Chapter 17 AB: Control/CompactLogix, MicroLogix Series (EtherNet/IP)

It is only available for the following service versions or later.
Please download it from LSELECTRIC website and re-install it.

Controller name	Service version	Details
Rockwell: EtherNet/IP ControlLogix/CompactLogix Series Native Rockwell: EtherNet/IP MicroLogix Series	XP-Builder Ver2.11	Web site: http://www.lselectric.co.kr/

17.1 Available PLC

PLC Type	CPU Module	Connection mode	Communication mode	Connection Module	Remarks
CompactLogix	1769 CompactLogix	EtherNet/IP	Ethernet	1769-L32E 1769-L35E 1768-ENBT	RSLogix5000 (Programming software)
ControlLogix	1768 CompactLogix			1756-EN2T 1756-EN2F 1756-ENBT	
MicroLogix	MicroLogix1000	EtherNet/IP	Ethernet	1761-NET-ENI	RSLogix500

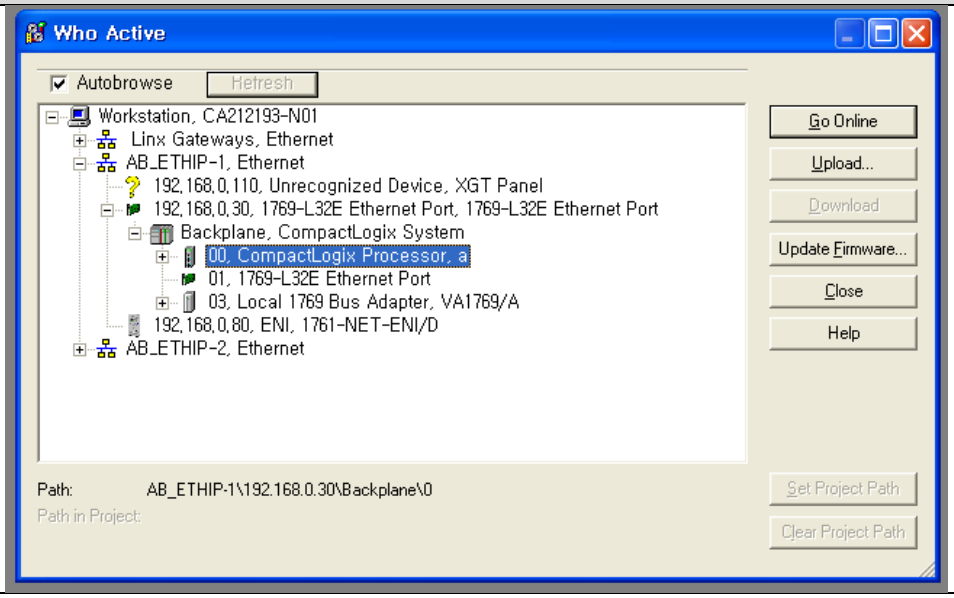
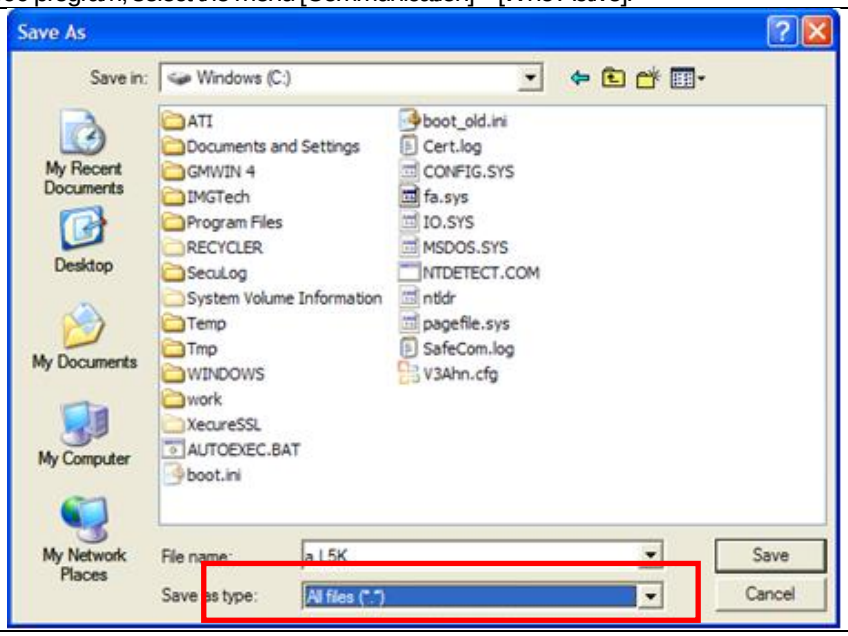
Notice

(1) Not available PLC
► Connection problem may occur depending on module O/S version.
(2) Programming Tool
► RSLogix5000 – Controlling, CompactLogix
► RSLogix500 – PLC-5, SLC500, MicroLogix

17.2 Control/CompactLogix Series (EtherNet/IP)

17.2.1 Connection

The device area is tag type under Control/CompactLogix series so a user needs to define tag directly.
To apply the tag defined by a used to XP-Builder, L5K or CSV file should be created.

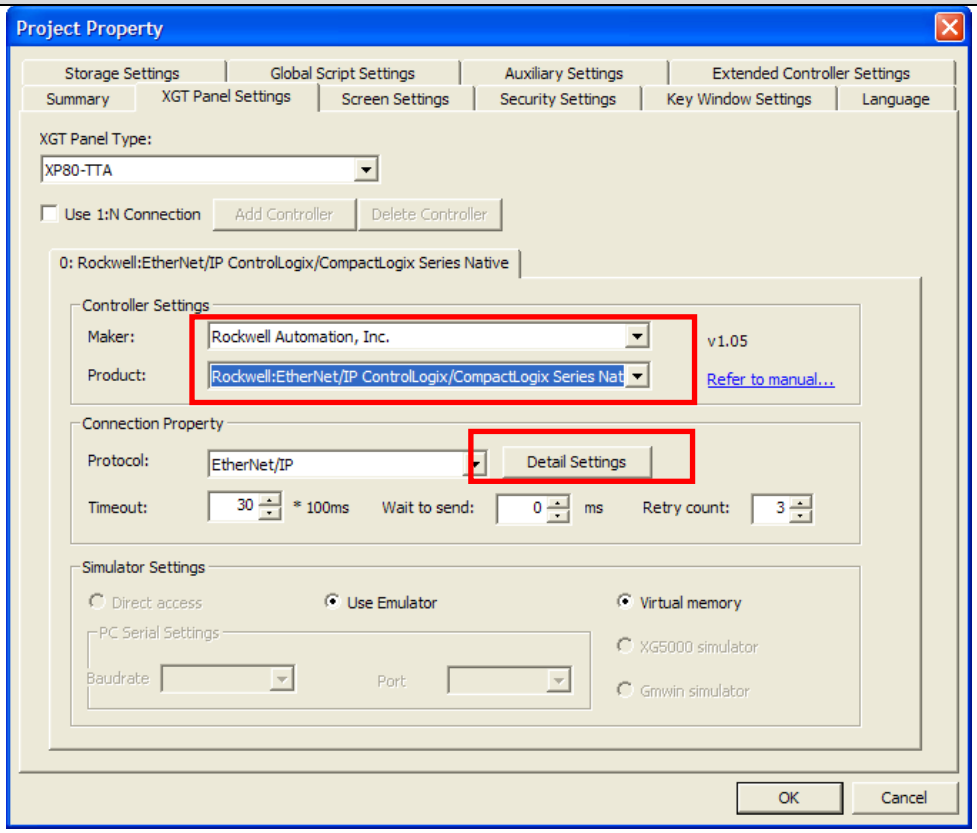
<table>
<tr><th>No</th><th>Setup Process</th><th>How to setup</th></tr>
<tr><td rowspan="2">1</td><td>Creating File (1)</td><td> 
</td></tr>
<tr><td colspan="2">After executing RSLogix5000 program, select the menu [Communication] – [Who Active].</td></tr>
<tr><td rowspan="2">2</td><td>Creating File (2)</td><td> 
</td></tr>
<tr><td colspan="2">After connecting to the PLC, save the created controller tag (Save as file extension L5K)</td></tr>
</table>

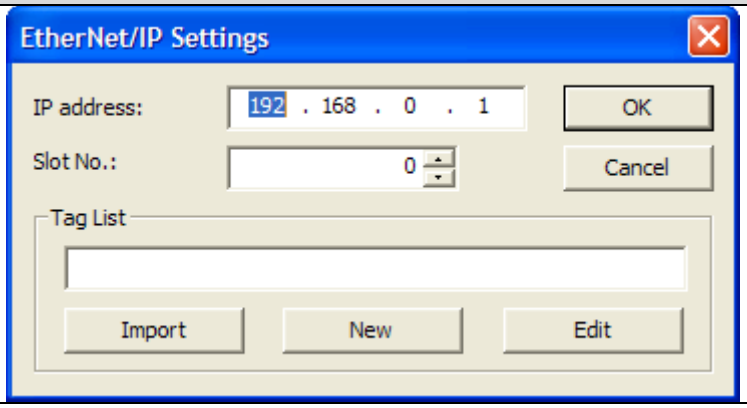
Notice

1) Suggestions
- ▶ For setting PLC communication or creating tag, refer to RSLogix5000 manual.
- ▶ Program Tag: External access is not allowable through Program local Tag -> in the case of applying to XP, error occurs.
- ▶ Bit Offset and continuous reading are available for BOOL Array or Access area only.
- ▶ CSV File Import: The function will be added afterward.

17.2.2 Communication Setting

Select the menu [Common]-[Project Property] → [Device Setting]-[Detailed connection option setting]

No	Setup Process	How to setup
1	Communication Setting	
	Select the menu [Common]-[Project Property] → [Device Setting]-[Detailed connection option setting]	

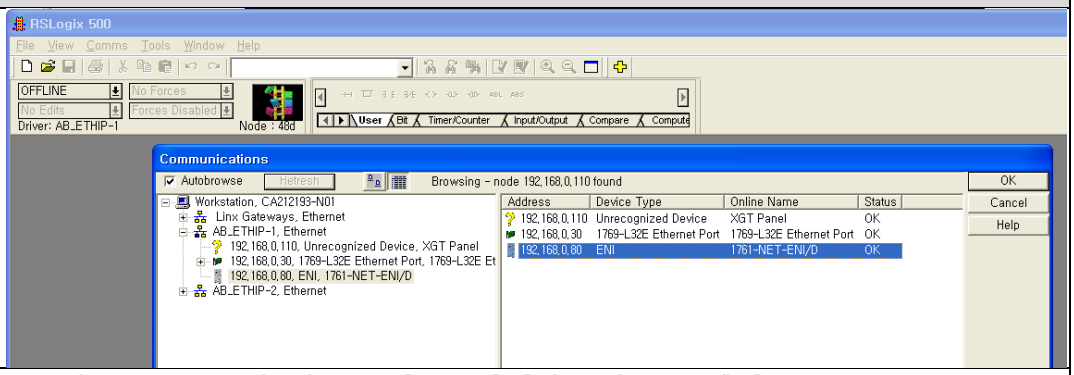
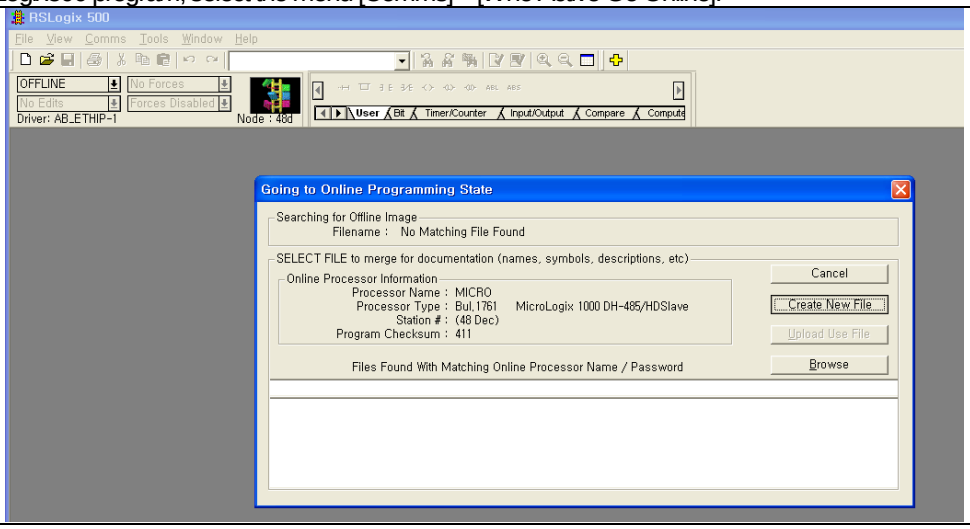
No	Setup Process	How to setup
2	Communication Setting (2)	
	After inputting the IP address of PLC EtherNet/IP to be connected, import the created file.	

Notice

1) Suggestions
- ► Slot No.: designates the slot No. of CPU. (Not slot No. of communication module)
- ► It can be applied only when Tag list is already declared or imported.

17.3 MicroLogix Series (EtherNet/IP)

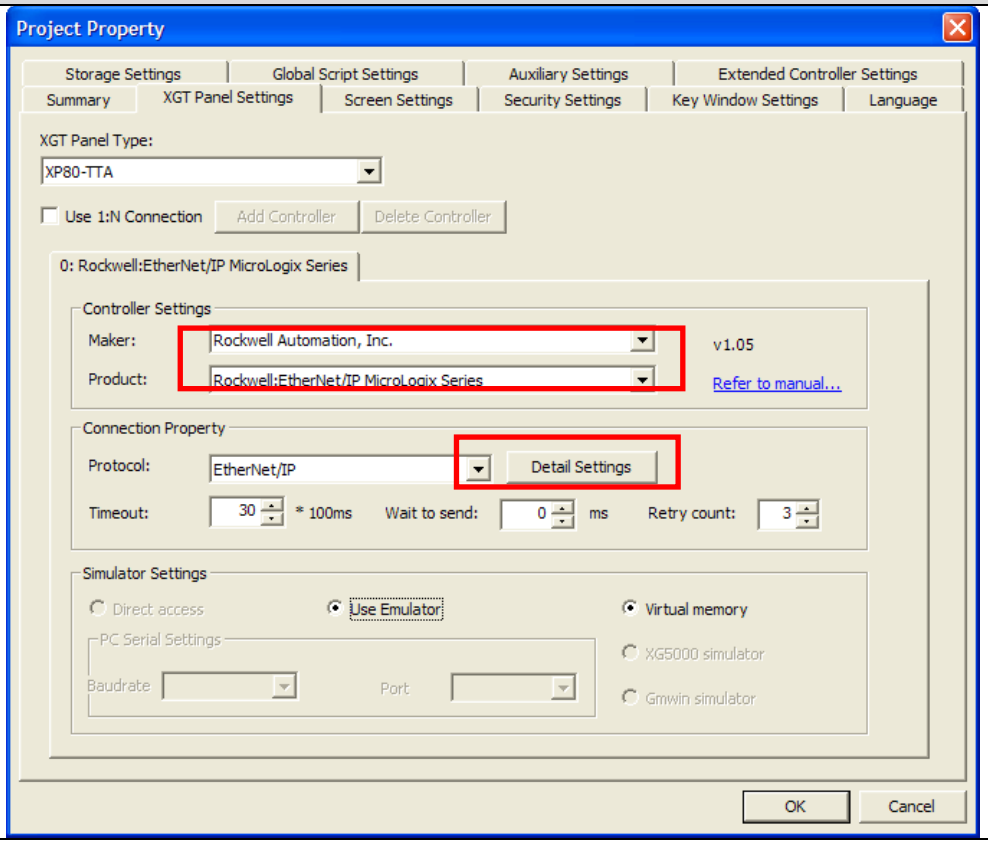
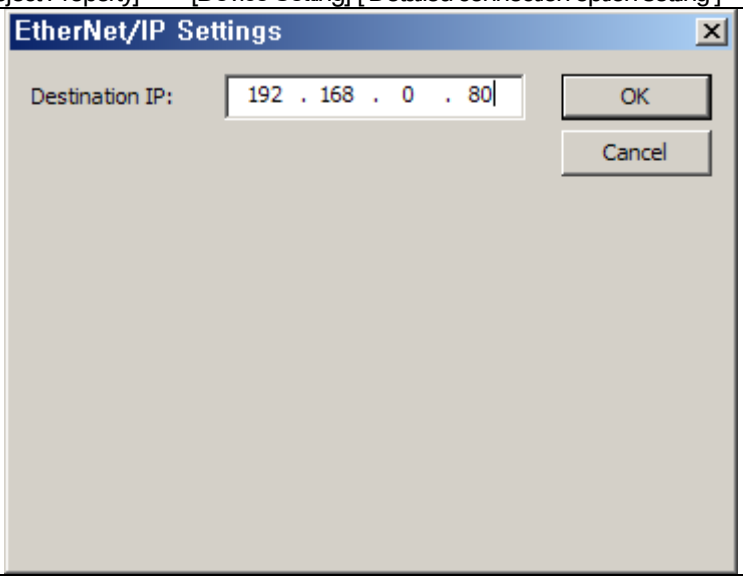
17.3.1 Connection

<table>
<tr><th>No</th><th>Setup Process</th><th>How to setup</th></tr>
<tr><td rowspan="2">1</td><td>Communication Setting (1)</td><td> 
</td></tr>
<tr><td colspan="2">After executing RSLogix500 program, select the menu [Comms] – [Who Active Go Online].</td></tr>
<tr><td rowspan="2">2</td><td>Communication Setting (2)</td><td> 
</td></tr>
<tr><td colspan="2">If you click [Create New File], connection process is completed.</td></tr>
</table>

Notice

1) Suggestions
► For setting PLC communication, refer to RSLogix500 manual.

17.3.2 Communication Setting

<table>
<tr><th>No</th><th>Setup Process</th><th>How to setup</th></tr>
<tr><td rowspan="2">1</td><td>Communication Setting (1)</td><td> 
</td></tr>
<tr><td colspan="2">Select the menu [Common]-[Project Property] → [Device Setting]-[Detailed connection option setting]</td></tr>
<tr><td rowspan="2">2</td><td>Communication Setting (2)</td><td> 
</td></tr>
<tr><td colspan="2">Input the IP address of PLC EtherNet/IP module to be connected.</td></tr>
</table>

17.3.3 Device Nomenclature

It indicates the device configuration of MicroLogix under XP-Builder and offset address is set to the number of digits.

Data Type	PLC	XP-Builder
Bit Integer File Bit File Input File Output File	N7:12/11 File Type File Number Element Bit	N00701211 File Type File Number (3 digits) Element (3digits) Bit (2digits)
Word Integer File Bit File Input File Output File	N7:123 File Type File Number Element	N007123 File Type File Number (3digits) Element (3digits)
Bit/Word Timer File Counter File Controller File Floating Point File String File ASCII File	T4:0/EN File Type File Number Element Sub Element	TEN004012 File Type File Number (3digits) Element (3digits) Sub Element

17.4 Available Device

The available devices for XGT Panel are as below.

17.4.1 Control/CompactLogix Series

Type	Type Code	Description
SINT	C2	Signaled 8 Bit
INT	C3	Signaled 16Bit
DINT	C4	Signaled 32Bit
LINT	C5	Signaled 64Bit
USINT	C6	Non-Signaled 8Bit
UINT	C7	Non-Signaled 16Bit
UDINT	C8	Non-Signaled 32Bit
ULINT	C9	Non-Signaled 64Bit
REAL	CA	32 Bit real number
LREAL	CB	64 Bit real number
STRING	D0	Character string (1 byte/character)
BYTE	D1	8 Bit String
WORD	D2	16 Bit String
DWORD	D3	32 Bit String
LWORD	D4	64 Bit String
BOOL	C1	Bit

Notice

(1) Suggestions

► Available Tag for Bit Address: Only the SINT, INT, DINT are available for Bit Address of the Tag that is not BOOL type.

► When applying SINT type to 16 bit under XP-Builder, only sub-byte is displayed, wiring is allowed.

► Only the tag declared through Array is available for continuous reading(data list, character string, recipe, device to be logged)

► Reading continuous bit is available within internal bit size such as BOOL Array type or DINT.
(DINT tag1.0 ~ tag1.31)

► LINT type is displayed to the lower 32 bit (The maximum device size of XP is 32 bit)

► In case of STRING type, "Multi Copy" function does not work properly.

17.4.2 MicroLogix Series

Device		Bit Address		Word Address		Remarks
Input File		I0:0/00 ~ I63:255/15		I0:0 ~ I63:255		-
Output File		O0:0/00 ~ O63:255/15		O0:0~O63:255		-
Status File		S2:0/0 ~ S2:163/15		S2:0 ~ S2:163		-
Binary File		B3:0/0 ~ B3:255/15 B9:0/0 ~ B255:255/15		B:3:0 ~ B3:255 B9:0 ~ B255:255		-
Timer File	Enable	T4:0/ ~ T4:255/ T9:0/ ~ T255:255	EN	T4:0. ~ T4:255. T9:0. ~ T255:255.	-	-
	Timing		TT		-	-
	Done		DN		-	-
	Preset		-		PRE	-
	Accumulated		-		ACC	-
Counter File	Up Enable	C5:0/ ~ C5:255/ C9:0/ ~ C255:255/	CU	C5:0. ~ C5:255. C9:0. ~ C255:255.	-	-
	Down Enable		CD		-	-
	Done		DN		-	-
	Overflow		OV		-	-
	Underflow		UN		-	-
	Update Acc		UA		-	-
	Preset		-		PRE	-
	Accumulated		-		ACC	-
Control File	Enable	6:0/ ~ R6:255/ R9:0/ ~ R255:255/	EN	R6:0. ~ R6:255. R9:0. ~ R255:255.	-	-
	Enable Unload		EU		-	-
	Done		DN		-	-
	Empty		EM		-	-
	Error		ER		-	-
	Unload		UL		-	-
	Inhibit Comp.		IN		-	-
	Found		FD		-	-
	Length		-		LEN	-
	Position		-		POS	-
Integer File		N7:0/0 ~ N7:255/15 N9:0/0 ~ N255:255/15		N7:0 ~ N7:255 N9:0 ~ N255:255		-
Floating Point File		-		F8:0 ~ F8:255 F9:0 ~ F255:255		32 Bit
String File		-		ST9:0 ~ ST255:255		-
LONG File		-		L9:0 ~ L255:255		32 Bit

Notice

(1) Suggestion

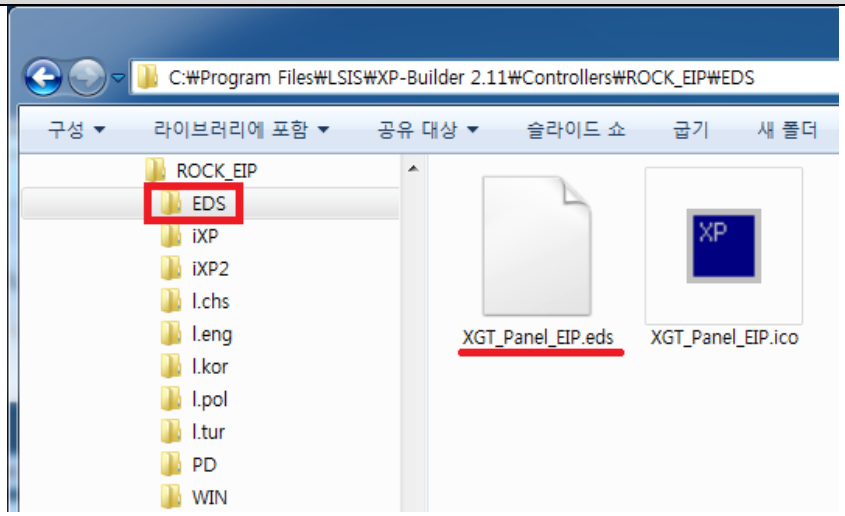
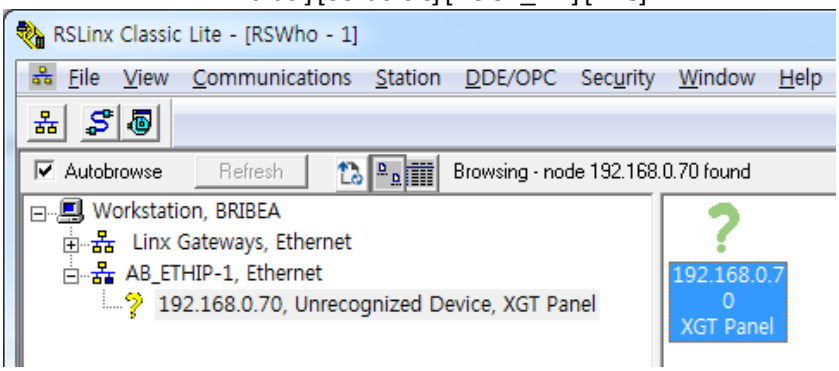
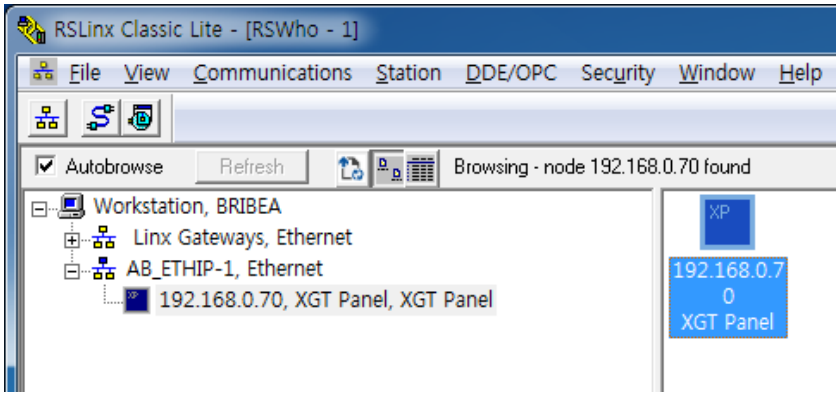
► In the case of applying unavailable address, Error occurs: 0x10

► F, ST, L files can not be added under MicroLogix1000series (can be added under MicroLogix1200, MicroLogix1500 series).

17.5 EDS File

An EDS (Electric Data Sheet) file is required to register XGT Panel as an EtherNet / IP device in the network.
The location of the EDS file is in the following path under the folder where XP-Builder is installed.

17.5.1 EDS file location

No	Setup Process	How to setup
1		 <XP-Builder]-[Controllers]-[ROCK_EIP]-[EDS]>  <Before registering the device as the EDS file>  <After registering device with the EDS file>

17.5.2 How to register for EDS

Here is how to register EDS file on your PC.

No	Setup Process	How to setup
1		

Manually register EDS files in the EDS Hardware Installation Tool

You can manually register EDS files of hardware devices by launching the EDS Hardware Installation Tool.

Before you begin

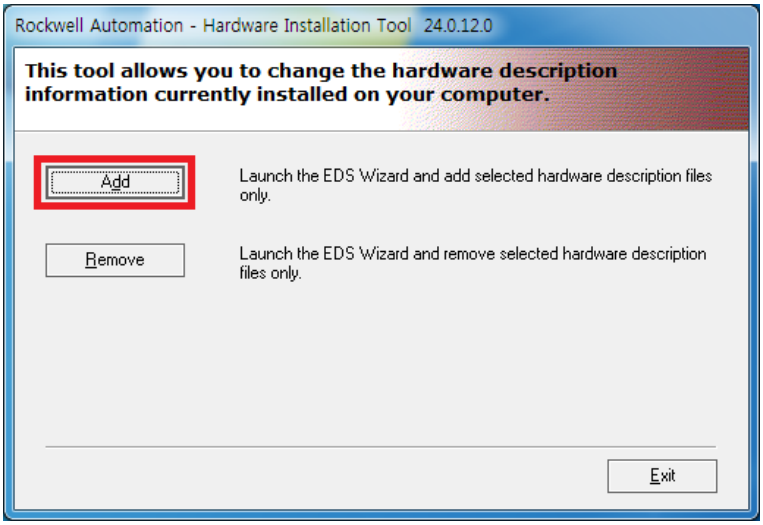
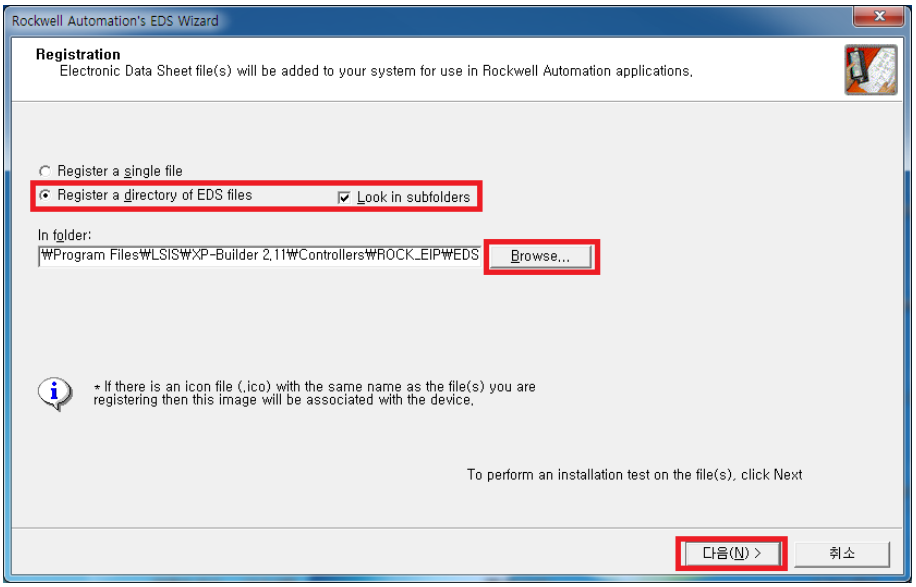
- You must have a valid and complete EDS file of the hardware device. To search and download the EDS file of a specific hardware device, visit Rockwell Automation Network Resources.
- If an icon file (*.ico) exists for the hardware device, save it with the same name as the EDS file in the same directory. You can save one or more EDS files (and the related icon files) in one directory.

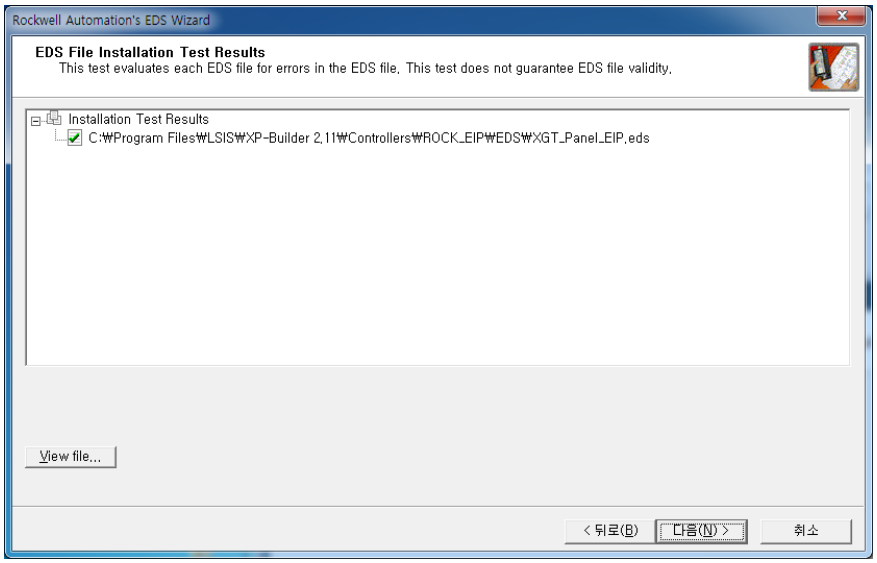
To register EDS files of hardware devices:

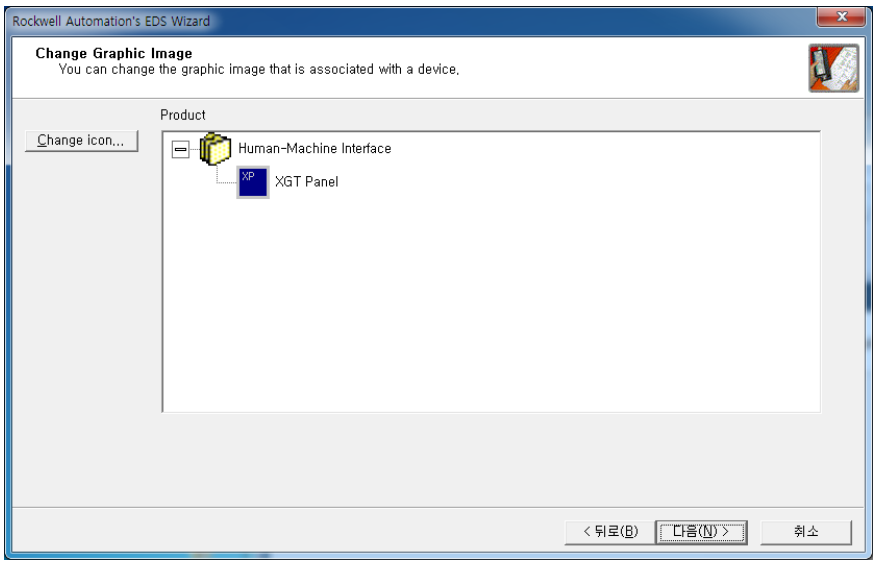
1. Launch the EDS Hardware Installation Tool from **Start > All Programs > Rockwell Software > RSLinx > Tools > EDS Hardware Installation Tool**.
2. On the **Rockwell Automation - Hardware Installation Tool** dialog box, click **Add**. The **Rockwell Automation's EDS Wizard** dialog box opens.
3. On the **Registration** screen, do one of the following, and then click **Next**:
   - Select **Register a single file** to register one EDS file at a time, and click **Browse** to select the EDS file
   - Select **Register a directory of EDS files** to register two or more EDS files at a time, and click **Browse** to select the directory of the EDS files
4. On the **EDS File Installation Test Results** screen, review the hardware device list, and click **Next**.
5. On the **Change Graphic Image** screen, review the icon(s) of the hardware device(s), and click **Next**.

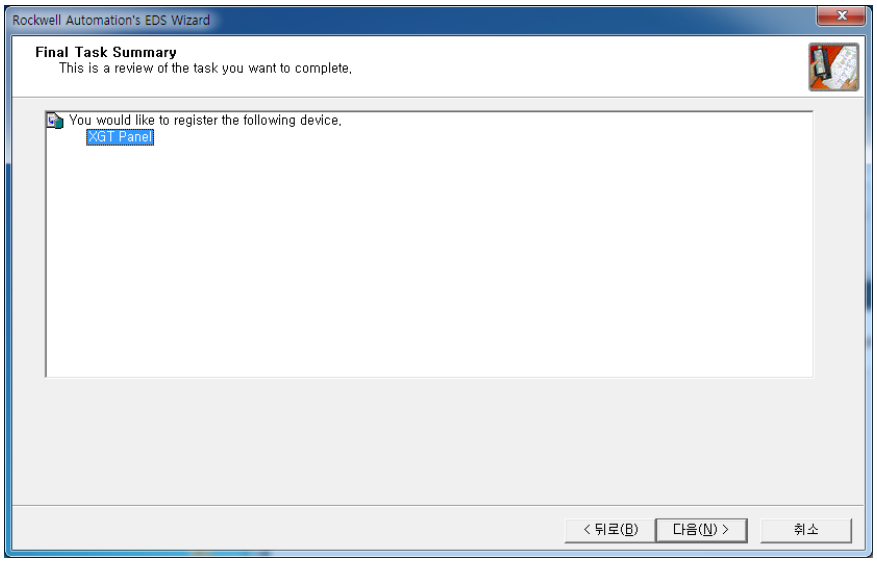
   Note: The Rockwell Automation's EDS Wizard assigns a default icon to each hardware device. You can specify another icon for the hardware device(s) by selecting the hardware device and clicking the **Change icon** button.
6. On the **Final Task Summary** screen, review the hardware device list and click **Next**.
7. When the registration is complete, click **Finish** to return to the **Rockwell Automation - Hardware Installation Tool** dialog box.
8. Click **Exit**.

<the guideline from "RSLinx Classic Help">

No	Setup Process	How to setup
2		 


Rockwell Automation's EDS Wizard
EDS File Installation Test Results
This test evaluates each EDS file for errors in the EDS file. This test does not guarantee EDS file validity.
Installation Test Results
C:₩Program Files₩LSIS₩XP-Builder 2.11₩Controllers₩ROCK_EIP₩EDS₩XGT_Panel_EIP.eds
View file...
< 뒤로(B)
다음(N) >
취소


Rockwell Automation's EDS Wizard
Change Graphic Image
You can change the graphic image that is associated with a device.
Change icon...
Product
Human-Machine Interface
XGT Panel
< 뒤로(B)
다음(N) >
취소


Rockwell Automation's EDS Wizard
Final Task Summary
This is a review of the task you want to complete.
You would like to register the following device.
XGT Panel
< 뒤로(B)
다음(N) >
취소

	Follow the instructions in the "EDS Hardware Installation Tool" to register the EDS file.