Platform MX6
Software option S103
CODESYS CANopen Master

1 Identification

Identification	
Option ID	S103
Order number	S-05000305-0000
Short name	CODESYS CANopen Master
Brief description	With this software option, it is possible to operate the PLC as a CANopen Master in a CAN bus network.
Revision ID document	V1.0

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). Additional information regarding availability and compatibility can be found in options section of the product catalog.
Firmware	All
Additional requirements	— Berghof MX6 PLC device with a free CAN interface — All CODESYS IDE
Restrictions	—

BERGHOF

3 Product description

The CANopen support in CODESYS is based on the standard implementation of the CAN-Interface (CAN Minidriver interface). If your target device programmable with CODESYS is equipped accordingly you can immediately use CODESYS CANopen.

CODESYS CANopen Manager offers:

- A CANopen Manager configurator based on EDS and DCF files fully integrated in the Development System CODESYS
  No additional tools required for the configuration of the bus system or the I/O data.
- A CANopen communication stack in form of a CODESYS CiA 301 library
  The protocol stack is portable across different platforms and does not have to be fully implemented on the device.
  The IEC 61131-3 Development System compiles the stack and the application code into native machine code and loads it onto the controller
- A CiA 405 application interface for the diagnosis and use of SDOs
  Extensive functionality without needing any additional software tools

Without valid license the CANOpen Manager runs for 30 minutes without restrictions in the demo mode.
After the installation of the software license it is possible to use the CANOpen Manager on the PLC without temporal limitation.
The licensing takes places per PLC.

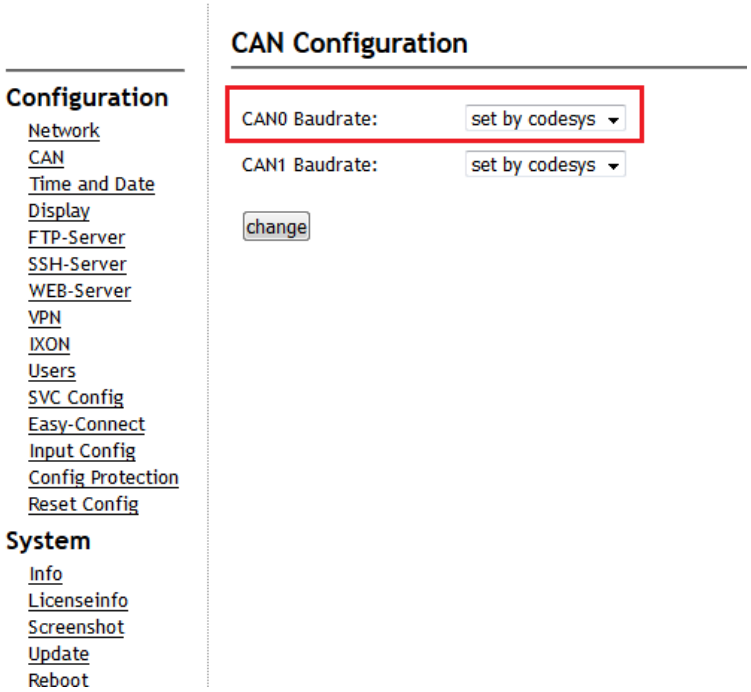
For full documentation of the different CANOpen Manager and Device configuration menus please check the CODESYS Online help under:
https://help.codesys.com/webapp/_can_f_canopen_manager;product=core_canbus_configuration_editor;version=3.5.15.0

4 Quick Start Guide

With this illustrated quick start guide it is possible to create a functional CANOpen Manager (Master) within a few minutes.

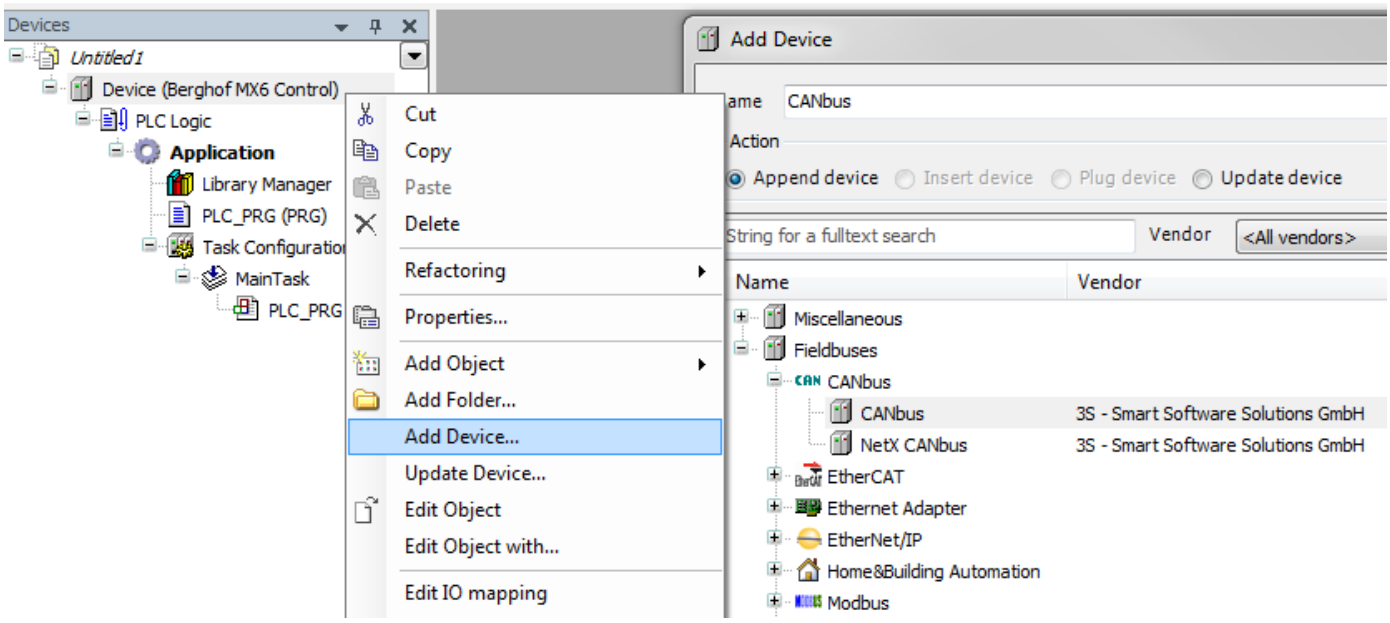
4.1 Preparatory tasks

In the web configuration of the PLC for CAN the baudrate for the intended CAN interface must be set to “set by codesys”.



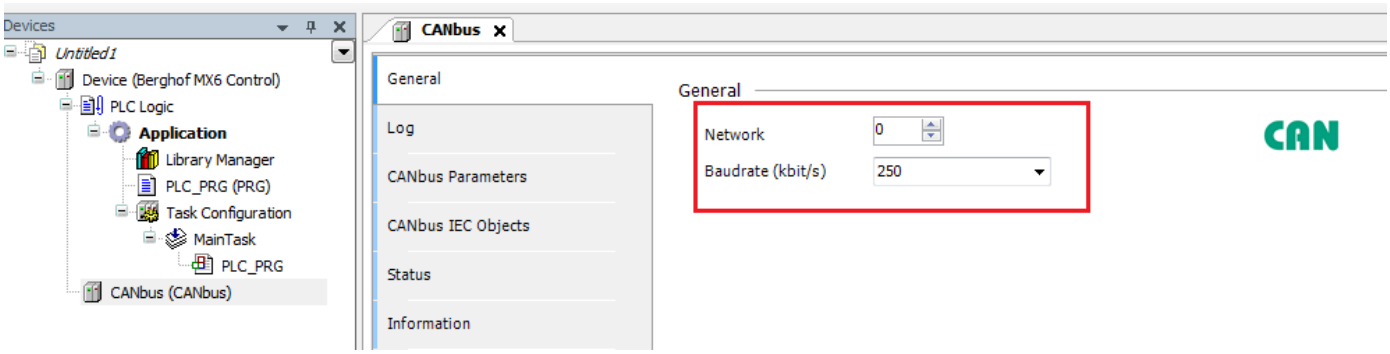
4.2 Addition of the CAN interface

At first a CAN bus interface has to be integrated into the CODESYS project, through the CODESYS function “Add Device” by right clicking on the PLC-Device in the devices window in CODESYS.



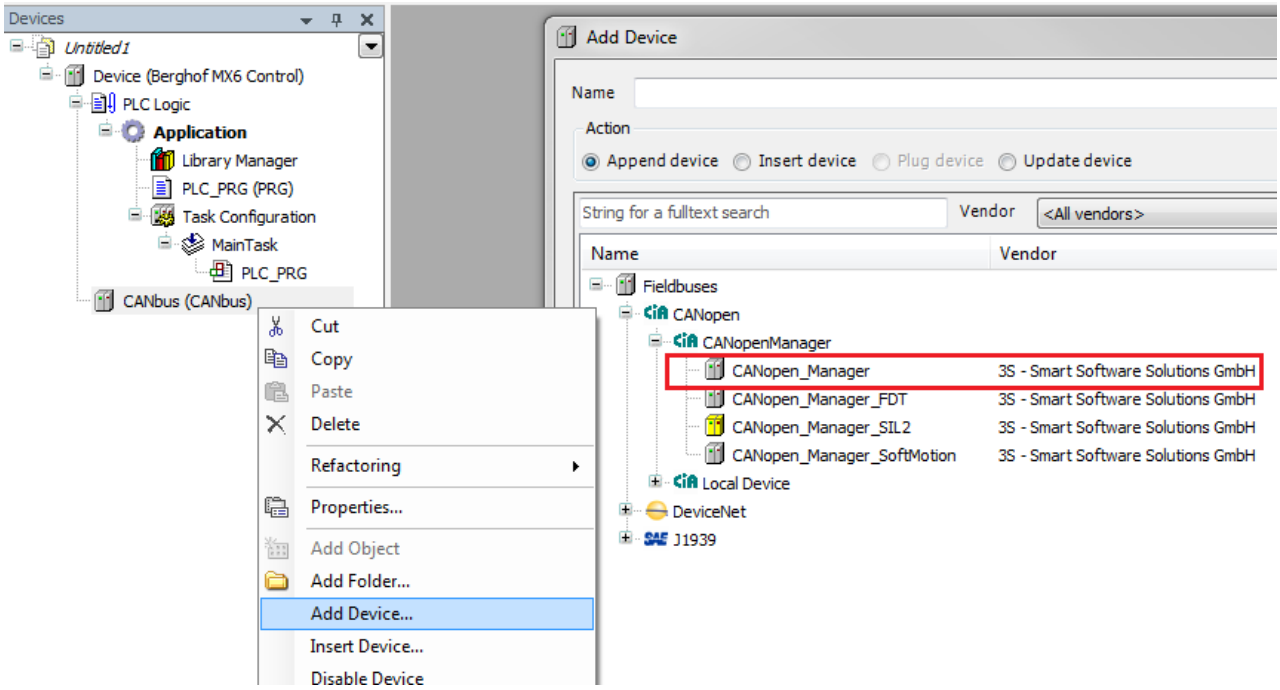
4.3 Configuration of the CAN interface

With a double click on the newly added CAN interface you can open the configuration.
Set the the network same as the intented CAN interface in the web configuration and select the baudrate for the network.



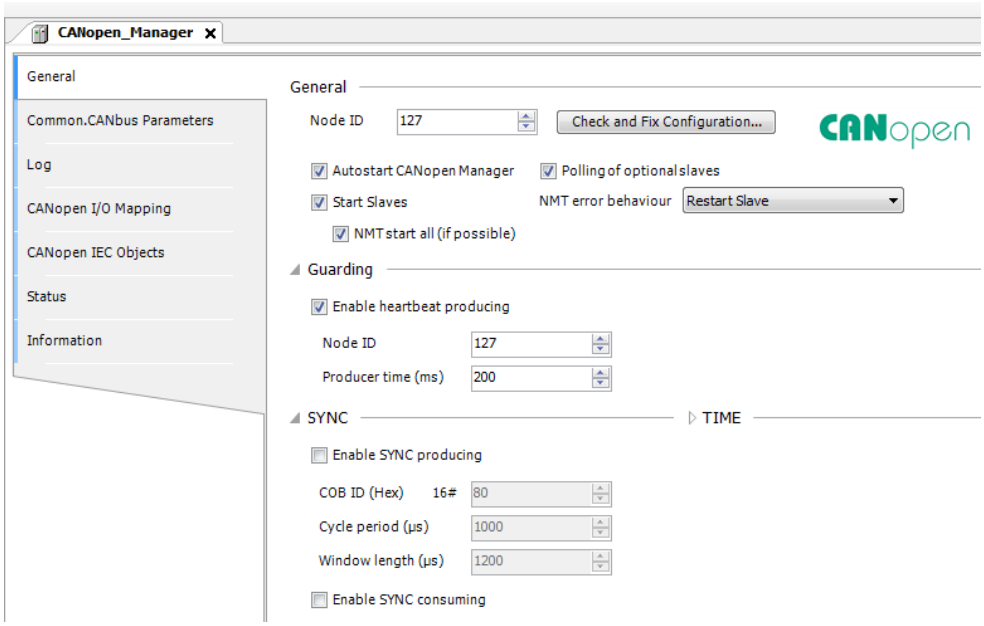
4.4 Addition of the CANOpen Manager

After that the CANOpen Manager can be added under the CAN Interface.



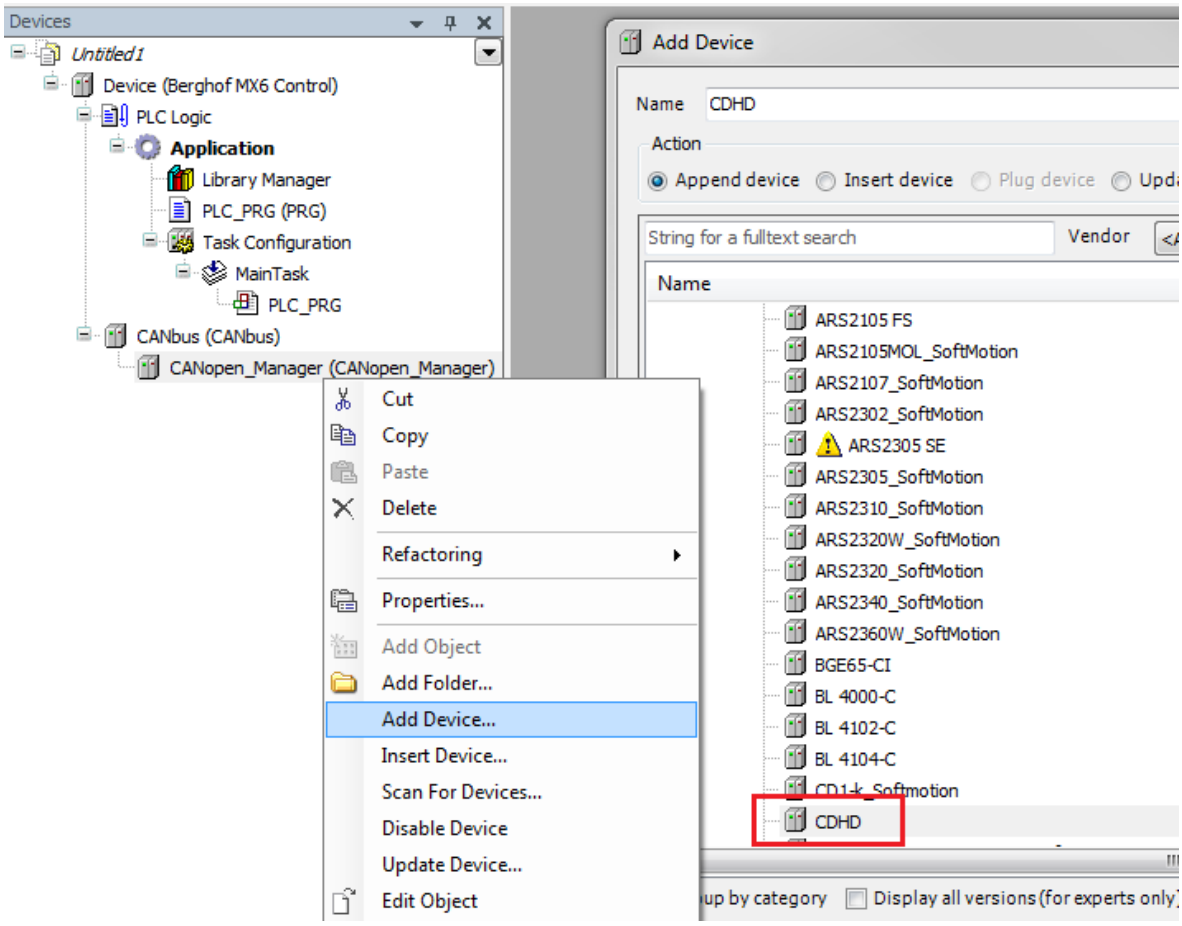
4.5 Configuration of the CANOpen Manager

With a double click on the newly added CANOpen Manager, you can open the configuration. Check that the NodeID is outside the range of the CANOpen devices. Check if your CAN devices support heartbeat consuming or need a CAN sync and set the options accordingly to your CAN devices.



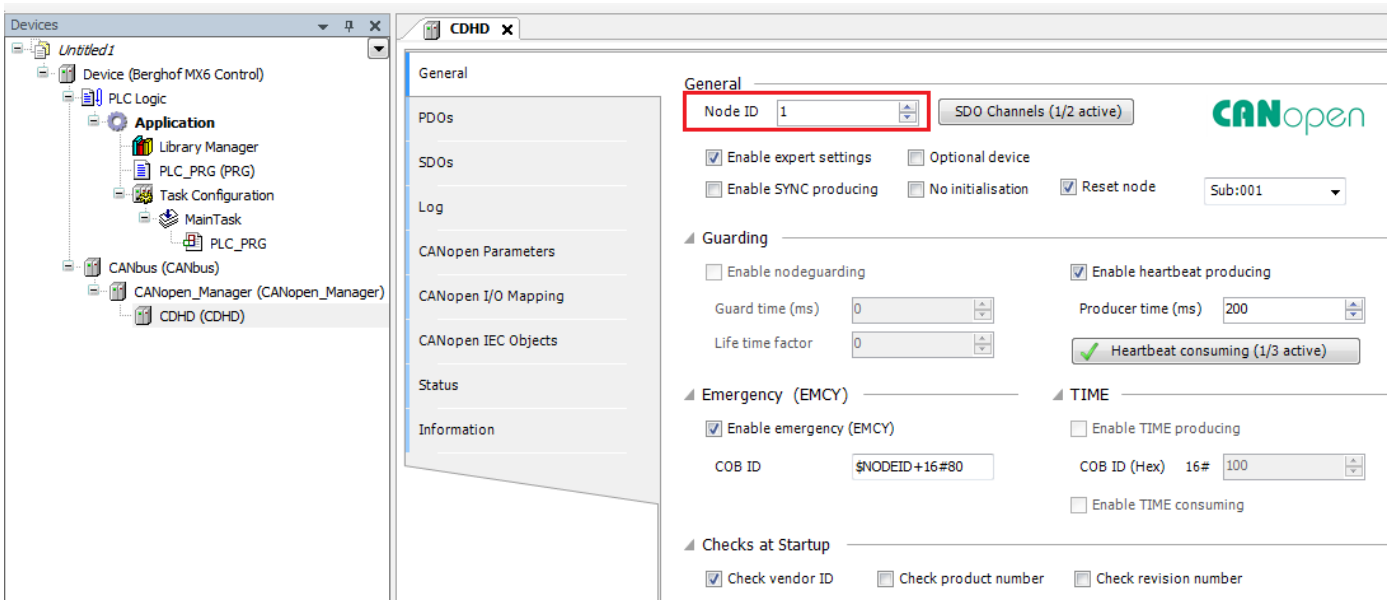
4.6 Addition of a CANOpen device

By using the “Add Device” function on the CANOpen Manager it is now possible to add your CANOpen devices. Please be aware that your CANOpen device will only be shown in the device list if the hardware description file (EDS) has been installed in CODESYS.



4.7 Configuration of the CANopen devices

With a double click on the newly added CANOpen device, you can open the configuration.
Check that the NodeID of the the device matches the hardware and check the other needed settings like optional device and enable the heartbeat consuming or the node guarding for device monitoring.



Repeat the adding and configuration of CANOpen devices until the device configuration in CODESYS matches the real hardware configuration which is connected to the PLC. When this is done download the project onto the PLC and start the application.