Automation for a Changing World

# AX-864E Package Installation User Manual

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# Chapter 1: Package Installation

## 1.1 Overview

This document describes how to install the AX-8xxEP0 Series_1.0.0.0 package in the CODESYS V3.5 SP14 softwar. After the installation, the device releated confinguration will build-in CODESYS software and user can use the IEC program, configuration, and funcitons to implement the project.

## 1.2 Software and Package Download

Please download the Codesys software as below link.

- Codesys standard software
  http://www.deltaww.com/services/DownloadCenter2.aspx?secID=8&pid=2&tid=0&CID=06&itemID=060210&typeID=1&downloadID=&title=&dataType=8;3;&check=1&hl=en-US
- Package: AX-8xxEP0 Series_1.0.0.0


## 1.3 Package Installation

Please install the Codesys sodtware first and follow the below step to install package.

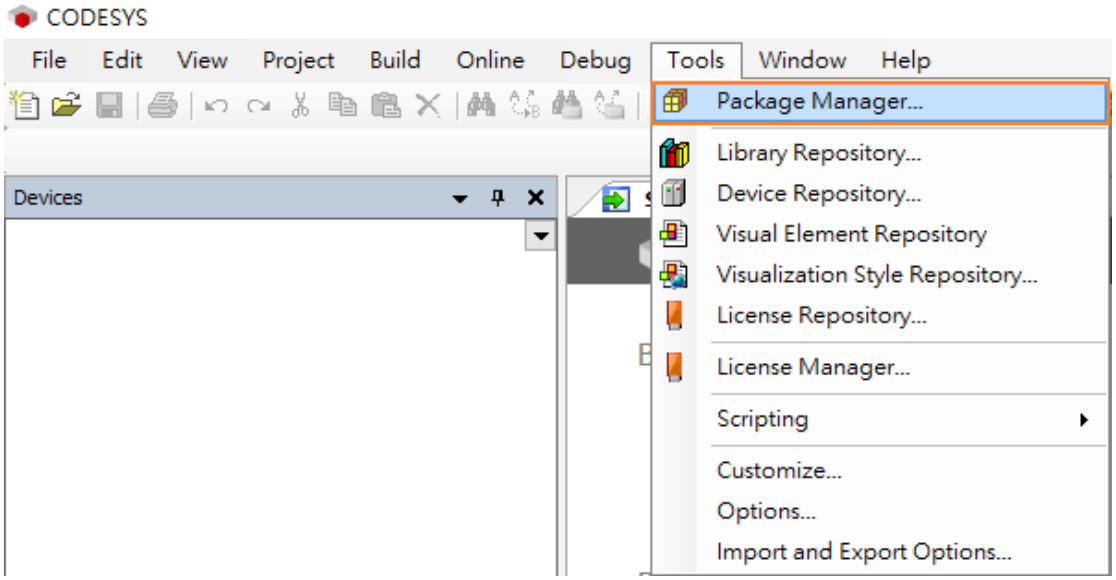
1. Download the Package in Delta download center

   AX-8xxEP0 Series_1.0.0.0.package

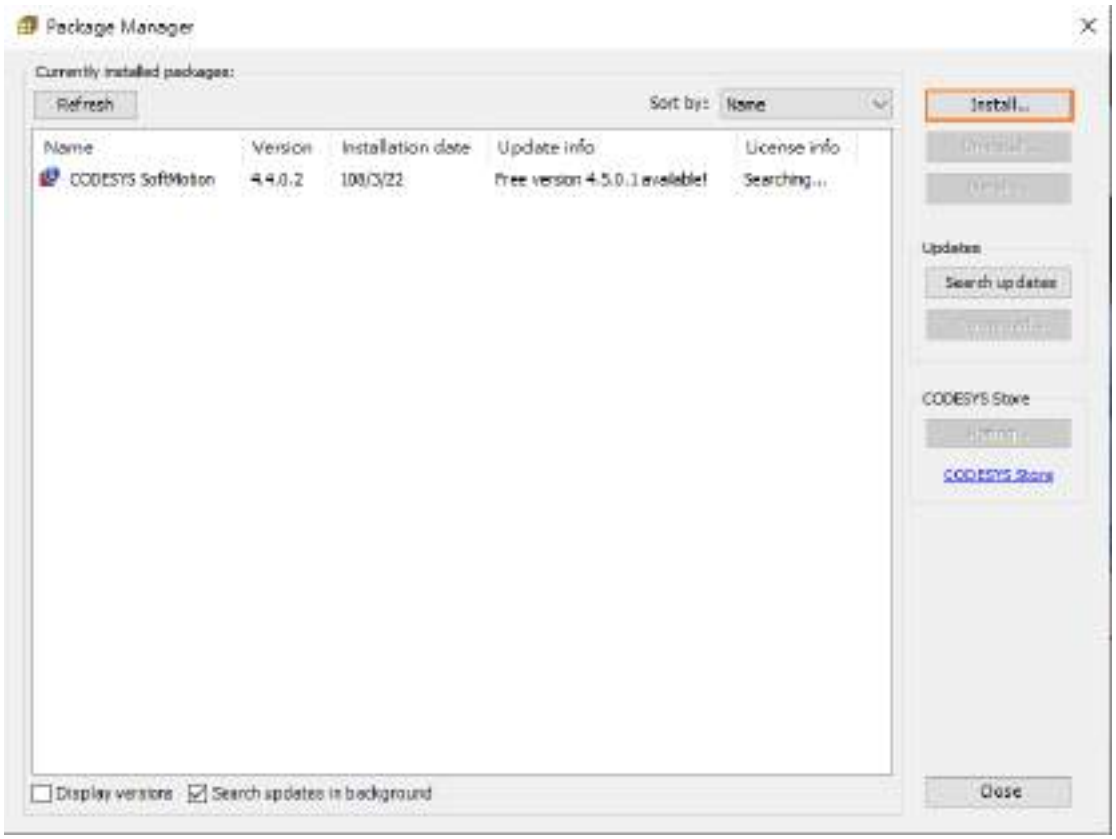
2. Open the Codesys Development Software

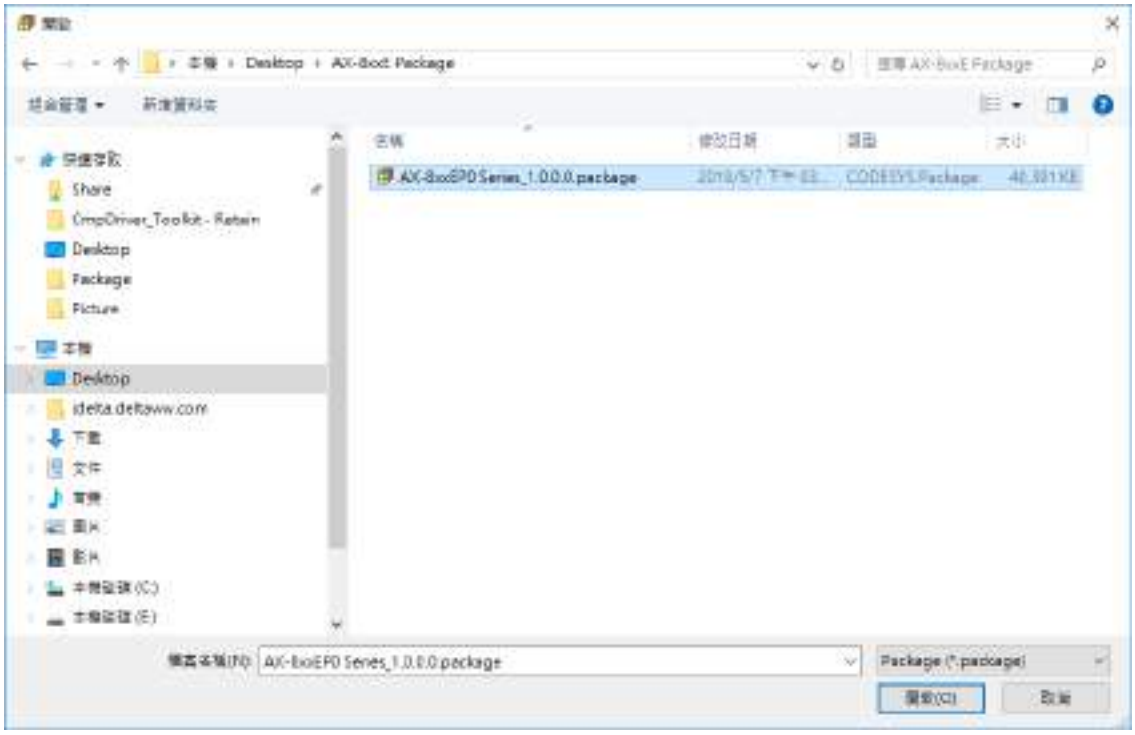
3. Click “Tools” → “Package Manager”



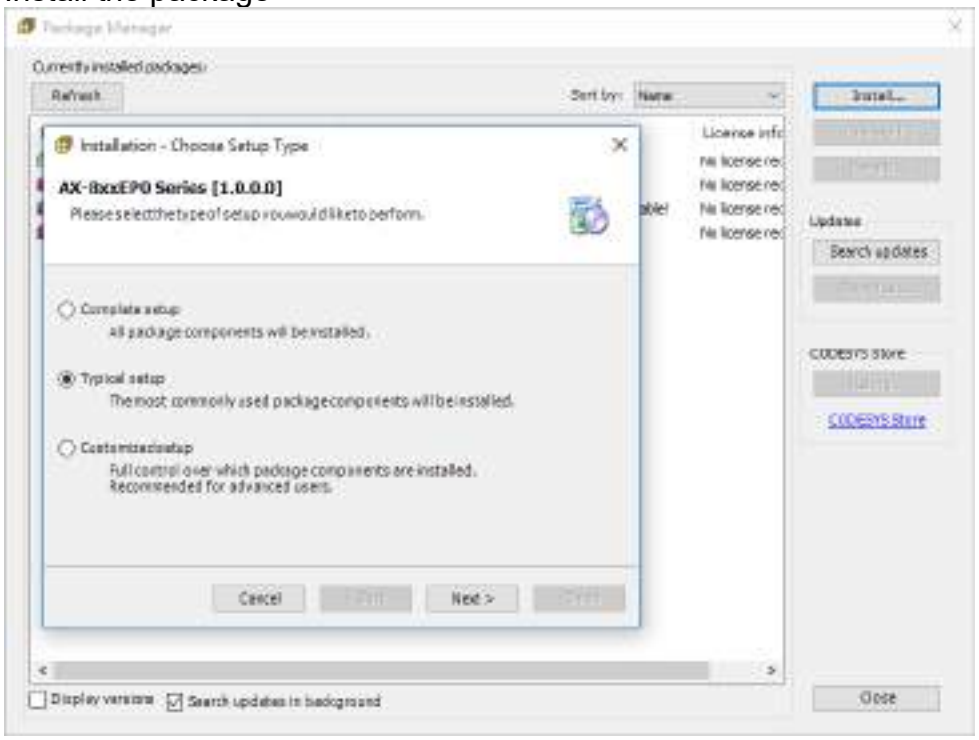

4. Click “Install”



5. Select the Package - AX-8xxEP0 Series_1.0.0.0



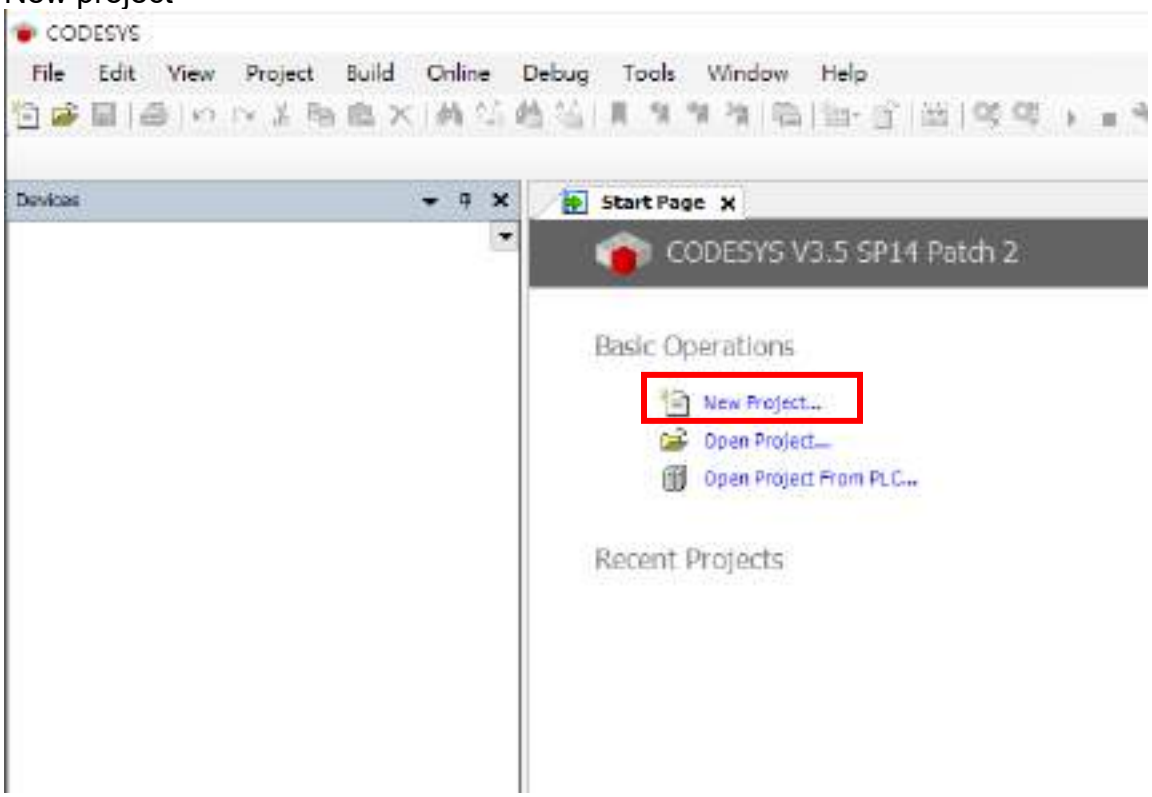

6. Install the package



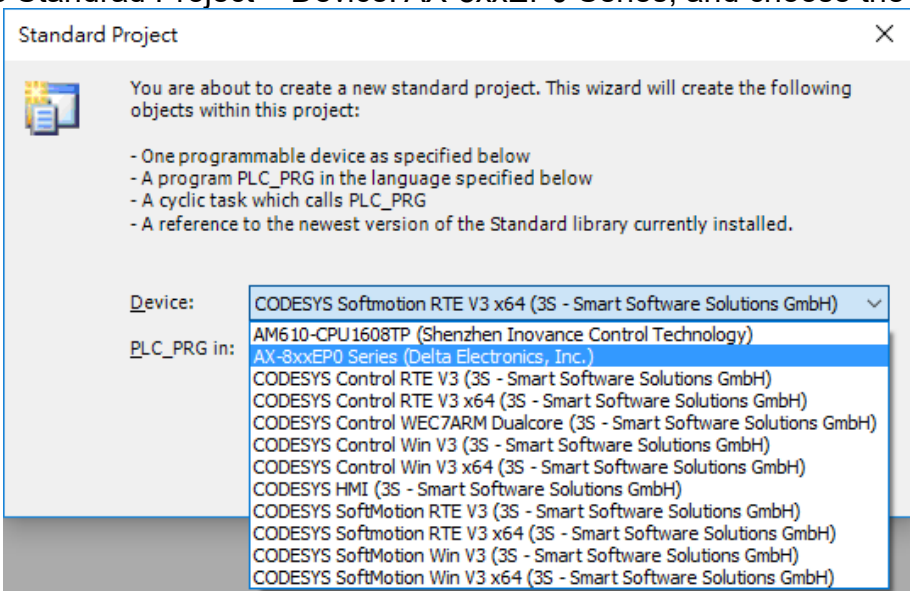
## 1.4 Open AX-8 Series Configuration

After the package installation, user can follow the below steps to create the AX8 series project and config the releated program, function, and configuration.

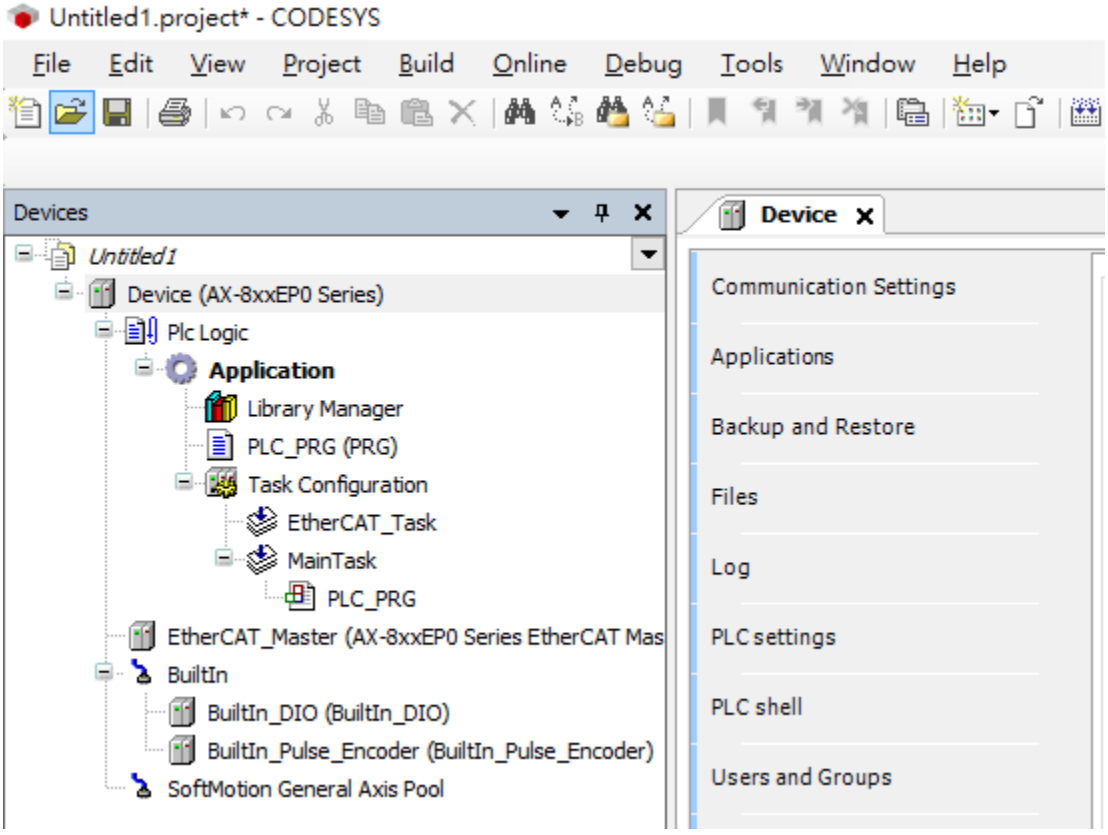
1. New project




2. Choose Standrad Project > Device: AX-8xxEP0 Series, and choose the PLC_PRG.



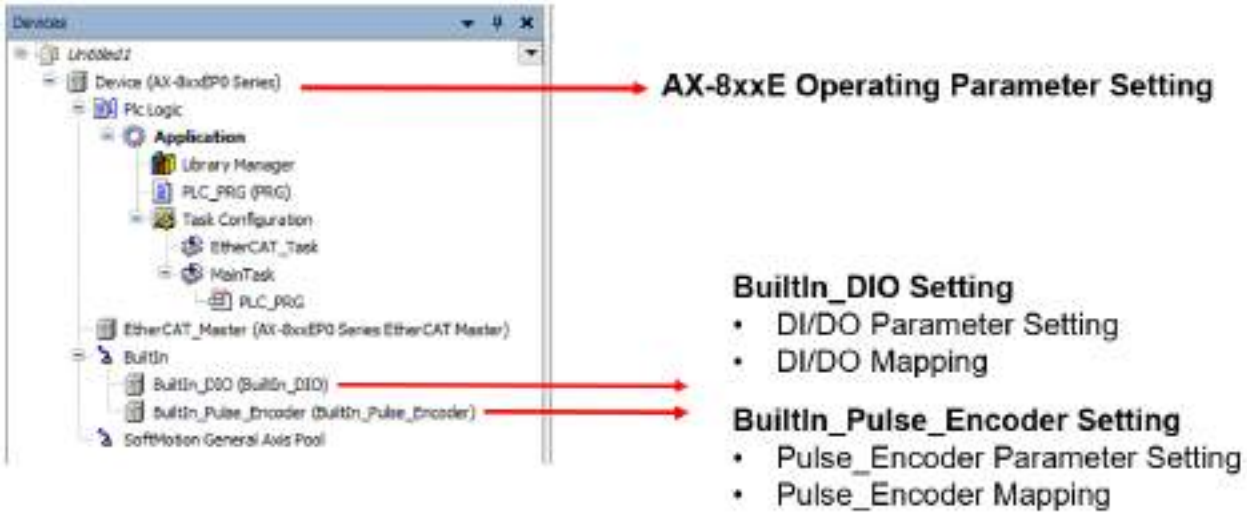
3. The project will create ad below picture.



## 1.5 AX-8 Series Parameter

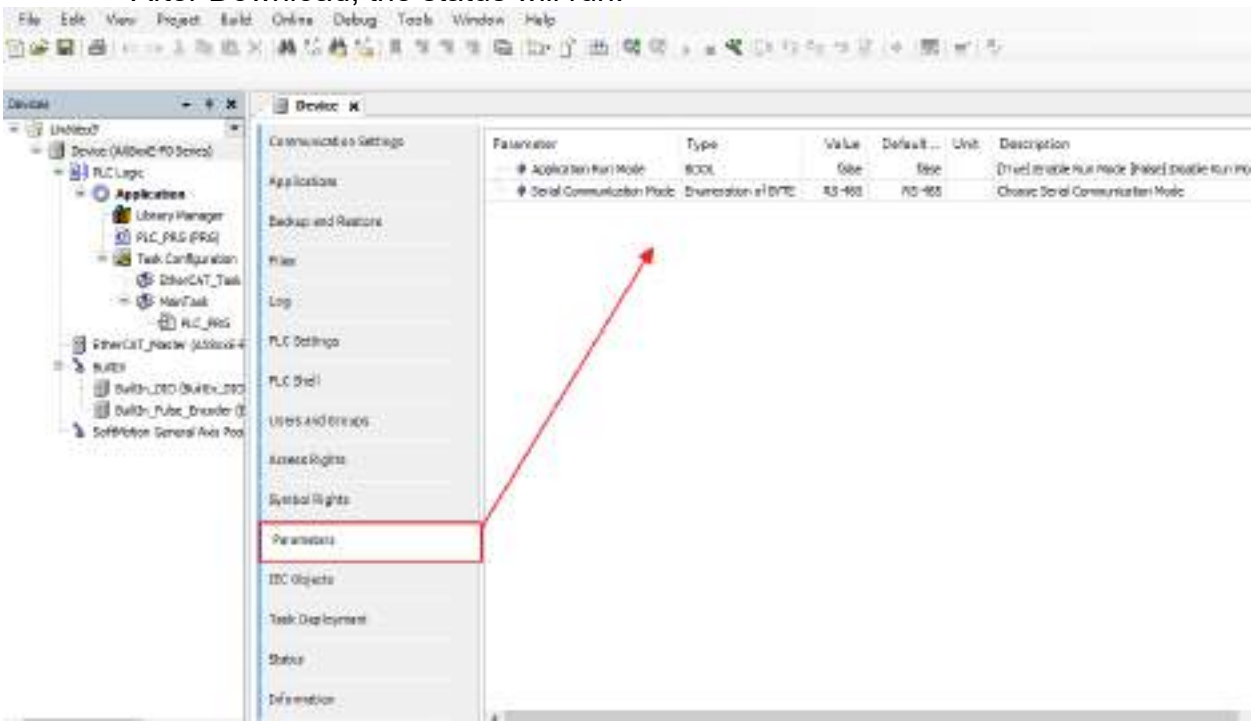
AX-8 Controller parameter setting in Codesys software.

1. Open project




4. Application Run Mode：Set RTE and PLC “Run” status when controller active

- Setting Value：True, False
- Default Value：False
- Offline can change the setting
- After Download, the status will run.



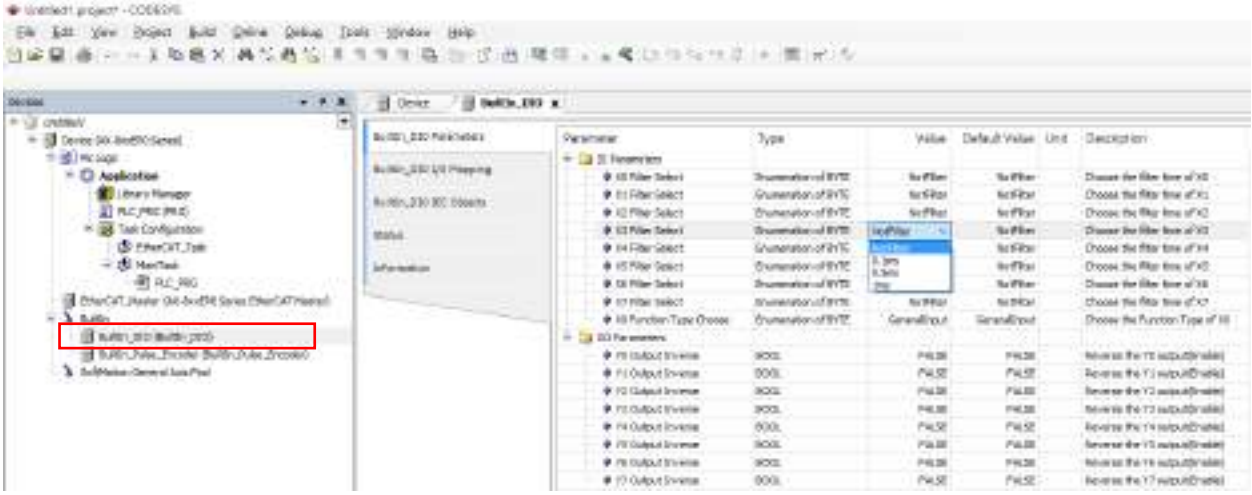
5. Serial Communication Mode：

- Setting Value：RS-485, RS-422, SSI
- Default Value：RS-485
- Offline can change the setting
- After Download, the status will run.
- Windows device administrator default comport：COM3

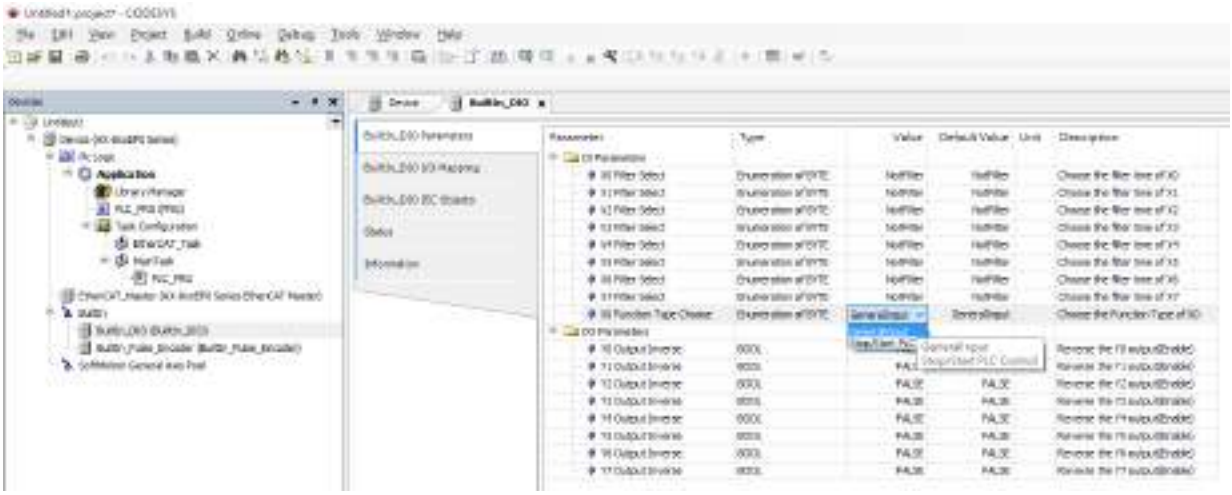

6. BuiltIn_DIO Parameter:

- DI Filter Select： Set X0~X7 input filter time
  - Setting Value：Not Filter、0.1ms、0.5ms、1ms
  - Default Value：Not Filter
  - Offline can change the setting
  - After Download, the status will run.

- DO Output Inverse： Set Y0~Y7 out reserve
  - Setting Value：True、False
  - Default Value：False
  - Offline can change the setting
  - After Download, the status will run.

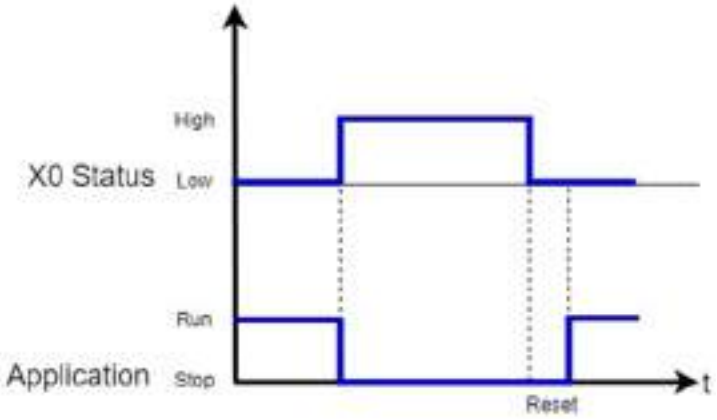


- X0 Function Type Choose： Set X0 as general output or special software functions
  - Setting Value：
    A. General Input
    B. Stop/Start PLC Control
  - Default Value：General Input
  - Offline can change the setting
  - After Download, the status will run.



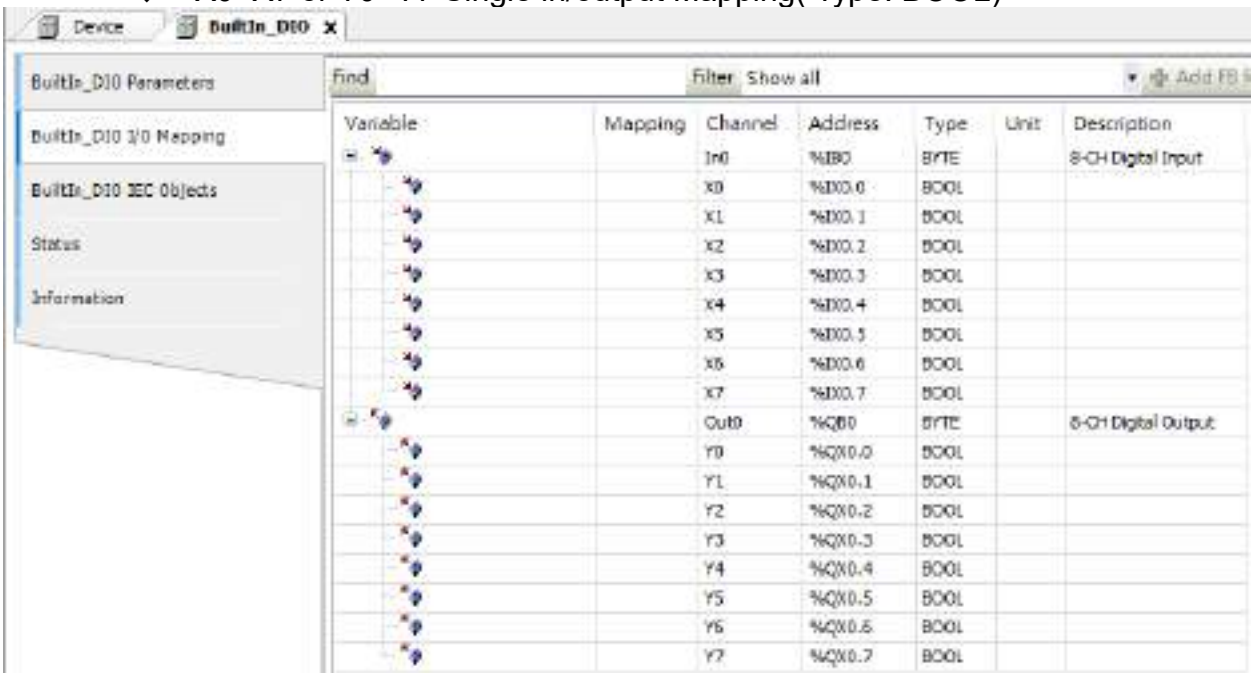
✧ Note: Stop/Start PLC Control Timing diagram

- Whne X0 is Low, Application→Reset →Run
- When X0 is High, Application Stop



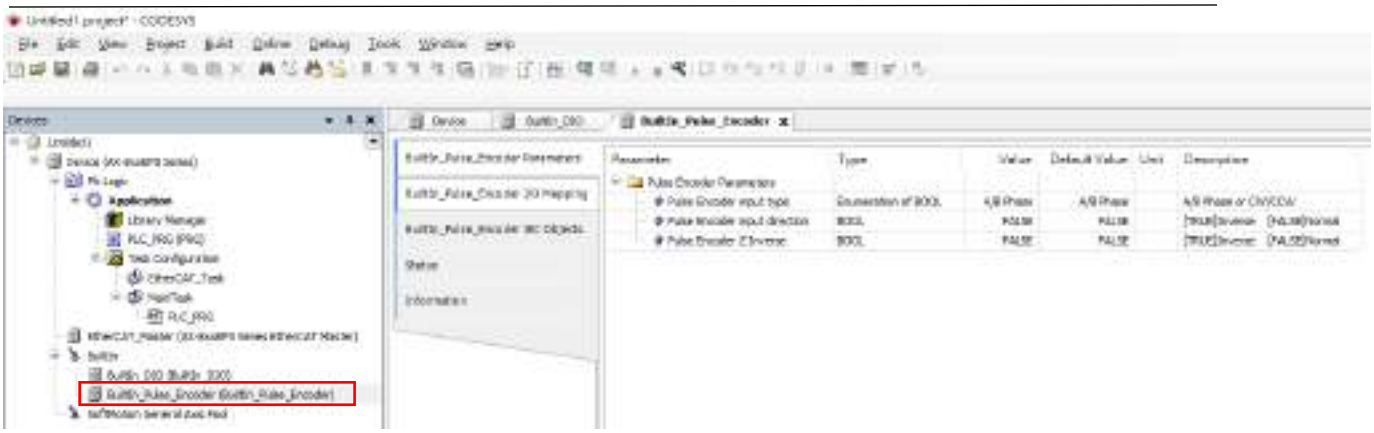
7. BuiltIn_DIO I/O Mapping :

- I/O Mapping：Input or output Mapping
  - Input 0 or Output 0 Mapping (Type: Byte)
  - X0~X7 or Y0~Y7 Single in/output Mapping( Type: BOOL)

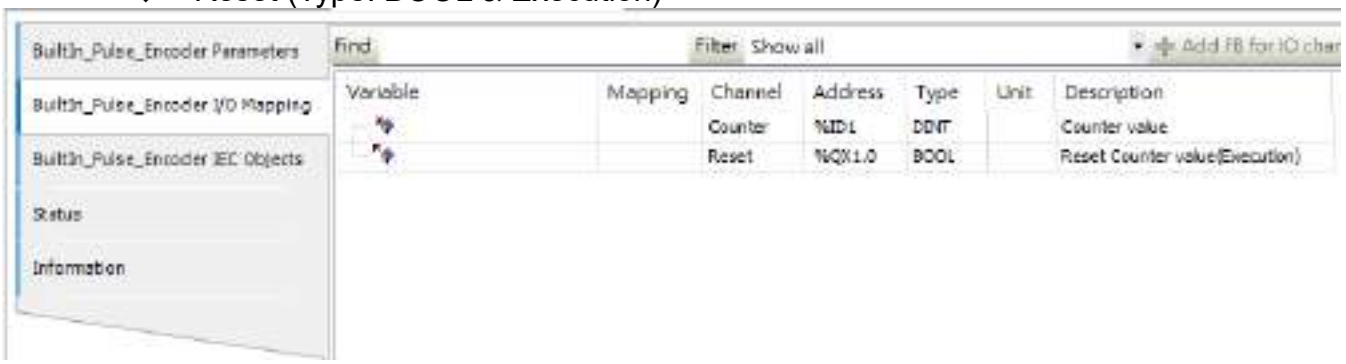



8. BuiltIn_Pulse_Encoder Parameter:

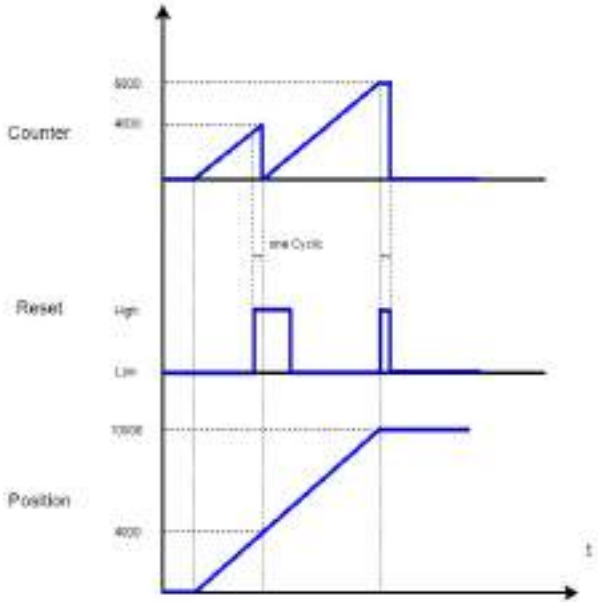
- Pulse Encoder input type：
  - Setting Value：A/B Phase、CW/CCW
  - Default Value：A/B Phase
  - Offline can change the setting
  - After Download, the status will run.
- Pulse Encoder input direction：
  - Setting Value：True(Inverse)、False(Normal)
  - Default Value：False
  - Offline can change the setting
  - After Download, the status will run.
- Pulse Encoder Z Inverse：
  - Setting Value：True(Inverse)、False(Normal)
  - Default Value：False
  - Offline can change the setting
  - After Download, the status will run.



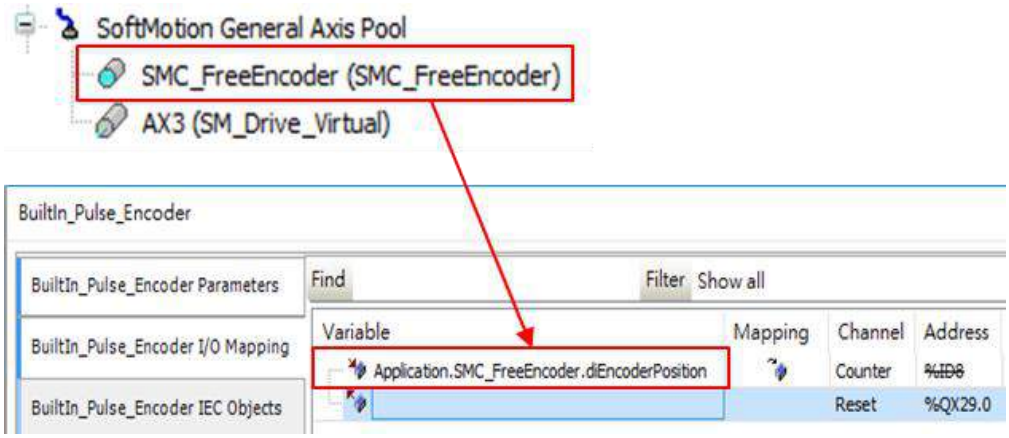
9. BuiltIn_Pulse_Encoder I/O Mapping:
   - Pulse_Encoder Mapping：Pulse Encoder Input and Reset Mapping
     - Counte r(Type : DINT)
     - Reset (Type: BOOL & Execution)



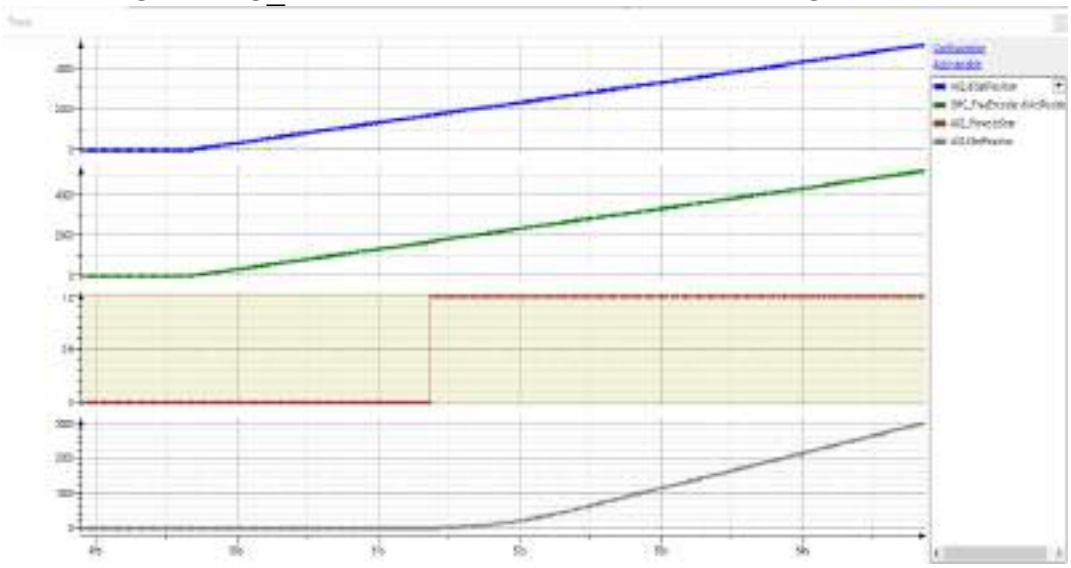

   - ResetTiming diagram



- Pulse_Encoder example：
  - Add Device→ Add “SMC_FreeEncode” and map with Counter 做




  - Use Encoder of R1-EC5621 as output to AX-8xxE Pulse Encoder
  - Use SMC_FreeEncoder as master axis and do GrarIn with virtual axis.



# Chapter 2: CODESYS variables share to DIAScreen

## 2.1 Overview

DIAScreen have support to import variables of Codesys software. User can define the variables in Codesys development software and export the xml file of symbol configuration. Import the xml to DIAScreen to communicate between controller and Delta HMI functions.

Please download DAIScreen Installation in Website

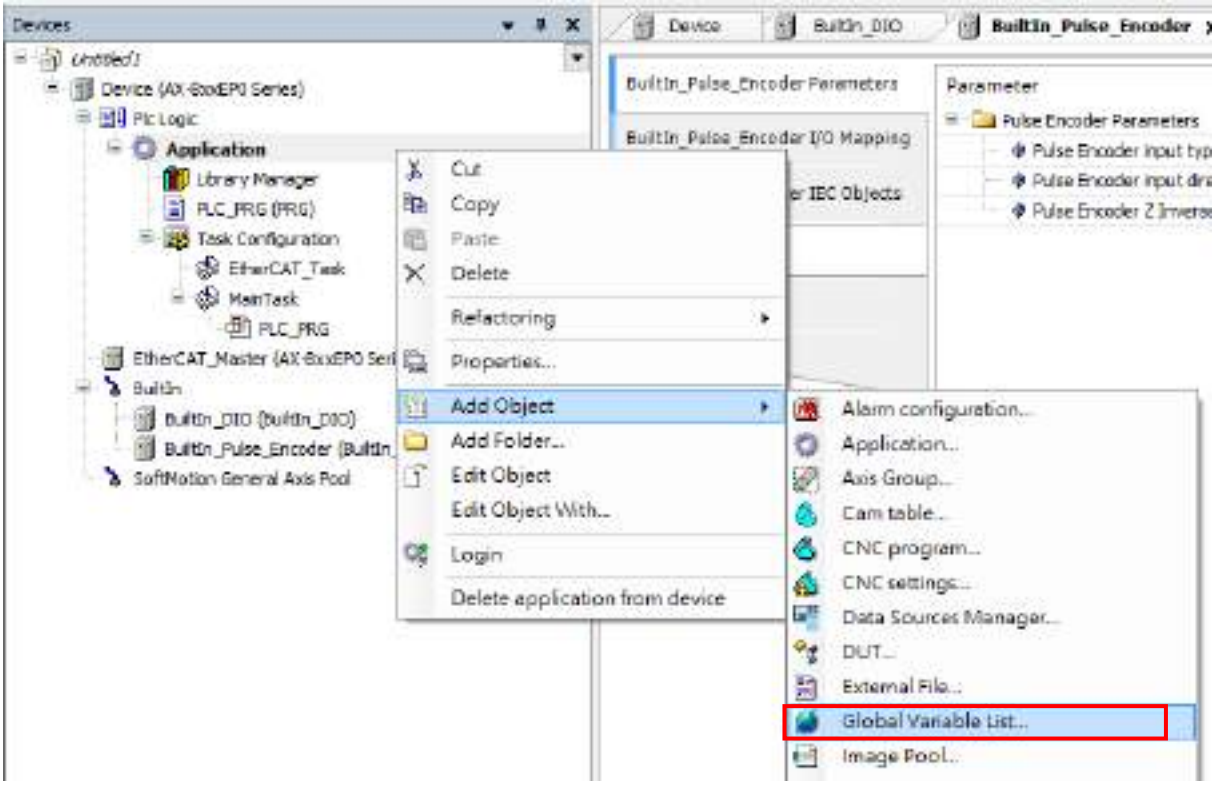
http://www.deltaww.com/services/DownloadCenter2.aspx?secID=8&pid=2&tid=0&CID=06&itemID=060210&typeID=1&downloadID=&title=&dataType=&check=0&hl=zh-TW

Support PAC AX-8 series and DOP-100 series.

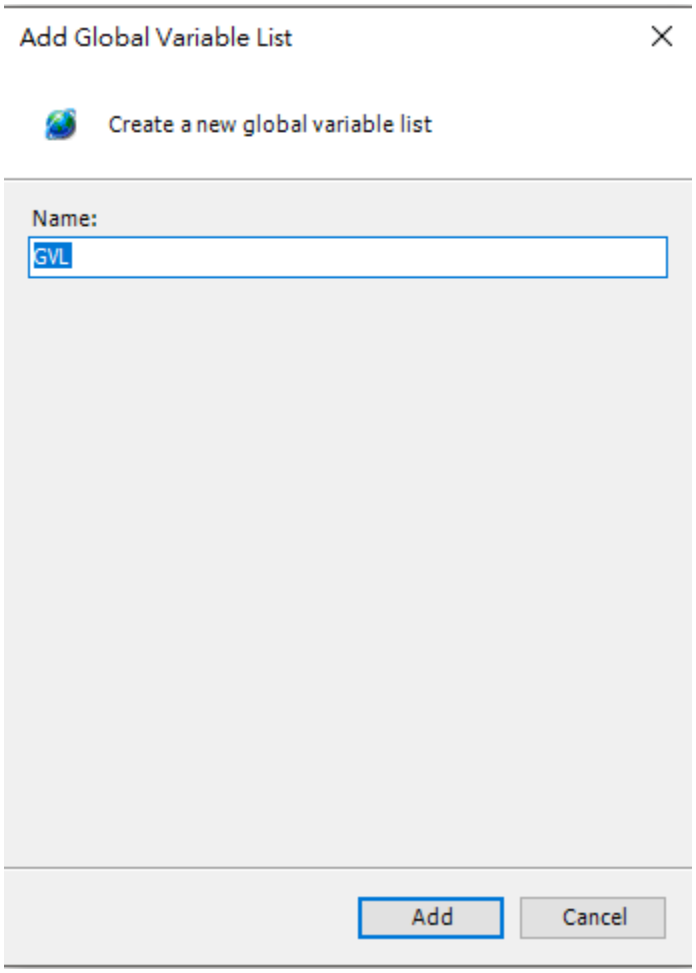
## 2.2 Export Variable in Codesys

Build the Global Variable list and export the symbol configuration.

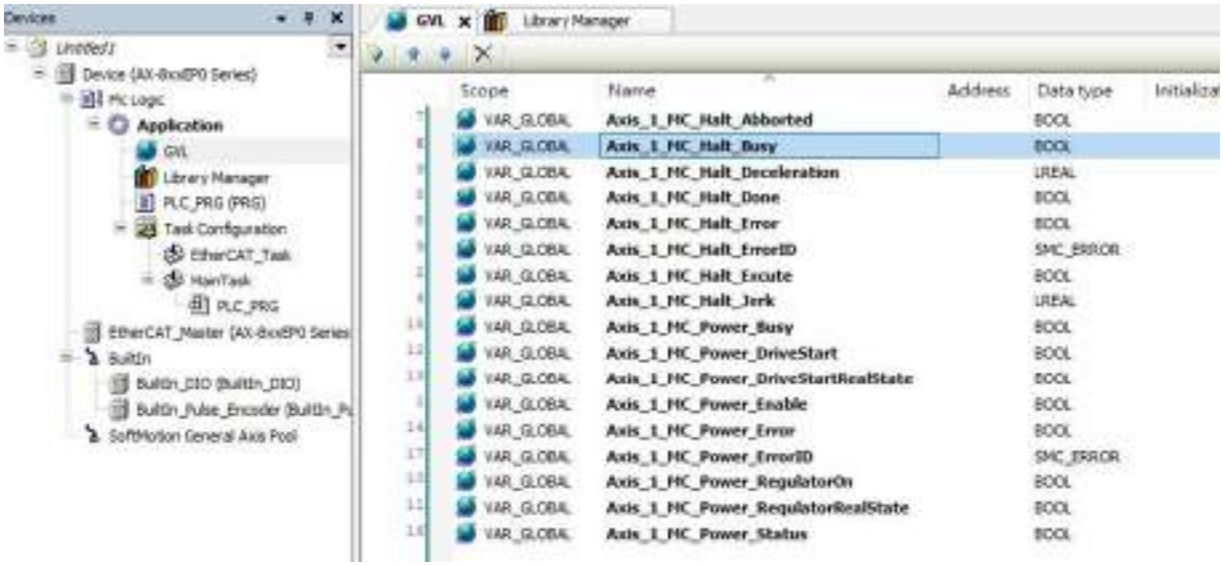
1. Right click “Application” → “Add Object” → “Global Variable List”



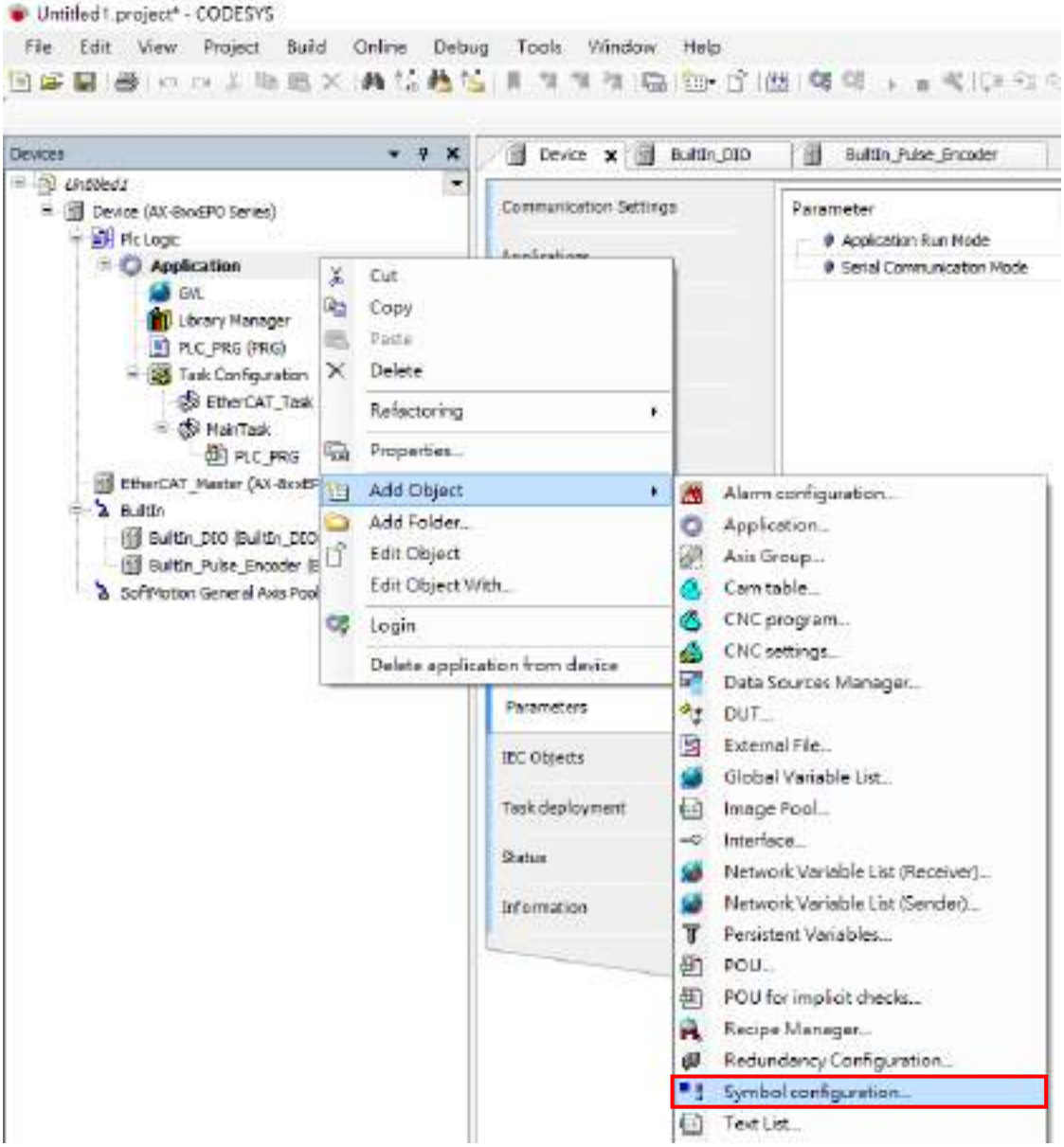
2. Import the Global Variable list naming.



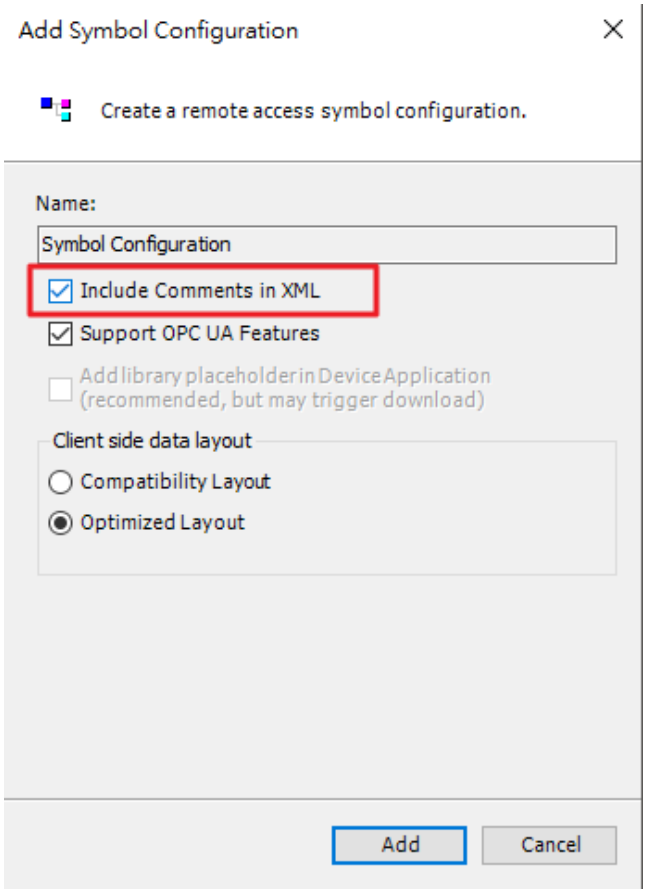

3. Build Variable in GVL



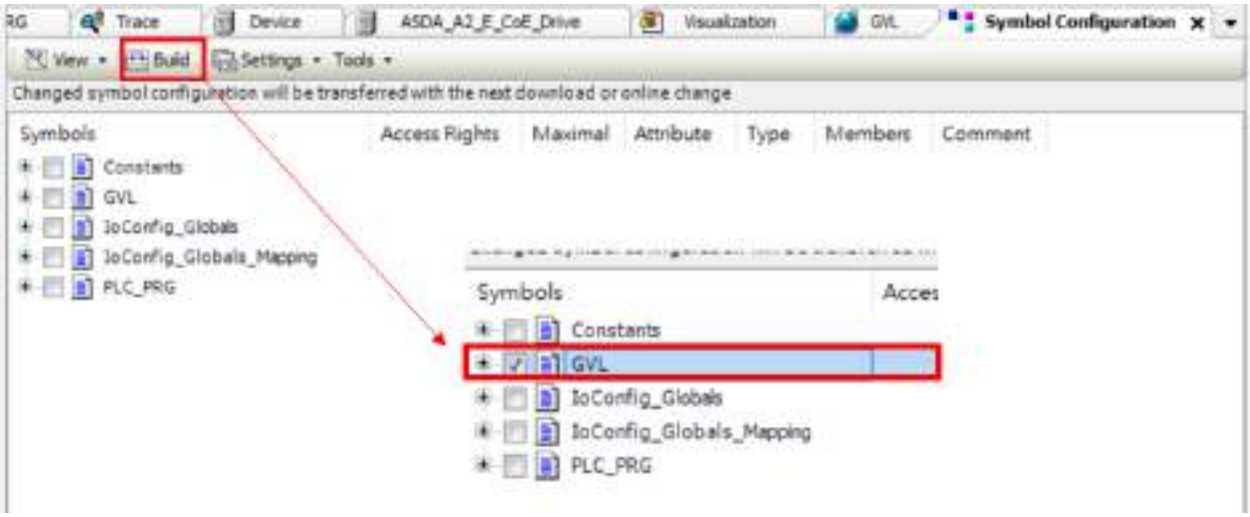
4. Application → Add Object → Symbol Configuration



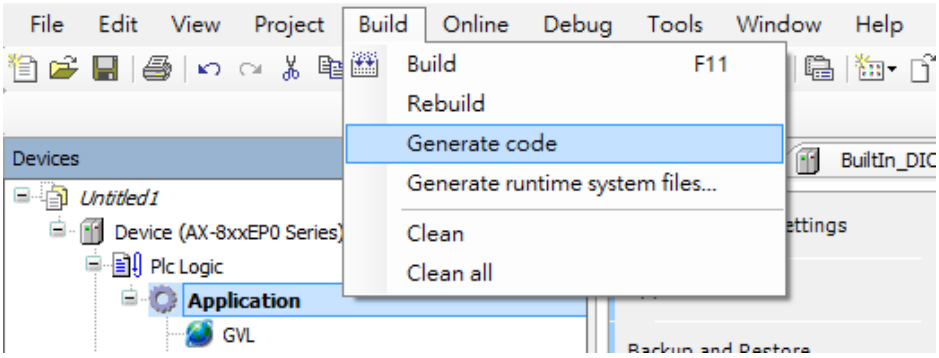
5. Choose “ Include Comments in XML”



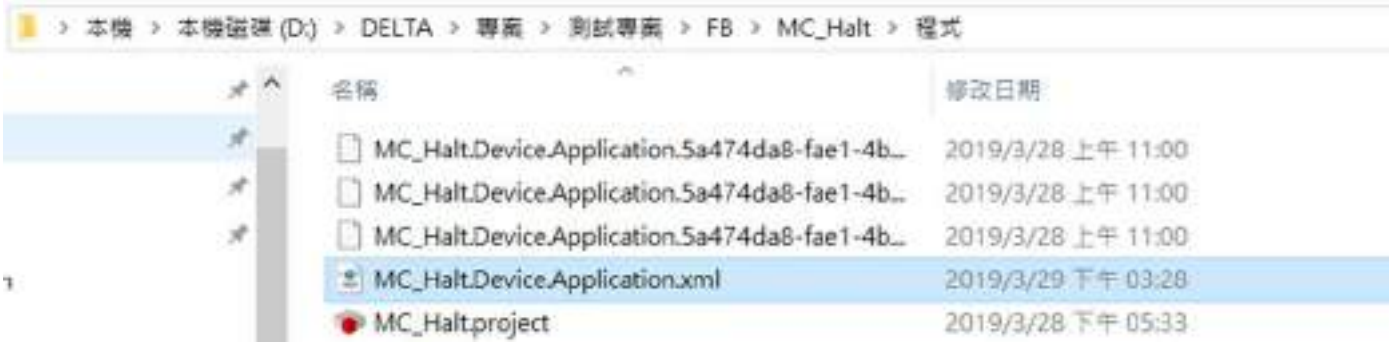

6. Click “Build” → Choose “ GVL”



7. Go to toolbar → “Build” → “Generate code”

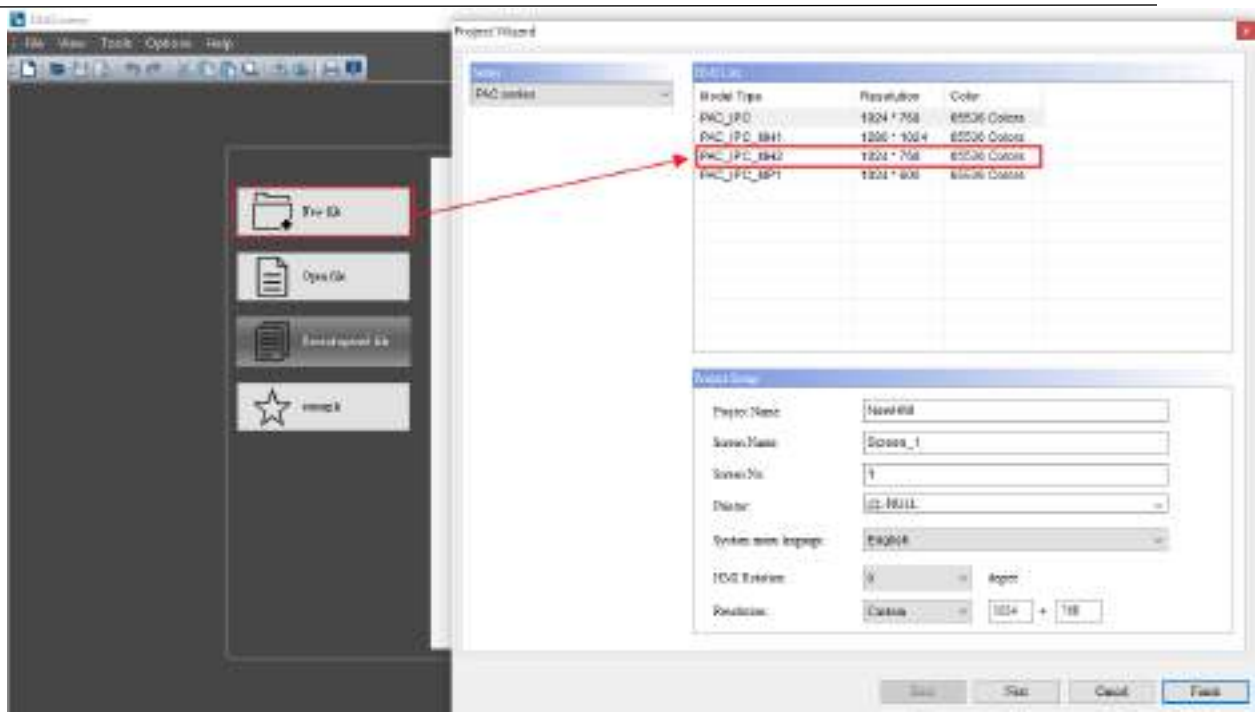



8. The xml will in the assign folder.

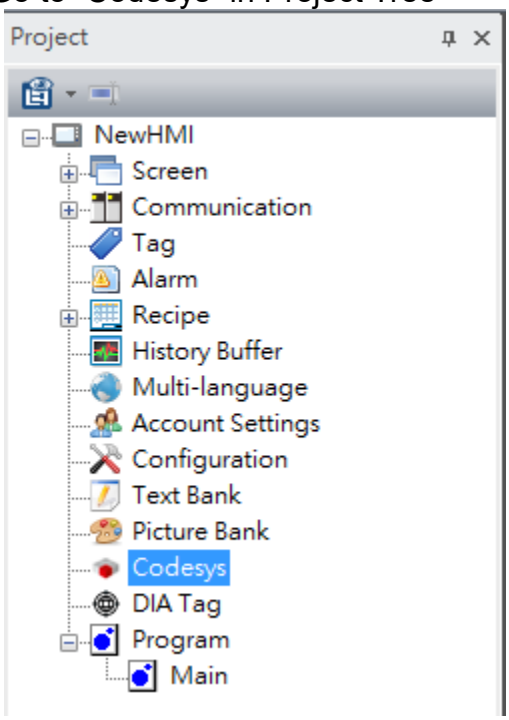



## 2.3 DIAScreen with PAC AX-8 Series

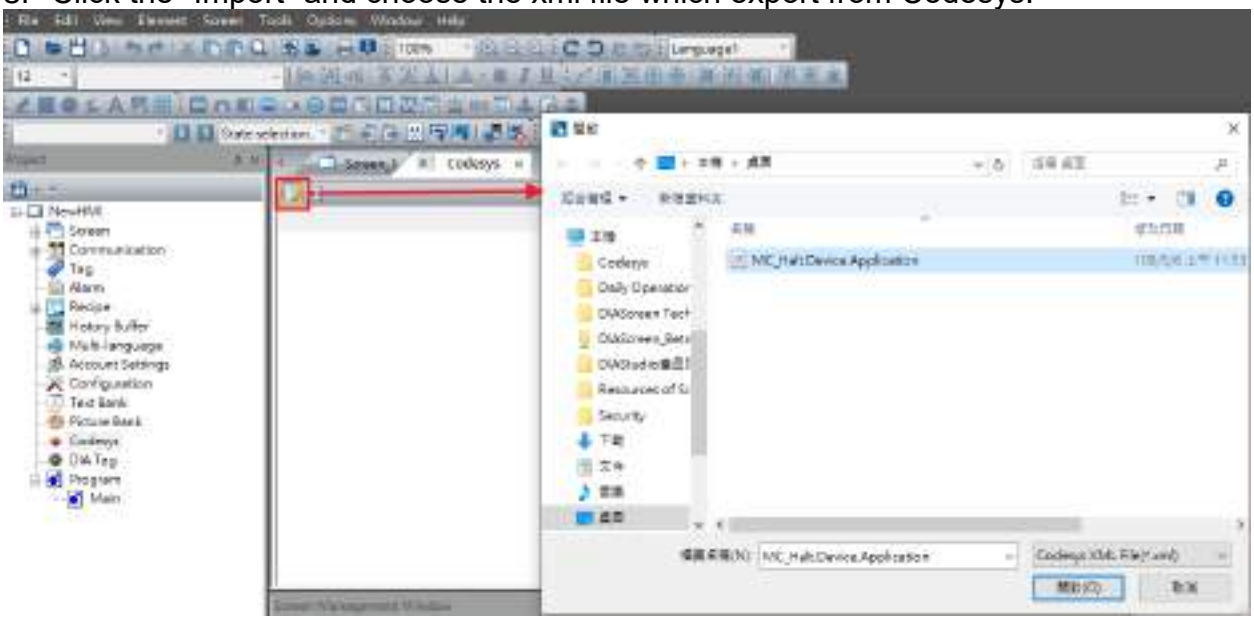
1. Open DAIScreenV1.0 → “New File” → Choose “AX8xxE” model.



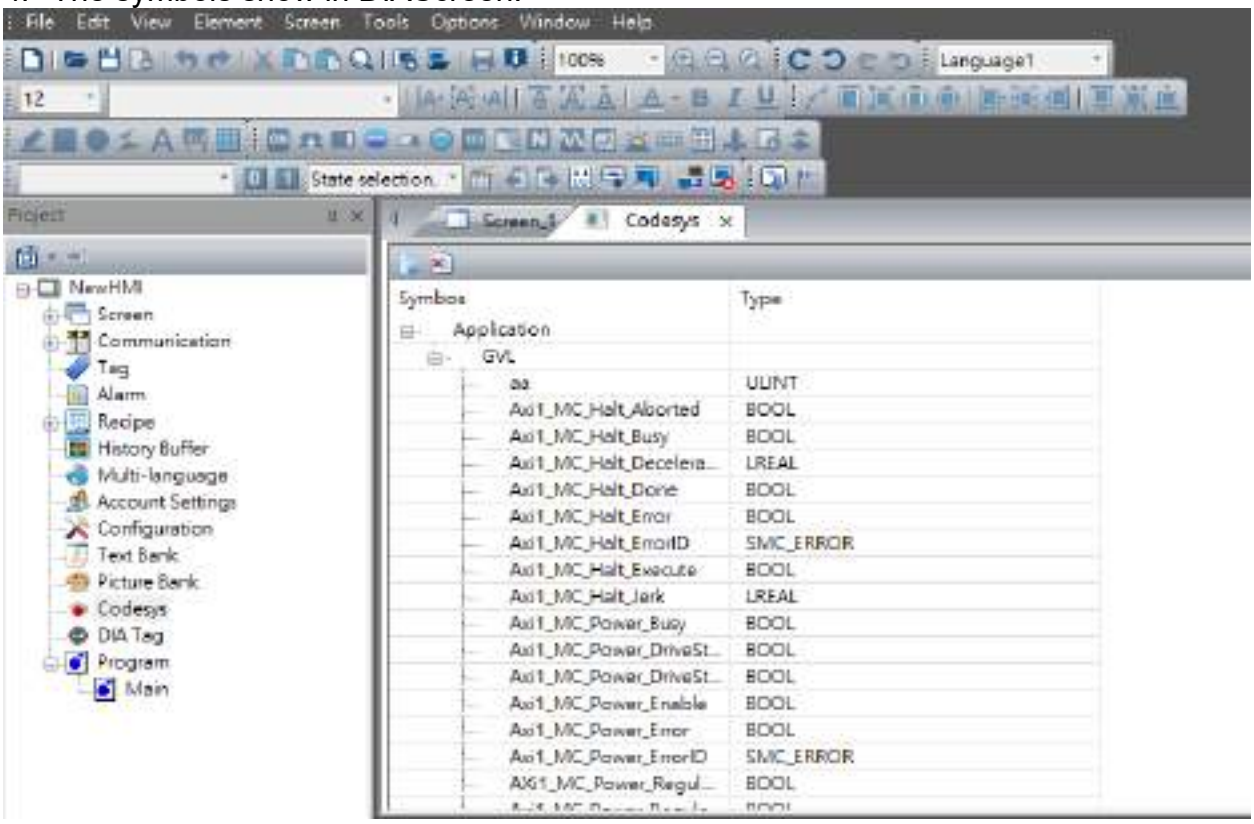
2. Go to “Codesys” in Project Tree



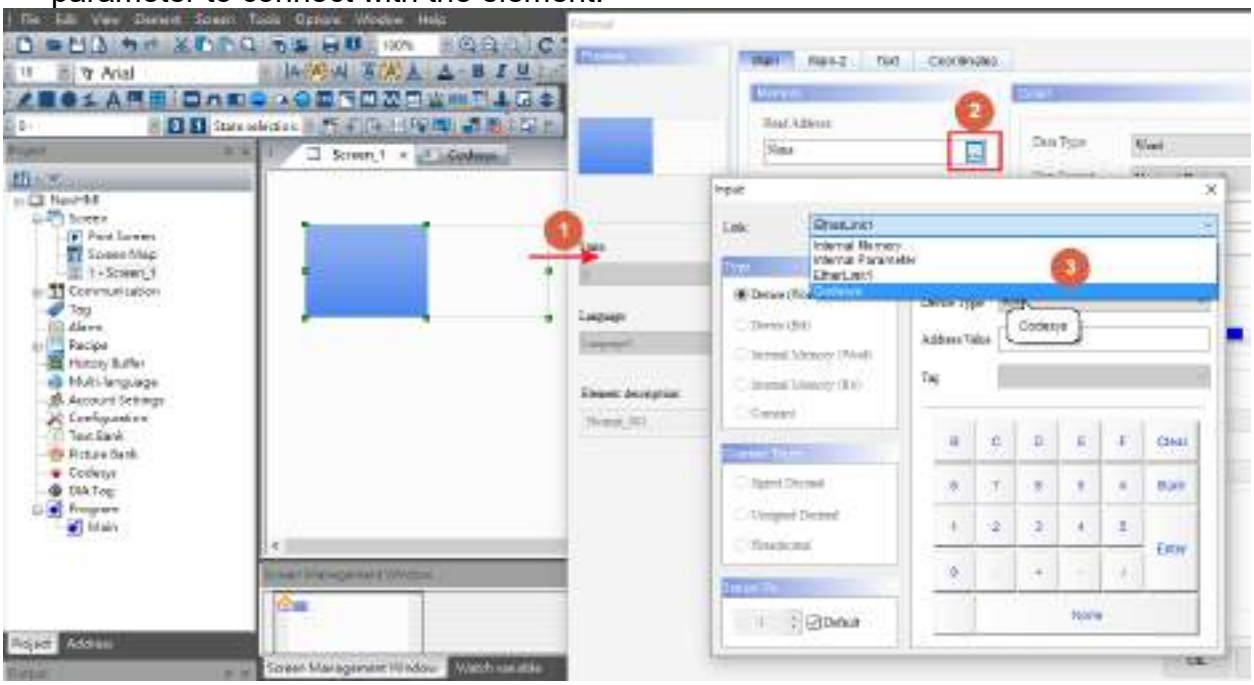
3. Click the “Import” and choose the xml file which export from Codesys.

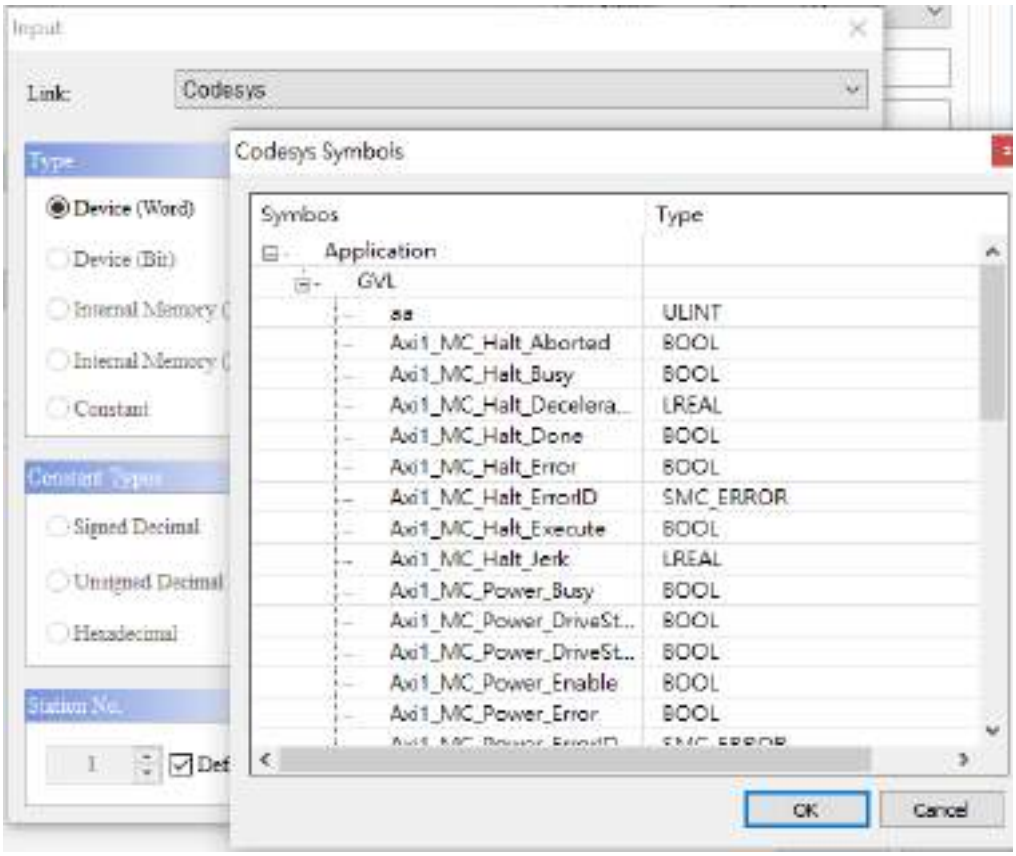


4. The symbols show in DIAScreen.



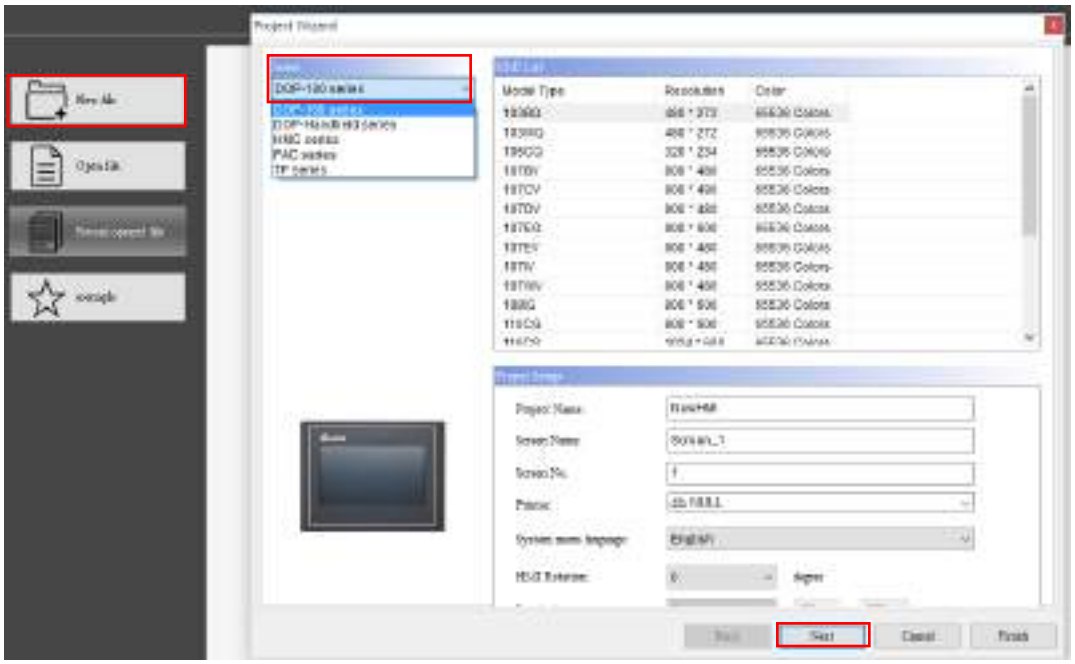
5. Insert the Element and Double click the element. User can choose the Codesys parameter to connect with the element.



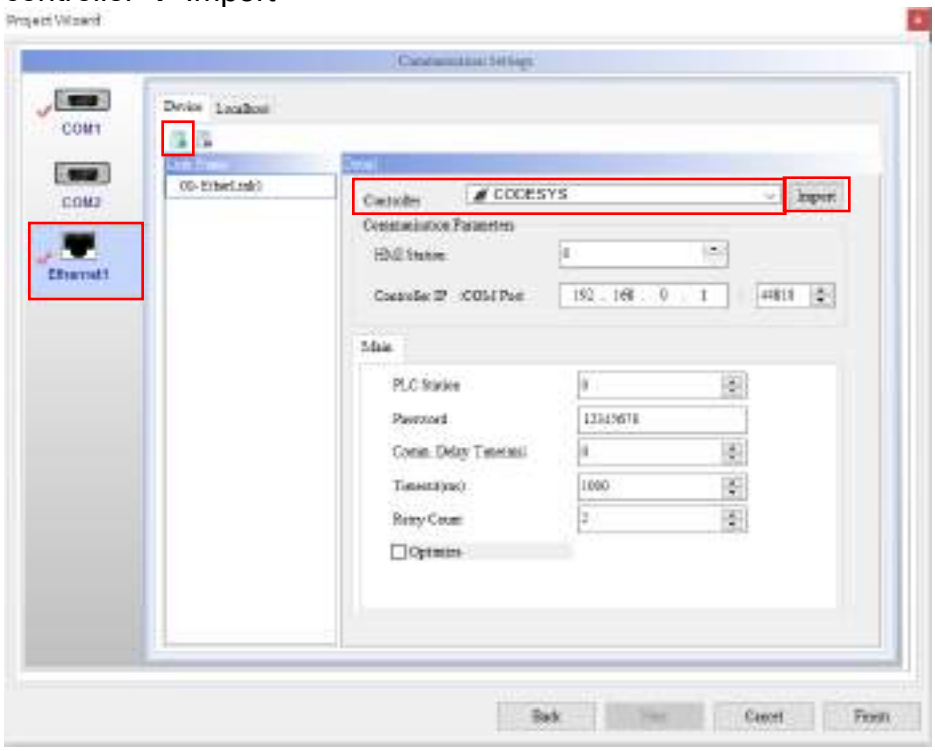



## 2.4 DIAScreen with PAC AX-8 Series

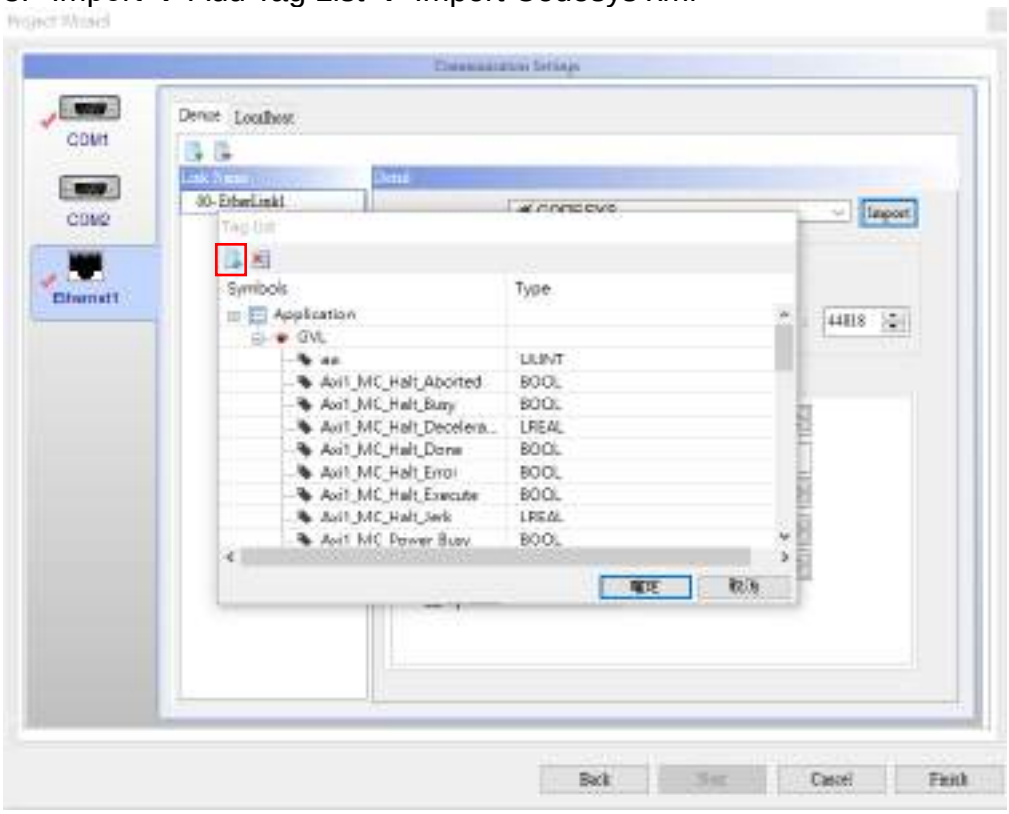
1. Open DAIScreenV1.0 → “New File” → Choose “DOP-100” series → Next

2. Project Wizard → Ethernet 1→ New Network Links → Choose “CODESYS” controller → Import



3. Import → Add Tag List → Import Codesys xml




4. Insert the Element and Double click the element. User can choose the Codesys parameter to connect with the element.