



# ibaPDA-Interface-B&R-Xplorer

## PLC-Xplorer data interface to B&R systems

Manual  
Issue 1.1

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).

Version	Date	Revision	Author	Version SW
1.1	10-2022	GUI new	RM	8.0. 0

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# 1 About this Manual

This document describes the function and application of the software interface

*ibaPDA-Interface-B&R-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-B&R-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:

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### 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.

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### 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 B&R-Xplorer

The following system requirements are necessary when using the B&R-Xplorer data interface:

- *ibaPDA* V7.3.0 or higher
- *ibaPDA* base license + license for *ibaPDA-Interface-PLC-Xplorer* or *ibaPDA-Interface-B&R-Xplorer*
- With more than 16 connections you need additional *one-step-up-Interface-B&R-Xplorer* licenses for each additional 16 connections.

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### Note



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

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- The B&R PVI library must be installed on the *ibaPDA* computer. This library is not included in the *ibaPDA* installation. The library is available, if B&R Automation Studio is installed on the computer where the *ibaPDA* service is running. If B&R Automation Studio is not installed, then you have to download the B&R PVI runtime (PVI Manager) from the B&R website: <https://www.br-automation.com>  
Navigate to *Downloads – Software – Automation NET/PVI – PVI Development Setup*.  
Start the installer and use the default settings.
- Using B&R PVI Manager on non-B&R hardware requires a separate license from B&R.

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### Note



Like *ibaPDA*, the software from B&R is licensed via WIBU Codemeter Runtime. If the version of WIBU Codemeter Runtime on your computer is older, a newer version of WIBU Codemeter Runtime is also installed when installing *ibaPDA* (from version 8.0.0).

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

## Licenses

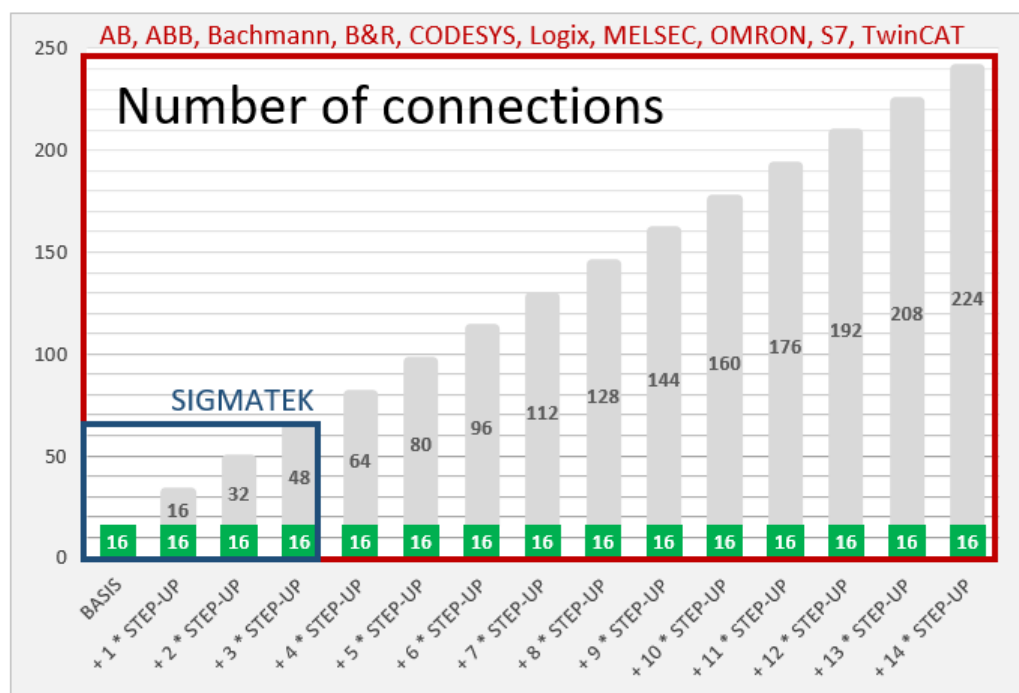
Order No.	Produktname	Description
31.001042	ibaPDA Interface PLC-Xplorer	Extension license for <i>ibaPDA</i> system. All additional Xplorer-data interfaces are added. (Complete specifications under <a href="http://www.iba-ag.com">www.iba-ag.com</a> )
31.000006	ibaPDA Interface B&R-Xplorer	Extension license for an <i>ibaPDA</i> system adding the data interface: + B&R-Xplorer (interface to B&R-PCs)
31.100006	one-step-up-Interface-B&R-Xplorer	Extension license for 16 further B&R-Xplorer connections, a maximum of 14 is permissible

Table 1: Available B&amp;R-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 B&R PLCs

### 3.1 General information

The B&R-Xplorer data interface is suitable for the recording of measured data on B&R Industrial PCs and control systems like the X20 system. The communication between *ibaPDA* and the B&R system is established over standard network cards. Access is transparent to the controller. It is not necessary to configure or program the controller especially.

You can configure up to 16 connections with a B&R-Xplorer interface on each license. By the additional purchase of up to 14 further one-step-up-B&R-Xplorer licenses you can implement a total of a maximum of 240 connections. One connection is required for each B&R PLC.

The interface is an Xplorer interface. This means that the data is cyclically read by *ibaPDA* instead of being sent by the PLC. *ibaPDA* uses the B&R PVI library (PVI Manager) to communicate with the PLCs. PVI Manager can be used locally or on a remote computer.

You can conveniently select the signals to be measured using their symbolic names with support from the *ibaPDA* symbol browser. This allows access to all measurable symbols, which are stored in the PLC itself.

### 3.2 System topologies

The connections to the controllers can be established via the computer's standard Ethernet ports.

No further software is necessary for operation.

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#### Note



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

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### 3.3 Configuration and engineering B&R

Generally, no particular engineering and programming is required on the controller side. In particular, it is not necessary to call up any program modules.



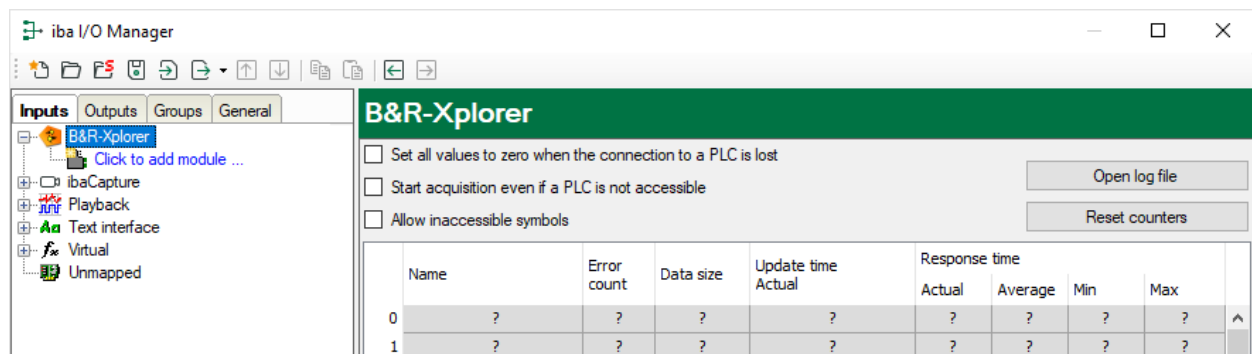
## 3.4 Configuration and engineering ibaPDA

Subsequently, the engineering for *ibaPDA* is described. If all system requirements are met, *ibaPDA* offers the *B&R-Xplorer* interface in the signal tree of the I/O Manager.

### 3.4.1 Interface settings

If the Xplorer interface is selected in the tree, you can see an overview of diagnostics information on the configured connections between *ibaPDA* and the controllers.

The interface has the following features and configuration options.



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

If this option is enabled, all measured values of the PLC are set to zero as soon as the connection is lost. If this option is disabled, *ibaPDA* keeps the last valid measured value in memory when the connection is lost.

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

If this option is enabled, the acquisition starts even if the controller is not accessible. A warning is prompted in the validation dialog, not an error. If the system has been started without a connection to the controller, *ibaPDA* periodically tries to connect to the PLC.

#### Allow inaccessible symbols

Enable this option if you wish to start acquisition even if symbols are not accessible. These inaccessible symbols are prompted 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 does 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.

The PVI Manager provides the measured data and only sends data, when it changes. Thus the update time depends on how fast the data changes in the PLC and on how fast the PVI Manager can read the data from the PLC.

The *Data size* column shows how many bytes are required to read all signals. The number in brackets shows how many signals are read.

**<Open log file>**

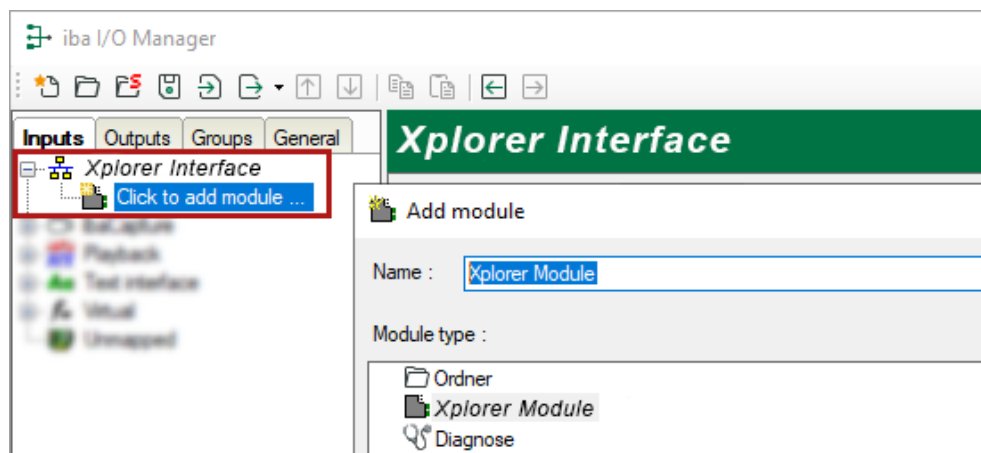
If connections to controllers have been established, all connection specific actions are recorded in a text file. Using this button, you can open and check this file. In the file system on the hard disk, you find the log files of the *ibaPDA* server (...\\ProgramData\\iba\\ibaPDA\\Log). The file name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

**<Reset counters>**

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

### 3.4.2 Adding a module

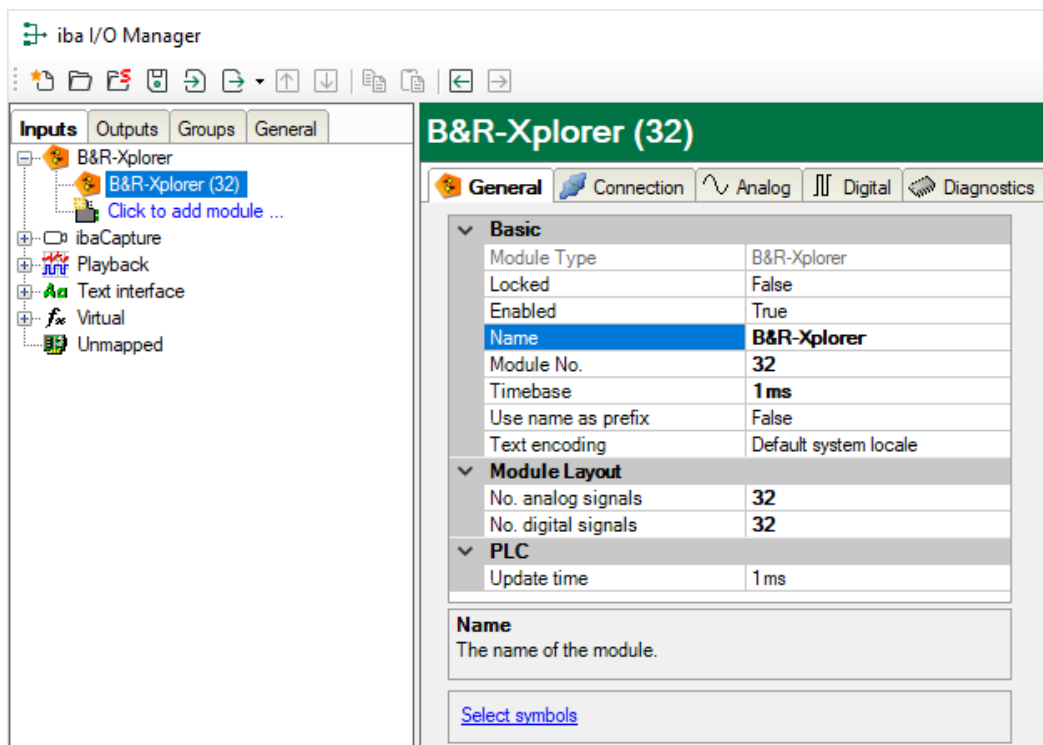
1. Click on the blue command *Click to add module...* located under each data interface in the *Inputs* or *Outputs* tab.
2. Select the desired module type in the dialog box and assign a name via the input field if required.
3. Confirm the selection with <OK>.



### 3.4.3 General module settings

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

All modules have the 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 modul 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.

### Text encoding

Here you can specify the codepage which should be applied for interpreting the received text data.

### 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. You can change the number. The Maximum value is 1000.

### PLC

#### Update time

Specifies the target update time in which the PVI Manager tries to retrieve the data from the PLC. During measurement, the actual update time can be higher than the specified value if the PLC needs more time to transmit the data and if the PVI Manager needs more time to retrieve the data. You can check how fast the data is actually updated in the connection table.

#### Link "Select symbols"

Click on this link after the connection has been successfully established to configure the signals to be measured.

## 3.4.4 Connection settings

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

**B&R-Xplorer (32)**

General Connection Analog Digital Diagnostics

Connection

PVI Manager: ☒ Local ☐ Remote: Address: 192.168.123.69 Port: 20000

PVI Line: INA2000 (TCP/IP) Test connection

PLC address: 192.168.123.10 PLC port: 11159

Source address: 1

Timeout (s): 5

### PVI Manager

Here you configure the PVI Manager you want to use to connect to the *PLC*.

- *Local*: Use a PVI Manager that runs on the same computer as the *ibaPDA* server.
- *Remote*: If the PVI Manager runs on a remote computer, enter the correct IP address of the remote computer. The default port number 20000 can remain unchanged in most cases.

If the PVI Manager runs on non-B&R hardware, then a license from B&R is required in order to use it.

## PVI Line

The PVI line determines which protocol the PVI Manager uses to connect to the PLC.

There are 3 options:

- **INA2000 (TCP/IP):** This interface uses the INA2000 protocol over TCP and UDP. This protocol is supported by control generations SGC, SG3 and SG4. The automation runtime version must be 4.08 or higher.
- **ANSL:** This interface is the successor to the INA2000 protocol. It also uses TCP and UDP. This interface is only supported by control generations SG4. The automation runtime version must be 4.08 or higher.
- **Custom:** In this mode you can configure the PVI line yourself. Enter the connection description strings for the line, device and CPU.

PVI Line:	Custom
Line:	CD=LnIna2
Device:	CD="/IF=TcpIp /SA=1"
CPU:	CD="/DAIP=192.168.123.10 /REPO=11159 /RT=1000"

## PLC address/PLC port

When using the INA2000 and ANSL lines, you have to configure the IP address or hostname of the PLC. You also have to configure the port number.

## Source address

Set a unique source address for each B&R module according to the settings in the PVI Manager.

## Timeout

Here you can specify a value for the timeout in seconds for establishing the connection and for read accesses. If the time set here is exceeded, *ibaPDA* declares the controller as not accessible or not responsive.

## <Test connection>

*ibaPDA* tests the connection to the PVI Manager with the configured connection parameters. If this attempt is successful, *ibaPDA* retrieves some basic information and displays it in the text field. The information relates to the connected PVI Manager and the PLC, such as status, name, runtime version and loaded symbols.

The symbols to be measured are stored on the PLC itself. *ibaPDA* loads the symbols from the PLC during the connection test.

If *ibaPDA* cannot find the PVI library, i.e. the PVI Manager, the following message is displayed:

Failed to connect to PVI manager: The PVI Manager is not started or not registered. Please install the PVI communication library. (12050)  
You can download the PVI library from the [B&R website](#)

### 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.

#### 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.

#### Note

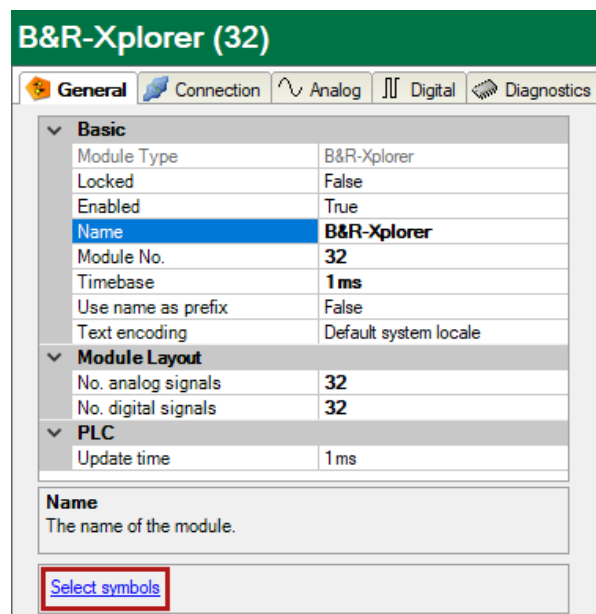


For further processing of the text signals (datatype STRING) or splitting these into other text signals use a text splitter module under the Virtual interface.

### Selection of measuring signals


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

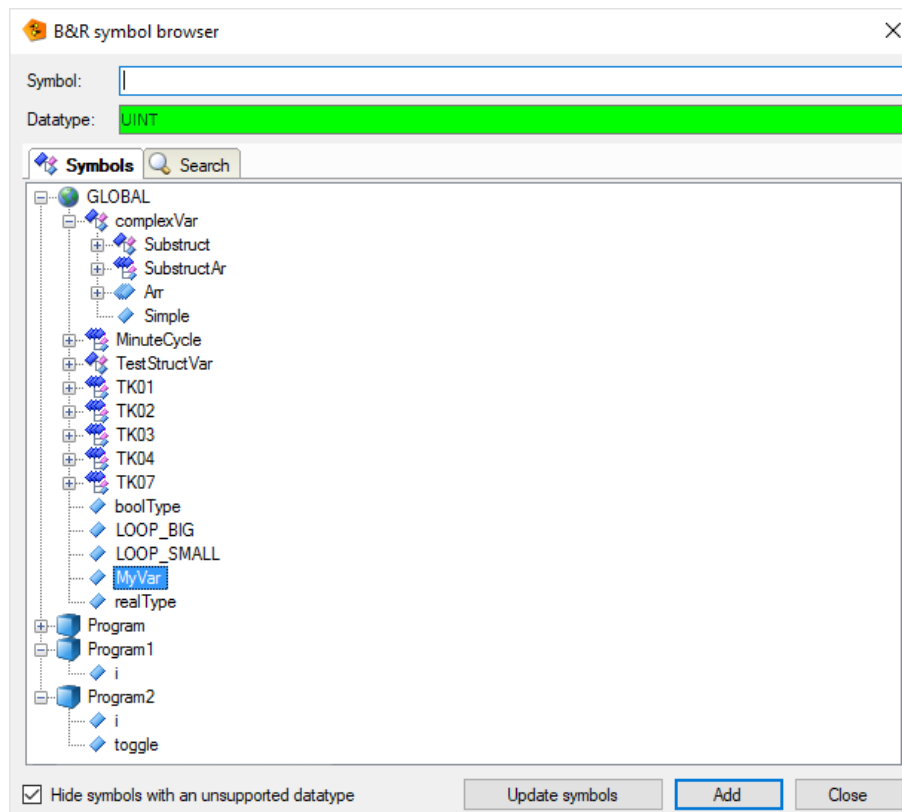
- Click on the *Select symbols* link in the module's *General* tab.



Clicking on the link opens the B&R symbol browser.

- Click on a field in the *Symbol* column of the *Analog* or *Digital* tab.

The button  is shown. Clicking on the Button opens the B&R symbol browser.



The symbol browser shows all the symbols that were loaded from the PLC. You can select single or multiple symbols in the tree.

Click the <Add> button to add the symbols to the corresponding analog or digital signal table. If you selected a single symbol then the next symbol will be selected after you clicked the <Add> button. This allows you to click <Add> multiple times in order to add consecutive symbols. You can also double click a symbol to add it to the signal table. Use the <Update symbols> button to read the symbols again from the PLC.

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

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#### Note



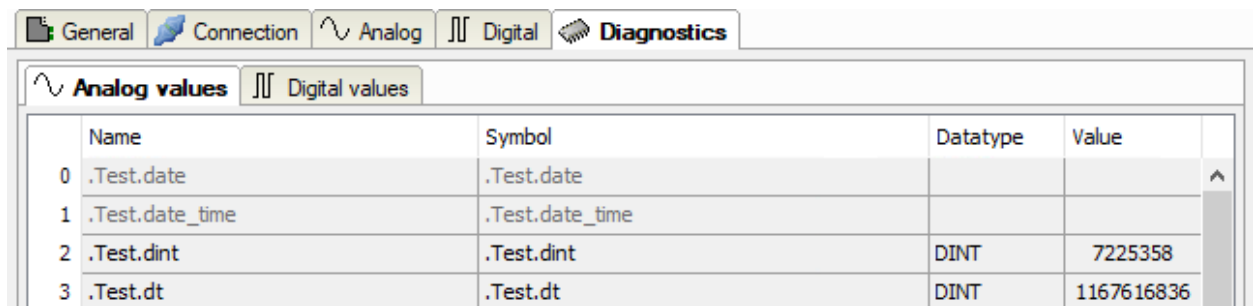
You can hide all unsupported datatypes by checking the *Hide symbols with an unsupported datatype* checkbox.

---

The data type and comment of the selected symbol are also shown in the browser.

### 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.



The screenshot shows the 'Diagnostics' tab selected in the software interface. Below the tab bar, there are two sub-tabs: 'Analog values' (selected) and 'Digital values'. A table displays the following data:

	Name	Symbol	Datatype	Value
0	.Test.date	.Test.date		
1	.Test.date_time	.Test.date_time		
2	.Test.dint	.Test.dint	DINT	7225358
3	.Test.dt	.Test.dt	DINT	1167616836

Inactive signals are grayed out.



## 4 Diagnostics

### 4.1 License

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

The figure below shows the license for the Codesys Xplorer 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-Logic-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.

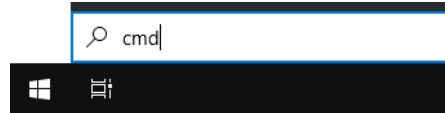
Examples:

- `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.

A screenshot of a Windows Command Prompt window titled 'Administrator: Command Prompt'. The window shows the output of the 'ping 192.168.1.10' command. The output indicates a successful connection with four replies, each showing 32 bytes of data, a time of 1ms, and a TTL of 30. The ping statistics show 4 packets sent, 4 received, and 0% loss.

```
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.

A screenshot of a Windows Command Prompt window titled 'Administrator: Command Prompt'. The window shows the output of the 'ping 192.168.1.10' command. The output indicates a failed connection with four replies, each showing 'Destination host unreachable'. The ping statistics show 4 packets sent, 4 received, and 0% loss.

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

C:\Windows\system32>ping 192.168.1.10

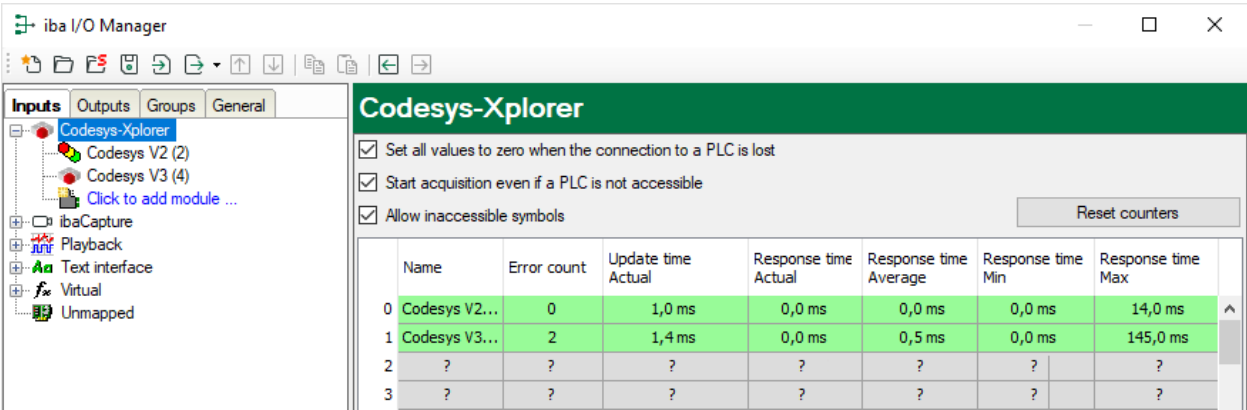
Pinging 192.168.1.10 with 32 bytes of data:
Reply from 192.168.1.10: Destination host unreachable.
Reply from 192.168.1.10: Destination host unreachable.
Reply from 192.168.1.10: Destination host unreachable.
Reply from 192.168.1.10: Destination host unreachable.

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 counters> 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.

Table 2: Meaning of background colors

## 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.

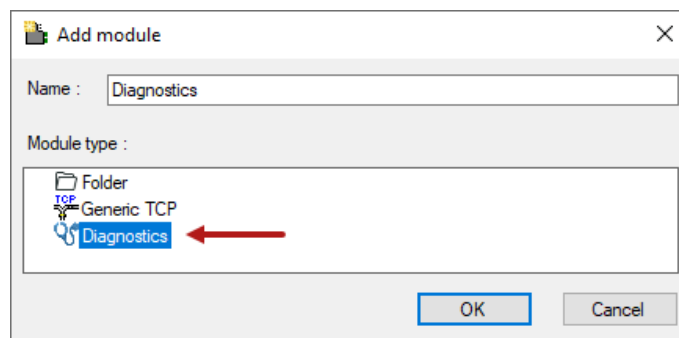
A diagnostic module is always assigned to a data acquisition module of the same interface and supplies its connection information. By using a diagnostic module you can record and analyze the diagnostic information continuously in the *ibaPDA* system.

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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