

# **IBH Link UA**

## **Manual Part 4**

### **TeamViewer IoT**

### **Connections**

Version 5.20

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**IBHsoftec GmbH**  
**Turmstr. 77**  
**64760 Oberzent / Beerfelden**  
**Tel.: +49 6068 3001**  
**Fax: +49 6068 3074**  
**info@ibhsoftec.com**  
**www.ibhsoftec.com**

**TTI Ingenieurbüro für**  
**Technologie Transfer**  
**Dipl. Ing. B. Peter Schulz-Heise**  
**Tel.: +49 6061 3382**  
**Fax: +49 6061 71162**  
**TTI@schulz-heise.com**  
**www.schulz-heise.com**

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### PLC Examples-Projects (PLC-Programs)

| PLC control                    | IP address <i>Control level</i> | Programming system     |
|--------------------------------|---------------------------------|------------------------|
| CPU 416 S7e                    | 10.0.13.11                      | STEP 7 Simatic Manager |
| CPU 312 S7e                    | S7++1 / 10.0.13.25              |                        |
| PLC 1500 TIA16e                | 10.0.13.90                      | TIA Portal V16         |
| PLC 1200 TIA16e                | 10.0.13.91                      |                        |
| CPU 312 TIA16e                 | S7++2 / 10.0.13.26              |                        |
| CPU 416 TIA16e                 | 10.0.13.9                       |                        |
| S5 CPU 103U<br>Counter S5W.S5P | S5++1 / 10.0.13.27              | S5 for Windows         |

# 1 IBH Link UA – TeamViewer IoT – Establishing connections

---

The activation of the **TeamViewer IoT option** is described in the chapter 1.6 page 10 of the **IBH Link UA Setup Manual**.

## TeamViewer IoT License IBH Link UA

With the latest, freely available firmware the functionality of the **IBH Link UA** is extended, to allow remote maintenance via **TeamViewer IOT**. This new feature allows to access nearly all PLC systems always and everywhere.

Complex modem solutions or the use of a PC on site are obsolete.

To use this functionality with **IBH Link UA**, you need a **TeamViewer IoT** license.

Use the following link to purchase a **TeamViewer IoT** license:

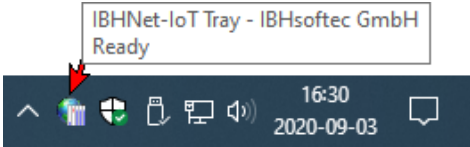
[https://wiki.ibhsofttec.com/en/IBH\\_Link\\_IoT:TeamViewer\\_IoT\\_License\\_IBH\\_Link\\_UA](https://wiki.ibhsofttec.com/en/IBH_Link_IoT:TeamViewer_IoT_License_IBH_Link_UA)

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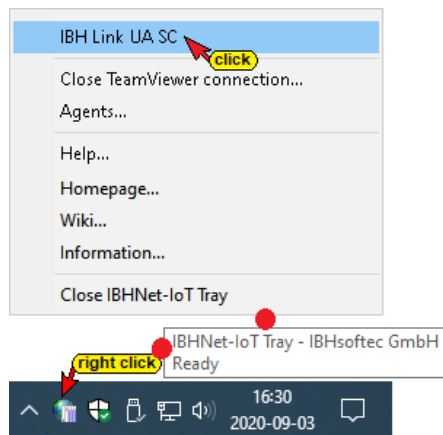
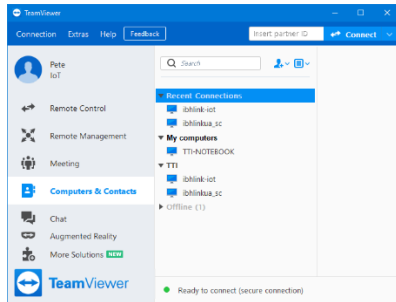
## 1.1 Establishing a connection

A connection to the IBH Link UA and thus to the PLC controls and other devices that are connected to the ports of the control level can be established via the Internet from any PC.

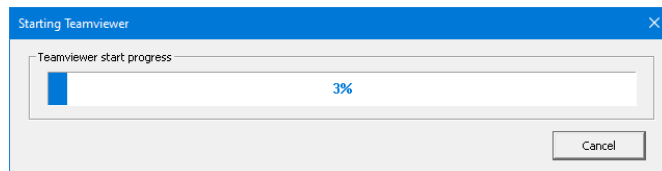
These Steps are described in the **IBH Link UA Setup Manual**.

- The **TeamViewer software** is installed on this PC.
- The **IBHNet-IoT software** is installed. The service is displayed in the **IBHNet-IoT Tray** in the task bar.
- The name (e.g. **IBH Link UA SC**) given in the **TeamViewer-Shortcut** dialog box is transferred to the **TeamViewer account**.
- Start the **TeamViewer software** with a double-click.
- Right-click on the **IBHNet-IoT Tray** icon to open the context menu. The devices registered with the **TeamViewer account** are listed in the upper area of the context menu.

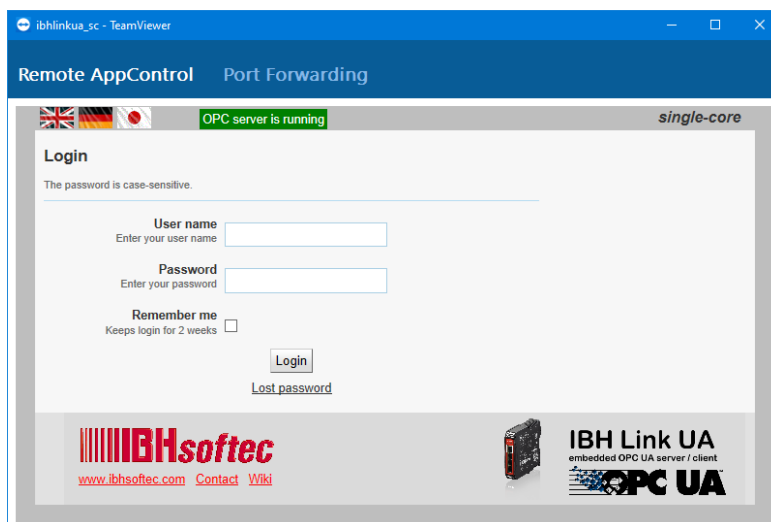
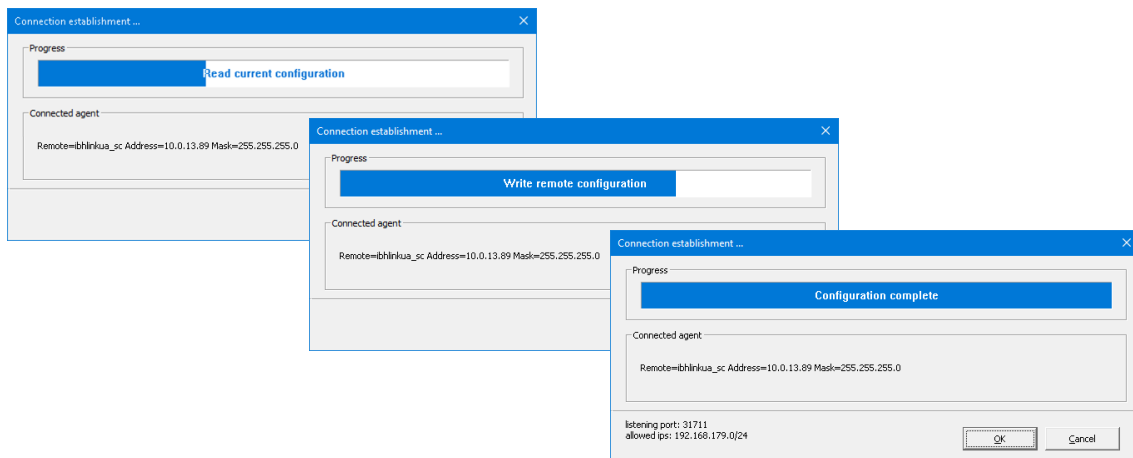
The TeamViewer software has been started.



The connection is established with a click on the desired device (IBH Link UA SC).

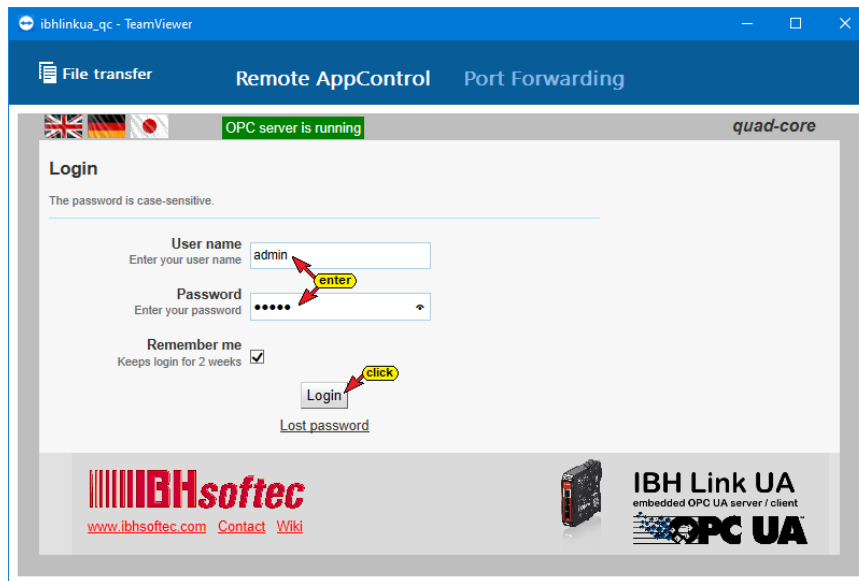


The establishment of the connection is displayed.

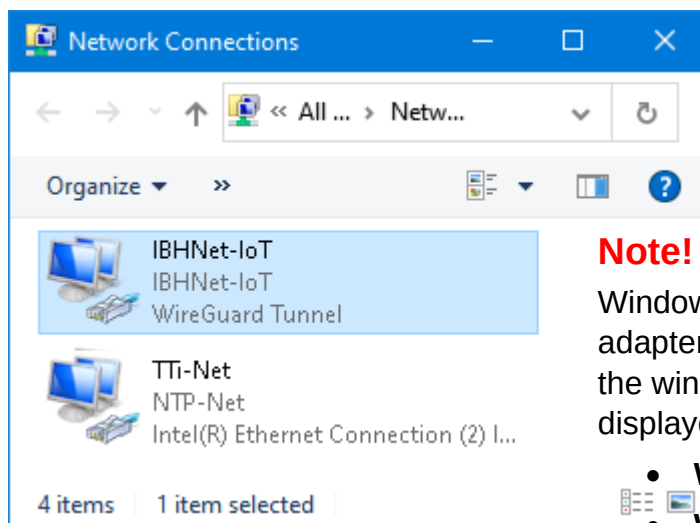


Is the connection successful, the **Remote AppControl** with **Port Forwarding** opens displaying the **IBH Link UA Login** window?

To access the individual CPUs (devices) (e.g. status) no registration (Login) to the IBH Link UA is necessary. The Login is only required for using the IBH Link UA functions.



The successful connection established, the **IBH Link IoT** appears as a **WireGuard tunnel** under the network adapters of the PC.



### Note!

Windows use two names for network adapters. The **Hardware Name** or the windows **FriendlyName** is displayed.

- **WireGuard Tunnel**
- **Wintun Userspace Tunnel**

The different names are therefore displayed in the screen shots.

From now on, all controls and devices that are connected via the **Control Level** of the **IBH Link UA** can be reached.

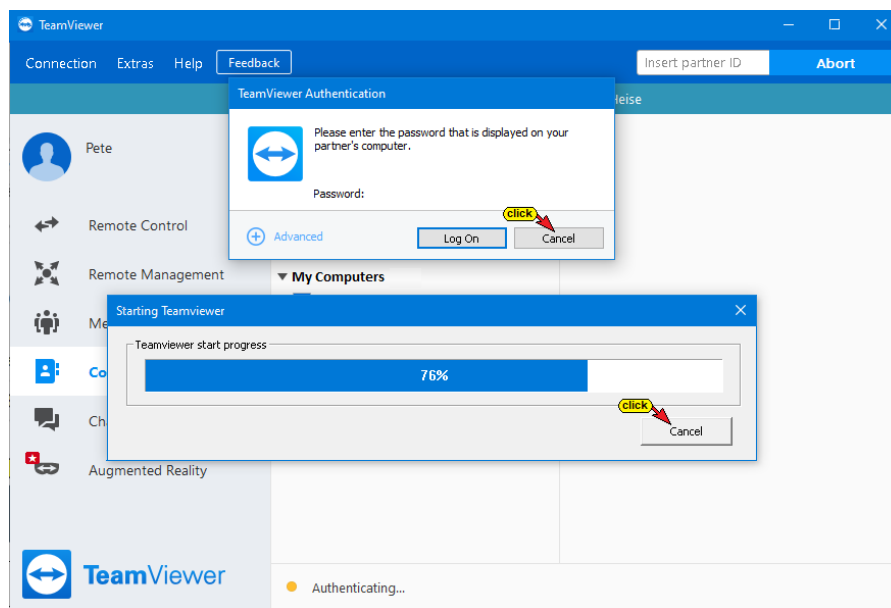
### Note!



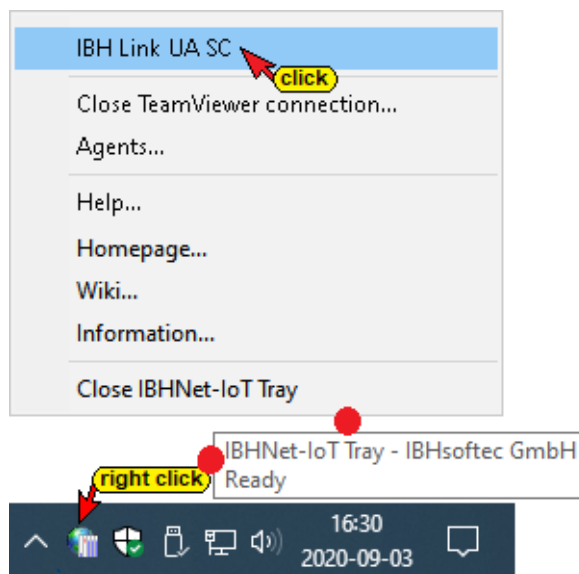
During the TeamViewer start process it may happen that no connection is established, and the error messages are displayed. These error messages are to close with Cancel.

The starting process must be started again.

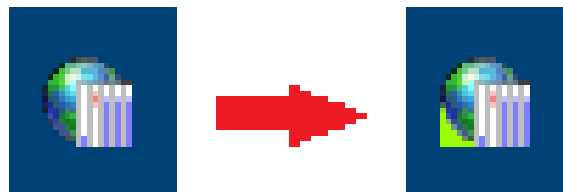
## 1.1.1 Error messages starting process



### Activate the start process again



After the connection has been successfully established, the **IBHNet-IoT Tray** icon in the taskbar changes. It gets an additional green mark.



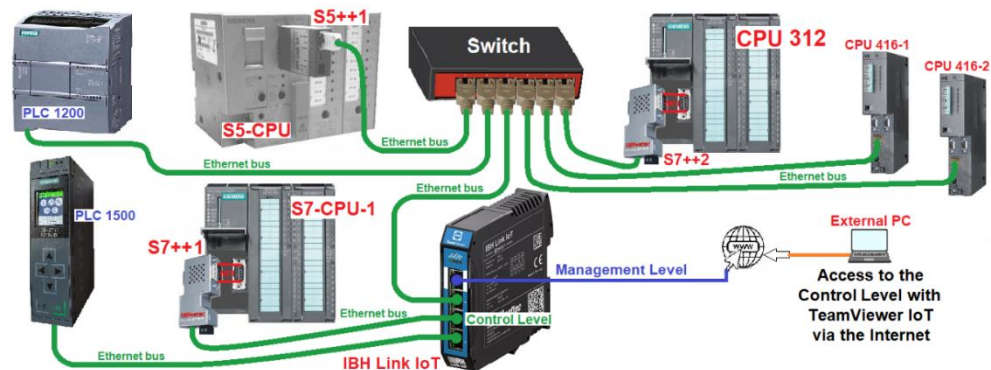
From the PC, whose **IBHNet-IoT Tray** Icon shows the existing online connection, controls (CPUs / devices) connected to the **Control level** ports can be accessed with the appropriate software (programming system).



## 1.2 Access to controls (CPUs / devices) connected to the ports of the control level.

The example demonstrates the possible to display the online status of CPUs connected to the Control level of an IBH Link UA.

### 1.2.1 Remote IBH Link UA with connected CPUs



Several PLC programming systems for online access to the individual controls are installed on the external PC.

| PLC control     | IP address <i>Control level</i> | Programming system     |
|-----------------|---------------------------------|------------------------|
| CPU 416 S7e     | 10.0.13.11                      | STEP 7 Simatic Manager |
| CPU 312 S7e     | IoT S7++1 / 10.0.13.25          |                        |
| PLC 1500 TIA16e | 10.0.13.90                      | TIA Portal V16         |
| PLC 1200 TIA16e | 10.0.13.91                      |                        |
| CPU 312 TIA16e  | IoT S7++2 / 10.0.13.26          |                        |
| CPU 416 TIA16e  | 10.0.13.9                       |                        |
| S5 CPU 103Ue    | IoT S5++1 / 10.0.13.27          | S5 for Windows         |
| IBH Link UA     | Control Level                   | 10.0.13.89             |
|                 | Management Level                | DHCP                   |

The **Management Level** port has direct access to the Internet.

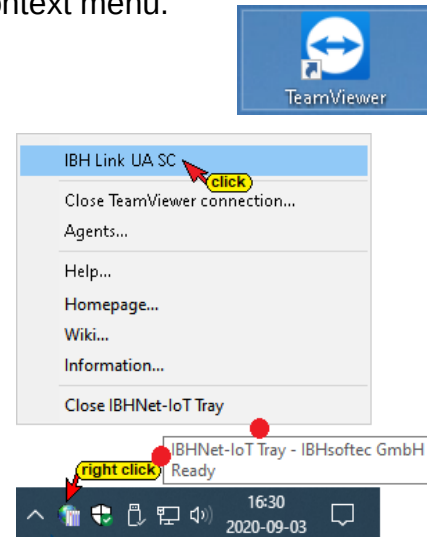
The **IBH Link UA TeamViewer IoT** function has been activated on the remote **IBH Link UA** as described in chapter 1.1.

### 1.2.2 Local PC

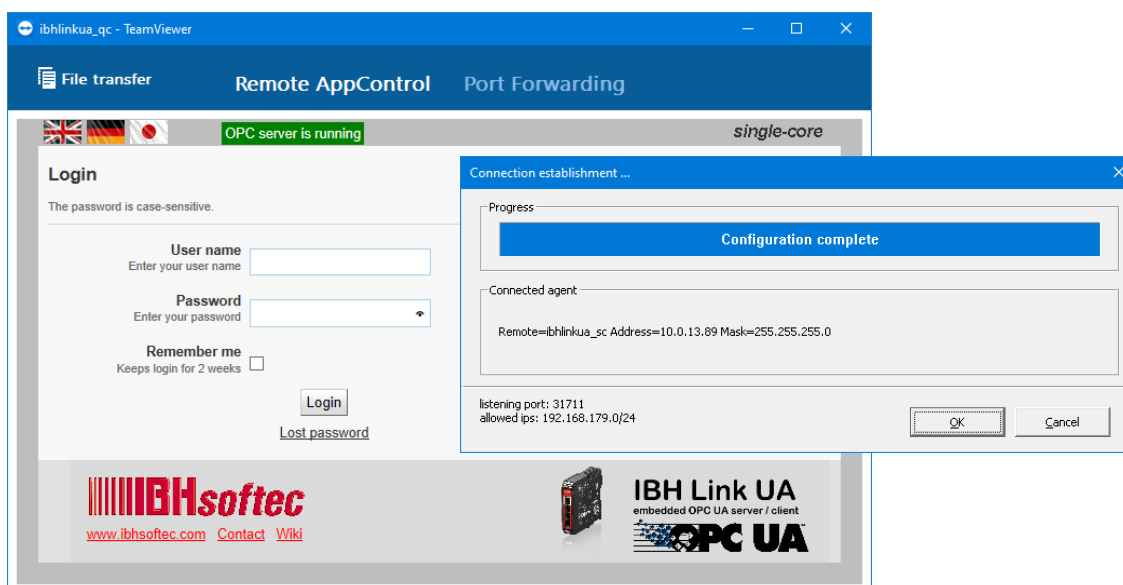
Several PLC programming software are installed on the local PC to display the online status of the CPUs.

TeamViewer is installed on the local PC. There is access to a TeamViewer account with the corresponding IoT license. The IBHsofttec software **IBHNet-IoT-Setup.exe** is installed. The TeamViewer ID of the Remote IBH Link UA and its name has been inserted into the TeamViewer Shortcuts dialog box via the Agents... command from the IBHNet-IoT Tray context menu.

- Start the **TeamViewer** software.
- Right click on the **IBHNet-IoT Tray** icon to open the context menu.
- With a click on IBH Link UA SC, the connection to the ibhlink-iot address is established via the Internet.



The establishment of the connection is displayed and the **Port Forwarding** of the Remote **AppControl** are displayed.



#### Note:

To access the individual CPUs (devices) (e.g. status) no registration to the **IBH Link IoT** is necessary.

- Start the programming software (STEP 7, TIA, S5 for Windows etc.).

The examples show connections from the CPU to the control level of an IBH Link IoT via an IBH Link S7++ or IBH Link S5++. It is possible to check the connections and the settings of the IBH links.

### 1.2.3 Check IBH Link S7++ settings

CPUs of the S7-300 and S7-400 series not having a free Ethernet interface can be connected to the IBH Link IoT via **MPI bus** via an **IBH Link S7++** via Ethernet (RFC 1006 protocol).

The **IBH Link S7++** is an Ethernet converter. The protocol used is standard **TCP / IP**. The user can benefit from all the advantages of Ethernet without any problems.

If the connection to the **IBH Link IoT** is established via the Internet, the IBHNet-IoT tray symbol has a green corner at the bottom left, and transmission data is displayed.

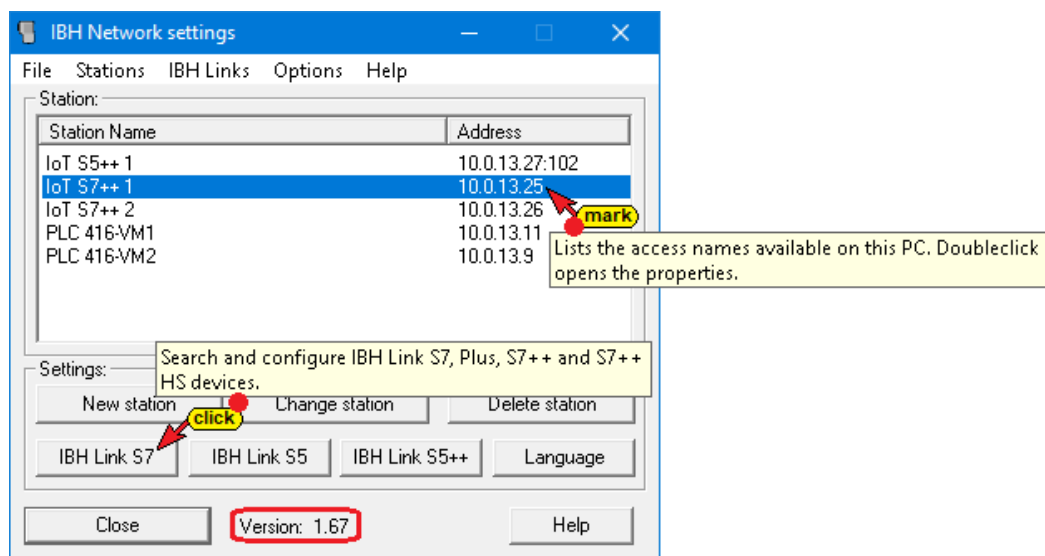
IBHNet-IoT Tray - IBHsoftec GmbH  
Sent:10604 Received:10433



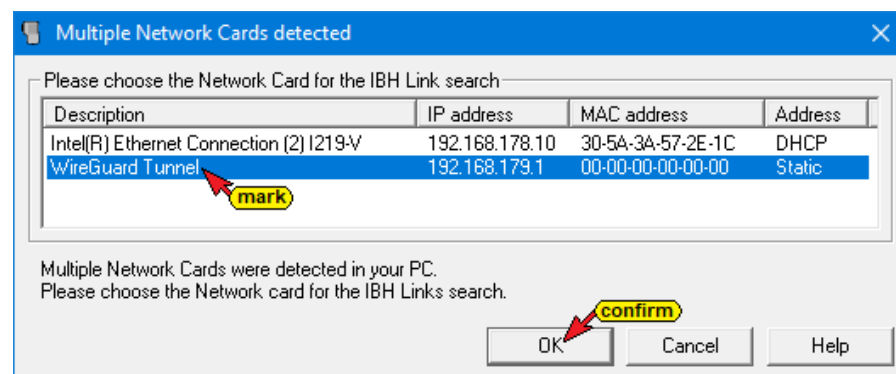
After starting **Manage IBHNet Stations**, the **IBH Network Settings** dialog box opens. Click the IBH Link S7 button to open the Detect multiple network cards dialog box.



#### Dialog box IBH Network Settings



Mark **WireGuard Tunnel** and confirm with **OK**.

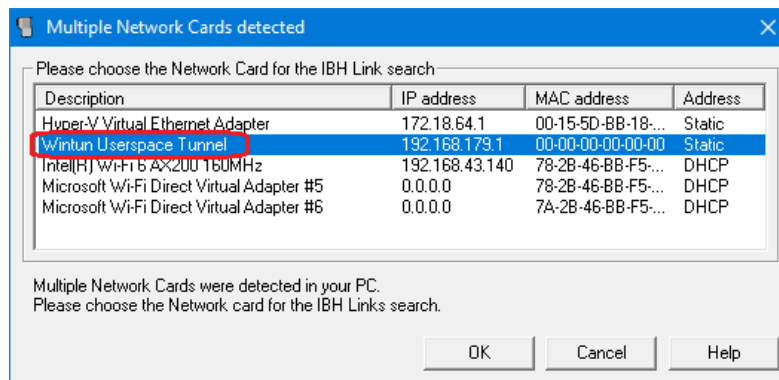


**Note!**

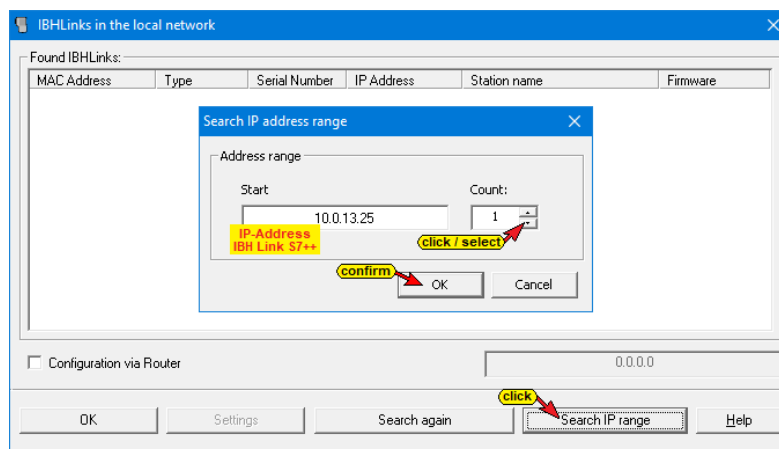
Windows use two names for network adapters, the **Name** given by the **Hardware** or the **FriendlyName**.

- WireGuard Tunnel
- Wintun Userspace Tunnel

Depending on the software using network adapter and the Windows status the **Hardware Name** or the **FriendlyName** is displayed.

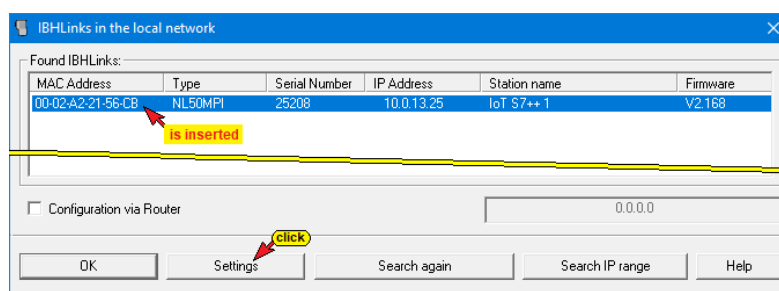


In the **IBH Links in the local network** dialog box, click the **Search IP range** button.

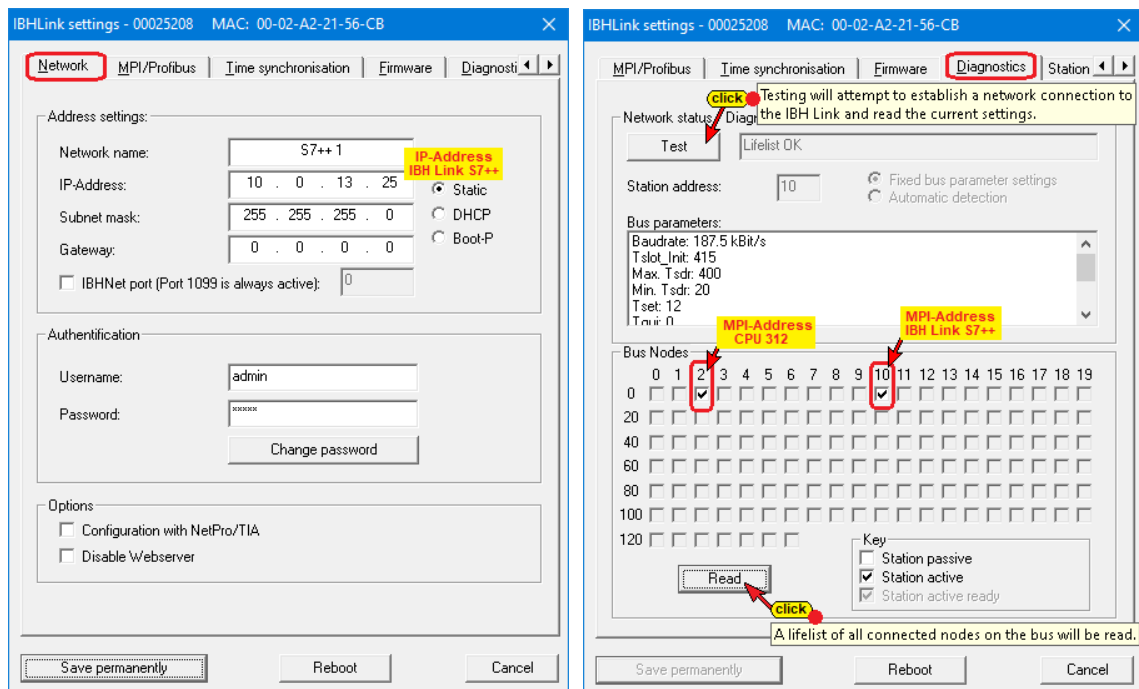


Searching for several IBH links is impossible over the Internet. In the **Search IP Range** dialog box, enter the IP address of the **IBH Link S7++** to be searched and the number 1. When you click **OK**, the connection to the IBH Link S7++ is established.

Information of the connected **IBH Link S7++** are displayed.

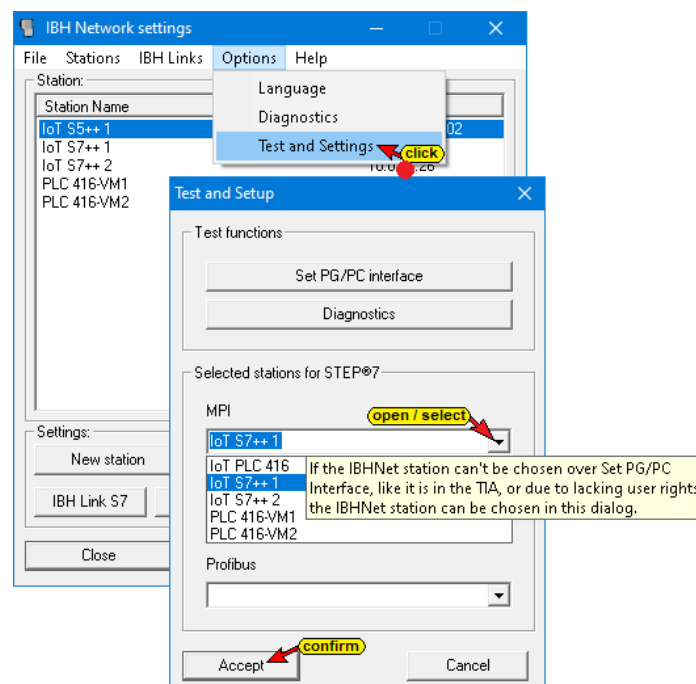


Click on the button **Settings** to display several tabs with information on the connected **IBH Link S7++**.



### 1.2.4 Two or more IBH Link S7++ in one Subnet

The TIA Portal programming environment does not have a dialog to select different IBH Link S7++. The selection must be performed using the **IBH Network Settings** dialog box.



By clicking the **Accept** button, the IBHNet driver is given the IP address. The TIA Portal, therefore, only has access to the assigned CPU via the **IBH Link S7++**.

## 1.2.5 Check IBH Link S5 ++ settings

CPUs of the **S5** series not having a free Ethernet port can be connected to the IBH Link IoT via the **PG interface** via an **IBH Link S5++** via Ethernet (RFC 1006 protocol).

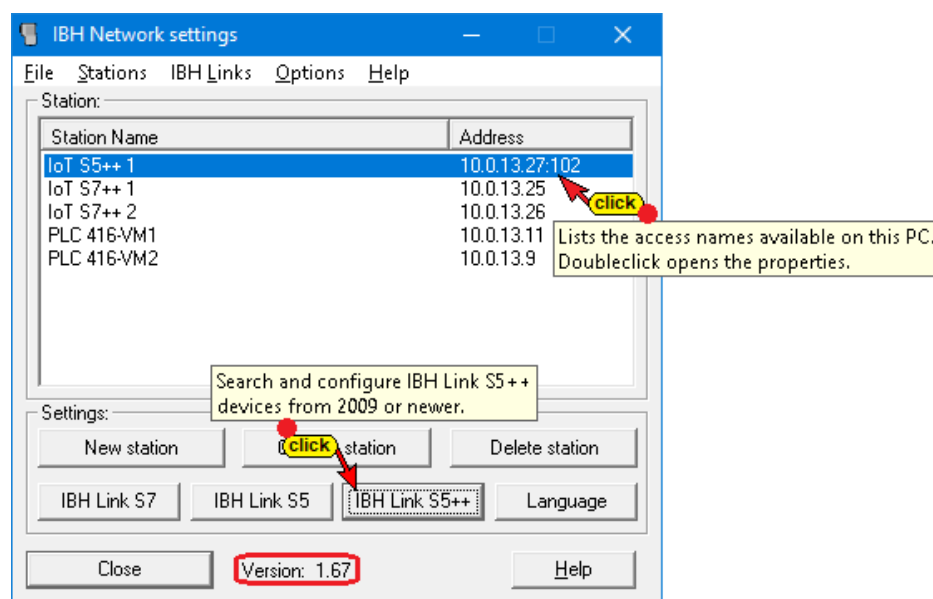
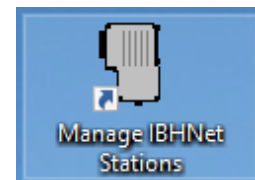
**The IBH Link S5++** is an Ethernet converter. The protocol used is standard TCP / IP. The user can benefit from all the advantages of Ethernet.

If the connection to the **IBH Link IoT** is established via the Internet, the IBHNet-IoT tray symbol has a green corner at the bottom left, and transmission data is displayed.

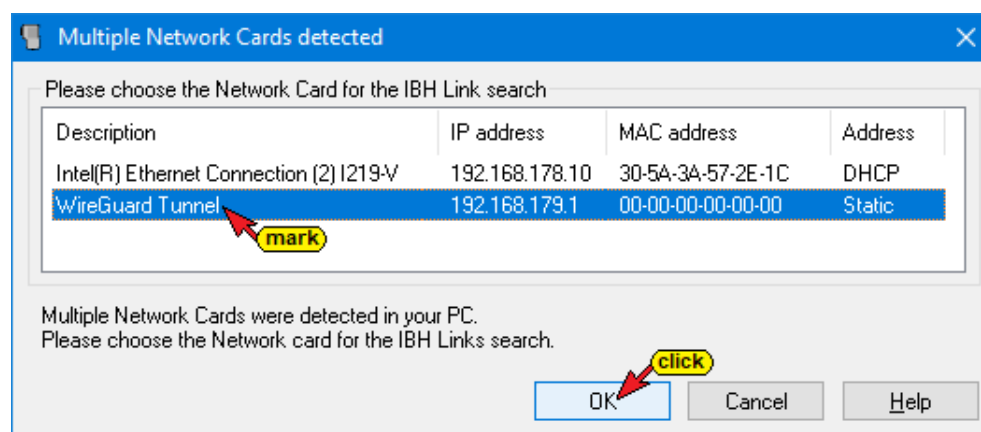
IBHNet-IoT Tray - IBHsoftec GmbH  
Sent:15140 Received:11657



After starting IBHNet Manage Stations, the **IBH Network Settings** dialog box opens. Click the **IBH Link S5++** button to open the **Detect multiple network cards** dialog box.



Mark **WireGuard Tunnel** and confirm with **OK**.



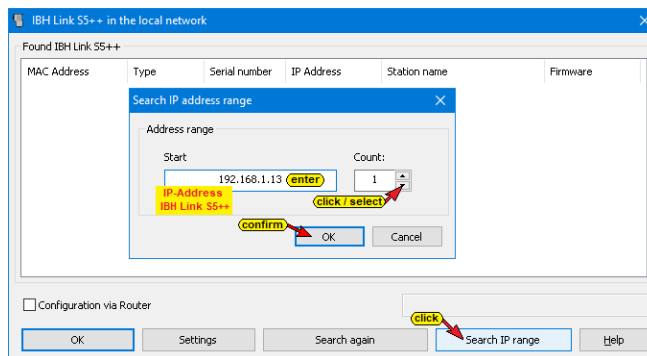
**Note!**

Windows use two names for network adapters, the **Name** given by the **Hardware** or the **FriendlyName**.

- WireGuard Tunnel
- Wintun Userspace Tunnel

Depending on the software using network adapter and the Windows status the **Hardware Name** or the **FriendlyName** is displayed.

In the **IBH Link S5++ in the local network** dialog box, click the **Search IP range** button.

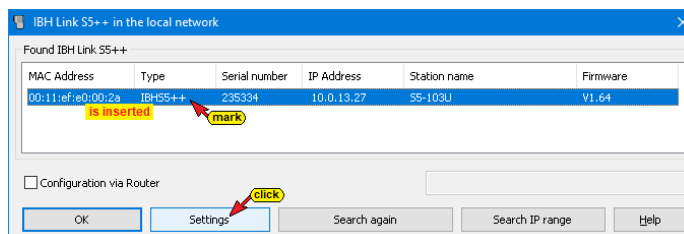


Searching for several IBH links is impossible over the Internet. In the **Search IP address range** dialog box, enter the IP address of the

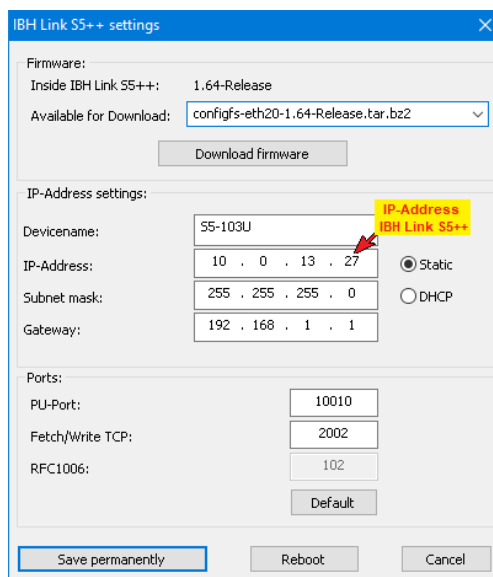
**IBH Link S5++** to be searched and the number 1.

When you click **OK**, the connection to the **IBH Link S5++** is established.

Information of the connected **IBH Link S5++** are displayed.



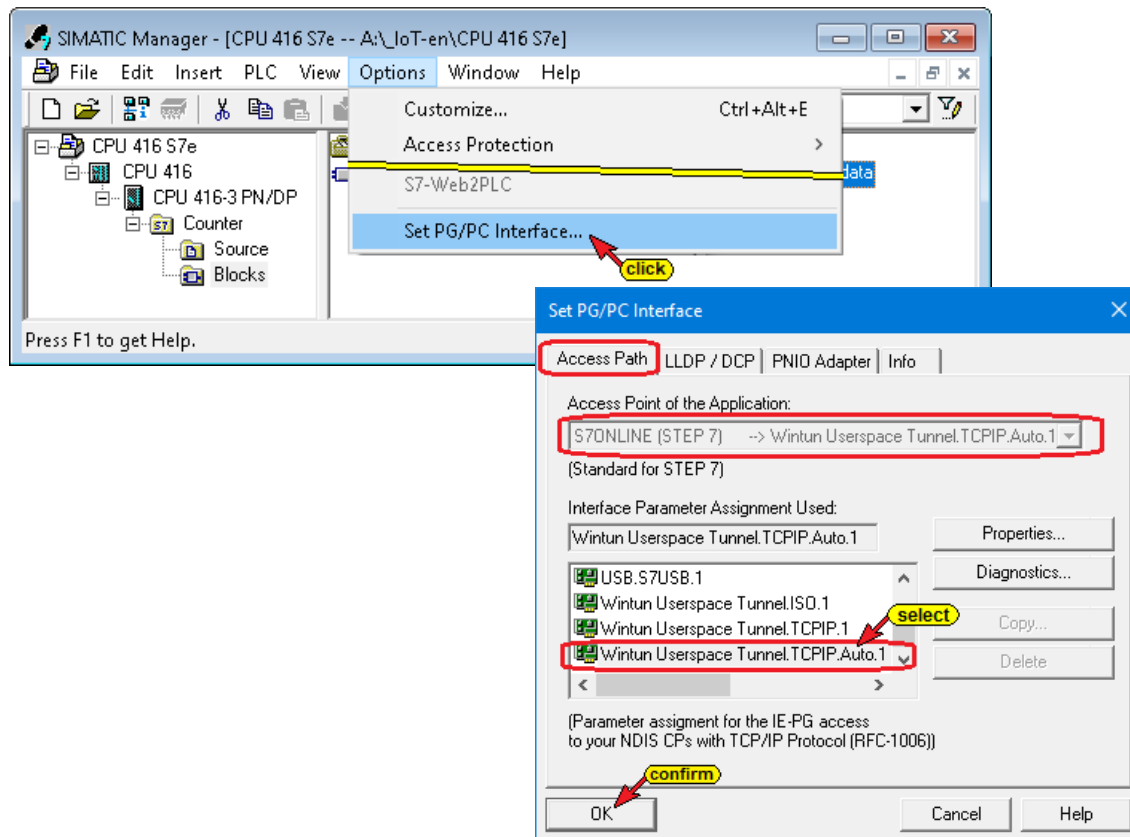
Click on the button **Settings** to display information on the connected **IBH Link S5++**.



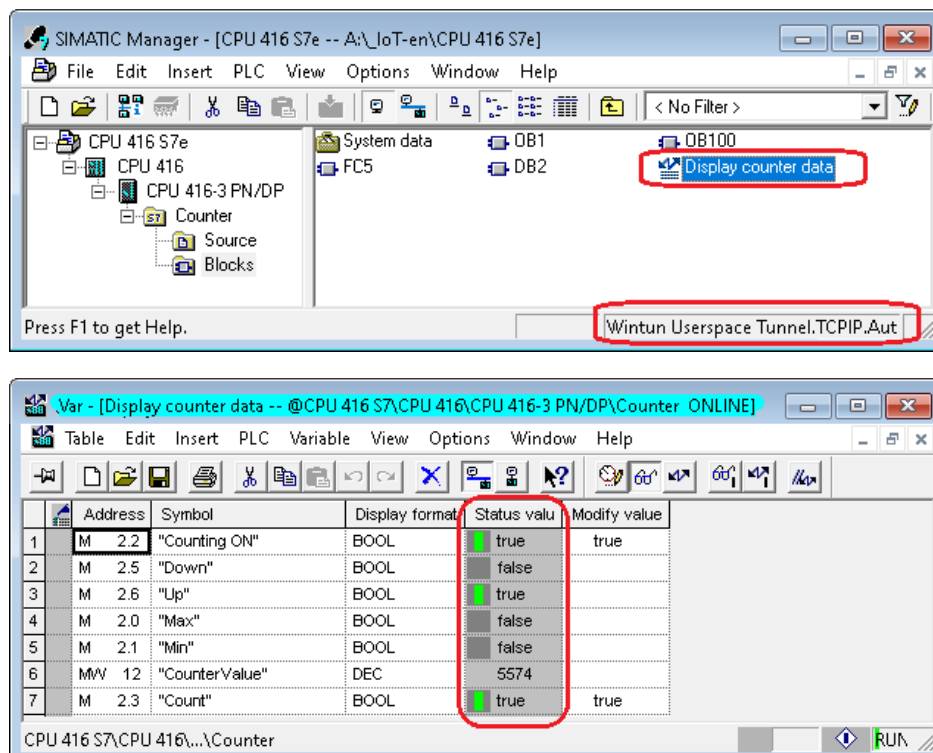
## 1.2.6 STEP 7 Simatic Manager – CPU 416 S7e

The CPU 416 has an Ethernet port (**IP address 10.0.13.11**) and is directly connected to the Control Level of the IBH Link IoT.

### Set interface



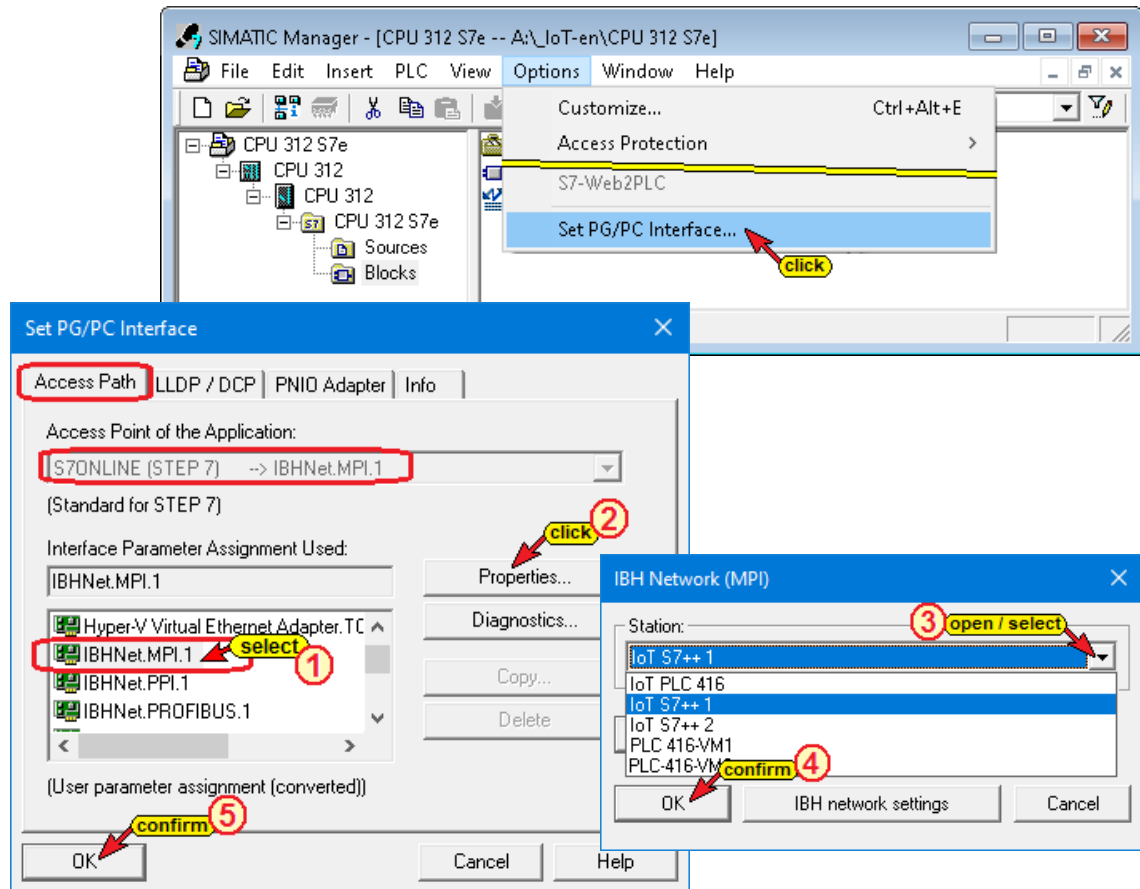
### Status S7 CPU 416



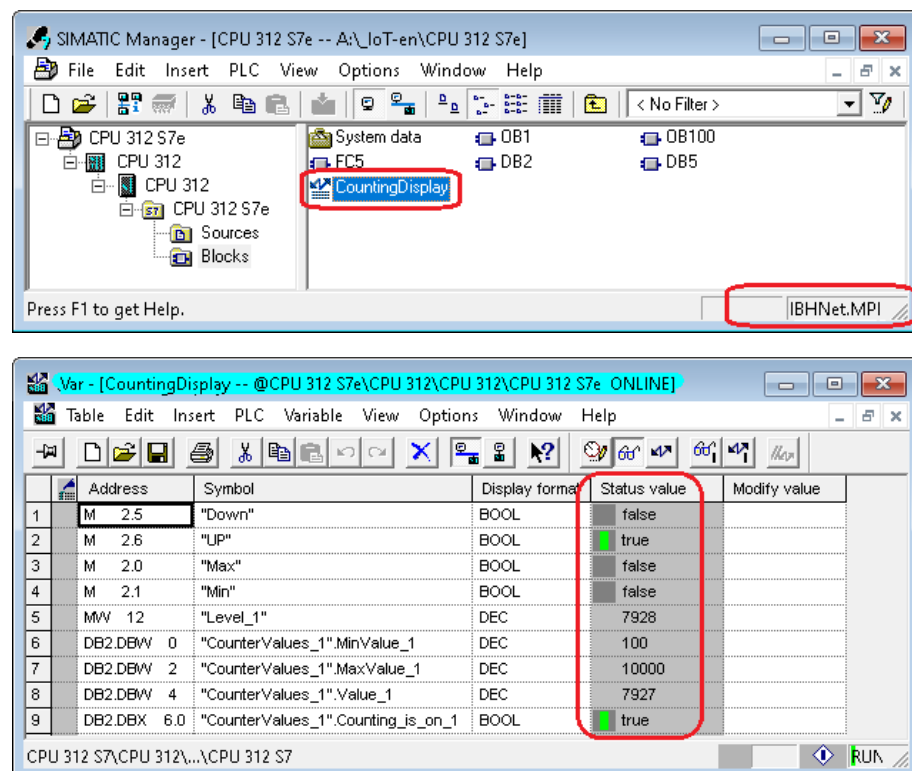


## 1.2.7 STEP 7 Simatic Manager –CPU 312 S7e

The CPU 312 is connected to the control level of the IBH Link IoT via an LBH Link S7++ (IoT S7++ IP address 10.0.13.25).



### Status S7 CPU 312



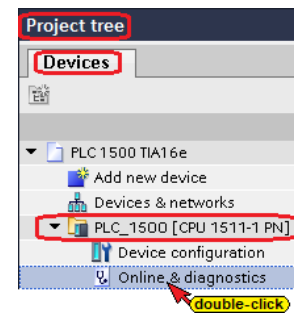
## 1.2.8 TIA Portal V16 – PLC 1500 TIA16e

There are several ways to establish an online connection in the TIA Portal. The CPU of the opened project must have the same IP address as the CPU that is connected to the IBH Link IoT / control level.

The CPU 1500 is connected to the control level of the IBH Link IoT (IP address 10.0.13.90).

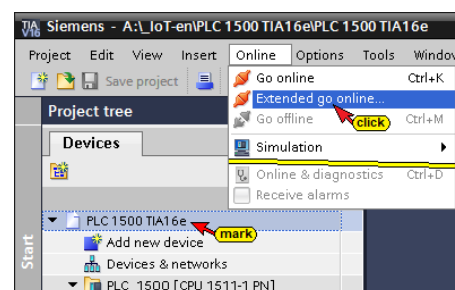
### 1. **Project tree / devices (PLC 1500) / online & diagnostics.**

The same command is available in the Online menu. A double-click opens the Online access window. Settings must be made here.

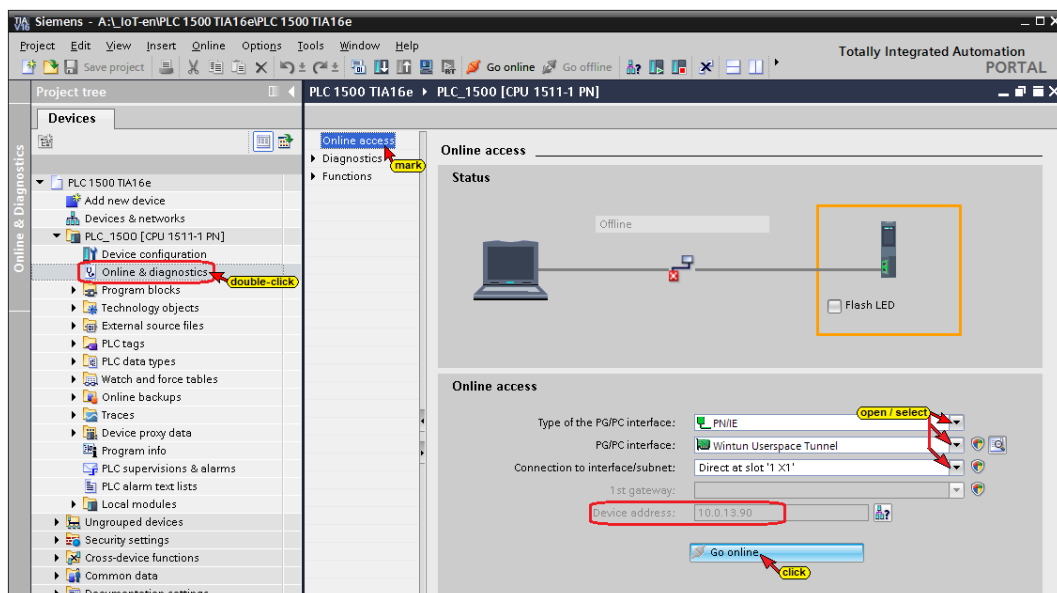


### 2. **Online / Extended go online...**

The command opens the **Go online** dialog box. There are other ways to open the Go online dialog box. The required settings are identical.

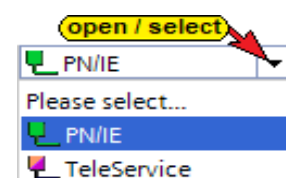


## Online & diagnostics – Online access window

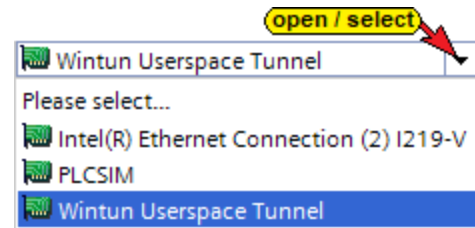


In the Online Access dialog box, select the settings as follows:

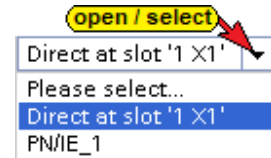
The **Type of PG/PC interface** must be selected according to the hardware configuration of the CPU.



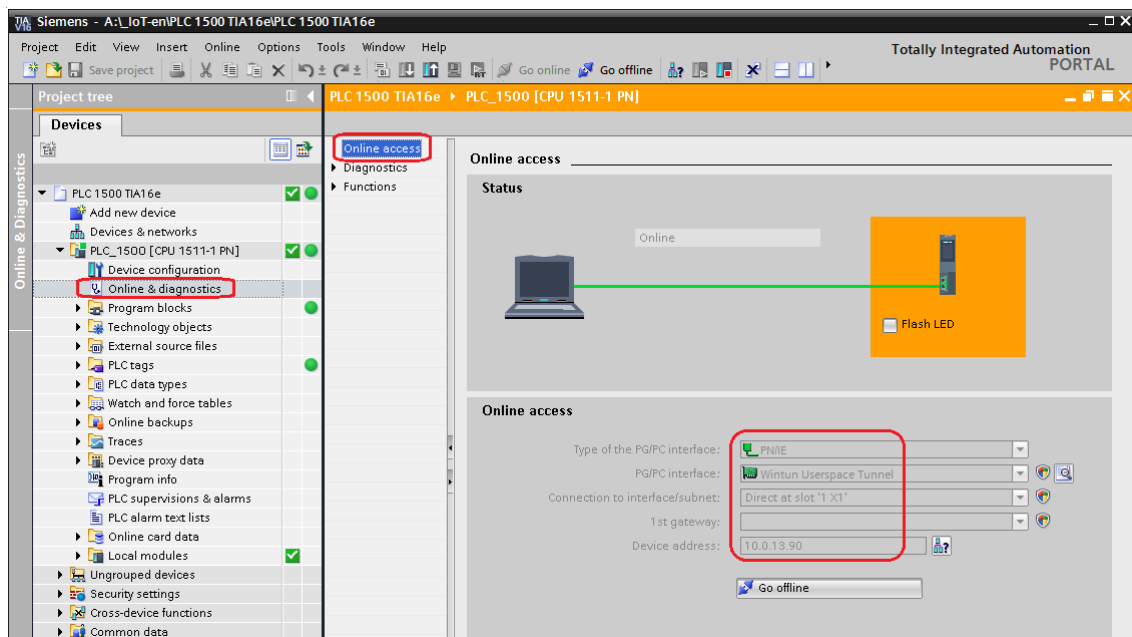
**Wintun Userspace Tunnel** must be specified as the PG / PC interface if there is a direct connection between the CPU and IBH Link IoT / control level.



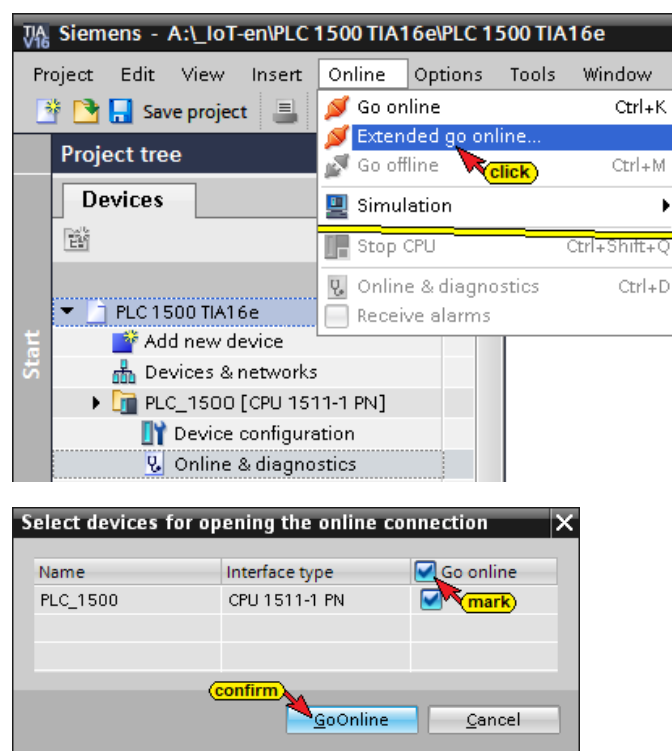
The physical location or the name of the Ethernet connection must be specified at **Connection to interface/subnet**.



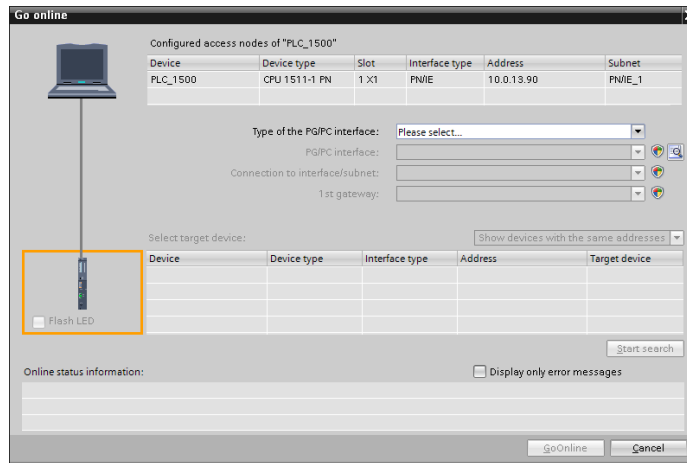
The online connection to the CPU1500 is established.



## Extended go online access – Online access dialog box



The Go online dialog box opens.



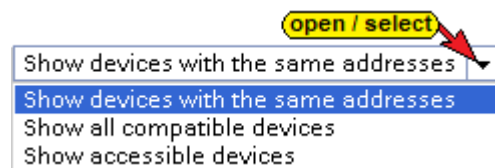
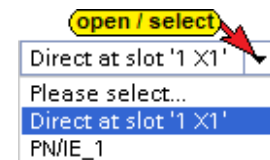
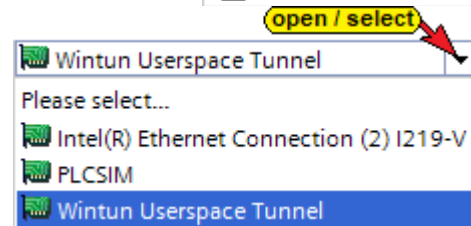
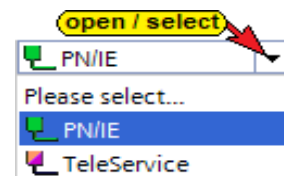
In the *Go online* dialog box select the following settings:

The **Type of PG/PC interface** must be selected according to the hardware configuration of the CPU.

**Wintun Userspace Tunnel** must be specified as the PG / PC interface if there is a direct connection between the CPU and IBH Link IoT / control level.

The physical location or the name of the Ethernet connection must be specified at **Connection to interface/subnet**.

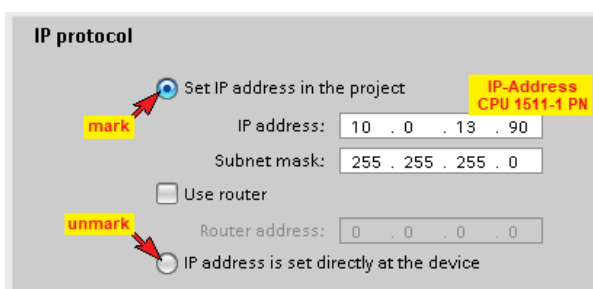
Show device with the same address must be selected as the target device.



#### Note:



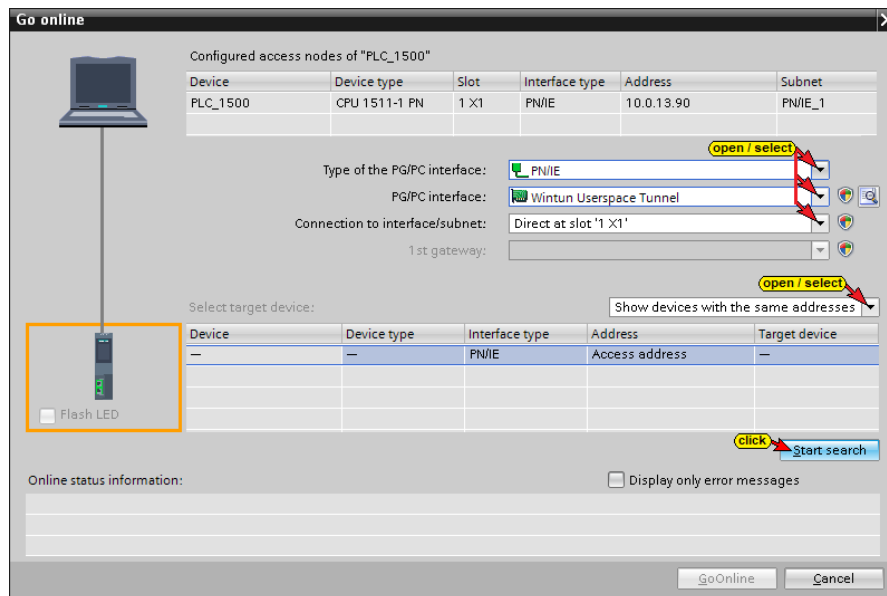
If the command **Show device with the same address** is not available, no connection to the CPU can be established. In the hardware configuration of the CPU, the option **IP address is set directly at the device** must be deactivated.



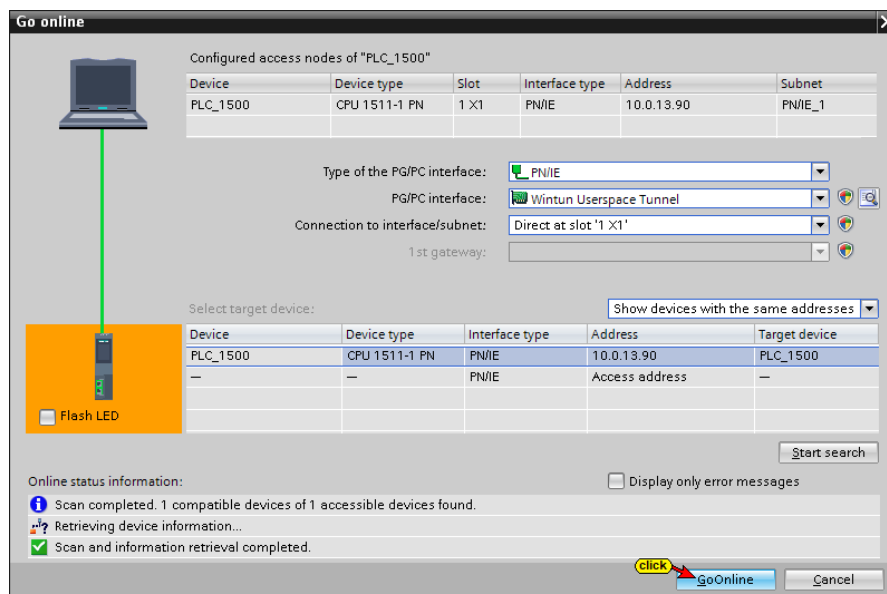
Deactivate **IP address is set directly on the device**.

## Search – Go online

Clicking the **Start search** button attempts to establish an online connection to the CPU.



If the CPU to be connected is found, further data exchange is enabled with a click on the **Go Online** button.



The online connection to the CPU1500 is established.

## Status CPU 1500 – data block CounterData [DB5]

PLC 1500 TIA16e > PLC\_1500 [CPU 1511-1 PN] > Program blocks > CounterData [DB5]

Keep actual values Snapshot Copy snapshots to start values

CounterData

|   | Name             | Data type | Offset | Start value | Monitor value | Comment                          |
|---|------------------|-----------|--------|-------------|---------------|----------------------------------|
| 1 | Static           |           |        |             |               |                                  |
| 2 | MinNo1500        | Int       | 0.0    | 1000        | 100           | minimum counter reading (number) |
| 3 | MaxNo1500        | Int       | 2.0    | 10000       | 8000          | maximum counter reading (number) |
| 4 | Count1500        | Bool      | 4.0    | false       | TRUE          | Counter is counting              |
| 5 | CountingON1500   | Bool      | 4.1    | false       | TRUE          | Enable counting                  |
| 6 | CounterValue1500 | Int       | 6.0    | 0           | 6104          | CounterValue                     |

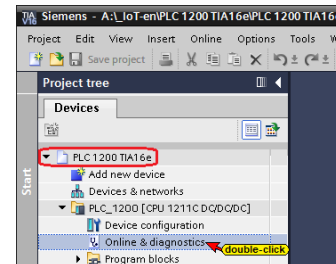
## 1.2.9 PLC 1200 TIA16d – IP-Address 10.0.13.91

There are several ways to establish an online connection in the TIA Portal. The CPU of the opened project must have the same IP address as the CPU that is connected to the IBH Link IoT / control level.

The CPU 1200 is connected to the control level of the IBH Link IoT (IP address 10.0.13.91).

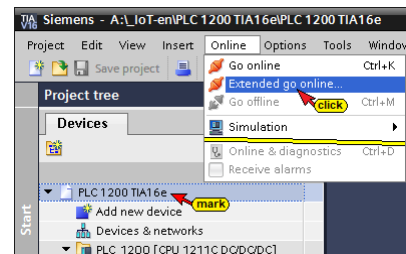
### 1. **Project tree / devices (PLC 1200) / online & diagnostics.**

The same command is available in the Online menu. A double-click opens the Online access window. Settings must be made here.

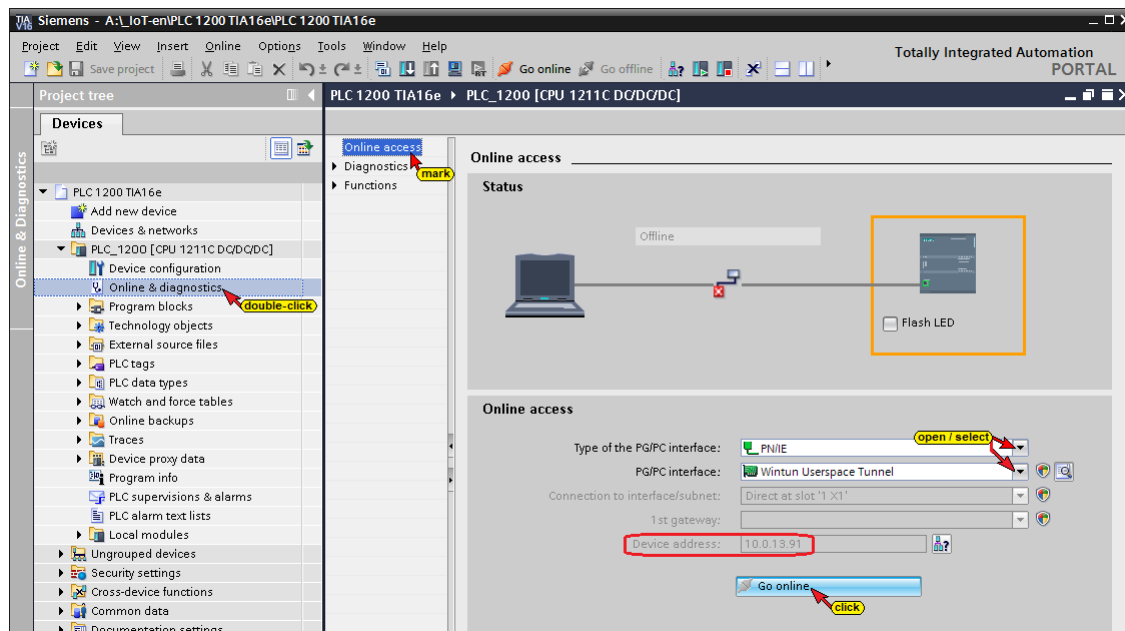


### 2. **Online / Extended go online...**

The command opens the **Go online** dialog box. There are other ways to open the Go online dialog box. The required settings are identical.

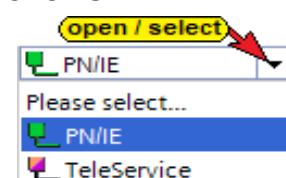


## Online & diagnostics – Online access window

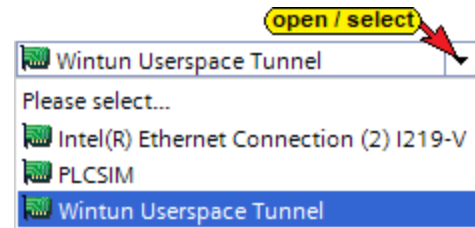


In the Online Access dialog box, select the settings as follows:

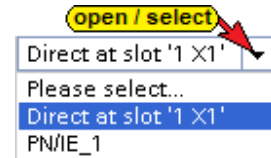
The **Type of PG/PC interface** must be selected according to the hardware configuration of the CPU.



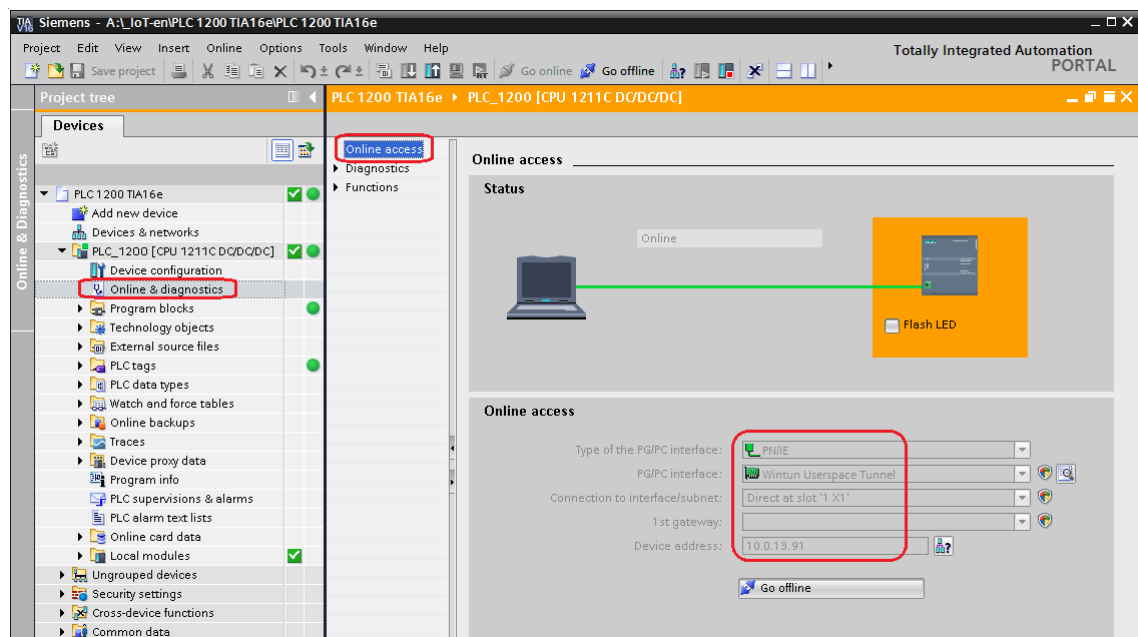
**Wintun Userspace Tunnel** must be specified as the PG / PC interface if there is a direct connection between the CPU and IBH Link IoT / control level.



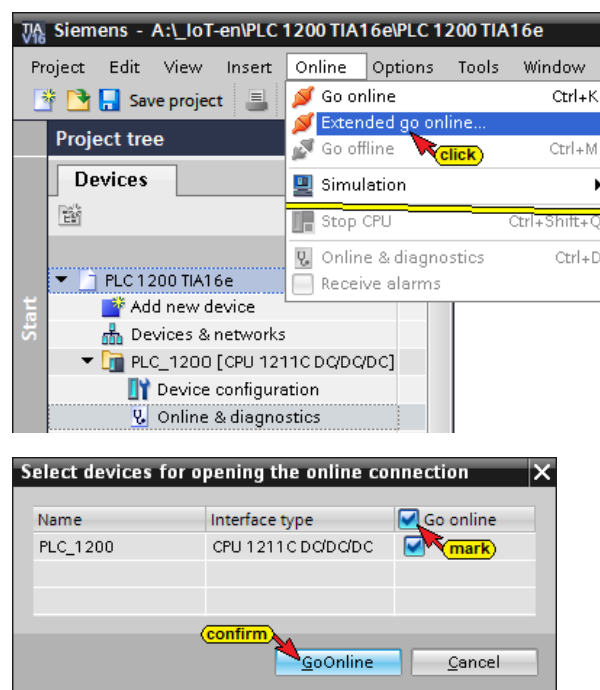
The physical location or the name of the Ethernet connection must be specified at **Connection to interface/subnet**. This selection is only available if a network is configured.



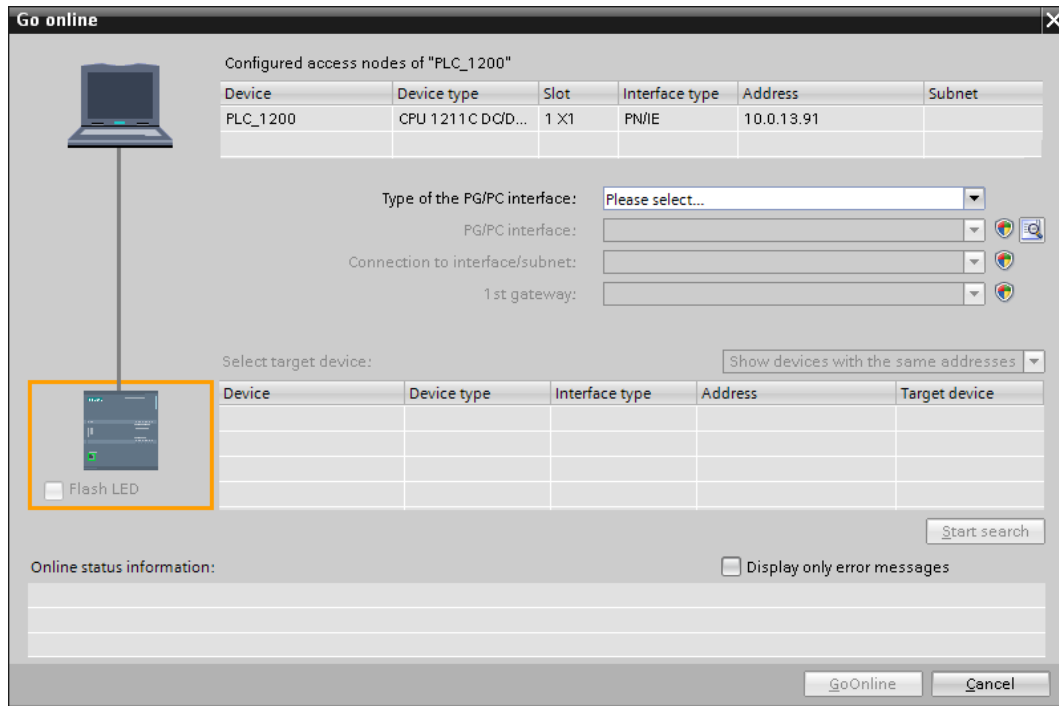
The online connection to the CPU1200 is established.



Extended go online access – Online access dialog box

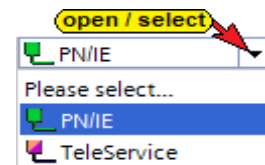


The Go online dialog box opens.

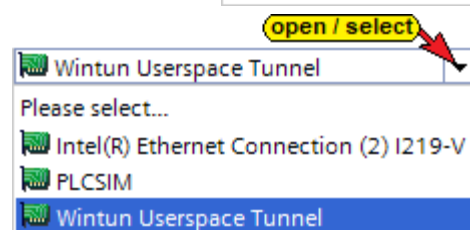


In the *Go online* dialog box select the following settings:

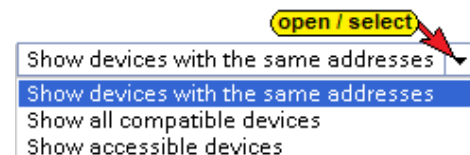
The **Type of PG/PC interface** must be selected according to the hardware configuration of the CPU.



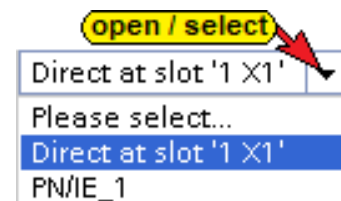
**Wintun Userspace Tunnel** must be specified as the PG / PC interface if there is a direct connection between the CPU and IBH Link IoT / control level.



Show device with the same address must be selected as the target device.



The physical location or the name of the Ethernet connection must be specified at **Connection to interface/subnet**. This selection is only available if a network is configured.



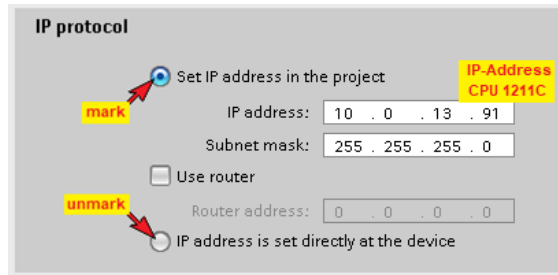
#### Note:



If the command **Show device with the same address** is not available, no connection to the CPU can be established. In the hardware configuration of the CPU, the option **IP address is set directly at the device** must be deactivated.

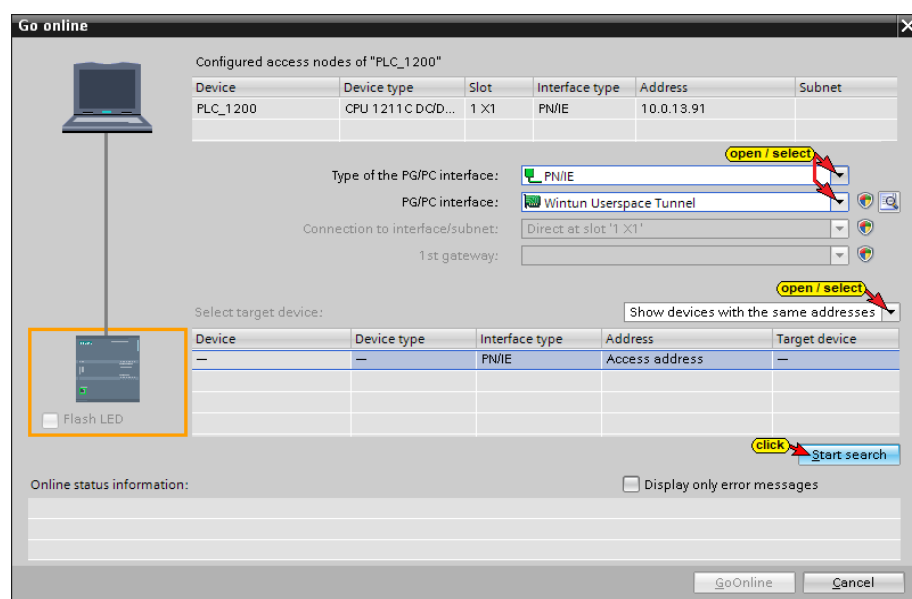


Deactivate *IP address is set directly on the device*.

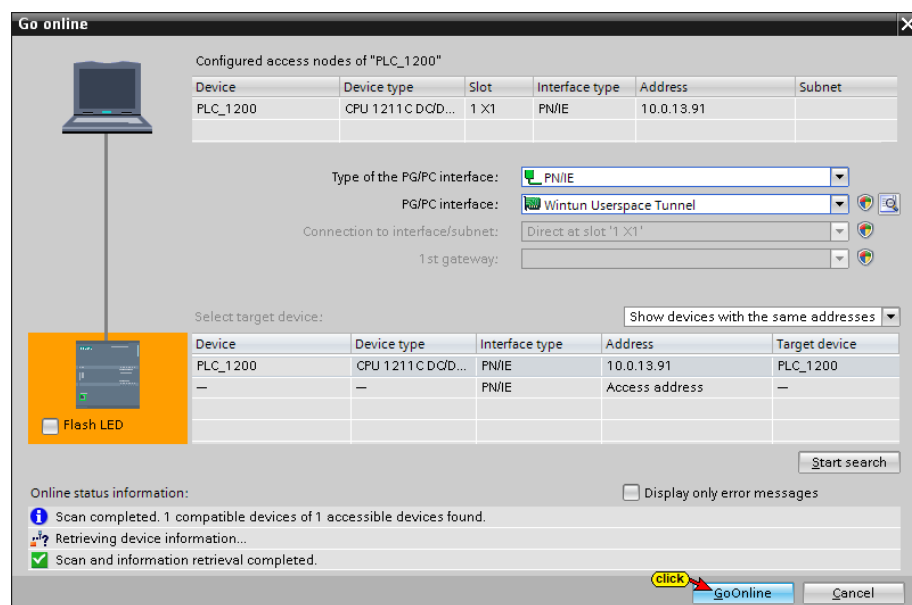


## Search – Go online

Clicking the **Start search** button attempts to establish an online connection to the CPU.

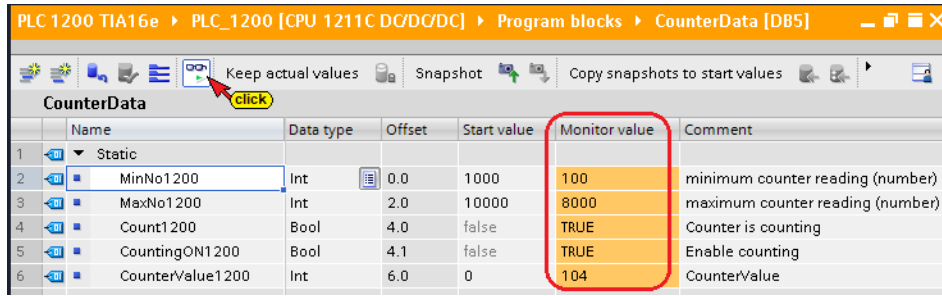


If the CPU to be connected is found, further data exchange is enabled with a click on the **Go Online** button.



The online connection to the CPU1200 is established.

## Status CPU 1200 – data block CounterData [DB5]

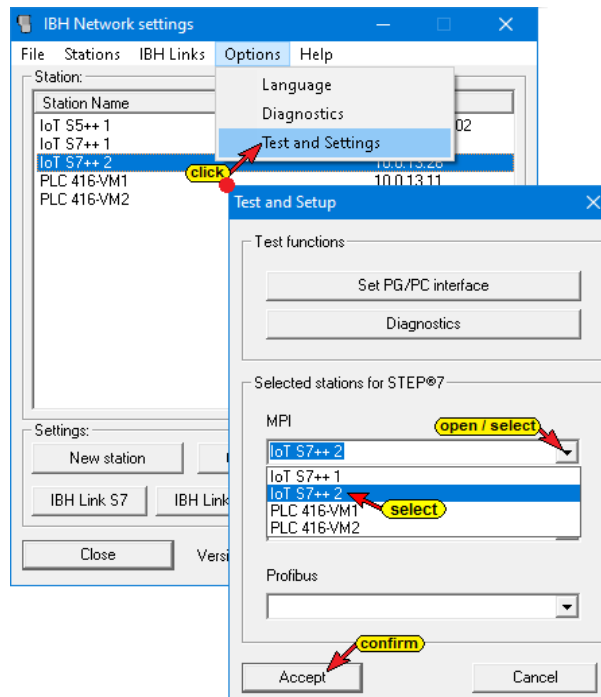


|   | Name             | Data type | Offset | Start value | Monitor value | Comment                          |
|---|------------------|-----------|--------|-------------|---------------|----------------------------------|
| 1 | Static           |           |        |             |               |                                  |
| 2 | MinNo1200        | Int       | 0.0    | 1000        | 100           | minimum counter reading (number) |
| 3 | MaxNo1200        | Int       | 2.0    | 10000       | 8000          | maximum counter reading (number) |
| 4 | Count1200        | Bool      | 4.0    | false       | TRUE          | Counter is counting              |
| 5 | CountingON1200   | Bool      | 4.1    | false       | TRUE          | Enable counting                  |
| 6 | CounterValue1200 | Int       | 6.0    | 0           | 104           | CounterValue                     |

## CPU 312 TIA16e– IoT S7++2 – IP address 10.0.13.26

The CPU 312 is connected to the control level of the IBH Link IoT via an **IBH Link S7++** (IP address 10.0.13.26).

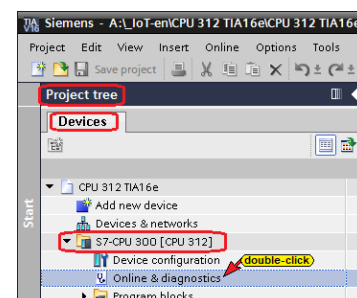
The **IBH Link S7++ (IoT S7++2 – IP address 10.0.13.26)** must be selected. The project CPU is addressed via its MPI address. The IBHNet driver of the IBH Link S7++ automatically assigns the IP address to the MPI address. The IBH Link S7++ is connected to the IBH Link IoT / control level.



There are several ways to establish an online connection in the TIA Portal.

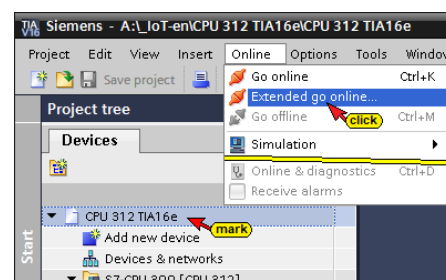
1. **Project tree / devices (S7-CPU 300) / online & diagnostics.**

The same command is available in the Online menu. A double-click opens the Online access window. Settings must be made here.

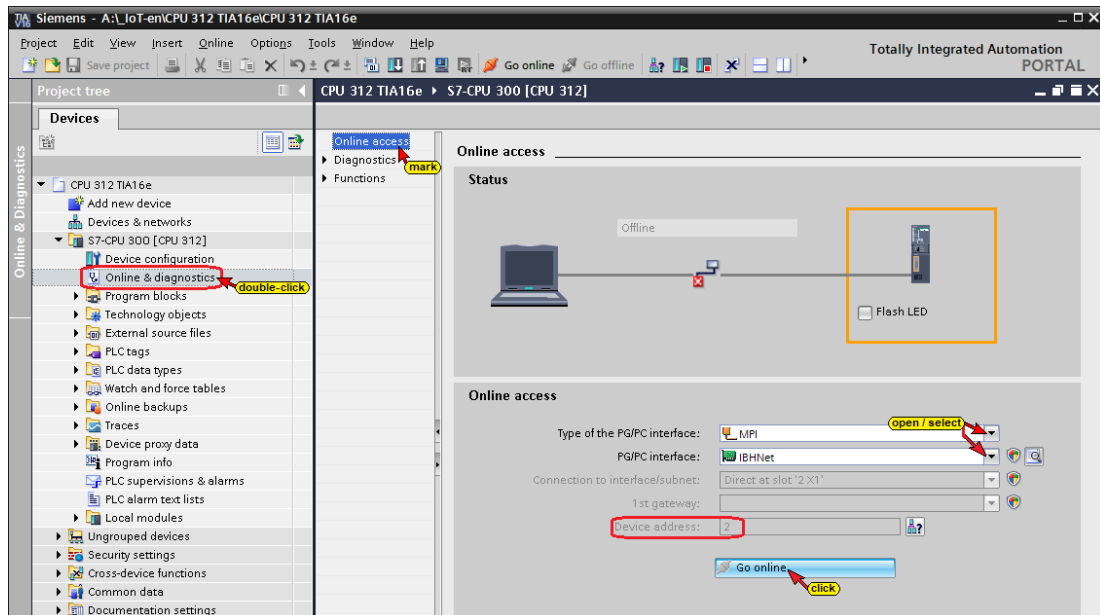


2. **Online / Extended go online...**

The command opens the **Go online** dialog box. There are other ways to open the Go online dialog box. The required settings are identical.



## Online & diagnostics – Online access window

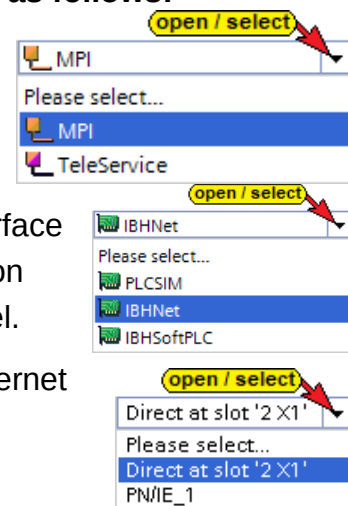


In the Online Access dialog box, select the settings as follows:

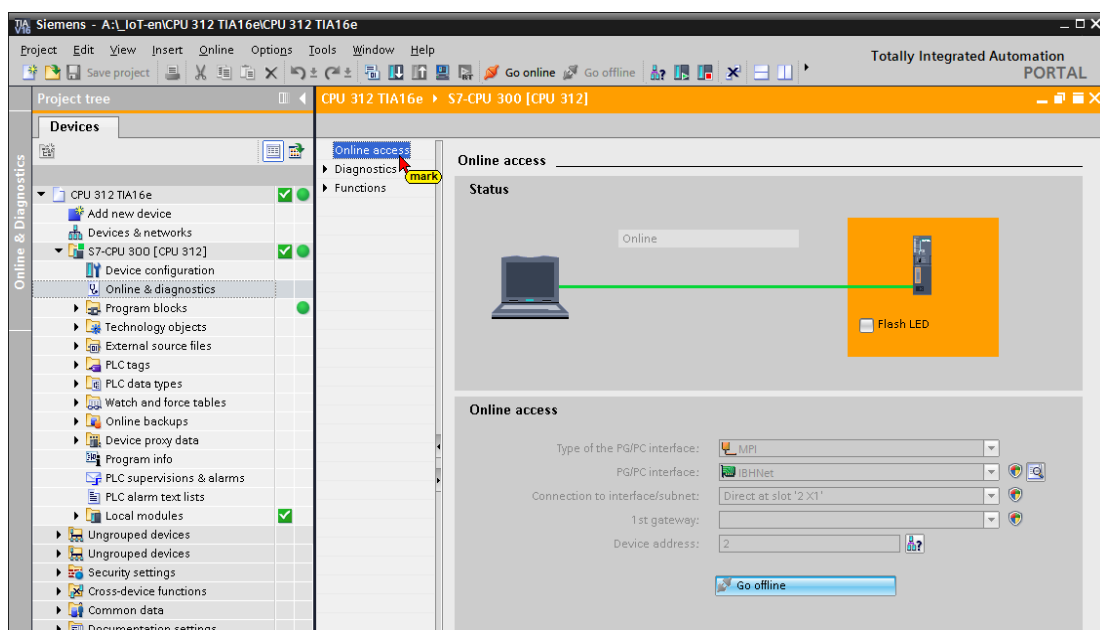
The **Type of PG/PC interface** must be selected according to the hardware configuration of the CPU (MPI interface).

IBHNet must be defined as the PG / PC interface if an IBH Link S7 ++ is used as the connection between CPU and IBH Link IoT / control level.

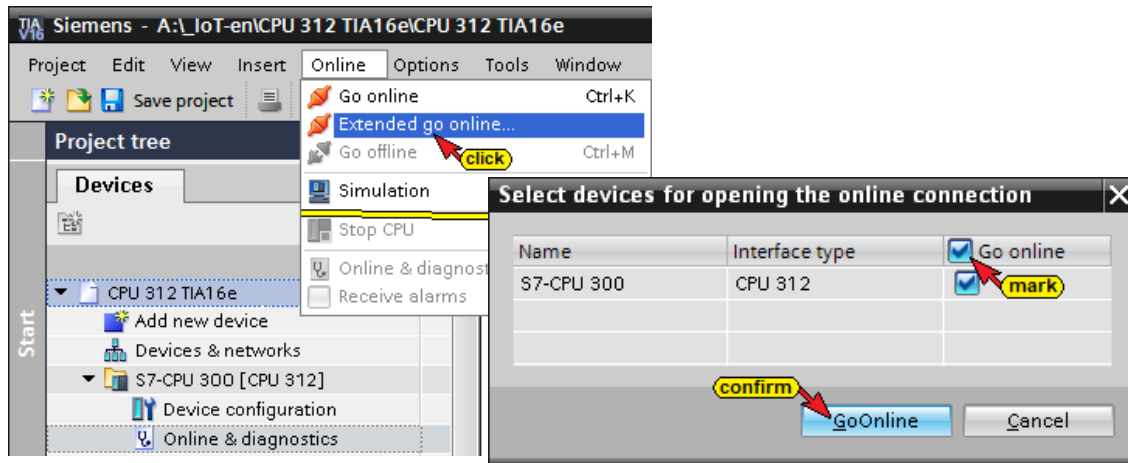
The physical location or the name of the Ethernet connection is only available if a network is configured.



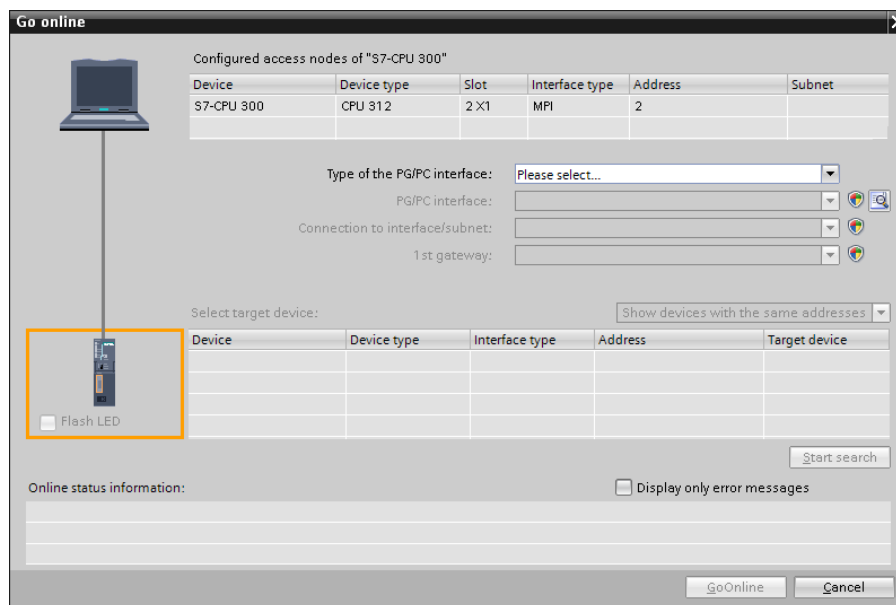
The online connection to the CPU312 is established.



## Extended go online access – Online access dialog box

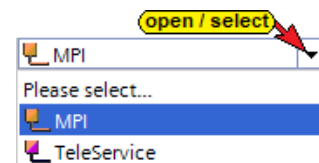


The Go online dialog box opens.



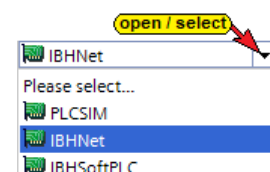
In the Online Access dialog box, select the settings as follows:

The **Type of PG/PC interface** must be selected according to the hardware configuration of the CPU (MPI interface).

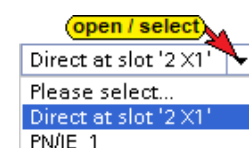


IBHNet must be defined as the PG / PC interface if an IBH Link S7++ is used as the connection between CPU and IBH Link IoT / control level.

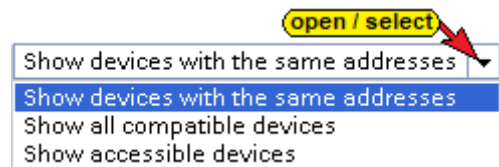
The physical location or the name of the Ethernet connection is only available if a network is configured.



The physical location or the name of the Ethernet connection is only available if a network is configured.

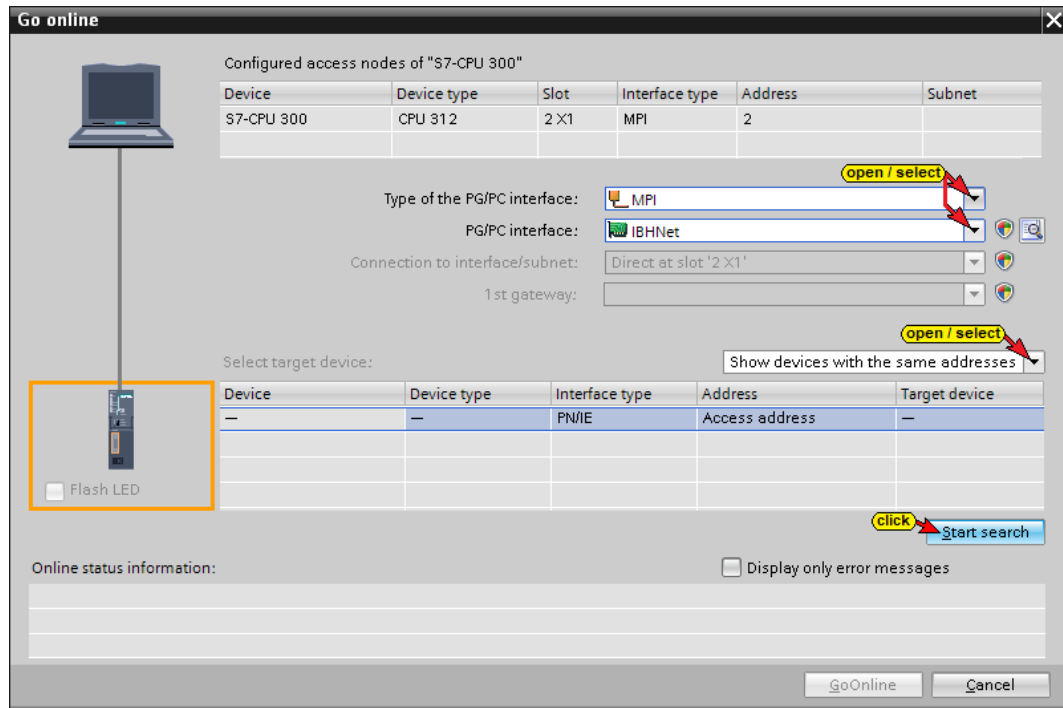


Show device with the same address must be selected as the target device.

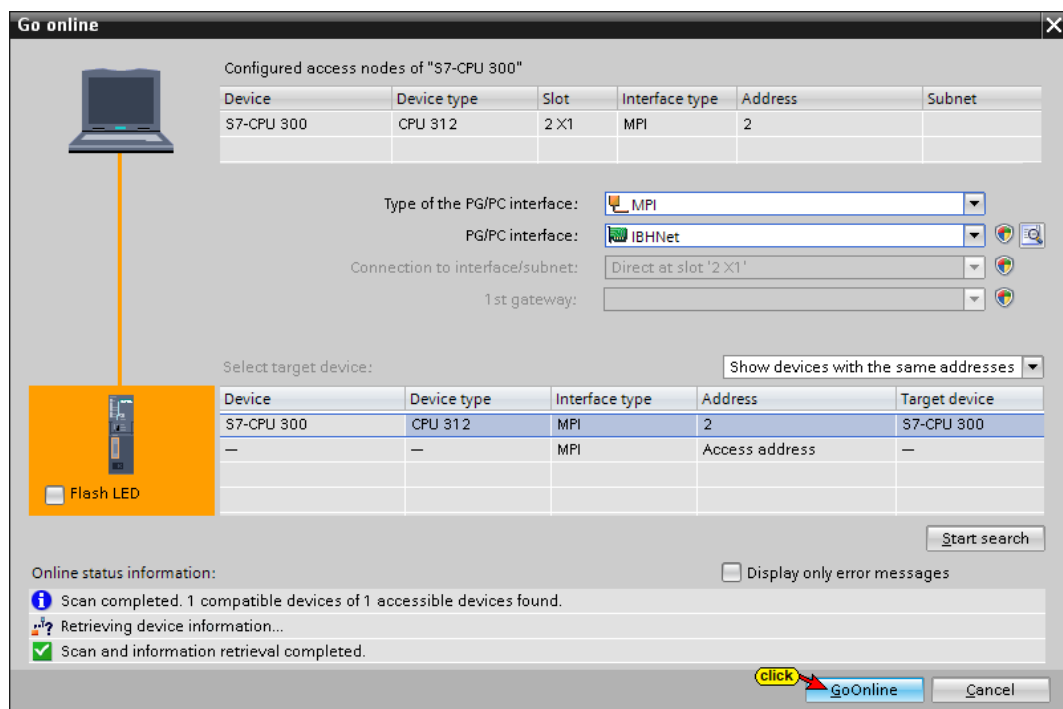


## Search – Go online

Clicking the **Start search** button attempts to establish an online connection to the CPU.

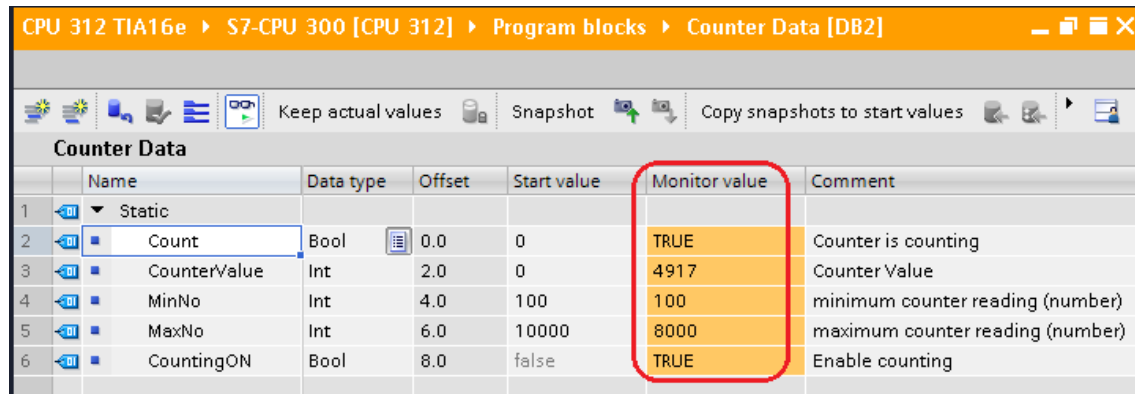


If the CPU to be connected is found, further data exchange is enabled with a click on the **Go Online** button.



The online connection to the CPU300 is established.

## Status CPU 300 – data block Counter Data [DB2]



|   | Name         | Data type | Offset | Start value | Monitor value | Comment                          |
|---|--------------|-----------|--------|-------------|---------------|----------------------------------|
| 1 | Static       |           |        |             |               |                                  |
| 2 | Count        | Bool      | 0.0    | 0           | TRUE          | Counter is counting              |
| 3 | CounterValue | Int       | 2.0    | 0           | 4917          | Counter Value                    |
| 4 | MinNo        | Int       | 4.0    | 100         | 100           | minimum counter reading (number) |
| 5 | MaxNo        | Int       | 6.0    | 10000       | 8000          | maximum counter reading (number) |
| 6 | CountingON   | Bool      | 8.0    | false       | TRUE          | Enable counting                  |

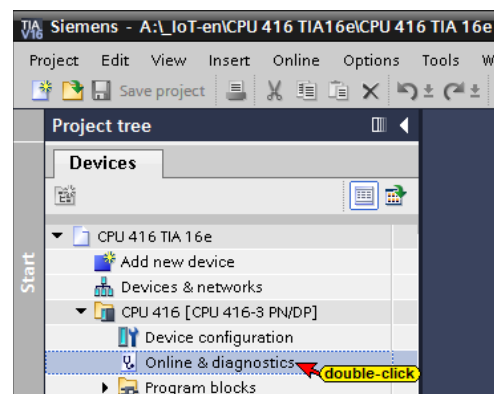
### 1.2.10 CPU 416 TIA 16e – (IP-Adresse 10.0.13.9)

There are several ways to establish an online connection in the TIA Portal. The CPU of the opened project must have the same IP address as the CPU that is connected to the IBH Link IoT / control level.

The CPU 416 is connected to the control level of the IBH Link IoT (IP address 10.0.13.9).

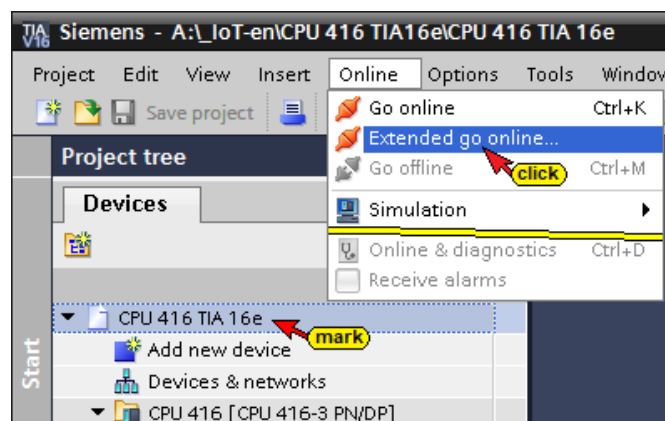
1. **Project tree / devices (CPU 416) / online & diagnostics.**

The same command is available in the Online menu. A double-click opens the Online access window. Settings must be made here.

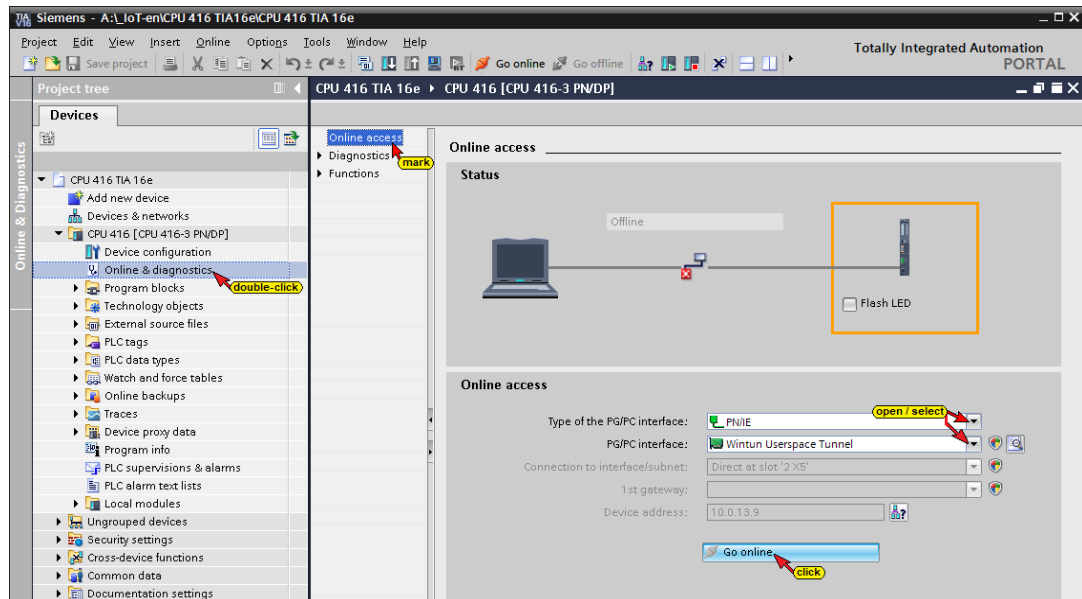


2. **Online / Extended go online...**

The command opens the **Go online** dialog box. There are other ways to open the Go online dialog box. The required settings are identical.



## Online & diagnostics – Online access window

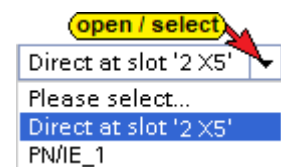
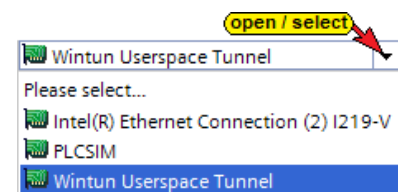
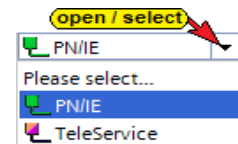


In the Online Access dialog box, select the settings as follows:

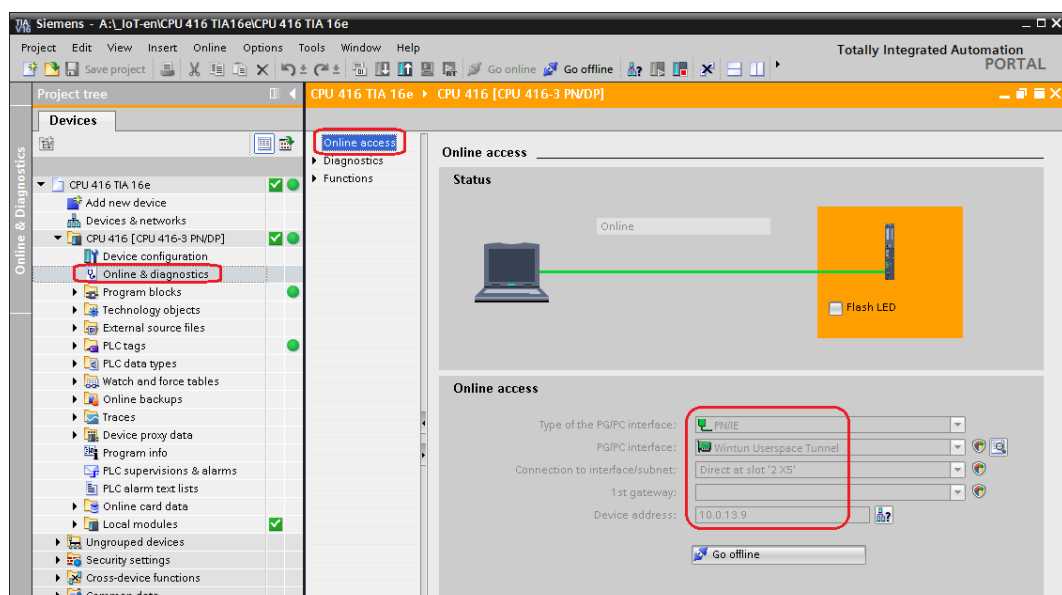
The **Type of PG/PC interface** must be selected according to the hardware configuration of the CPU.

**Wintun Userspace Tunnel** must be specified as the PG / PC interface if there is a direct connection between the CPU and IBH Link IoT / control level.

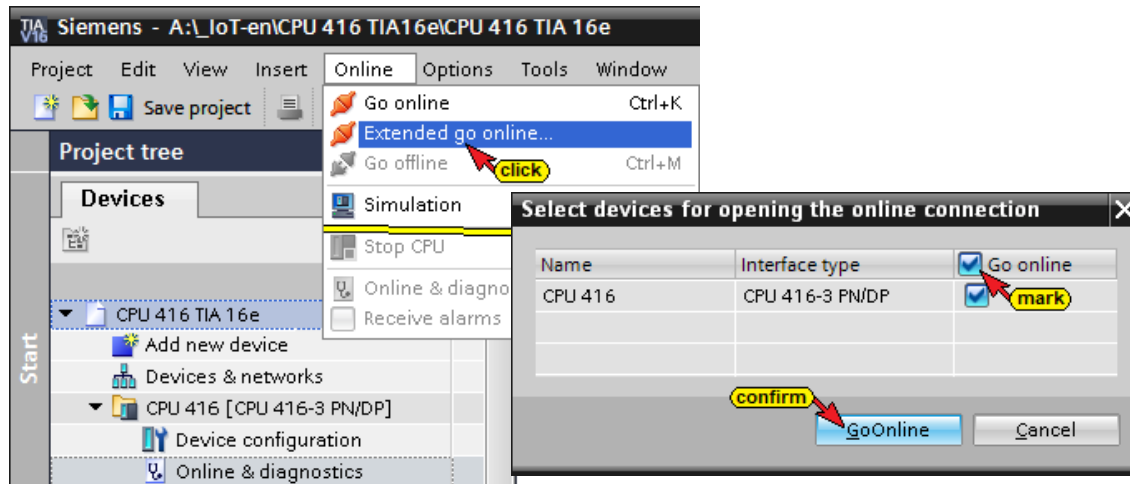
The physical location or the name of the Ethernet connection must be specified at **Connection to interface/subnet**. This selection is only available if a network is configured.



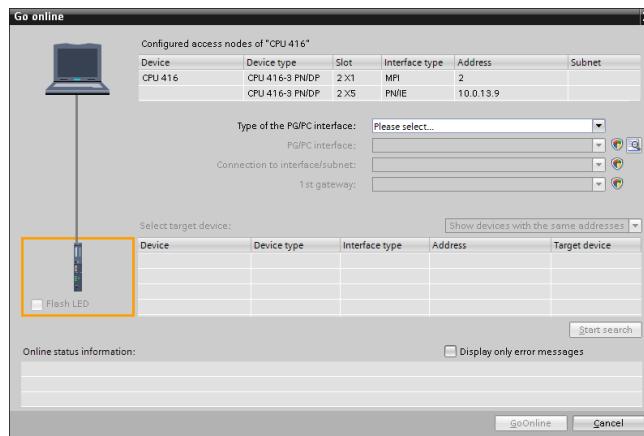
The online connection to the CPU 416 is established.



## Extended go online access – Online access dialog box

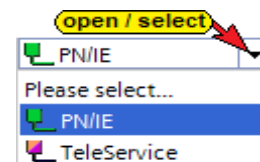


The Go online dialog box opens.

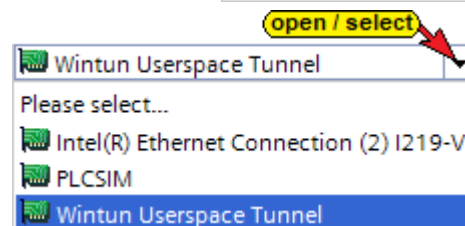


In the **Go online** dialog box select the following settings:

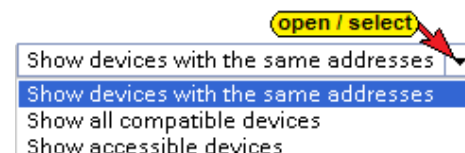
The **Type of PG/PC interface** must be selected according to the hardware configuration of the CPU.



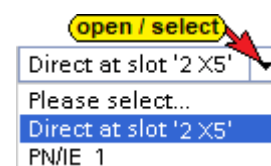
**Wintun Userspace Tunnel** must be specified as the PG / PC interface if there is a direct connection between the CPU and IBH Link IoT / control level.



Show device with the same address must be selected as the target device.



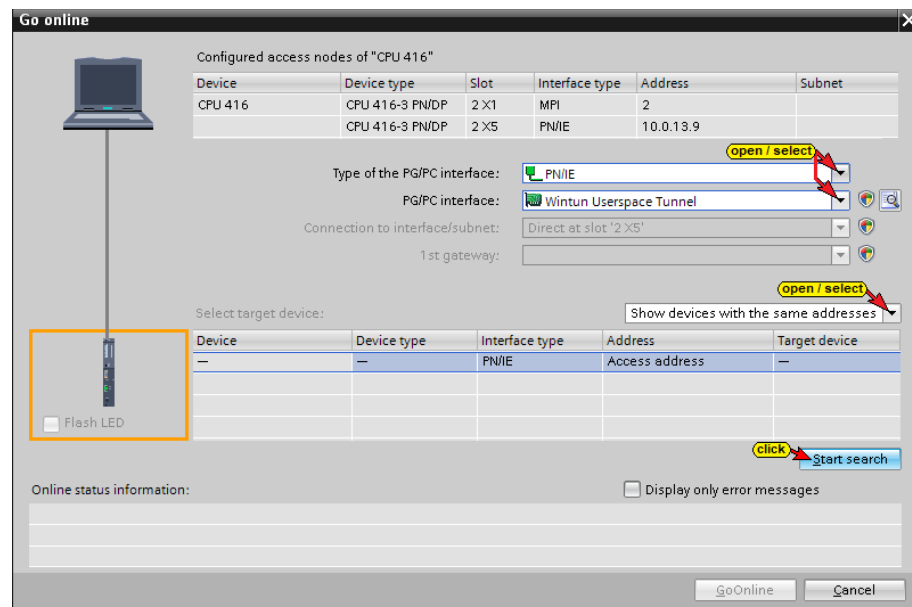
The physical location or the name of the Ethernet connection must be specified at **Connection to interface/subnet**. This selection is only available if a network is configured.



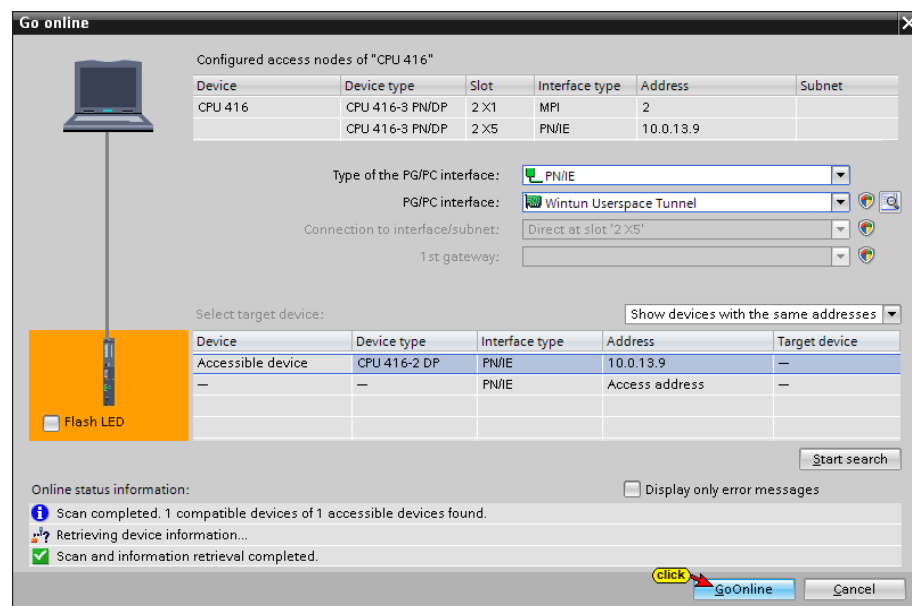


## Search – Go online

Clicking the **Start search** button attempts to establish an online connection to the CPU.



If the CPU to be connected is found, further data exchange is enabled with a click on the **Go Online** button.



The online connection to the CPU416 is established.

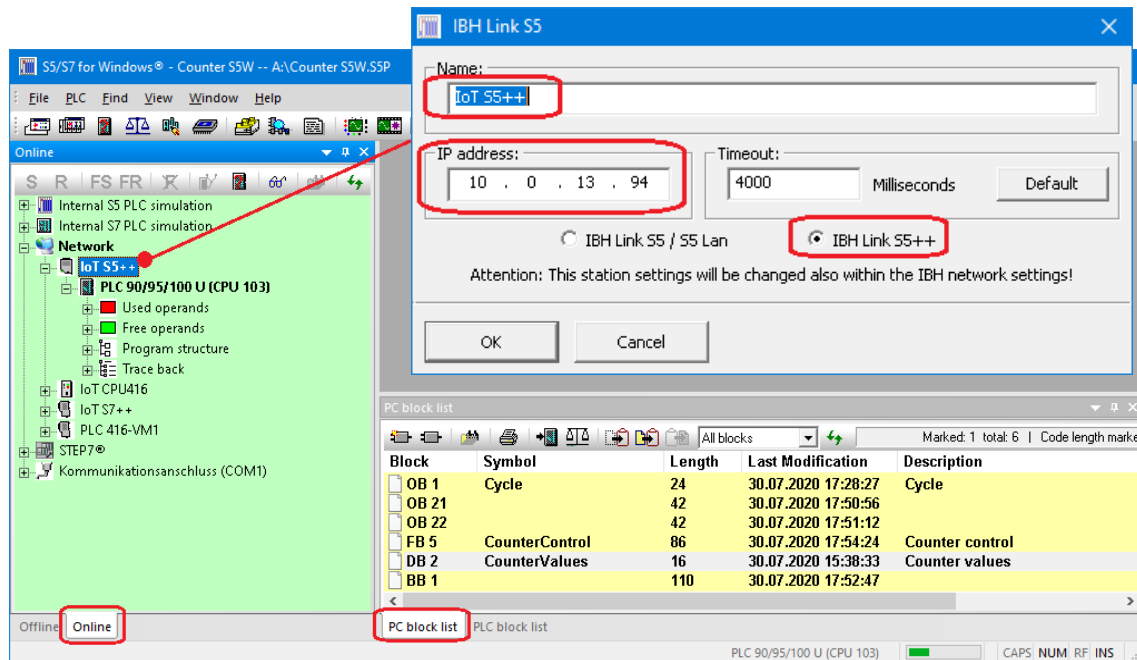
## Status CPU 416 – data block CounterData [DB2]

CPU 416 TIA 16e > CPU 416 [CPU 416-3 PN/DP] > Program blocks > CounterData [DB2]

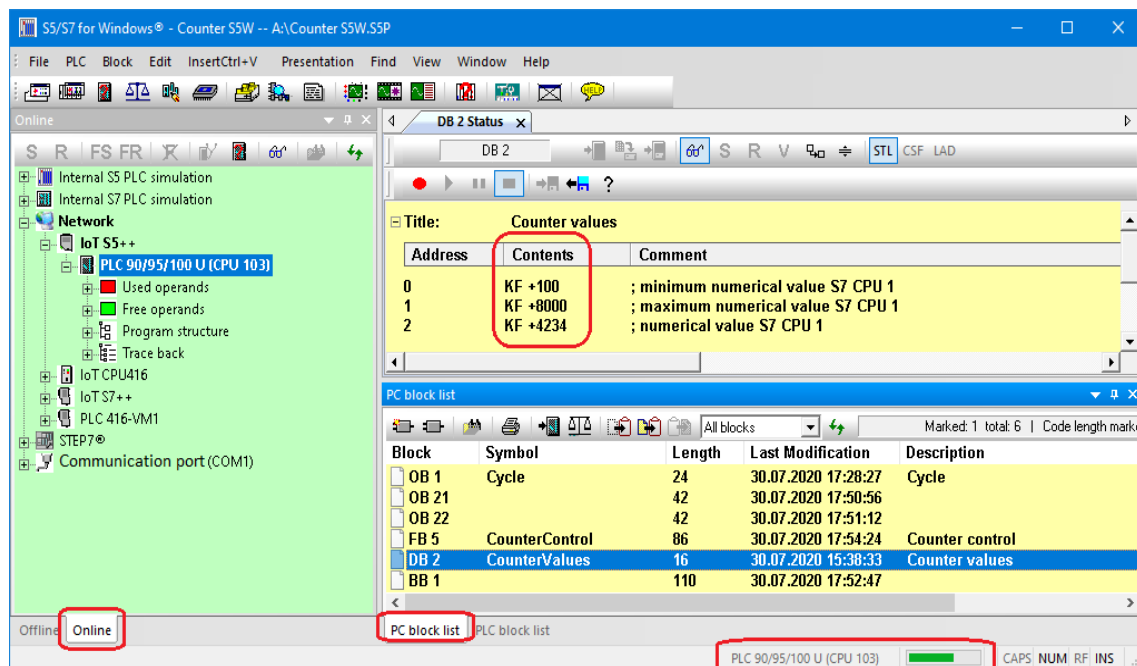
Keep actual values Snapshot Copy snapshots to start values

|   | Name         | Data type | Offset | Start value | Monitor value | Comment                        |
|---|--------------|-----------|--------|-------------|---------------|--------------------------------|
| 1 | Static       |           |        |             |               |                                |
| 2 | MinValue     | Int       | 0.0    | 100         | 100           | minimum counter value (number) |
| 3 | MaxValue     | Int       | 2.0    | 10000       | 10000         | maximum counter value (number) |
| 4 | Counting ON  | Bool      | 4.0    | false       | TRUE          | Counter is counting            |
| 5 | CounterValue | Int       | 6.0    | 0           | 139           | Counter value                  |

## S5 for Windows – CPU103-S5++ IoT – IP address 10.0.13.94



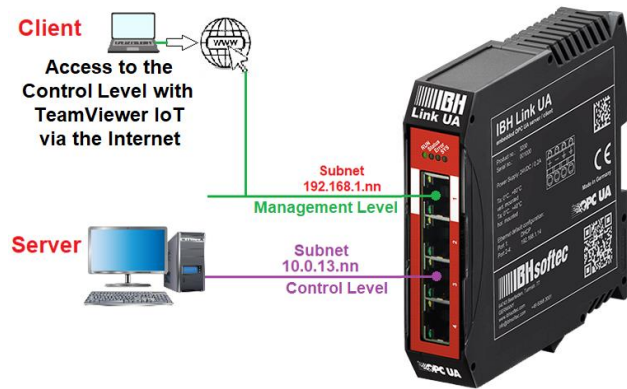
## Status S5 CPU 103



### 1.2.11 Access to a remote PC (Server) – Remote Desktop.

It should be possible to access a PC via an **IBH Link UA**, which is connected to the same subnet as the control level.

To ensure that the connection and the data traffic are secure, TeamViewer uses end-to-end encryption using RSA public / private key exchange and 256-bit AES session encryption. In addition, the IBH Link UA has a firewall between the management and control level.



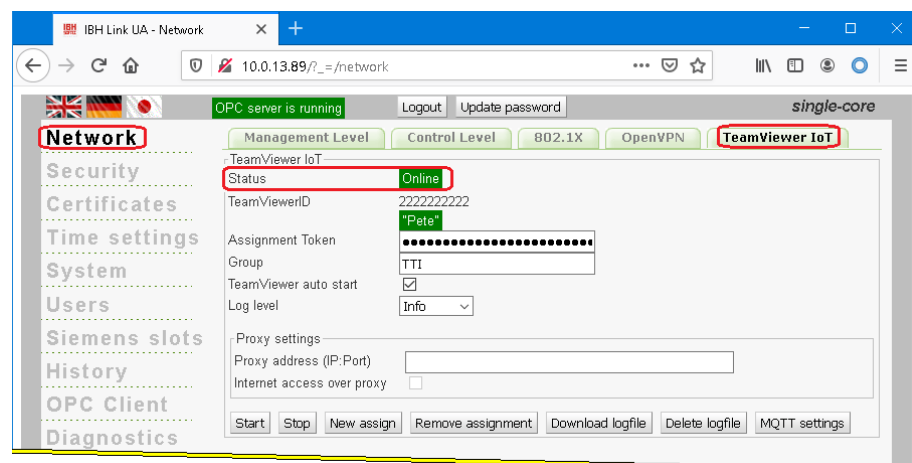
**Remote desktop** refers to the remote access to the desktop of a computer. Application programs are executed on one computer (server) and displayed and operated on another computer (client). In contrast to screen sharing, no user must log on locally to the server.

A remote desktop session runs independently of any other session that may be running.

### 1.2.12 Preparation of IBH Link UA (Server [PC])

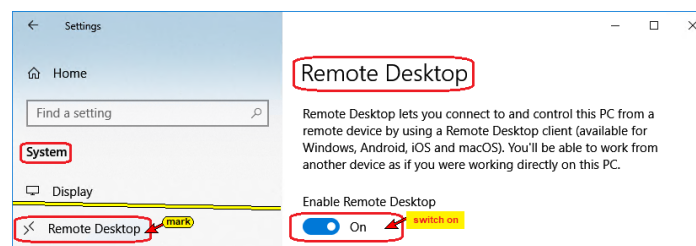
The management level port of the IBH Link UA has direct access to the Internet. The **TeamViewer IoT Status** must be **Online**.

#### TeamViewer IoT Status



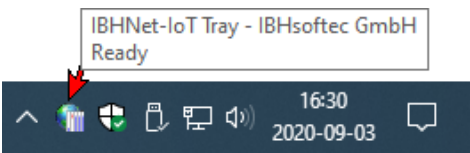
### 1.2.13 Local PC (client)

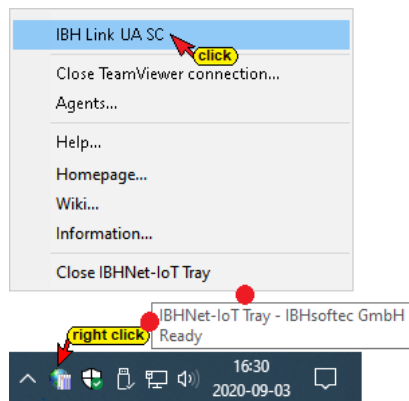
Remote Desktop is activated on the client PC. As an example, Windows 10 - Settings.



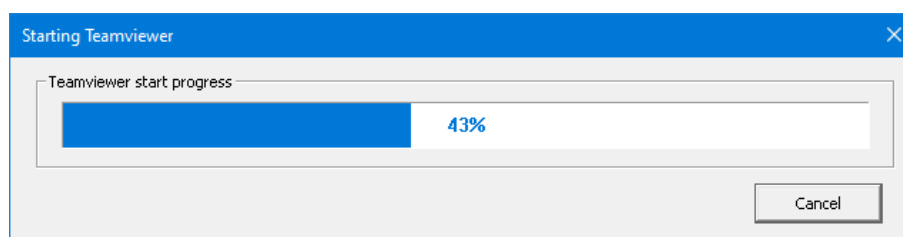
The icon to start the remote desktop connection is available in the start menu under Windows accessories.



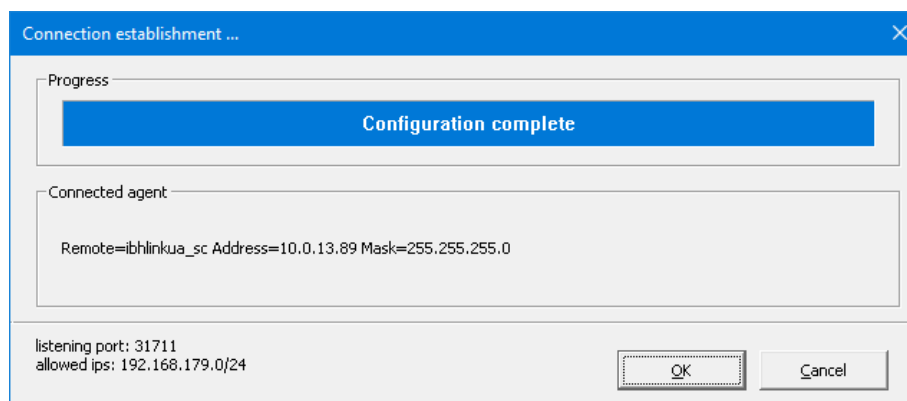
- The **TeamViewer software** is installed on this PC.
- The **IBHNet-IoT software** is installed. The service is displayed in the **IBHNet-IoT Tray** in the task bar.
 
- The name (e.g. **IBH Link UA SC**) given in the **TeamViewer-Shortcut** dialog box is transferred to the **TeamViewer account**.
- Start the **TeamViewer software** with a double-click.
 
- Right-click on the **IBHNet-IoT Tray** icon to open the context menu. The devices registered with the **TeamViewer account** are listed in the upper area of the context menu.



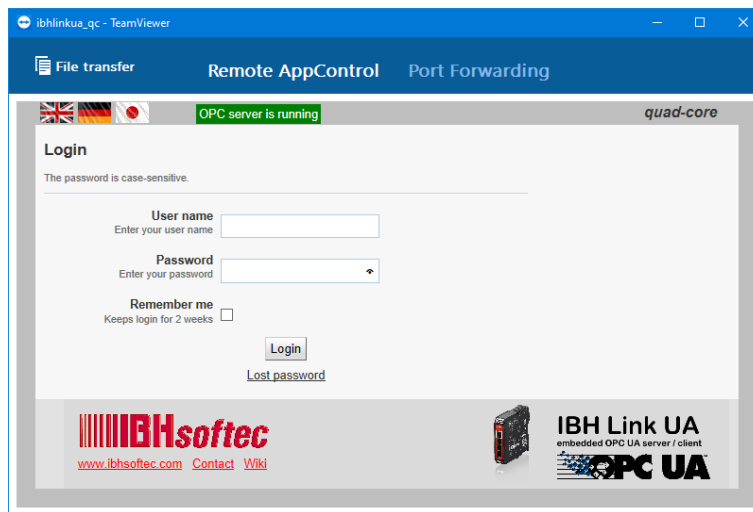
- With a click on **IBH Link UA SC**, the connection to the **ibhlinkua\_sc** address is established via the Internet.



The establishment of the connection is displayed.



The establishment of the connection is displayed and the **Port Forwarding** of the Remote **AppControl** are displayed.

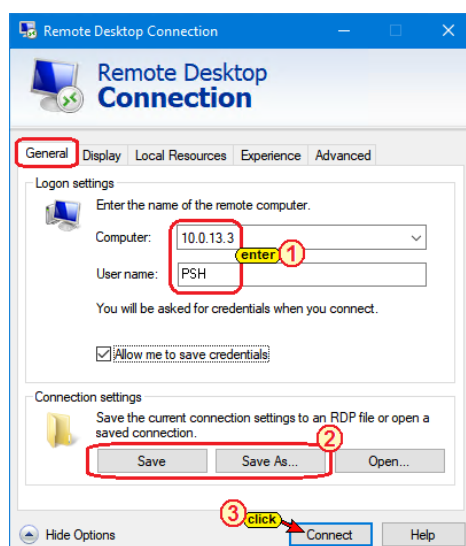
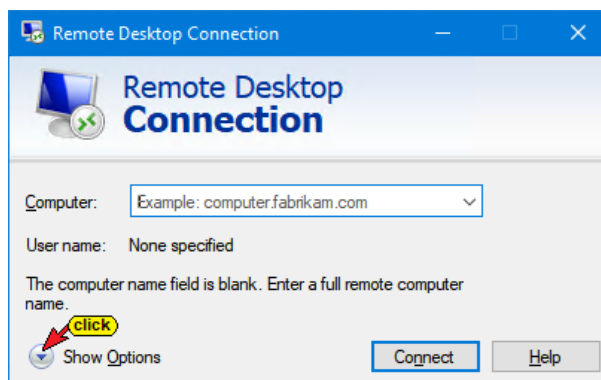


To access the individual PCs (devices) no registration to the **IBH Link UA** is necessary.

## Establish remote desktop connection

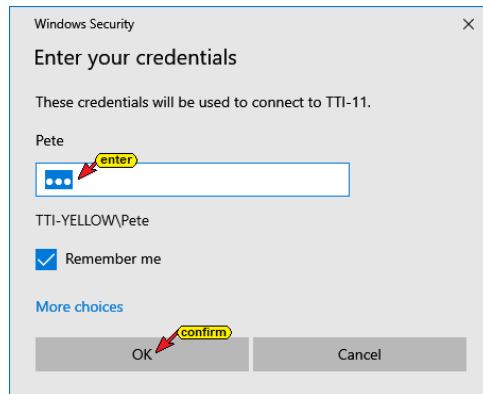
Double-click the Remote Desktop Connection icon.

In the Remote Desktop Connection dialog box, click the **Show Options** button.



Enter the computer (**IP address**) and username in the opened dialog box. These settings can be saved. Clicking the Connect button opens the dialog box for entering the password.

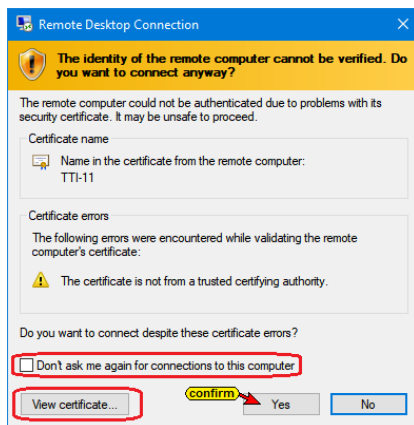
## Enter User and Password dialog box



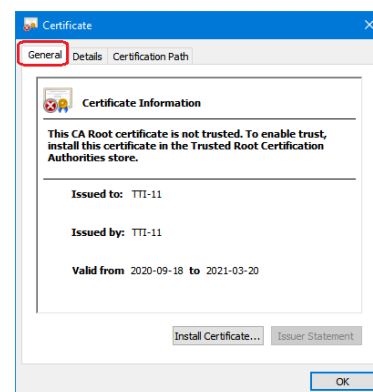
The establishment of the connection is displayed.

## Remote computer Certificate verification

If the certificate of the remote computer is not known, a corresponding message is displayed.

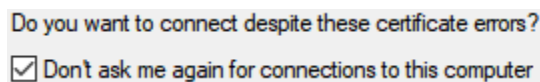


The existing certificate on the remote computer can be viewed.



If the remote computer / certificate is trustworthy, the connection can be established (click **Yes**).

The corresponding option must be activated so that there is no further inquiry when the connection to the PC is established again.



The remote computer's desktop appears. All programs on the PC can be executed.

