

Von

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Lohr am Main
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Installation guide: CoDeSys Ethernet I/P and PROFINET for ctrlX CORE

2022-02-07 First Revision

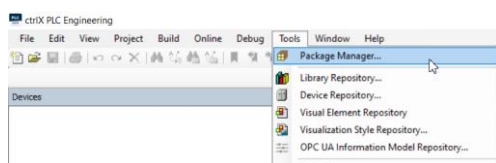
1 Preparation

Bosch Rexroth provides CoDeSys fieldbus communication drivers for Ethernet IP and PROFINET.

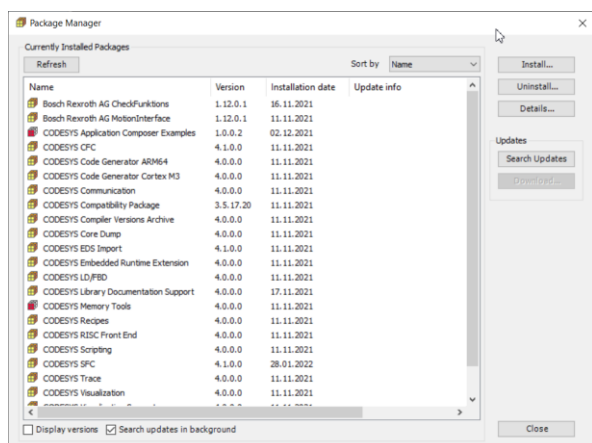
These drivers are provided by zip files and contain all the relevant packages for running the fieldbus drivers on ctrlX CORE. Unzip the file to your file system.

1.1 Start Package Manager

Start ctrlX PLC Engineering and select menu item *Tools -> Package Manager*.



Open the Package Manager dialogue by a double click.



Press button *Install ...* in dialogue Package Manager to load the packages to install.

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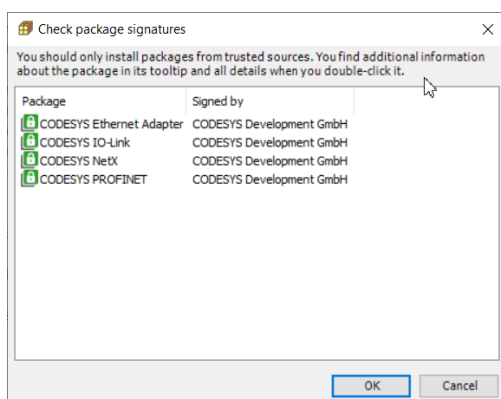
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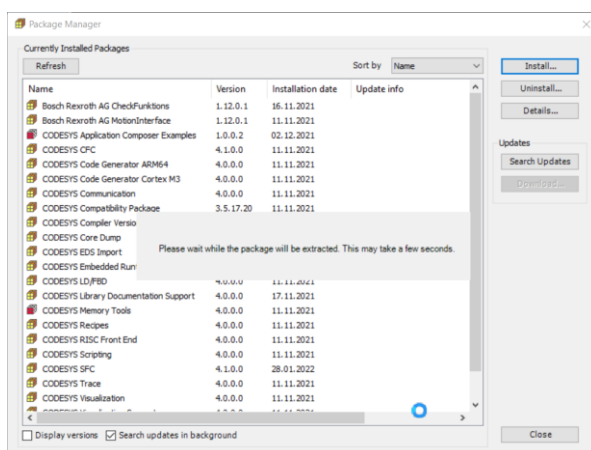
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1.2 Installation of the packages

1. Select CODESYS EthernetIP or CODESYS PROFINET package in the file browser and press button *Open*.
2. A hint is shown regarding installing packages from trusted sources. Confirm this dialogue with *OK*.



Setup is prepared now.



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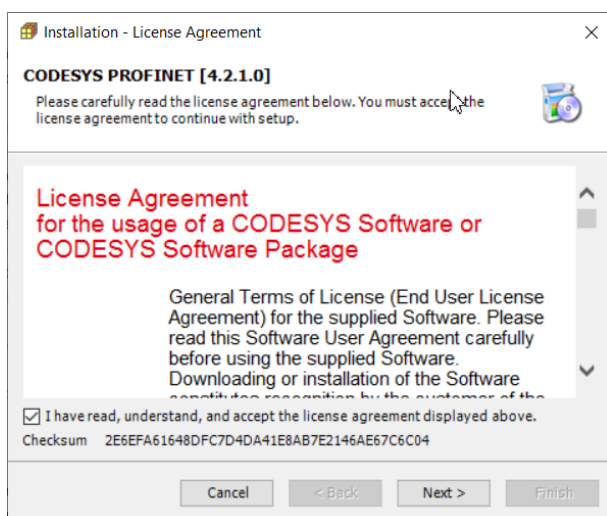
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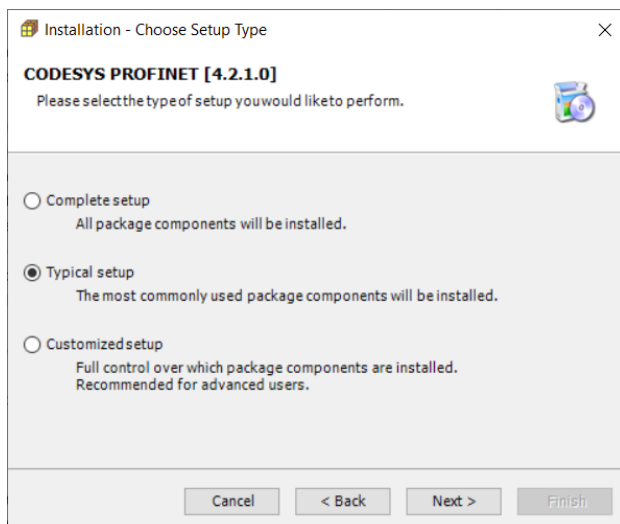
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- To confirm the licensing agreement, check the corresponding box and press button *Next*.



- Choose setup Type *Typical setup* and press button *Next*.



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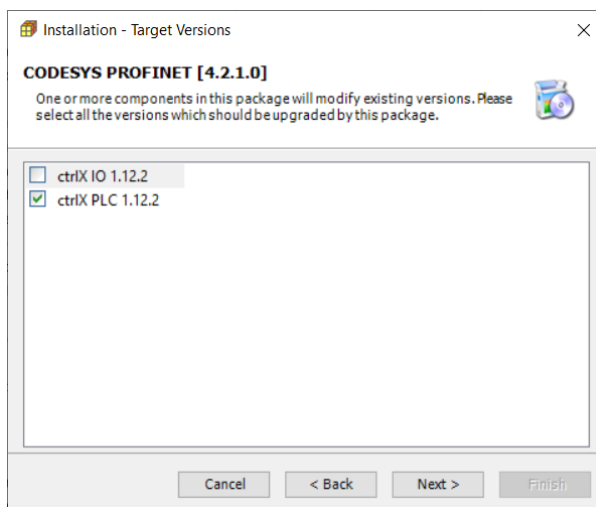
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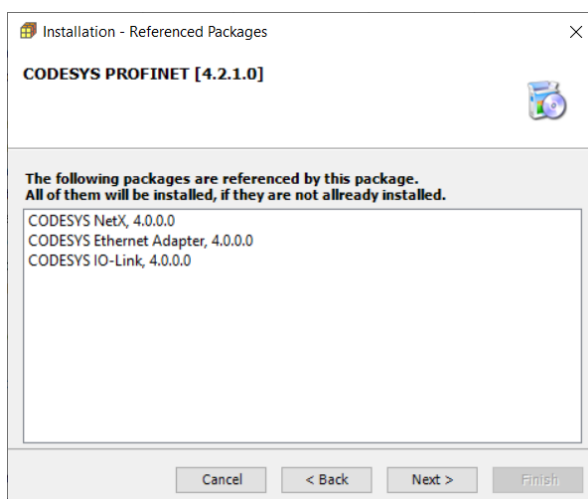
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5. Select profile *ctrlX PLC* for installation. The package is not supported by the *ctrlX IO Engineering* does not support this package. Then press button *Next*.



6. An overview is shown regarding the packages to be installed. Continue with button *Next*.



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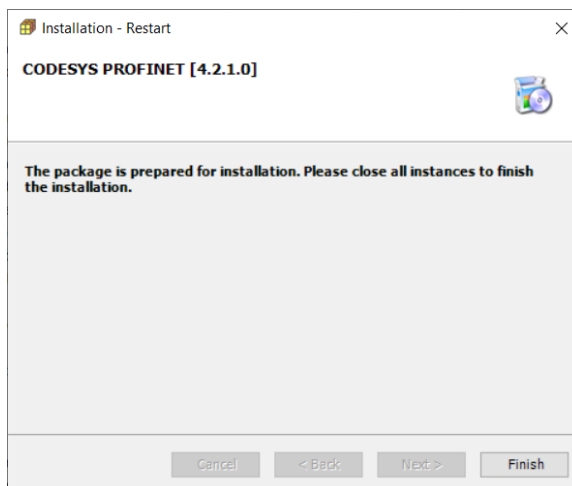
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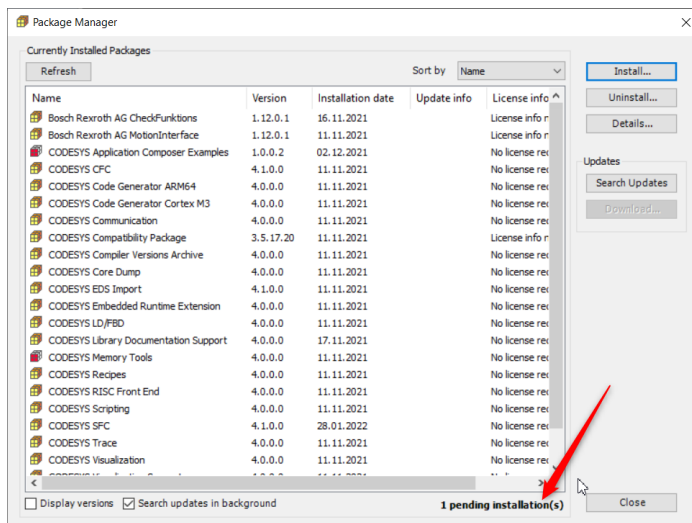
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- The preparation of the package installation is completed now. Confirm the following dialogue by pressing button *Finish*.



- Now package manager dialogue indicates a pending installation.



- Press button *Close* and close application ctrlX PLC Engineering.

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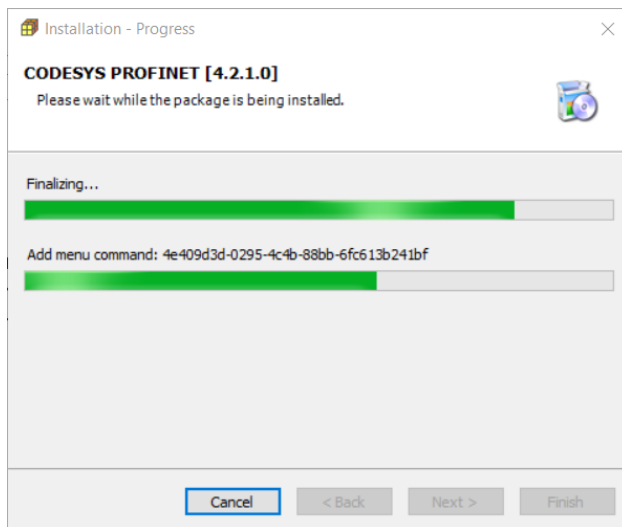
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10. After closing ctrlX PLC Engineering the Package Manager starts the installation of the selected packages automatically. The installation progress is indicated by a dialogue.



Please wait until the installation is completed.

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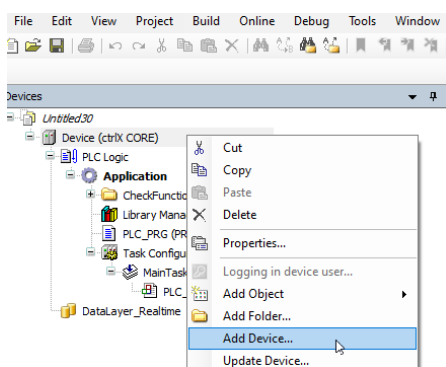
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1.3 **Running CoDeSys fieldbus drivers on ctrlX CORE**

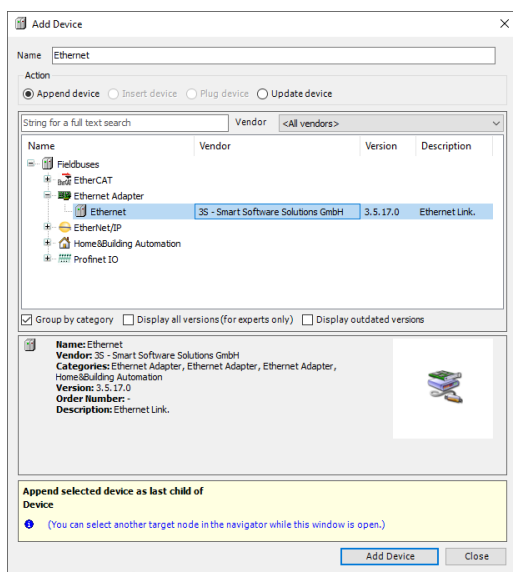
After successful installation the packages are listed in the Package Manager dialogue provided by ctrlX PLC Engineering.

To use the drivers with the application the following steps have to be done:

1. Click on the device node (e.g. Device (ctrlX CORE)) in the Devices view and press the right mouse button to open the corresponding menu. Execute the command *Add Device...*



2. Select the Ethernet-Device provided by the node *Fieldbuses* -> *Ethernet Adapter* and press button *Add Device*.

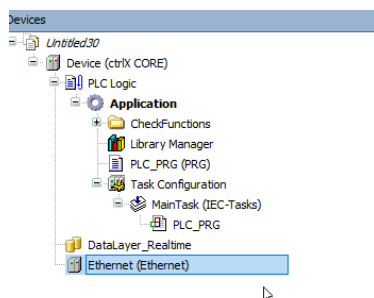


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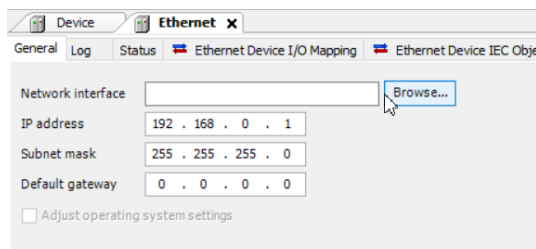
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3. The Ethernet node has been added to the Device tree.

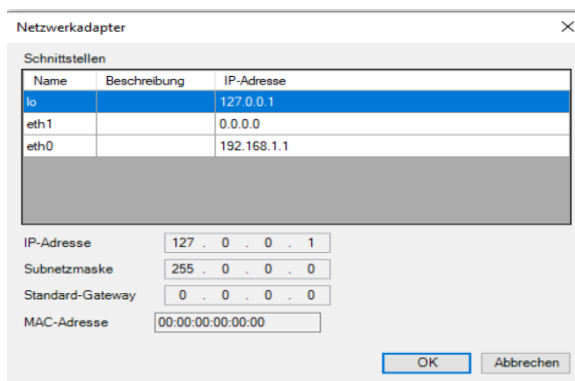


Mark the Ethernet node and execute the Add Device... command by right mouse click. Dialogue *Add Device* is shown now.

4. Open the *Browse* button on the tab *General*.



The available network adapters on ctrlX CORE are shown afterwards. Select the network adapter for the fieldbus communication and confirm by pressing button *OK*.



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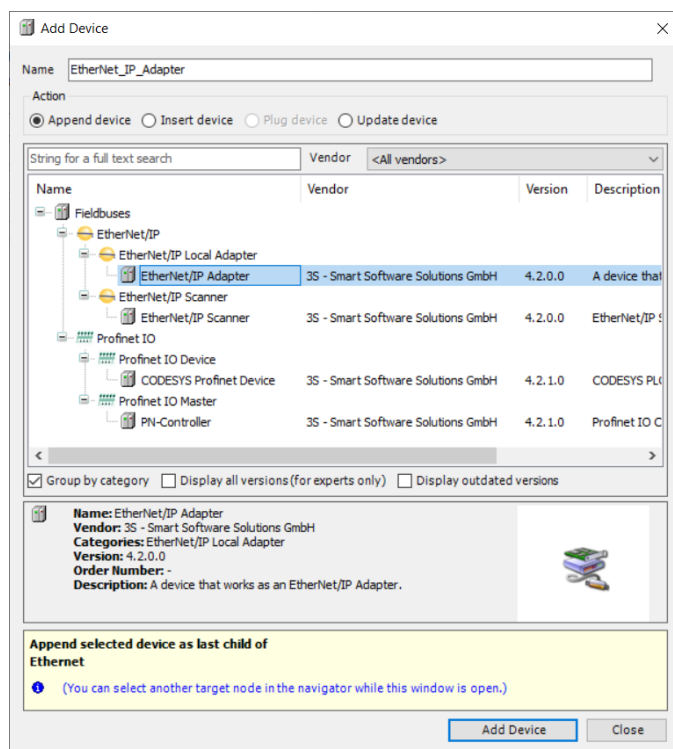
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Be aware if you select eth0 and the check box *Adjust operating system settings* is enabled the network adapter is reconfigured after login. This changes the general device communication settings!! It is recommended to create multiple IP addresses on ctrlX CORE directly and refer to them.

PROFINET Device should not be configured on eth0, because the IP address may be changed by the connected PROFINET controller!

5. Choose the desired fieldbus driver and confirm your selection by pressing button *Add Device*.



6. The functionality of a CoDeSys fieldbus driver is implemented using two automatically generated IEC tasks. One task handles the cyclic IO data exchange, the other the acyclic communication (services). The functionality can be derived from the respective task name. Please note that the associated task priorities for the ctrlX CORE must be adjusted. The IO task priority (default 1) should be set higher, e.g.

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30, the service task (default priority 30) should be set to low, e.g. 39. These tasks are also removed again when the fieldbus node is removed from the project.

7. Log in to the ctrlX Device to run the fieldbus driver. This is necessary to identify the available network adapter and to enable the scan mechanisms (if supported) for the specific fieldbus driver.
8. Now the fieldbus is ready for configuration of IO data. This can be done by the context menu of the Device node. Use command *Add Device...* for adding IO modules.
For further Help refer to the help of ctrlX PLC Engineering.