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Home

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

HMI Operator Panel / WinCC flexible 2008 / Windows  
XP / Windows 7 / Windows 10

<https://support.industry.siemens.com/cs/ww/en/view/13336639>

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# 1 Setting Up a Network Connection

## 1.1 Assigning a Fixed IP Address

### Microsoft Windows XP

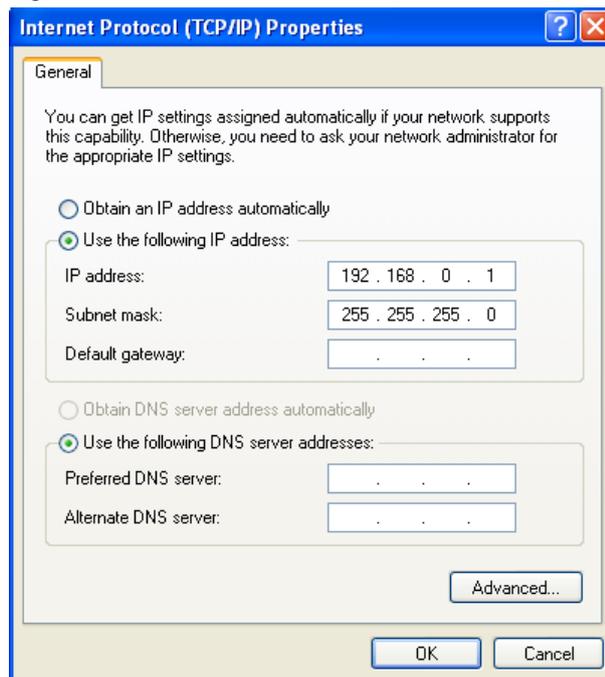
- Open the Control Panel via "Start > Control Panel".
- Open the "Network Connections" folder in the Control Panel.
- If you select "LAN Connection", a dialog window opens in which you can configure this LAN connection.
- When you click the "Properties" button, another window opens.
- Select the "Internet Protocol (TCP/IP)" and click "Properties" to open the properties for this protocol. Another dialog window opens.
- 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 1-1



- When you click the "Advanced..." button, another window opens.
- In the new window you select the "WINS" folder. Make sure that "Standard" is check marked under "NetBIOS Setting".

This concludes the settings for assigning the IP address and for the NetBIOS on the PC.

### Microsoft Windows 7

- Open the Control Panel via "Start > Control Panel".

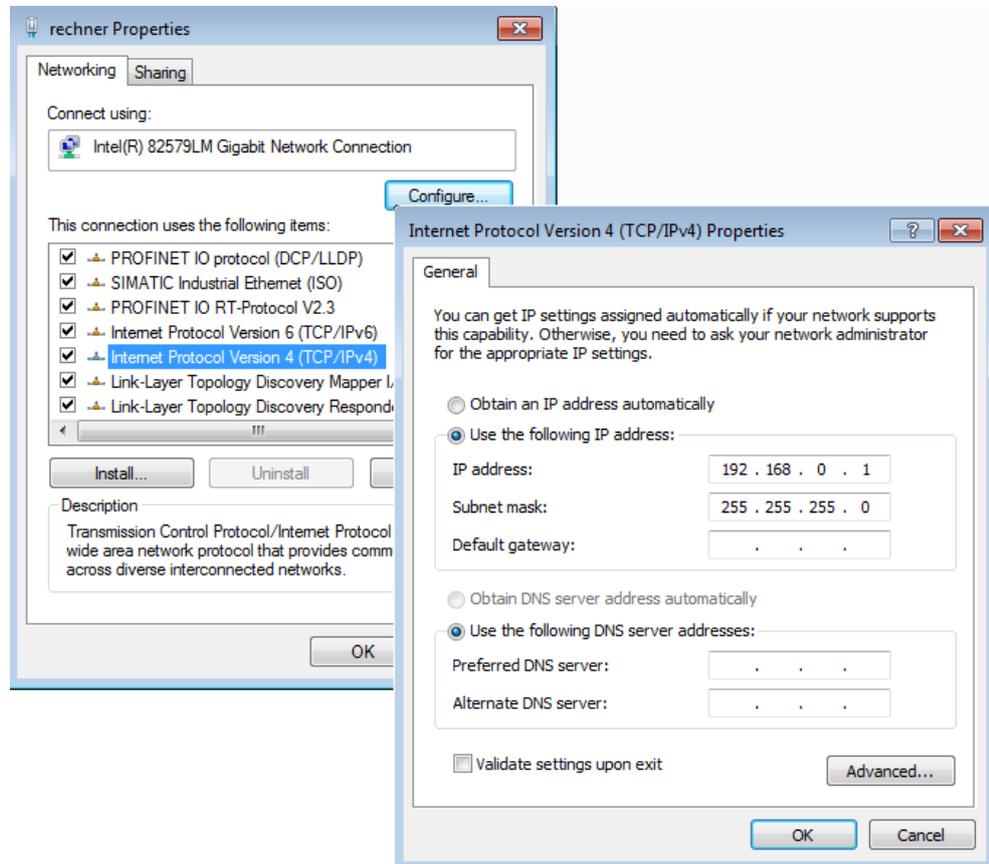
- Open the "Network and Sharing Center" folder in the Control Panel.
- On the left side you select the "Change adapter settings" option.
- Open the Properties of the network card via which communication with the operator panel is to be made.
- In the Properties window you select the "Internet Protocol Version 4 (TCP/IPv4)" and click the "Properties" button to open the Properties of this protocol. Another dialog window opens.
- 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 1-2



- Complete the input via the "OK" button.

This concludes the settings for assigning the IP address on the PC.

### Microsoft Windows 10

- Open the Control Panel via "Start > Settings".
- Open the "Network and Internet" folder in the Control Panel.

## 1 Setting Up a Network Connection

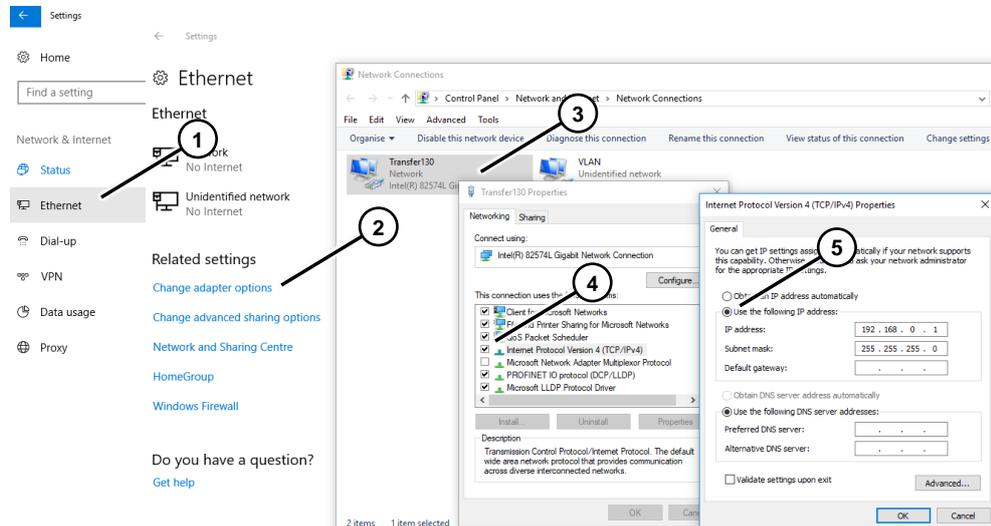
- Select the "Ethernet" option (1).
- Select the "Change adapter options" menu (2).
- Open the Properties of the network card via which communication with the operator panel is to be made (3).
- In the Properties window you select the "Internet Protocol Version 4 (TCP/IPv4)" and click the "Properties" button to open the Properties of this protocol. Another dialog window opens (4).
- Select "Use the following IP address". You can now assign your own IP address for the PC (5).

The following network settings have been applied in this example:

IP address: 192.168.0.1

Subnet mask: 255.255.255.0

Figure 1-3



- Complete the input via the "OK" button.

This concludes the settings for assigning the IP address on the PC.

## 1.2 Network Configuration on the Operator Panel

### Requirements

The Control Panel is open.

- Open the "Communications" dialog in the Control Panel or the "System" dialog in Windows CE 5.0.
  - In the "Device name" input box, you enter the computer name of the operator panel, "MP377test", for example.
  - In the "Device description" input box, you enter a description of the operator panel if required.
  - Confirm the entries with "OK". The dialog closes.
- Open the "Network ID" dialog.
  - Enter the user name in the "User name" input box.
  - Enter your password in the "Password" input box.
  - Enter the domain name in the "Domain name" input box.
  - Confirm the entries with "OK". The dialog closes.

### Note

User name and password are the logon data of the PC where you want to archive the data.

- Open the "Network" dialog or the "Network & Dial up Connections" dialog in Windows CE 5.0.
  - In the "Adapters" tab, you select the driver for the network card being used. In this example, use the "Onboard LAN Ethernet Driver".
  - If you are using an external Ethernet card, select "NE2000 Compatible Ethernet Driver" here.
  - Click the "Properties" button. In the "IP Address" tab you click "Specify an IP address".
  - You can now assign an IP address to the panel.

### Note

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

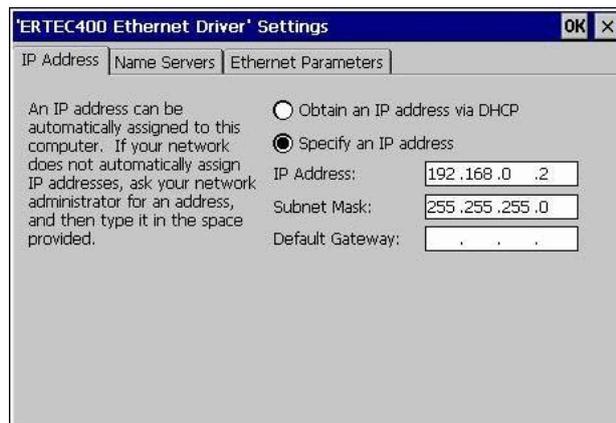
The following figure shows the network setting in Windows CE 5.0. The settings are similar in a SIMATIC HMI panel with Windows CE 3.0.

The following network settings have been applied on the panel in this example.

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 1-4



Click "OK" to confirm all entries until you return to the Control Panel.

### Using a Router

If the configuration PC and the panel are in different Ethernet networks, then the two Ethernet networks are connected via a router, for example.

When you specify the IP address in the HMI configuration you must also specify the network-specific IP address of the router.

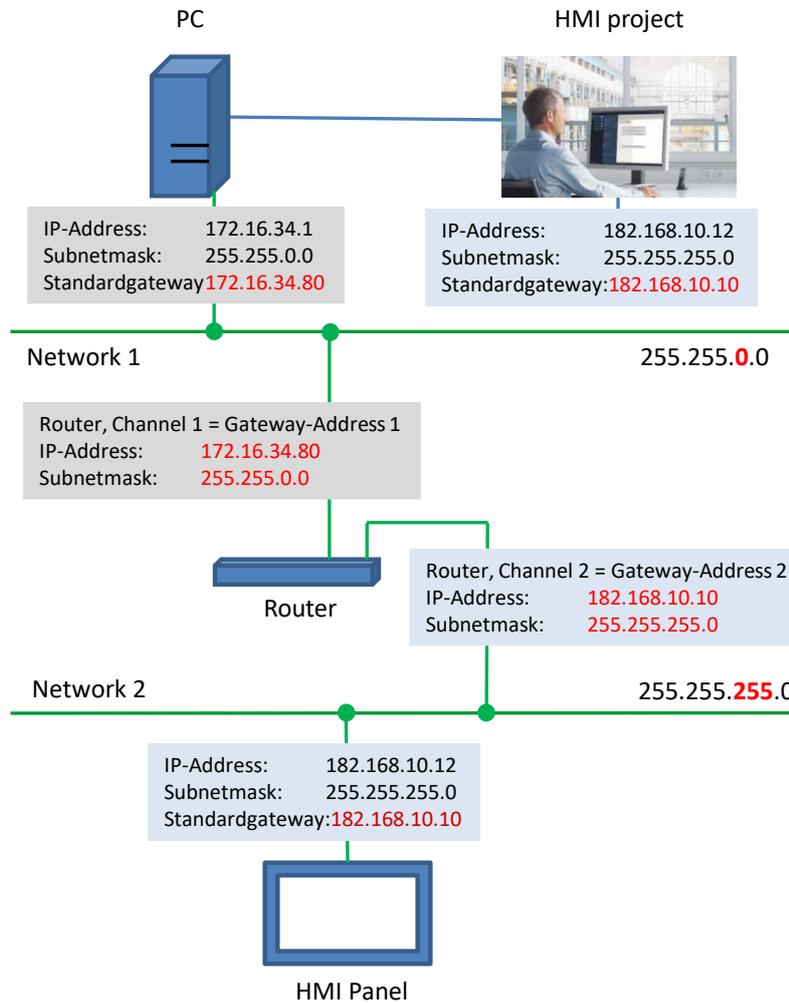
Example:

Network 1, Configuration PC

Network 2, HMI operator panel

The following figure shows a possible configuration.

Figure 1-5



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Details on the topic of "Integrating HMI Operator Panels in TCP/IP Networks ..." are available in Entry ID: [92346478](#)

### 1.3 Other Settings on the PC (Optional)

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

#### Change the lmhosts file

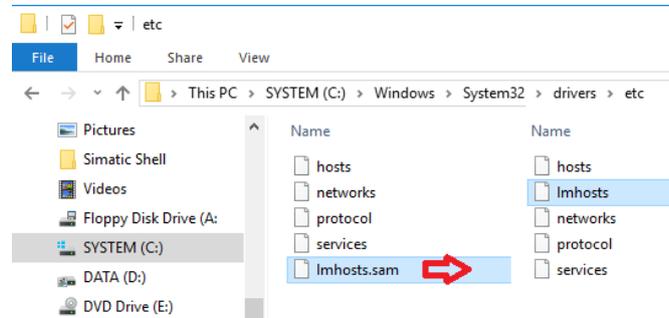
You can find the lmhosts file in C:\WINDOWS\System32\drivers\etc.

- Open the lmhosts file (with Notepad, for example).
- In the lmhosts file you enter the IP address and name of the panel. In this example "192.168.0.2 MP377test".

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.

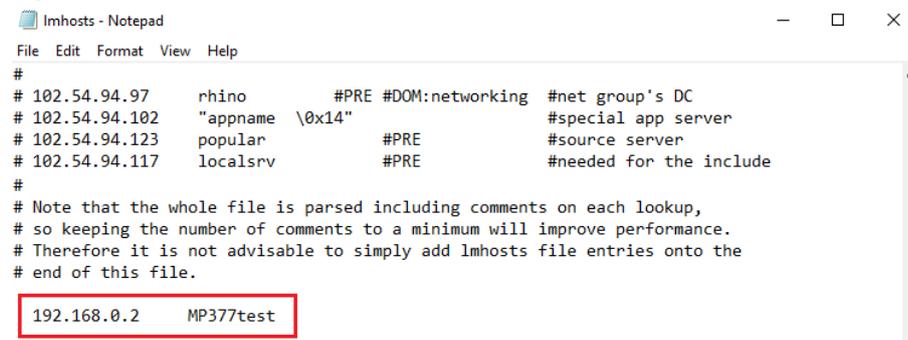
**Note** The "lmhosts" file is often available as "lmhosts.sam". In this case you edit the file name and delete the ".sam" extension. Restart the computer.

Figure 1-6



Sample view of the opened "lmhosts" file.

Figure 1-7



## 2 Enabling PC Network Sharing

In order to be able to save archives, for example, from an operator panel on a PC via the Ethernet network, a file folder or drive has to be shared on the PC.

### 2.1 Archiving Path

When configuring the archives, the path designation must have the following syntax.

The name of the path is composed of the elements below:

"\\computer\_name\share\_name".

#### Example:

Computer name: HHPC

File folder: DataFiles

Share name: ArchiveData (name of your choice)

Complete file designation: \\HHPC\ArchiveData

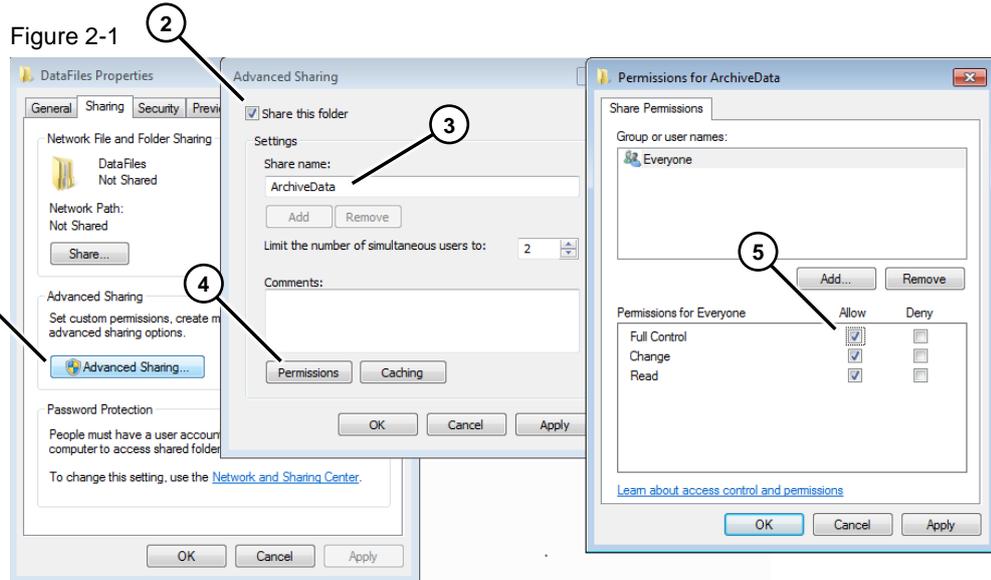
#### Note

The "DataFiles" file folder is now identified by the "share name". It does not matter in which "subfolder" the "DataFiles" folder is located.

### 2.2 Sharing a Folder or a Drive on a PC.

In this example an existing file folder with the name "DataFiles" is shared in Windows 7 (the procedure is similar in other Windows operating systems).

- Open the Windows Explorer.
- Mark a "DataFiles" folder that is to be shared for data exchange between the operator panel and the PC.
- Open the Properties of the folder.
- Switch to the "Sharing" tab and click the "Advanced Sharing..." button (1).
- Enable the "Share this folder" option (2).
  - In the "Share name:" field you select a name or add a new share name using the "Add" button (3).
  - Use the "Permissions" button to call up the special permissions for the folder (4).
  - Define the permissions by checking the appropriate checkboxes in the "Allow" column. In this case "Full Control" (5). You can change the permissions to suit your needs and requirements.
  - Confirm the entries with "OK".



## 2.3 Note on Windows 10

With Windows 10, version 1709, the sharing of folders has changed.

SIMATIC operator panels with the Windows CE operating system use the "SMB" protocol for accessing shared folders.

In Windows 10, version 1709, the "SMB" protocol is disabled by default on the PCs.

This means that operator panels that use the "SMB" protocol can no longer access the shared folders.

Detailed information about this is available on the Microsoft Support pages.

### Remedy

By disabling the "SMB" protocol Microsoft has closed a security gap in the Windows 10 operating system.

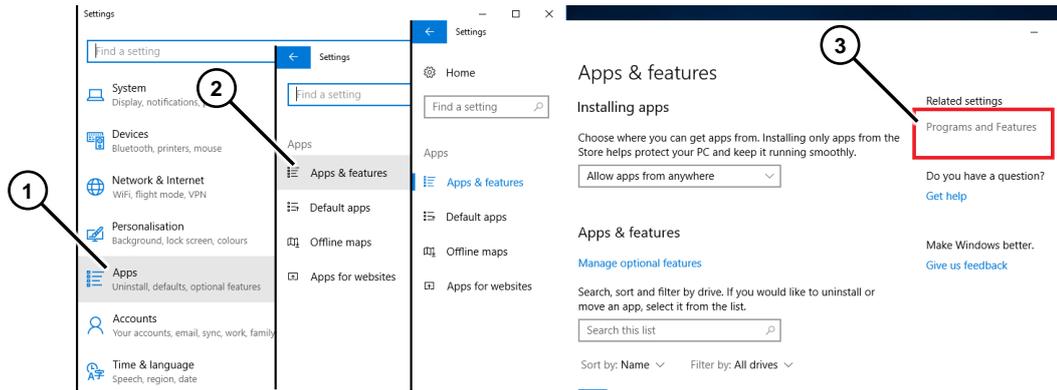
You can enable the "SMB" protocol again manually.

**CAUTION** Before enabling the "SMB" protocol refer to the Microsoft Support pages to find out what effects enabling the "SMB" protocol can have on your plant.

### Enable the SMB protocol (Windows 10 operating system)

- Open the "Settings".
- Select the "Apps" item (1).  
Select the "Apps & features" app (2) and the "Apps & features" page opens.
- On the "Apps & features" page you select the "Programs and Features" function (3). The "Programs and Features" window opens.

Figure 2-2



- On the "Uninstall or change a program" page you select the "Turn Windows features on or off" function (4). The "Windows Features" window opens.
- In the "Windows Features" you enable the following options (5):
  - "SMB Direct".
  - "SMB 1.0/CIFS File sharing Support".
- Confirm the entries with "OK".

This completes the settings for the "SMB" protocol. It is now again possible to access the shared folders.

Figure 2-3

