ibaDAQ-C

Compact Device for stand-alone Data Acquisition

Manual

Issue 2.1

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The content of this publication has been checked for compliance with the described hardware and software. Nevertheless, deviations cannot be excluded completely so that the full compliance is not guaranteed. However, the information 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.

Windows® is a label and registered trademark of the Microsoft Corporation. Other product and company names mentioned in this manual can be labels or registered trademarks of the corresponding owners.

Certification

The product is certified according to the European standards and directives. This product meets the general safety and health requirements.

Further international customary standards and directives have been observed.

$$C\hspace{-0.2em}E$$

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Issue	Date	Revision	Chapter	Author	Version HW/FW
2.1		Dimension sheet			
2.0	09-2023	Scope of delivery			

Table of Contents

1   About this manual

This manual describes the layout, application and operation of the ibaDAQ-C device.

1.1   Target group

This manual addresses in particular the 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 safety and recognizing possible consequences and risks on the basis of his/her specialist training, knowledge and experience and knowledge of the standard regulations.

1.2   Notations

The following designations are used in this manual:

Action	Notations
Menu command	Menu *Logic diagram*
Call of menu command	*Step 1 – Step 2 – Step 3 – Step x* Example: Select menu *Logic diagram – Add – New logic diagram*
Keys	<Key name> Example: <Alt>; <F1>
Press keys simultaneously	<Key name> + <Key name> Example: <Alt> + <Ctrl>
Buttons	<Button name> Example: <OK>; <Cancel>
File names, Paths	„File name", „Path" Example: „Test.doc"

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:

- By an electric shock!

- Due to the improper handling of software products which are coupled to input and output procedures with control function!

If you do not observe the safety instructions regarding the process and the system or machine to be controlled, there is a risk of death or severe injury!

⚠ WARNING

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

⚠ CAUTION

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

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   Introduction

ibaDAQ-C can be used as stand-alone unit to acquire and record data. ibaDAQ-C integrates a complete ibaPDA system, an internal solid state disk (SSD) with sufficient memory space and powerful integrated Intel®-Atom™-CPU. The extremely slim and robust compact unit is designed to fit into the extremely confined space of control cabinets, test stands, cranes, etc.

The range of applications includes:

❑ Mobile measurement acquisition

❑ Start-up

❑ Troubleshooting

❑ Test stands

❑ Calculation of process parameters

Data acquisition via Ethernet

ibaDAQ-C provides 2 independent Ethernet interfaces with standard 1 Gbit connection. This allows ibaDAQ-C to capture and record Ethernet-based protocols. The license for the communication interface ibaPDA-Interface-MQTT, for the MQTT messaging protocol, as well as the ibaPDA-Interface-PLC-Xplorer license are part of the delivery. For other protocols and modules, separate licenses are required for the respective communication interfaces. Using the interfaces of ibaPDA-PLC-Xplorer, it is possible to aquire and record data from different PLC systems:

- S7-Xplorer (interface to SIMATIC S7 systems)

- AB-Xplorer (interface to Allen-Bradley systems)

- ABB-Xplorer (interface to AC 800M/PEC systems)

- B&R-Xplorer (interface to B&R systems)

- Bachmann-Xplorer (interface to M1 systems)

- Codesys-Xplorer (interface to CODESYS based systems)

- Logix-Xplorer (interface to ControlLogix systems)

- MELSEC-Xplorer (interface to Mitsubishi MELSEC systems)

- OMRON-Xplorer (interface to OMRON systems)

- Sigmatek-Xplorer (interface to SIGMATEK systems)

- TwinCAT-Xplorer (interface to Beckhoff systems)

Integrated cloud connectivity

With the included license ibaPDA-Data-Store-MindSphere-16, data can be written directly into the MindSphere cloud and processed there.

The license ibaPDA-Data-Store-MQTT-16 enables data streaming of 16 signals via the MQTT messaging protocol and is also included in the scope of delivery.
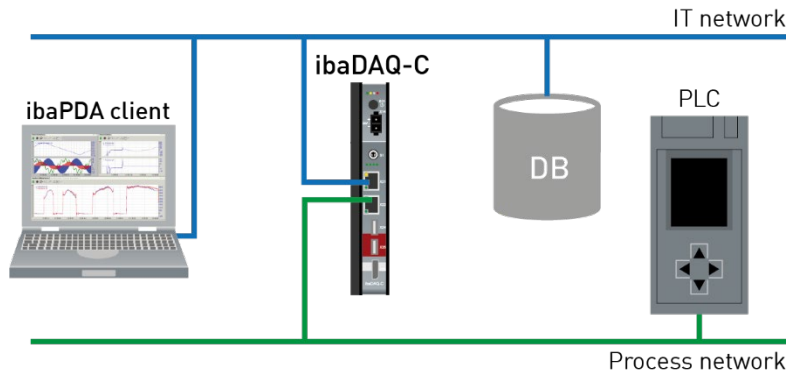
Configuration

Equipped with connections for a monitor, mouse, and keyboard, ibaDAQ-C is as convenient to operate as an ibaPDA system running on a computer. Moreover, it can be operated with an ibaPDA client connected via the network.

The ibaPDA version in ibaDAQ-C provides the full functional scope of ibaPDA and a license for 64 signals in the standard version. The number of signals can be increased to 1024 with a license extension.

Connection to several networks

With the two independent 1Gbit/s Ethernet interfaces, ibaDAQ-C can operate in two networks and thus enable the separation of IT and process networks. This separation allows, for example, databases and storage systems to be connected to ibaDAQ-C, which are located in the IT network.

Communication interfaces included in delivery

Order no.	Name	Description
31.001042	ibaPDA-Interface-PLC-Xplorer	Includes the communication interfaces: - S7-Xplorer (interface to SIMATIC S7) - AB-Xplorer (interface to Allen-Bradley systems) - ABB-Xplorer (interface to AC 800M/ AC 800PEC systems) - B&R-Xplorer (interface to B&R systems) - Bachmann-Xplorer (interface to M1 systems) - Codesys-Xplorer (interface to CODESYS based systems) - Logix-Xplorer (interface to ControlLogix systems) - MELSEC-Xplorer (interface to Mitsubishi MELSEC systems) - OMRON-Xplorer (interface to OMRON systems) - Sigmatek-Xplorer (interface to SIGMATEK systems) - TwinCAT-Xplorer (interface to Beckhoff systems)
31.001112	ibaPDA-Interface-MQTT	MQTT communication interface
30.670051	ibaPDA-OPC-UA-Server+	Advanced OPC UA server function ibaPDA can be used as OPC UA server. This license allows access to all ibaPDA signals.
30.670180	ibaPDA-Data-Store-MindSphere-16	Writing to the MindSphere cloud, 16 signals
30.671000	ibaPDA-Data-Store-MQTT-16	Data-Streaming via MQTT, 16 signals

Examples for Ethernet based communication interfaces

(not included in delivery)

Order no.	Name	Description
31.001075	ibaPDA-Interface-Generic-UDP	Generic-UDP/IP protocol communication interface
31.001076	ibaPDA-Interface-Generic-TCP	Generic-TCP/IP protocol communication interface

Other documentation

For the description and configuration of ibaPDA and the interfaces of ibaPDA-PLC-Xplorer please refer to the corresponding manuals. You find the manuals on the data medium "iba Software & Manuals" included in delivery.

3   Scope of delivery

After unpacking, check the delivery for completeness and possible damages.

The scope of delivery comprises:

❑ ibaDAQ-C device

❑ Covering caps for USB and Ethernet

❑ 2-pin connector with spring terminals (digital input, to initiate shutdown by UPS)

❑ 3-pin connector with spring terminals (voltage supply)

❑ "iba Software & Manuals" data medium

4   Safety instructions

4.1   Intended use

The device is an electrical apparatus. It is only allowed to use the device for the following applications:

❑ Measurement acquisition

❑ Applications with iba products (ibaPDA, and others)

The device must only be used as described in chapter 10 Technical data.

4.2   Special safety instructions

Warning!

This is a Class A device. This equipment may cause radio interference in residential areas. In this case, the operator will be required to take appropriate measures.

Strictly observe the operating voltage range!

Never supply the device with a voltage other than 24 V DC ±10%!
Excess voltage may destroy the device!

Important note

Do not open the device! Opening the device will void the warranty!

Important note

Please shutdown the device properly at any time to prevent dataloss. Uncontrolled shutdowns e.g. by disconnecting the power can lead to dataloss.

Caution!

Make sure that the cooling fins have sufficient ventilation!

Note

Clean the device only on the outside with a dry or slightly damp and statically discharged cloth.

5   System requirements

5.1   Hardware

For operation
❑ Power supply 24 V DC ± 10%, 1 A (when connecting 2 USB devices, e. g. hard disks)

For device parameterization and operation
❑ Monitor (connection to DisplayPort), mouse and keyboard (connection to USB ports)

or

❑ ibaPDA client via network link

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i **Note**

The ibaDAQ-C central unit runs ibaPDA by default. The license for 64 signals is included in the delivery. The number of signals can be extended up to 1024 with additional license.

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i **Note**

The ibaFOB-io-USB adapter cannot be used with devices of the ibaDAQ family (ibaDAQ/-C/-S).

5.2   Software

ibaPDA version 8.1.1 or higher for device configuration and for measuring and recording the data

5.3   Firmware

ibaDAQ-C version 01.01.004 or higher

# 6 Mounting, dismounting, first configuration

⚠️ **Caution!**

Only work on the device when it is de-energized!

6.1 Mounting on a DIN rail

1. Insert the DIN rail clip on the rear side of the device on top in the DIN rail, push the device down backwards and let it lock into the DIN rail. If necessary, use a slot screwdriver to pull down the lug of the DIN rail clip.

2. Once fixed, connect the 24 V DC power supply with the right polarity.

3. Connect the Ethernet cable(s)

6.2 Dismounting

1. Switch off the device.

2. Remove all cables.

3. Grasp the bottom of the device with one hand and insert a slot screwdriver into the lug of the DIN rail clip.

4. Pull the screwdriver upwards like a lever to unlock the DIN rail clip.

5. Grasp the bottom of the device, pull it forward and lift it upwards.
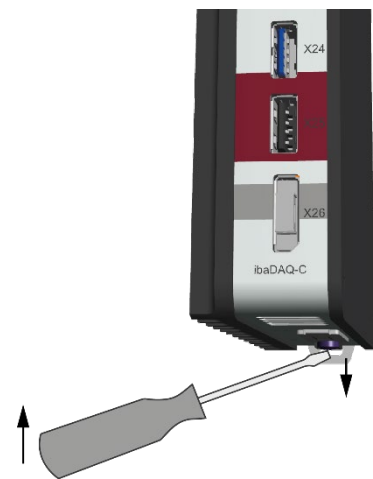
6.3 First configuration

6.3.1 Setup via network

In the factory setting of the network interface, DHCP is active (rotary switch S1 position = 1). Thus, an IP address is automatically assigned to ibaDAQ-C, as soon as the device is connected to a network with a DHCP server.

If the IP configuration is successful, ibaDAQ-C can be accessed via the host name daq-c-<serial number>, e. g. daq-c-000002.

If the network does not have a DHCP server, ibaDAQ-C can be set to fixed IP addresses via the rotary switch S1 position = 2:

Network interface X21:   192.168.1.1

Network interface X22:   192.168.1.2

ℹ️ **Note**

The first configuration with a fixed assigned IP address (S 1 = 2) should only be carried out by means of a point-to-point connection, in order to avoid IP address conflicts.

> **Important note**
>
> In administrated network environments, it may occur that the device does not receive an IP address even if a DHCP server is available. This is usually due to the fact that unknown network devices are not allowed in the network for safety reasons. In this case, please contact your IT department to obtain network approval for the device.

6.3.1.1 ibaPDA client

If not already existing, please install ibaPDA on the system you have selected for the configuration of ibaDAQ-C. The installation file can be found on the data medium "iba Software & Manuals" in the directory „01_iba_Software\ibaPDA".

Start the ibaPDA client.

Click on the icon ![PDA icon] to start the dialog "ibaPDA server selection" and enter the host name or the IP address of ibaDAQ-C as address. By default, the port number is 9170. If ibaDAQ-C is already in the list of servers, you can also select the device there.

Exit the dialog with <OK>.

Provided that the ibaPDA versions match, ibaPDA directly connects to the ibaDAQ-C system. If the ibaPDA versions do not match, you will be requested to install the suitable ibaPDA version.
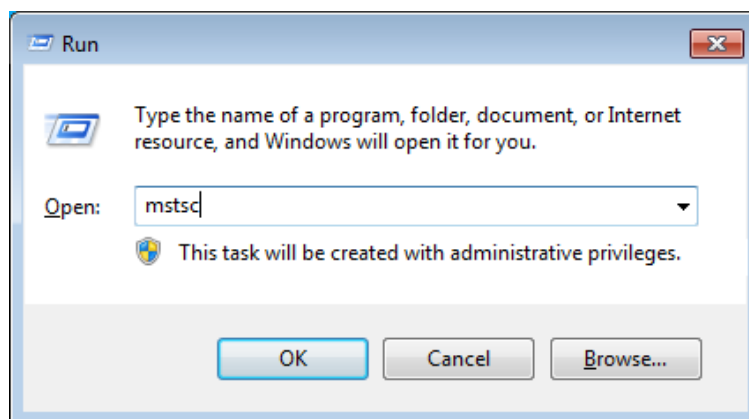
To further configure the system, proceed as described in chapter 9.
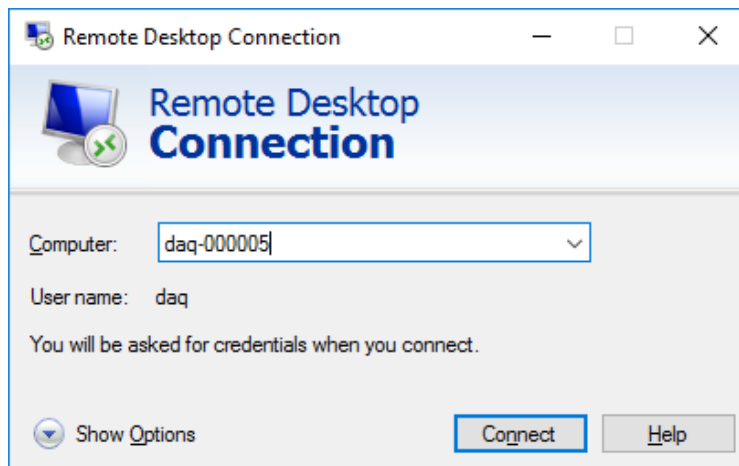
6.3.1.2 Remote Desktop

Open the Remote Desktop Connection on the system you want to configure ibaDAQ-C. You can find this in the Windows task bar under "Accessories".

There is another option to open the Remote Desktop Connection:

Press the keys <Windows>+<R> and enter "mstsc" in the field.

In the field "Computer", enter the host name or the IP address of the ibaDAQ-C system.

If you are requested to enter login information, use the information given in chapter 7.8.

Start the ibaPDA client from the Windows Start menu.

For further configuration, proceed as described in chapter 9.

6.3.2 Set up via monitor, keyboard and mouse

Connect a monitor to the DisplayPort connection of ibaDAQ-C. If necessary use an adapter.

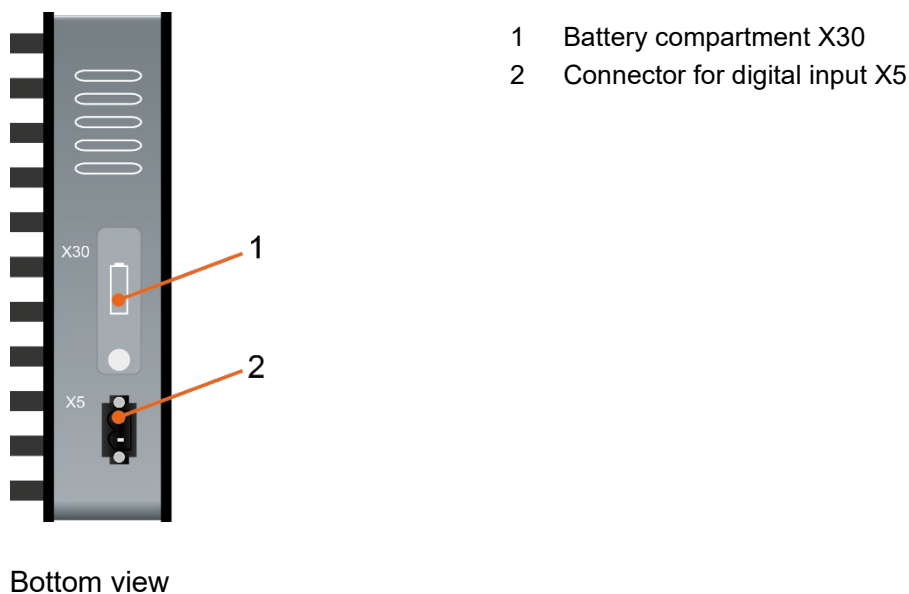Connect a keyboard and a mouse to the USB ports of ibaDAQ-C.
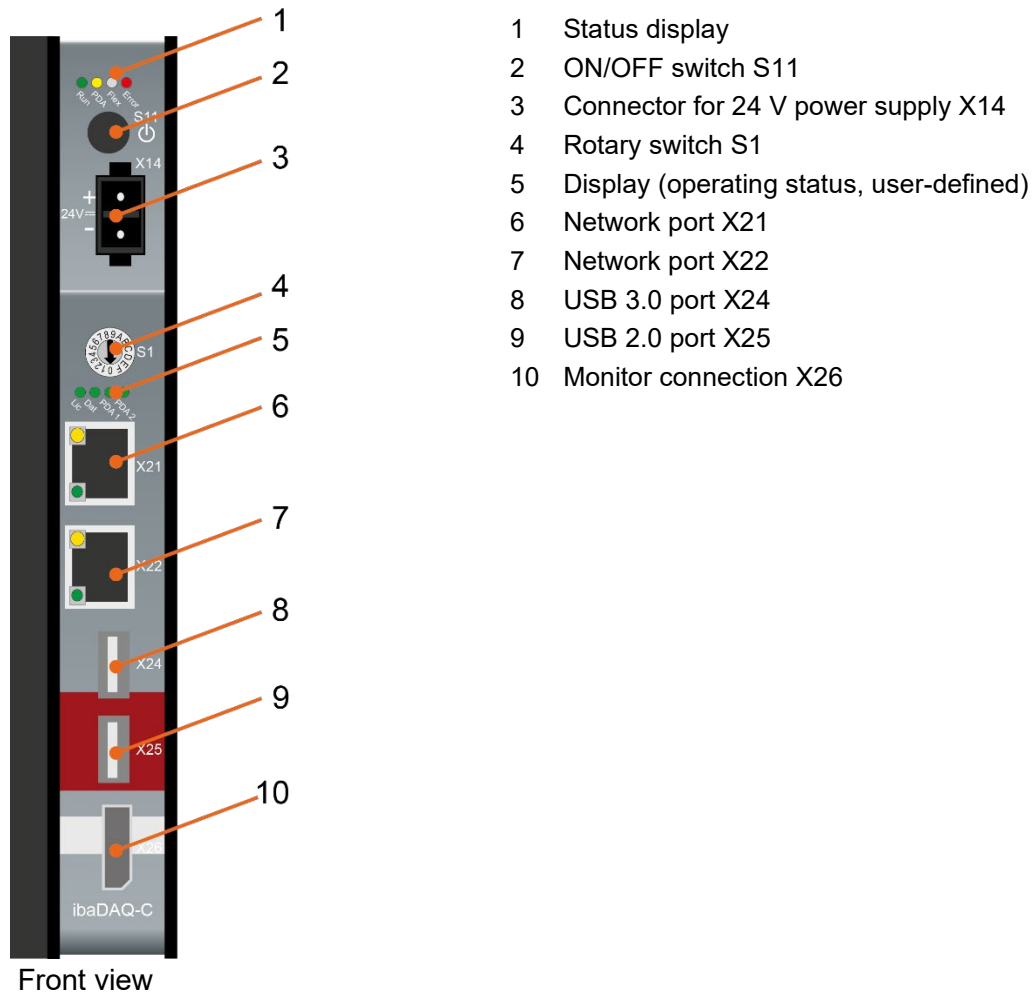
If required, log in to the system. You can find the login data in chapter 7.8.

Start the ibaPDA client from the Windows Start menu.

For further configuration, proceed as described in chapter 9.

7   Device description

7.1   Views

Front view

1   Status display
2   ON/OFF switch S11
3   Connector for 24 V power supply X14
4   Rotary switch S1
5   Display (operating status, user-defined)
6   Network port X21
7   Network port X22
8   USB 3.0 port X24
9   USB 2.0 port X25
10   Monitor connection X26

Bottom view

1   Battery compartment X30
2   Connector for digital input X5

7.2   Display elements

7.2.1   Operating status

The operating state of the device is indicated by colored LEDs.

LED	Color	Status	Description
Run	Green	Off	Device down, no power supply Hardware error, controller stopped
		Flashing	Ready
		On	Device starts up / shuts down
	Yellow/ orange	On	Operating voltage present, device off
PDA	Yellow	Flashing	Updating
		On	ibaPDA server running
	White		Without function
Error	Red	Off	No error
		On	Hardware error

Important note

Contact the iba support when the error LED indicates a fault.

7.2.2   Operating state and user-defined displays

Multi-colored LEDs (Lic and Dat) indicate the status of the license and data recording. It is possible to assign signals to 2 multi-colored LEDs in ibaPDA to display user-defined states.

LED	Color	Status	Description
Lic	Yellow		Demo licenses on dongle released
	Green		Dongle OK
	Red		No dongle or no license
Dat	Off		No data recording configured
	Yellow		Waiting for start trigger
	Green		Recording data
	Red		Data recording interrupted/stopped
PDA1	Yellow		
	Green		User-defined display
	Red		
	Off		
PDA2	Yellow		
	Green		User-defined display
	Red		
	Off		

7.3   Operating elements

7.3.1   ON/OFF switch S11

By switching the device off and on again, the supply voltage is disconnected and re-connected and the device is rebooted. There are different ways to shut down or switch off the running device:

❑ Press briefly: system shuts down

❑ Press and hold (> 5 s): system switches off (no controlled shut-down)

7.3.2   Rotary switch S1

The S1 rotary switch is used to specify IP address settings:

Position	Description
0	User-defined settings can be assigned for the interfaces X21 and X22. The IP addresses can be configured in ibaPDA or in the system settings.
1	DHCP active for X21 and X22 (factory setting)
2	fixed IP addresses X21: 192.168.1.1 X22: 192.168.1.2
3…F	Not allowed

It is also possible to select different address assignment methods for the two interfaces X21 and X22. Example:

❑ X21 = Interface for the IT network, DHCP is active

❑ X22 = Interface for the process network with fixed IP address 192.168.121.2
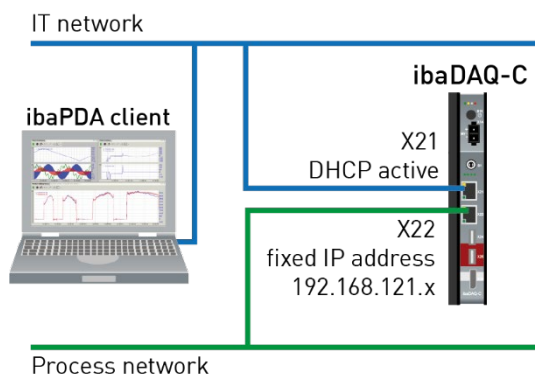
Procedure:

1. First, set switch **S1** to position **1** and establish a connection between the ibaPDA client and ibaDAQ-C. To do so, start the ibaPDA client on your PC and follow the steps in chapter 9.1.

2. Set switch **S1** to position **0.**

3. Open the I/O Manager in ibaPDA, select the node ibaDAQ-C and switch to the "Info" tab.

4. Assign the appropriate settings for the network interfaces. For the above example, select "Use DHCP" for X21. For X22, uncheck "Use DHCP" and enter a fixed IP address that matches your network. Click on <Apply settings> to activate the settings.
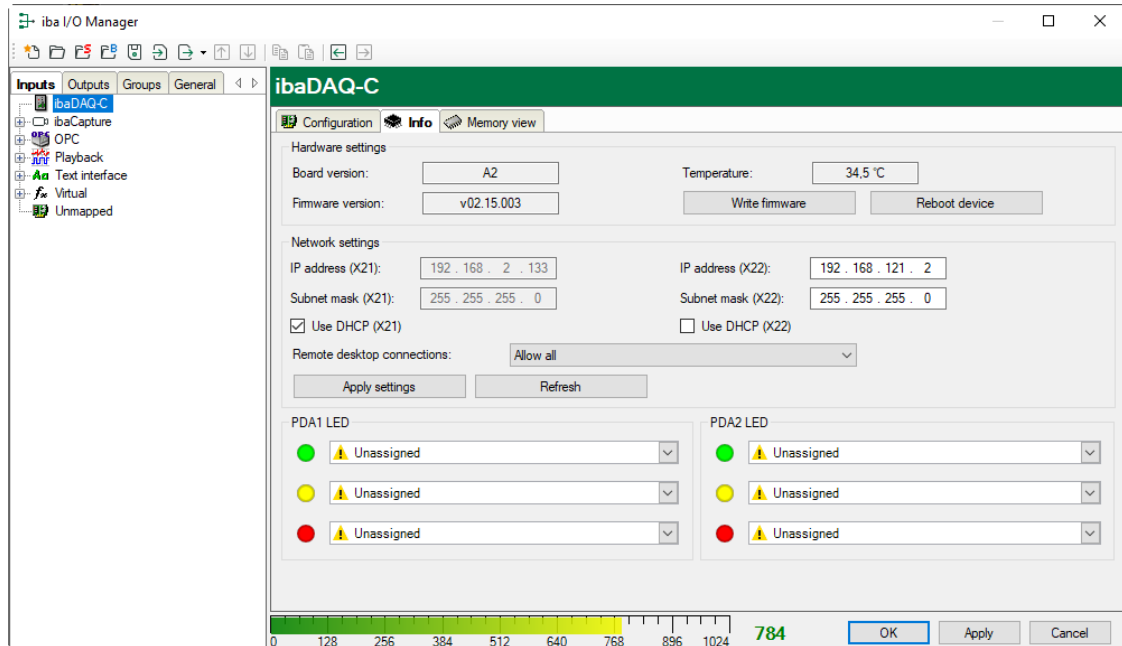
7.4   Communication interfaces

7.4.1   Network interface X21, X22

The device can be integrated into Ethernet networks via the network interfaces X21 and X22. Settings for the IP address can be made at the S1 rotary switch.

↗ See chapter 7.3.2

DHCP is activated in the factory settings.

It is also possible to connect ibaNet-E capable devices via these interfaces.

7.4.2   USB ports

❑ USB 2.0 (X25): 480 Mbit/s

❑ USB 3.0 (X24): up to 5 Gbit/s

7.4.3   DisplayPort X26

DisplayPort to connect a monitor. If the monitor does not have a DisplayPort, an adapter can be used, e. g. CSL - 3in1 DisplayPort to VGA + HDMI + DVI adapter.

7.5   Digital input X5

You can connect an input signal at the bottom of the device, bipolar and electrically isolated.

The X5 input can be used to initiate a safe shut-down when a trigger signal indicates that the voltage supply is interrupted.

The switching threshold of the input is >4 V and the level must not exceed 60 V to prevent damage to the device.

The polarity, as well as the type of voltage at connector X5 is not important. Only the potential difference of >4 V is relevant, because the signal from X5 is internally routed via a rectifier.
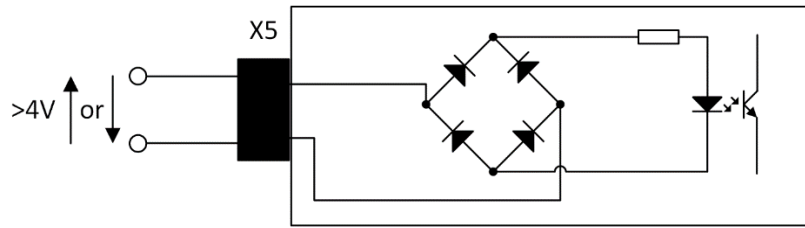
Example of internal wiring
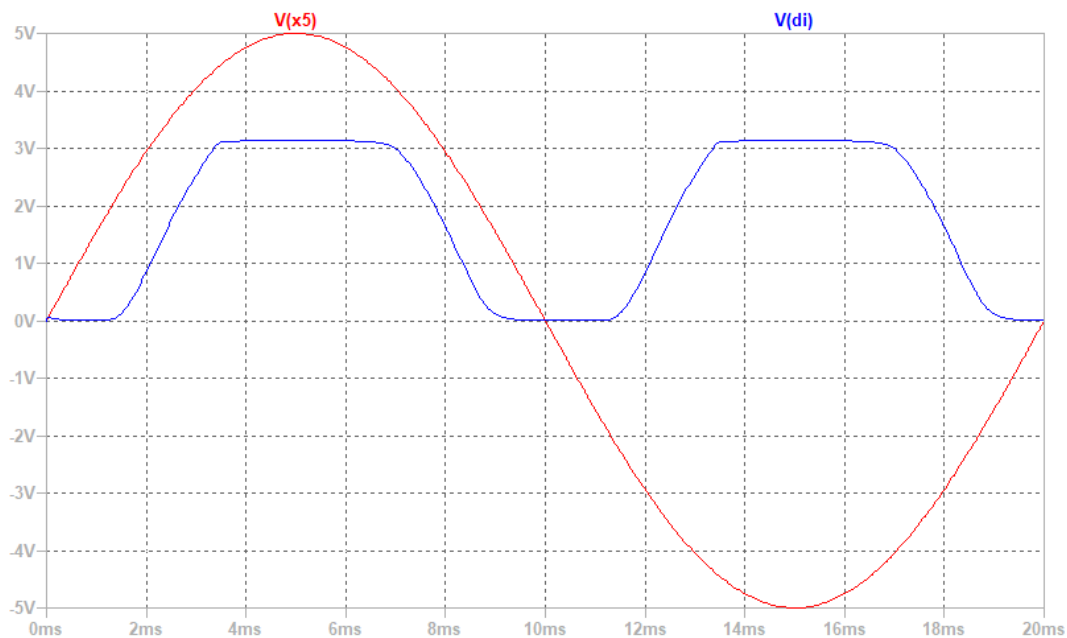
Example: AC signal at X5 (red)

As shown in the figure above, a positive and negative input voltage at X5 results in a logical 1 being detected at the digital input.

7.6   Voltage supply X14

The external voltage supply is connected with a 3-pin connector.

Caution!

Only connect the device to an external voltage supply 24 V DC (±10 % unregulated)!

Observe the correct polarity!

7.7   Battery compartment X30

The internal time is buffered with a 3V Lithium CR2032 battery. The battery can be replaced during operation.

Observe the correct polarity of the battery.

Important note

Used batteries and rechargeable batteries must not be disposed of with residual waste.

Batteries contain valuable raw materials that can be recycled and reused. Devices with the ✗ symbol are subject to EU Directive 2002/96/EC on waste electrical and electronic equipment. As a manufacturer we are obliged under the above directive to make you aware of this directive in the context of selling batteries or rechargeable batteries.

Batteries must not be disposed of in the household waste. This is marked by a crossed-out rubbish bin or waste container. You are legally responsible for the proper disposal of batteries. Please dispose of spent batteries as required by law at municipal collection centers or return them to your local retailer free of charge. It is expressly forbidden to dispose of batteries in the household waste; this is harmful for the environment. Batteries delivered by us can be returned free of charge or returned by mail with sufficient postage.

7.8   User accounts

Upon delivery, 2 users are configured:

User	Password
daq	daq
Administrator	xadmin

Note

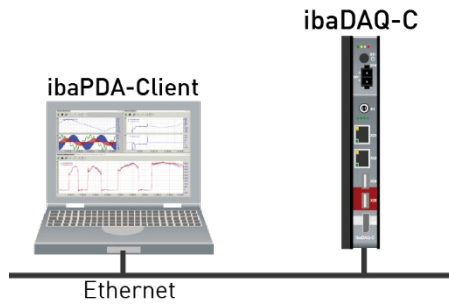The user daq is set by default to log in automatically.

Important note

Change the default passwords after you have started up ibaDAQ-C! This makes unauthorized use of the system more difficult.
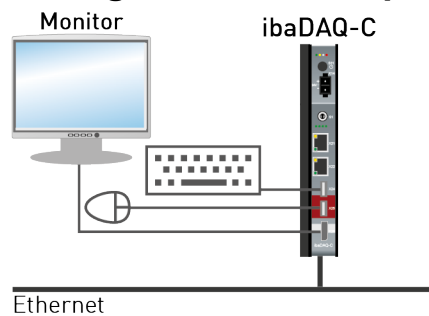
8 System integration
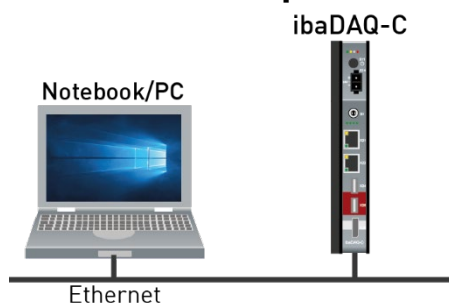
8.1 Configuration with ibaPDA client

❑ The ibaPDA client is connected to ibaDAQ-C via Ethernet.

8.2 Configuration with input devices

❑ The monitor, mouse and keyboard are connected directly to ibaDAQ-C.

8.3 Remote Desktop


❑ Operation through the network using Remote Desktop

8.4 Connection to networks

ibaDAQ-C can be operated in two different networks to separate for example the network for measuring data transmission from the rest of the network. For this prupose the device provides 2 Ethernet interfaces. For setting the addresses in the networks, please refer to chapter 7.3.2.
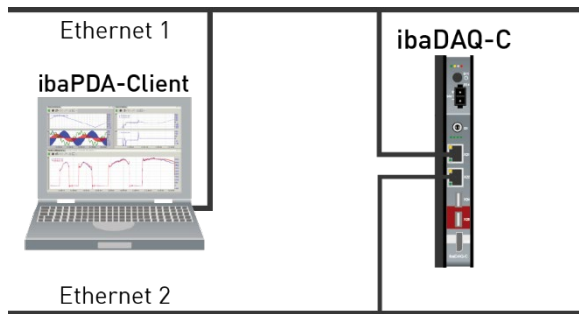
8.5 Connection with USB-WLAN/RJ45 adapter

Using a USB-WLAN or USB-RJ45 adapter at the USB interface is another possibility to operate ibaDAQ-C in two different networks. There is no need for a special adapter type. Any commercial adapter that supports Windows 10 or higher can be used for this purpose. However, the corresponding drivers need to be installed on the device.
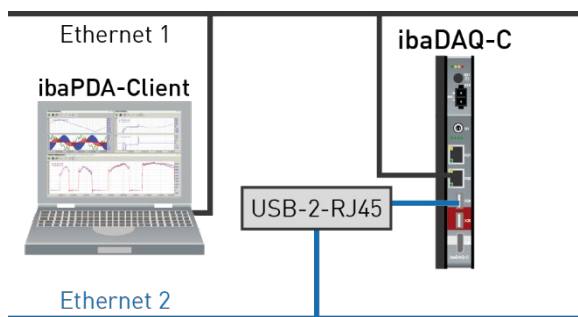
8.6 Operation with compact UPS

In order to secure an optimal operation, it is recommended to buffer the power supply of the ibaDAQ-C system via an uninterruptible power supply (UPS) with additional digital output. For this purpose, the digital output of the UPS serves as signal for securely shutting down the ibaDAQ-C operating system. The UPS should be designed in such a way that the system is buffered for at least 5 minutes.
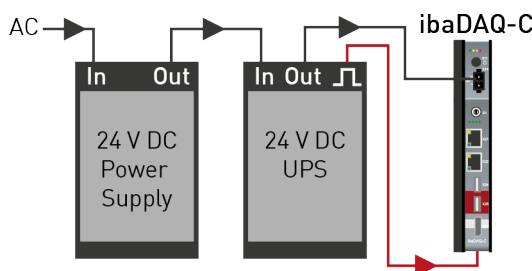
9 Configuration in ibaPDA

ibaPDA allows you to configure, acquire and record the analog and digital signals of the connected modules.

For the configuration you can connect the input devices (monitor, mouse, keyboard) directly to the unit. In this case, continue with chapter 9.2.

If you are using an external ibaPDA client for configuration, continue with the next chapter 9.1.

9.1 Connection with an external ibaPDA client

If you are using an external ibaPDA client for the configuration, the ibaPDA client and ibaDAQ-C have to be connected via the network.

Start ibaPDA on the external ibaPDA client and select ibaDAQ-C as ibaPDA server.

Click the PDA button on the toolbar or click "*Select server...*" in the *Configuration* menu.
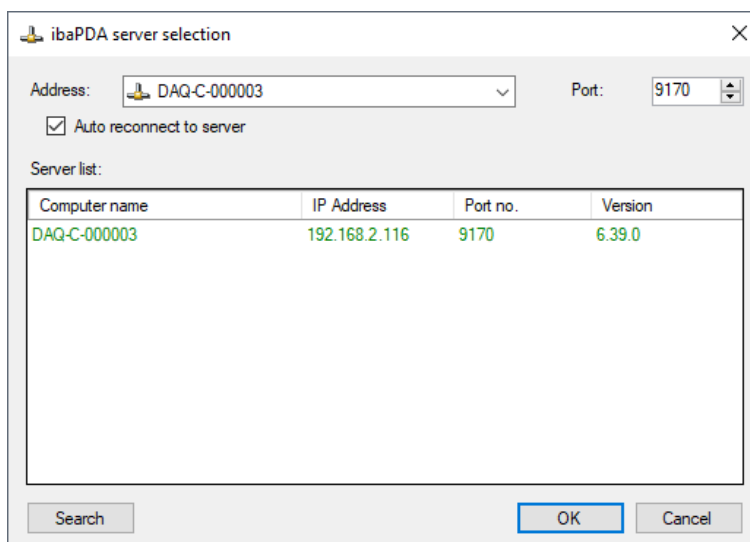
❑ Address
Enter the name or the IP address of the ibaDAQ-C device in the "Address" field. The name is composed of the DAQ-C-<six-digit serial number>. The serial number is found on the device name plate.
Example: DAQ-C-000003.

❑ Port-no.
The port number is assigned automatically.

❑ The <Search> button
This button starts and stops the search for active ibaPDA servers in the network. If the ibaPDA client and ibaDAQ-C are located in the same network, the device should be displayed in the list of servers. The device can be selected either by double-clicking the device or by selecting it and subsequently clicking <OK>.

For further configuration activities, open the I/O Manager as described in the next chapter.

9.2 ibaDAQ-C configuration

The following settings are made in the ibaDAQ-C node:

❑ Configuration of the interrupt source, see chapter 9.2.1

❑ Network settings of the device, see chapter 9.2.2

❑ Firmware update and restarting the device, see chapter 9.2.2

❑ User-defined signal assignment of the LEDs PDA1 and PDA2, see chapter 9.2.2

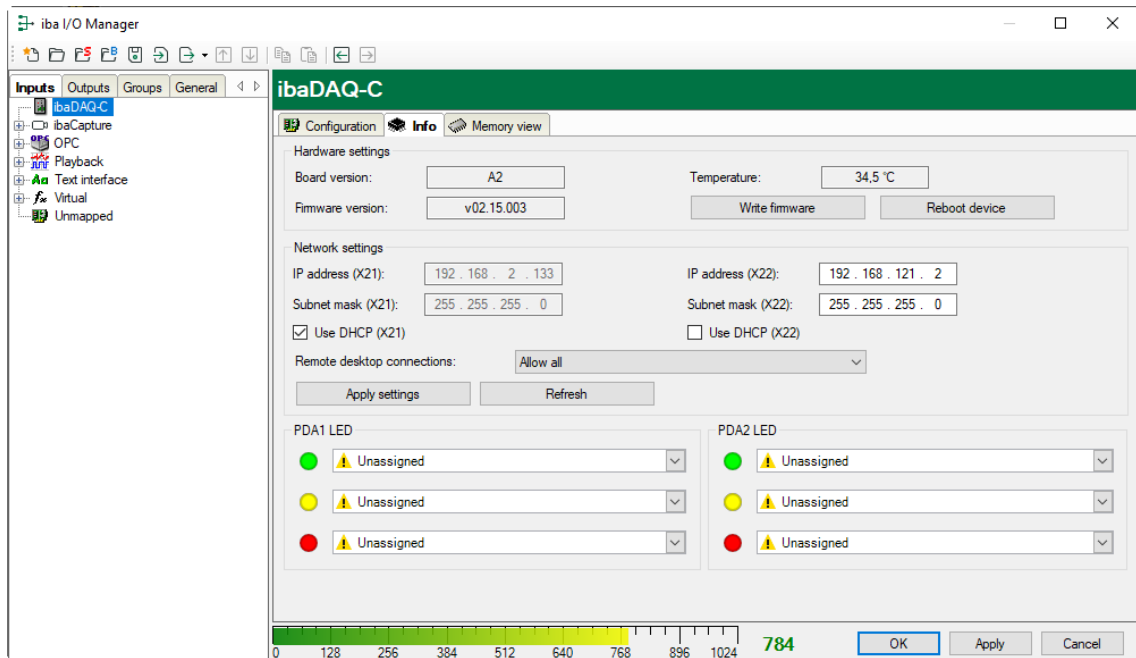❑ Connection of further modules and communication interfaces, see chapter 9.3.

9.2.1 Configuration tab
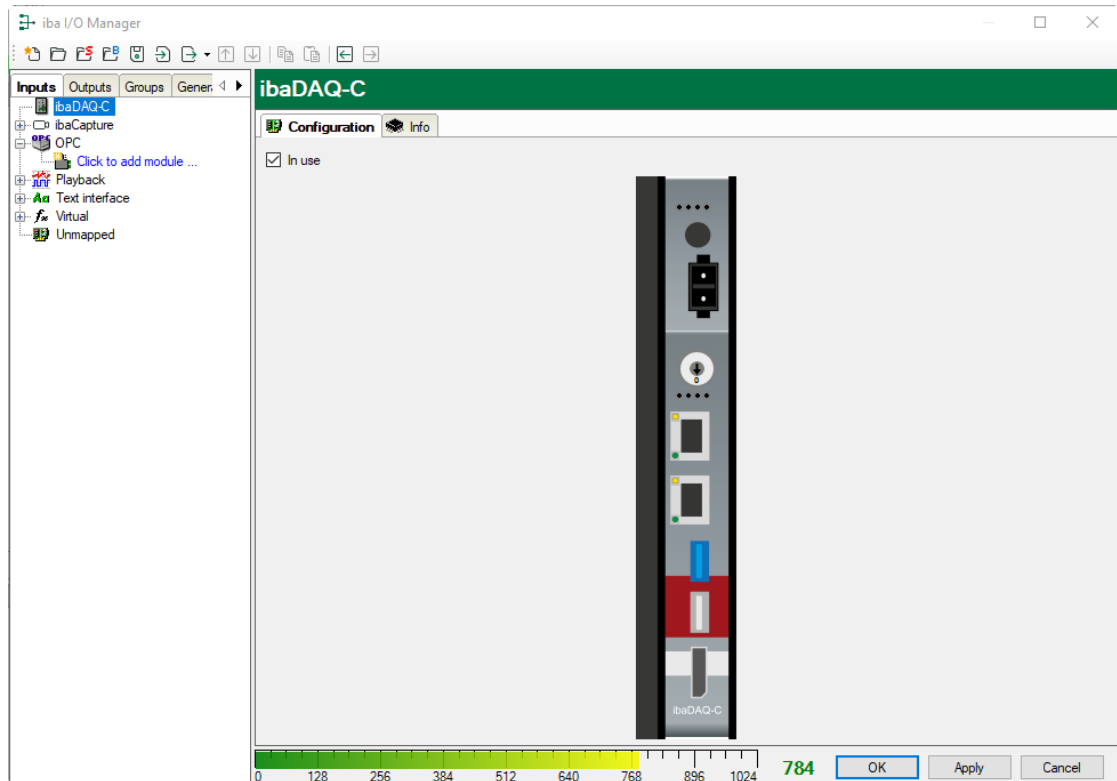
ibaPDA uses only the ibaDAQ-C hardware as interrupt source. When "In use" is disabled, ibaPDA uses the less accurate internal timer.

The illustration of the device displays the current state of the LEDs and the rotary switch.

9.2.2   ibaDAQ-C – Info tab

The "Hardware settings" section provides information on the board and firmware version and the temperature display.

❑ Write firmware
This button allows running firmware updates. Select the update file "daqc_v[xx.yy.zzz].iba" in the browser and start the update by clicking <Ok>.

ℹ️ **Important note**

This process may take several minutes and must not be interrupted. After an update, the device driver and the ibaPDA service will restart automatically.

❑ Reboot device
Click this button to restart the device.

Network settings

The settings of IP address, subnet mask and DHCP server are only available if the rotary switch S1 is set to "0".

❑ Use DHCP
Here you can select separately for the two network interfaces X21 and X22 whether a DHCP server is used or not.

❑ IP address
Here you can enter a user-defined IP address for the network interfaces X21 and X22. The option "Use DHCP server" must not be enabled to do so.

❑ Subnet mask
Enter the suitable subnet mask for you network here.
The option "Use DHCP server" must not be enabled to do so.

> **i** **Note**
>
> It is also possible to select different address assignment methods for the two interfaces X21 and X22, e. g. DHCP active for X21 and a fixed IP address for X22. Procedure see chapter 7.3.2.

❑ Remote desktop connections
Here you can allow or deny remote desktop connections. Possible settings:

- Disabled

- Allow all

- Only secure connections

❑ <Refresh>
Click <Refresh> to refresh the network settings.

❑ <Apply settings>
Click <Apply settings> to apply the network settings in the device.

> **i** **Important note**
>
> Please remember to assign the corresponding user authorizations when setting up the remote desktop connection for the first time.
>
> This is only possible directly at the device and not via the ibaPDA client.
>
> If you run ibaDAQ-C in a domain, you may ask the IT department to assign the authorizations.

PDA1/2 LED

Here you can assign signals to the LEDs PDA1 and PDA2. 3 colors (green, yellow and red) are available for each LED. Select one input signal respectively from the dropdown menu. If the corresponding signal applies, the LED will light up in the configured color.

PDA1 LED		PDA2 LED	
🟢	∏ 3.0: Green	🟢	∏ 4.0: Green
🟡	∏ 3.1: Yellow	🟡	∏ 4.1: Yellow
🔴	∏ 3.2: Red	🔴	∏ 4.2: Red

9.3   Add modules

Data acquisition requires additional communication interfaces. The interfaces ibaPDA-Interface-MQTT and ibaPDA-PLC-Xplorer are already included in the standard scope of delivery. Further communication interfaces require a separate license. If you have licensed additional communication interfaces, they appear as nodes in the tree structure.
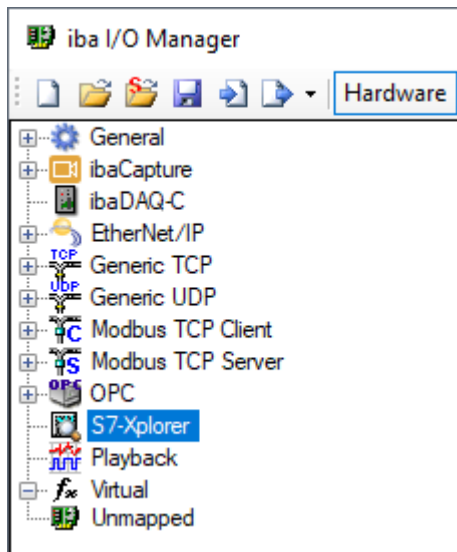
📖   **Other documentation**

The description and configuration of the individual communication interfaces can be found in the corresponding interface manuals.

9.4   Setting up file sharing

To comfortably access recorded data through the network, the ibaPDA client allows setting up read-only access.

|	**Note**
i	When running ibaDAQ-C in a so-called workgroup, you need the user name and the password to access it.
	If ibaDAQ-C and the accessing PC are in the same domain, a separate authentication is usually not necessary.

9.4.1   Troubleshooting

If you cannot access the shared directory from another system, file and printer sharing may not be enabled.
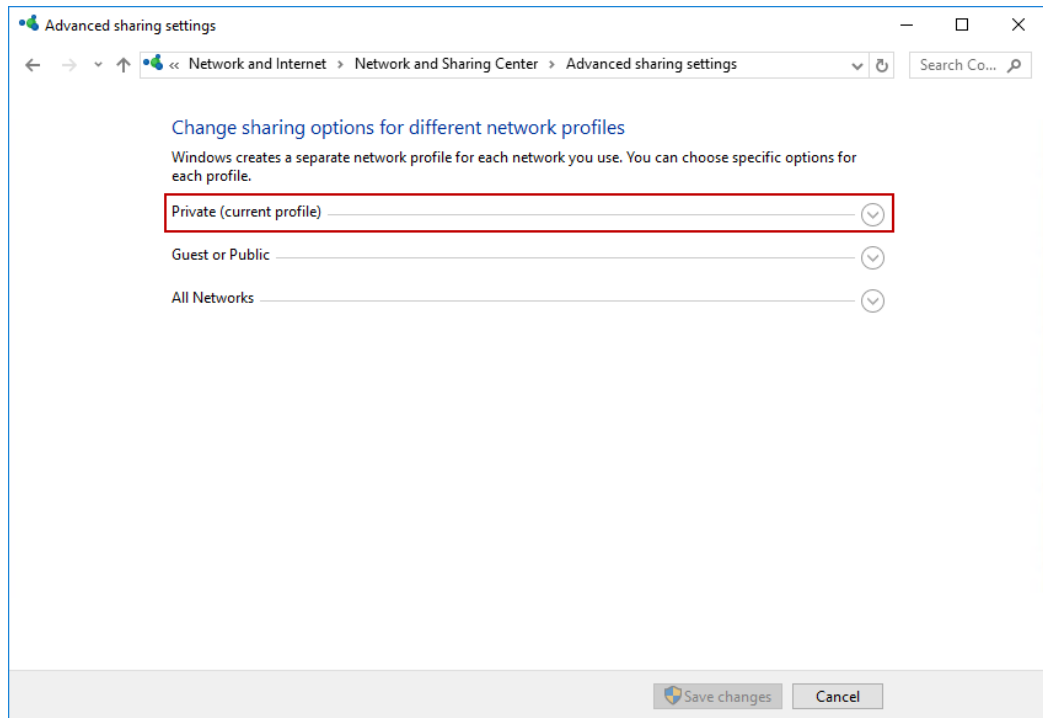
You can activate it as follows.

1. Right-click the network icon in the notification area of the taskbar to open the "Network and Sharing Center".
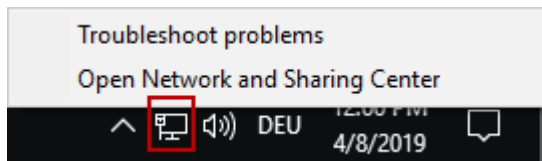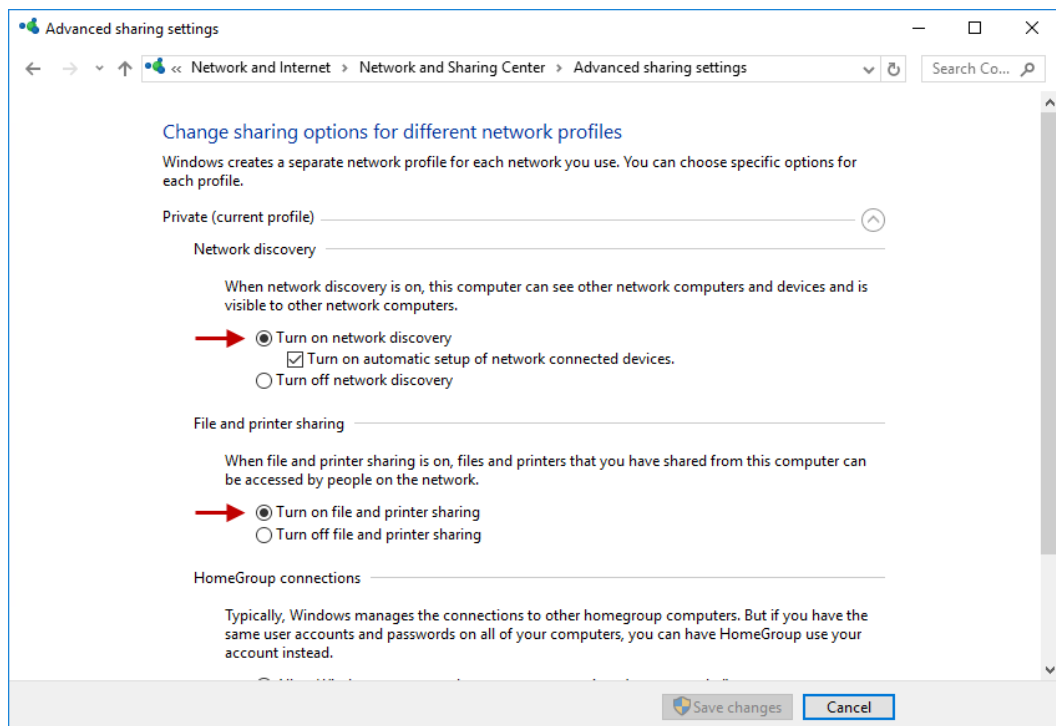

2. In the "Network and Sharing Center" open the "Advanced Sharing Settings".
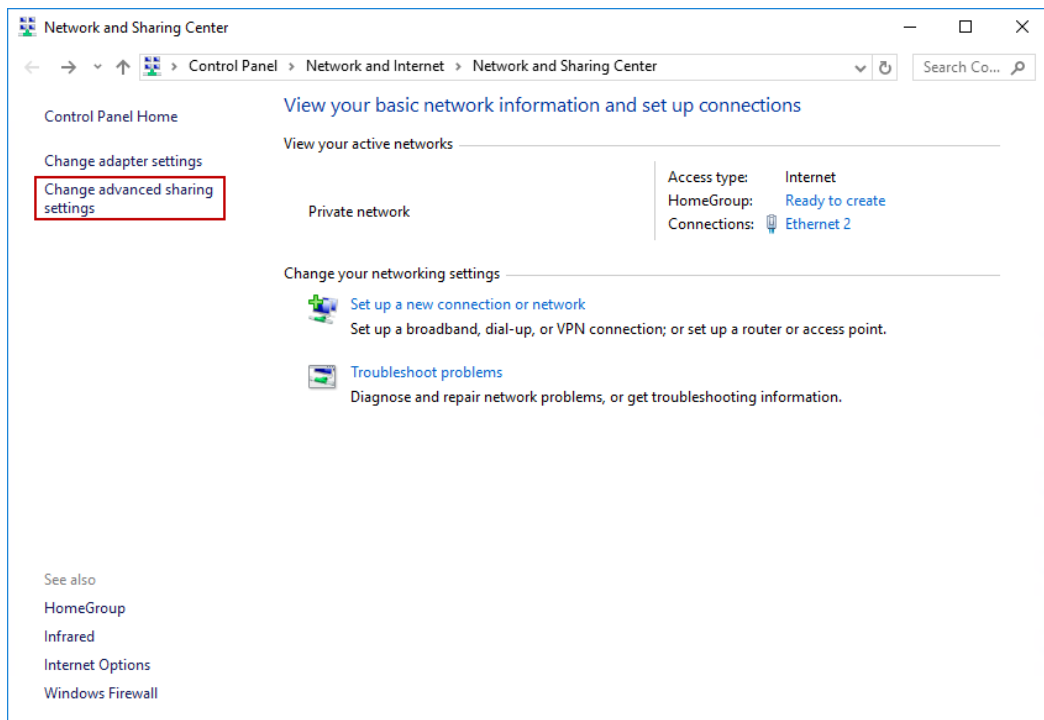
3. Select the profile you are using. This is indicated by the addition "(current profile)".

4. Make sure that the "Turn on network discovery" and "Turn on file and printer sharing" settings are enabled.

10 Technical data

10.1 Main data

Brief description			
Name	ibaDAQ-C		
Description	Compact device for stand-alone data acqusition		
Order number	10.170002	10.170032	10.170042

Processor unit			
Processor	Intel Atom E3845 quad core CPU 1.91 GHz	Intel Atom E3950 quad core CPU 1.6 GHz	
Operating system	Windows 10 IoT Enterprise Long-Term Servicing-Version		
RAM	4 GB	8 GB	4 GB
Flash memory (SSD)	128 GB (SN: < 500), 512 GB (SN: ≥ 500)	512 GB	
Clock	With battery back-up, can be replaced during operation (3V lithium CR2032) Synchronization possible NTP, PtP, IEC 1131		

Supply, operator and indicator elements	
Voltage supply	24 V DC, ± 10 % not stabilized, max. 1 A
Power consumption	Max. 11 W, approx. 18 W with 2 USB hard disks + monitor connected
Displays	6 LEDs for operating state 2 LEDs for customized applications, configurable in ibaPDA

Operating and environmental conditions	
Cooling	Passive
Operating temperature	0°C … 50 °C
Storage and transport temperature	-25°C … 70°C
Humidity class acc. to DIN 40040	F (5% - 95%), no condensation
Protection class	IP20
Mounting	DIN rail, vertical
Free space for air circulation	Min. 2 cm on top and bottom of the device required
Certification/Standards	EMC: IEC 61326-1 FCC part 15 class A
MTBF[1]	164620 h (ca. 18 years)

Dimensions and weight	
Dimensions (width x height x depth)	34 mm x 203 mm x 141 mm
Weight	1.0 kg (incl. packaging and documentation)

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[1] MTBF (mean time between failure) according to Telcordia 3 SR232 (Reliability Prediction Procedure of Electronic Equipment; Issue 3 Jan. 2011) and NPRD (Non-electronic Parts Reliability Data 2011).

<table>
<tr><td colspan="2" align="center">Supplier's Declaration of Conformity
47 CFR § 2.1077 Compliance Information</td></tr>
</table>

Unique Identifier:
10.170002, ibaDAQ-C
10.170032, ibaDAQ-C-MA5
10.170042, ibaDAQ-C-TQ-M

Responsible Party - U.S. Contact Information
iba America, LLC
370 Winkler Drive, Suite C
Alpharetta, Georgia
30004

(770) 886-2318-102
www.iba-america.com

FCC Compliance Statement
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

10.2   Interfaces

Communication interfaces

Ethernet	2x RJ45, 1 Gbit/s
USB	1x USB 3.0, 1x USB 2.0
DisplayPort	Port for monitor

Digital input

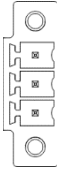|	
Number	1
Version	Electrically isolated, protected against polarity reversal
Max. input voltage	±60 V permanent
Signal level log. 0 Signal level log. 1	> -6 V; < +6 V < -10 V; > +10 V
Input current	1 mA, constant
Delay	Approx. 50 µs
Connection technology	Screw-type terminal (0.14 mm^2 to 1.5 mm^2), screw connection, included in delivery

10.3   Dimensions

ibaDAQ-C

Dimensions in mm
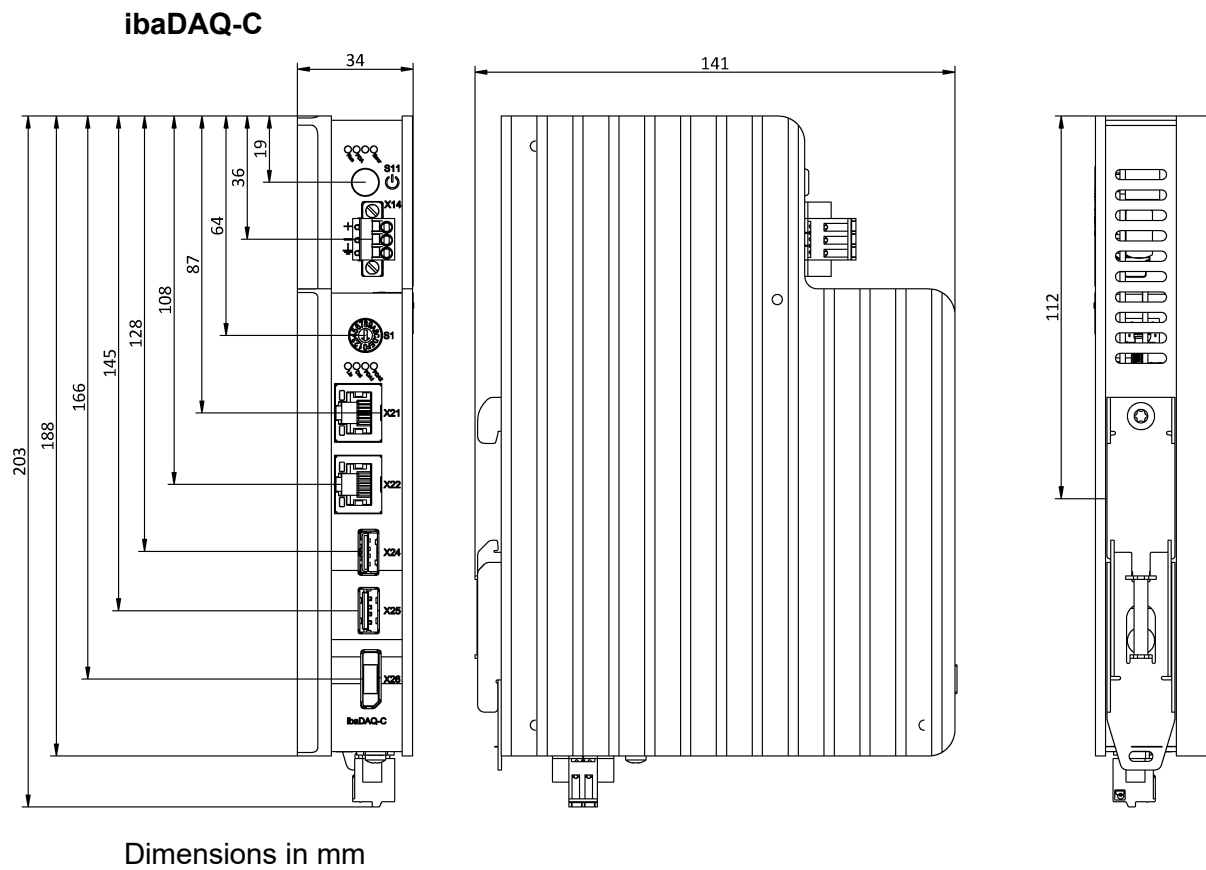
10.4   Connection diagram
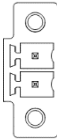
10.4.1   Pin assignment voltage supply X14

Pin	Connection
1	+ 24 V
2	0 V
3	Earth

10.4.2   Pin assignment digital input X5

Pin	Connection
1	Digital input 00 +
2	Digital input 00 -

11   Index

12   Contact and Support

Support

Phone: +49 911 97282-14

E-Mail: support@iba-ag.com

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i   **Note**

If you require support, specify the serial number (iba-S/N) of the product.

Contact

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