ibaPDA-Interface-eLumina

Data interface to the GE eLumina system

Manual

Issue 1.0

Measurement Systems for Industry and Energy

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The content of this publication has been checked for compliance with the described hardware and software. Nevertheless, discrepancies cannot be ruled out, and we do not provide guarantee for complete conformity. However, the information furnished in this publication is updated regularly. Required corrections are contained in the following regulations or can be downloaded on the Internet.

The current version is available for download on our web site www.iba-ag.com.

Version	Date	Revision	Author	Version SW
1.0	11-2025	First issue	rm	8.11.0

Contents

1 About this documentation

This documentation describes the function and application of the software interface *ibaPDA-Interface-eLumina*.

Other documentation

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 is aimed at qualified professionals who are familiar with handling electrical and electronic modules as well as communication and measurement technology. A person is regarded as professional if he/she is capable of assessing safety and recognizing possible consequences and 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-eLumina* the following basic knowledge is required and/or useful:

- Windows operating system
- Basic knowledge of *ibaPDA*
- 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 *Logic diagram*
Calling the menu command	*Step 1 – Step 2 – Step 3 – Step x* Example: Select the menu *Logic diagram – Add – New function block*.
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	`Filename`, `Path` Example: `Test.docx`

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.

Other documentation

Reference to additional documentation or further reading.

2 System requirements

The following system requirements need to be met in order to use the *eLumina* data interface:

- *ibaPDA* v8.11.0 or higher
- *ibaPDA* server computer with an *ibaN-2E* communication board
- GE HVDC control system with eLumina CCU

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

ibaPDA-specific restrictions

ibaPDA can only read data via the eLumina interface.

Licensing information

Order no.	Product designation	Description
31.001007	ibaPDA-Interface-eLumina	Extension license for an *ibaPDA* system to use the eLumina module with an ibaN-2E communication module Number of connections/modules: 16
31.101007	one-step-up-Interface-eLumina	Extension license for an existing *ibaPDA-Interface-eLumina*interface with an additional 16 connections; max. 15 extensions permitted for a total max. 256 connections/modules

3 eLumina interface

eLumina™ is a trademark name owned by GE Vernova Grid Solutions. eLumina™ is a digital control system in the field of power generation and distribution, primarily for high-voltage direct current (HVDC) transmission systems.

To be able to acquire data from this system with *ibaPDA*, a communication interface based on the ibaNet-E protocol has been developed in collaboration with GE Vernova.

This makes it possible to connect an *ibaPDA* server to an eLumina CCU (Core Computing Unit).

A special eLumina module has been developed for *ibaPDA* that supports the specific data types and bit offsets for the data model – that is, the payload content of the telegram from the eLumina system.

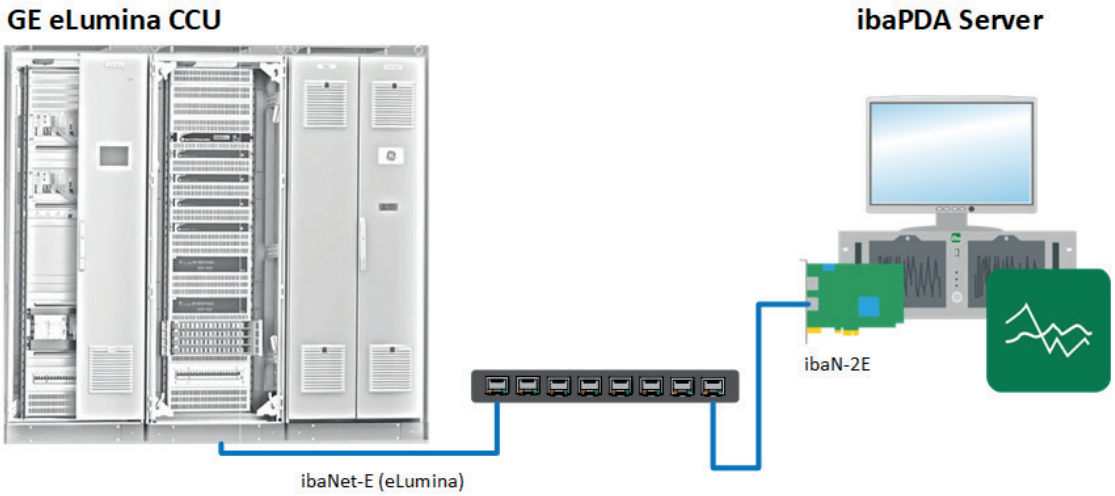
Since the eLumina module is based on the *ibaNet-E generic connectionless* module, it can be configured in *ibaPDA* under the *ibaNet-E* and *ibaN-2E* interfaces.

Fast, highly synchronous communication is essential for recording fast processes (transients) in power metering technology. Consequently, the installation of an *ibaN-2E* board in the *ibaPDA* server computer is a system requirement.

The *ibaN-2E* module ensures highly synchronous data acquisition with an accuracy of 1 µs.

4 System topology

The *ibaN-2E* board in the *ibaPDA* server computer is connected to a suitable port on the eLumina CCU.



5 Configuration and engineering in eLumina

For information on how to configure communication in the eLumina system, refer to the eLumina CCU documentation.

6 Configuration and engineering in ibaPDA

The engineering for *ibaPDA* is described in the following. When all system requirements are met, in the interface tree of the I/O Manager *ibaPDA* offers the *ibaN-2E* interface, under which you can then create *eLumina* modules.

6.1 ibaN-2E interface settings

The *ibaPDA-Interface-eLumina* license enables use of the *eLumina* module.

Since the high-precision synchronization required for communication with an eLumina CCU can only be achieved with the *ibaN-2E* module, this board is essential for use of the *eLumina* module.

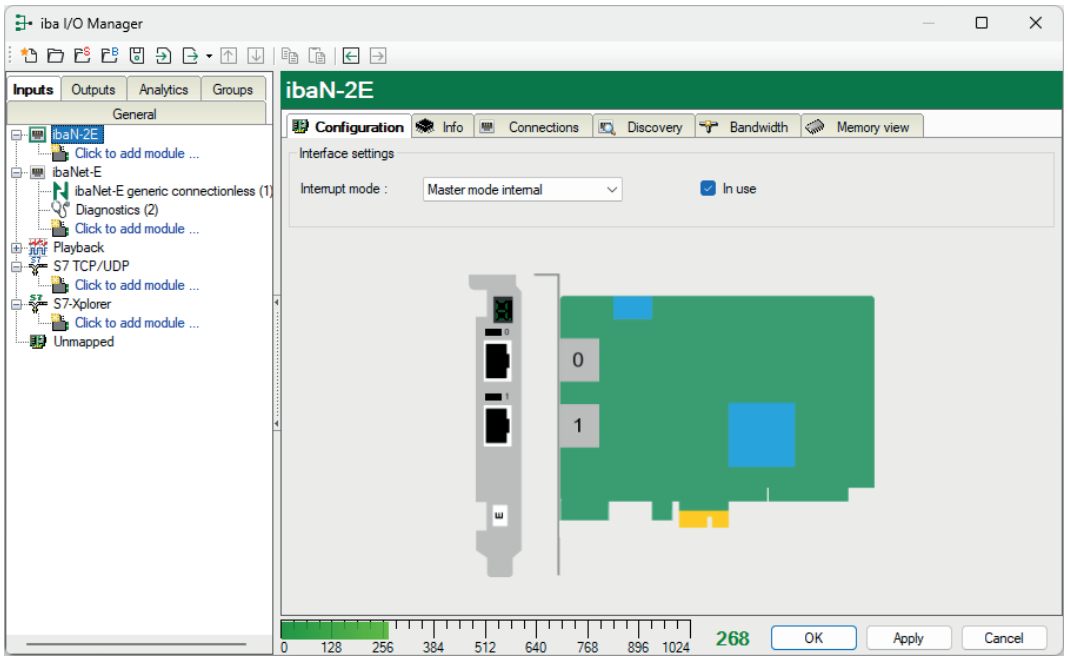
So the interface settings of the *ibaN-2E* board apply.

Other documentation

For more information on the *ibaN-2E* board refer to its manual.

6.1.1 ibaN-2E – Configuration tab

If you select the *ibaN-2E* interface, you will see the properties of the card in several tabs on the right-hand side of the dialog. Select the *Configuration* tab.



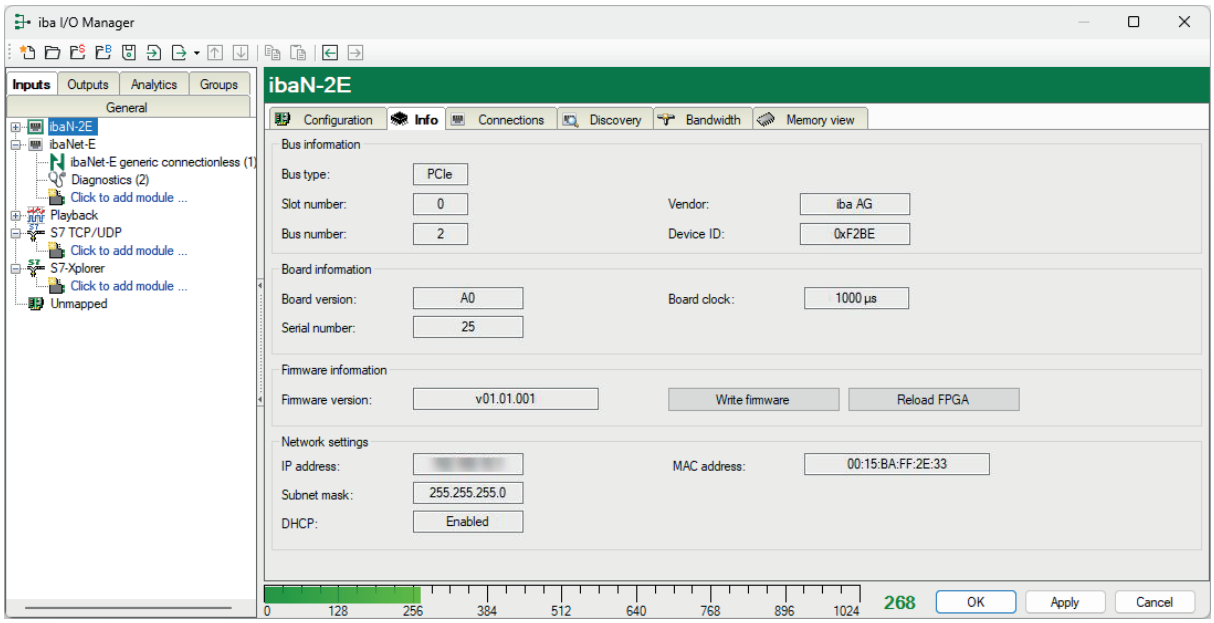
Interrupt mode
The interrupt mode is set automatically by *ibaPDA*: As soon as several different cards are inserted, *Master mode internal* is set.

Only if no other card types but several *ibaN-2E* cards are inserted, you can specify which of the cards has the *Master mode internal* and thus generates the interrupt for the other cards. The interrupt is passed to the other iba PCIe cards (interrupt slaves) via the synchronization line (ribbon cable supplied).

In use
Enable the option if you want to use the card with *ibaPDA*.

6.1.2 ibaN-2E – Info tab

The *Info* tab provides information about the card and the loaded firmware. Functions for service and support, such as reloading the FPGA and updating the firmware, are also integrated.



Bus information
Display of current bus information.

Board information
Display of current board information.

Firmware information
Display of current firmware version.

<Write firmware>
Using the button, it is possible to install firmware updates.

1. Select the update file `ibaN_v[xx.yy.zzz].iba` in the browser.
2. Start the update with a click on <Write firmware>.
3. The following dialog informs you about the progress of the update.

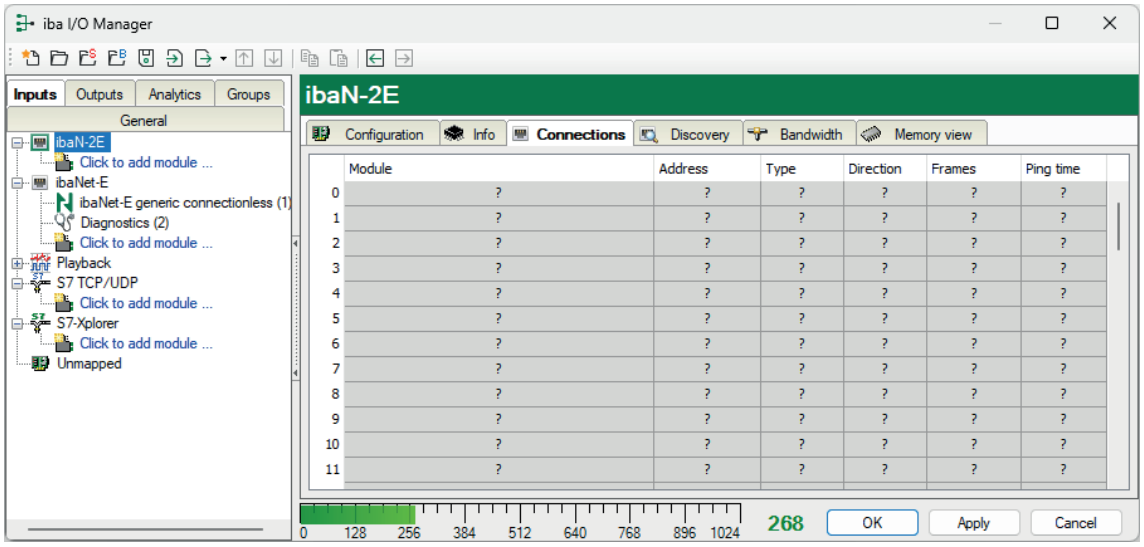
Note

This process may take several minutes and must not be interrupted.

Network settings
Display of network interface, IP address, subnet mask, MAC address and whether DHCP is enabled.

6.1.3 ibaN-2E – Connections tab

All ibaNet-E connections are displayed in an overview.



Module
The name of the connected module or device.

Address
Address of the target device. Depending on the set data path, the MAC address or the IP address/host name (with DHCP) is displayed here.

Type
Type of the ibaNet-E connection.

- ACQ: Receive connection; isochronous acquisition of all values; with telegram repetitions
- PLC: Send connection; only the most recent value is sent without any repetitions if there are transmission errors

Direction
Input or output direction

- Input direction: Receiving data from the ibaNet-E device
- Output direction: Sending data to the ibaNet-E device

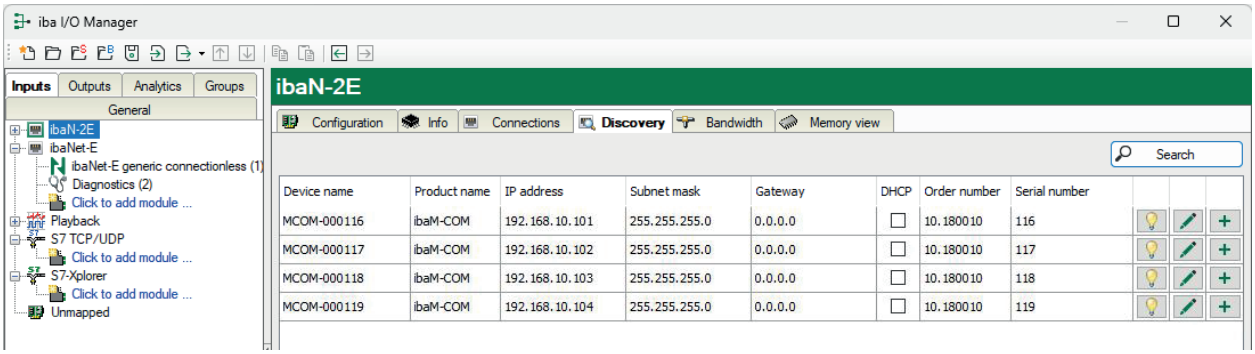
Frames
Number of telegrams for this connection.

Ping time
Current ping time for this connection.

While a valid ibaNet-E receive connection is live, a ping is sent cyclically to the ibaNet-E device. The measured time is displayed here, and indicates the connection quality of the Ethernet network. The shorter this time is, the better the connection quality, and the more secure the data transmission. If the connection quality is poor, the connection in question is highlighted in orange.

6.1.4 ibaN-2E – Discovery tab

You can search for ibaNet-E devices in the *Discovery* tab. Please note that this search can only be successful if the device is located in the same LAN as the computer with the *ibaN-2E* card.



Search devices

1. Start *ibaPDA* and open the I/O Manager.
2. Select the *ibaN-2E* interface and select the *Discovery* tab.
3. Start the search by clicking on <Search>.

→ Devices found are listed in a table and cannot be changed in this display.

Information on the devices found

Device name
Device name, or host name of the device

Product name
ibaPDA-Interface-eLumina

IP address
The IP address of the device

Subnet mask
The subnet mask of the IP settings

Gateway
The gateway of the IP settings

DHCP
The IP settings are obtained from a DHCP server (enabled or not).

Order number
The iba order number of the device

Serial number
The serial number of the device

Meaning of the buttons:

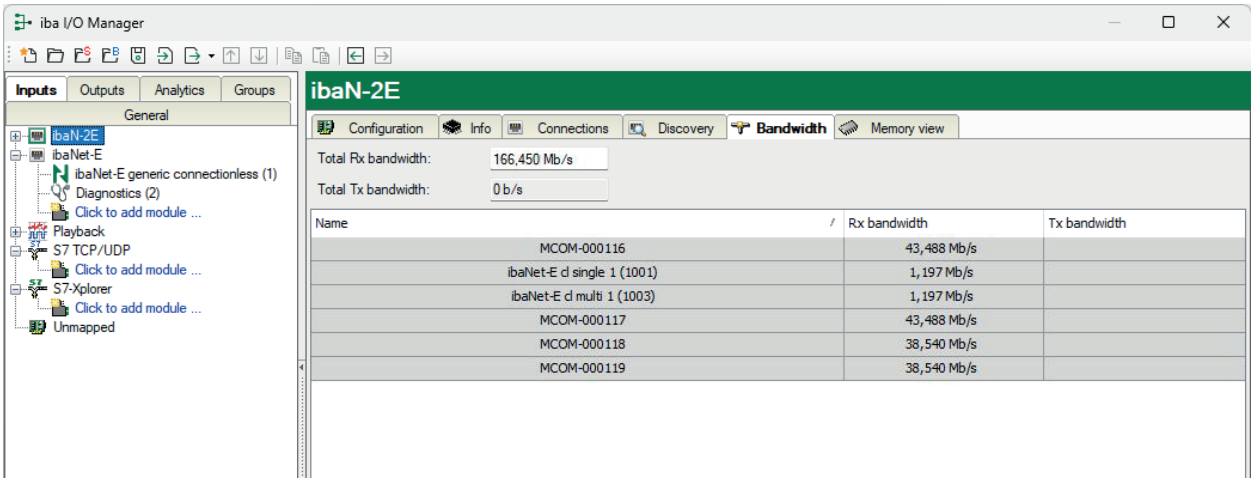
Identify device
When you click this button, the status indicators (LEDs) on the front of the device start blinking for a short time. This makes it possible to identify the device directly.

Edit device settings
Click this button to open the window for the device and IP settings.

Add device to I/O configuration
Click this button to add the device to the I/O configuration of the ibaNet-E-interface in *ibaPDA*. Connected modules are identified and added automatically as far as possible.

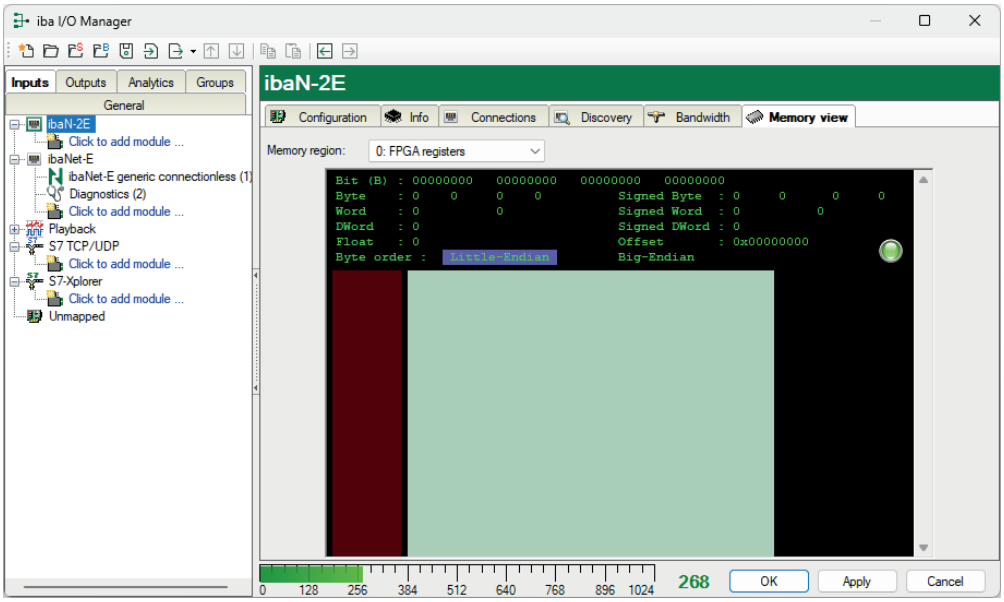
6.1.5 ibaN-2E – Bandwidth tab

The *Bandwidth* tab provides information about the network load. The estimated total network load in the send and receive direction is displayed here, as well as the network load for the connected ibaNet-E devices.



6.1.6 ibaN-2E – Memory view tab

This view provides the necessary information on telegram traffic for service purposes.



6.2 eLumina data types

eLumina supports analog and digital signals as well as most common data types for analog signals. The eLumina system additionally uses special data types that have been implemented for the eLumina module in *ibaPDA*.

The following table provides an overview of the data types. The specific eLumina data types are marked in bold. For comparison, the right-hand column shows the data types of the *ibaNet-E generic connectionless*module.

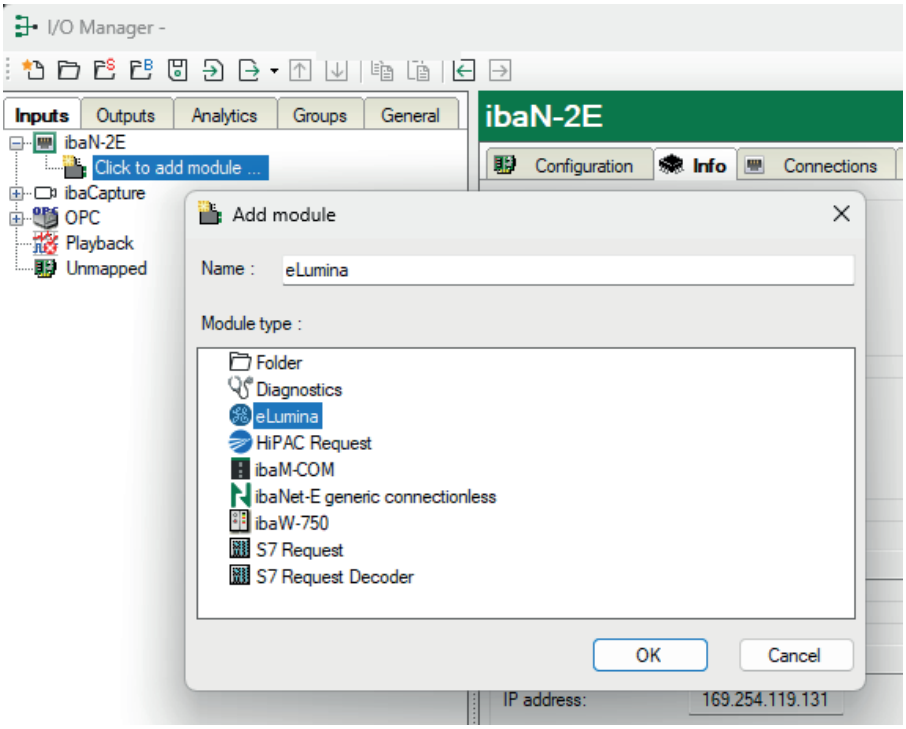
Data type name in the eLumina module	Corresponding data type in the ibaNet-E-generic connectionless module
INT8	SINT
INT16	INT
INT32	DINT
UINT2	-
UINT3	-
UINT7	-
UINT8	BYTE
UINT9	-
UINT12	-
UINT16	WORD
UINT32	DWORD
FLOAT	--

Another special feature of the eLumina module is the *Bit-Offset* property for analog signals. This enables the module to support cases where an analog value does not start at bit address 0 of a byte.

6.3 Adding an eLumina module

Do the following to add an eLumina module to an *ibaN-2E* interface.

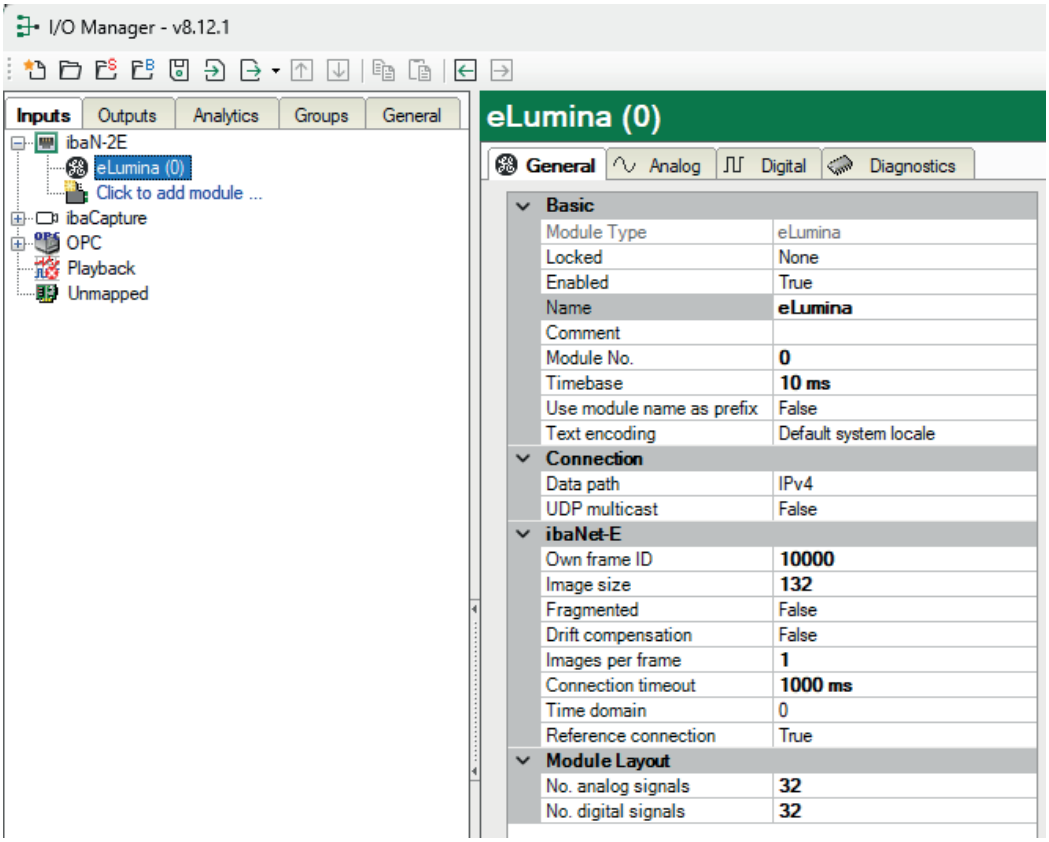
1. Click on the blue link *Click to add module* located under each data interface in the *Inputs* or *Outputs* tab.
2. Select the desired module type in the dialog box and assign a name via the input field if required.
3. Confirm the selection with <OK>.



6.4 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
You can enter a name for the module here.

Comment
You can enter a comment or description of the module here. This will be displayed as a tooltip in the signal tree.

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 timebase.

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

Text encoding
You can select the type of text encoding or the code page here for a correct interpretation and display of the received text data for inputs as well as of the text data to be sent for outputs. Available for selection are, beside system locale according to the Windows system settings (default) and UTF-8 Unicode, all other encodings.

ibaNet-E

Own frame ID
Dedicated frame ID of the *ibaNet-E* connection (value must be in the range 10000-10255)

Image size
Total number of bytes in one *ibaNet-E* image

Fragmented
Indicates whether an *ibaNet-E* image is fragmented or not.

Drift compensation
Disable drift compensation if data is being transmitted slower than every 10 ms, so as to improve the processing of received data.

Images per frame
Number of *ibaNet-E* images in one frame

Connection timeout
Time after which data acquisition is stopped after a connection is cut

Time domain
ibaNet time domain from which the data is to be acquired

Enter the number of the ibaNet time domain here if the data belonging to this time domain is to be synchronized. If this property is set to zero (default), no time domain will be used.

When using a time domain, you must enable drift compensation (Drift compensation = True).

Reference connection
The reference connection is the connection which is used by other connections in the same time domain for synchronization. If this setting is *True* for one module, then the connection of this module is entitled reference connection. Accordingly, you should set all other modules which are used in the same time domain on *False*.

Only one reference connection is allowed per time domain.

Module structure

Number of analog/digital signals

Set the number of configurable analog or digital signals in the signal tables. The default value for each is 32. The maximum value is 1000 analog and 65536 digital signals. The signal tables are adjusted accordingly.

Connection

Data path

Protocol used to transfer data between *ibaPDA* and the *ibaNet-E* device. The available options are:

- IPv4
- Raw

If *Raw* is selected, a network interface must be selected for *ibaPDA* to access the *ibaNet-E* device.

UDP-Multicast

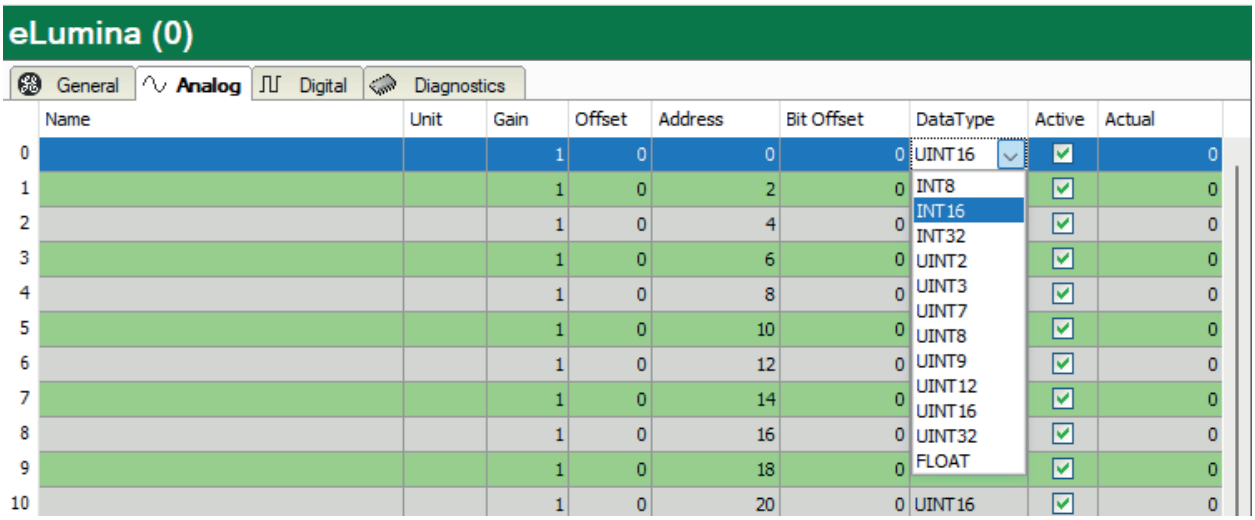
When enabled, *ibaPDA* will subscribe to the specific multicast group in order to receive data. Enter the multicast IP address to which the data will be sent in the *Multicast IP address* field.

6.5 eLumina – Analog tab

On the *Analog* tab, you configure the analog signals that the eLumina CCU sends to *ibaPDA*.

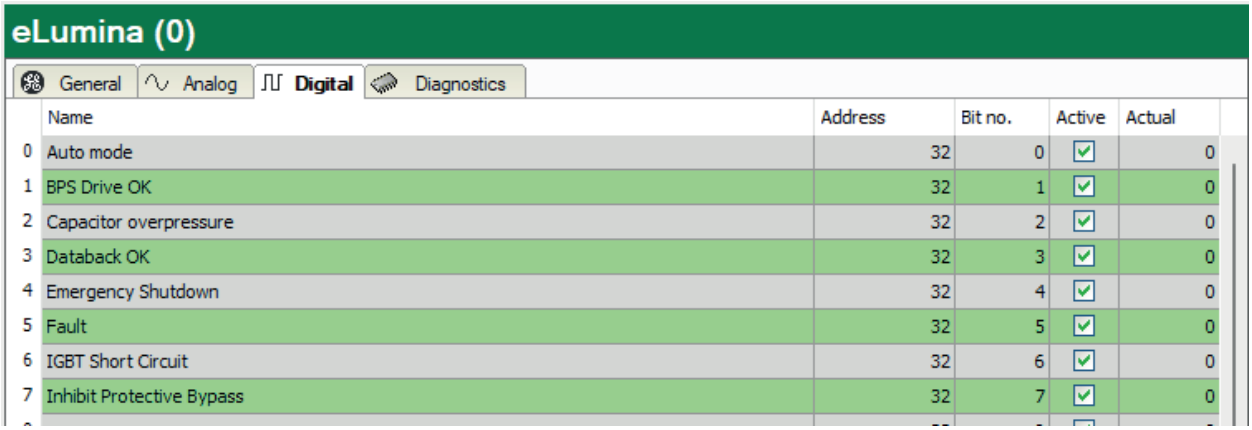
The dropdown list in the *Data type* column shows the specific eLumina data types.

In the *Bit-Offset* column, you can enter an offset within a byte address if an analog value does not start with the byte address.



6.6 eLumina – Digital tab

The signal configuration on the *Digital* tab of the eLumina module is no different from other modules. The individual digital signals are referenced via the byte address and bit number.



	Name	Address	Bit no.	Active	Actual
0	Auto mode	32	0	☑	0
1	BPS Drive OK	32	1	☑	0
2	Capacitor overpressure	32	2	☑	0
3	Databack OK	32	3	☑	0
4	Emergency Shutdown	32	4	☑	0
5	Fault	32	5	☑	0
6	IGBT Short Circuit	32	6	☑	0
7	Inhibit Protective Bypass	32	7	☑	0

6.7 eLumina – Diagnostics tab

The *Diagnostics* tab in the *eLumina* module provides information about the connection between the *ibaPDA* server and the eLumina CCU.

Communication via the eLumina interface is based on the *ibaNet-E* protocol. Consequently, the following texts refer to *ibaNet-E*. The information on the *Diagnostics* tab of the *eLumina* module is similar to that for the *ibaNet-E generic connectionless* module.

Connection

Connection phase
Each *ibaNet-E* connection can run in different phases.

ibaNet-E connection phase	Color	Meaning
ONLINE	Green	Connected; connection quality is OK
	Orange	Connected; connection quality is suboptimal
STOP_WAIT	Red	Connection timeout; waiting for reinitialization
SEND_TADJUST	Red	Connecting; time synchronization
WAIT	Red	Connecting
WAIT_SYNCRESP	Red	Connection interrupted

Target
Communication partner (ANY: undefined)

Connection type
Type of ibaNet-E connection.

- ACQ: Receive connection; isochronous acquisition of all values; with telegrams repeated in the event of transmission errors
- PLC: Send connection; only the most recent value is transmitted; no resending in the event of transmission errors

Direction
Incoming or outgoing

- IN: Receiving data from the ibaNet-E device (here: eLumina CCU)
- OUT: Sending data to the ibaNet-E device (here: eLumina CCU)

Telegram counter
Number of telegrams for this connection

Lost, duplicated and discarded images
Number of lost, duplicated and discarded images

Ping time
Current maximum and minimum ping time for this connection.

The ping time is a measure of the connection quality of the Ethernet network. The shorter this time is, the better the connection quality, and the more secure the data transmission.

Frame interval and frame header

These areas provide statistical values for the time interval between two frames. The average, maximum and minimum time between two frames is measured both since the connection was established and currently per second.

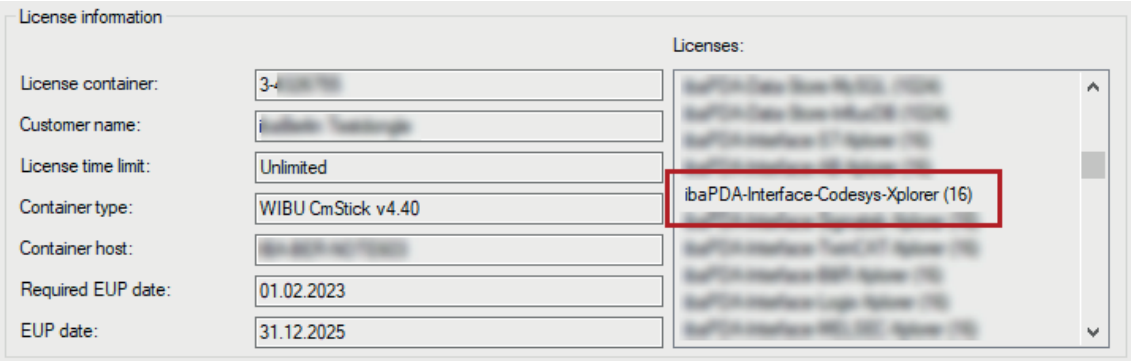
They also provide information on the number of images per frame, fragments per image, and image size, as well as the date and counter values of the first and last frames received.

7 Diagnostics

7.1 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 the interface *ibaPDA-Interface-eLumina* 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.



7.2 Visibility of the interface

If the interface is not visible despite a valid license, it may be hidden.

Check the settings in the *General* tab in the *Interfaces* node.

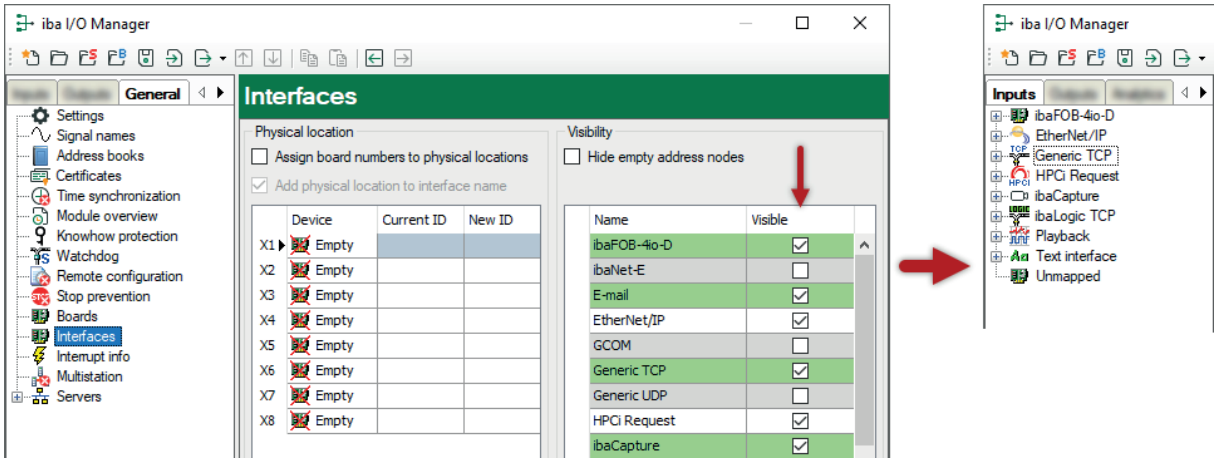
Visibility

The table *Visibility* lists all the interfaces that are available either through licenses or installed cards. These interfaces can also be viewed in the interface tree.

You can hide or display the interfaces not required in the interface tree by using the checkbox in the *Visible* column.

Interfaces with configured modules are highlighted in green and cannot be hidden.

Selected interfaces are visible, the others are hidden:



7.3 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)

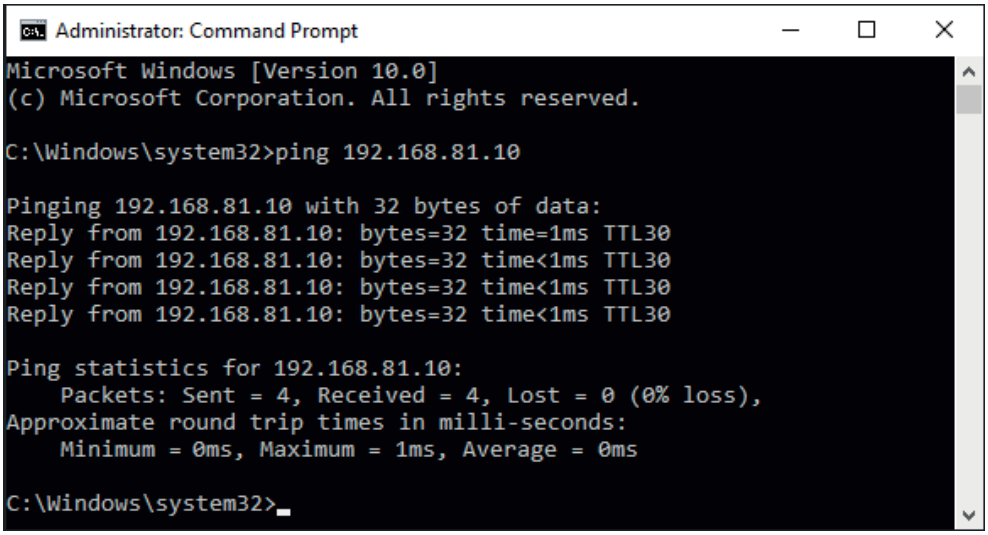
7.4 Connection diagnostics with PING

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

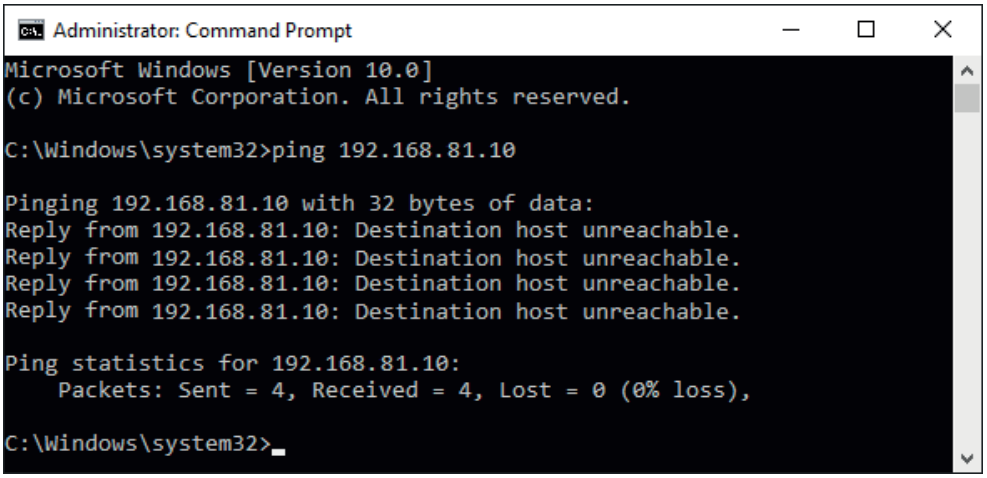
1. Open a Windows command prompt.

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.



→ With no existing connection you receive error messages.



7.5 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.

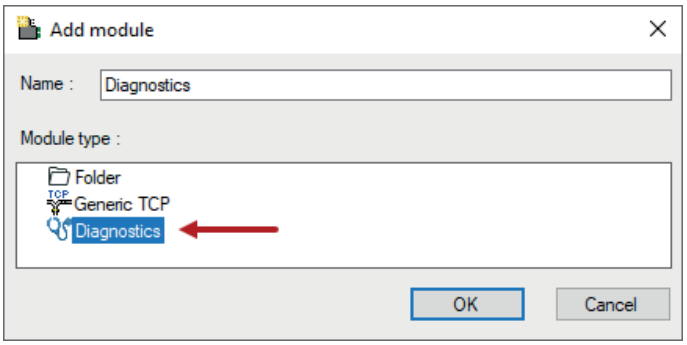
A diagnostic module is always assigned to a data acquisition module of the same interface and supplies its connection information. By using a diagnostic module, you can record and analyze the diagnostic information continuously in the *ibaPDA* system.

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

Example for the use of diagnostic modules:

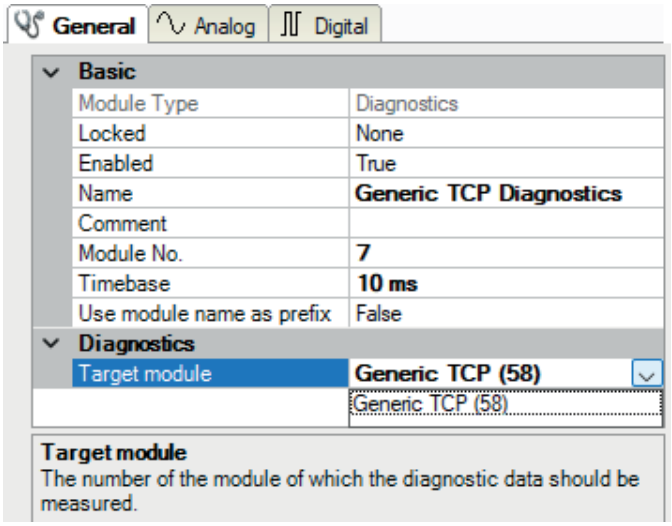
- A notification can be generated, whenever the error counter of a communication connection exceeds a certain value or the connection gets lost.
- In case of a disturbance, the current response times in the telegram traffic may be documented in an incident report.
- The connection status can be visualized 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

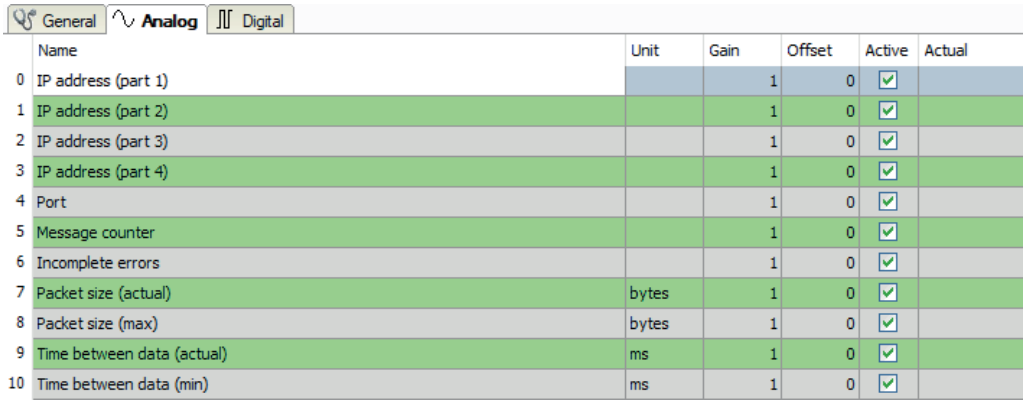
For a diagnostic module, you can make the following settings (example: Generic TCP):



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

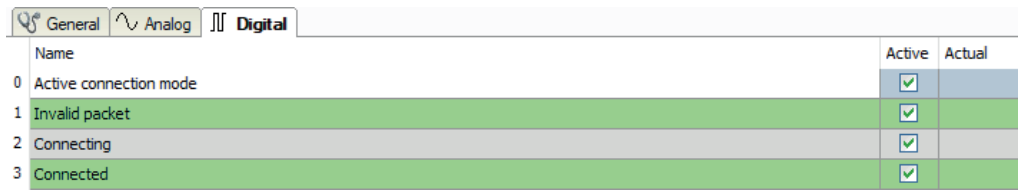
There is only one setting which is specific for the diagnostic module: the target module.

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	☑	
1	IP address (part 2)		1	0	☑	
2	IP address (part 3)		1	0	☑	
3	IP address (part 4)		1	0	☑	
4	Port		1	0	☑	
5	Message counter		1	0	☑	
6	Incomplete errors		1	0	☑	
7	Packet size (actual)	bytes	1	0	☑	
8	Packet size (max)	bytes	1	0	☑	
9	Time between data (actual)	ms	1	0	☑	
10	Time between data (min)	ms	1	0	☑	

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	☑	
1	Invalid packet	☑	
2	Connecting	☑	
3	Connected	☑	

Diagnostic signals

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

Signal name	Description
Active	Only relevant for redundant connections. Active means that the connection is used to measure data, i.e. for redundant standby connections the value is 0. For normal/non-redundant connections, the value is always 1.
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 *ibaPDA*). Corresponds to the assembly instance number
Connection ID T->O	ID of the connection for input data (from *ibaPDA* 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 *ibaPDA*)
Destination IP address (part 1-4) T->O	4 octets of the IP address of the target system Input data (from *ibaPDA* 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

Signal name	Description
Incorrect message type	Number of received messages with wrong message type
Input data length	Length of data messages with input signals in bytes (*ibaPDA* receives)
Invalid data points	Number of received data points with missing configuration
Invalid packet	Invalid data packet detected
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 *ibaPDA* to the PLC/CPU
Output data length	Length of the data messages with output signals in bytes (*ibaPDA* 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)	Response time is the time between measured value request from *ibaPDA* and response from the PLC or reception of the data. Actual: current value Average/max/min: static values of the update time since the last start of the acquisition or reset of the counters.
Retransmission requests	Number of data messages requested again if lost or delayed

Signal name	Description
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)
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 *ibaPDA*)
Source IP address (part 1-4) T->O	4 octets of the IP address of the target system Input data (from *ibaPDA* 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 *ibaPDA* and the ibaNet-E 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 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

8 Support and contact

Support

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Note

If you need support for software products, please state the number of the license container. For hardware products, please have the serial number of the device ready.

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