

# Beckhoff Embedded PC

Supported Series: Intel-CX10x0,CX50x0 and Twincat

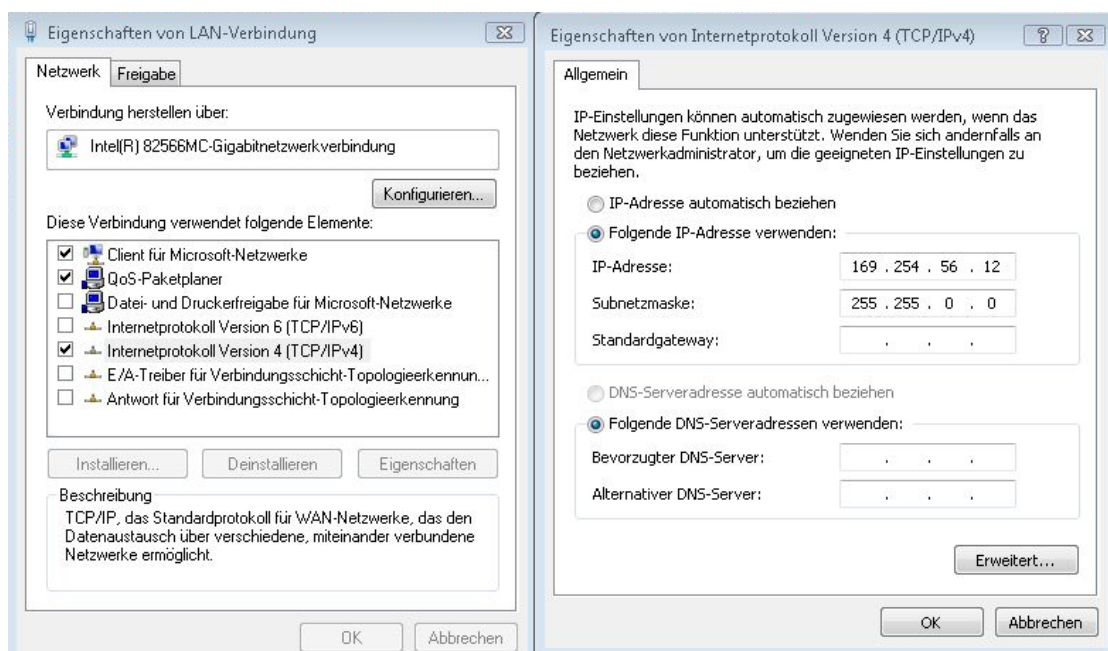
## HMI Setting:

Parameters	Recommended	Options	Notes
PLC type	Beckhoff Embedded PC		
PLC I/F	Ethernet		
Port no.	48898		
ADS port	801	801, 811, 821, 831	
PLC sta. no.	1		

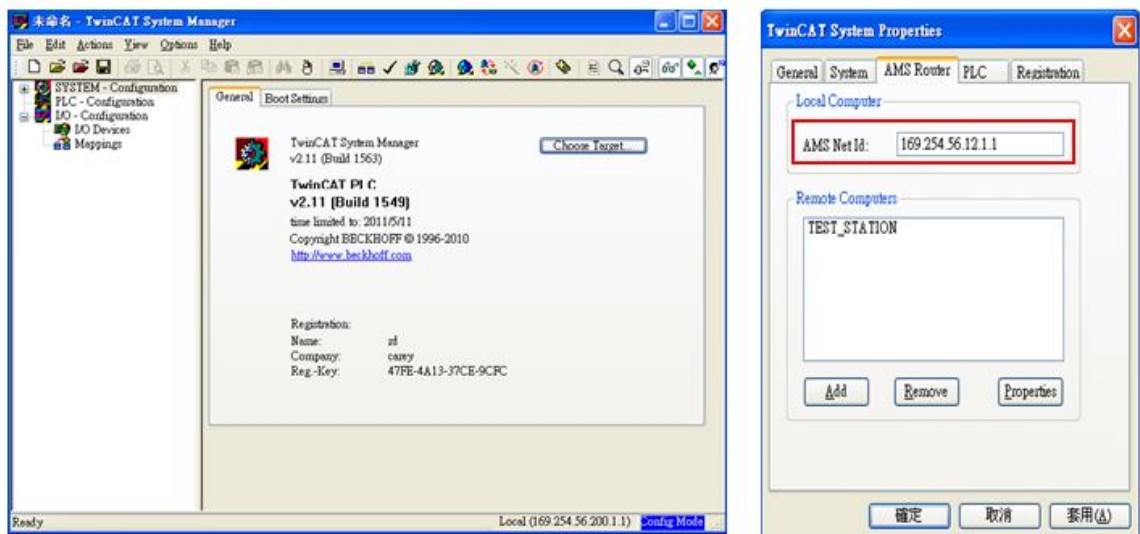
## PLC Setting:

For Twincat:

- Confirm PC IP address

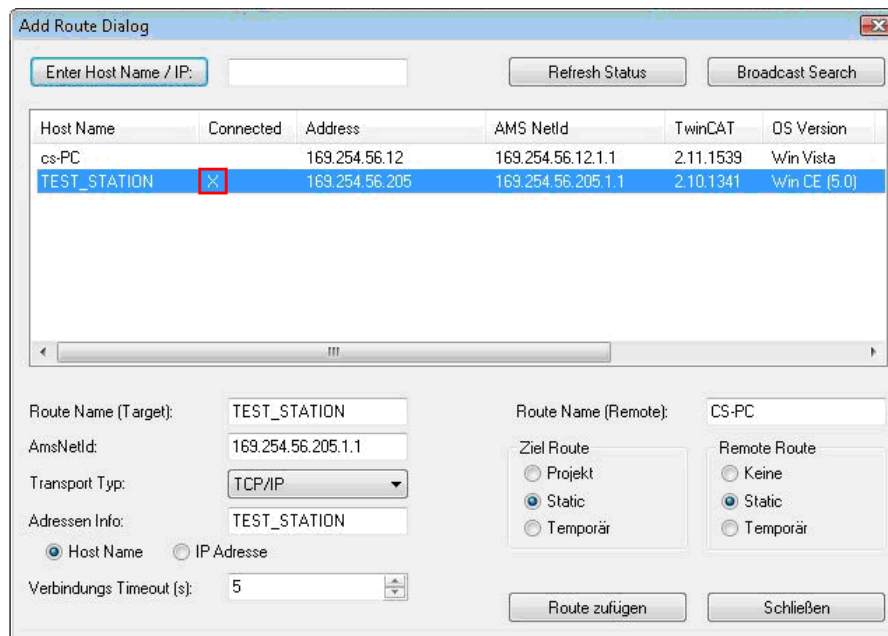


b. Open Twincat, Set IP address 169.254.56.12.1.1

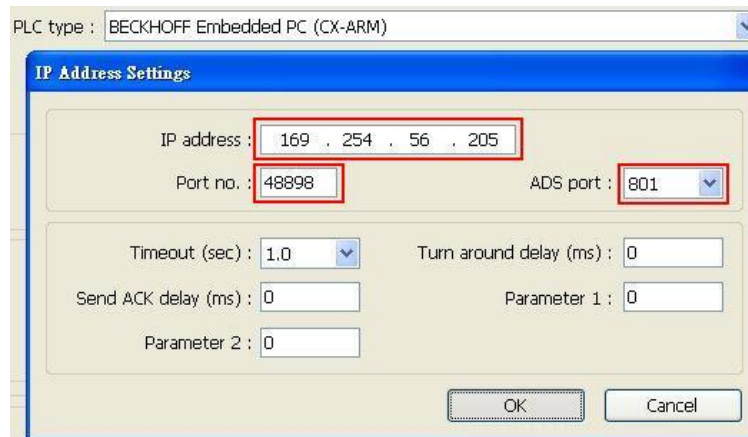


c. Use Twincat to build a Route Table to make sure the system is connected, if PLC power turns OFF and then ON, please redo this step.

Note: when connected, if "X" is displayed, the connection succeeded.



d. Open EasyBuilder, set IP address, ADS port and Port no.

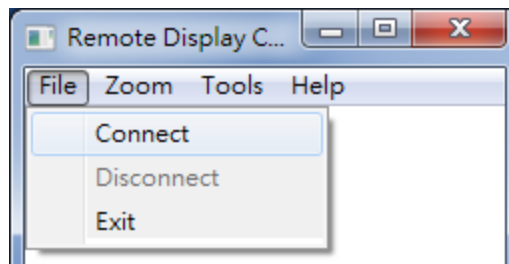


e. Run on line simulation.

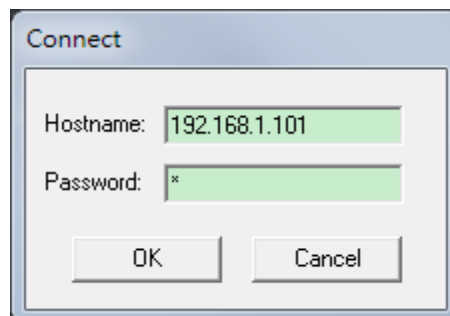
Note: If the project is downloaded to HMI, please set HMI IP 169.254.56.12 identically to Twincat IP address setting.

### For CERHOST:

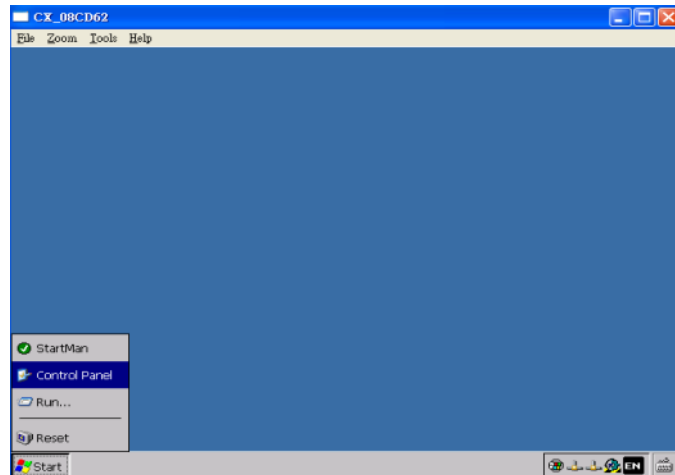
a. Execute CERHOST.exe to connect with PLC on PC.



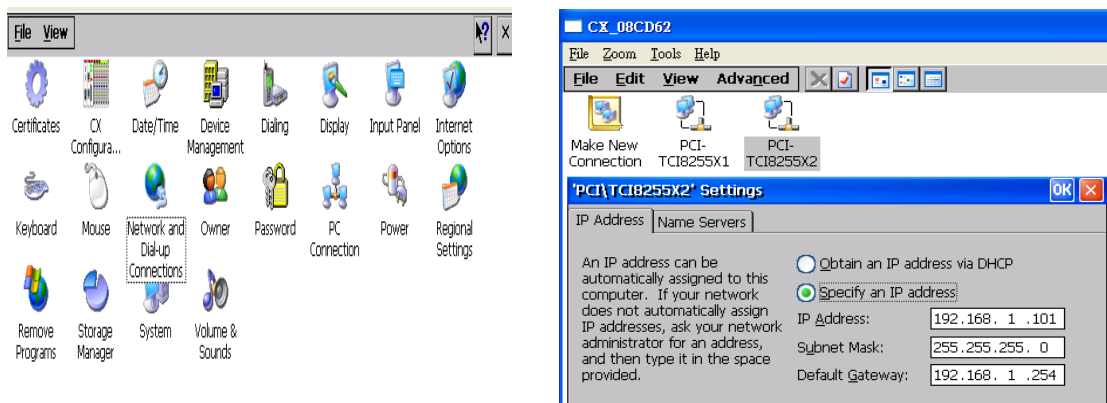
b. Enter PLC IP and Password (default password: 1).



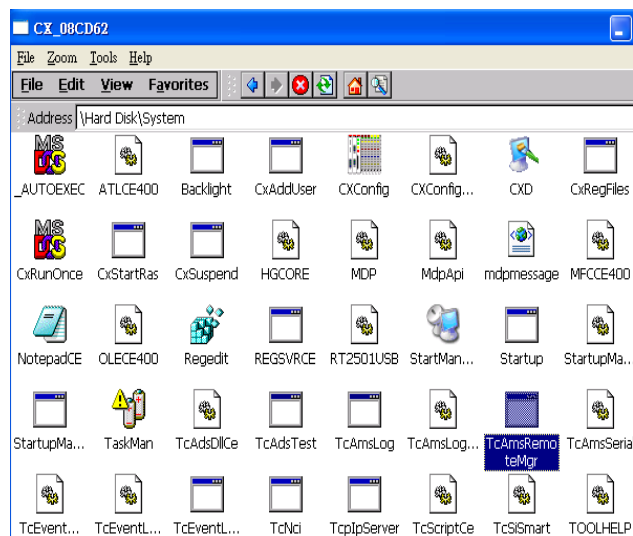
c. Succeeded to connect with PLC, click Start -> click Control Panel.



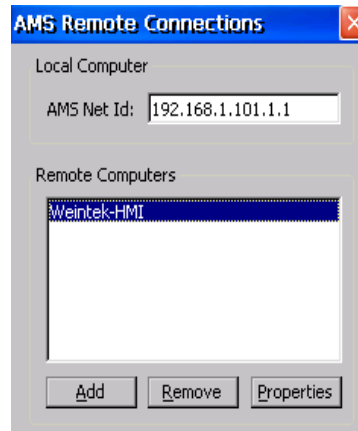
d. Click [Network and Dial-Up Connections] to display PLC device information; select the PLC to check its IP.



e. Access PLC system settings, the default directory: \Hard Disk\System, execute [TcAmsRemoteMgr].



f. AMS Net Id consists of 6 numbers, separated by “.”. The first 4 numbers stand for IP and followed by “1.1”. The figure below shows the AMS Net Id of Local Computer, please enter PLC IP plus “1.1”. Remote Computers shows the information of the HMI to connect with. Click [Add] to add the HMI and click [OK] to finish setting.



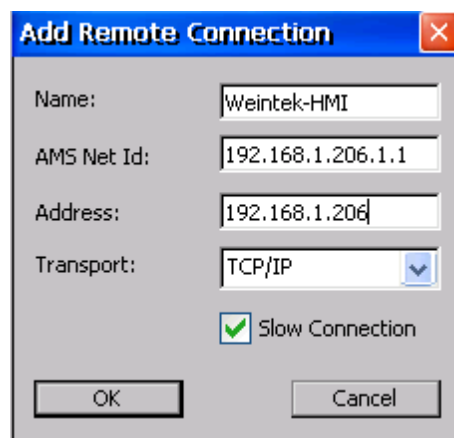
g. Name: Device name.

AMS Net Id: The IP followed by “1.1” of the device to connect with.

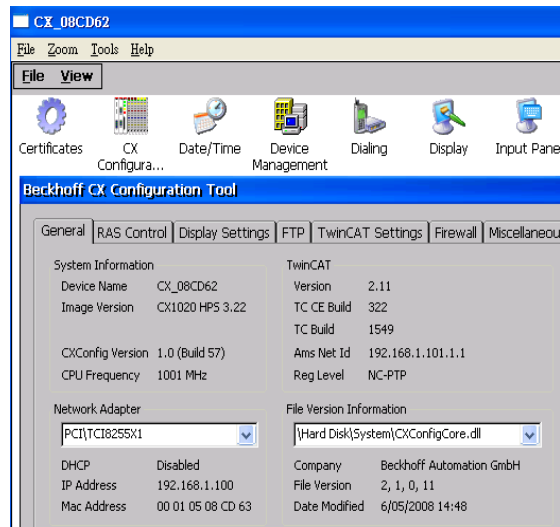
Address: The IP address of the device to connect with.

Transport: The way of connection.

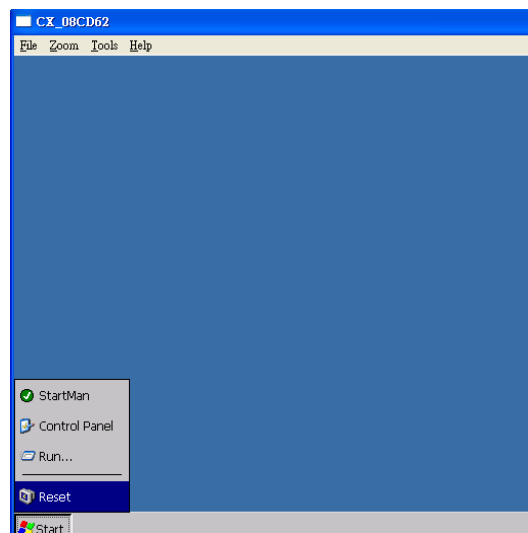
Slow Connection: As shown in the figure below.



h. Return to Control Panel; execute CX Configuration Tool to confirm PLC AMS Net Id.



i. Confirm settings and click Start -> Reset PLC.

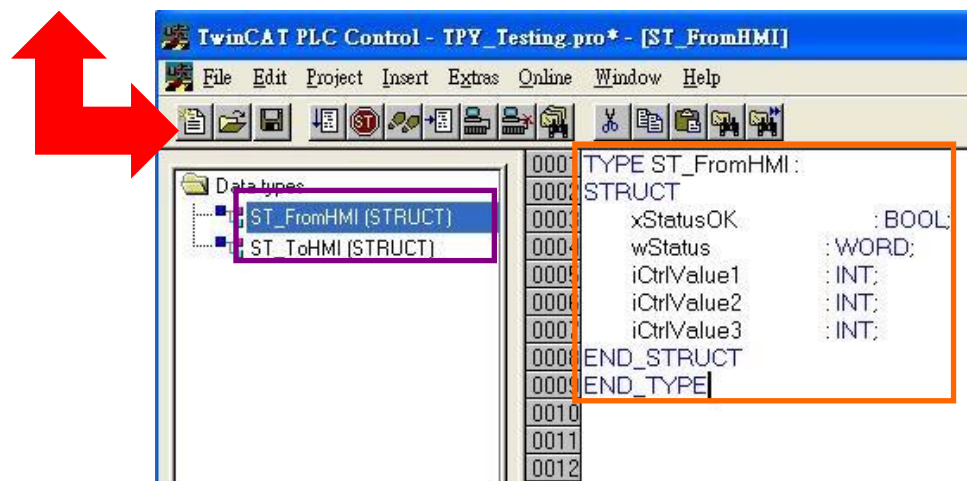
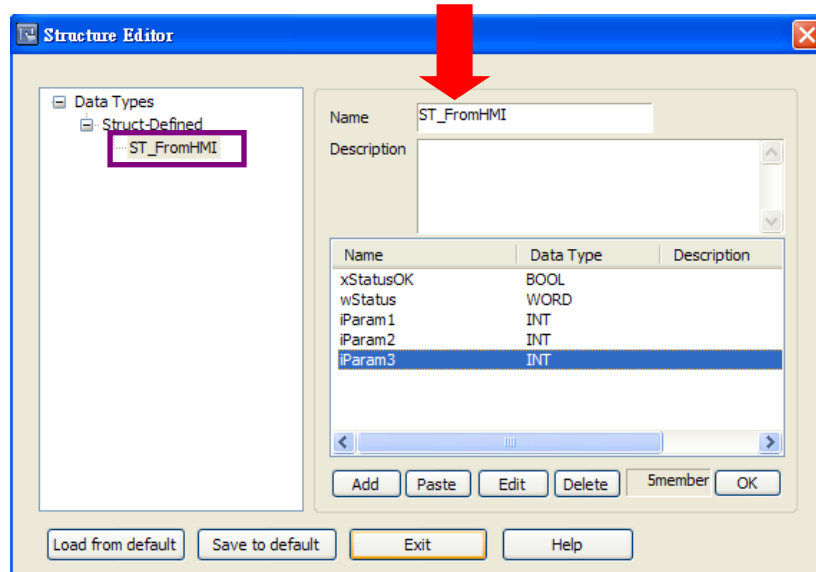
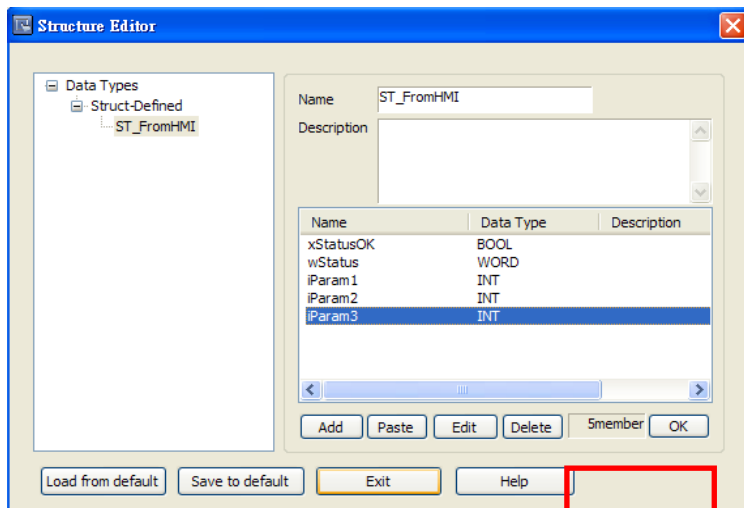


## Building Data Structure :

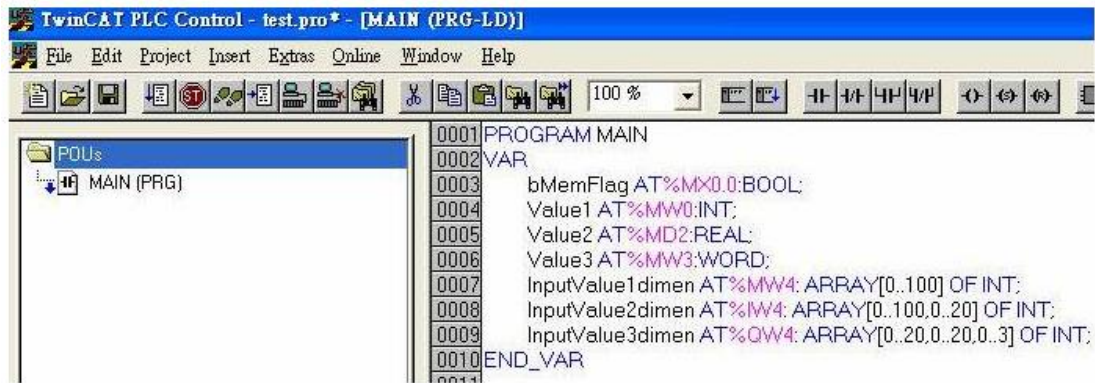
**Step1.** This driver supports variables under STRUCT structure. Click [Data Type] to open Structure Editor and create the same [Name] and [Data Type] as in Twincat PLC Control.

The standard data types include:

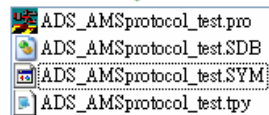
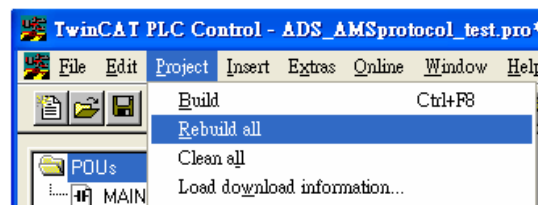
BOOL, WORD, INT, UINT, DINT, UDINT, REAL, DWORD, ARRAY



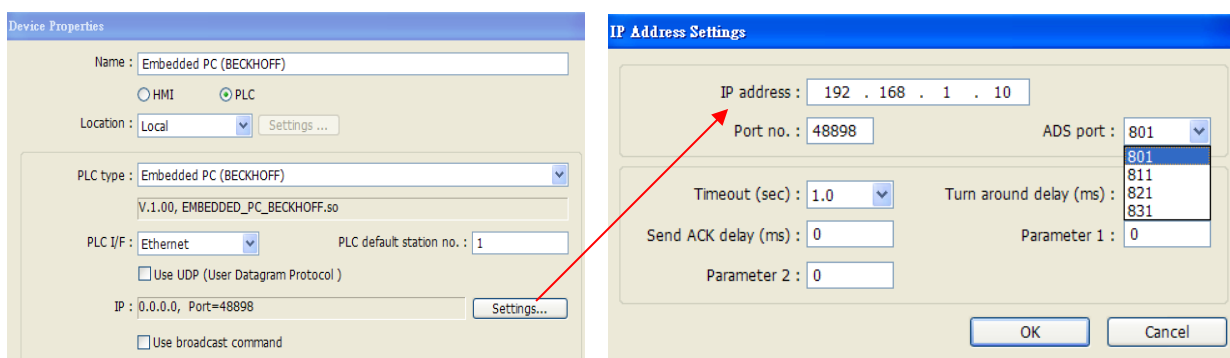
The syntax of Tag in TwinCAT software is: Tag Name +AT+%+Type,  
as shown in the following figure.



**Step2.**Project → Rebuild all



**Step3.** Set PLC IP in EasyBuilder.

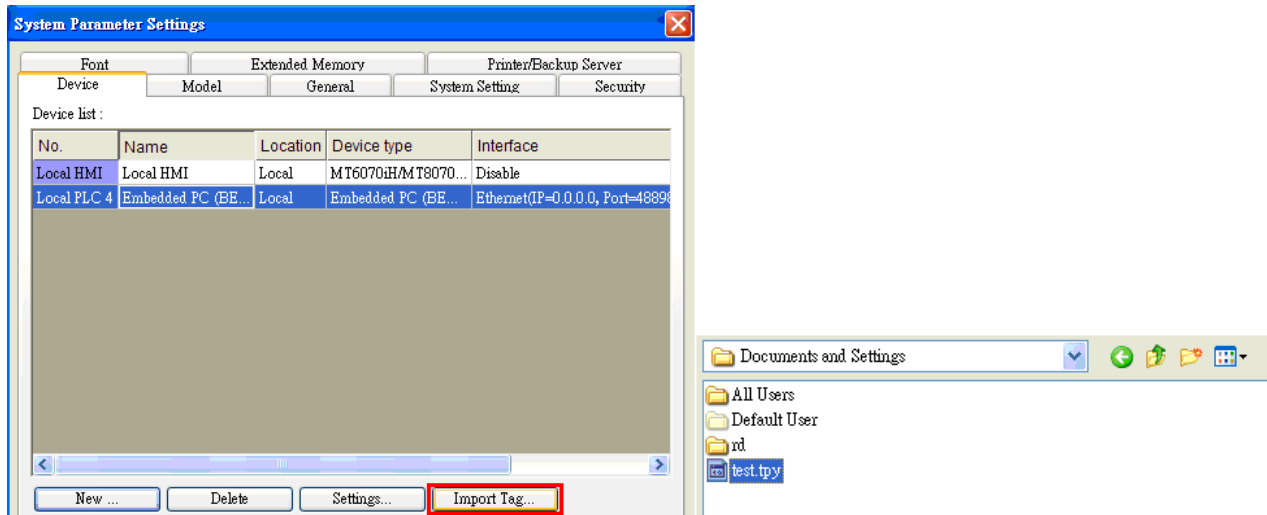




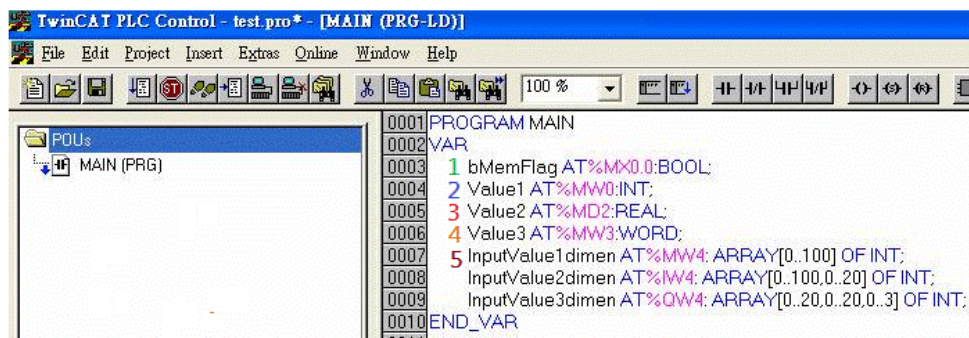
## Step4.

Click [Import Tag] button in EasyBuilder to open the TPY file compiled by TwinCAT PLC Control.

Note: When using Beckhoff driver, if the TPY file cannot be imported, try download and install MSXML 4.0 in Microsoft - Download Center.



Import tpy to EasyBuilder, the result is shown in the following figure.

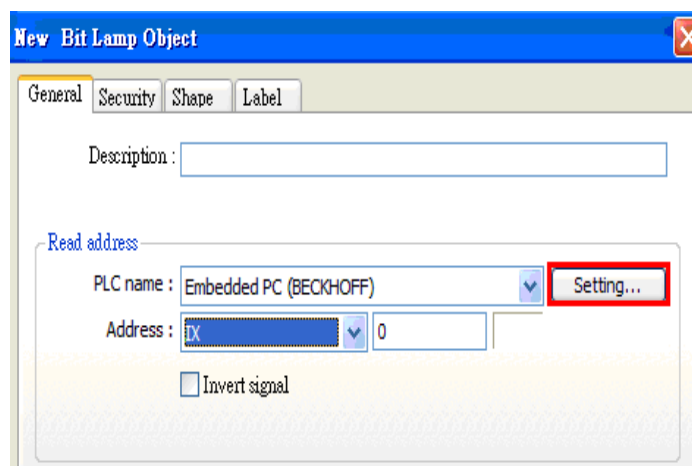
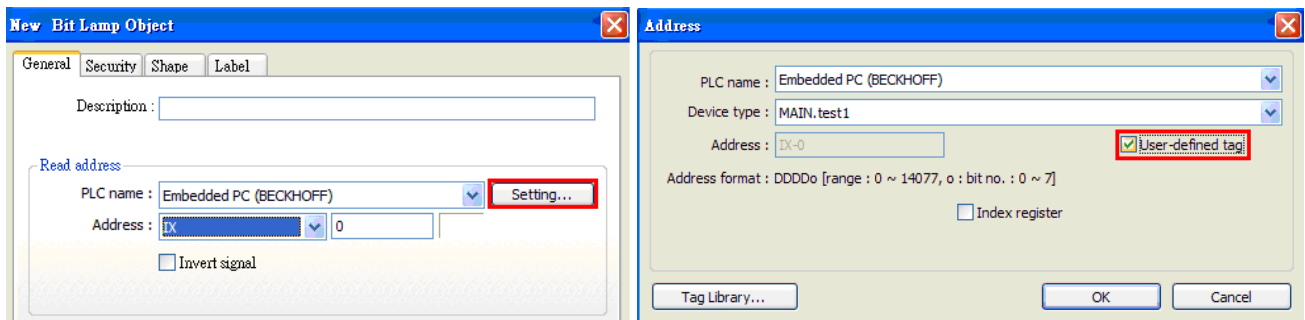
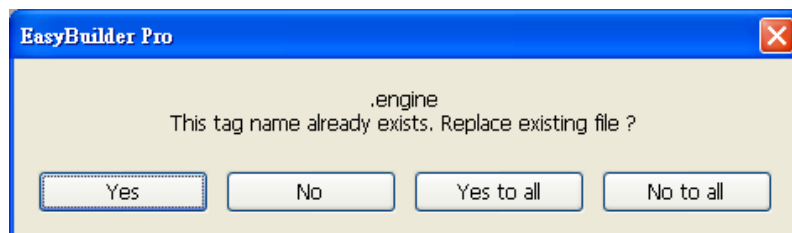
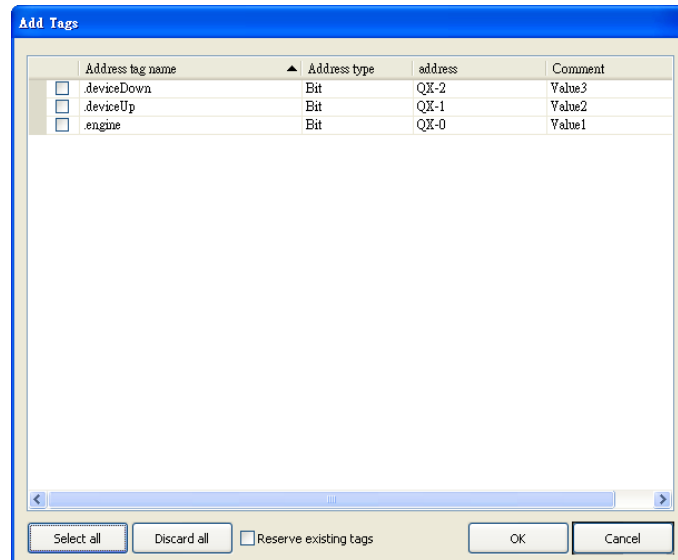


Address Tag Library						
Customized System						
No.	Address tag name	PLC name	Addr...	Address	Read/W...	
1	MAIN.bMemFlag	Beckhoff ADS/AMS (...)	Bit	MX-0	1	Read/...
2	MAIN.Value1	Beckhoff ADS/AMS (...)	Word	MW-0	2	Read/...
3	MAIN.Value2	Beckhoff ADS/AMS (...)	Word	MD-2	3	Read/...
4	MAIN.Value3	Beckhoff ADS/AMS (...)	Word	MW-3	4	Read/...
5	MAIN.InputValue1dimen[0]	Beckhoff ADS/AMS (...)	Word	MW-4	5	Read/...
6	MAIN.InputValue1dimen[1]	Beckhoff ADS/AMS (...)	Word	MW-6		Read/...
7	MAIN.InputValue1dimen[2]	Beckhoff ADS/AMS (...)	Word	MW-8		Read/...
8	MAIN.InputValue1dimen[3]	Beckhoff ADS/AMS (...)	Word	MW-10		Read/...
9	MAIN.InputValue1dimen[4]	Beckhoff ADS/AMS (...)	Word	MW-12		Read/...
10	MAIN.InputValue1dimen[5]	Beckhoff ADS/AMS (...)	Word	MW-14		Read/...
11	MAIN.InputValue1dimen[6]	Beckhoff ADS/AMS (...)	Word	MW-16		Read/...
12	MAIN.InputValue1dimen[7]	Beckhoff ADS/AMS (...)	Word	MW-18		Read/...
13	MAIN.InputValue1dimen[8]	Beckhoff ADS/AMS (...)	Word	MW-20		Read/...
14	MAIN.InputValue1dimen[9]	Beckhoff ADS/AMS (...)	Word	MW-22		Read/...
15	MAIN.InputValue1dimen[10]	Beckhoff ADS/AMS (...)	Word	MW-24		Read/...
16	MAIN.InputValue1dimen[11]	Beckhoff ADS/AMS (...)	Word	MW-26		Read/...
17	MAIN.InputValue1dimen[12]	Beckhoff ADS/AMS (...)	Word	MW-28		Read/...
18	MAIN.InputValue1dimen[13]	Beckhoff ADS/AMS (...)	Word	MW-30		Read/...

## Step5.

The following dialog box appears for users to select all or part of the data to import. A reminding message is shown when import the same data repeatedly.

\*EasyBuilder8000 does not support [Comment] setting.



## Step6.

Download the project compiled in EasyBuilder to HMI.

## Device address:

Bit/Wor	Device type	Format	Range	Memo
B	IX	DDDDDo	0 ~ 655357	o : Bit no.(0 ~ 7)
B	QX	DDDDDo	0 ~ 655357	o : Bit no.(0 ~ 7)
B	MX	DDDDDo	0 ~ 655357	o : Bit no.(0 ~ 7)
W	IW	DDDDD	0 ~ 65535	
W	QW	DDDDD	0 ~ 65535	
W	MW	DDDDD	0 ~ 65535	
DW	ID	DDDDD	0 ~ 65535	
DW	QD	DDDDD	0 ~ 65535	
DW	MD	DDDDD	0 ~ 65535	

## Support Device Type:

Data Type	EasyBuilder data format	Memo
Bool	bit	
Word	16-bit BCD, Hex, Binary, Unsigned	16-bit
Int	16-bit BCD, Hex, Binary, Signed	16-bit
UInt	16-bit BCD, Hex, Binary, Unsigned	16-bit
DWord	32-bit BCD, Hex, Binary, Unsigned	32-bit
DInt	32-bit BCD, Hex, Binary, Signed	32-bit
Real	32-bit Float	32-bit
UDInt	32-bit BCD, Hex, Binary, Unsigned	32-bit
String	ASCII input and ASCII display	

## Wiring Diagram:

Ethernet cable:

