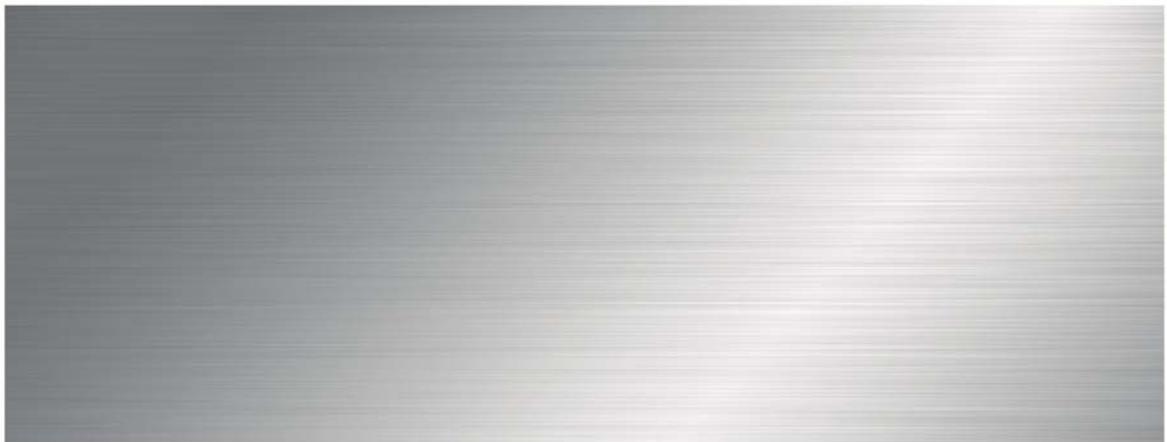


building management systems

a b r i d g e b e t w e e n w o r l d s

NETxKNX OPC Server 3.5
First Steps



NETx KNX OPC Server 3.5



Member of: KNX Association | OPC Foundation | BACnet Interest Group Europe



NETx OPC Server 3.5

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Der NETxKNX[®] OPC Server 3.5

The system allows the control and - in connection with an applicable OPC client - the visualization of KNX installed. It builds a connection between the world of KNX and other systems.

The experience and the know-how out of the large projects were used during developing the large amount of small systems. So the system has been realized in a very reliable, open and user friendly way.

NETx OPC Server 3.5

Before installation

System requirements

The following operating systems are supported:

OPC Server Direct(KNX):

Microsoft Windows XP Professional 32 bit
Microsoft Windows Vista 32 bit | 64bit
Microsoft Windows 7 32 bit | 64bit

OPC Server UnifiedDriver:

Microsoft Windows XP Professional 32 bit
Microsoft Windows 7 32 bit | 64bit
Microsoft Windows 8 64 bit

Microsoft Windows 2008 Server 32 bit | 64bit
Microsoft Windows 2012 Server 64 bit

Hardware requirements:

Minimum

PC mit INTEL oder AMD Prozessor
512 MB RAM
Ethernet-card 10/100 MBit
Screen with 800x600 resolution

Optimal

PC mit INTEL oder AMD Prozessor
2048 MB RAM or more
Ethernet-card 1000 MBit
Screen with 1280x1024 resolution

Multicore processors are recommended.

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Support and contact

Support requests to:

support@NETxAutomation.com

Product information and price lists:

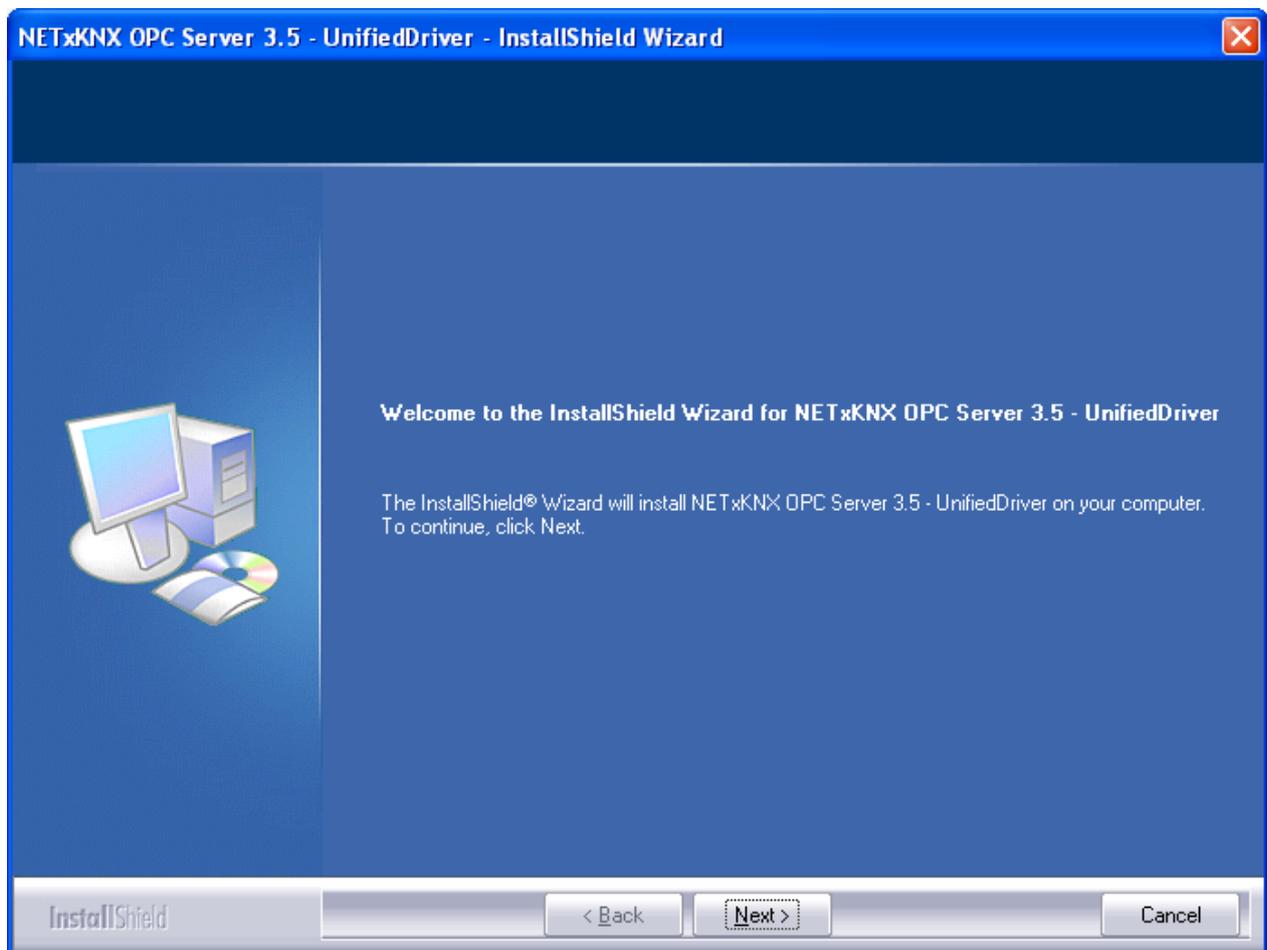
info@NETxAutomation.com

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Installation

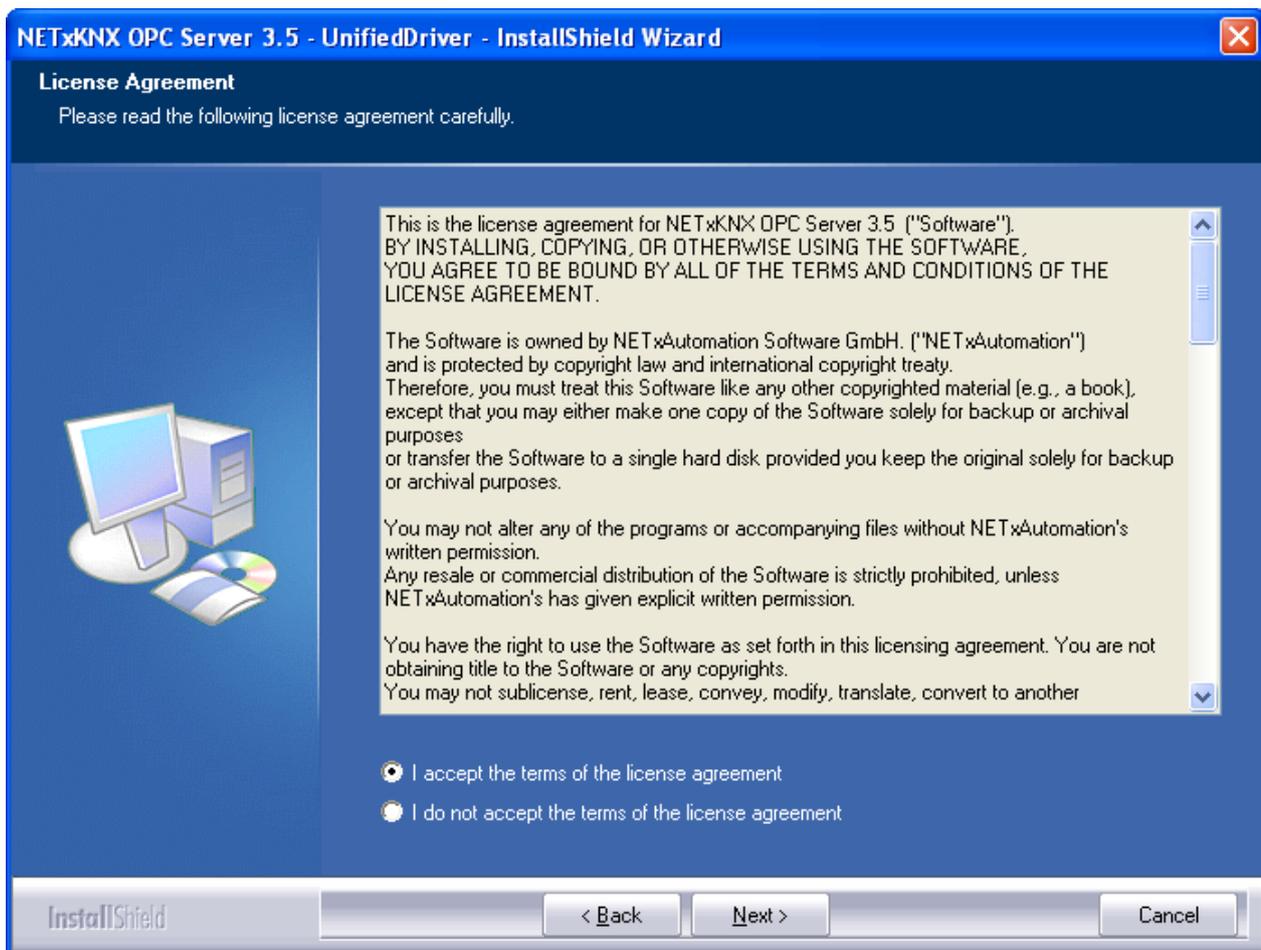
For proper installation on your PC, please verify that our user has administrative rights, and that no tool (e.g.: an anti-virus program) blocks an entry in the registry.

After opening the application (.exe file), the following window appears:



Click on the button „Next“.

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If you agree with the license agreement, select the option "Accept" and click "Next".

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Enter your user name and your company name and click the button „next”

NETxKNX OPC Server 3.5 - UnifiedDriver - InstallShield Wizard

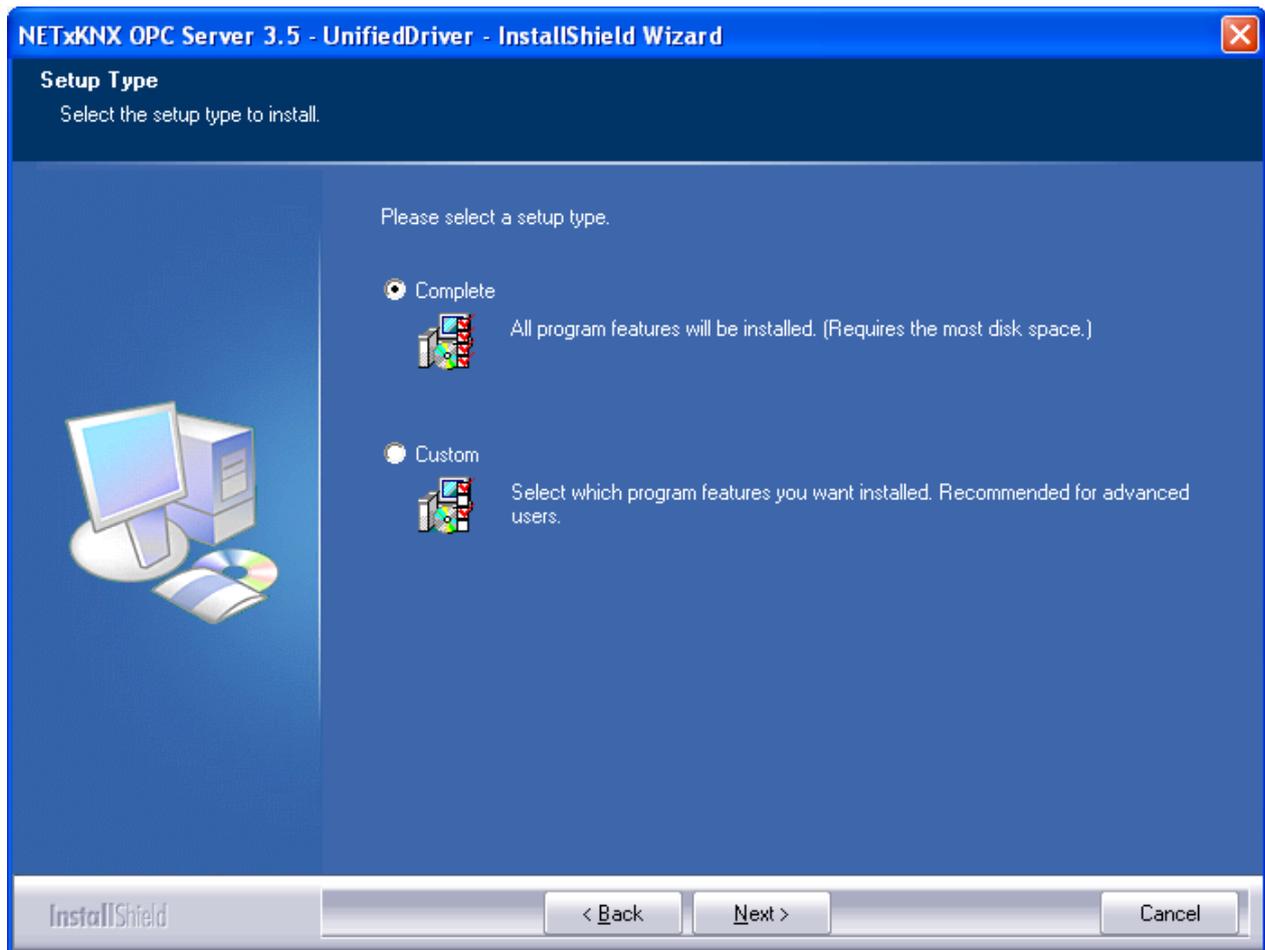
Customer Information
Please enter your information.

Please enter your name and the name of the company for which you work.

User Name:
Name

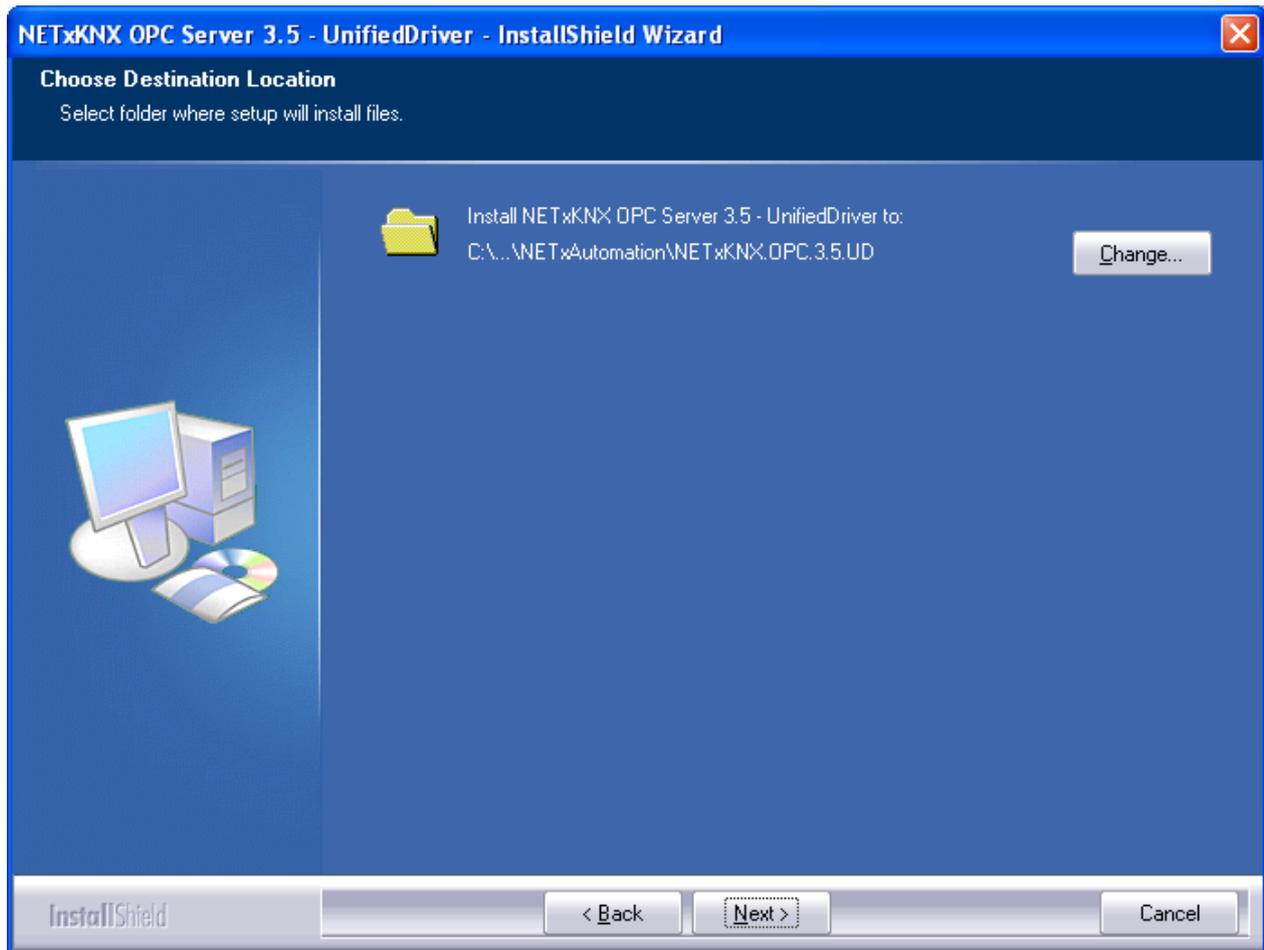
Company Name:
Company

InstallShield < Back Next > Cancel

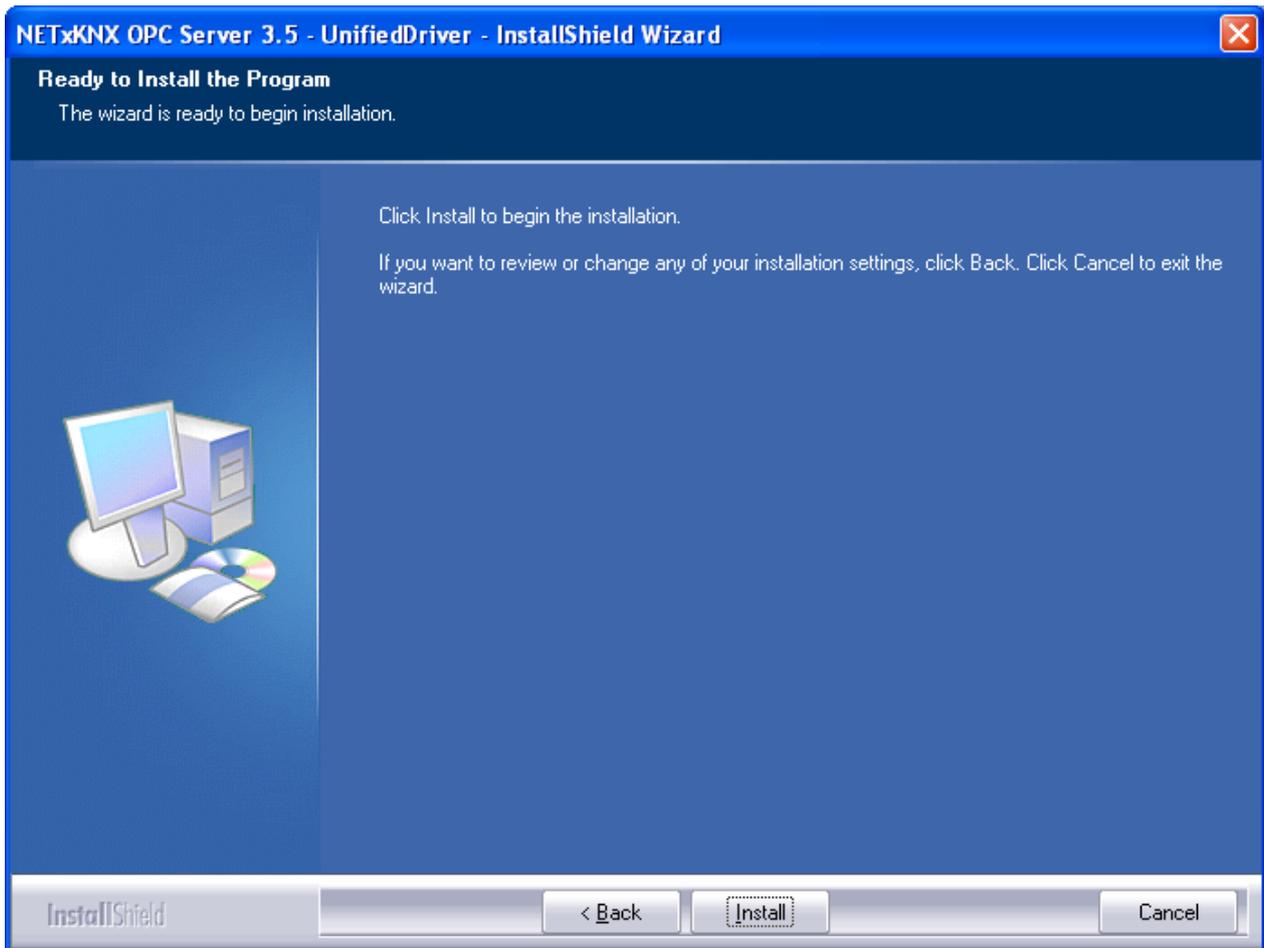


Here you can choose between a complete installation and a custom installation. For beginners we recommend a complete installation. Click on the button "Next".

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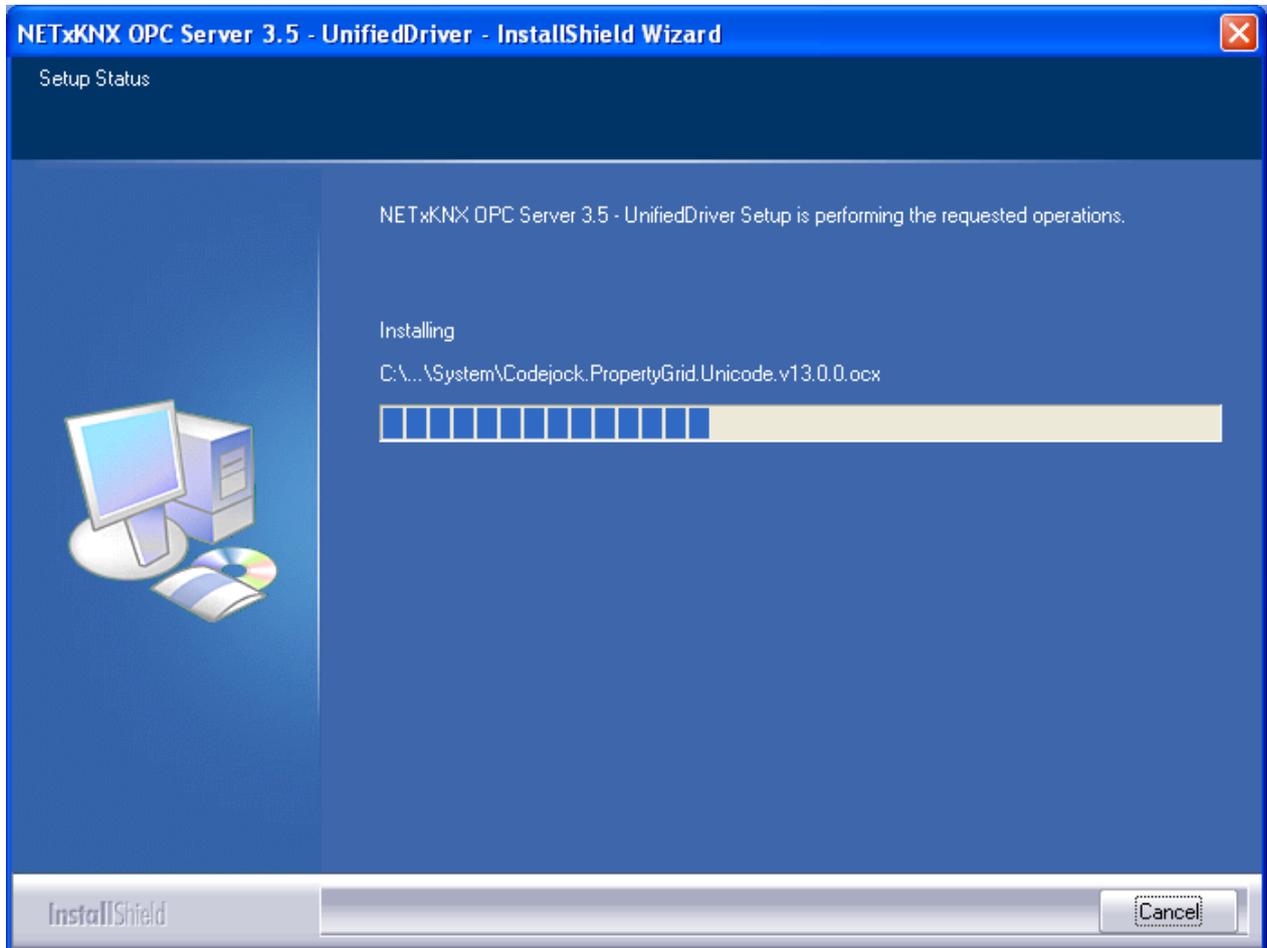


Here you can set the installation directory.
Then click "Next".

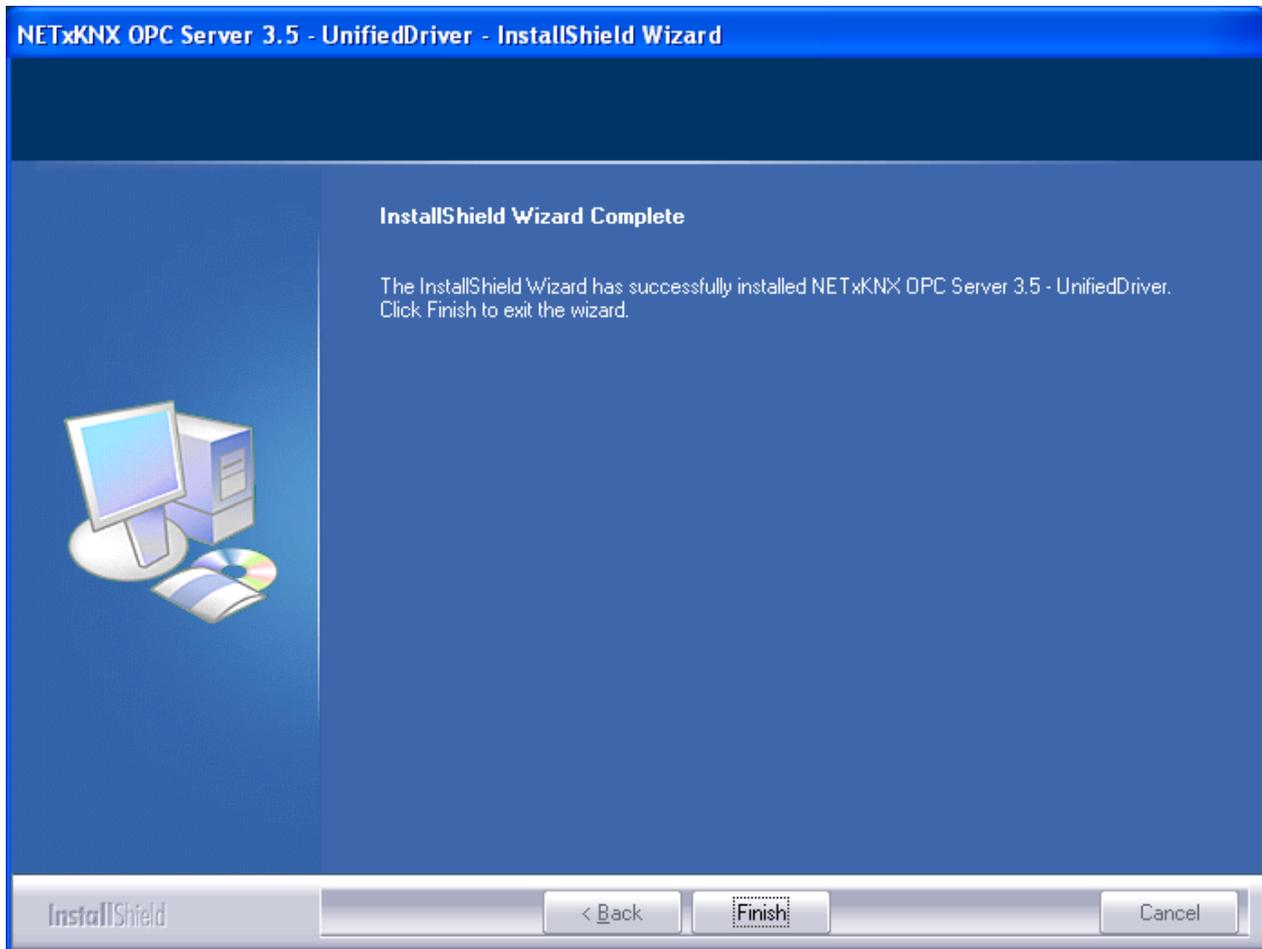


The program is now ready for installation.
Click on the button "Install".

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The installation is now running.
During installation process this window appears.



When this window appears, the program is installed.
Click the button "Finish" to complete the installation.

After installation, this icon will appear on your desktop.



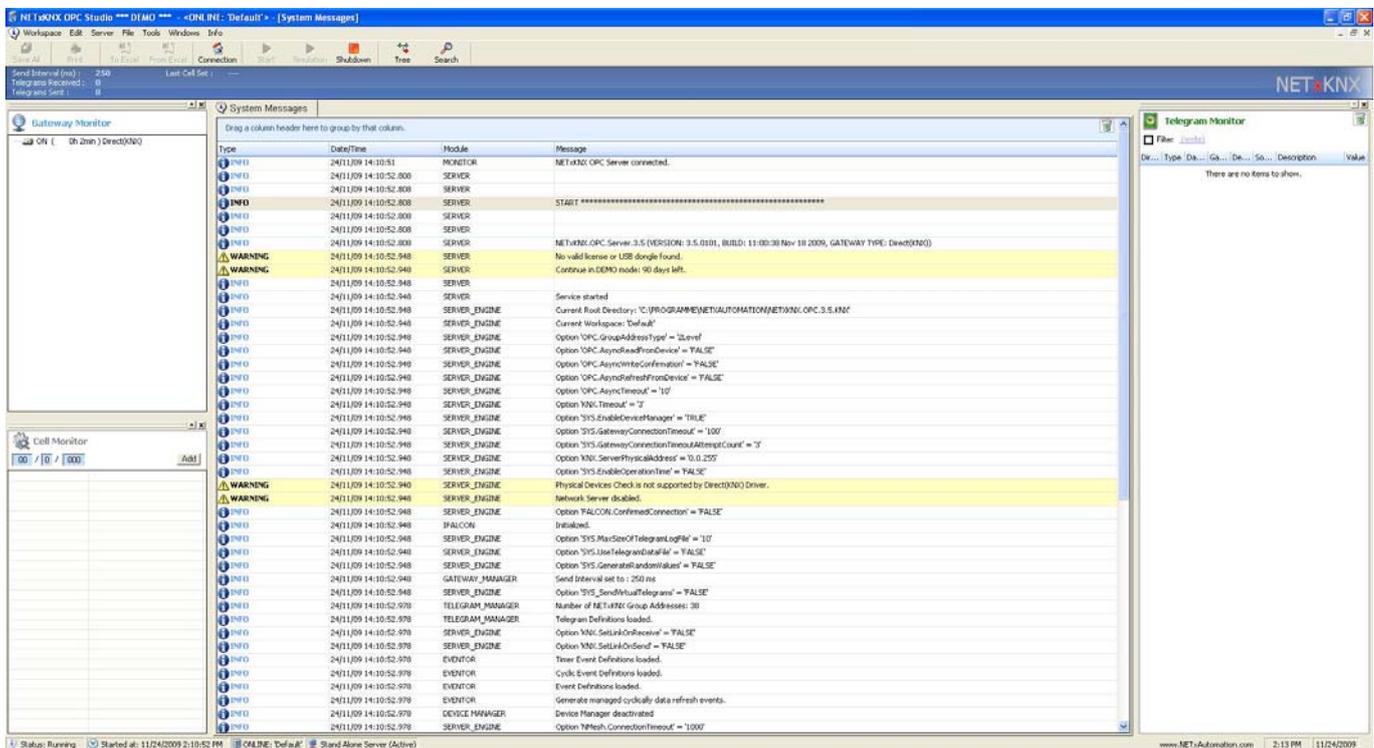
NETx OPC Server 3.5

Working with NETxKNX® OPC Server 3.5

The OPC Studio

After clicking on the icon at the desktop, the user interface of NETxKNX® OPC Server - the OPC Studio is opened.

Here you can work with the OPC server in a pleasant working environment.



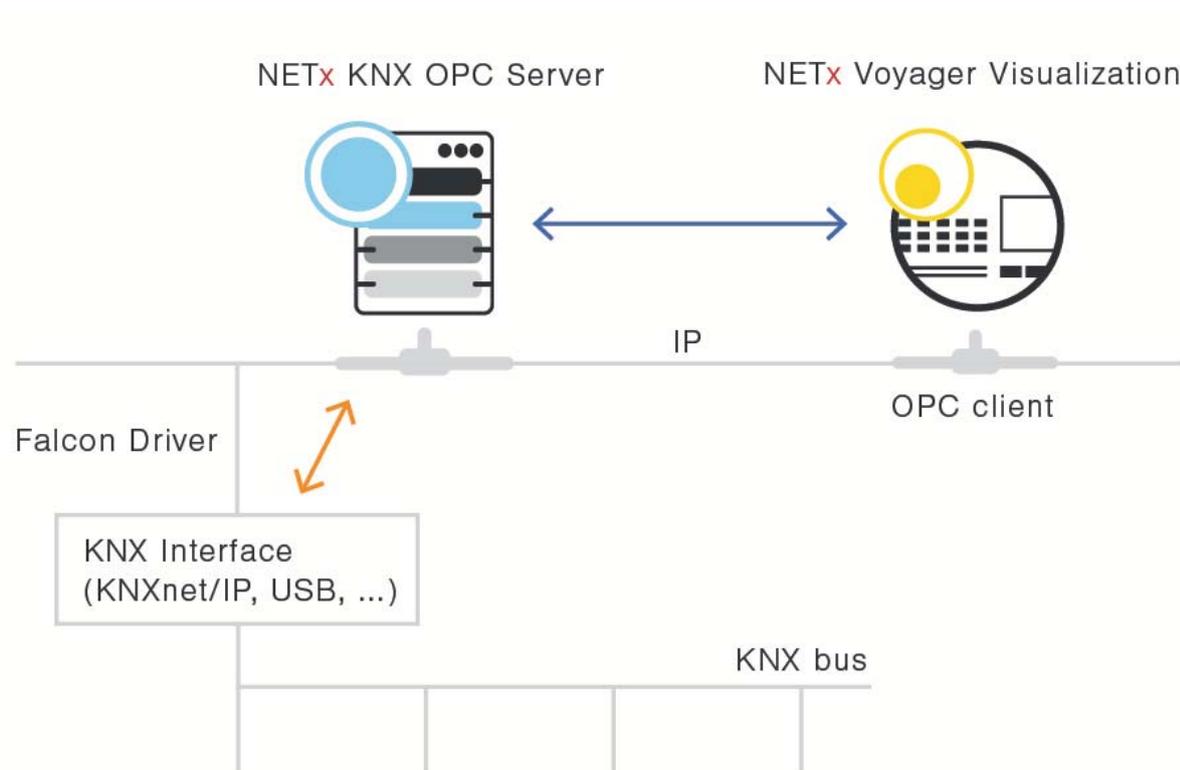
NETx OPC Server 3.5

The Direct(KNX) version

The Direct(KNX) version the NETxKNX[®] OPC Server supports all KNX Interfaces: USB, RS232, KNXnet/IP tunneling and routing.

The connection to the OPC server is configurable by using the Falcon driver.

This version supports only one gateway for connection to the KNX network.



NETx OPC Server 3.5

The Falcon driver

The Direct(KNX) version includes the Falcon driver of the KNX Association. Using the configuration dialogue of the Falcon drive the connection is configured to the KNX network.

After starting the OPC server in the OPC studio for the first time, the following message will appear, which states that the OPC server has been started for the first time and a connection configuration has to be done:



Click the button „OK“.

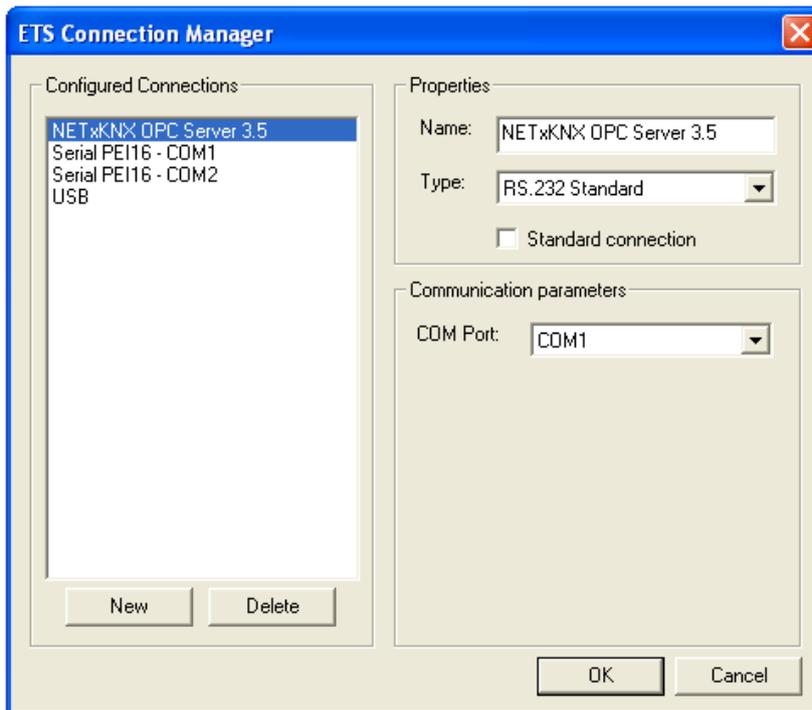
You will now see the following system information, which states that the OPC server must use NETxKNX 3.5 Falcon configuration:



Click on "OK" again.

NETx OPC Server 3.5

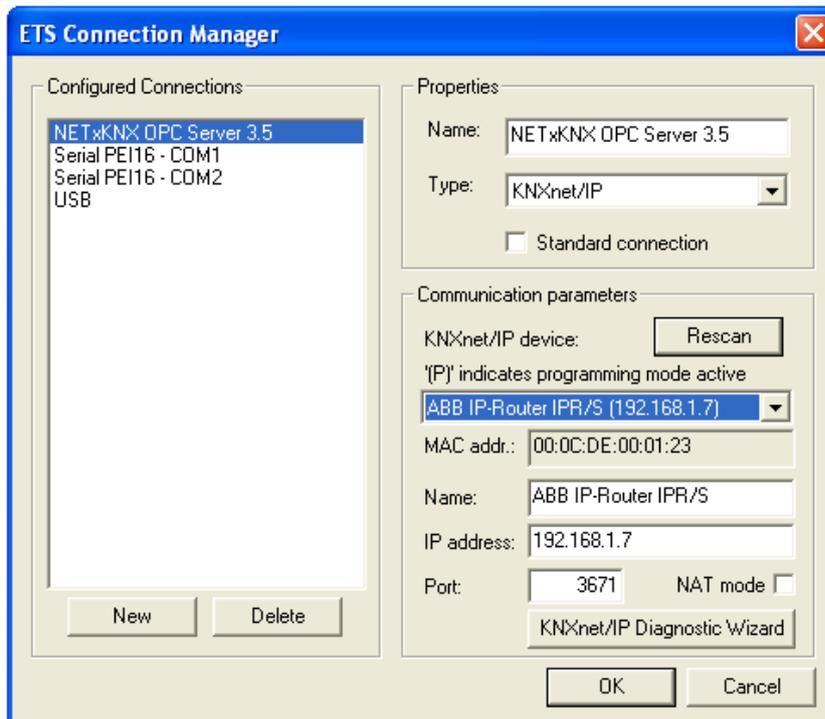
The Falcon Connection Manager will be opened:



Here the setting for the connection to the KNX network has to be done. In each case the connection must be set as NETxKNX OPC Server 3.5 Server. The type depends on the interface to the KNX network.

NETx OPC Server 3.5

In this example a KNXnet/IP router is used:



Normally, the program recognizes the connected router and interfaces they can be selected by the dropdown menu.

If this is not the case, you can assign a name and enter the IP address of the gateway manually.

Then you can click "OK".

NETx OPC Server 3.5

The server has to be restarted.



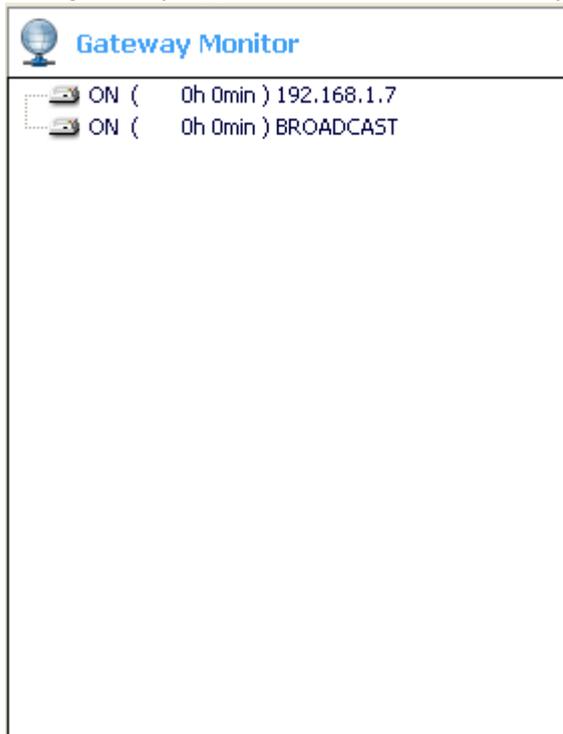
Click the button „Start“ in the menu bar.



To change the connection later (for example: if the gateway has been replaced), you can click on the button "Connection" and call the Falcon Connection Manager again.



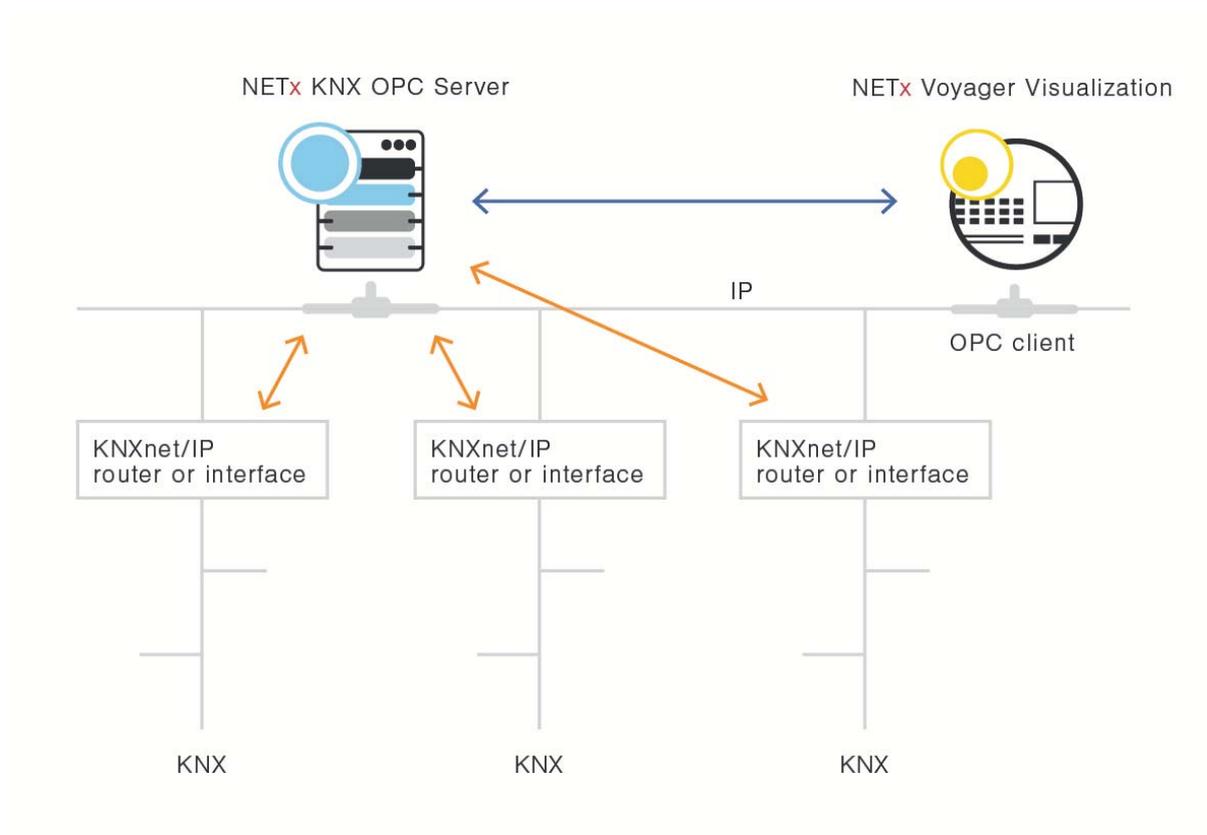
The gateway appears now in the Gateway Monitor on the left side at the OPC Studio.



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The Unified Driver version

In the Unified Driver version the OPC Server supports all KNXnet/IP interfaces and routers. It can manage up to 1,000 of them simultaneously. The connection to KNX is configured in the OPC studio using the Gateway Definition File.



The Gateway Definitions File

When using the Unified Driver version, the correct gateway connection to the KNX network, has to be set in the Gateway Definitions File first.

You can open this file in the studio by clicking on the menu "File" "Gateway Definitions" and "Open".

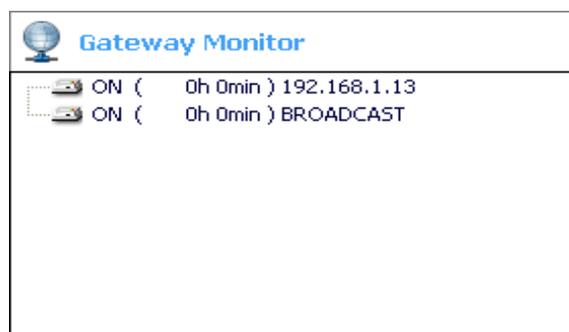
This tab will appear:

	IP Address	Type	Port	Name	Locality	Description
1	Syntax of the Gateway Definition Table ver. 3.5:					
2	IP Address;Port;Type;Name;Locality;Description					
3						
4	192.168.1.1;IGS;52000;GATE 1;Room 51;pre-defined Gateway 1					
5	192.168.1.7;NETIP;3671;Gate2					
6	192.168.1.8;NETIP;3671;Gate3					
7	192.168.1.13	NETIP	3671	Gate4		
8	192.168.1.2;EIBNODE;1634;Gate4					

Here you can type in the IP address, of the port and any additional information of the gateway.

If this is completed, save the file with "File" "Gateway Definitions" "Save" and close it with "File" "Gateway Definitions" "Close".

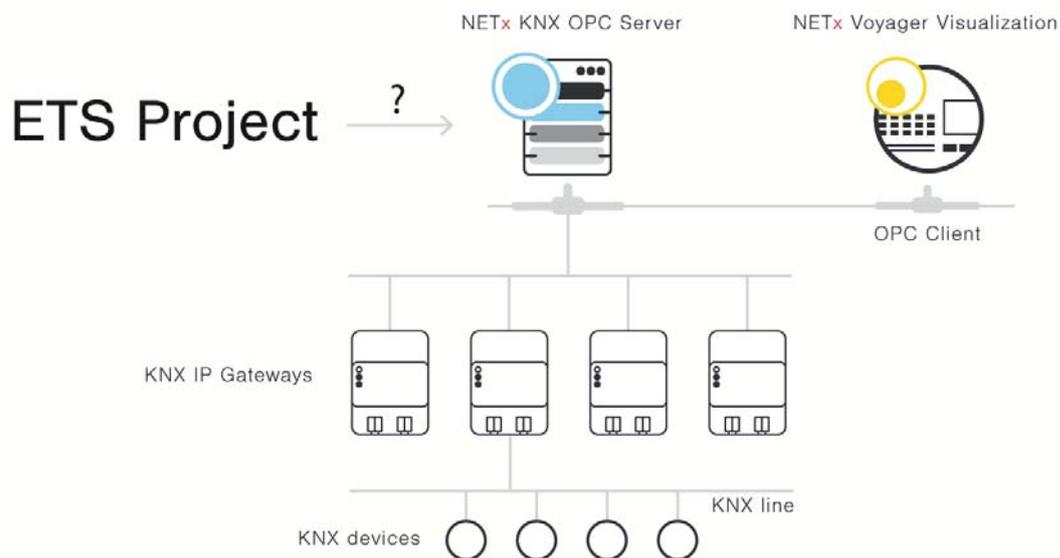
Now your gateway is defined and after rebooting the server, it appears in the Gateway monitor.



The .esf File

Using ETS, you can assign to each data point (e.g. lights, switches, ...) in the KNX network to a KNX group address, that address the data point and the data point is addressed.

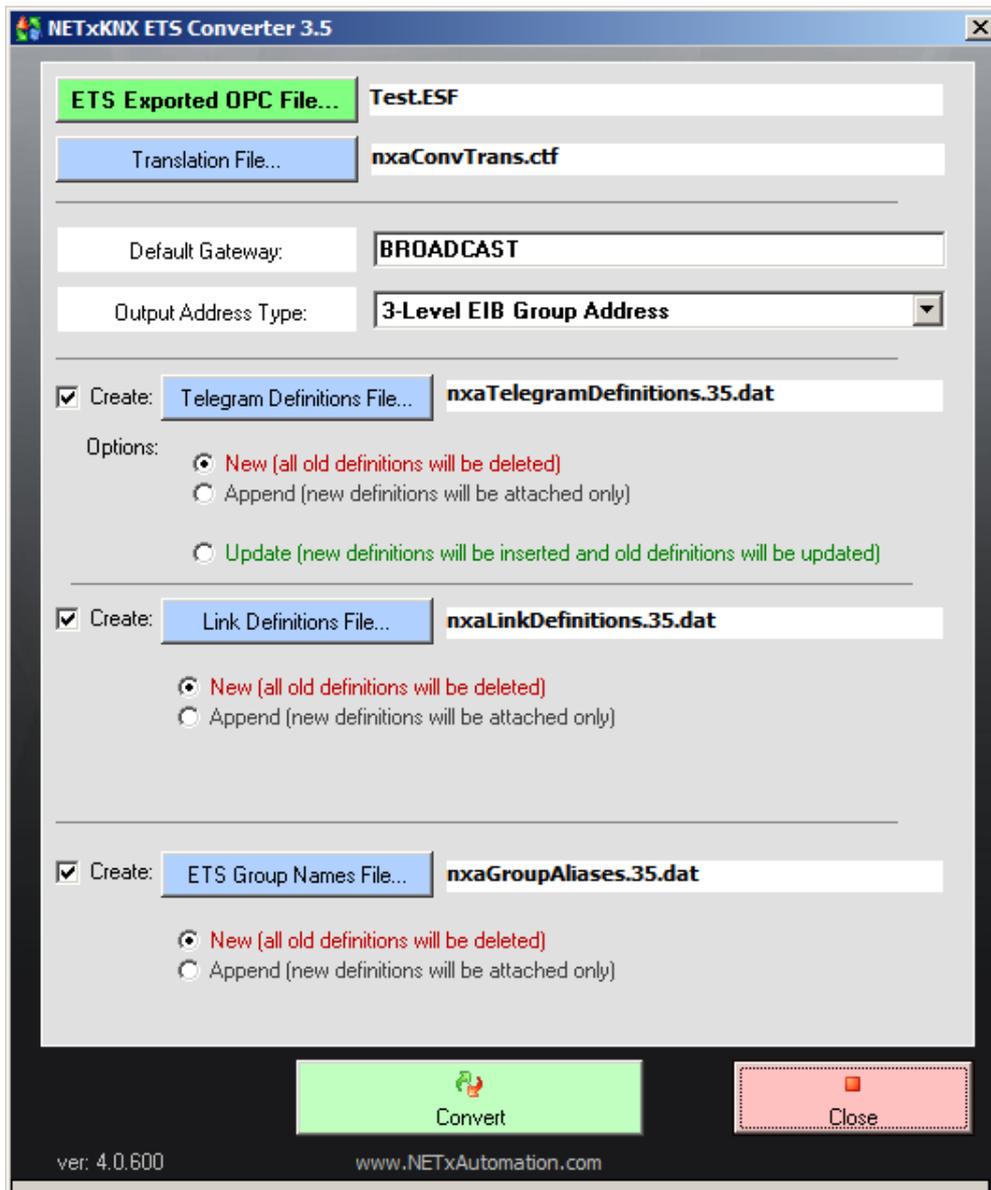
Using the OPC export at the ETS an .esf file will be generated. This file can be imported into the OPC Server which allows the access to these data points.



This file can be imported to the OPC Server very easily.

NETx OPC Server 3.5

To do so, click in the OPC studio in the menu "Server" and then "Import ETS[®] Project". This screen will be opened:



In order to import the file, the path of the saved .esf files has to be specified.

Click on "OPC ETS Exported File ..." and select the .esf file.

During the import definition file is created, which uses the OPC Server for sending telegrams. The OPC server automatically accesses to the Telegram definition file.

Further adjustments can be made too.

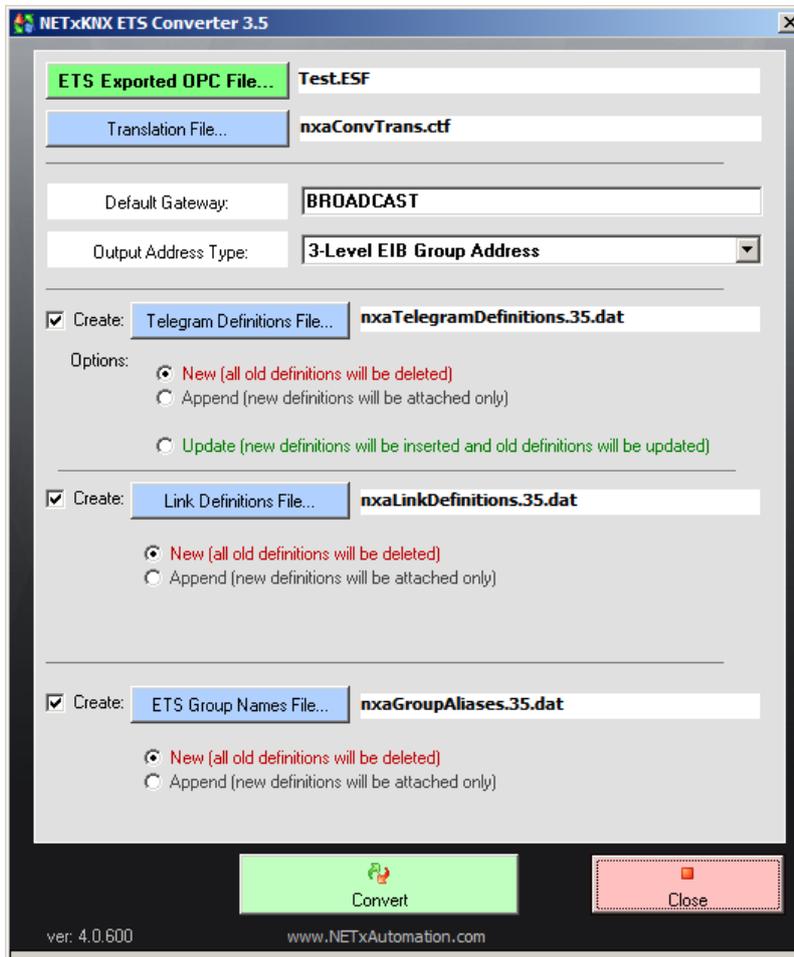
Direct(KNX): In this version, the **Default Gateway** is always BROADCAST, as only one gateway can be used. Broadcast means that all gateways will be addressed.

UnifiedDriver: You can select a **Default Gateway** that will be accessed standard, by typing in the IP address of that gateway.

The **Output Address Type** indicates whether the KNX group address, are using the two level or three level addressing schema.

NETx OPC Server 3.5

After choosing the file you can click on „Convert“.



The file was imported successfully and now work can be continued.

If the .esf File has to be updated, you can choose of three different ways to do that:

- 1) a **new** one should be created, then all old definitions will be deleted
- 2) **merge** the definitions, then the new definitions will be inserted and the old definitions will remain
- 3) **update** the definitions, then new definitions will be inserted and the old ones will be updated

In addition to the “Telegram Definitions” file, the “Link Definitions” file and the “Group Names” file can be generated. The “Link Definitions” contain the linking information at group address. The “Group Names” contain the names of the KNX group address that have been assigned within the ETS

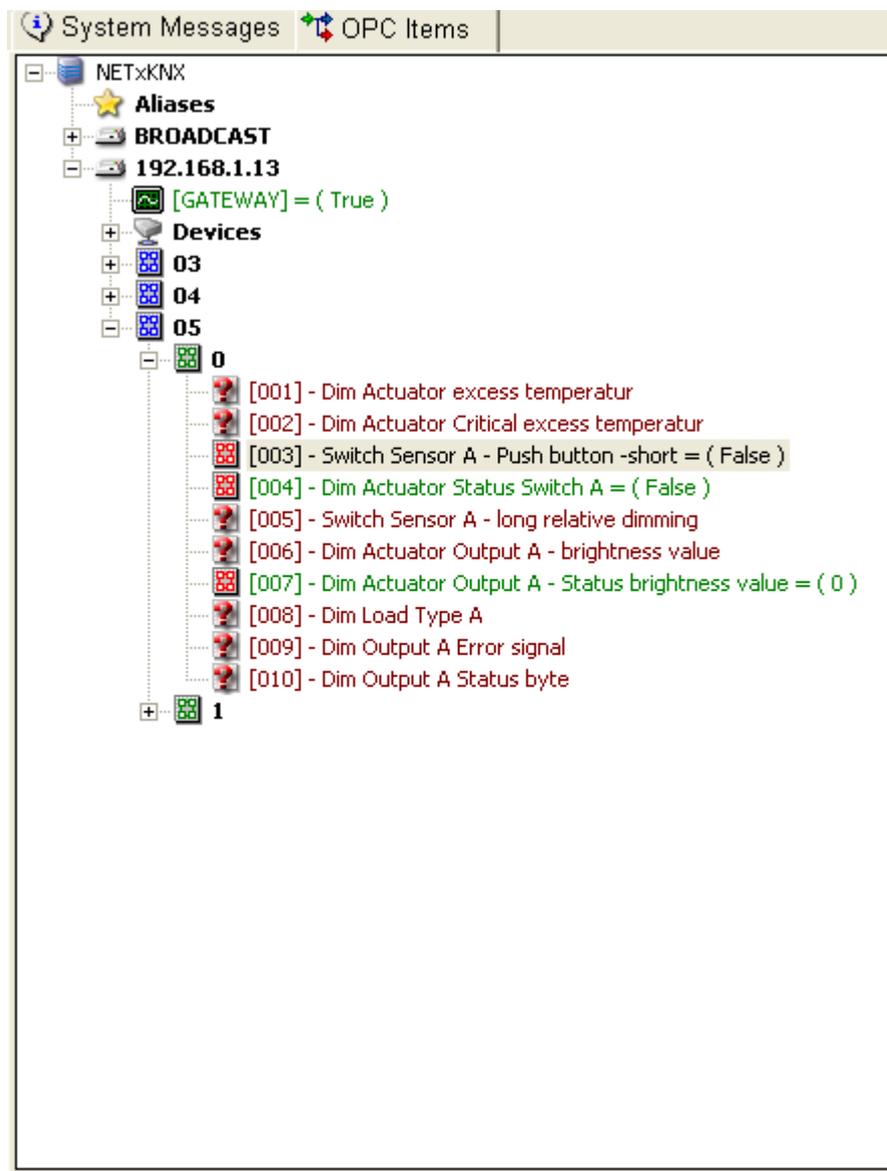
You can click on the corresponding option.

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The OPC tree

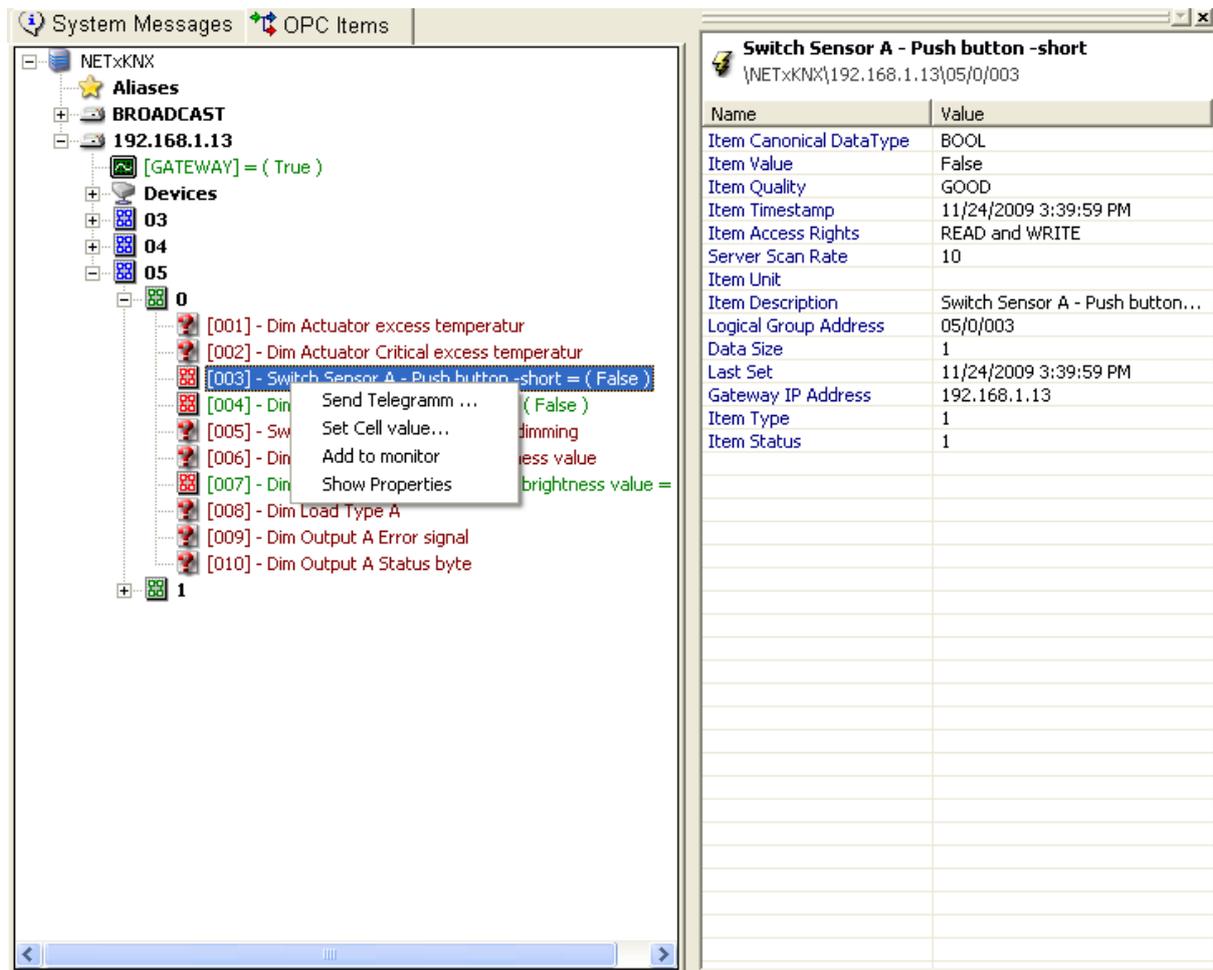
To list up all OPC items (data points), you can show the OPC tree can be used.

This works via the icon bar, where you can click on the icon "OPC Tree". The OPC Studio shows now a logically structured tree contain, with the individual data points.



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In order to show properties of the OPC items (value, quality, description, ...), you can click with the right mouse button on each item and choose "Show Properties". It appears another window that shows the properties of the OPC item.



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Import of a demo project

Each OPC server project is also referred as a Workspace. If, for example: a demo project has to be started, you must remember the following points.

A workspace consists the following directories:

- Config Files
- Data Files
- Event Files
- Log Files
- Project Files
- Log Files

In these folders, the entire OPC server configuration is stored. Each workspace is saved in a parent folder e.g.: "Home Demo OPC". This must be copied in the Workspace folder in the installation directory of the OPC server.

Direct(KNX):

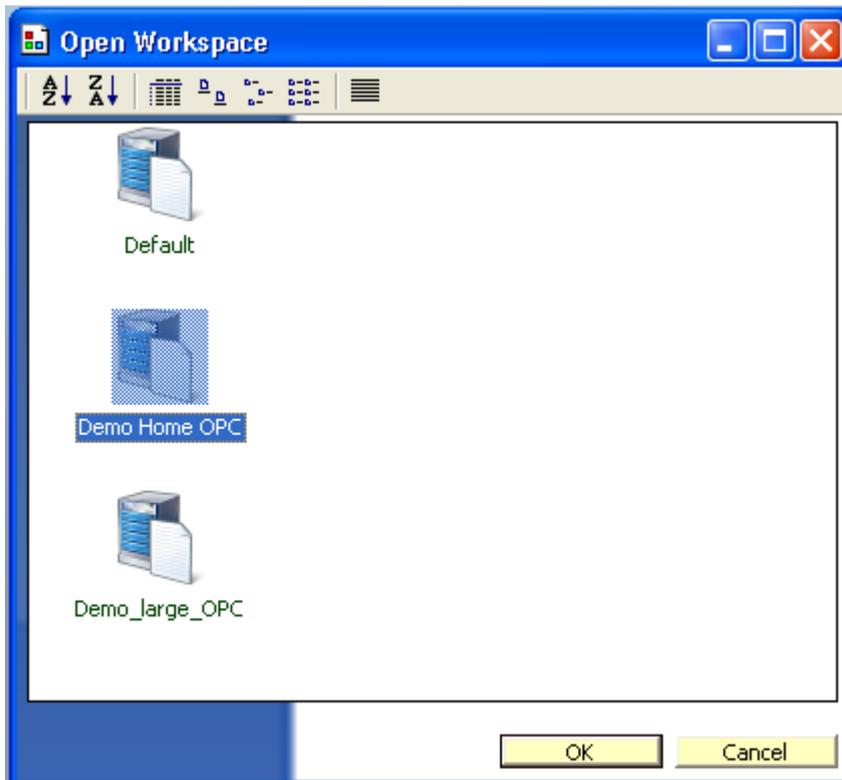
Adresse  C:\Programme\NETxAutomation\NETxKNX.OPC.3.5.KNX\Workspaces 

UnifiedDriver:

Adresse  C:\Programme\NETxAutomation\NETxKNX.OPC.3.5.UD\Workspaces 

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If this is done the OPC Studio can be opened. If you now click in the menu bar on "Workspace" and "Open Workspace ...", the following window will appear:



Now you can select the particular workspace by clicking on the symbol and confirm with the "OK" button.

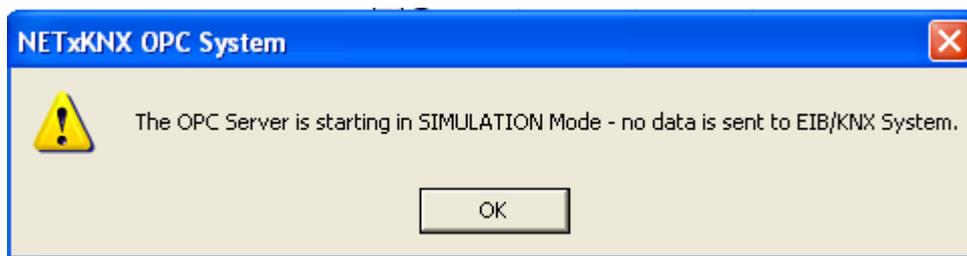
NETx OPC Server 3.5

The simulation mode

For testing or demonstration purposes, the OPC Server can also be started in a simulation mode. In this mode no data from the KNX bus will be sent or received, and Random data is generated. The simulation mode can be started with the button "Simulation" in the menu bar.



After clicking it, this message will appear:



Remarks

- The OPC Studio is only the user interface of the OPC Server. The OPC Server runs in the background, even if the OPC studio is closed. The server can only be stopped by clicking the button "Shutdown".



- If the OPC Server is Shutdown before the OPC Studio is closed, the last workspace and the last mode of the OPC Server (normal or simulation) are loaded after the restart.
- By default, the server is registered as a service, but it can also be registered as a COMServer.

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Important own notes