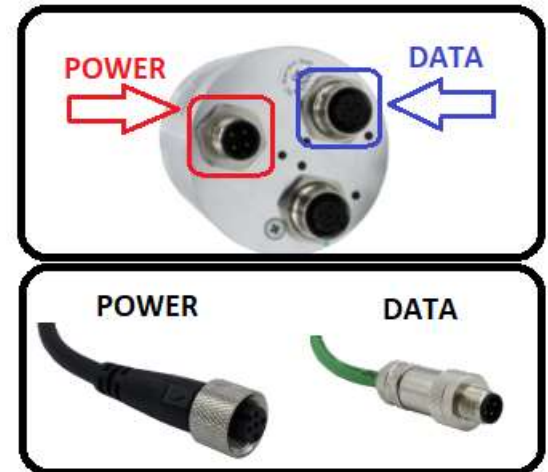


CONNECTING FENAC ETHERCAT ENCODER TO CODESYS ENVIRONMENT

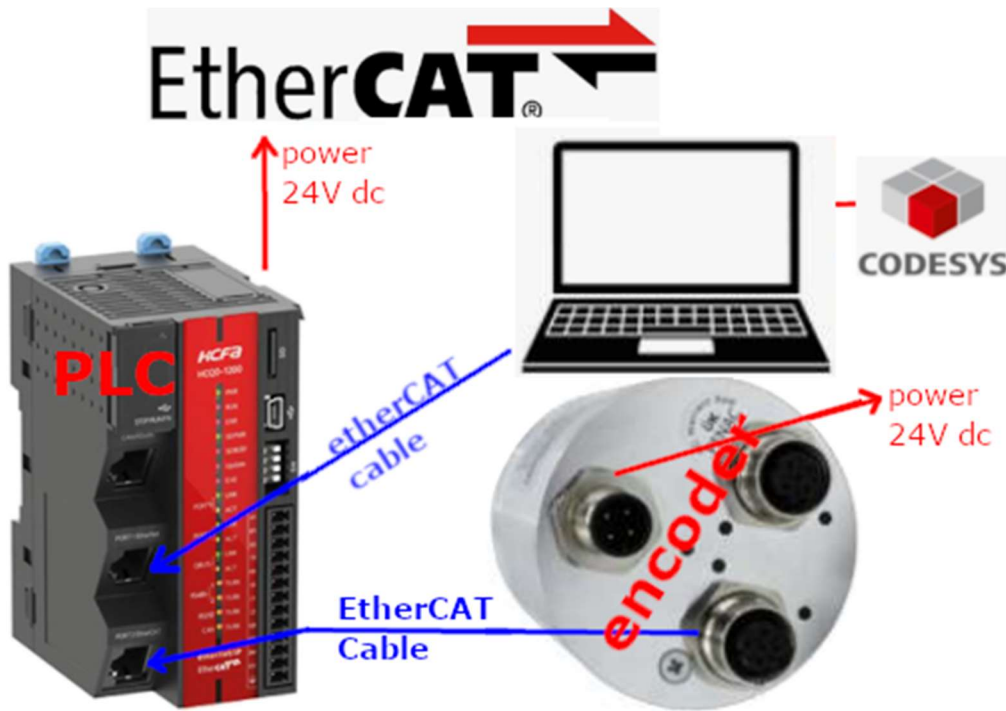
Power cable and data cable are correctly connected to the device. Details about the connection pinout structure are explained in the section "[4.Connector & Pin Assignment](#)". Power cable and data cable are indicated in the figure on the side. It is also specified to which input ports the power cable and data cable will be connected to the Fenac EtherCAT encoder. The device can be supplied with DC voltage in the range of 10V to 30V. The other end of the data cable must be connected to an EtherCAT master. Here we will talk about two methods.

Defining a personal computer as an EtherCAT master device and connect the data cable to the ethernet port of a PC is an easy method, as no external hardware is required. You can do your various tests in this way. The other method is to use a PLC device with EtherCAT Master as traditionally.



HARDWARE INSTALLATION

In order to connect the Fenac EtherCAT encoder and make its adjustments, a connection must be made as shown in the figure.

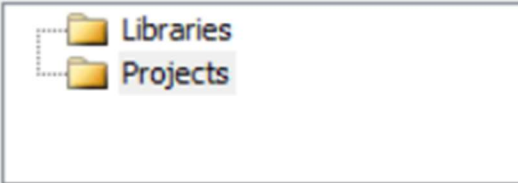


CODESYS SETTINGS

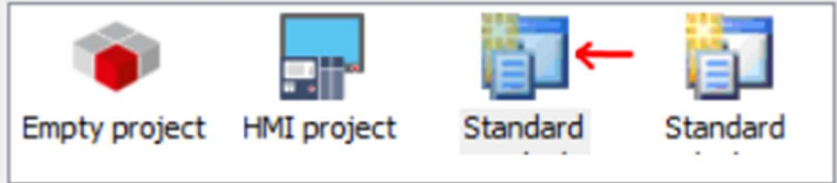
New Project



Categories:



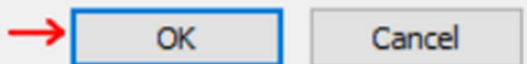
Templates:



A project containing one device, one application, and an empty implementation for PLC_PRG

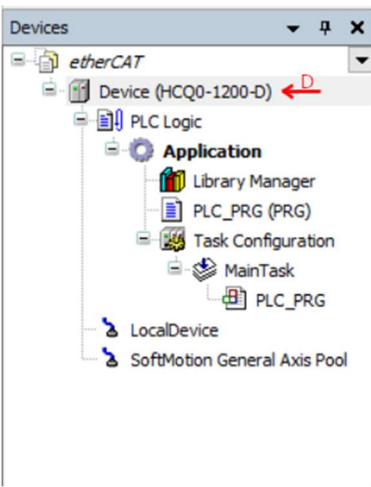
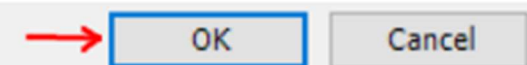
Name: etherCAT ←

Location: C:\Users\ \Documents\CodesysProjects



Device: HCQ0-1200-D (Zhejiang Hechuan Technology)

PLC_PRG in: Structured Text (ST)



Device x

- Communication Settings
- Applications
- Backup and Restore
- Files
- Log
- PLC Settings ←
- PLC Shell
- Users and Groups

Application for I/O handling: Application

PLC settings

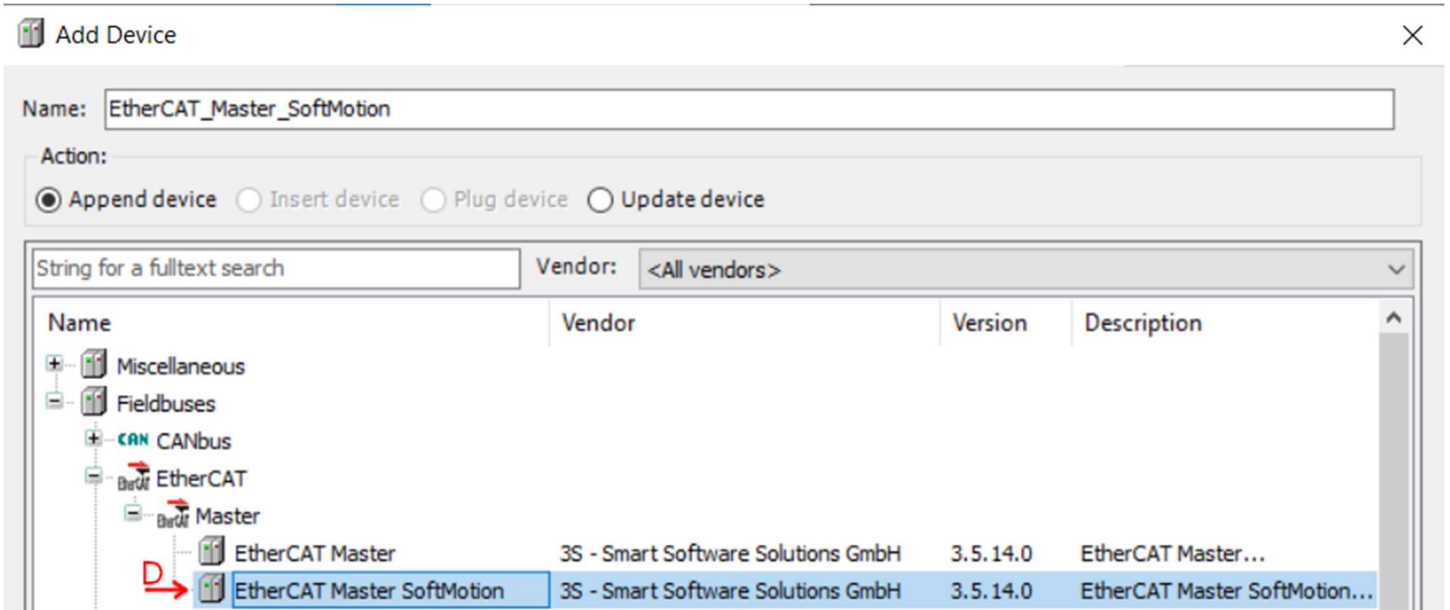
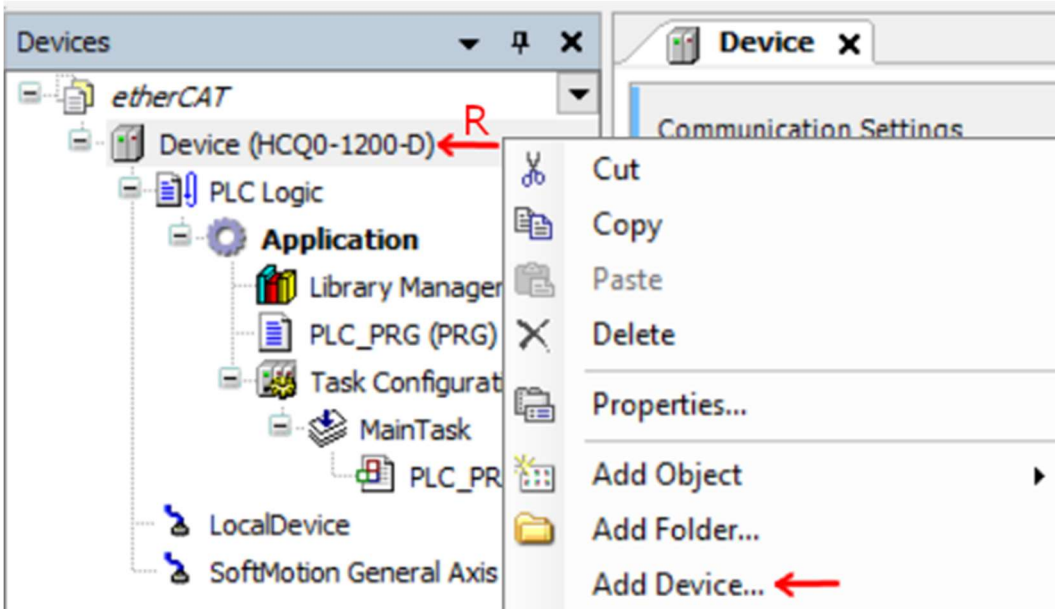
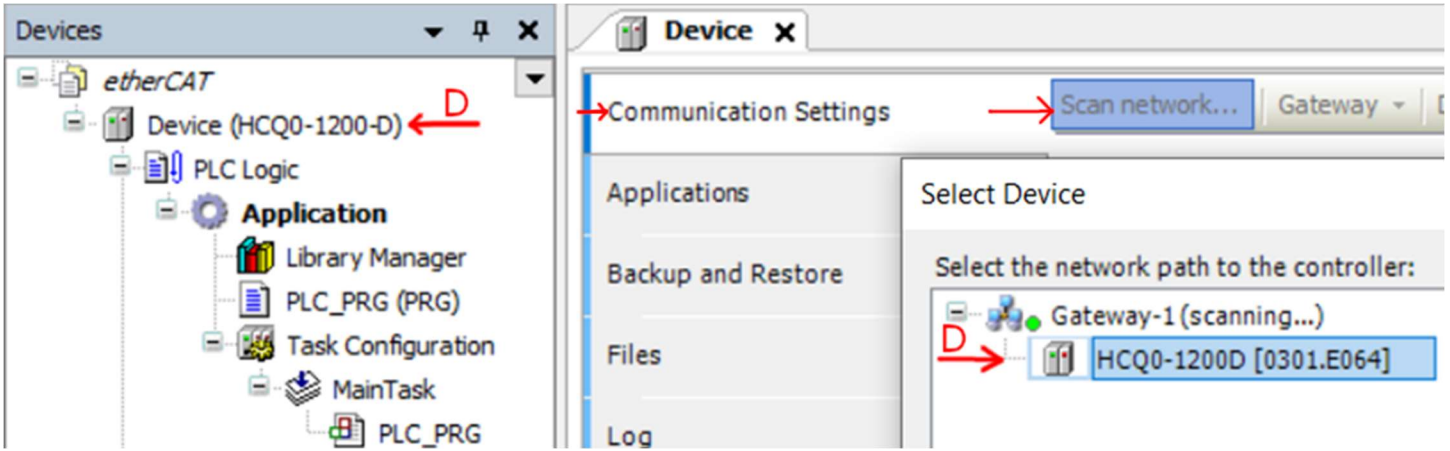
- Update IO while in stop
- Behaviour for outputs in Stop: Keep current values
- Always update variables: Enabled 2 (always in bus cycle task)

Bus cycle options

Bus cycle task: <unspecified>

Additional settings

- Generate force variables for IO mapping
- EnableDiagnosis for devices
- Show I/O warnings as errors



Devices etherCAT

- Device (HCQ0-1200-D)
 - PLC Logic
 - Application
 - Library Manager
 - PLC_PRG (PRG)
 - Task Configuration
 - EtherCAT_Task
 - MainTask
 - PLC_PRG
 - LocalDevice
 - SoftMotion General Axis Pool
 - EtherCAT_Master_SoftMotion (E)
 - General ←
 - Autoconfig Master/Slaves
 - Sync Unit Assignment
 - EtherCAT I/O Mapping
 - EtherCAT IEC Objects
 - Select Network Adapter

MAC address	Name	Description
8C89FA01F404	ecat1	
8C89FA01F405	eth1	
168AFB010F7D	usb0	

Tools Window Help

- Package Manager...
- Library Repository...
- Device Repository...

Device Repository

Location: System Repository (C:\ProgramData\CODESYS\Devices) Edit Locations...

Installed device descriptions:

fenac Vendor: <All vendors> Install... Uninstall... Exports...

Name	Vendor	Version
Fieldbuses		
EtherNet/IP		
EtherNet/IP Remote Adapter		
FNC_AEIPM_ETHERNETIP_ENCODER	FENAC Teknoloji	Major Revision=

Install Device Description

<< Config > lo > EtherCAT Search EtherCAT

Organize New folder

Name	Date modified
Beckhoff FCxxx.xml	18 Şub 2022 17:10
Beckhoff FM3xxx.xml	18 Şub 2022 17:16
Beckhoff ILxxx-B110.xml	18 Şub 2022 17:16
FNC_AECM_58B10_S18M12.xml	19 Eki 2023 16:48

File name: FNC_AECM_58B10_S18M12.xml All supported description files ()

Open Cancel

Context menu for EtherCAT_Master_SoftMotion:

- Cut
- Copy
- Paste
- Delete
- Refactoring
- Properties...
- Add Object
- Add Folder...
- Add Device...
- Insert Device...
- Scan For Devices.

Scan Devices dialog box:

Devicename	Devicetype	Alias Address
LocalEtherCATDevice	LocalEtherCATDevice	0
FNC_AECM_58B10_S18M12	FNC_AECM_58B10_S18M12	0

Buttons: Scan Devices, Assign Address, Copy All Devices to Project, Close



Devices tree view:

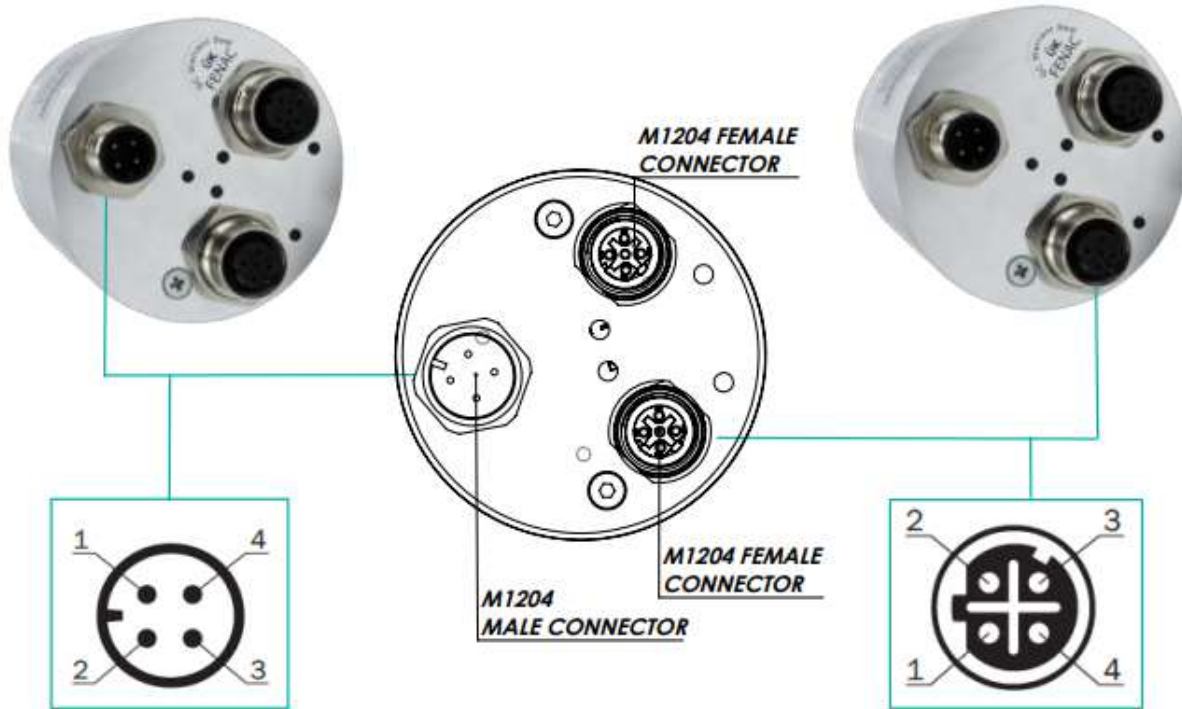
- etherCAT
 - Device [connected] (HCQ0-1200-D)
 - Application [stop]
 - Library Manager
 - PLC_PRG (PRG)
 - Task Configuration
 - EtherCAT_Task
 - MainTask
 - PLC_PRG
 - LocalDevice
 - SoftMotion General Axis Pool
 - EtherCAT_Master_SoftMotion (EtherCAT Master SoftMotion)
 - LocalEtherCATDevice (LocalEtherCATDevice)
 - FNC_AECM_58B10_S18M12 (FNC_AECM_58B10_S18M12)

EtherCAT I/O Mapping table:

Variable	Channel	Addr...	Type	Current Val...	Description
sensor_1_Input_Byte1	%QB0	BYTE	0	sensor_1_Input_Byte1	
sensor_1_Input_Byte2	%QB1	BYTE	0	sensor_1_Input_Byte2	
sensor_2_Input_Byte1	%QB2	BYTE	0	sensor_2_Input_Byte1	
sensor_2_Input_Byte2	%QB3	BYTE	0	sensor_2_Input_Byte2	
CyclicCounter_Direction	%QB4	BYTE	0	CyclicCounter_Direction	
CyclicCounter_Speed	%QB5	BYTE	0	CyclicCounter_Speed	
Position Value	%ID0	UDINT	25137695	Position Value	
Speed Value	%IW2	INT	0	Speed Value	
Alarm Status	%IW3	UINT	0	Alarm Status	
Warning Status	%IW4	UINT	0	Warning Status	

4. Connector & Pin Assignment

Pin Assignment



PIN	Signal
1	U _s 10 V...30V
2	Not assigned
3	GND
4	Not assigned

PIN	Signal
1	T x D+
2	R x D+
3	T x D-
4	R x D-

Counter Connector Part Number

FCSF M1204 : M1204 Female Connector
FCSF M1204 R200 : M1204 Female Connector with 2 meter cable



Counter Connector Part Number

FCSM DTM1204 : D Type M1204 Female Connector
FCSM DTM1204 R200 : D Type M1204 Female Connector with 2 meter cable

