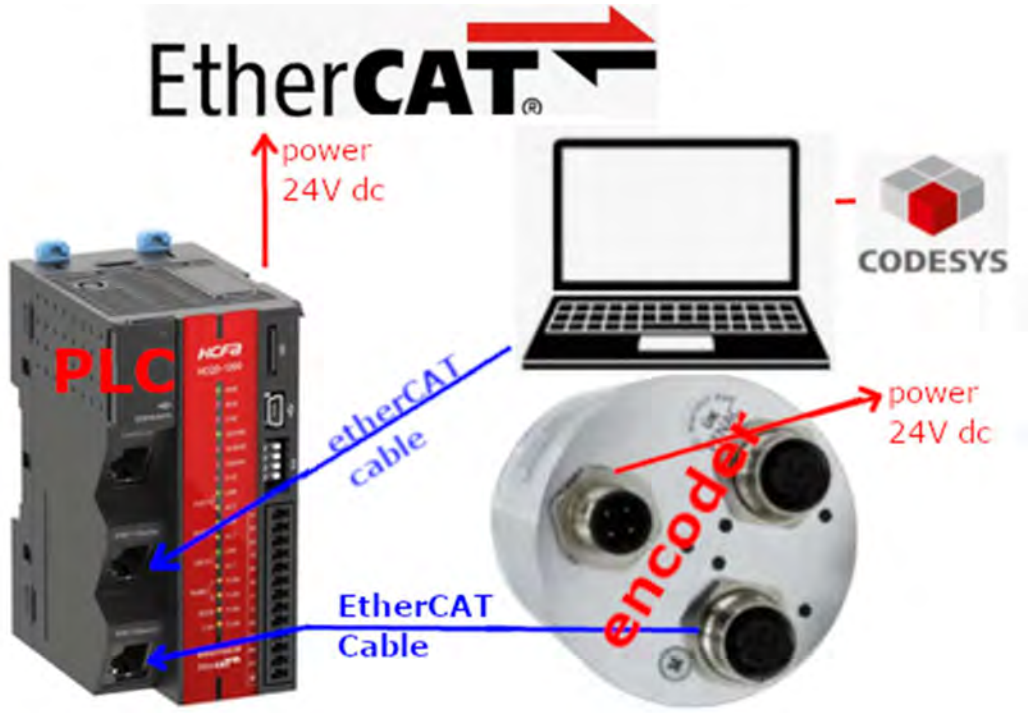
CONNECTING FENAC ETHERCAT ENCODER TO CODESYS ENVIRONMENT

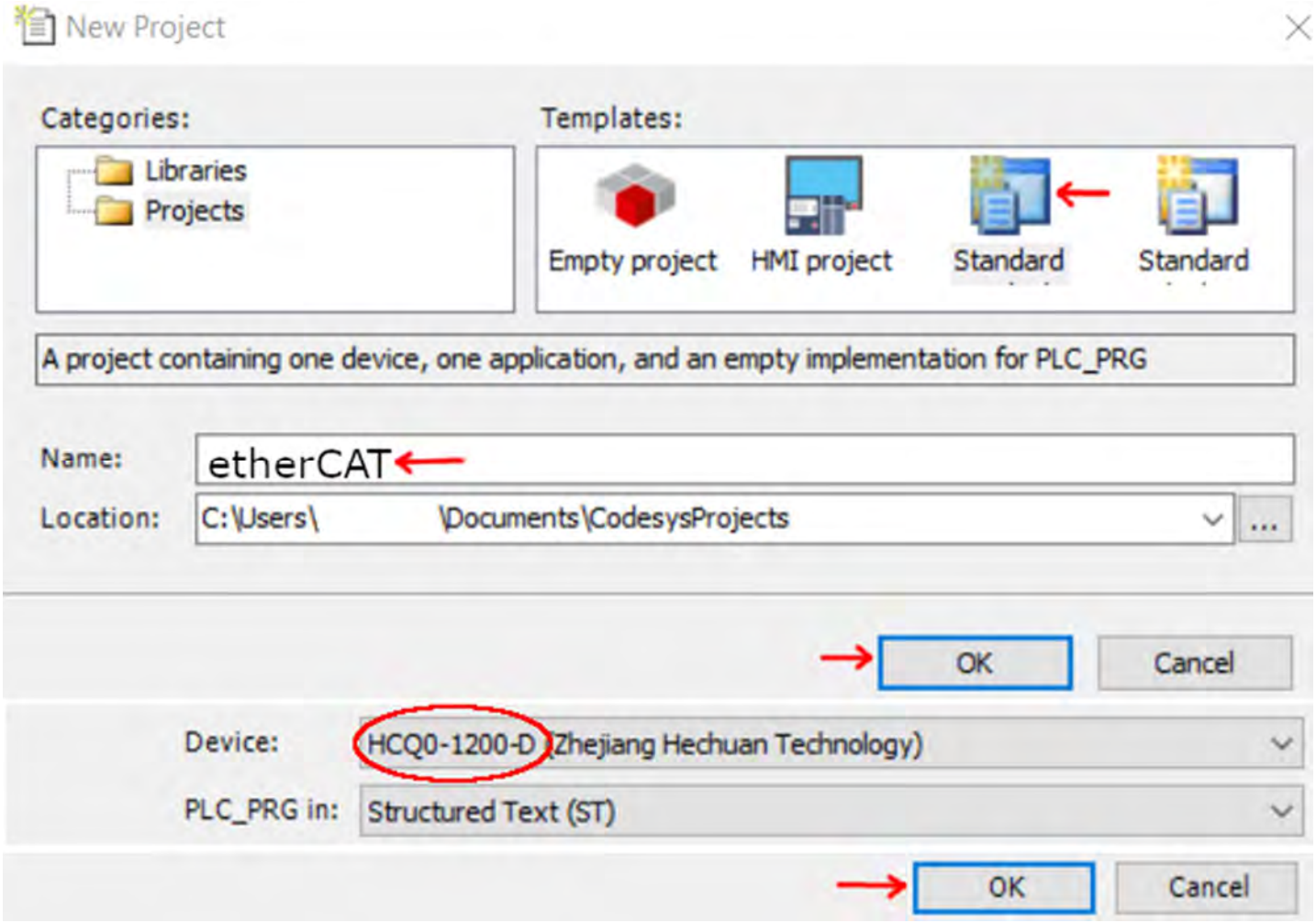
Power cable and data cable are correctly connected to the device. Details about the connection pinout structure are explained in the section "4.Connector & Pin Assignment". Power cable and data cable are indicated in the figure on the side. It is also specified to which input ports the power cable and 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.

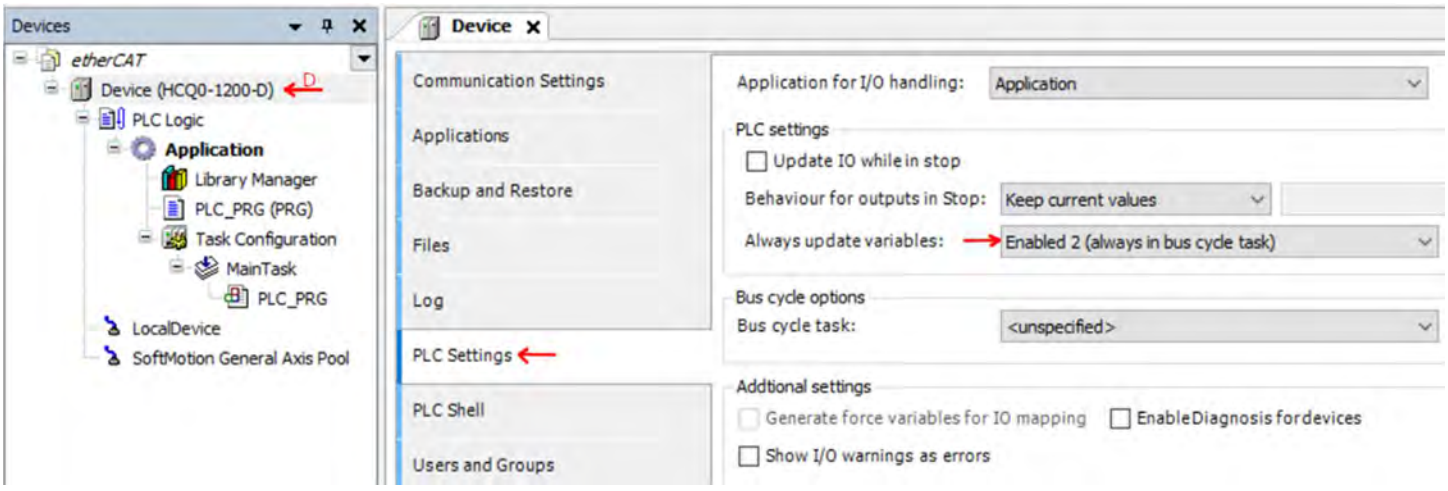
HARDWARE INSTALLATION

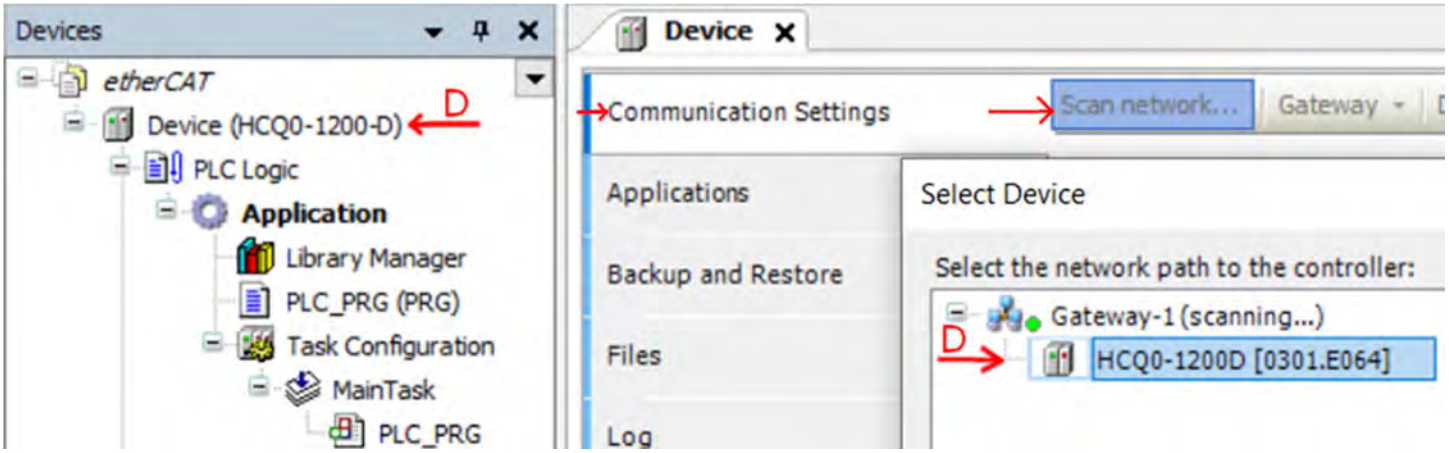
In order to connect the Fenac EtherCAT encoder and make its adjustments, a connection must be made as shown in the figure.

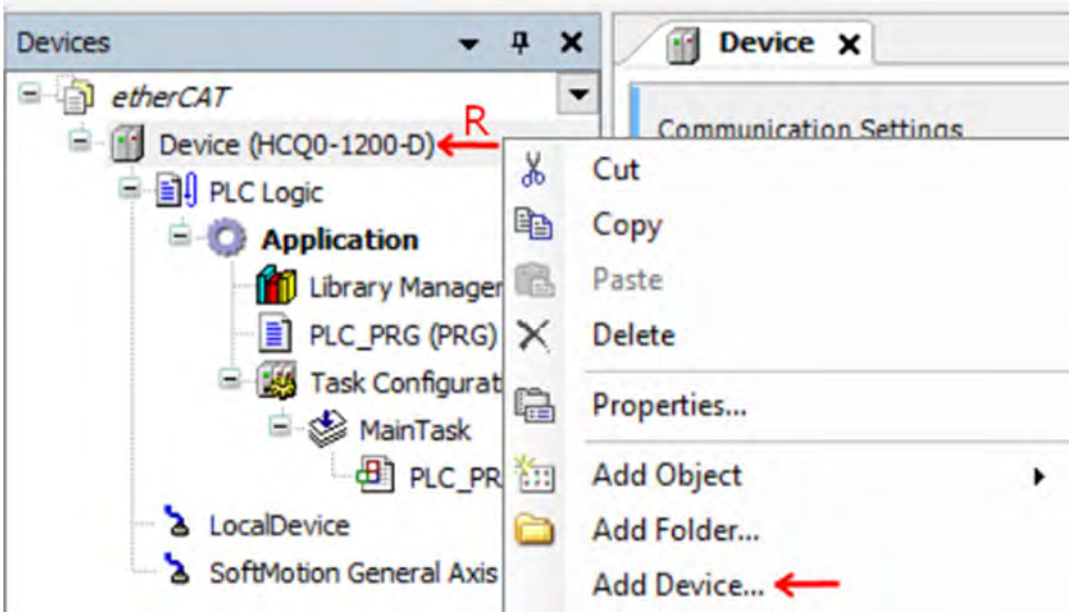


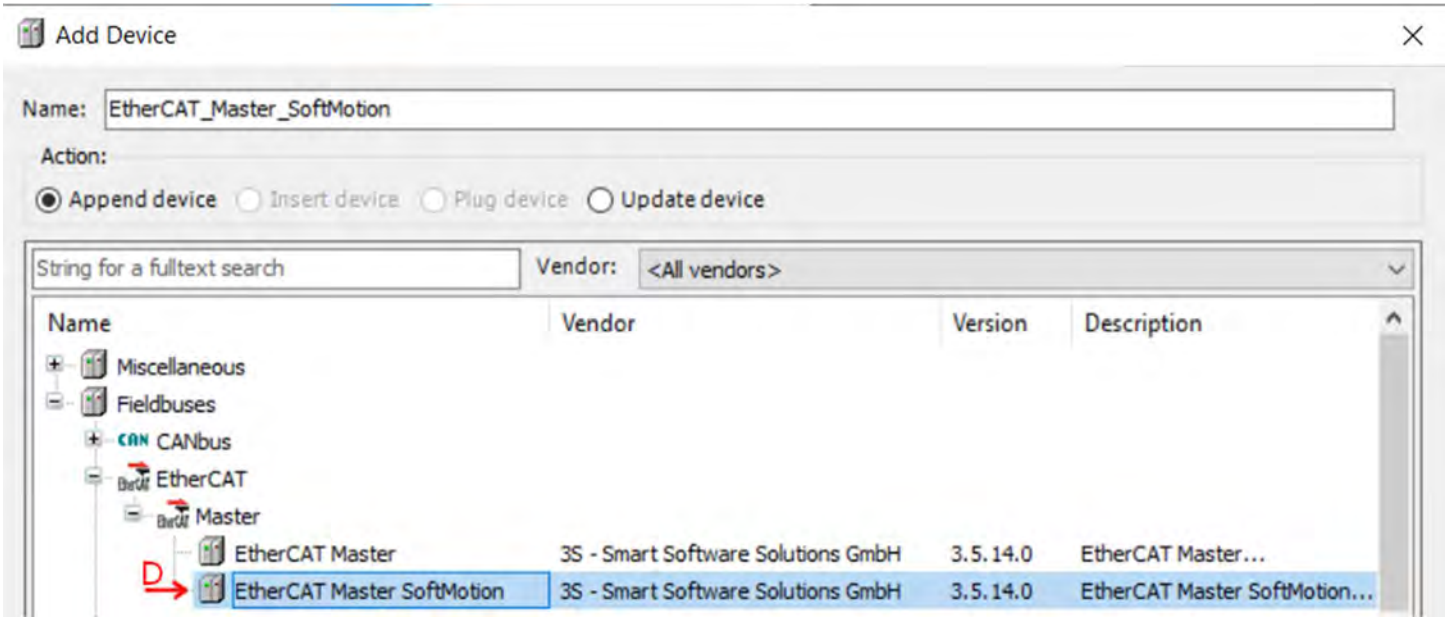
CODESYS SETTINGS

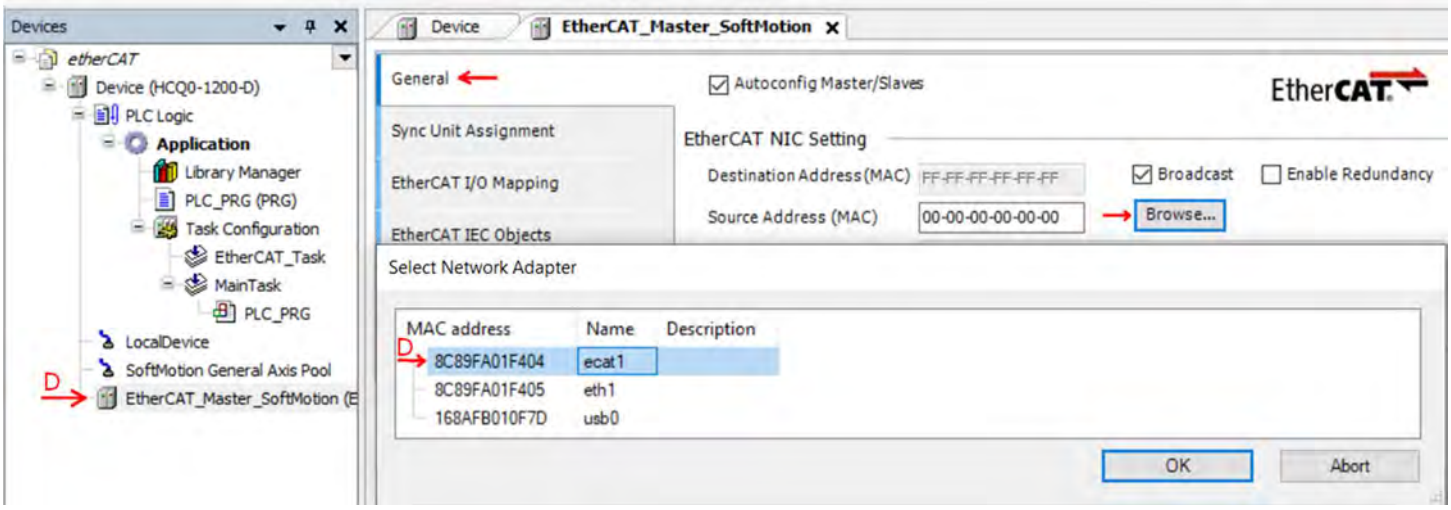


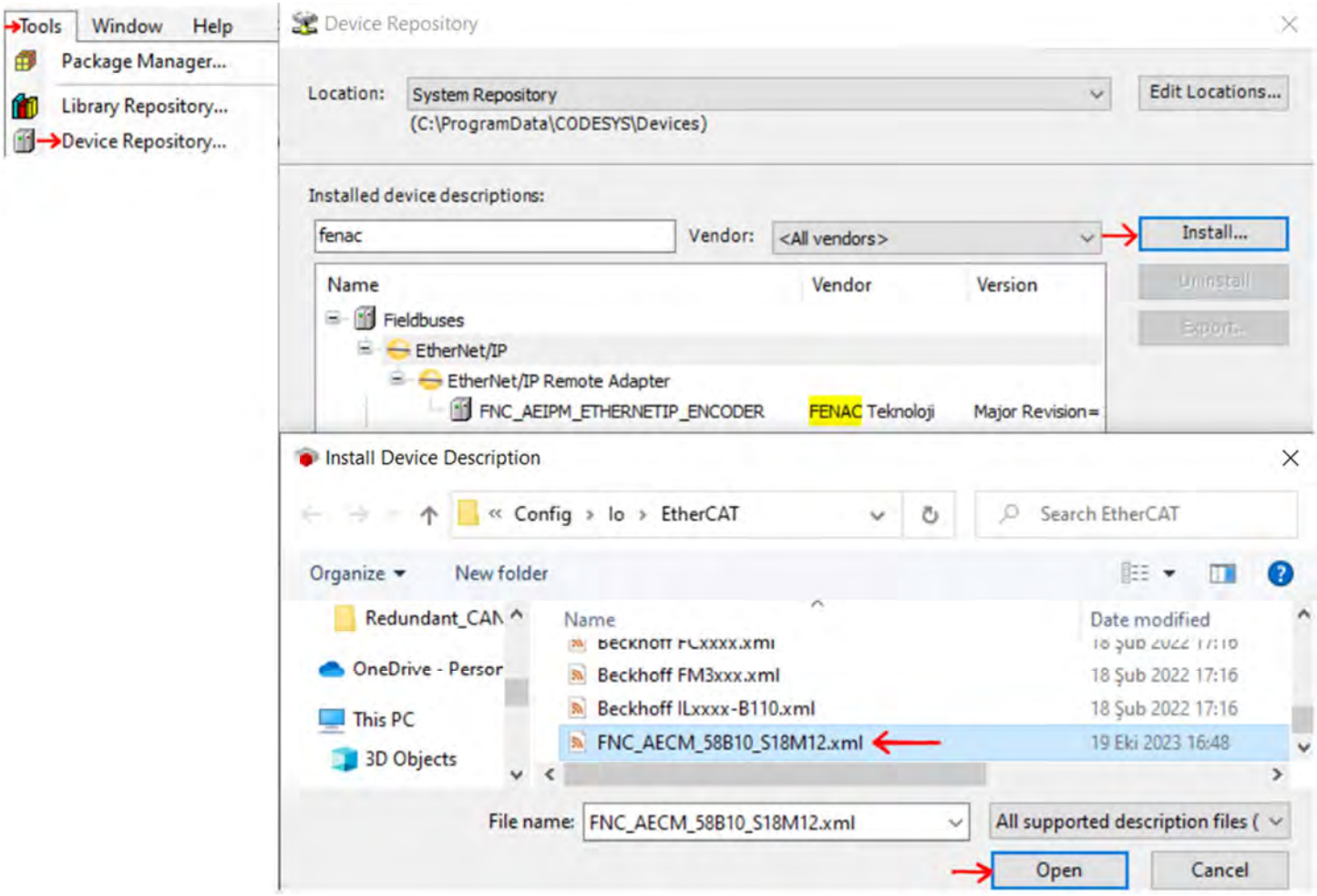


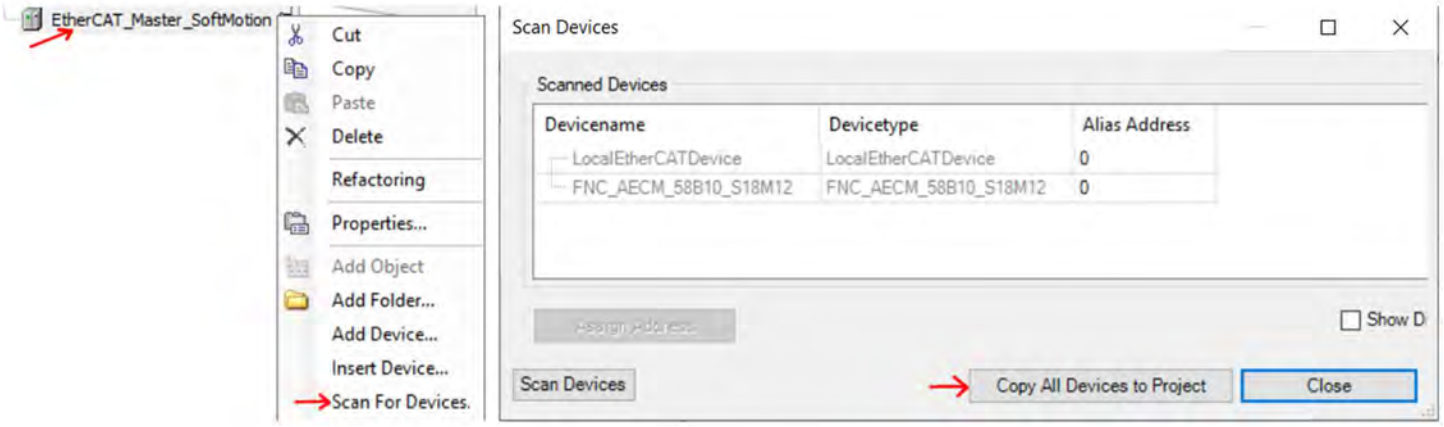

Devices
etherCAT
Device (HCQ0-1200-D)
D
PLC Logic
Application
Library Manager
PLC_PRG (PRG)
Task Configuration
MainTask
PLC_PRG
Device
Communication Settings
Scan network...
Gateway
Applications
Backup and Restore
Files
Log
Select Device
Select the network path to the controller:
Gateway-1 (scanning...)
D
HCQ0-1200D [0301.E064]

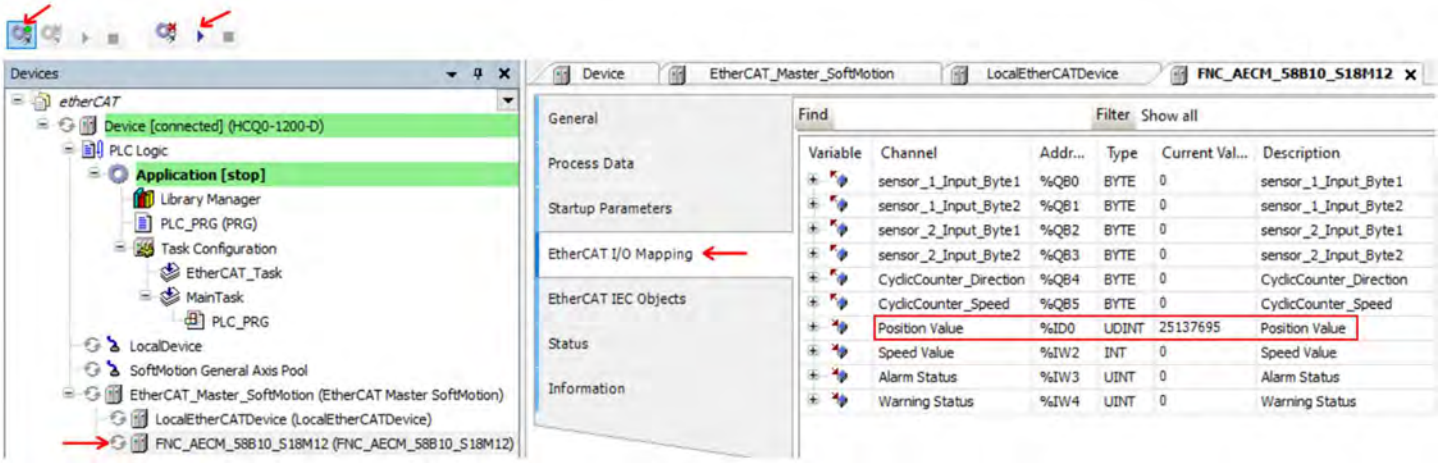

Devices
etherCAT
Device (HCQ0-1200-D)
R
PLC Logic
Application
Library Manager
PLC_PRG (PRG)
Task Configurat
MainTask
PLC_PR
LocalDevice
SoftMotion General Axis
Device
Communication Settings
Cut
Copy
Paste
Delete
Properties...
Add Object
Add Folder...
Add Device...


Add Device
Name:
EtherCAT_Master_SoftMotion
Action:
Append device
Insert device
Plug device
Update device
String for a fulltext search
Vendor:
<All vendors>
Name
Vendor
Version
Description
Miscellaneous
Fieldbuses
CANbus
EtherCAT
Master
EtherCAT Master
3S - Smart Software Solutions GmbH
3.5.14.0
EtherCAT Master...
D
EtherCAT Master SoftMotion
3S - Smart Software Solutions GmbH
3.5.14.0
EtherCAT Master SoftMotion...


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
D
Device
EtherCAT_Master_SoftMotion
General
Autoconfig Master/Slaves
EtherCAT
Sync Unit Assignment
EtherCAT NIC Setting
EtherCAT I/O Mapping
Destination Address (MAC)
FF-FF-FF-FF-FF-FF
Broadcast
Enable Redundancy
EtherCAT IEC Objects
Source Address (MAC)
00-00-00-00-00-00
Browse...
Select Network Adapter
MAC address
Name
Description
8C89FA01F404
ecat1
8C89FA01F405
eth1
168AFB010F7D
usb0
OK
Abort

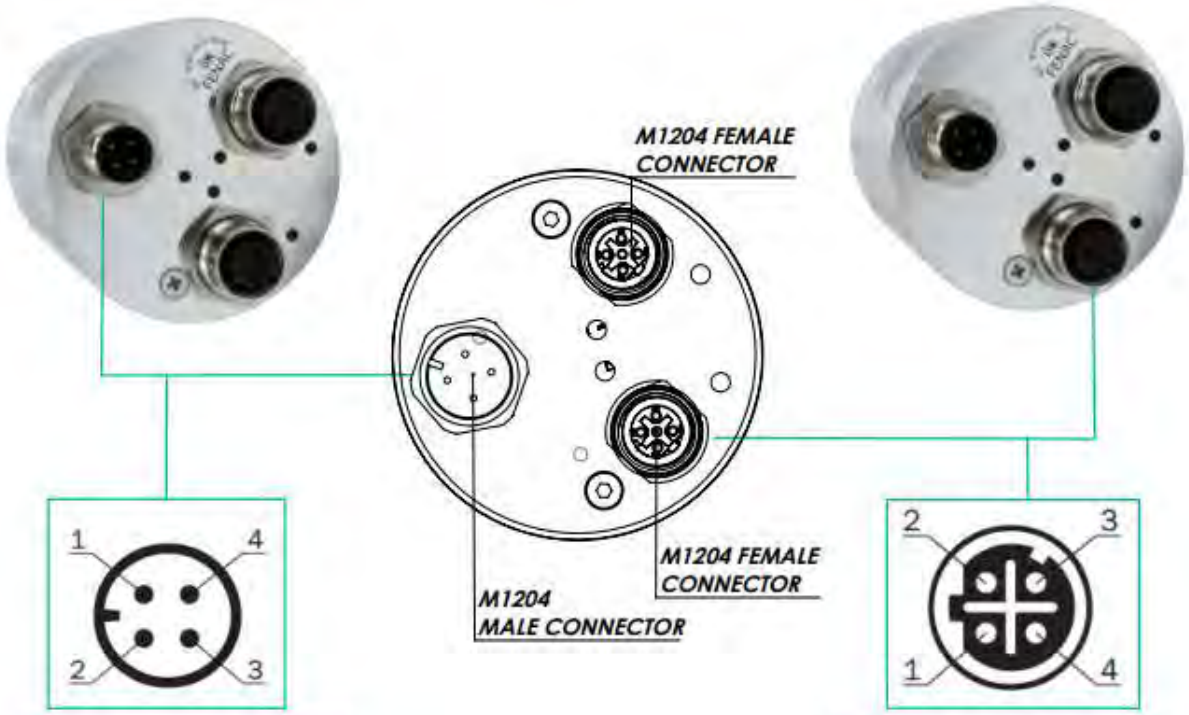

Tools
Window
Help
Package Manager...
Library Repository...
Device Repository...
Device Repository
Location:
System Repository
(C:\ProgramData\CODESYS\Devices)
Edit Locations...
Installed device descriptions:
fenac
Vendor:
<All vendors>
Install...
Uninstall
Export...
Name
Vendor
Version
Fieldbuses
EtherNet/IP
EtherNet/IP Remote Adapter
FNC_AEIPM_ETHERNETIP_ENCODER
FENAC Teknoloji
Major Revision=
Install Device Description
Config
Io
EtherCAT
Search EtherCAT
Organize
New folder
Redundant_CAN
OneDrive - Persor
This PC
3D Objects
Name
Date modified
Beckhoff FM3xxx.xml
18 Şub 2022 17:16
Beckhoff ILxxxx-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


EtherCAT_Master_SoftMotion
Cut
Copy
Paste
Delete
Refactoring
Properties...
Add Object
Add Folder...
Add Device...
Insert Device...
Scan For Devices.
Scan Devices
Scanned Devices
Devicename
Devicetype
Alias Address
LocalEtherCATDevice
LocalEtherCATDevice
0
FNC_AECM_58B10_S18M12
FNC_AECM_58B10_S18M12
0
Show D
Scan Devices
Copy All Devices to Project
Close


Devices
etherCAT
Device [connected] (HCQ0-1200-D)
PLC Logic
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)
Device
EtherCAT_Master_SoftMotion
LocalEtherCATDevice
FNC_AECM_58B10_S18M12
General
Process Data
Startup Parameters
EtherCAT I/O Mapping
EtherCAT IEC Objects
Status
Information
Find
Filter
Show all
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

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