AKD and TwinCAT 3 CNC EtherCAT Communication Test

AKD 与 TwinCAT 3 CNC 通讯实验

Pre-Work

HW：AKD drive /AKM motor / network card support EtherCAT /EtherCAT cable

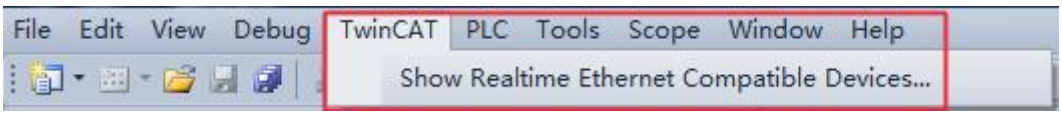
SW：TwinCAT3 /AKD Workbench

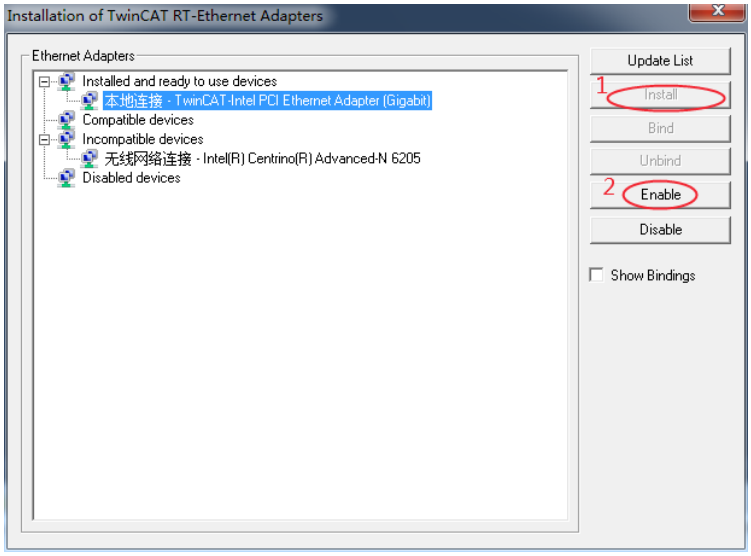
Wiring：Reference to AKD installation manual, using cable with shield.

Configuration Step

1. Install Real-time Ethernet

Open TwinCAT 3 software, check whether Ethernet adapters has correctly installed firstly, if not, click install and enable.

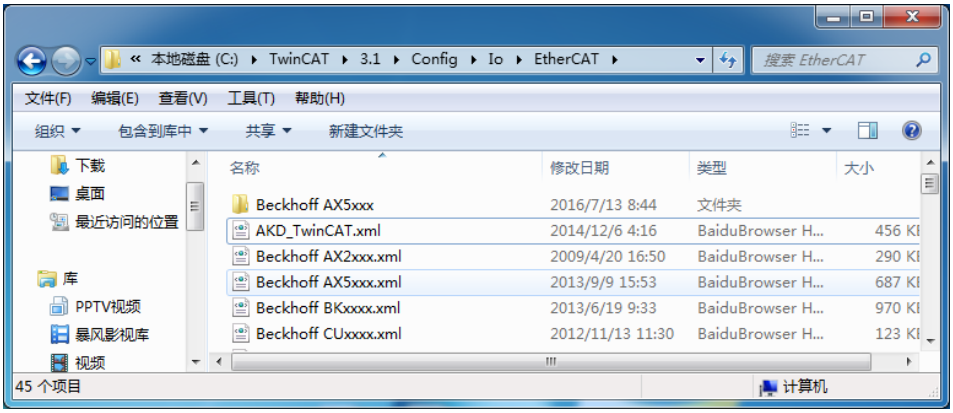




Please be noted that not all of the PC support EtherCAT, you can check if your device support EtherCAT communication on Beckhoff website.

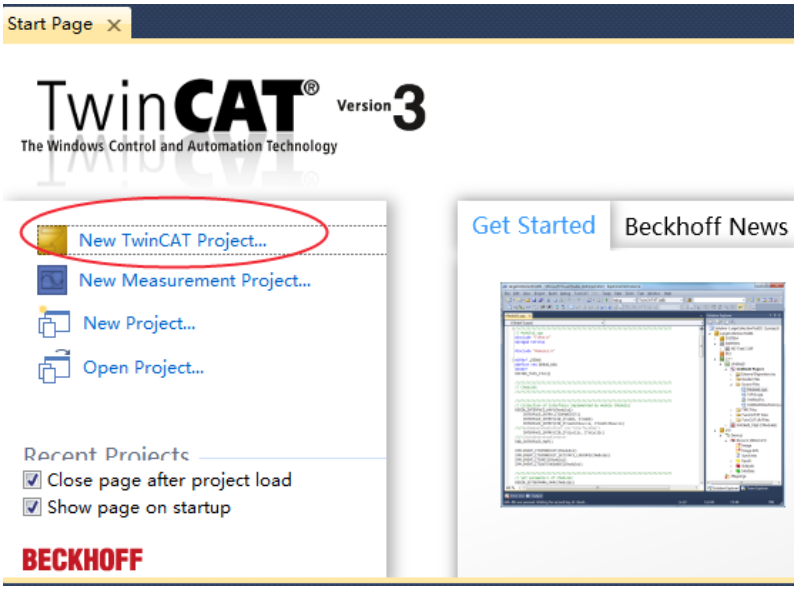
2. Add XML File

Add AKS.XML file in the folder C:\TwinCAT\3.1\Config\Io\EtherCAT, after that, you'd better restart the TwinCAT software before scan the IO device.

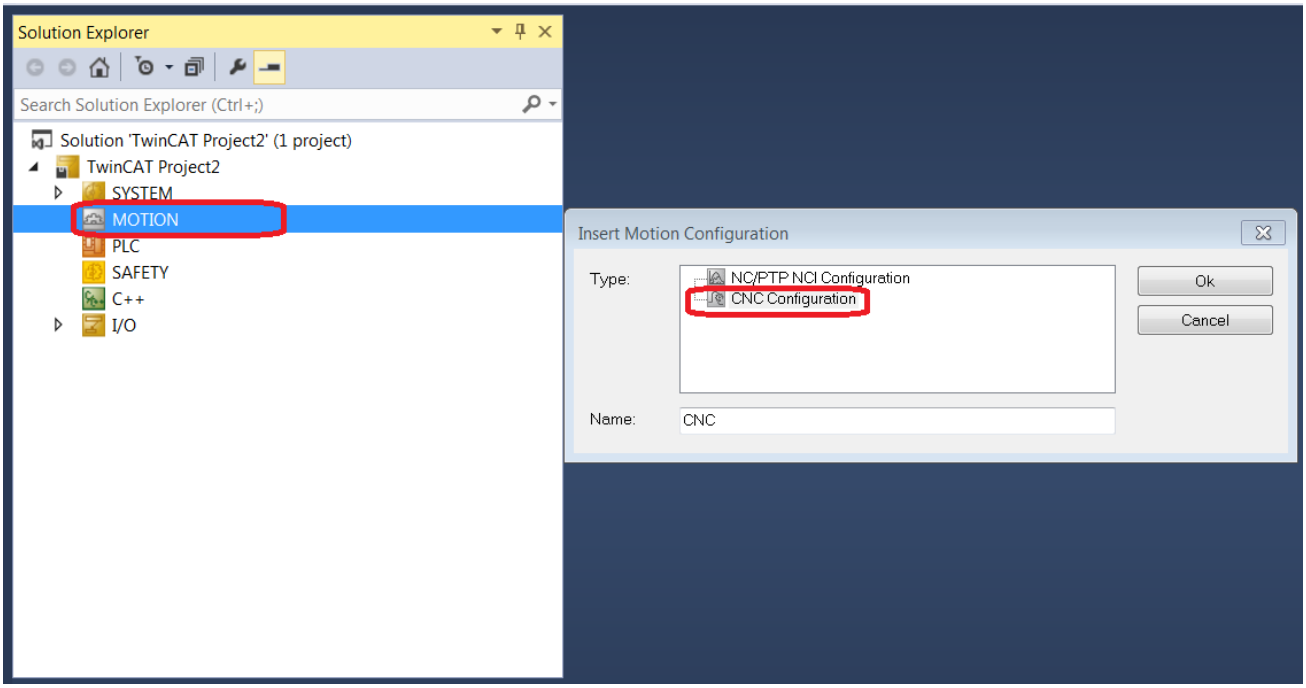


3. Create Project

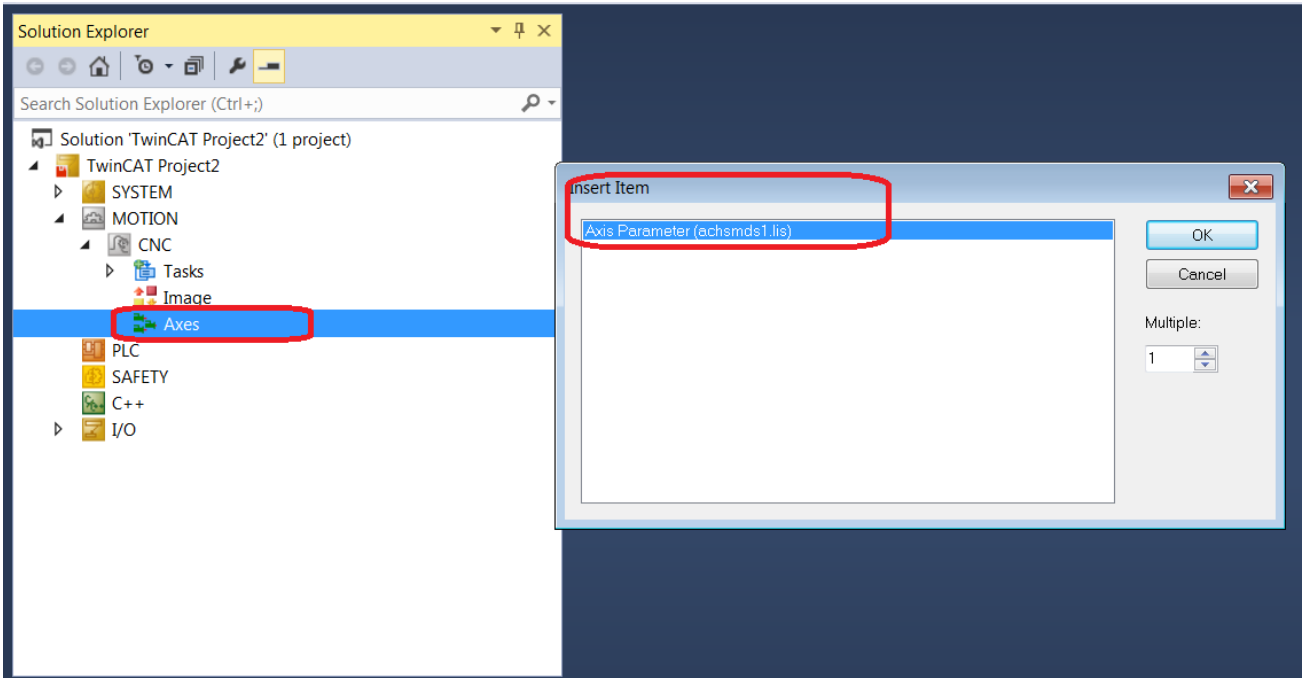
Add new project on the get started page.



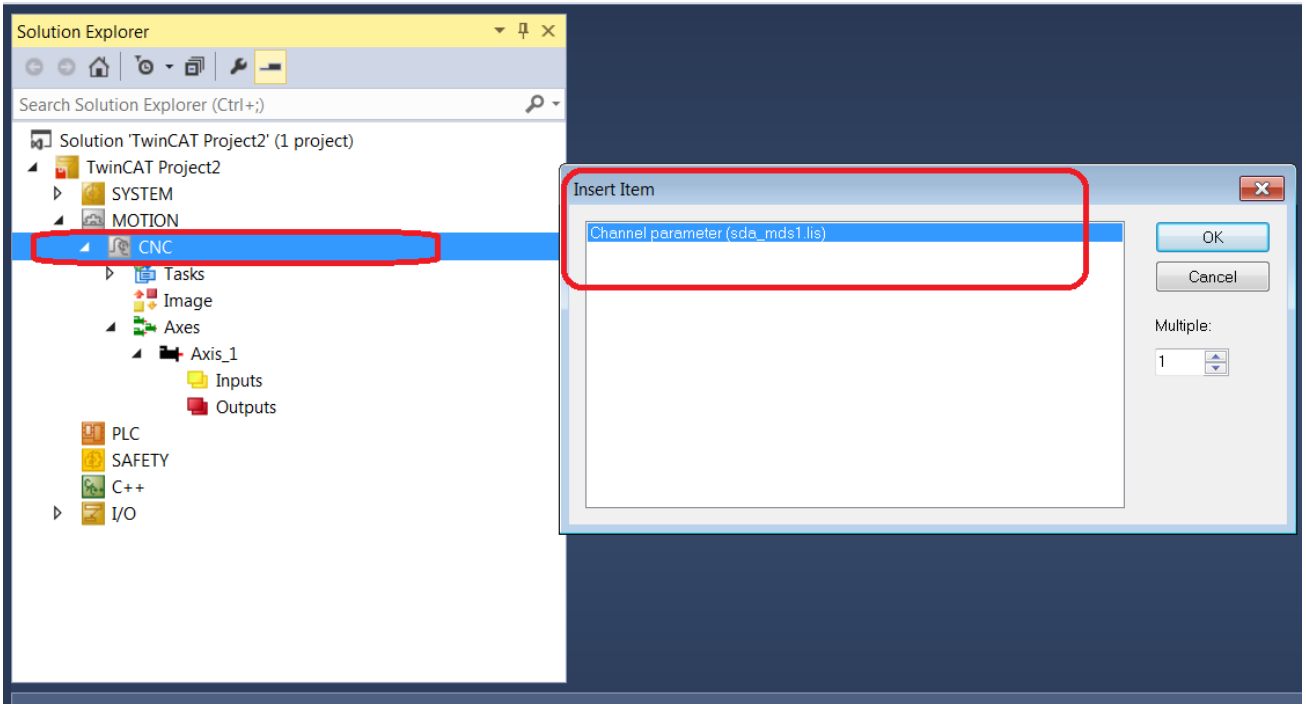
4. Insert CNC Configuration



5. Add CNC Axis

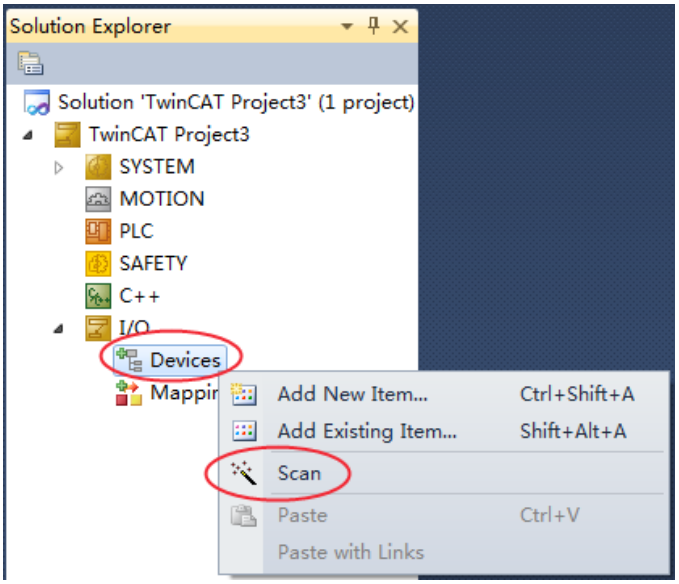


6. Insert Channel

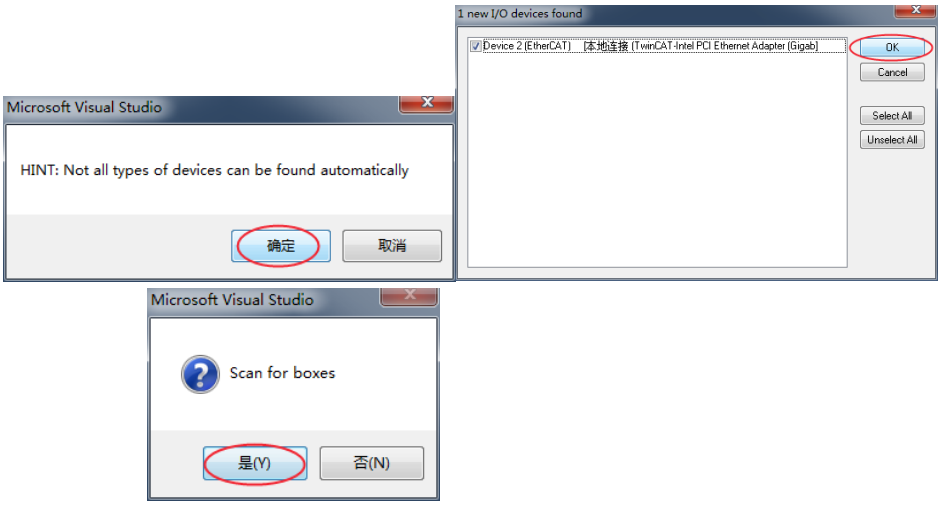


7. Scan Device

On configuration mode, ensure right wiring and add a right version XML file, then scan device.

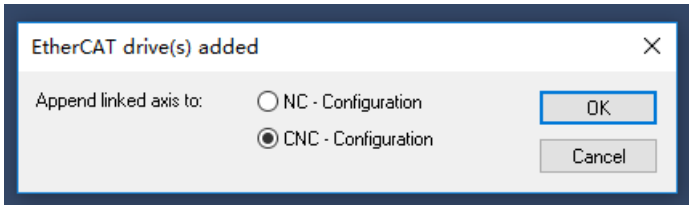


Choose as below

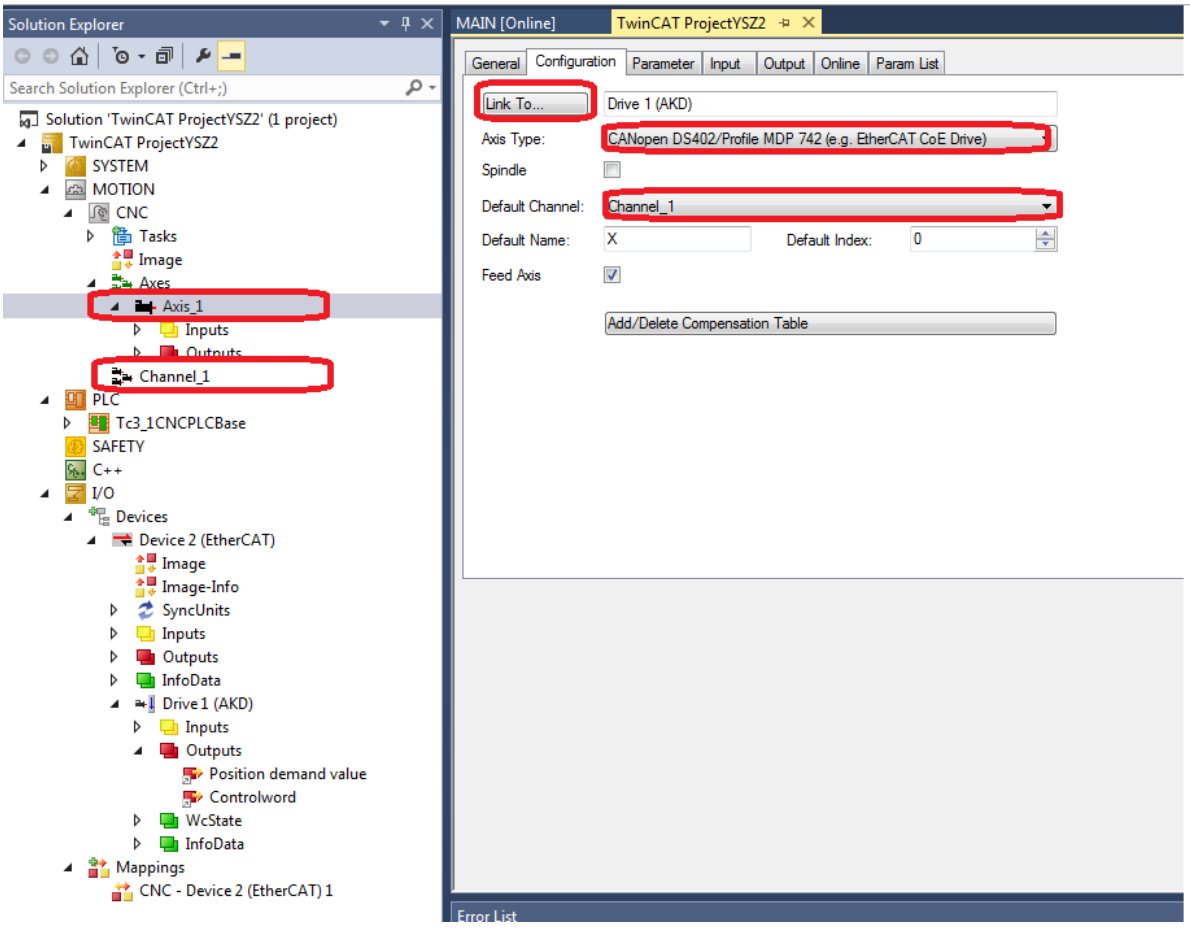


8. Link to CNC Axis

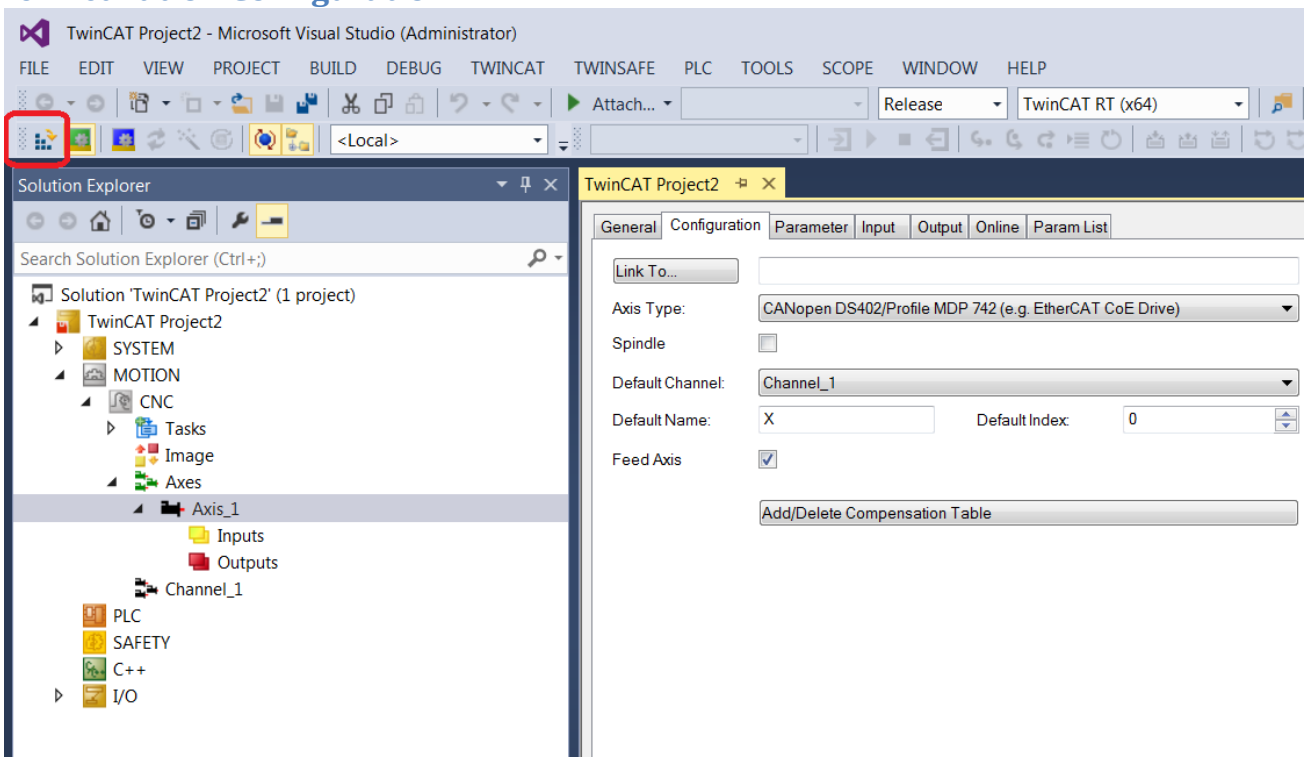
For NC control, you need to link to NC configuration, my document mainly talk about how to link to CNC.



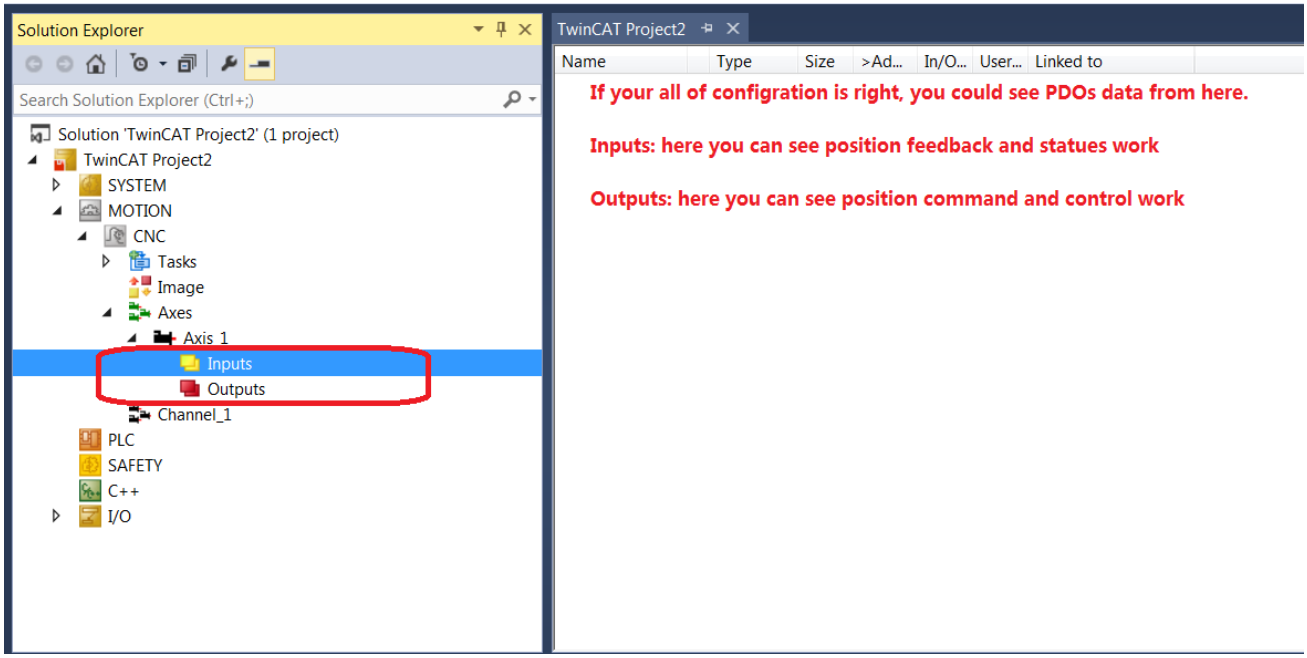
9. Link to Drive and Choose Channel



10. Activation Configuration

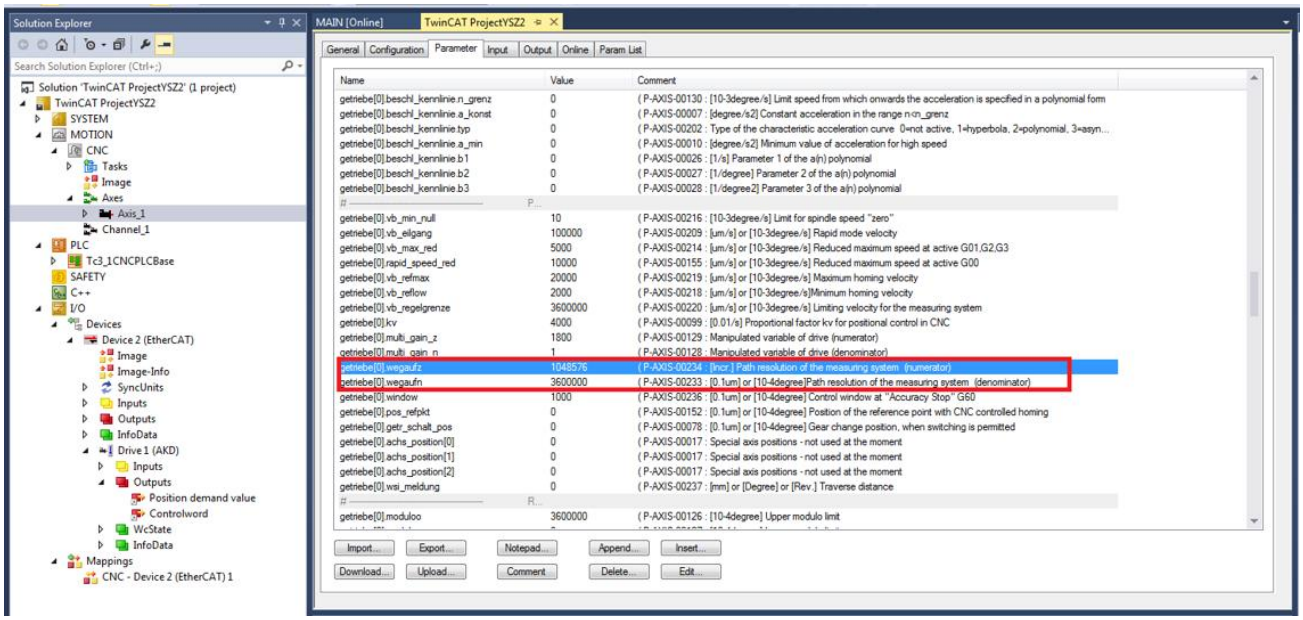


11. Check Process data

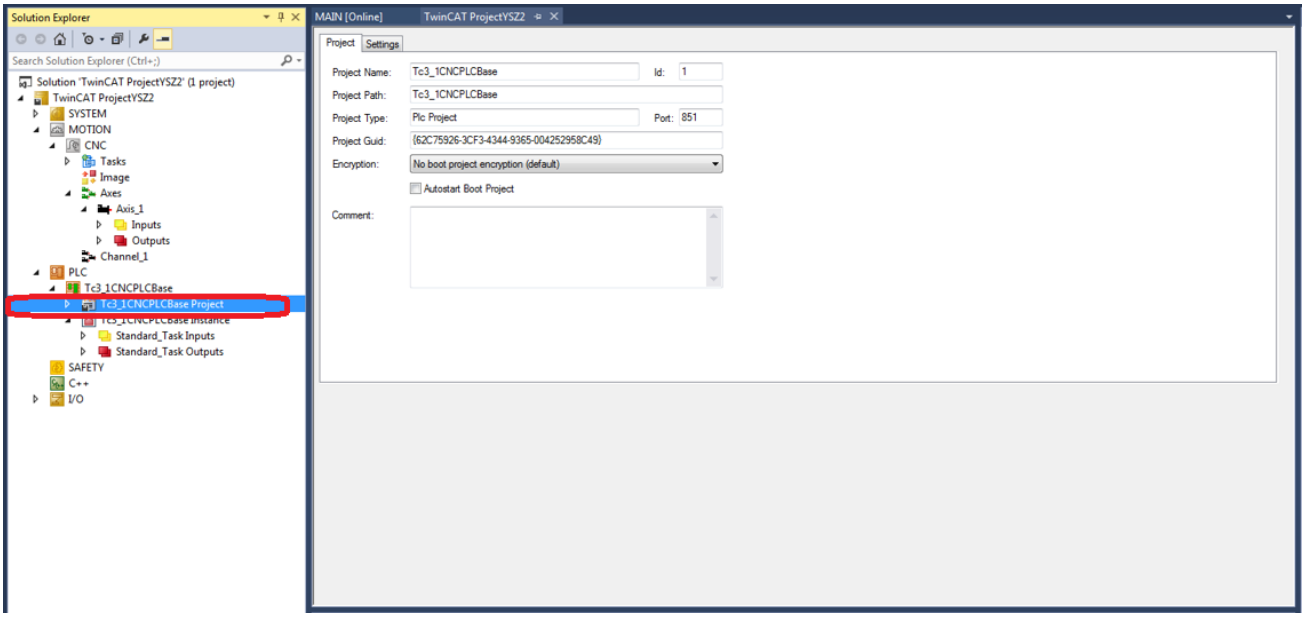


12. Modify Axis Parameter

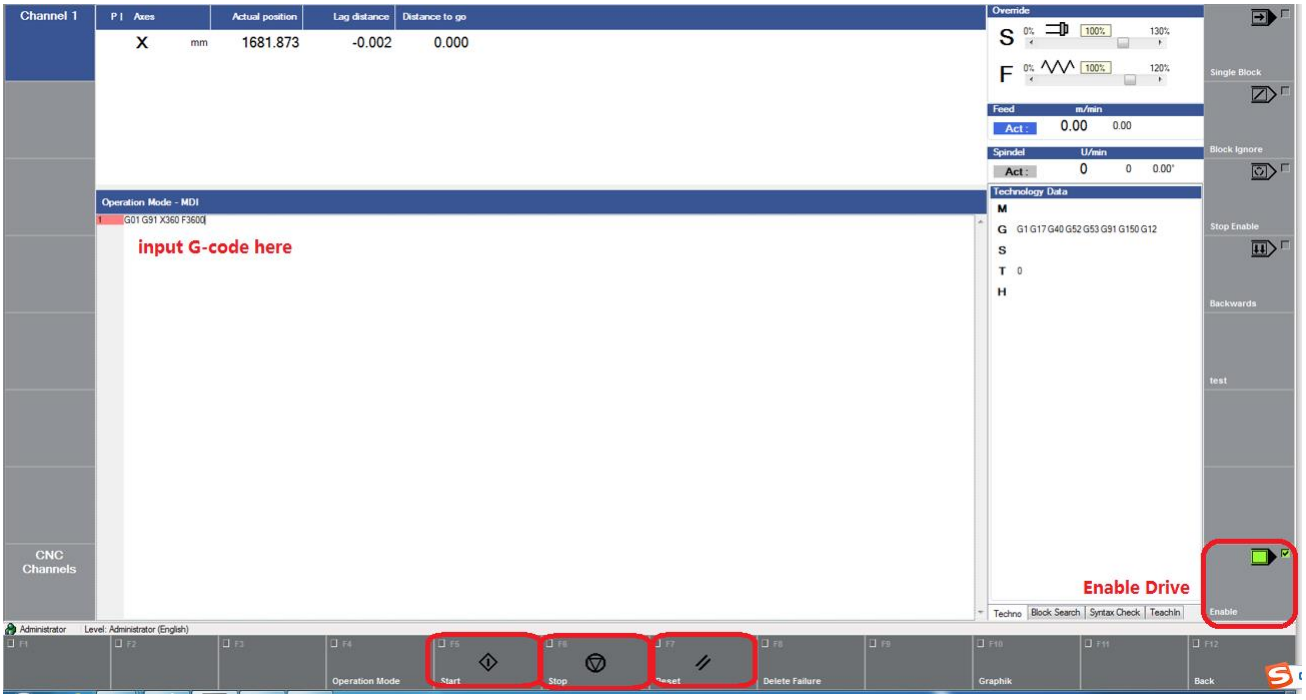
For my drive and motor feedback, 1 motor rev=2^20=1048576



13. Add CNC Program

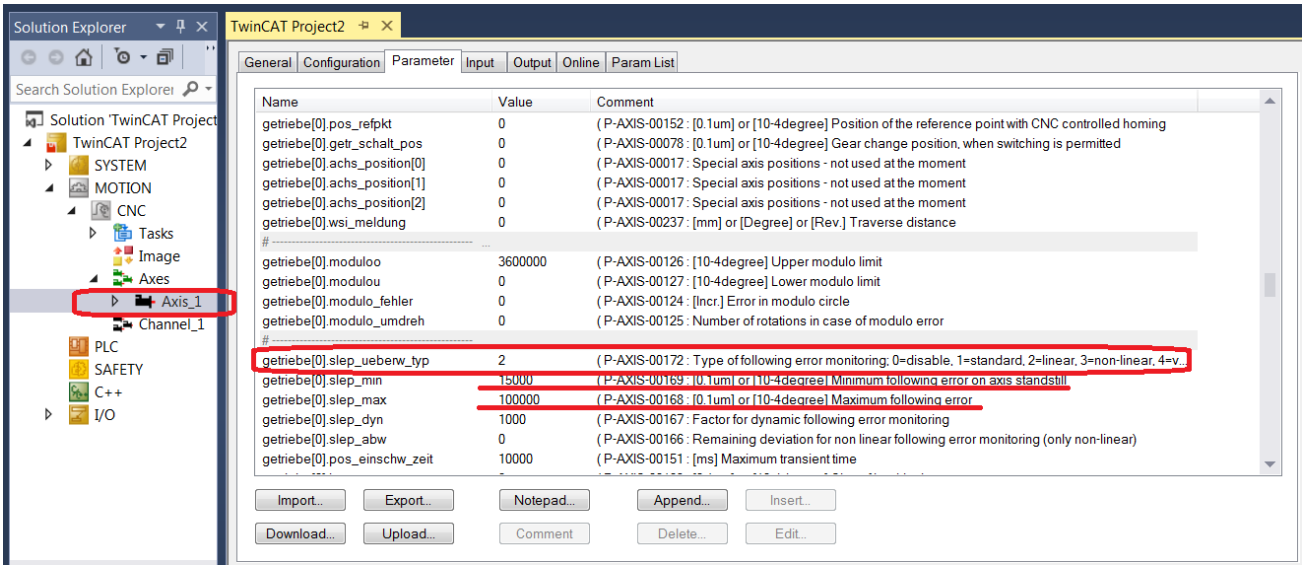


14. Programming G-Code in HMI



Trouble Shooting

1. Following Error so Big:



Set maximum following error bigger or disable following error monitor

2. F125 in AKD Drive

Check EtherCAT cable or Check AKD drive Fieldbus.Parameter set up.