

Platform MX6

Software option S105

CODESYS Profinet Device

1 Identification

Identification	
Option ID	S105
Order number	S-05000307-0000
Short name	CODESYS Profinet Device
Brief description	With this software option it is possible to operate the control as a Profinet Device in a Profinet network.
Revision ID document	V3.0

2 System requirements and restrictions

System requirements and restrictions	
Supported platforms and devices	Berghof PLC devices of the MX6 platform (e.g.: MCs, CCs, DCs). Further information regarding availability and compatibility can be found in the section - compatibility tables - of the price list.
Firmware	MX6-PLC from version 1.16.0, CODESYS from 3.5 SP10 Patch 1
Additional requirements	<ul style="list-style-type: none">— IP Networkconnection to a Profinet Master— CODESYS IDE >= 3.5.10.0
Restrictions	—

3 Product description

With this expansion it is possible to run the control as Profinet Device in an IP-Network with a Profinet Master (z.B. of the company Siemens).

The Profinet Device is based on a standard ethernet interface and the software Profinet Device Stack from the company 3S. Through a variable IO description the Profinet Device can individually adapt to the given requirements and circumstances. The configuration of the Profinet Device is done easily and comfortably through the CODESYS IDE. The sizes of the input and output areas, the Profinet devicename and further parameters and options of the Profinet Devices are set in the IO configuration of the particular CODESYS project. Application scenarios can be found in the plant network of the automotive sector, in intralogistics or process automation where Profinet is often given as communication protocol.

The Profinet Device is completely integrated into the CODESYS development environment. An installation of an additional module is not necessary.

Without valid license the Profinet Device can be run for 30 minutes without restrictions in the demo mode. After the installation of the software license it is possible to use the Profinet Device function on the control without temporal limitation. The licensing takes place pro control.

For full documentation of the Profinet-Device configuration menus please check the CODESYS Online help under:
https://help.codesys.com/webapp/pnio_f_slave_device;product=core_ProfinetIO_Configuration_Editor;version=3.5.15.0

4 Technical data

Technical data	
Profinet Version	V2.3
Profinet Conformance Class	CC-A
Transmitting medium	Ethernet 100 Base TX/FX
Profinet Norm	Technical Specification for PROFINET IO Version 2.3Ed2MU3 – Date: March 2016

5 Quick Start Guide

With this illustrated Quick Start Guide it is possible to create a functional Profinet Device within a few minutes.

5.1 Preparatory tasks

In the web configuration of the control the „Profinet Device Mode“ for the ETH1 Interface under the configuration item „Network“ has to be selected. The ETH0 interface can't be in the same subnet while using Profinet. The control needs to reboot for the settings to become operative.



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(plcactive)

Configuration

Network

[CAN](#)

[Time and Date](#)

[VNC-Server](#)

[FTP-Server](#)

[Users](#)

[SVC Config](#)

[Reset Config](#)

System

[Info](#)

[Licenseinfo](#)

[Update](#)

[Reboot](#)

PLC-Manager

[Control](#)

[Config](#)

[Application Info](#)

[Application Files](#)

[Font Files](#)

Diagnostics

[PLC Log](#)

[System Log](#)

[Ethernet](#)

[CAN](#)

[Storage](#)

[System Dump](#)

Network Configuration

COMMON

Hostname

DNS Server 1

DNS Server 2

ETH0

Mode:

IPAddress

NetMask

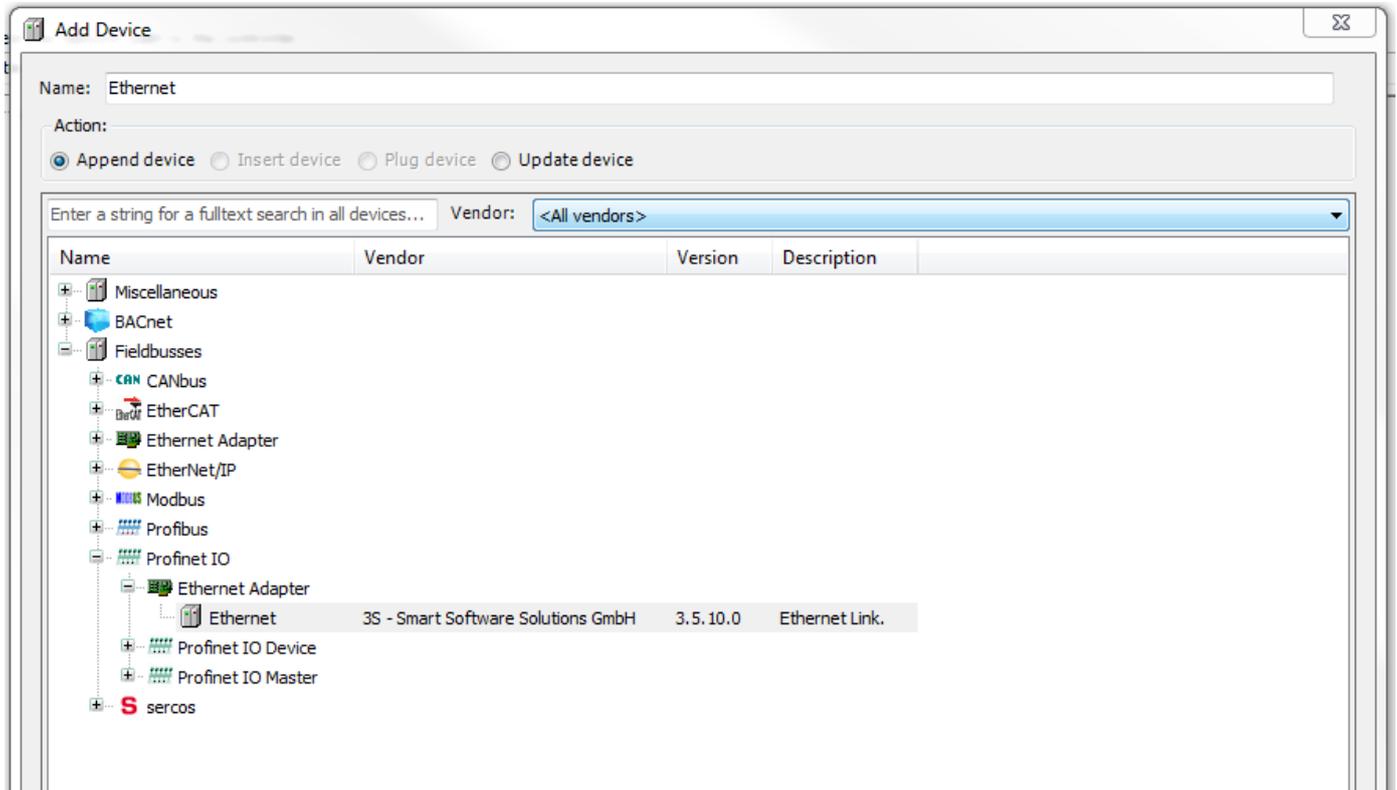
Default Gateway

ETH1

Mode:

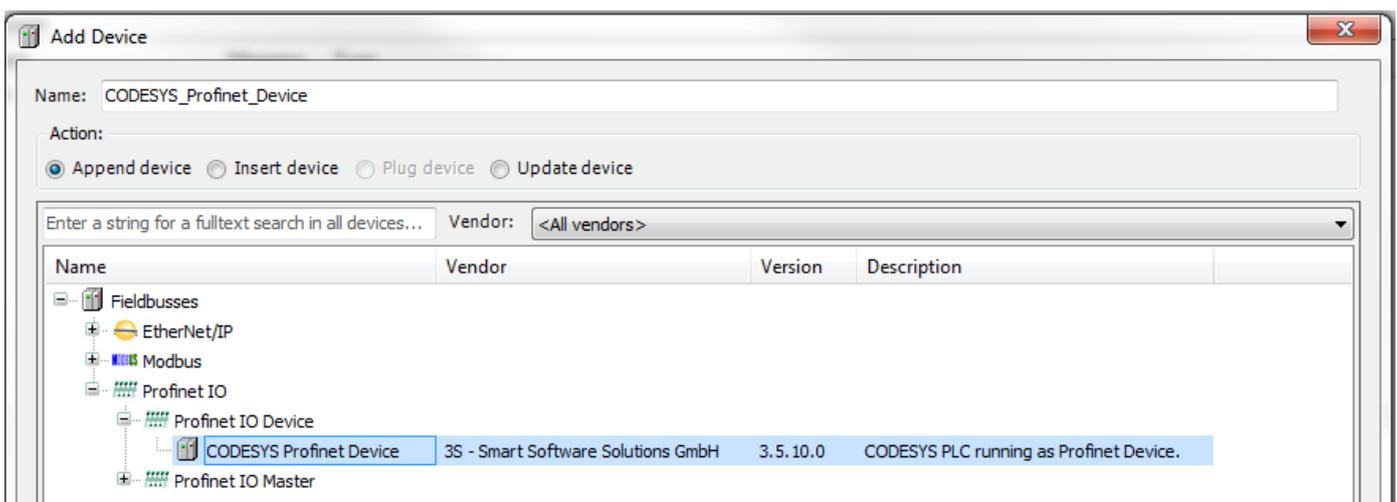
5.2 Addition of the ethernet adapters

At first a profinet ethernet adapter has to be integrated into the CODESYS project, through the CODESYS function “Add Device”.



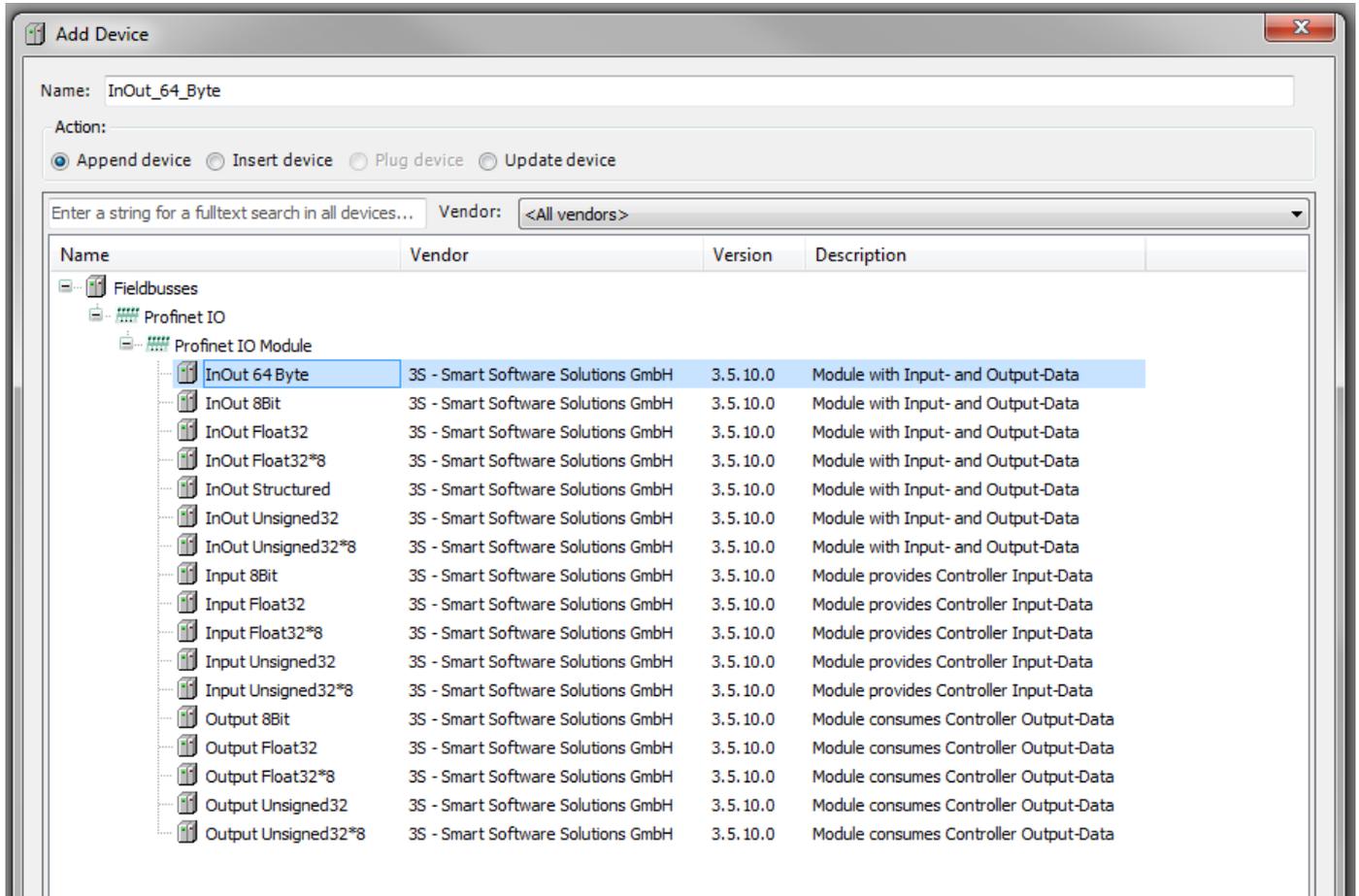
5.3 Addition of the profinet adapters

After that a profinet device can be hung under the ethernet adapters.



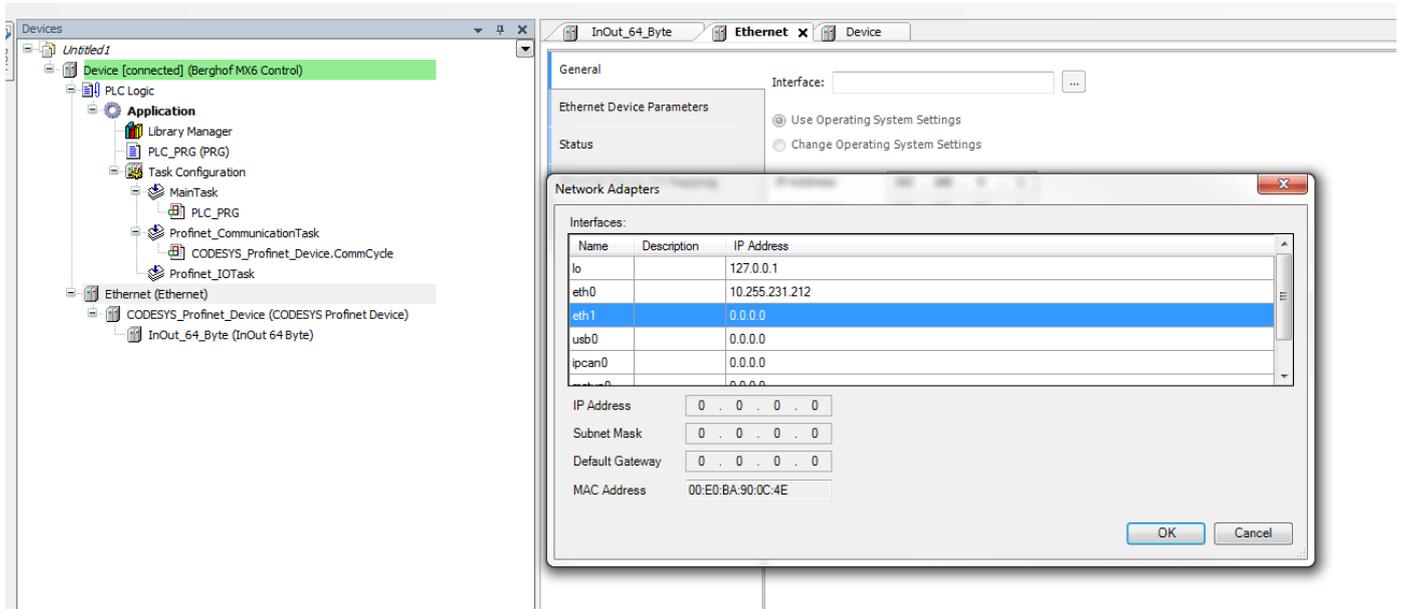
5.4 Configuration of the profinet input und outputs

It is now possible to integrate one or various IO modules beneath the profinet device adapters.
 The profinet device IO configuration has to match the profinet master IO configuration.



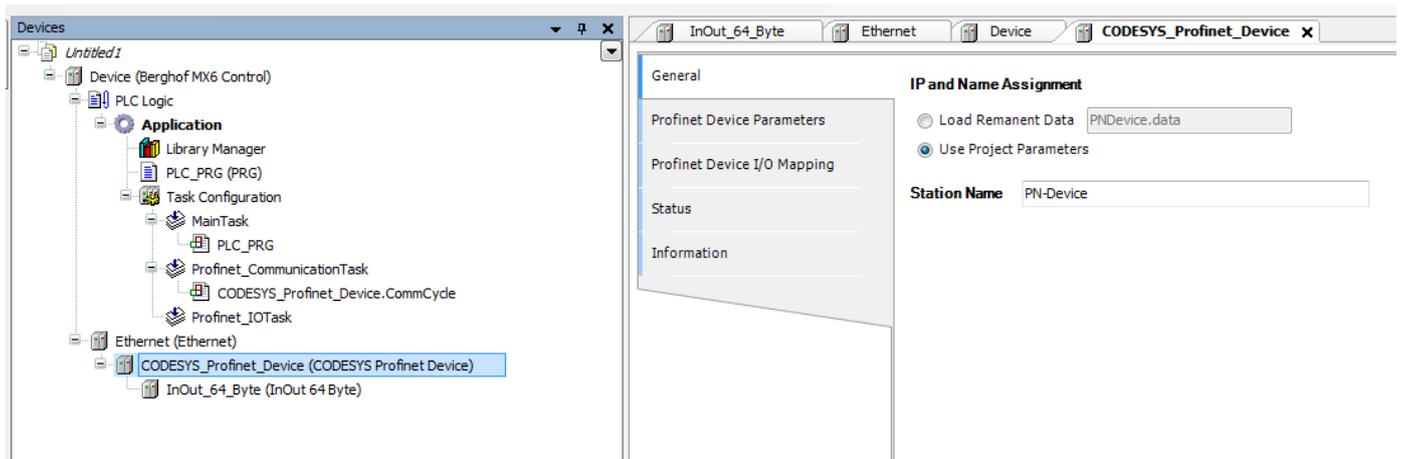
5.5 configuration of the ethernet adapters

To configure the ethernet adapter you have to log in once to the control which you want to be your profinet device. Now you have to select the eth1 network adapter under the configuration item „interface“. The option “Change Operating System Settings” is not available on Berghof systems and must not be selected.



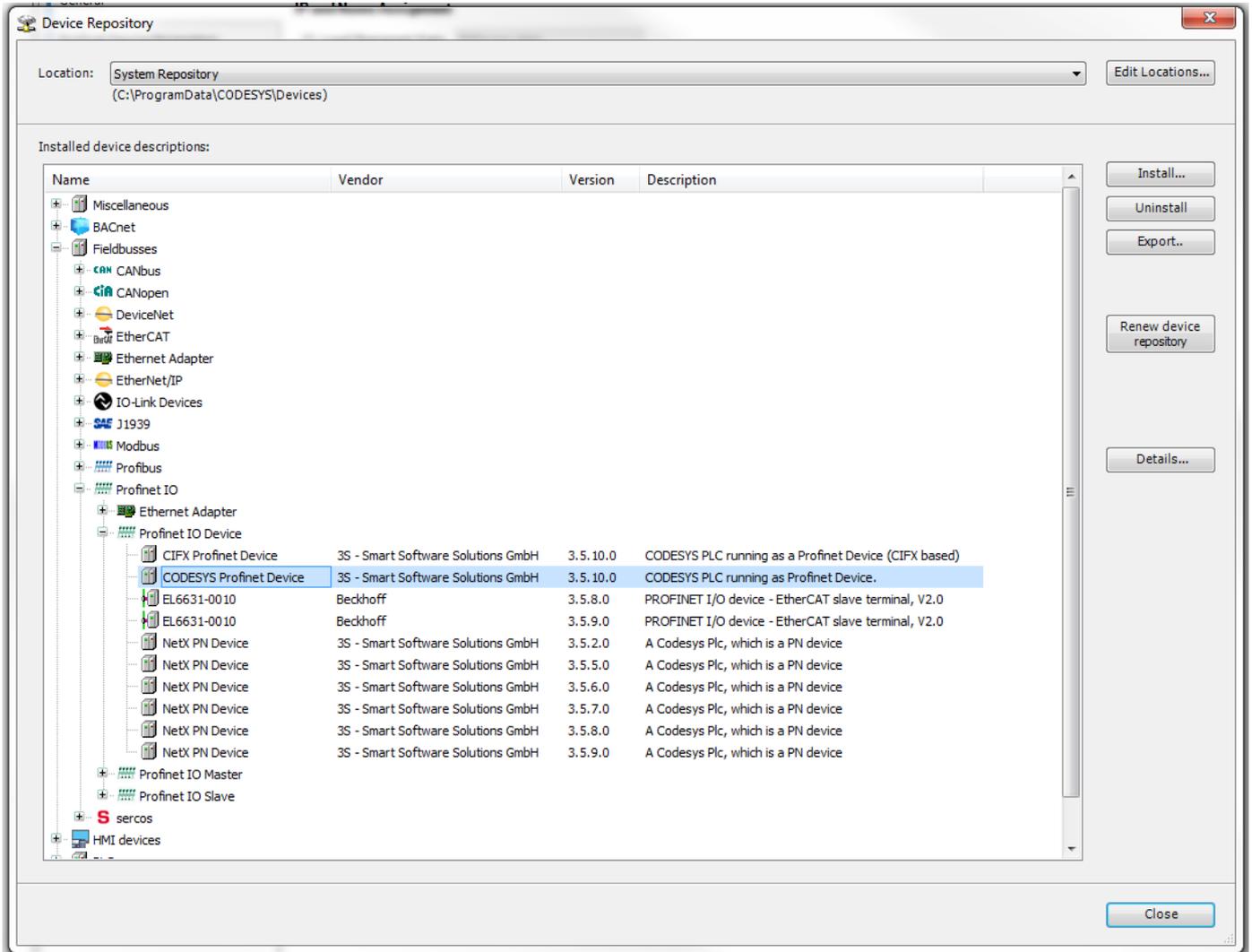
5.6 configurations of the profinet devices

The station name of the profinet device is set in the profinet device configuration. The profinet master identifies the profinet device through the defined name (here: PN-Device) den hier festgelegten Namen (here: PN-Device).



5.7 export of the profinet device description GSDML

The GSDML device description can be created through the CODESYS device repository. Further, like shown in the Image, the CODESYS profinet device is selected and exported with the Button “export”. The result is a Zip-archive in which, besides an IO description in CODESYS format, a GSDML file is that can become a profinet master.



After that exists a profinet device with variable IO configuration in the profinet master. The IO configuration in the profinet master has to be suitably set with the profinet device.

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