



FAQ • 05/14

How do you integrate an HMI operator panel into a local network?

Basic Operator Panel with WinCC (TIA portal) and Windows 7

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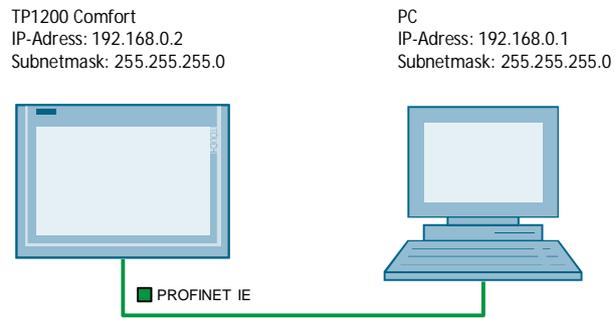
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1 Overview

Figure 1-1



2 Setting Up a Network Connection

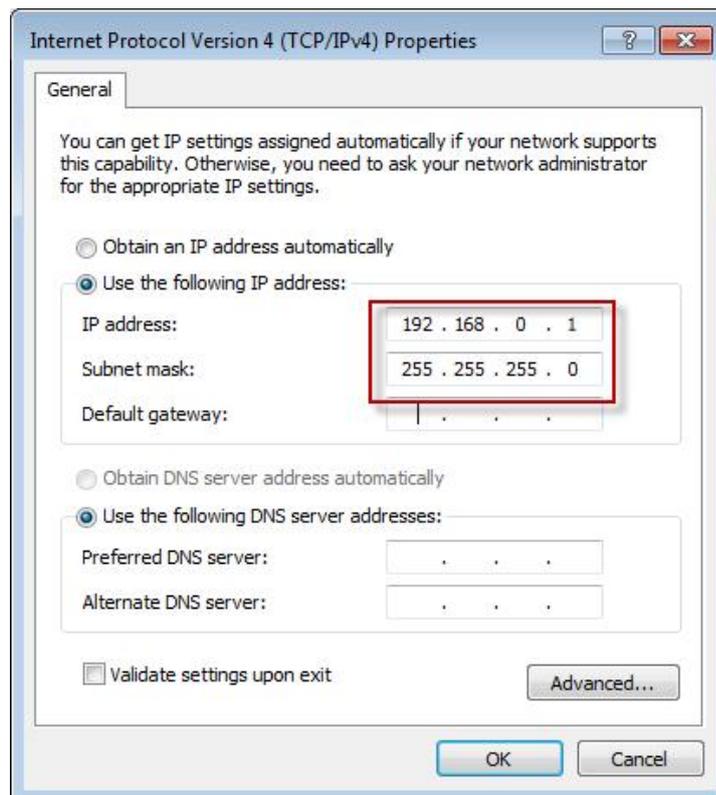
2.1 Assigning a Fixed IP Address in Microsoft Windows 7

- Open the Control Panel by means of "Start > Control Panel".
- Open the "Network and Internet > .Network and Sharing Center > Change adapter settings" folder in the Control Panel.
- If you select "LAN Connection", a dialog window opens in which you can configure this LAN connection.
- Mark the "LAN connection" and click the "Change the settings of this connection" button.
- Select the "Internet Protocol Version 4 (TCP/IPv4)" and click the "Properties" button to open the properties for this protocol.
- Select "Use the following IP address". You can now assign a separate IP address for the PC.

The following network settings have been applied in this example:

IP address: 192.168.0.1
Subnet mask: 255.255.255.0

Figure 2-1



2 Setting Up a Network Connection

- Click the "Advanced..." button. Another dialog opens.
- In the new dialog you select the "WINS" tab. Make sure that "Standard" is check marked for "NetBIOS Setting".

Now you have assigned a static IP address and the "NetBIOS Setting" has been completely successfully on the PC.

2.2 Network Configuration on the Operator Panel

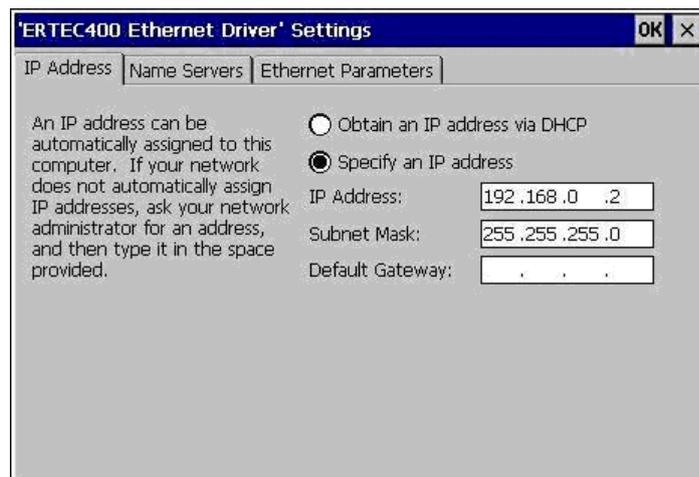
- Open the "Control Panel" on the operator panel.
- Open the "System" menu.
 - In the "Device name" input field, you enter the name of the operator panel, "TP1200 Comfort", for example.
 - In the "Device description" input field, you enter a description of the operator panel if required.
 - Confirm the entries with the "OK" button. The dialog closes.
- Open the "Network ID" menu in the Control Panel.
 - Enter the user name in the "User name" input field.
 - Enter your password in the "Password" input field.
 - Enter the domain name in the "Domain" input field.(if there is no domain exists, then keep the "Domain" input field empty)
 - Confirm the entries with "OK". The dialog closes.

NOTE

The "PROFINET IO" menu is available in addition in the Control Panel in Windows CE 6.0. The device name for PROFINET IO does **not** correspond to the device name in Windows CE.

- Open the "Network&Dial up Connections" menu in the Control Panel.
 - The figure below shows the network setting in Windows CE 6.0. In this example, the network setting below was made on the operator panel:
IP address: 192.168.0.2 (PC setting: 192.168.0.1)
Subnet mask: 255.255.255.0 (PC setting: 255.255.255.0)

Figure 2-2



NOTE

The IP address must be in the same logical network as the PC with which the panel has to communicate later on.

- Click "OK" to confirm all entries until you return to the Control Panel.
- Now restart the operator panel.

This completes the network settings on the panel.

Notes on operating routers

IP addresses must be unique. Note that the router and existing nodes already have an IP address. These IP addresses must not be duplicated in an existing network. Select a new free IP address before you operate your device in this network. Alternatively it might be useful to enable the DHCP server of the router. And then set the "IP Addr. via DHCP" option. In this way the IP address is assigned automatically and address conflicts can be avoided.

The next step is to assign a unique device name. See Name Assignment in Control Panel/System/Device Name. This name, like the IP address, must be unique and can also be pinged directly.

Notes on defining the speed and mode of the Ethernet interface

The connection between two connection partners works best with one of the combinations below.

- Automatic recognition for both connection partners.
- Same connection speed and same mode for both connection partners.

The table below gives an overview of the possible combinations between two connection partners.

Table 2-1

Connection partner 1	Connection partner 2	Result
Autonegotiation	Autonegotiation	Connection partners 1 and 2 set themselves to 100 Mbps, full-duplex connection works reliably.
100 Mbps, half-duplex	100 Mbps, half-duplex	Half-duplex, late collisions.
100 Mbps, half-duplex	100 Mbps, full-duplex	Duplex mismatch, many errors, no performance.
100 Mbps, half-duplex	Autonegotiation	Connection partner 2 sets itself to 100 Mbps, half-duplex. Connection works reliably.
100 Mbps, full-duplex	100 Mbps, full-duplex	Connection works reliably.
100 Mbps, full-duplex	Autonegotiation	Connection partner 2 sets itself to 100 Mbps, half-duplex. Duplex mismatch, many errors, no performance.
100 Mbps, full-duplex	10 Mbps, half- or full-duplex	Speed mismatch, no connection.

2.3 Additional Settings on the PC

If the panel is to be reached from the PC through "name resolution", then you have to make the following settings in the lmhosts file.

You need the name resolution, e. g., to save variables of the panel on the PC. For further information see chapter 4

Adapt the lmhosts file

- Open the lmhosts file with a double-click. The hosts file is located at **C:\WINDOWS\System32\drivers\etc**
- You select the editor in the "Open with..." window.
- Enter the IP address and name of the panel in the lmhosts file. In this example **"192.168.0.2 TP1200 Comfort"**.

This entry ensures that the PC can exactly assign the operator panel uniquely in the network environment on the basis of the IP address and name of the operator panel. Save the file.

Figure 2-3



This completes the network settings on the PC.

NOTE

The lmhosts file is often available as lmhosts.sam, where ".sam" stands for sample. In order for Windows to be able to take the file into account you must change the ".sam" ending. Otherwise the file is ignored by Windows. Make the change as administrator.

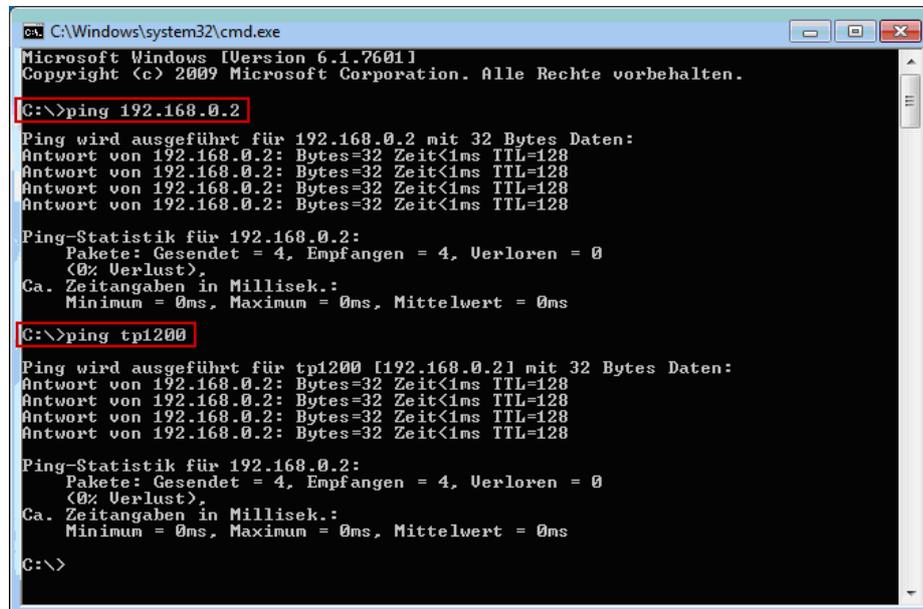
2.4 Testing the Network Connection

In order to test the physical network connection, execute the "ping" command on the PC. Open the DOS prompt on the PC with "START > All Programs > Accessories > DOS prompt".

Enter the following command line at the DOS prompt and press ENTER to confirm this: „**ping "192.168.0.2"** (ping "IP address of the operator panel"). Alternatively you can also specify the name of the operator panel when you have executed name resolution as in section **Fehler! Verweisquelle konnte nicht gefunden werden..**

In this example **ping "TP1200 Comfort"**. This ensures that the panel can be contacted either through its IP address or its "name resolution".

Figure 2-4



```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. Alle Rechte vorbehalten.

C:\>ping 192.168.0.2

Ping wird ausgeführt für 192.168.0.2 mit 32 Bytes Daten:
Antwort von 192.168.0.2: Bytes=32 Zeit<1ms TTL=128

Ping-Statistik für 192.168.0.2:
    Pakete: Gesendet = 4, Empfangen = 4, Verloren = 0
    (0% Verlust),
    Ca. Zeitangaben in Millisek.:
    Minimum = 0ms, Maximum = 0ms, Mittelwert = 0ms

C:\>ping tp1200

Ping wird ausgeführt für tp1200 [192.168.0.2] mit 32 Bytes Daten:
Antwort von 192.168.0.2: Bytes=32 Zeit<1ms TTL=128

Ping-Statistik für 192.168.0.2:
    Pakete: Gesendet = 4, Empfangen = 4, Verloren = 0
    (0% Verlust),
    Ca. Zeitangaben in Millisek.:
    Minimum = 0ms, Maximum = 0ms, Mittelwert = 0ms

C:\>
```

This completes the testing of the network settings on the PC.

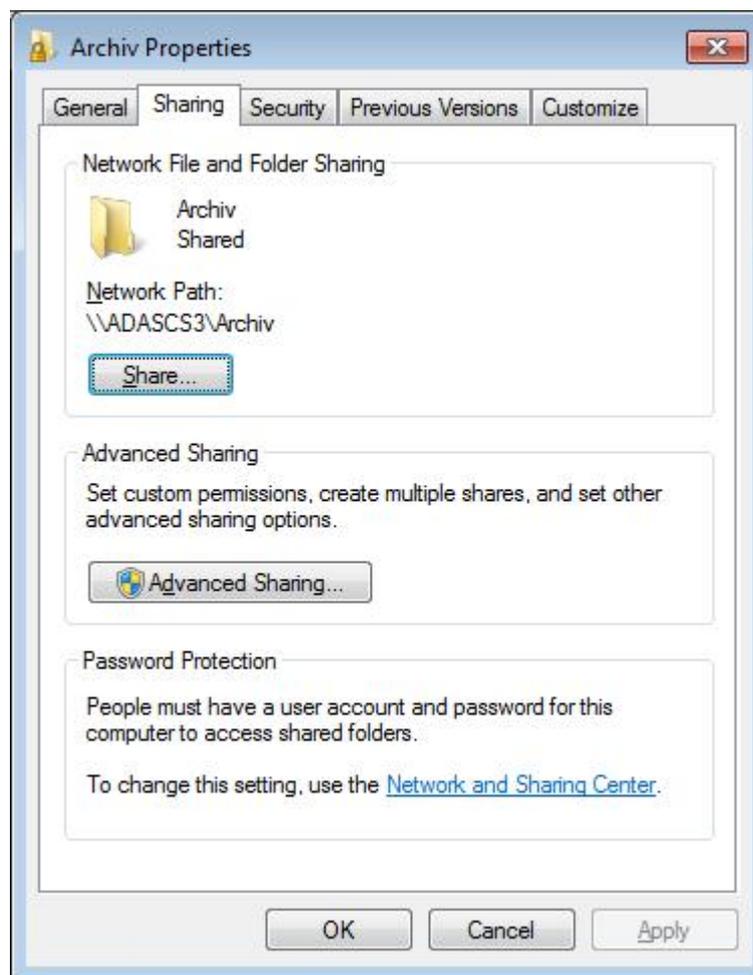
3 Enabling Sharing

Enabling sharing for a folder or a drive on the PC

Perform the following steps to enable sharing of a folder or drive on a PC.

- Open the Windows Explorer.
- Select a folder or a drive that is to be shared for data exchange between the panel and the PC.
- Open the **folder/drive properties** by "right-click > Properties".
- Switch to the "Sharing" tab.

Figure 3-1



- Select "Share" and confirm with the "Share" button. The folder name is automatically adopted as the "Shared name". In this example "Archive".
- In addition, you can add another "Shared name" with "Advance Sharing...".
- In the "Sharing" tab, click the "Share" button to open the share settings. Here you select the relevant users and their authorization options. In this example we have chosen authorizations under "Authorizations > Full access; Change; Read".

3 Enabling Sharing

Note For creating Windows sharing you need at least one standard user (power user) who is logged on.

This completes the settings for sharing a folder/drive.

4 Saving the Tag Archive

Saving a tag archive on a PC via a local network

In order to save a tag archive to a PC over a network, the PC, on which the file is to be saved, has to be addressed by means of a "name resolution".

=> **\\computername\sharename**

To ensure that the "name resolution" works, the settings have to be defined as in section 2.3 "Perform a **network connection setup**".

The name of the PC on which the tag archive file is to be saved can be called up with "START > Control Panel > System and Security > System". The name of the computer in this example is "ADASCS3".

This means that the complete name for saving the tag archive in this example is composed as follows.

=> **\\ADASCS3\Archiv**

Figure 4-1

Name ▲	Path	Storage location
Data_log_1	\\ADASCS3\Archiv	RDB file
<Add new>		

\\computername\share name

NOTE

The following call would be incorrect:

\\169.254.247.160\Archive

The call is made with the computer name and not the IP address.

This completes the settings for defining the path for the tag archive.

5 Accessing the Files of the Comfort Panel

Proceed as follows to access the files stored on the Comfort Panel or on a slotted SD card.

- Go to "Runtime Settings > Services" and enable "HTML Pages".

Figure 5-1



- Download the project to the Comfort Panel.
- Click "Settings" in the loader of the Comfort Panel.
- Double-click "WinCC Internet Settings".

Figure 5-2



- Open the "Web Server" tab and click "User Administration".

Figure 5-3



5 Accessing the Files of the Comfort Panel

- Create users with appropriate authorizations to access the HTML pages of the Comfort Panel.
- In the address line of your browser you enter the IP address of the Comfort Panel and log on with one of the user names created.
- Click "File Browser" to access the files of the Comfort Panel.

Figure 5-4

