignment of the power supply, T-coded

| Pin | IN                         | OUT                        | Conductor colors |
|-----|----------------------------|----------------------------|------------------|
| 1   | +24 V DC (U <sub>S</sub> ) | +24 V DC (U <sub>S</sub> ) | Brown            |
| 2   | GND (U <sub>A</sub> )      | GND (U <sub>A</sub> )      | White            |
| 3   | GND (U <sub>S</sub> )      | GND (U <sub>S</sub> )      | Blue             |
| 4   | +24 V DC (U <sub>A</sub> ) | +24 V DC (U <sub>A</sub> ) | Black            |



6.4 Input connection

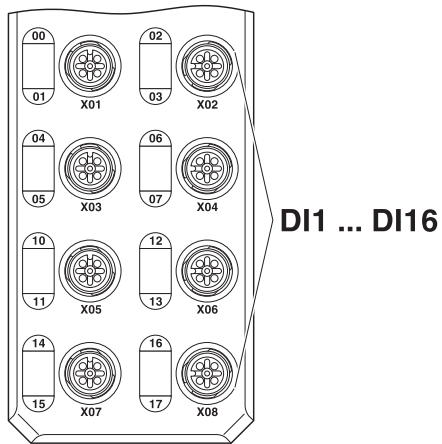


Figure 5 Input connections

| Designation                | Meaning         |
|----------------------------|-----------------|
| DI1 ... DI16 (X01 ... X08) | Inputs 1 ... 16 |

6.5 Pin assignment of the inputs

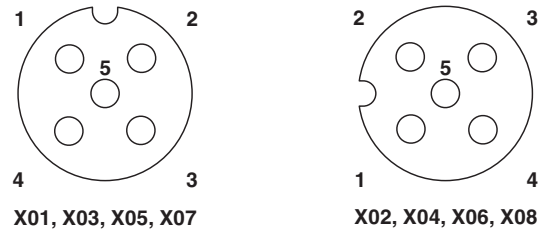


Figure 6 Pin assignment of the inputs, A-coded

| Pin | Input socket          |
|-----|-----------------------|
| 1   | +24 V DC ( $U_S$ )    |
| 2   | Input 2, 4, 6, ... 16 |
| 3   | GND                   |
| 4   | Input 1, 3, 5, ... 15 |
| 5   | FE                    |

## 7 Connection example

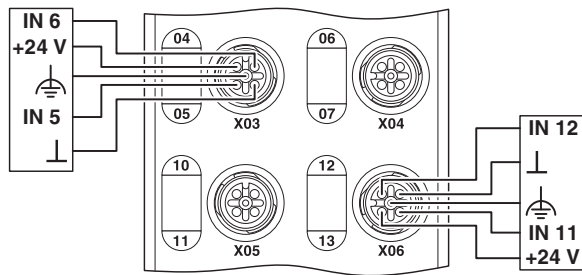


Figure 7 Typical connection of sensors

## 8 Connection notes



**Note: data corruption or loss**

Implement the FE connection using mounting screws, in order to ensure immunity to interference.



**NOTE: device damage**

To ensure IP65/IP67 protection, cover unused sockets with protective caps.



**NOTE: Damage to the electronics**

Only supply the sensors with the voltage  $U_S$  provided at the terminal points.



**NOTE: Damage to the electronics**

Observe the correct polarity of the supply voltages  $U_S$  and  $U_A$  in order to prevent damage to the device.



**NOTE: Malfunction**

When connecting the sensors, observe the assignment of the connections to the PROFINET input data.



Secure the device to a level surface or to a profile. Do not use this device to bridge gaps, in order to prevent forces being transmitted via the device.



Use standard M5 screws with toothed lock washer and self-locking nuts. Observe the maximum torque of the screws.

## 9 Local status and diagnostic indicators

### 9.1 Indicators for Ethernet ports and power supply

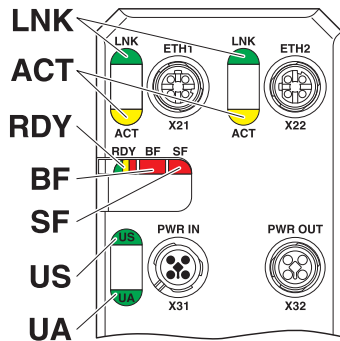


Figure 8 Indicators for Ethernet ports and power supply

| Designation | Color                    | Meaning               | State                     | Description  |
|-------------|--------------------------|-----------------------|---------------------------|--|
| LNK 1/2     | Green                    | Link                  | Green ON                  | Connection present at port 1/2.  |
|             |                          |                       | OFF                       | Connection not present at port 1/2.  |
| ACT 1/2     | Yellow                   | Activity              | Yellow flashing           | Data transmission present at port 1/2.   |
|             |                          |                       | OFF                       | Data transmission not present at port 1/2.   |
| RDY         | Green/<br>yellow/<br>red | Ready                 | Green ON                  | Device ready to operate  |
|             |                          |                       | Yellow flashing           | Firmware update is being performed.  |
|             |                          |                       | Flashing green/<br>yellow | Over- or undervoltage at $U_S$<br>Temperature of the device is in the critical area.<br>And red US LED: sensor supply overload |
|             |                          |                       | OFF                       | Device is not ready for operation.   |
| BF          | Red                      | Bus Fault             | Red ON                    | No link status available on any port   |
|             |                          |                       | Flashing                  | SF LED not flashing: Link status available, no communication connection to the PROFINET controller                             |
|             |                          |                       | Flashing                  | SF LED flashing: hardware watchdog has been triggered.   |
|             |                          |                       | OFF                       | A PROFINET controller has established an active communication connection to the PROFINET device.                               |
| SF          | Red                      | Station Fail          | ON                        | PROFINET diagnostics available   |
|             |                          |                       | Flashing                  | Flashes only together with the BF LED; watchdog triggered  |
|             |                          |                       | OFF                       | PROFINET diagnostics not available   |
| US          | Green/<br>red            | $U_{\text{Sensorik}}$ | Green ON                  | Communications power/sensor voltage present  |
|             |                          |                       | OFF                       | Communications power/sensor voltage not present or too low.  |
|             |                          |                       | Red ON                    | Sensor voltage overload  |
| UA          | Green                    | $U_{\text{Aktorik}}$  | ON                        | Actuator voltage present.  |
|             |                          |                       | OFF                       | Actuator voltage not present.  |

9.2 Input indicators

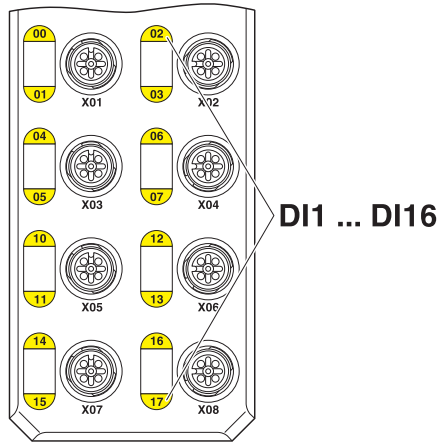


Figure 9 LEDs of the inputs

| Designation             | Color  | Meaning              | State | Description       |
|-------------------------|--------|----------------------|-------|-------------------|
| 00 ... 07,<br>10 ... 17 | Yellow | Status of the inputs | ON    | Input is set.     |
|                         |        |                      | OFF   | Input is not set. |



The numbering of the LEDs is as follows: the first number specifies the byte, the second number specifies the bit.

## 10 PROFINET IO Device

The Axioline E PROFINET device operates as a PROFINET IO device based on PROFINET specification v2.2.

In slot 1 always is the "Status module" with 4 bytes each input process data. In slot 2 is to find the IO module, which contains the process data and startup parameters.

### 10.1 Status module

The status module cyclically provides the following diagnostics options via process data:

| Bit 31 ... bit 6 | Bit 5  | Bit 4    | Bit 3    | Bit 2    | Bit 1 | Bit 0 |
|------------------|--|----------|----------|----------|-------|-------|
| Reserved         | Supply of the module electronics and sensors (U <sub>S</sub> ) |          |          | Reserved |       |       |
| Reserved         | Undervoltage   | Overload | Reserved |          |       |       |

### 10.2 IO module



Depending on the configuration you can process data bytes 0 and 1 swap.

#### Assignment of the terminal points to the IN process data

When the byte order is not reversed, the process data looks like this:

| Input process data |        |    |     |    |     |    |     |    |        |    |     |    |     |    |     |    |
|--------------------|--------|----|-----|----|-----|----|-----|----|--------|----|-----|----|-----|----|-----|----|
| Byte               | Byte 0 |    |     |    |     |    |     |    | Byte 1 |    |     |    |     |    |     |    |
| Bit                | 7      | 6  | 5   | 4  | 3   | 2  | 1   | 0  | 7      | 6  | 5   | 4  | 3   | 2  | 1   | 0  |
| IN                 | 07     | 06 | 05  | 04 | 03  | 02 | 01  | 00 | 17     | 16 | 15  | 14 | 13  | 12 | 11  | 10 |
| Connection         | X04    |    | X03 |    | X02 |    | X01 |    | X08    |    | X07 |    | X06 |    | X05 |    |
| Pin                | 2      | 4  | 2   | 4  | 2   | 4  | 2   | 4  | 2      | 4  | 2   | 4  | 2   | 4  | 2   | 4  |
| DI                 | 8      | 7  | 6   | 5  | 4   | 3  | 2   | 1  | 16     | 15 | 14  | 13 | 12  | 11 | 10  | 9  |

Key:

- Bit: Process data assignment
- IN: LED marking
- DI: Device input

### 10.3 Swap byte order

The byte order of the process data can be changed with the following parameter on the IO module in the slot 2.

| Parameter       | Possible values<br>(bold = default) | Description   |
|-----------------|-------------------------------------|---|
| Swap byte order | <b>0 = off (default)</b><br>1 = on  | With this parameter, the process data can be rotated, ie the byte swap. The parameter "Failsafe substitute value" remains unaffected. |

#### 10.4 Diagnostic messages

PROFINET enables the PROFINET device to store diagnostic information together with the error location and error type. An incoming alarm informs the PROFINET controller that diagnostic information has been entered.

When the diagnostic information has been removed, an outgoing alarm is sent to the device.

If at least one piece of diagnostic information is stored, the SF LED is on. If no diagnostic information is present, the SF LED is off.

The following PROFINET diagnostic messages are indicated by the PROFINET device:

- Overtemperature of the device
- Surge voltage of  $U_S$
- Overload of  $U_S$



Channel diagnostics are always reported in groups of 4.

#### 10.5 LLDP - Link Layer Discovery Protocol

The device supports LLDP according to IEEE 802.1AB and therefore enables topology detection of devices that also have LLDP activated.

Advantages of using LLDP:

- Improved error location detection
- Improved device replacement
- More efficient network configuration

The following information is received by or sent to neighbors, as long as LLDP is activated:

- The device sends its own management and connection information to neighboring devices.
- The device receives management and connection information from neighboring devices.

Engineering tools can be used to represent the LLDP information as a topology overview.

#### 10.6 MRP - Media Redundancy Protocol

The device supports the role of a Media Redundancy Client (MRC) in an MRP network.



Follow the instructions in the documentation for your engineering tool and controller in order to parameterize this function.

#### 10.7 FSU - Fast Startup

The device supports the Fast Startup function. This function enables fast startup of the PROFINET device. The device is ready to operate in < 500 ms.



Follow the instructions in the documentation for your engineering tool and controller in order to parameterize this function.

#### 10.8 Shared device

The device supports the shared device function. This enables two controllers to simultaneously establish a cyclic connection to the device and read input data. Writing outputs can only be activated by the first controller.



Follow the instructions in the documentation for your engineering tool and controller in order to parameterize this function.

#### 10.9 Device replacement

Devices can be replaced without having to reconfigure them within the PROFINET network.

Device replacement is only then possible if the new device is in its default state. The controller must support the device replacement function.

The device name and the device address are assigned by the controller to the newly added PROFINET device with the help of the neighborhood detection function.

### 10.10 I&M functions

The PROFINET device supports Identification & Maintenance functions (I&M). General Identification & Maintenance functions 0 ... 4 can be read via slot 0.

#### I&M 0 (slot 0)

| I&M data              | Access / data type | Presets   |
|-----------------------|--------------------|---|
| MANUFACTURER_ID       | Read / 2 bytes     | B0 <sub>hex</sub> (Phoenix Contact GmbH & Co. KG) |
| ORDER_ID              | Read / 20 bytes    | 2701516   |
| SERIAL_Number         | Read / 16 bytes    | Stipulated in the product process                 |
| HARDWARE_Revision     | Read / 2 bytes     | Corresponds to the hardware version of the device |
| SOFTWARE_Revision     | Read / 4 bytes     | Corresponds to the firmware version of the device |
| REVISION_Counter      | Read / 2 bytes     | 0000 <sub>hex</sub> (reserved)                    |
| PROFILE_ID            | Read / 2 bytes     | 4E00 <sub>hex</sub> (generic device)              |
| PROFILE_SPECIFIC_TYPE | Read / 2 bytes     | 0003 <sub>hex</sub> (IO module)                   |
| IM_VERSION            | Read / 2 bytes     | 0101 <sub>hex</sub> (Version 1.1)                 |
| IM_SUPPORTED          | Read / 2 bytes     | 001E <sub>hex</sub> (I&M 1 ... 4)                 |

#### I&M 1 (slot 0)

| I&M data     | Access / data type    | Presets                      |
|--------------|-----------------------|------------------------------|
| TAG_FUNCTION | Read/write / 32 bytes | "20 <sub>hex</sub> " (empty) |
| TAG_LOCATION | Read/write / 22 bytes | "20 <sub>hex</sub> " (empty) |

#### I&M 2 (slot 0)

| I&M data          | Access / data type    | Presets                      |
|-------------------|-----------------------|------------------------------|
| INSTALLATION_DATE | Read/write / 16 bytes | "20 <sub>hex</sub> " (empty) |
| RESERVED          | Read/write / 38 bytes | 00 <sub>hex</sub>            |

#### I&M 3 (slot 0)

| I&M data   | Access / data type    | Presets                      |
|------------|-----------------------|------------------------------|
| DESCRIPTOR | Read/write / 54 bytes | "20 <sub>hex</sub> " (empty) |

#### I&M 4 (slot 0)

| I&M data  | Access / data type    | Presets                      |
|-----------|-----------------------|------------------------------|
| SIGNATURE | Read/write / 54 bytes | "20 <sub>hex</sub> " (empty) |

## 11 Startup

### 11.1 Delivery state/default settings

By default upon delivery, the following functions and features are available:

#### PROFINET

|                     |                      |
|---------------------|----------------------|
| PROFINET name:      | No name assigned     |
| IP parameters:      | 0.0.0.0              |
| Subnet mask:        | 0.0.0.0              |
| Default Gateway:    | 0.0.0.0              |
| Device designation: | AXL E PN DI16 M12 6M |
| Vendor ID:          | 00B0 <sub>hex</sub>  |
| Device ID:          | 0104 <sub>hex</sub>  |

#### Firmware update

|                                  |                 |
|----------------------------------|-----------------|
| Firmware update on next restart: | deactivated     |
| TFTP server IP address:          | 192.168.210.211 |
| Firmware file name:              | FIRMWARE.NXF    |

#### System identification

|                  |                         |
|------------------|-------------------------|
| Device name:     | No name assigned        |
| Description:     | No description assigned |
| Device location: | No location assigned    |
| Contact:         | No contact assigned     |

#### Web-based Management (WBM)

|            |         |
|------------|---------|
| User name: | admin   |
| Password:  | private |

### 11.2 Starting the firmware

Once you have connected the power, the firmware is started.

After completion of the firmware boot process, the RDY LED lights up green.

After completion of the firmware boot process, the BF LED either lights up or flashes.

### 11.3 Firmware update

In order to update the firmware of the device, the device must be provided with a firmware container via a TFTP server or it must be loaded onto the device via FTP. Any FTP client or TFTP server can be used for this. The update must always be initiated by the web-based management. When carrying out the firmware update, the RDY LED flashes yellow.

### 11.4 Restoring the default settings

The default settings can be restored via WBM.

To do this, go to:

Administration web page > default settings and follow the instructions.



## 12 WBM - Web-based management

The device has a web server, which generates the required pages for web-based management and, depending on the requirements of the user, sends them to a standard web browser. Web-based management can be used to access static information (e.g., technical data, MAC address) or dynamic information (e.g., IP address, status information).



You can access web-based management by entering the IP address you assigned to the device in the browser.



If you cannot access the WBM pages, check the connection settings in your browser and deactivate the proxy, if set.

## 13 SNMP - Simple Network Management Protocol

The device supports SNMP v1.

### Management Information Base - MIB



The corresponding latest MIBs are available on the Internet at [phoenixcontact.net/products](http://phoenixcontact.net/products).

For the object descriptions, please refer to the ASN1 descriptions for this product.

The password for read access is “public” and cannot be changed.

By default upon delivery, the password for write/read access is “private” and can be modified at any time.

By default, the password for write and read access is “private” and can be changed at any time.

## 14 Device description file (GSDML)

### PC Worx

Parameterization of the PROFINET device in PC Worx requires at least PC Worx Version 6.30.601. This is part of the AUTOMATION Software Suite 2013, Version 1.80, Order No. 2985660.

An online data sheet of the device with important technical data and a configuration file are integrated into PC Worx. If several versions of the configuration file are available, make sure that you are working with the file version that corresponds to the firmware/hardware version used.

### Other tools (STEP 7 ...)

The PROFINET device is parameterized using the configuration tool of the PROFINET controller. For parameterization, integrate the corresponding device GSDML file in the relevant software tool (STEP 7/HW Config, etc.).



For the latest device description files, visit [phoenixcontact.net/products](http://phoenixcontact.net/products). If several versions of the device description file are available, make sure that you are working with the file version that corresponds to the firmware/hardware version used.

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,  
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А