

# Platform MX6

## Software option S104

### CODESYS EtherCAT Master

## 1 Identification

Identification	
Option ID	S104
Order number	S-05000304-0000
Short name	CODESYS EtherCAT Master
Brief description	With this software option, it is possible to operate the control as an EtherCAT Master in an EtherCAT 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	<ul style="list-style-type: none"><li>– Berghof MX6 PLC with a free Ethernet Interface</li><li>– All CODESYS V3 IDE</li></ul>
Restrictions	–

### 3 Product description

Integrated EtherCAT master support in the IEC 61131-3 development system

EtherCAT is a powerful real-time Ethernet fieldbus system with an open protocol. With its short cycle times, low jitter values and different network topologies, the system is standard in many industrial automation application today.

The EtherCAT master integration in the IEC 61131-3 development system CODESYS comprises

- an integrated configurator for the master and the connected slaves
- a portable protocol stack in form of a CODESYS library
- a runtime system component for direct access to the Ethernet interface
- diagnostics functionality in the Development System and possibility to monitor the process through the IEC 61131-3 application
- optional support of EtherCAT gateway modules to other fieldbus systems such as IO-Link, Profibus or the like

Advantages of the seamless integration:

One tool with an integrated infrastructure for PLC programming and fieldbus configuration:

- Simple configuration
- Fewer sources of error
- Fast engineering

Without valid license the EtherCAT Master runs for 30 minutes without restrictions in demo mode.

After the installation of the software license it is possible to use the EtherCAT Master on the PLC without temporal limitation.

The licensing takes places per PLC.

For full documentation of the different EtherCAT Master and Device configuration menus please check the CODESYS Online help under:

[https://help.codesys.com/webapp/\\_ecat\\_f\\_configurator;product=core\\_EtherCAT\\_Configuration\\_Editor;version=3.5.14.0](https://help.codesys.com/webapp/_ecat_f_configurator;product=core_EtherCAT_Configuration_Editor;version=3.5.14.0)

## 4 Quick Start Guide

With this illustrated Quick Start Guide it is possible to create a functional EtherCAT Master within a view minutes.

### 4.1 Preparatory tasks

In the web configuration of the control the „ethercat“ mode for the ETH1 Interface under the configuration item „Network“ has to be selected. The control needs to reboot for the settings to become operative.

**Configuration**

**Network**

[CAN](#)

[Time and Date](#)

[Display](#)

[FTP-Server](#)

[SSH-Server](#)

[WEB-Server](#)

[Users](#)

[SVC Config](#)

[Config Protection](#)

[Reset Config](#)

**System**

[Info](#)

[Licenseinfo](#)

[Screenshot](#)

[Update](#)

[Reboot](#)

**PLC-Manager**

[Control](#)

[Config](#)

[Application Info](#)

[Application Files](#)

[Font Files](#)

**Diagnostics**

[PLC Log](#)

[System Log](#)

[Ethernet](#)

[CAN](#)

[Storage](#)

### Network Configuration

---

**COMMON**

---

Hostname

DNS Server 1

DNS Server 2

**ETH0**

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Mode:

IPAddress

NetMask

Gateway

**ETH0:1**

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Mode:

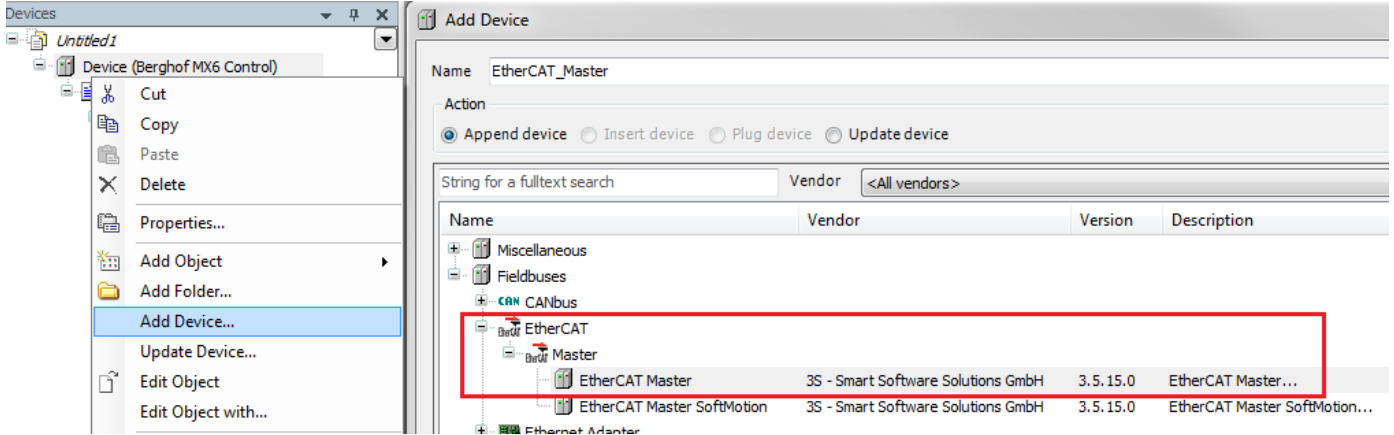
**ETH1**

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Mode:

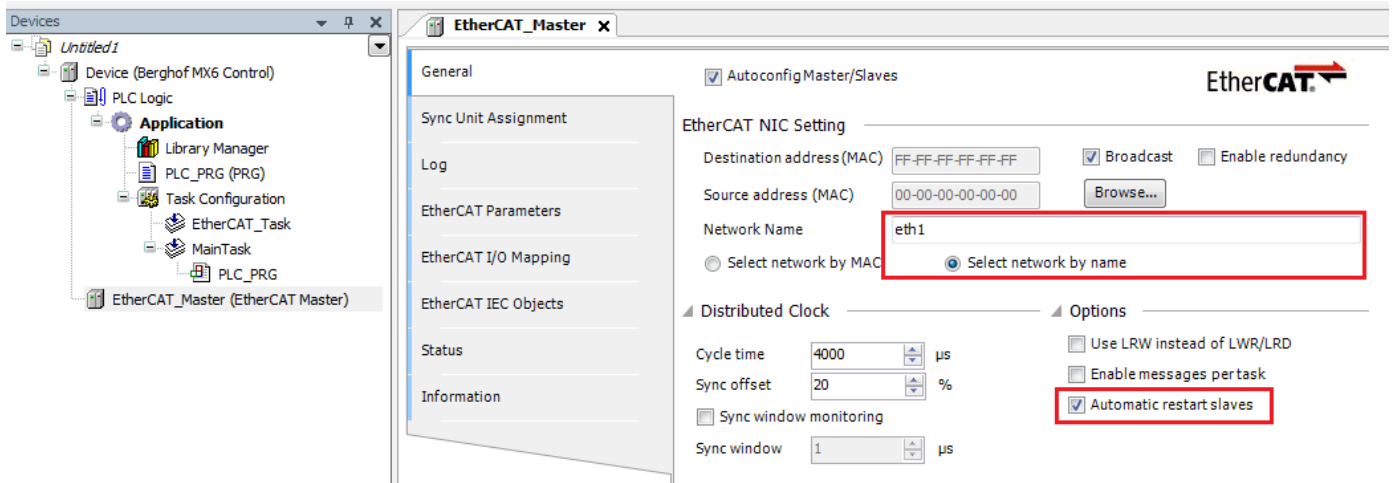
## 4.2 Addition of the EtherCAT Master

At first the EtherCAT Master 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.



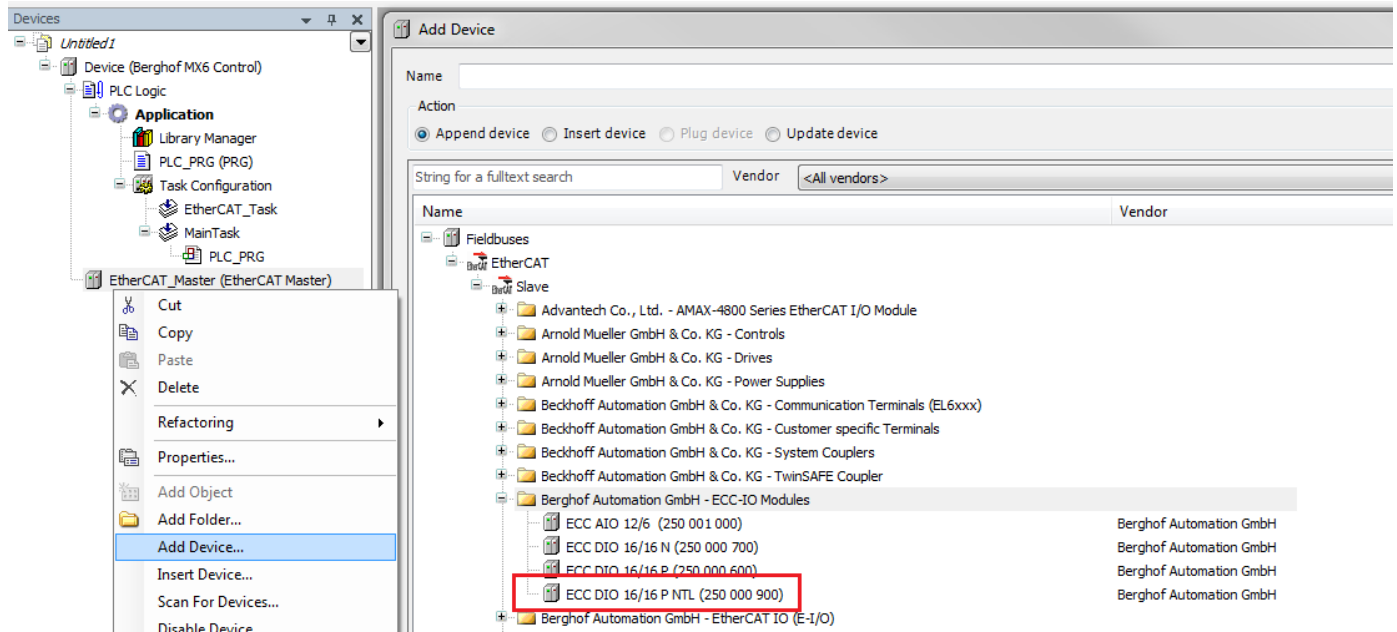
## 4.3 Configuration of the EtherCAT Master

With a double click on the newly added EtherCAT Master, you can open the configuration. Select the option “select network by name” and set the Ethernet interface same as configured in the webinterface. If needed activate the “Automatic restart slaves” option.



## 4.4 Addition of the EtherCAT device

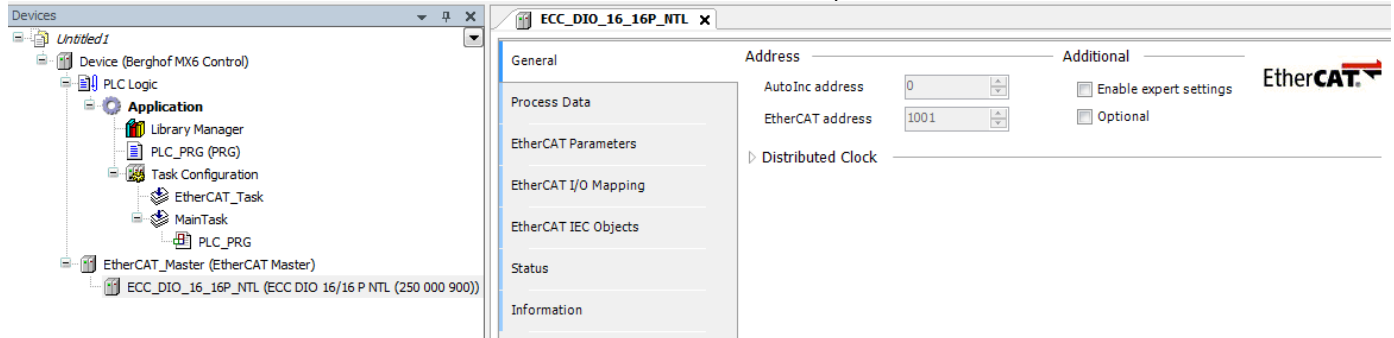
By using the “Add Device” function on the EtherCAT Master it is now possible to add your EtherCAT devices. Please be aware that your EtherCAT device will only be shown in the device list the hardware description file (XML) has been installed in CODESYS.



## 4.5 Configuration of the EtherCAT devices

With a double click on the newly added EtherCAT device, you can open the configuration.

For a default EtherCAT network between slaves and a master, no additional options must be set in the EtherCAT device.



Repeat the adding and configuration of EtherCAT 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.

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