HANPOSE®

ECR60 and ECT60

TwinCAT User Manual

Catalogue

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1. Installation of TwinCAT3

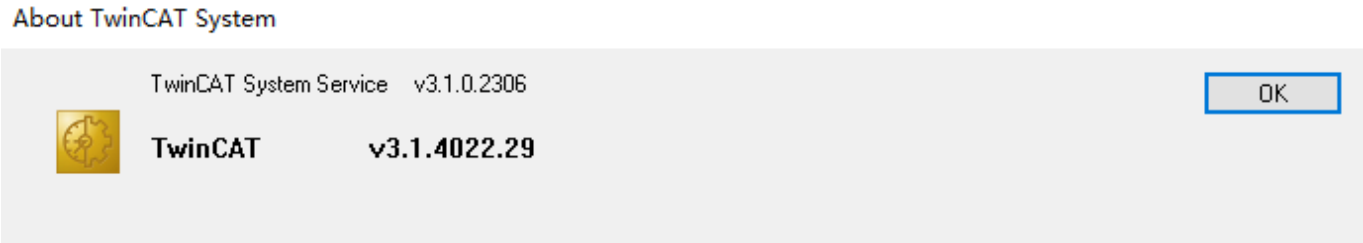
1.1 Installation conditions

Operating system：Above Windows 7, TwinCAT3 is compatible with Windows 10.

CPU：Intel CPU

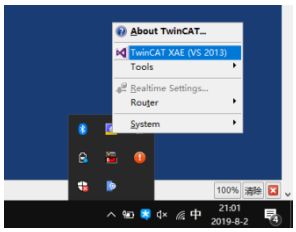
Network card：Intel network card, other manufacturers network card can be demonstrated, synchronization control accuracy is very poor.

Software version：TwinCAT V3.1.4022.29



1.2 Software installation

After normal installation, there is a TwinCAT3 background in the lower right corner.



2. Setup of TwinCAT3

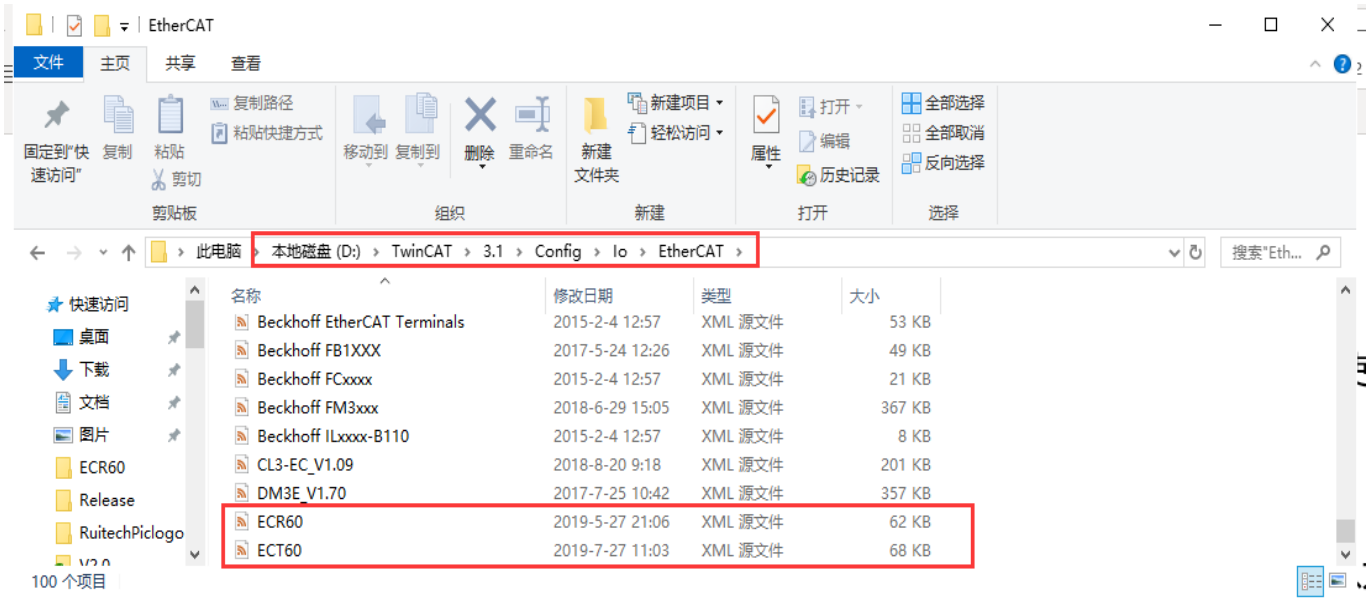
2.1 Add device description file

The description file for ECR60 is ECR60.xml.

The description file for ECT60 is ECT60.xml.

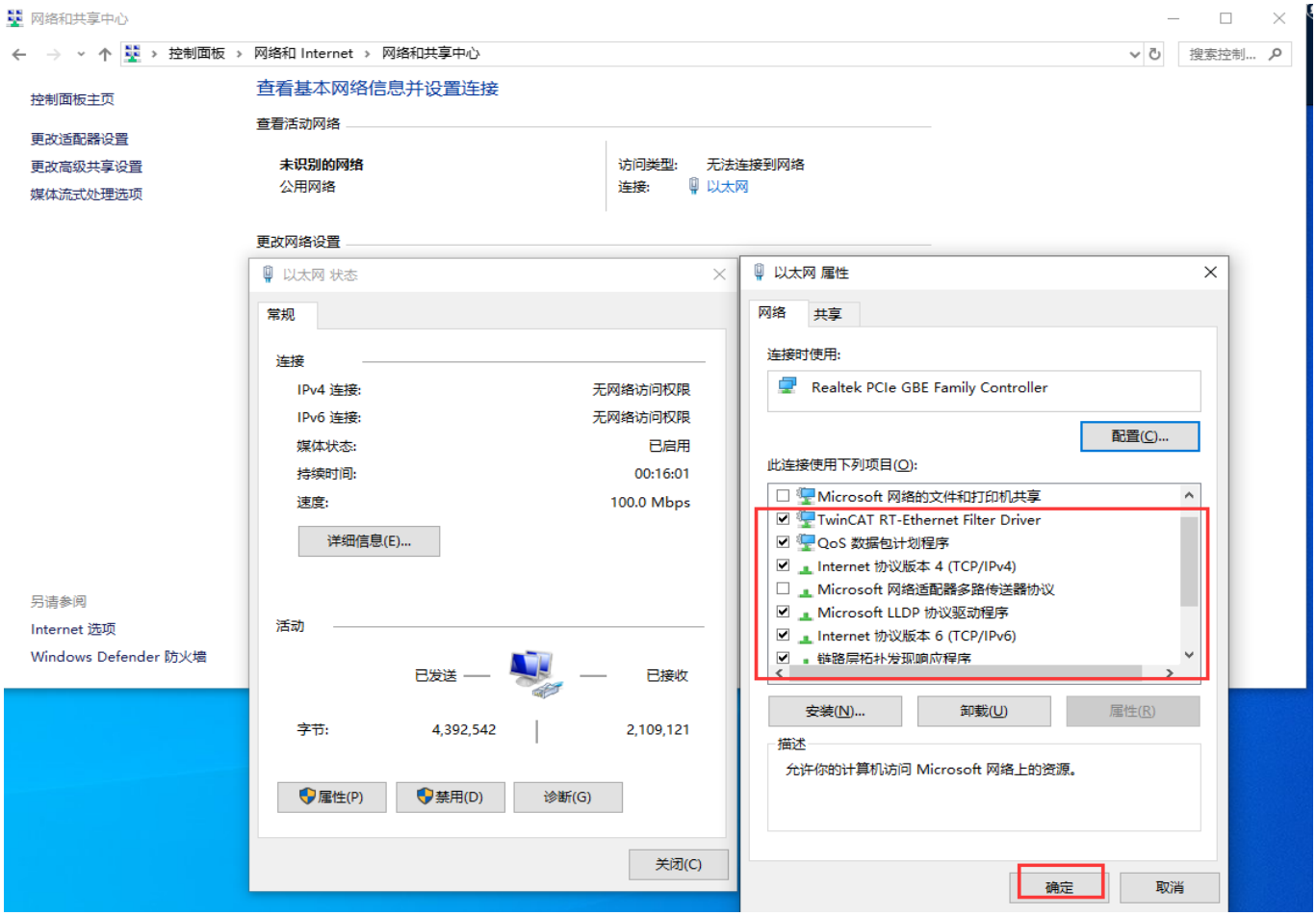
The user needs to copy the ECR60. XML file andECT60. XML file to the following path:

D:\TwinCAT\3.1\Config\Io\EtherCAT.

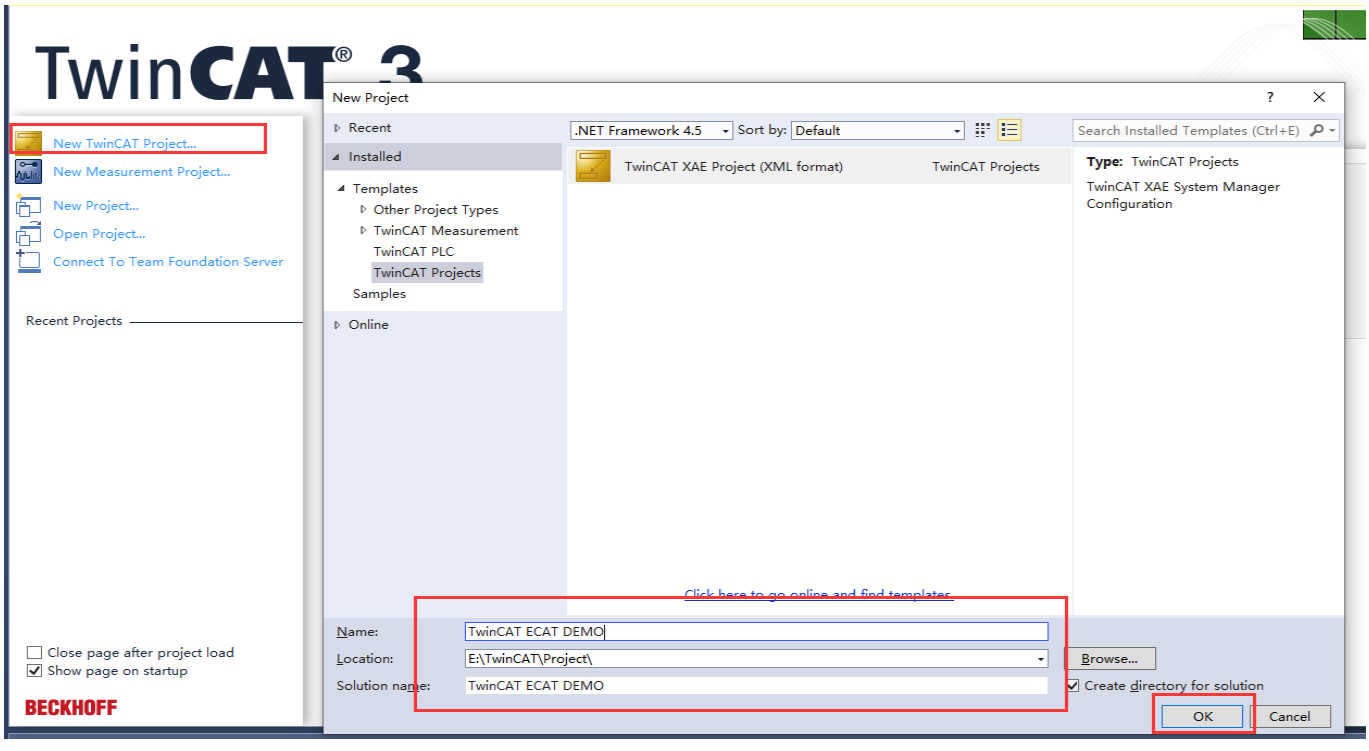


2.2 Setup

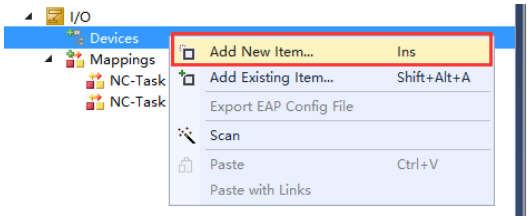
Step1:The user needs to open the Ethernet by using the computer, allow TwinCAt to access the Ethernet, and know the name of the Ethernet connection used, and select the corresponding Ethernet connection for subsequent operations.



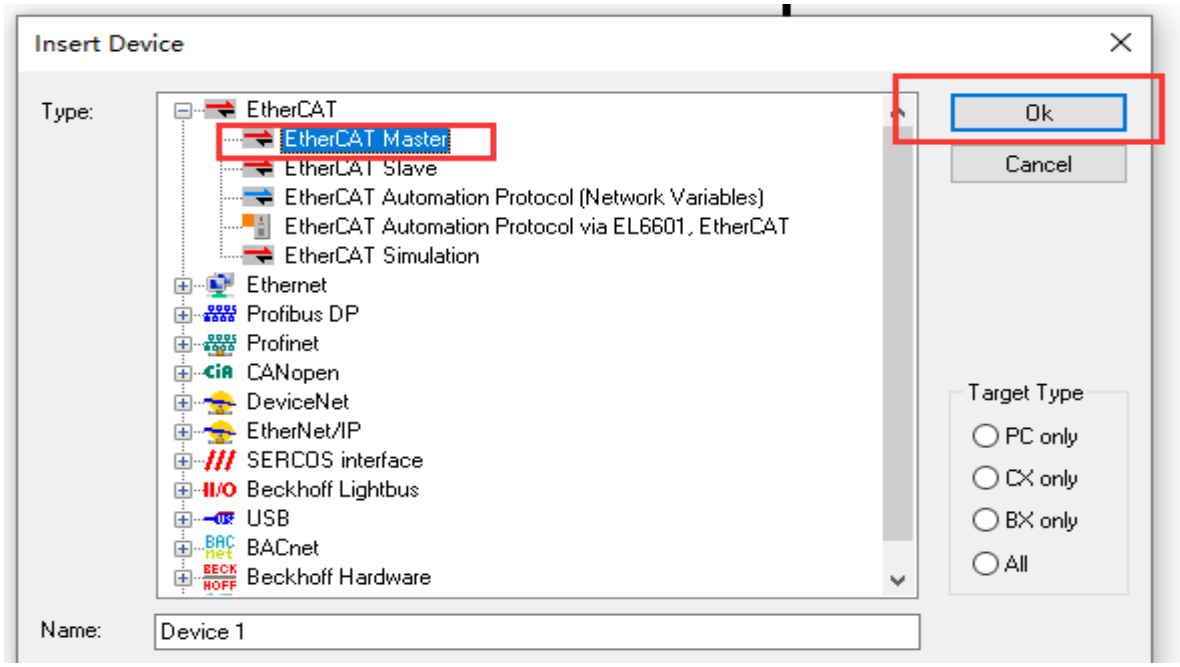
Step2: Build a new TwinCAT project

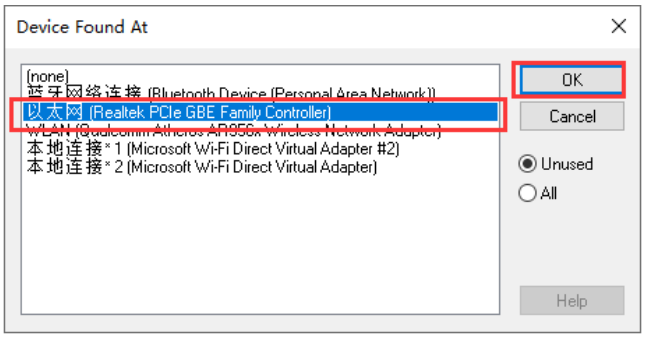


Step3: Add a new item



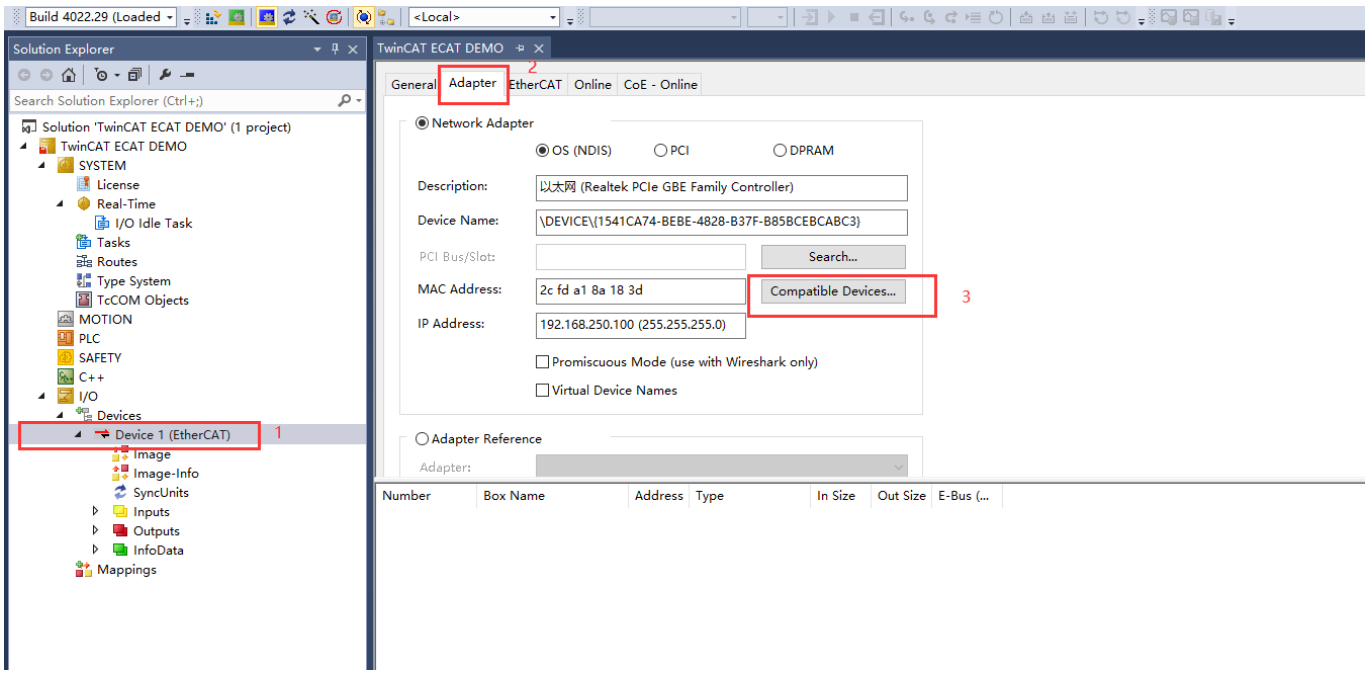
Step4:Add a master network card

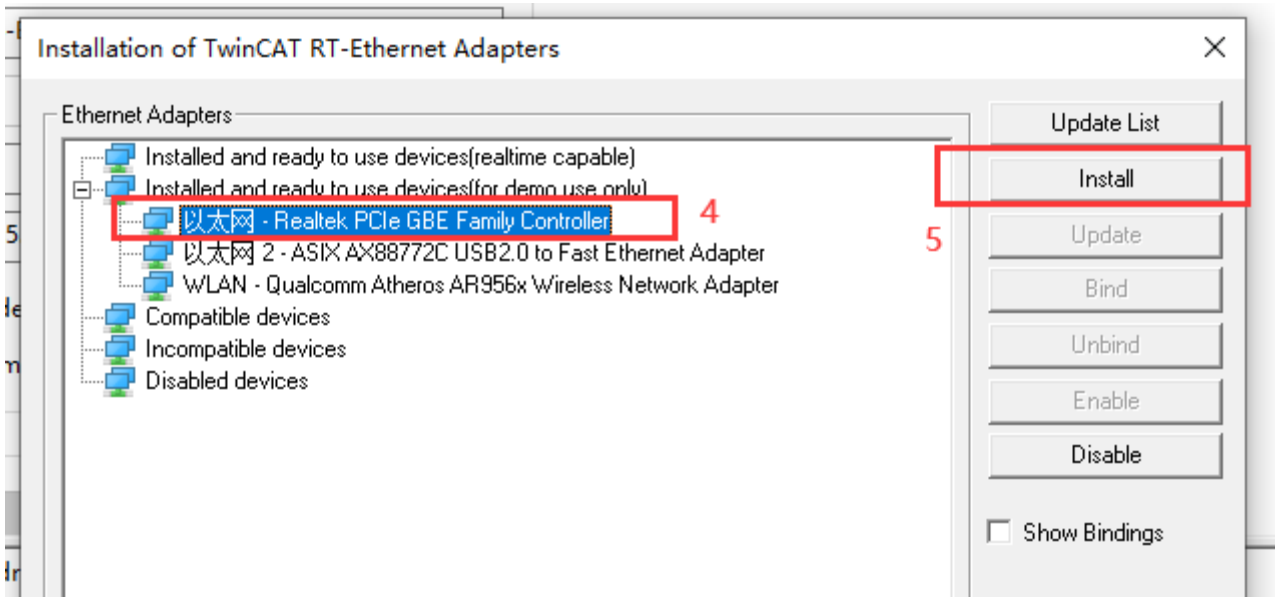


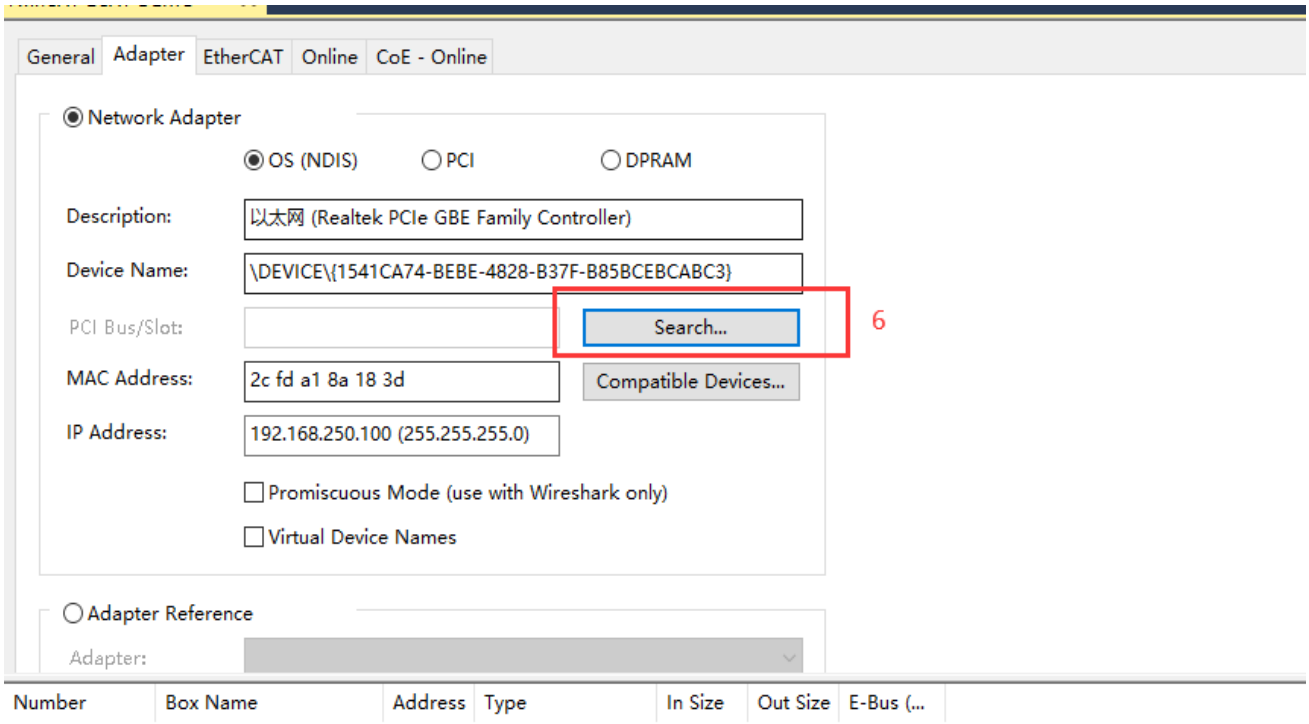


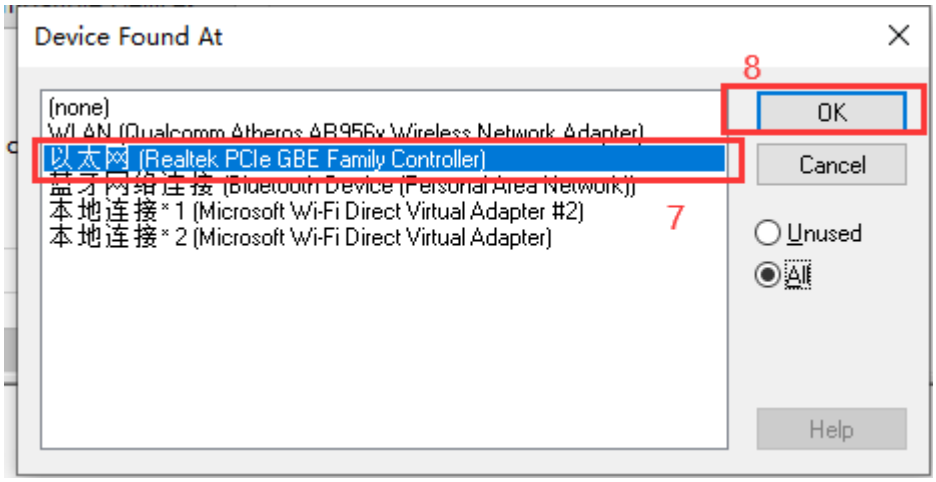
Step5:Install the driver

Please follow the steps shown below.


Build 4022.29 (Loaded
<Local>
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'TwinCAT ECAT DEMO' (1 project)
TwinCAT ECAT DEMO
SYSTEM
License
Real-Time
I/O Idle Task
Tasks
Routes
Type System
TcCOM Objects
MOTION
PLC
SAFETY
C++
I/O
Devices
Device 1 (EtherCAT)
1
Image
Image-Info
SyncUnits
Inputs
Outputs
InfoData
Mappings
TwinCAT ECAT DEMO
General
Adapter
2
EtherCAT
Online
CoE - Online
Network Adapter
OS (NDIS)
PCI
DPRAM
Description:
以太网 (Realtek PCIe GBE Family Controller)
Device Name:
\DEVICE\{1541CA74-BEBE-4828-B37F-B85BCEBCABC3}
PCI Bus/Slot:
Search...
MAC Address:
2c fd a1 8a 18 3d
Compatible Devices...
3
IP Address:
192.168.250.100 (255.255.255.0)
Promiscuous Mode (use with Wireshark only)
Virtual Device Names
Adapter Reference
Adapter:
Number
Box Name
Address
Type
In Size
Out Size
E-Bus (...

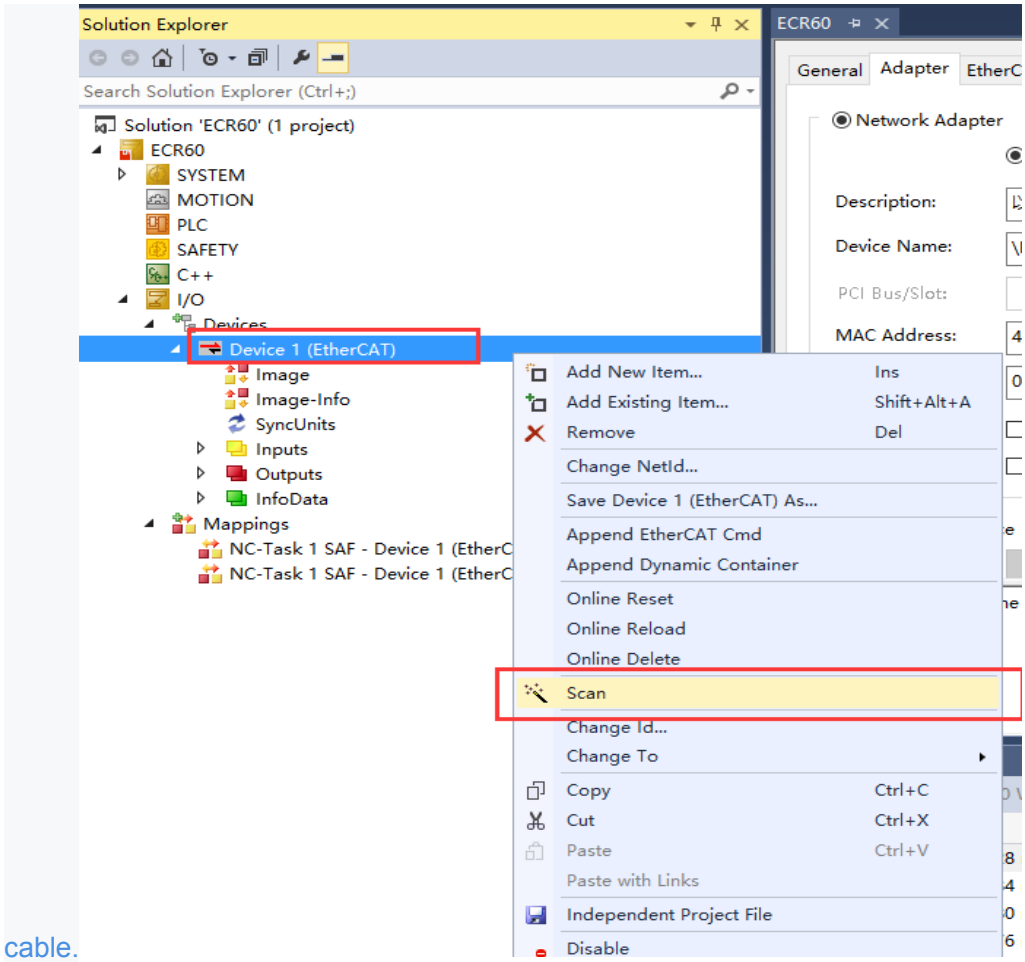

Installation of TwinCAT RT-Ethernet Adapters
Ethernet Adapters
Installed and ready to use devices(realtime capable)
Installed and ready to use devices(for demo use only)
以太网 - Realtek PCIe GBE Family Controller
4
以太网 2 - ASIX AX88772C USB2.0 to Fast Ethernet Adapter
WLAN - Qualcomm Atheros AR956x Wireless Network Adapter
Compatible devices
Incompatible devices
Disabled devices
5
Update List
Install
Update
Bind
Unbind
Enable
Disable
Show Bindings





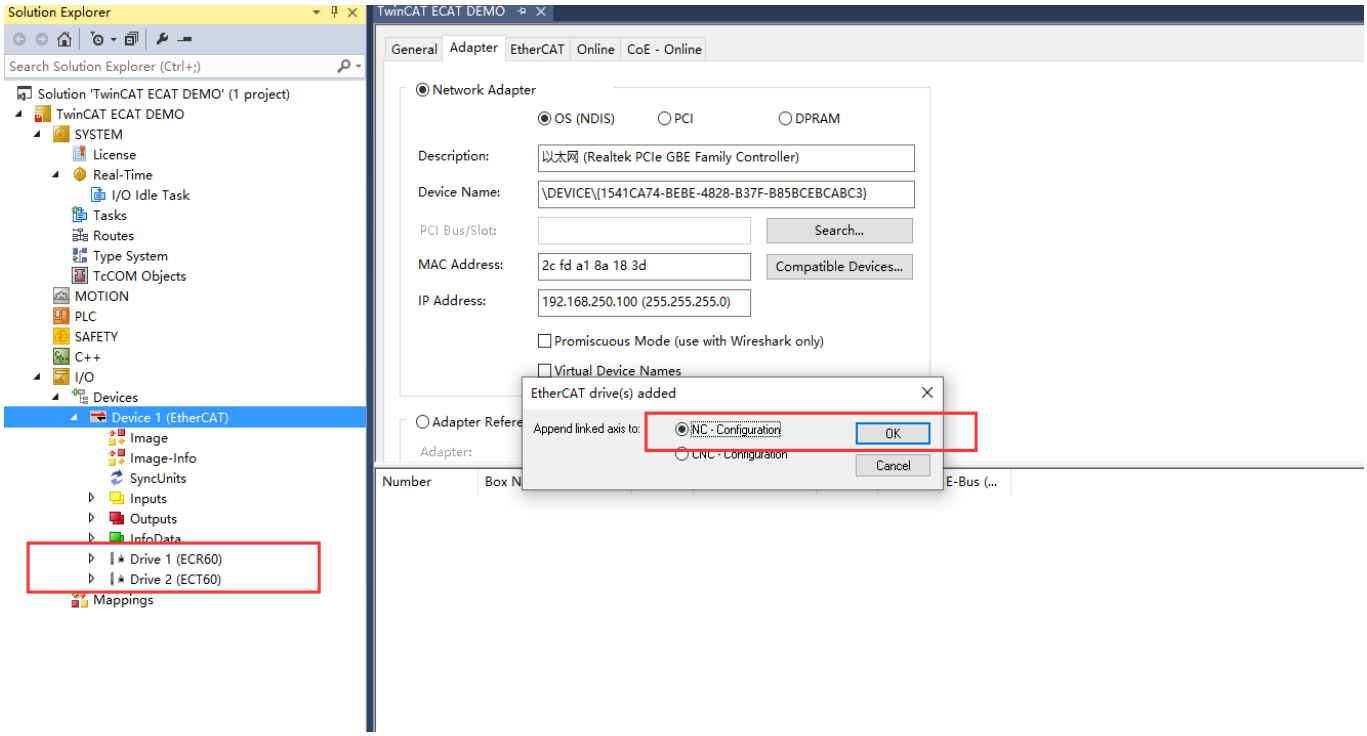
2.3 Find the drive

First,connect the driver to the power supply, motor and network .Then select "Scan" to automatically Scan the slave device.

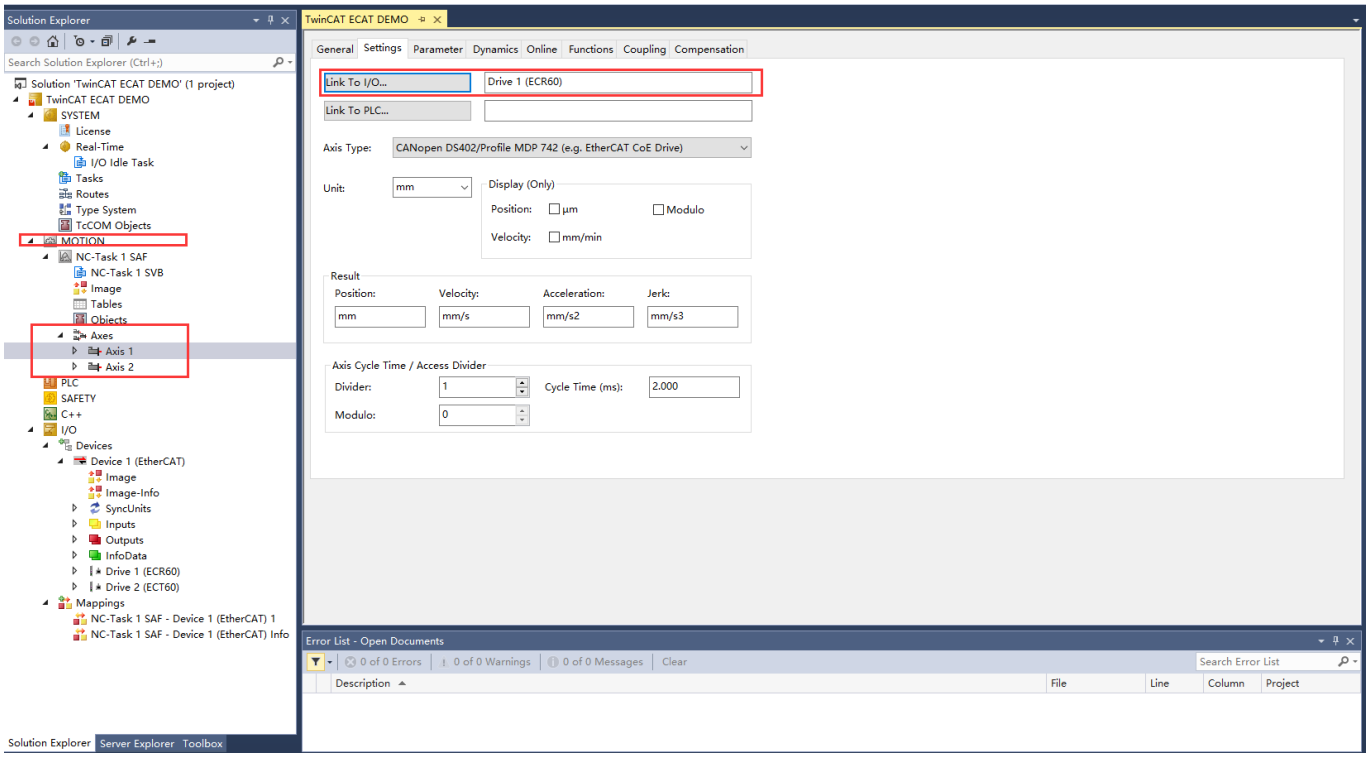


cable.

The normal connection is successful. The software prompts to find device 1 ECR60 and device 2 ECT60, and prompts to add the corresponding motion axis (NC). Click OK.

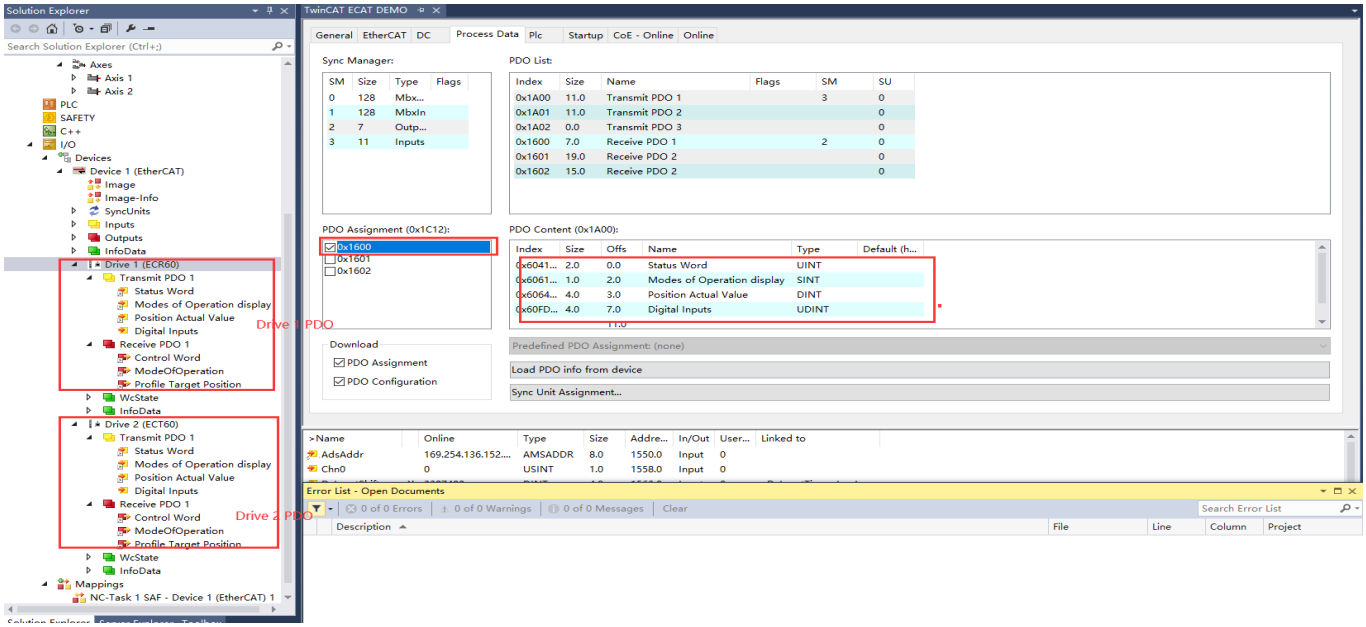


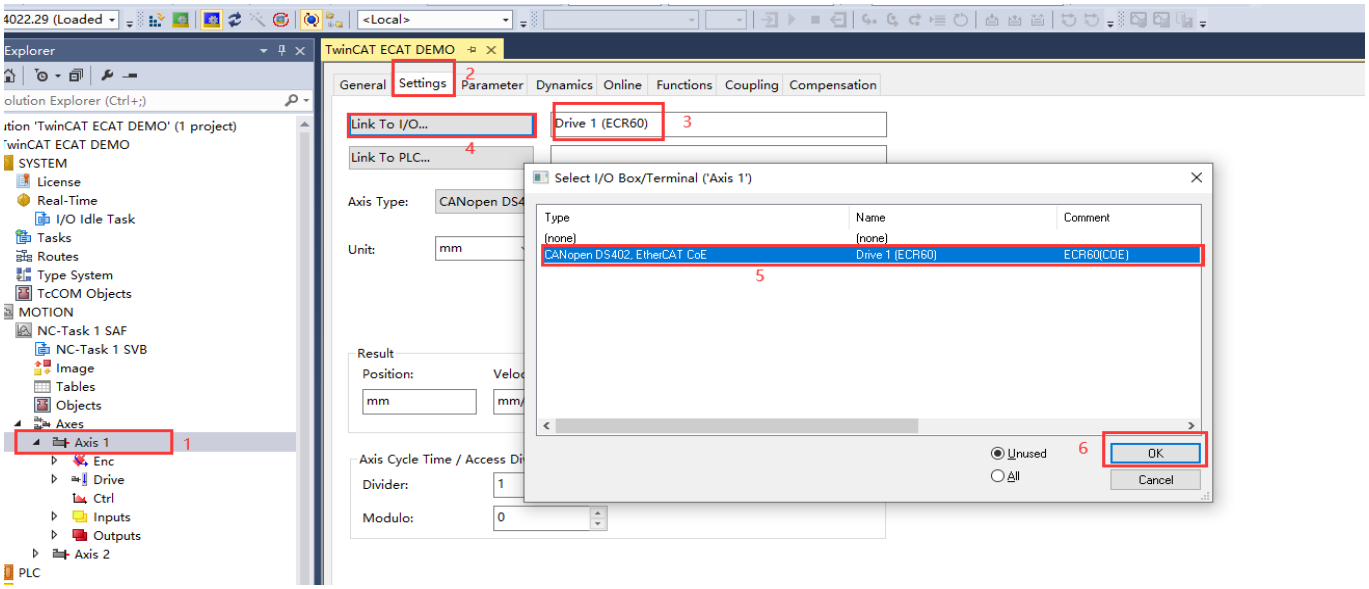
At this point, the software automatically adds the motion control axis corresponding to the slave station device, as shown in the figure below.The user can select "Motion/ NC-task1 SVB/Axes", and can select Axis 1 and Axis 2 to see whether the slave devices correspond to each other.

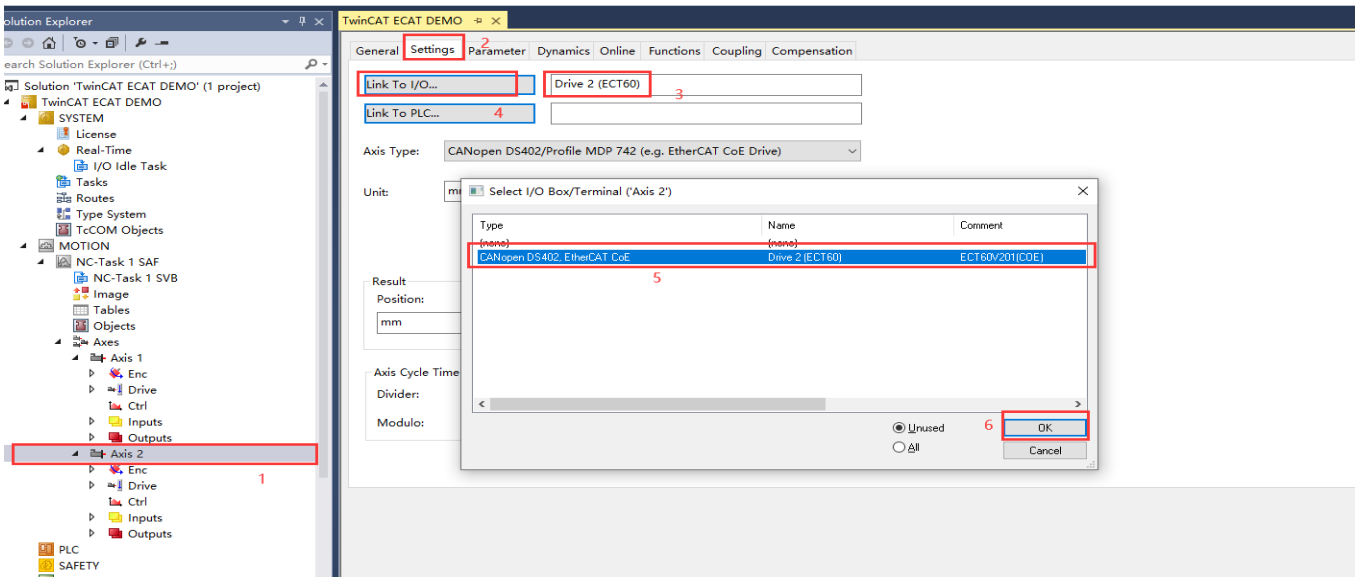


2.4 PDO mapping

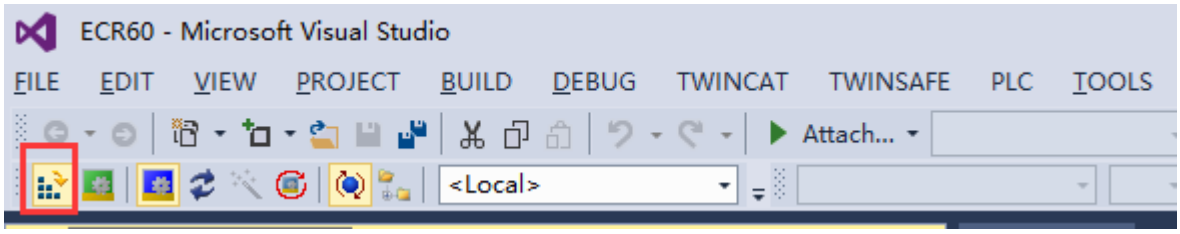
Select PDO for device 1 and device 2 and use the default Settings as follows:

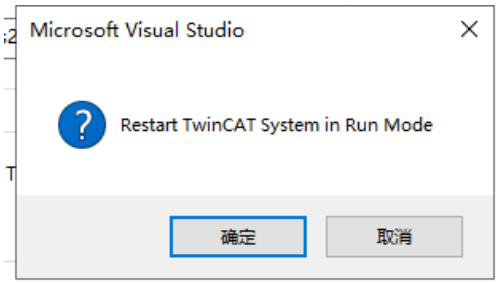

Drive 1 PDO
Drive 2 PDO


TwinCAT ECAT DEMO
General
Settings
Parameter
Dynamics
Online
Functions
Coupling
Compensation
Link To I/O...
Link To PLC...
Drive 1 (ECR60)
Axis Type:
Unit:
Select I/O Box/Terminal ('Axis 1')
CANopen DS402, EtherCAT CoE
Drive 1 (ECR60)
ECR60(COE)
Unused
All
OK
Cancel
Result
Position:
Axis Cycle Time / Access
Divider:
Modulo:
Axis 1
Axis 2
1
2
3
4
5
6


TwinCAT ECAT DEMO
General
Settings
Parameter
Dynamics
Online
Functions
Coupling
Compensation
Link To I/O...
Link To PLC...
Drive 2 (ECT60)
Axis Type:
CANopen DS402/Profile MDP 742 (e.g. EtherCAT CoE Drive)
Unit:
Select I/O Box/Terminal ('Axis 2')
CANopen DS402, EtherCAT CoE
Drive 2 (ECT60)
ECT60V201(COE)
Unused
All
OK
Cancel
Result
Position:
Axis Cycle Time
Divider:
Modulo:
Axis 1
Axis 2
1
2
3
4
5
6

2.5 Activate the Settings



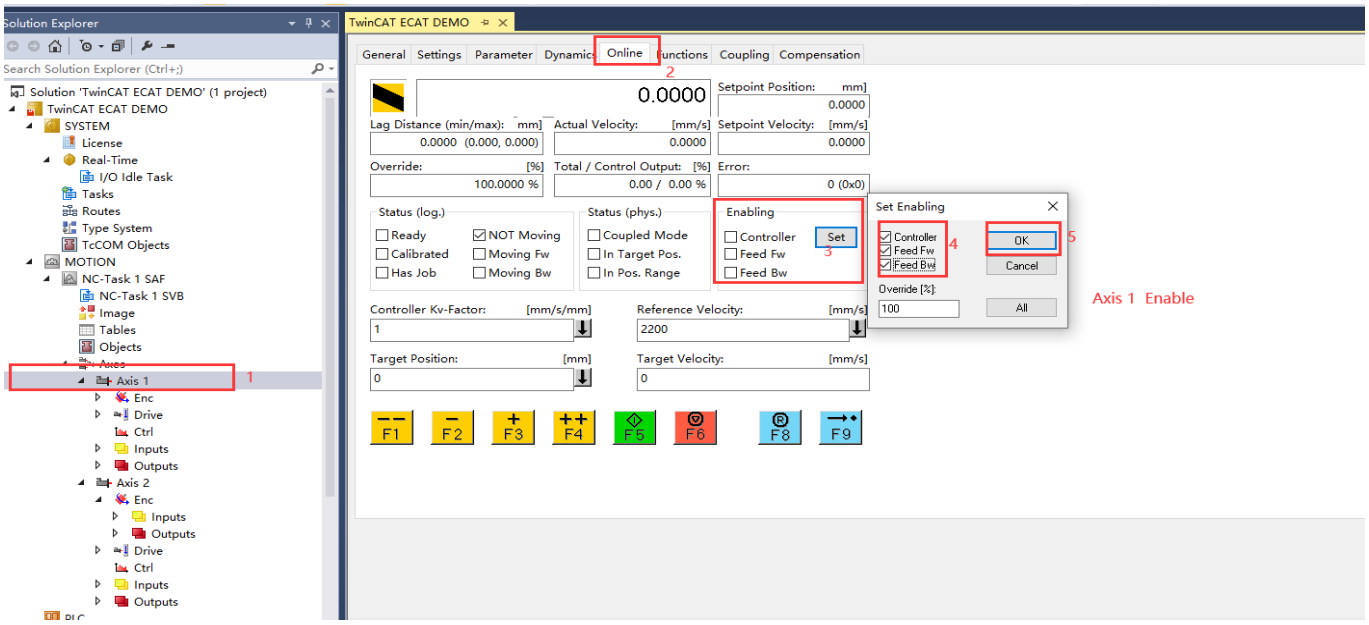


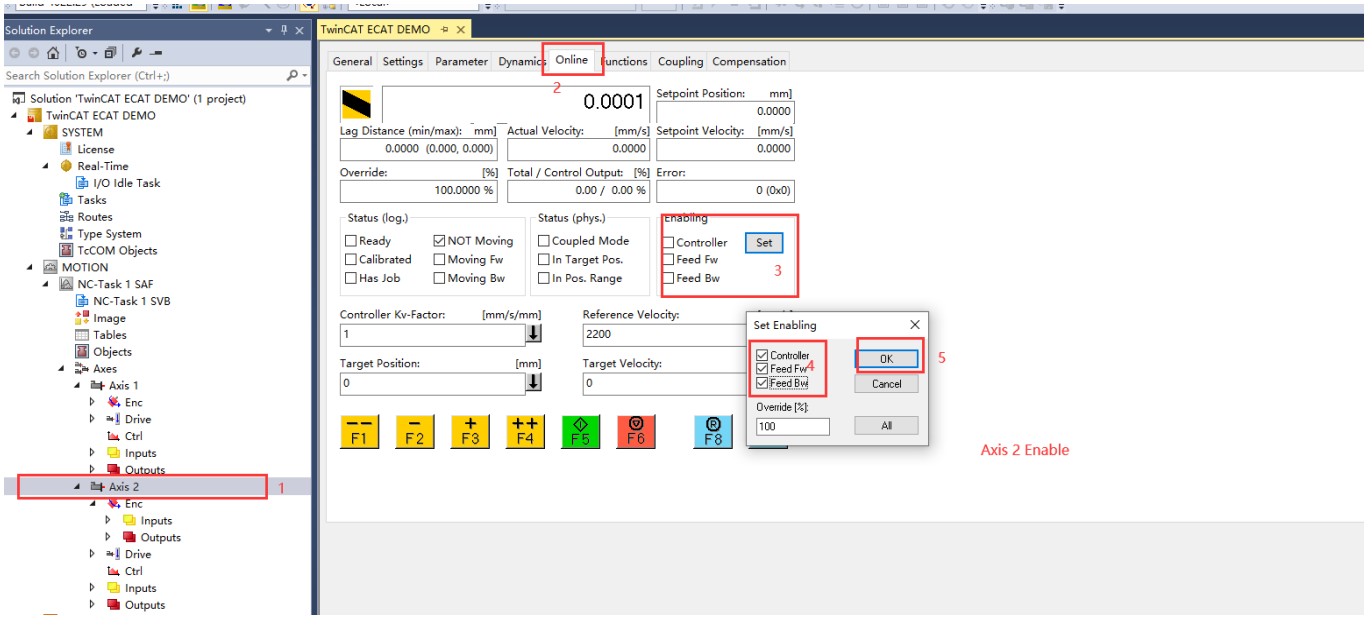
3. Motion testing and Parameter setting

3.1 Drive motion test

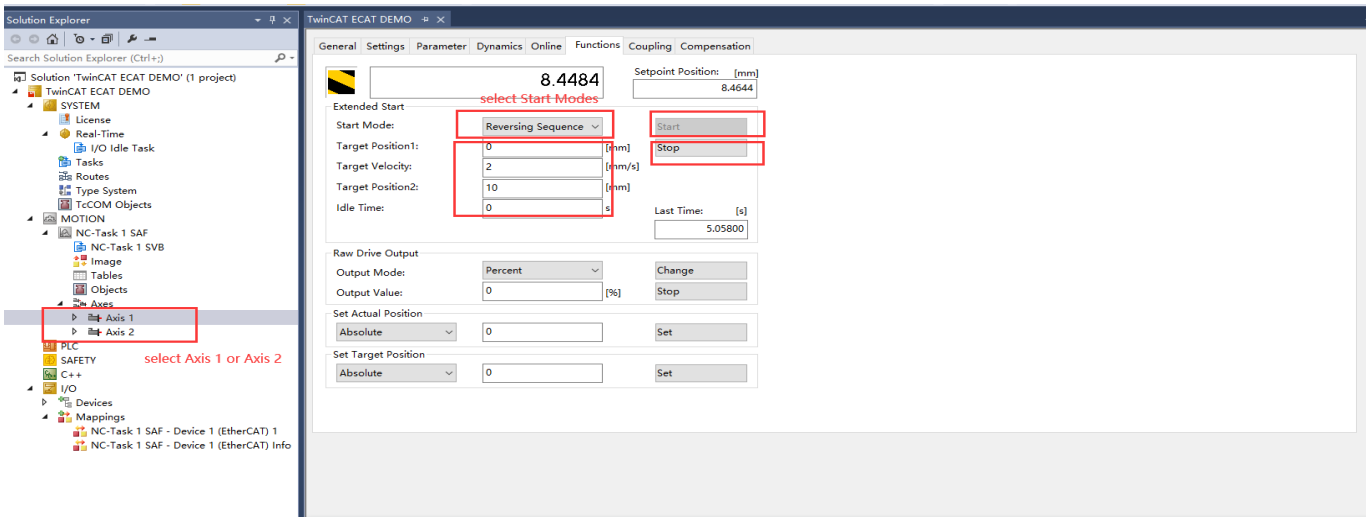
1) Enable the motor in this step the driver will complete the lock shaft, parameter self-identification function, and then enter the wait command state.

The figure below enables axis 1 and 2.

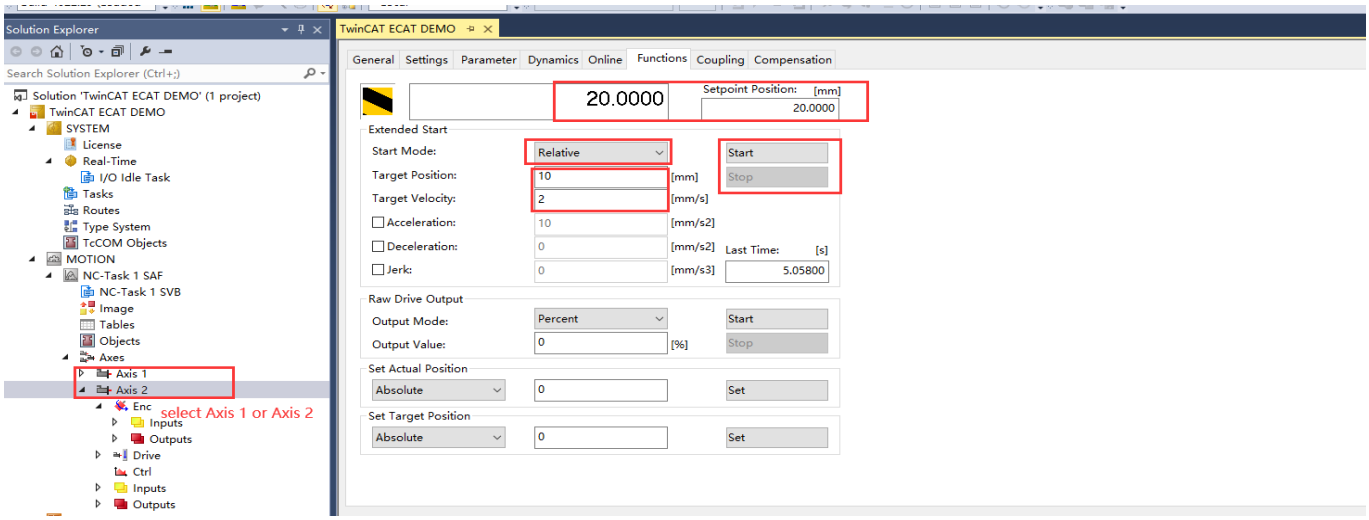




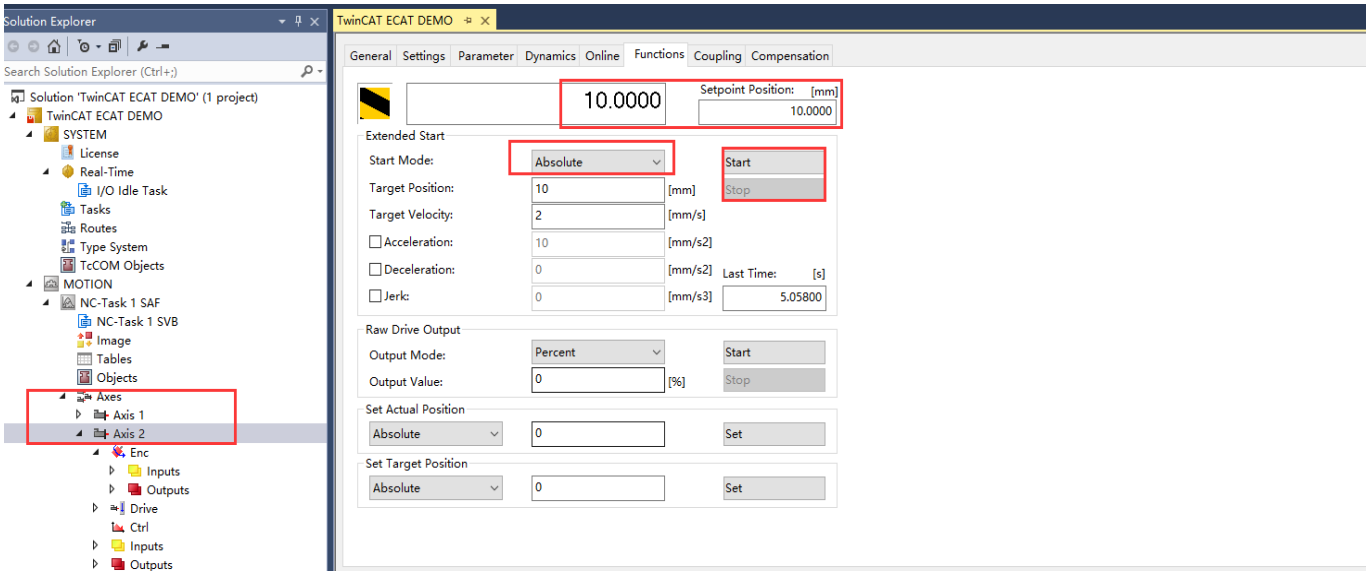
2) Reciprocating motion



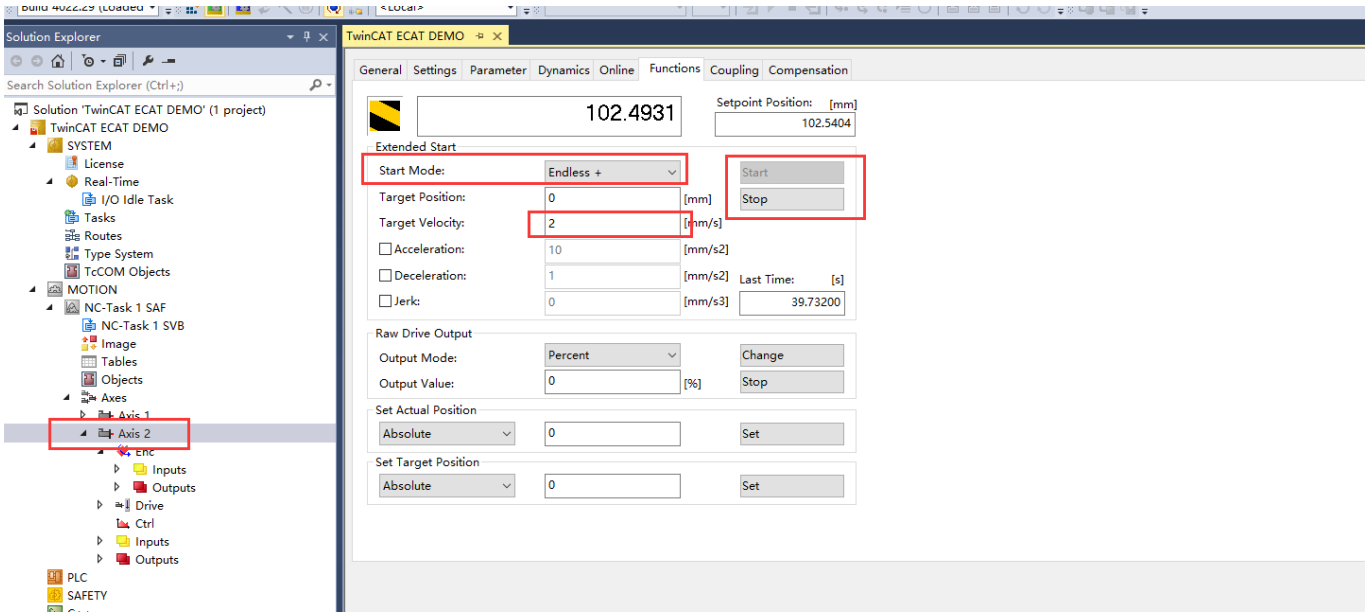
3) Move (Relative)



3) Move(Absolute)



4) JOG(Endless+)



Select Endless+ mode for continuous movement.Start the movement and the current position increases continuously towards Endless+.In the same way, choose Endless- mode to move continuously.Start the movement, the current position to Endless- decreasing.

3.2 Drive internal parameter Settings

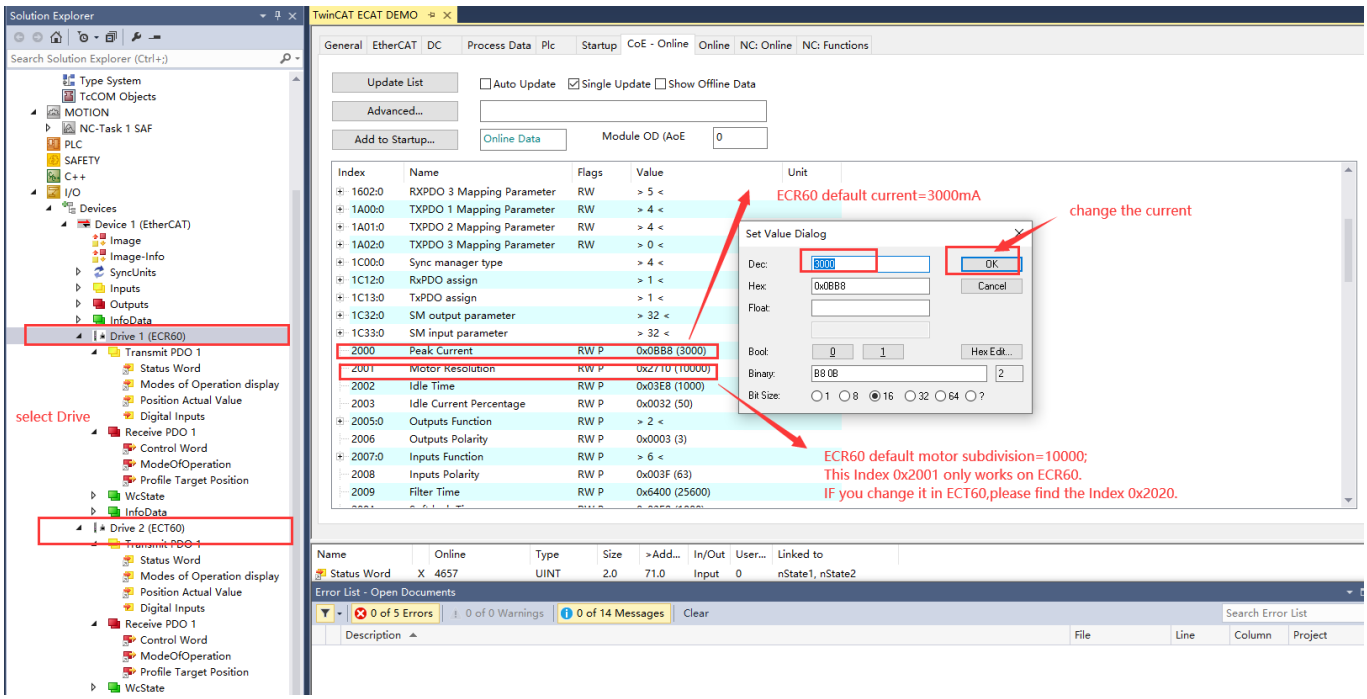
According to the user's requirements, the driver current size, instruction subdivision and so on are set here, and how to save parameters and restore factory Settings is pointed out.

Ps: First,modification of internal specified parameters requires modification when the motor is stationary.

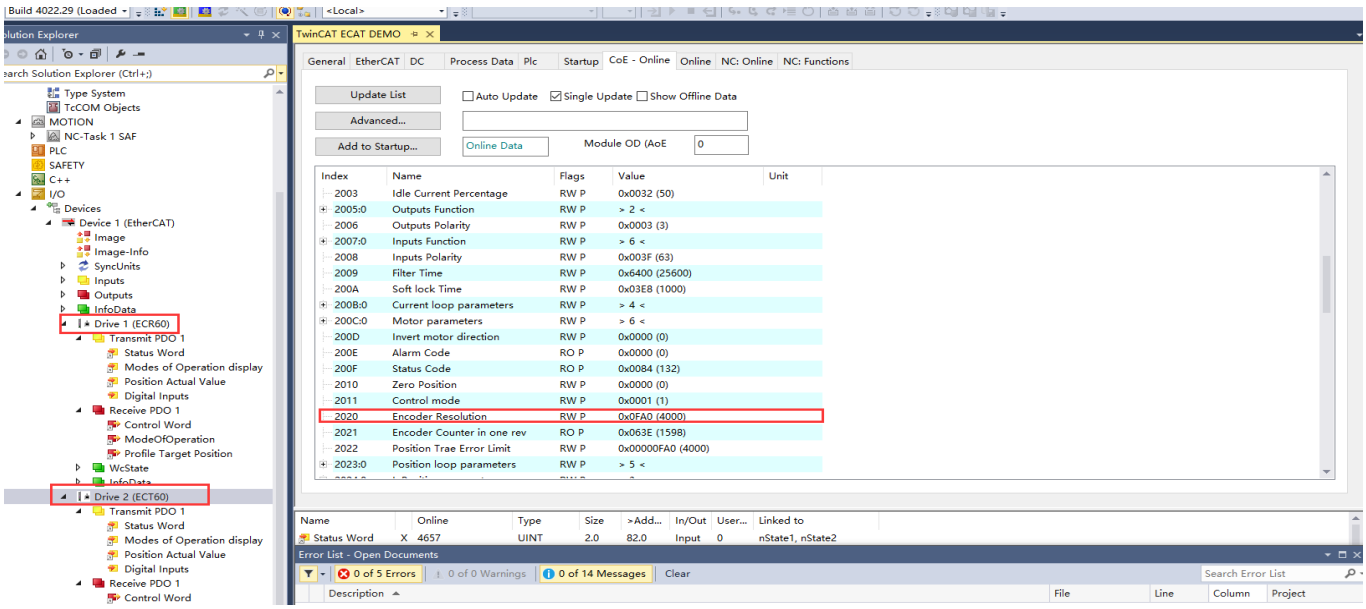
Second,after modifying the internal specified parameters, you need to keep the parameters, otherwise the drive will become invalid after power failure.

1) Set current size and motor instruction subdivision

ECR60:

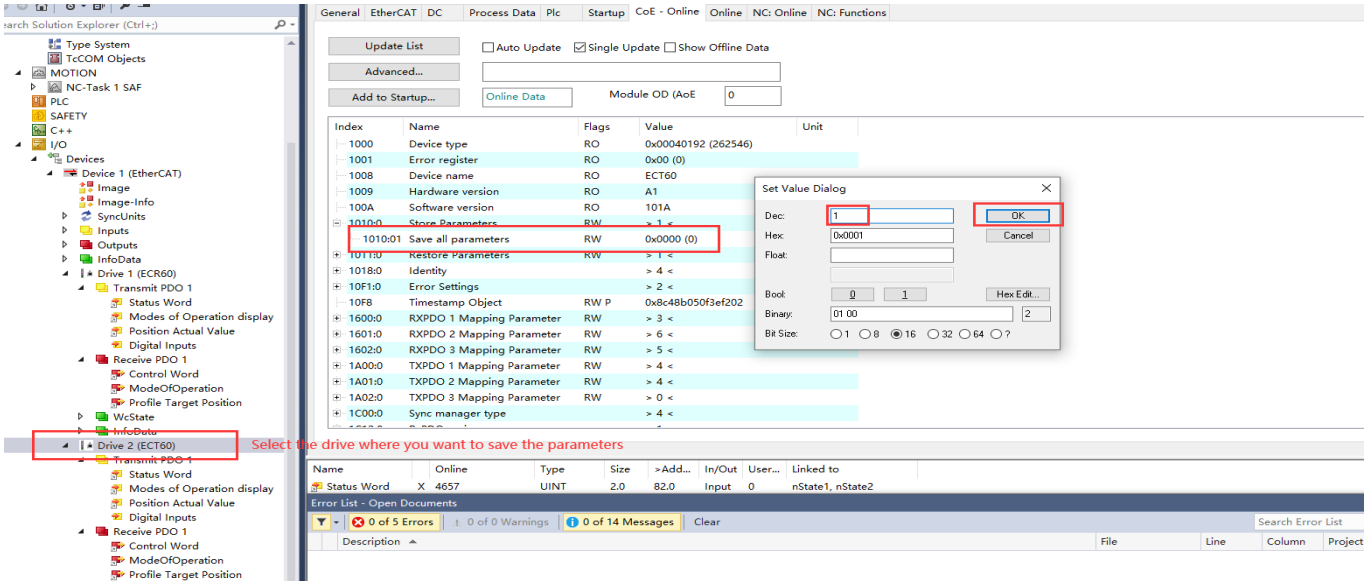


ECT60:



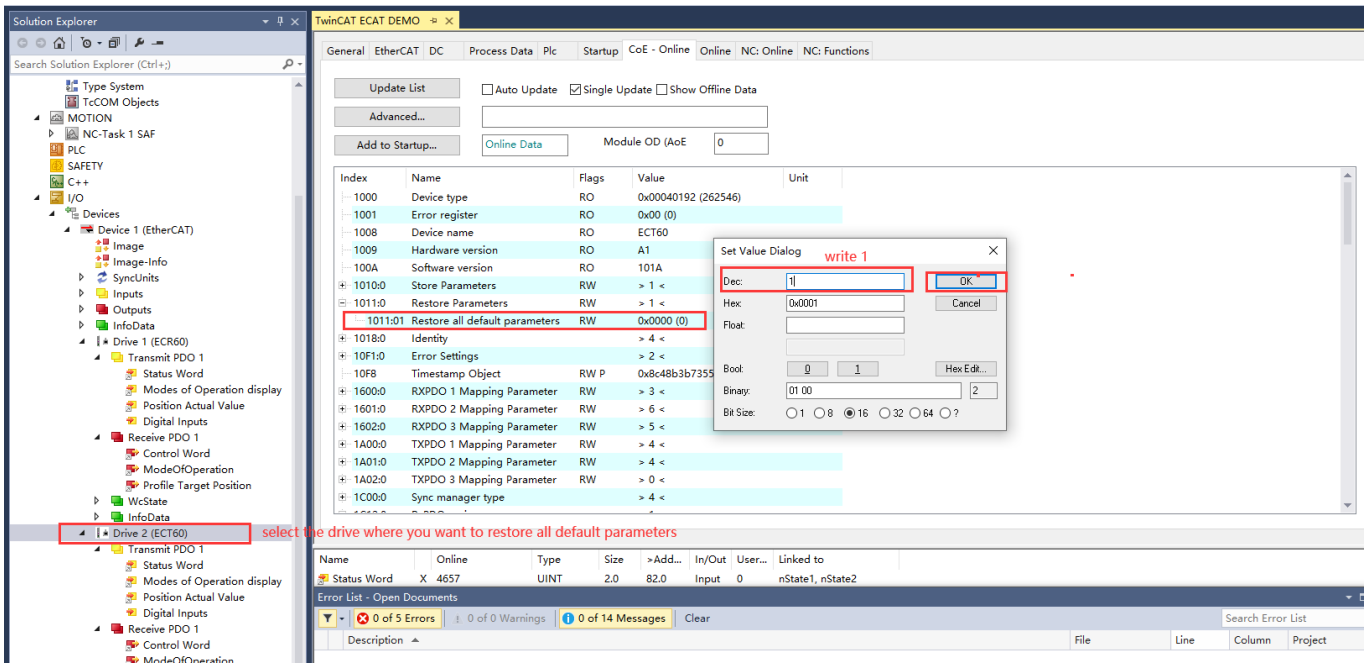
The subdivision of ECT60 is equal to the encoder resolution(The default ECT60 resolution is 4000, which means: 4000 pulses/r)

2) Store all parameters



After saving all parameters, the drive power outage restart is valid.

3) Restore all default parameters



After restoring all default parameters, the drive power outage restart is valid.

4. Contact information

Contact Information: 15013078821, Mr. Zhong

Address: Second Floor, After-Sales Department, No. 108, D'gang Street, Baiyun District, Guangzhou City, Guangdong Province