



# ibaPDA-Interface-Logix-Xplorer

PLC-Xplorer Data Interface for  
Rockwell Logix PLCs

Manual

Issue 1.5

Measurement Systems for Industry and Energy

[www.iba-ag.com](http://www.iba-ag.com)

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The current version is available for download on our web site [www.iba-ag.com](http://www.iba-ag.com).

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1.5	01-2023	Diagnostic modules	RM	7.0.0

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# 1 About this Manual

This document describes the function and application of the software interface

*ibaPDA-Interface-Logix-Xplorer*

This documentation is a supplement to the *ibaPDA* manual. Information about all the other characteristics and functions of *ibaPDA* can be found in the *ibaPDA* manual or in the online help.

## 1.1 Target group and previous knowledge

This documentation addresses qualified professionals, who are familiar with handling electrical and electronic modules as well as communication and measurement technology. A person is regarded as a professional if he/she is capable of assessing the work assigned to him/her and recognizing possible risks on the basis of his/her specialist training, knowledge and experience and knowledge of the standard regulations.

This documentation in particular addresses persons, who are concerned with the configuration, test, commissioning or maintenance of Programmable Logic Controllers of the supported products. For the handling *ibaPDA-Interface-Logix-Xplorer* the following basic knowledge is required and/or useful:

- Windows operating system
- Knowledge of configuration and operation of the relevant control system

## 1.2 Notations

In this manual, the following notations are used:

Action	Notation
Menu command	Menu <i>Logic diagram</i>
Calling the menu command	<i>Step 1 – Step 2 – Step 3 – Step x</i> Example: Select the menu <i>Logic diagram – Add – New function block</i> .
Keys	<Key name> Example: <Alt>; <F1>
Press the keys simultaneously	<Key name> + <Key name> Example: <Alt> + <Ctrl>
Buttons	<Key name> Example: <OK>; <Cancel>
Filenames, paths	<i>Filename, Path</i> Example: <i>Test.docx</i>

## 1.3 Used symbols

If safety instructions or other notes are used in this manual, they mean:

---

### Danger!



**The non-observance of this safety information may result in an imminent risk of death or severe injury:**

- Observe the specified measures.
- 

### Warning!



**The non-observance of this safety information may result in a potential risk of death or severe injury!**

- Observe the specified measures.
- 

### Caution!



**The non-observance of this safety information may result in a potential risk of injury or material damage!**

- Observe the specified measures
- 

### Note



A note specifies special requirements or actions to be observed.

---

### Tip



Tip or example as a helpful note or insider tip to make the work a little bit easier.

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### Other documentation



Reference to additional documentation or further reading.

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## 2 System requirements

The following system requirements are necessary for the use of the Logix-Xplorer data interface:

- ibaPDA v7.0.0 or more recent
- *ibaPDA* base license + license for *ibaPDA-Interface-PLC-Xplorer* or *ibaPDA-Interface-Logix-Xplorer*
- If you need more than 16 connections, you will require additional *one-step-up-Interface-Logix-Xplorer* licenses for each additional 16 connections.

### Note



The *ibaPDA-Interface-PLC-Xplorer* license contains, among others, the license for this interface.

The following Allen-Bradley controllers with Ethernet interface or Ethernet module (EtherNet/IP) are supported:

- 1756 ControlLogix
- 1756 GuardLogix
- 1768 CompactLogix
- 1769 CompactLogix
- 1789 SoftLogix
- 1794 FlexLogix

If you require more information about the Ethernet modules for the different controllers, please contact Rockwell Automation directly.

For further requirements for the used computer hardware and the supported operating systems, please refer to the *ibaPDA* documentation.

### License information

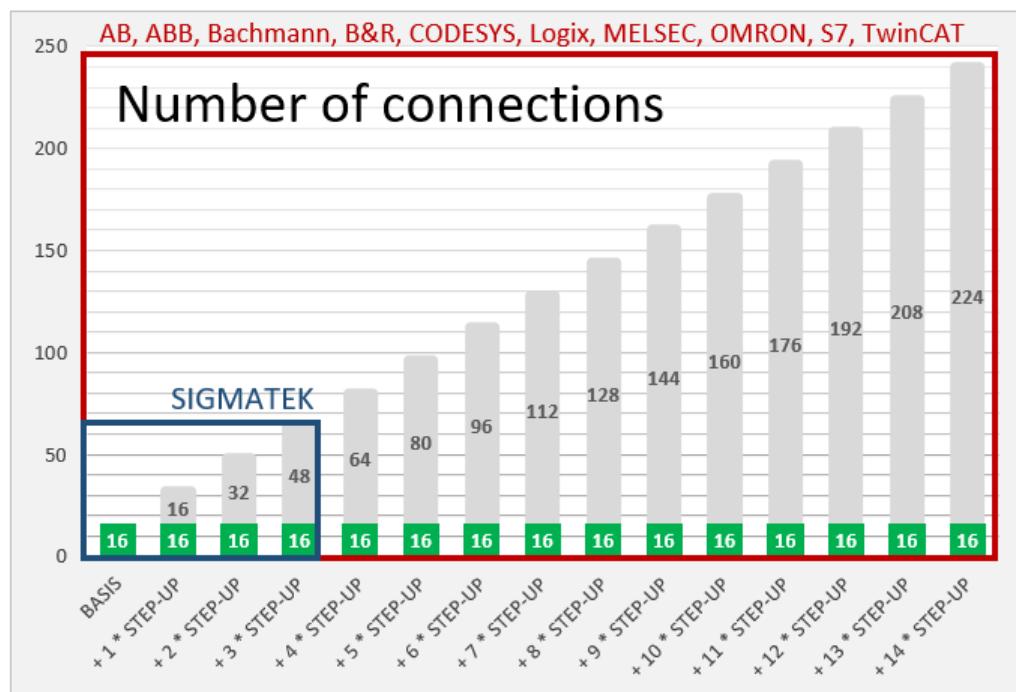
Order no.	Product name	Description
31.001042	ibaPDA-Interface-PLC-Xplorer	Extension license for an ibaPDA system adding all available Xplorer data interfaces. (Full specification under <a href="http://www.iba-ag.com">www.iba-ag.com</a> )
31.000007	ibaPDA-Interface-Logix-Xplorer	Extension license for an ibaPDA system adding the data interface: + Logix-Xplorer (interface to Allen-Bradley)

Order no.	Product name	Description
31.100007	one-step-up-Interface-Logix-Xplorer	Extension license for 16 further Logix-Xplorer-connections, a maximum of 14 is permissible

Table 1: Available Logix-Xplorer-licenses

**Note**

To use more than 16 data connections per interface, you can purchase the one-step-up-... extension licenses separately for each interface. Up to 16 further connections to PLCs can be established on each one-step-up-license. Up to 240 connections can be configured and used per data interface with the multiple purchase or multiple release of these licenses (up to 15 in total). Exception of SIGMATEK: Here, only up to 4 licenses (64 connections) can be activated.



Consider the limitation of the number of signals by the *ibaPDA* base license.

## 3 PLC-Xplorer data interface to Logix systems

### 3.1 General information

The Logix-Xplorer interface is suitable for the recording of measured data with *ibaPDA* on an Allen Bradley Controller, type ControlLogix, or CompactLogix using an EtherNet/IP connection.

#### Other documentation



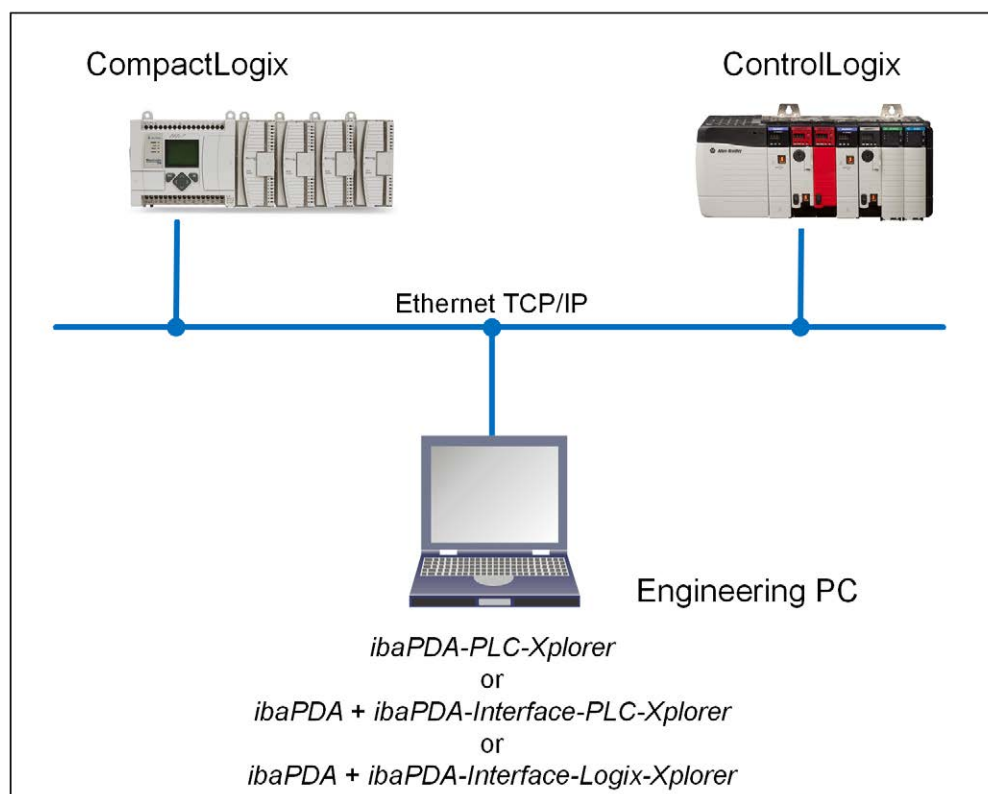
For more information about the EtherNet/IP protocol, see the *ibaPDA-Interface-EtherNetIP* manual.

The data is cyclically read by *ibaPDA* instead of being sent by the PLC.

In the Logix controller, no programming and configuration is necessary for establishing a connection between *ibaPDA* and a controller with defined IP address and for sending the respective signals. For transferring measurement data, no additional software of Rockwell Automation is necessary.

The module type Logix-Xplorer supports CIP-routing, i.e. a connection even through different bus systems (EtherNet/IP, ControlNet, DeviceNet) if the target CPU cannot be connected directly by *ibaPDA*.

### 3.2 System topologies





Physically, the connection between the *ibaPDA* computer and the Logix controller is established via the standard network interface of the computer or via an additional network card.

#### Note



It is recommended carrying out the TCP/IP communication on a separate network segment to exclude a mutual influence by other network components.

### 3.3 Configuration and engineering Logix PLC

No particular configuration and programming is required on the controller side as a matter of principle. In particular, it is not necessary to call any program modules.

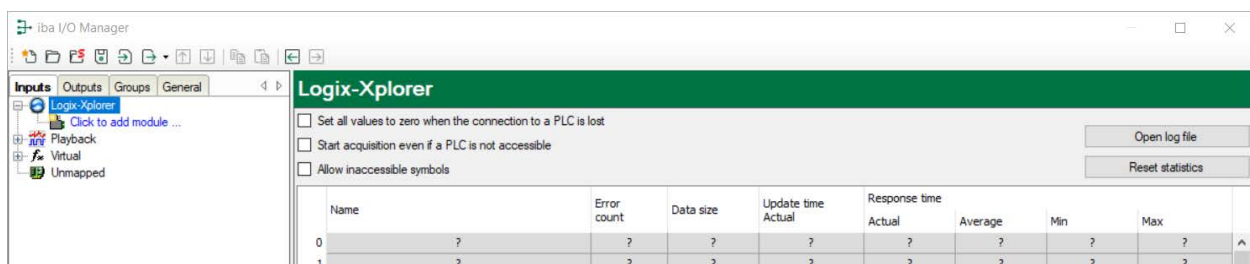
### 3.4 Configuration and engineering ibaPDA

The engineering for *ibaPDA* is described in the following. If all system requirements are fulfilled, *ibaPDA* displays the *Logix-Xplorer* interface in the signal tree of the I/O Manager.

#### 3.4.1 Interface settings

If you have marked the Logix-Xplorer interface in the tree, an overview with diagnostic information about the configured connections between *ibaPDA* and the controllers will be displayed.

The interface itself has the following functions and configuration options:



#### Set all values to zero when the connection to a PLC is lost

If enabled, all measured values of the PLC are set to zero as soon as the connection was lost. If this option is disabled, *ibaPDA* will keep the last valid measured data in memory at the time the connection was lost.

#### Start acquisition even if a PLC is not accessible

If this option is enabled, the acquisition will start even if a Logix controller is not accessible. Instead of an error, a warning is indicated in the validation dialog. If the system has been started without a connection to the Logix controller, *ibaPDA* will periodically try to connect to the PLC. As long as the PLC is not connected, the measured values will be at 0.

#### Allow inaccessible symbols.

Enable this option if you wish to start acquisition even if symbols are not accessible. The inaccessible symbols are issued as warnings in the validation dialog box, not as errors.

This can only occur if the address book is not up-to-date.

If you do not enable this option, measurement will not start when inaccessible symbols are present.

### Connection table

For each connection, the table shows the connection status, the current values for the update time (current, real value, average, min. and max.) as well as the data size. In addition, you will find an error counter here for the individual connections during the acquisition.

See ↗ *Connection table*, page 19.

### <Open log file>

If connections to controllers have been established, all connection specific actions are recorded in a text file. Using this button, you can open and check this file. In the file system on the hard disk, you find the log files of the *ibaPDA* server (...\\ProgramData\\iba\\ibaPDA\\Log). The file name of the current log file is *InterfaceLog.txt*; the name of the archived log files is *InterfaceLog\_yyyymmdd\_hhmmss.txt*.

### <Reset statistics>

Click this button to reset the calculated times and error counters in the table to 0.

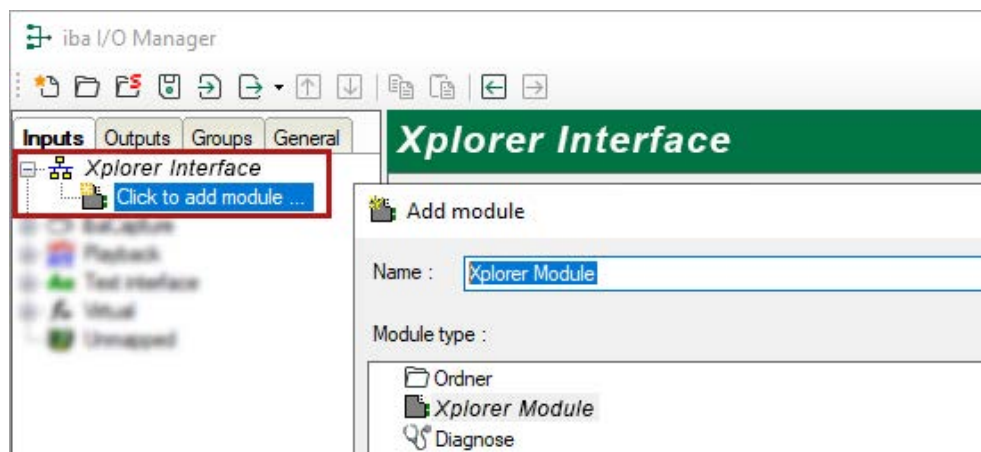
### Note



For TCP/IP connections, the RSLinx software does not have to be installed on the *ibaPDA* computer.

## 3.4.2 Adding a module

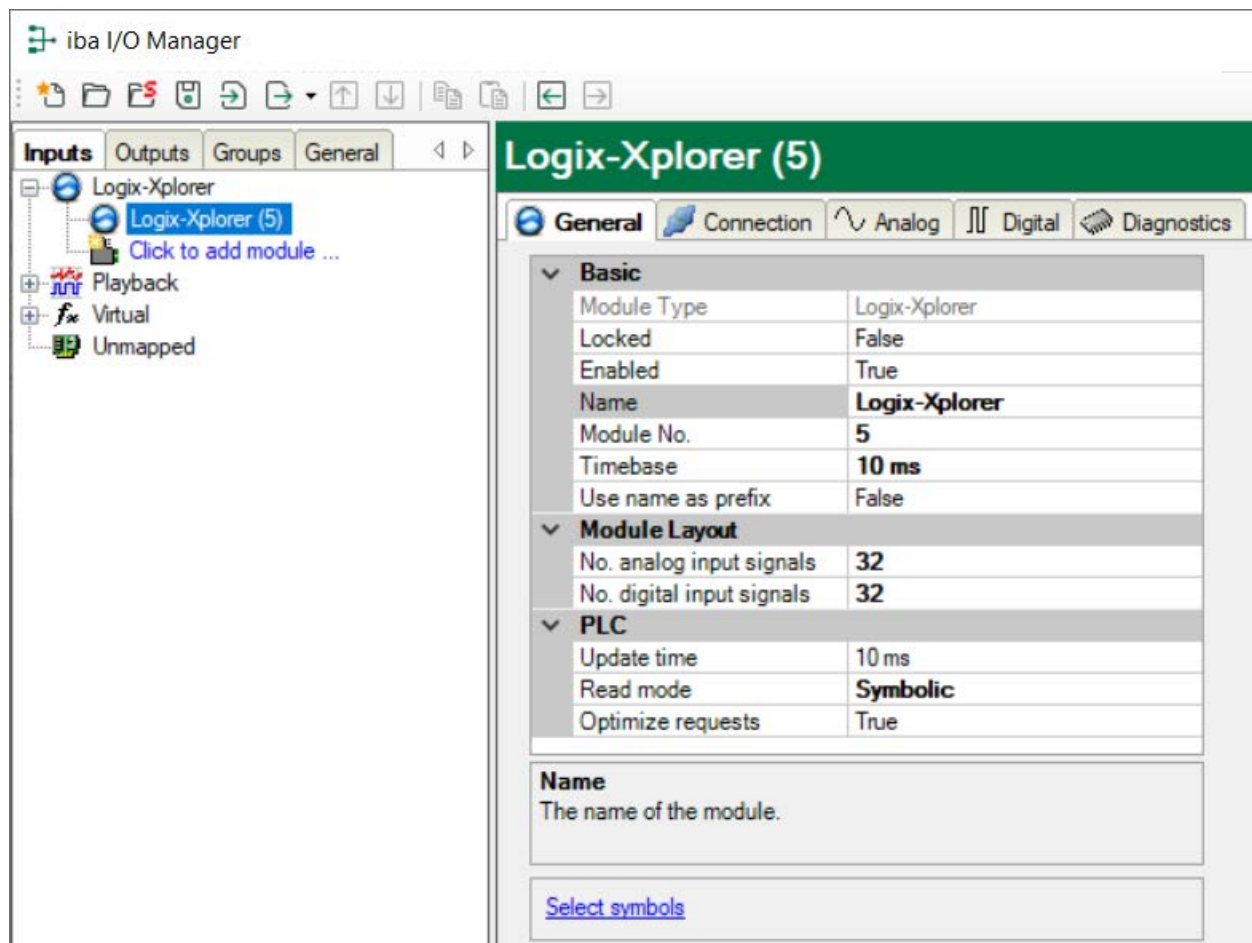
1. Click on the blue command *Click to add module...* located under each data interface in the *Inputs* or *Outputs* tab.
2. Select the desired module type in the dialog box and assign a name via the input field if required.
3. Confirm the selection with <OK>.



### 3.4.3 General module settings

To configure a module, select it in the tree structure.

All modules have the following setting options.



#### Basic settings

##### Module Type (information only)

Indicates the type of the current module.

##### Locked

You can lock a module to avoid unintentional or unauthorized changing of the module settings.

##### Enabled

Enable the module to record signals.

##### Name

Here you can enter a name for the module.

##### Module No.

This internal reference number of the module determines the order of the modules in the signal tree of *ibaPDA* client and *ibaAnalyzer*.

##### Timebase

All signals of the module are sampled on this time base.

**Use name as prefix**

This option puts the module name in front of the signal names.

**Module Layout****No. of analog signals/digital signals**

Define the number of configurable analog and digital signals in the signal tables. The default value is 32 for each. The maximum value is 1000. The signal tables are adjusted accordingly.

**PLC****Update time**

Specifies the reference update time in which the data is requested from the PLC. During measurement, the real current update time may be higher than the specified value if the PLC needs more time to transmit the data. You can check in the connection table how fast the data is actually updated.

**Read Mode**

There are three different modes available for accessing the data to be measured:

- Symbolic

This is the most general but also the least powerful method. The symbols are being addressed in each reading cycle with their full symbolic path. This method creates an enormous overhead, as the PLC has to resolve this path into a memory address for each symbol and in each reading cycle. By creating groups, *ibaPDA* automatically tries to optimize the reading process. If possible, e.g. whole structures are requested instead of individual "Members".

- Address

For PLCs with a firmware version lower than 21, you can use the address mode. With this method, the addresses of all tags are retrieved in course of the address book creation, yet. As the tags are requested with their address and the PLC does not have to resolve the symbol names for each reading cycle, this is the most powerful method. Possibly, some PLC types do not support this read mode.

- Instance

This read mode is an alternative option to the "Symbolic" mode for PLCs with firmware version 21 or higher.

This method does not address the symbols with their complete path. The symbols are addressed via the ID of their instance. The instance ID is being retrieved in course of the creation of the address books.

### 3.4.4 Connection settings

Configure the connection of the module to the controller in the *Connection* tab.

**Logix-Xplorer (7)**

General **Connection** Analog Digital Diagnostics

Connection

IP address: 192.168.123.5 Create address book

Mode: Direct connection Test connection

CPU slot: 0

Timeout (s): 5

Successfully connected to 192.168.123.5:0  
 Vendor: Allen-Bradley  
 Device type: ControlNet Programmable Logic Controller  
 Product code: 55  
 Revision: 19.11  
 Processor state: Program Mode  
 Key position: REM  
 Serial number: 0076978D  
 Product name: 1756-L65/B LOGIX5565  
 Successfully disconnected from 192.168.123.5:0

#### IP address

Enter the IP address of the Logix PLC. The pre-defined default value is just an example.

#### Mode

Select the mode "Routed connection" if the target CPU cannot be reached directly by *ibaPDA*. The access can be established through different bus systems. If the target CPU can be connected directly with *ibaPDA*, select the mode "Direct connection".

#### CPU slot/Path

If the mode "Direct connection" is enabled, enter the slot no. of the CPU, which should be connected with *ibaPDA*. If the mode "Connection via Routing" is enabled, enter the connection path, which describes how to reach the CPU. It consists of different segments separated by a comma. Each segment consists of 2 parts also separated by a comma: the port and the destination address on the port. The port can be a Backplane, A, B or a number. The destination address can be a backplane slot, a DH+ address, ControlNet address or an IP address.

Example: Backplane,1,A,192.168.200.154,Backplane,0.

#### Timeout

The timeout refers to the establishment of the connection at the beginning of the measurement process, for testing the connection and for re-establishing a lost connection during the measurement process. The default value is 5 s. In case the establishment of the connection should take too long and is considered to have failed, you can adapt this value for giving the setup of the connection more time.

#### <Create address book>

If you click on this button *ibaPDA* reads the list of the tags from the PLC and stores it in an address book for later use in the symbol browser.

#### <Test connection>

After having done the settings mentioned above, please click on this button. *ibaPDA* retrieves some basic information from the PLC and displays it in the large text field.

### 3.4.5 Signal configuration

In the *Analog* or *Digital* tab you configure the signals to be measured. In the *General* tab under *Module Layout* you define the length of the signal tables or the number of signals per table.

---

**Note**

Observe the maximum number of signals permitted by your license.

---

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**Note**

Take into consideration that the number of signals, which are read by a CPU, influences the minimum achievable read cycle. The more signals recorded, the slower the reachable reading cycle.

---

You can configure tags and tag members, i.e. individual values, arrays or structures.

*ibaPDA* supports the following data types:

- BOOL
- SINT (8 bit)
- INT (16 bit)
- DINT (32 bit)
- LINT (64 bit)
- REAL (32 bit)
- DWORD (32-bit array of BOOLs)
- STRING (32 bit)

---

**Note**

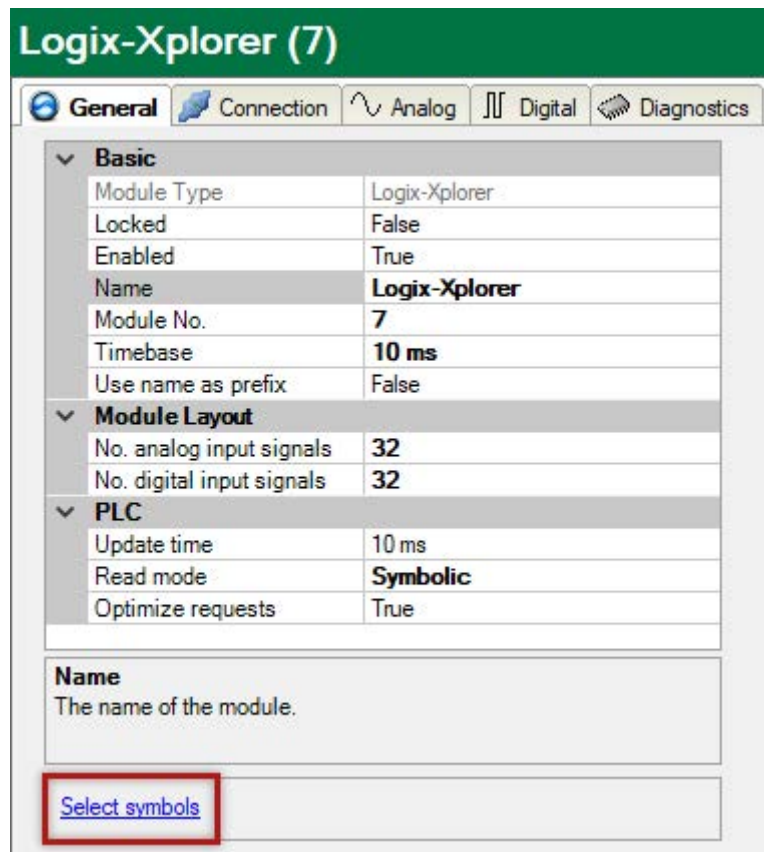
The module *TDC TCP/UDP General* supports the acquisition and processing of strings as text signals. Therefore, you can select the datatype STRING[32] in the *Analog* tab. In order to convert a text signal oder to split it up into several text signals use the *text splitter* module under the *Virtual* interface.

---

#### Selection of the signals to be measured

You have two options to select the signals to be measured:

1. Click on the *Select symbols* hyperlink in the module's *General* tab.



Clicking on the link opens the Logix-Xplorer symbol browser.


- You can see analog values and digital values.
- With a double-click or with the <Add> button, you copy the marked variable to the current row of the analog or digital tab.  
The marker in the symbol browser jumps to the next variable and the marker in the signals table jumps to the next row.
- The browser can only be closed with the <Close> button.

#### Note



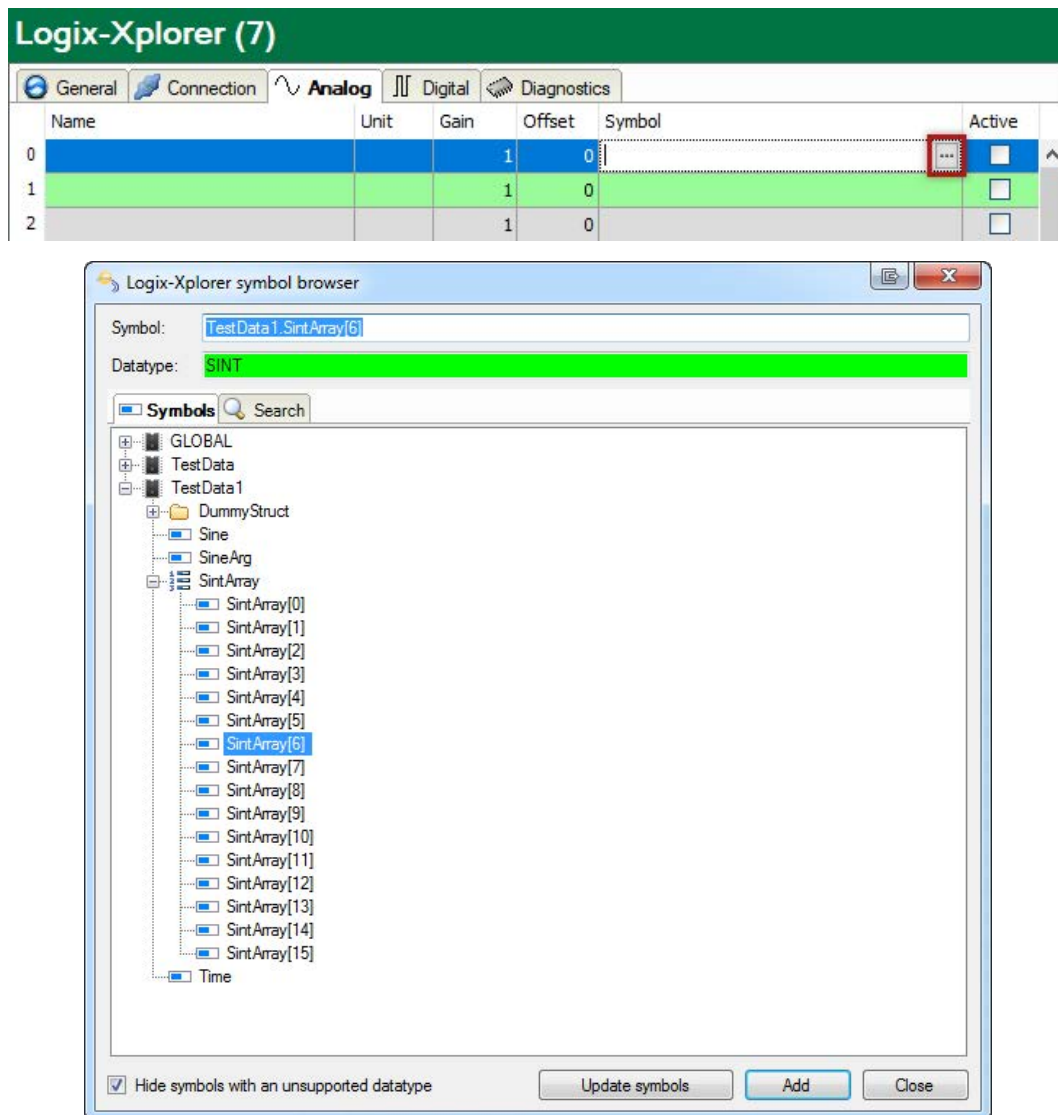
You can hide all unsupported data types by checking the "Hide symbols with an unsupported datatype" checkbox.

2. Clicking on a field in the "Symbol" column of the *Analog* or *Digital* tab.

The icon  becomes visible. A click on the icon opens the Logix-Xplorer symbol browser.

- Depending on the tab you open the browser with, you can only see analog or digital values.
- With a double-click or <OK>, you adopt the marked variable to the signal table and the browser will be closed.

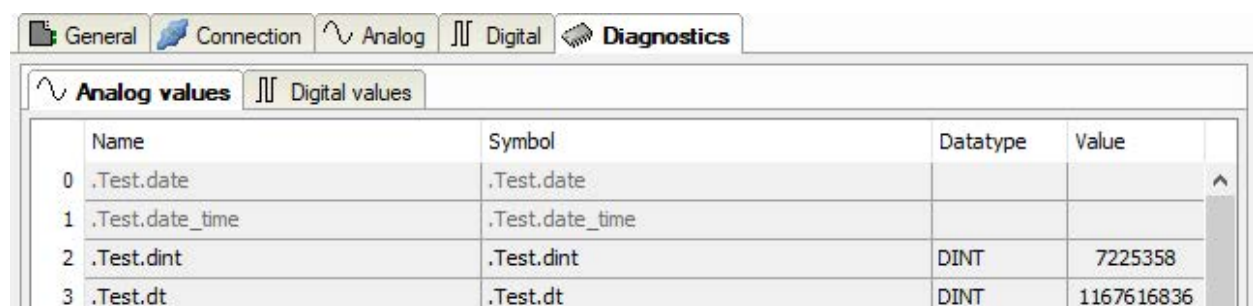




On the *Search* tab, you can search symbols by name. The search result tree works in the same way as the complete symbol tree.

### 3.4.6 Module diagnostics

After applying the configuration the actual values of the analog and digital signals are displayed in the *Diagnostics* tab of the relevant module.



Inactive signals are grayed out.



## 4 Diagnostics

### 4.1 License

If the interface is not displayed in the signal tree, you can either check in *ibaPDA* in the I/O Manager under *General – Settings* or in the *ibaPDA* service status application whether your license for this interface has been properly recognized. The number of licensed connections is shown in brackets.

The figure below shows the license for the *Codesys Xplorer* interface as an example.

License

License number:

Customer name:

License time limit:

Container id:

Container type:

Required EUP date:

EUP date:

License options:

- ibaPDA-Data-Store-MindSphere (1024)
- ibaPDA-Data-Store-MQTT (1024)
- ibaPDA-Data-Store-InfluxDB (1024)
- ibaPDA-Interface-S7-Xplorer (16)
- ibaPDA-Interface-AB-Xplorer (16)
- ibaPDA-Interface-Codesys-Xplorer (16)**
- ibaPDA-Interface-Sigmatek-Xplorer (16)
- ibaPDA-Interface-TwinCAT-Xplorer (16)
- ibaPDA-Interface-B&R-Xplorer (16)
- ibaPDA-Interface-Logix-Xplorer (16)

### 4.2 Log files

If connections to target platforms or clients have been established, all connection-specific actions are logged in a text file. You can open this (current) file and, e.g., scan it for indications of possible connection problems.

You can open the log file via the button <Open log file>. The button is available in the I/O Manager:

- for many interfaces in the respective interface overview
- for integrated servers (e.g. OPC UA server) in the *Diagnostics* tab.

In the file system on the hard drive, you can find the log files of the *ibaPDA* server (...\[ProgramData\iba\ibaPDA\Log](#)). The file names of the log files include the name or abbreviation of the interface type.

Files named [interface.txt](#) are always the current log files. Files named [Interface\\_yyyy\\_mm\\_dd\\_hh\\_mm\\_ss.txt](#) are archived log files.

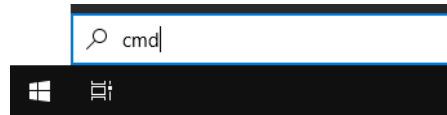
Examples:

- [ethernetipLog.txt](#) (log of EtherNet/IP connections)
- [AbEthLog.txt](#) (log of Allen-Bradley Ethernet connections)
- [OpcUAServerLog.txt](#) (log of OPC UA server connections)

## 4.3 Connection diagnostics with PING

PING is a system command with which you can check if a certain communication partner can be reached in an IP network.

1. Open a Windows command prompt.



2. Enter the command "ping" followed by the IP address of the communication partner and press <ENTER>.

→ With an existing connection you receive several replies.

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0]
(c) Microsoft Corporation. All rights reserved.

C:\Windows\system32>ping 192.168.1.10

Pinging 192.168.1.10 with 32 bytes of data:
Reply from 192.168.1.10: bytes=32 time=1ms TTL=30
Reply from 192.168.1.10: bytes=32 time<1ms TTL=30
Reply from 192.168.1.10: bytes=32 time<1ms TTL=30
Reply from 192.168.1.10: bytes=32 time<1ms TTL=30

Ping statistics for 192.168.1.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\Windows\system32>
```

→ With no existing connection you receive error messages.

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0]
(c) Microsoft Corporation. All rights reserved.

C:\Windows\system32>ping 192.168.1.10

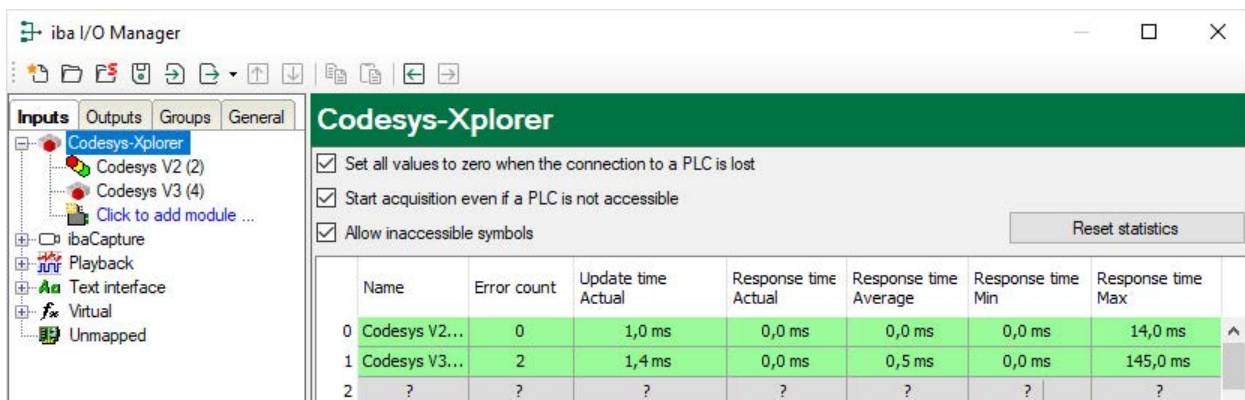
Pinging 192.168.1.10 with 32 bytes of data:
Reply from 192.168.1.10: Destination host unreachable.
Reply from 192.168.1.10: Destination host unreachable.
Reply from 192.168.1.10: Destination host unreachable.
Reply from 192.168.1.10: Destination host unreachable.

Ping statistics for 192.168.1.10:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

C:\Windows\system32>
```

## 4.4 Connection table

For every Ethernet-based interface, there is a table available in the I/O Manager which shows the status of each connection. Each line represents one connection. The following figure shows, as an example, the connection table of the Codesys-Xplorer interface:



The connected target systems (controllers) are identified by their name or IP address in the first (left) column.

Depending on the interface type the table shows error counters, read counters and/or data sizes, as well as the cycle times, refresh times and/or update times of the different connections during the data acquisition. Click the <Reset statistics> button to reset the error counters and the calculation of the response times.

Additional information is provided by the background color of the table rows:

Color	Meaning
Green	The connection is OK and the data are read.
Yellow	The connection is OK, however the data update is slower than the configured update time.
Red	The connection has failed.
Gray	No connection configured.

## 4.5 Diagnostic modules

Diagnostic modules are available for most Ethernet based interfaces and Xplorer interfaces. Using a diagnostic module, information from the diagnostic displays (e. g. diagnostic tabs and connection tables of an interface) can be acquired as signals.

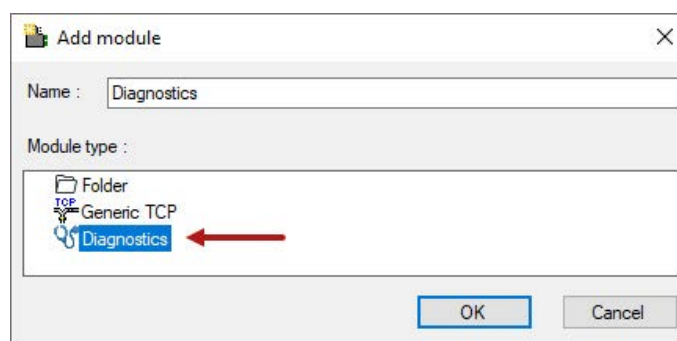
A diagnostic module is always assigned to a data acquisition module of the same interface and supplies its connection information. By using a diagnostic module you can record and analyze the diagnostic information continuously in the *ibaPDA* system.

Diagnostic modules do not consume any license connections, since they do not establish their own connection, but refer to another module.

Example for the use of diagnostic modules:

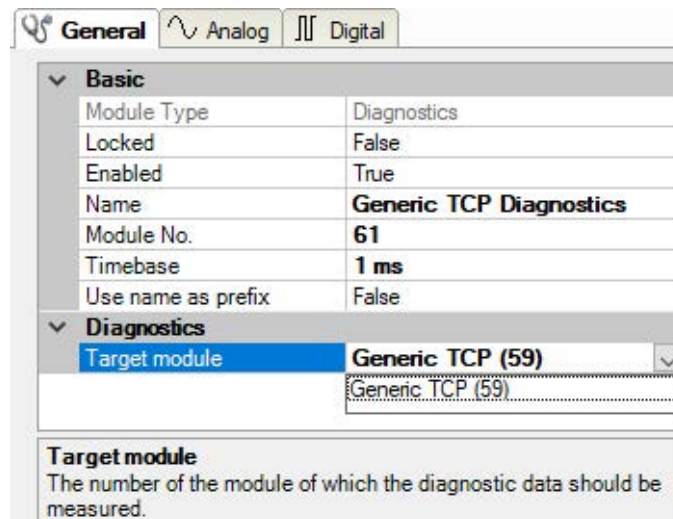
- A notification can be generated, whenever the error counter of a communication connection exceeds a certain value or the connection gets lost.
- In case of a disturbance, the current response times in the telegram traffic may be documented in an incident report.
- The connection status can be visualized in *ibaQPanel*.
- You can forward diagnostic information via the SNMP server integrated in *ibaPDA* or via OPC DA/UA server to superordinate monitoring systems like network management tools.

In case the diagnostic module is available for an interface, a "Diagnostics" module type is shown in the "Add module" dialog (example: Generic TCP).



### Module settings diagnostic module

For a diagnostic module, you can make the following settings (example: Generic TCP):



**General** Analog Digital

**Basic**

Module Type	Diagnostics
Locked	False
Enabled	True
Name	Generic TCP Diagnostics
Module No.	61
Timebase	1 ms
Use name as prefix	False

**Diagnostics**

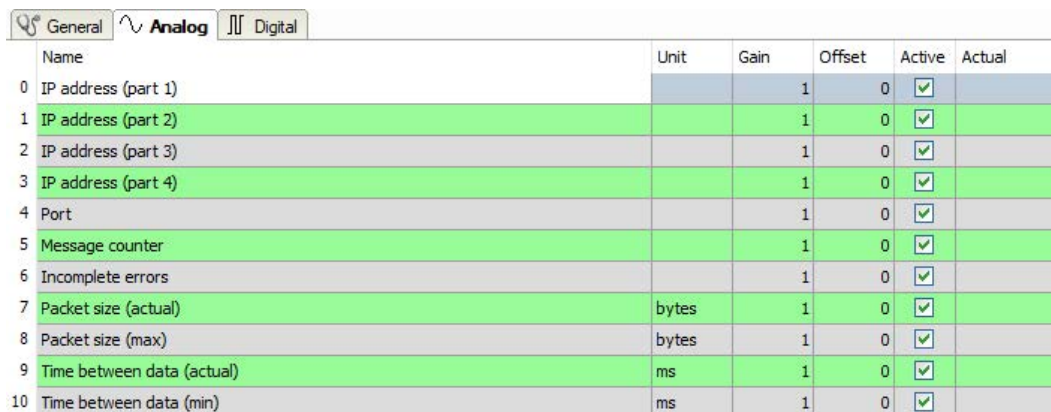
Target module	Generic TCP (59)
---------------	------------------

**Target module**  
The number of the module of which the diagnostic data should be measured.

The basic settings of a diagnostic module equal those of other modules.

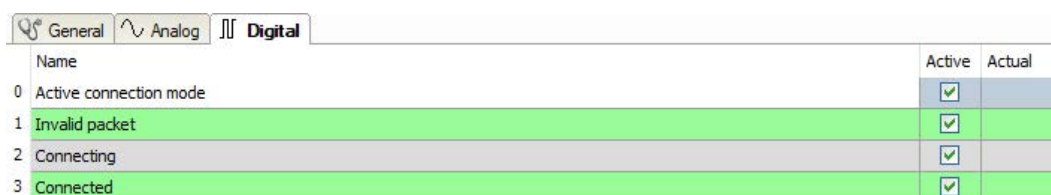
There is only one setting which is specific for the diagnostic module: the target module.

By selecting the target module, you assign the diagnostic module to the module on which you want to acquire information about the connection. You can select the supported modules of this interface in the drop down list of the setting. You can assign exactly one data acquisition module to each diagnostic module. When having selected a module, the available diagnostic signals are immediately added to the *Analog* and *Digital* tabs. It depends on the type of interface, which signals exactly are added. The following example lists the analog values of a diagnostic module for a Generic TCP module.



	Name	Unit	Gain	Offset	Active	Actual
0	IP address (part 1)		1	0	<input checked="" type="checkbox"/>	
1	IP address (part 2)		1	0	<input checked="" type="checkbox"/>	
2	IP address (part 3)		1	0	<input checked="" type="checkbox"/>	
3	IP address (part 4)		1	0	<input checked="" type="checkbox"/>	
4	Port		1	0	<input checked="" type="checkbox"/>	
5	Message counter		1	0	<input checked="" type="checkbox"/>	
6	Incomplete errors		1	0	<input checked="" type="checkbox"/>	
7	Packet size (actual)	bytes	1	0	<input checked="" type="checkbox"/>	
8	Packet size (max)	bytes	1	0	<input checked="" type="checkbox"/>	
9	Time between data (actual)	ms	1	0	<input checked="" type="checkbox"/>	
10	Time between data (min)	ms	1	0	<input checked="" type="checkbox"/>	

For example, the IP (v4) address of a Generic TCP module (see fig. above) will always be split into 4 parts derived from the dot-decimal notation, for better reading. Also other values are being determined, as there are port number, counters for telegrams and errors, data sizes and telegram cycle times. The following example lists the digital values of a diagnostic module for a Generic TCP module.



	Name	Active	Actual
0	Active connection mode	<input checked="" type="checkbox"/>	
1	Invalid packet	<input checked="" type="checkbox"/>	
2	Connecting	<input checked="" type="checkbox"/>	
3	Connected	<input checked="" type="checkbox"/>	

## Diagnostic signals

Depending on the interface type, the following signals are available:

Signal name	Description
Buffer file size (actual/avg/max)	Size of the file for buffering statements
Buffer memory size (actual/avg/max)	Size of the memory used by buffered statements
Buffered statements	Number of unprocessed statements in the buffer
Buffered statements lost	Number of buffered but unprocessed and lost statements
Connected	Connection is established
Connected (in)	A valid data connection for the reception (in) is available
Connected (out)	A valid data connection for sending (out) is available
Connecting	Connection being established
Connection attempts (in)	Number of attempts to establish the receive connection (in)
Connection attempts (out)	Number of attempts to establish the send connection (out)
Connection ID O->T	ID of the connection for output data (from the target system to <i>ibaPDA</i> ). Corresponds to the assembly instance number
Connection ID T->O	ID of the connection for input data (from <i>ibaPDA</i> to target system). Corresponds to the assembly instance number
Connection phase (in)	Status of the ibaNet-E data connection for reception (in)
Connection phase (out)	Status of the ibaNet-E data connection for sending (out)
Connections established (in)	Number of currently valid data connections for reception (in)
Connections established (out)	Number of currently valid data connections for sending (out)
Data length	Length of the data message in bytes
Data length O->T	Size of the output message in byte
Data length T->O	Size of the input message in byte
Destination IP address (part 1-4) O->T	4 octets of the IP address of the target system Output data (from target system to <i>ibaPDA</i> )
Destination IP address (part 1-4) T->O	4 octets of the IP address of the target system Input data (from <i>ibaPDA</i> to target system)
Disconnects (in)	Number of currently interrupted data connections for reception (in)
Disconnects (out)	Number of currently interrupted data connections for sending (out)
Error counter	Communication error counter
Exchange ID	ID of the data exchange
Incomplete errors	Number of incomplete messages
Incorrect message type	Number of received messages with wrong message type
Input data length	Length of data messages with input signals in bytes ( <i>ibaPDA</i> receives)
Invalid packet	Invalid data packet detected

Signal name	Description
IP address (part 1-4)	4 octets of the IP address of the target system
Keepalive counter	Number of KeepAlive messages received by the OPC UA Server
Lost images	Number of lost images (in) that were not received even after a retransmission
Lost Profiles	Number of incomplete/incorrect profiles
Message counter	Number of messages received
Messages per cycle	Number of messages in the cycle of the update time
Messages received since configuration	Number of received data telegrams (in) since start of acquisition
Messages received since connection start	Number of received data telegrams (in) since the start of the last connection setup. Reset with each connection loss.
Messages sent since configuration	Number of sent data telegrams (out) since start of acquisition
Messages sent since connection start	Number of sent data telegrams (out) since the start of the last connection setup. Reset with each connection loss.
Multicast join error	Number of multicast login errors
Number of request commands	Counter for request messages from <i>ibaPDA</i> to the PLC/CPU
Output data length	Length of the data messages with output signals in bytes ( <i>ibaPDA</i> sends)
Packet size (actual)	Size of the currently received message
Packet size (max)	Size of the largest received message
Ping time (actual)	Response time for a ping telegram
Port	Port number for communication
Producer ID (part 1-4)	Producer ID as 4 byte unsigned integer
Profile Count	Number of completely recorded profiles
Read counter	Number of read accesses/data requests
Receive counter	Number of messages received
Response time (actual/average/max/min)	<p>Response time is the time between measured value request from <i>ibaPDA</i> and response from the PLC or reception of the data.</p> <p>Actual: current value</p> <p>Average/max/min: static values of the update time since the last start of the acquisition or reset of the counters.</p>
Retransmission requests	Number of data messages requested again if lost or delayed
Rows (last)	Number of resulting rows by the last SQL query (within the configured range of result rows)
Rows (maximum)	Maximum number of resulting rows by any SQL query since the last start of acquisition (possible maximum equals the configured number of result rows)



Signal name	Description
Send counter	Number of send messages
Sequence errors	Number of sequence errors
Source IP address (part 1-4) O->T	4 octets of the IP address of the target system Output data (from target system to <i>ibaPDA</i> )
Source IP address (part 1-4) T->O	4 octets of the IP address of the target system Input data (from <i>ibaPDA</i> to target system)
Statements processed	Number of executed statements since last start of acquisition
Synchronization	Device is synchronized for isochronous acquisition
Time between data (actual/ max/min)	Time between two correctly received messages  Actual: between the last two messages  Max/min: statistical values since start of acquisition or reset of counters
Time offset (actual)	Measured time difference of synchronicity between <i>ibaPDA</i> and the <i>ibaNet-E</i> device
Topics Defined	Number of defined topics
Topics Updated	Number of updated topics
Unknown sensor	Number of unknown sensors
Update time (actual/average/ configured/max/min)	Specifies the update time in which the data is to be retrieved from the PLC, the CPU or from the server (configured). Default is equal to the parameter "Timebase". During the measurement the real actual update time (actual) can be higher than the set value, if the PLC needs more time to transfer the data. How fast the data is really updated, you can check in the connection table. The minimum achievable update time is influenced by the number of signals. The more signals are acquired, the greater the update time becomes.  Average/max/min: static values of the update time since the last start of the acquisition or reset of the counters.
Write counter	Number of successful write accesses
Write lost counter	Number of failed write accesses



## 5 Support and contact

### Support

Phone: +49 911 97282-14  
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Email: [support@iba-ag.com](mailto:support@iba-ag.com)

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#### Note



If you need support for software products, please state the license number or the CodeMeter container number (WIBU dongle). For hardware products, please have the serial number of the device ready.

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### Contact

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