



Communication Settings:

**Allen Bradley
(Control Logix PLC)**

and

**IDEC Touchscreens
(10.4" HG3F, AND 12.1" HG4F)**

Via Ethernet/IP

Introduction:

The following information will help you configure the IDEC touchscreens (10.4" HG3F, or 12.1" HG4F) and the Allen Bradley Control Logix PLC using the AB Ethernet IP driver. For other supported Allen Bradley PLCs and their communication settings/range of addresses, please refer to the WindO/I-NV2 manual (select "Host Interface" then Connection to a PLC).

<http://www.idec.com/language/english/software/WindOI/V330/Manual/mainmenu.pdf>

Ethernet/IP Settings (Control Logix)

Communication Interface Setting (Ethernet)

Item	Setting
IP Address	Set IP Address of MICRO/I
Subnet Mask	Set Subnet Mask of MICRO/I
Default Gateway	Set Default Gateway of MICRO/I

Host I/F Network Setting

Set some network information of PLCs. It can be set to maximum of 16.

Item	Setting
Station No.	The number to select PLC when set device address.
IP Address	Set IP Address of communicated PLC
Port Number	Set Port Number of communicated PLC
Product	Set Product of communicated PLC

Required Cables:

Ethernet Cables (one for PLC and one for HMI)
1756-CP3 (Control Logix programming cable)
HG9Z-XCM1A (TouchScreen programming cable)

Required Software:

Install WindO/I-NV2 Version 3.30 (programming software for HG3F/4F)
Install Allen Bradley RSLinx and RSLogix5000 (programming software for ControlLogix)

Devices used for testing:

1. AB ControlLogix PLC
2. 1756-ENET (Interface Module used with ControlLogix)

3. IDEC TouchScreen HG4F-JT22TFW

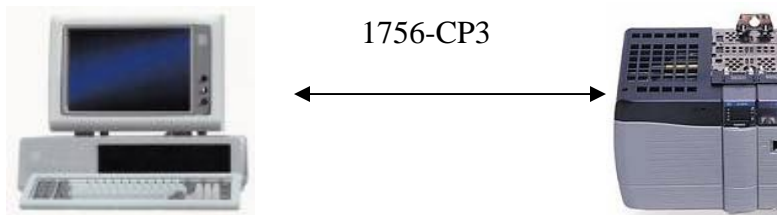
Below are the IP addresses used for testing: (The IP address may differ depending on the environment)

1. 192.168.104.32 (assigned in the TouchScreen)
2. 192.168.104.33 (assigned in the ControlLogix/Interface Module)
3. Subnet Mask: 255.255.255.0 (used on Touchscreen & Interface Module)
Default Gateway: 192.168.104.254 (used on Touchscreen & Interface Module)

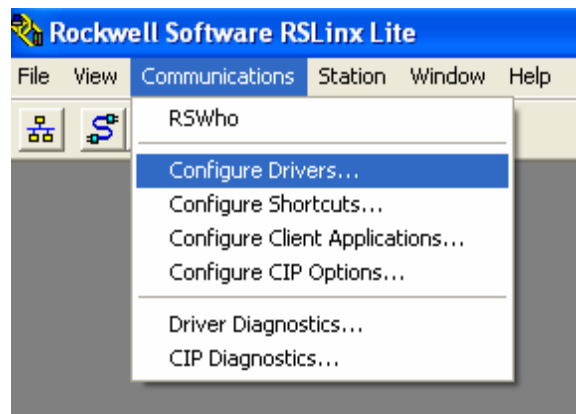
Step 1: RSLinx and RSLOGIX SOFTWARE

Configure the AB ControlLogix PLC

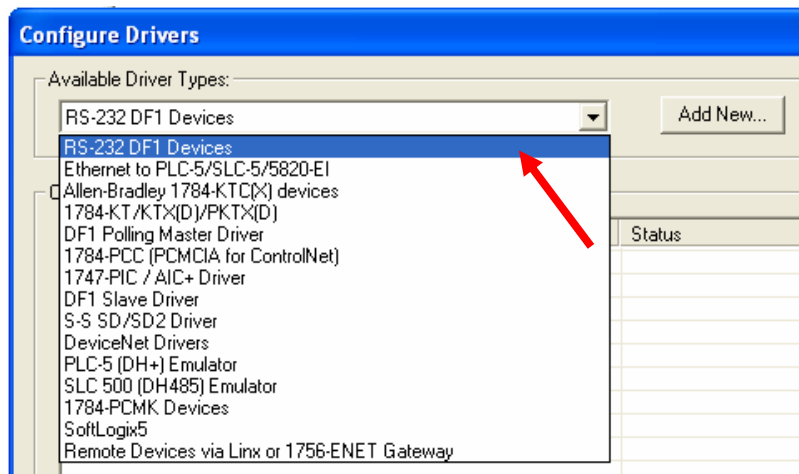
- 1) Connect the programming cable (part number: 1756-CP3) from the PC to the ControlLogix programming port.



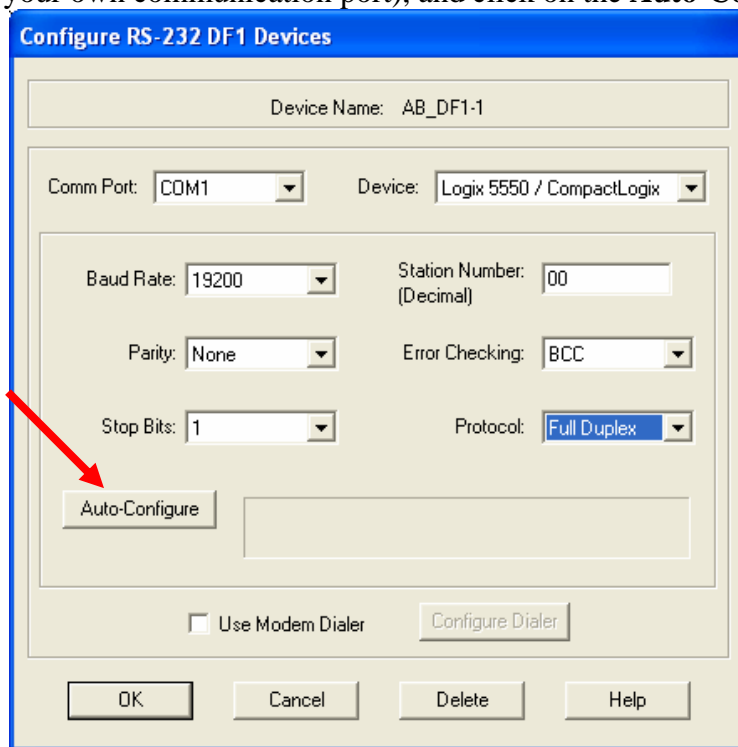
- 2) Launch the RSLinx software. The RSLinx allows you to configure the AB driver. Select the **Communications** → **Configure Drivers**.



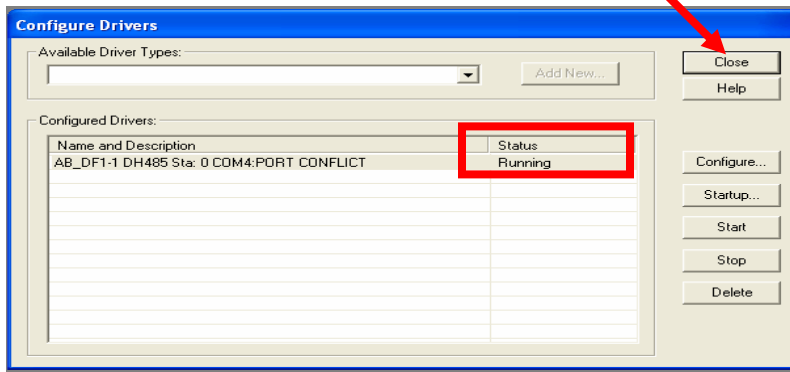
- 3) Configure Drivers:
 - a) Select "RS232 DF1 Devices"
 - b) Click the **Add New** button
 - c) Choose a name for the driver and then click **OK**
 - d) Click **Configure** to configure the device.



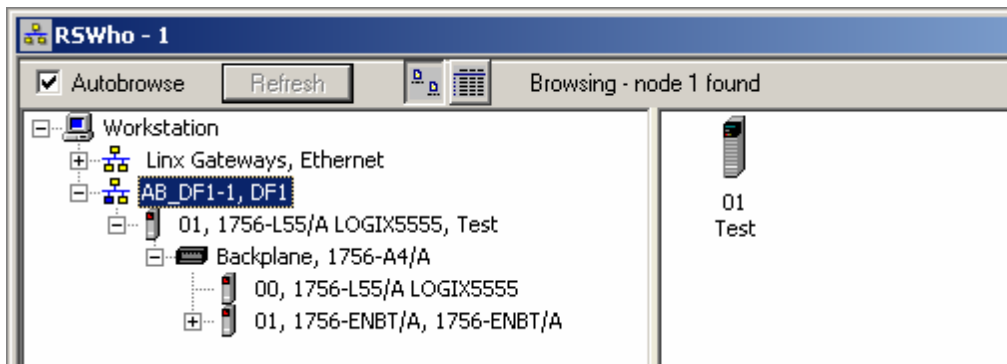
- 4) Next, make sure to follow the settings below, except the Communication Port (select your own communication port), and click on the **Auto-Configure** button.



5. Once the settings are done, Click the **OK** button and it should show you that the driver is in the Running status.
6. Click **Close**

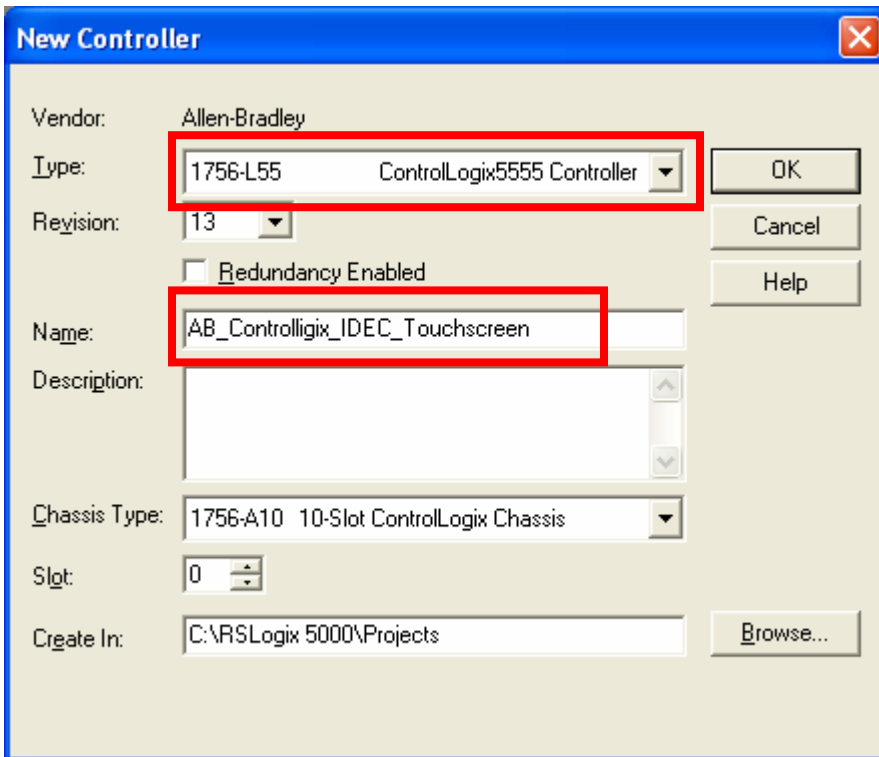


The picture below shows that you have successfully configured the PC to talk to the ControlLogix PLC.

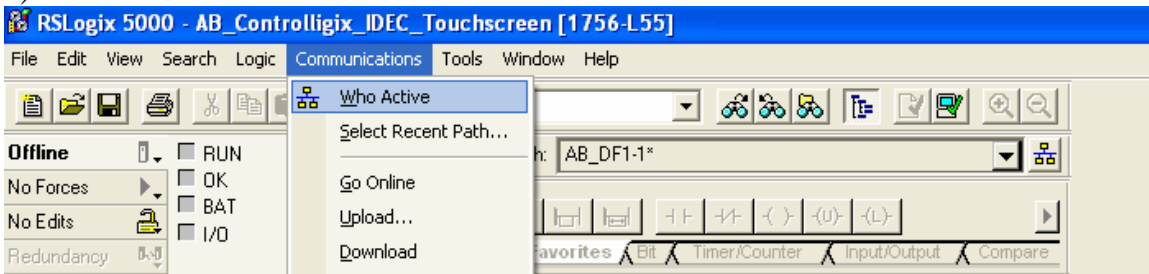


[Step 2: Configure the AB ControlLogix and Interface Unit using RSLogix5000 software](#)

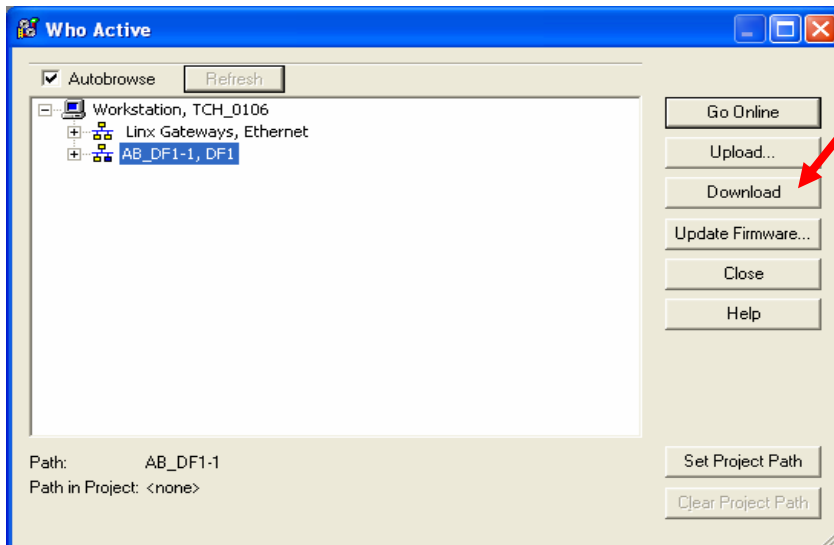
- 1)
 - i) Launch RSLogix5000 and select **File** → **New**.
 - ii) Select the Processor Type from drop down menu.
 - iii) Enter the program name then click **OK**.



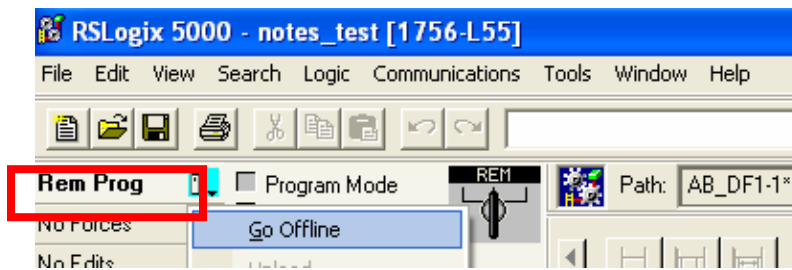
2) Select **Communication** → **Who Active**



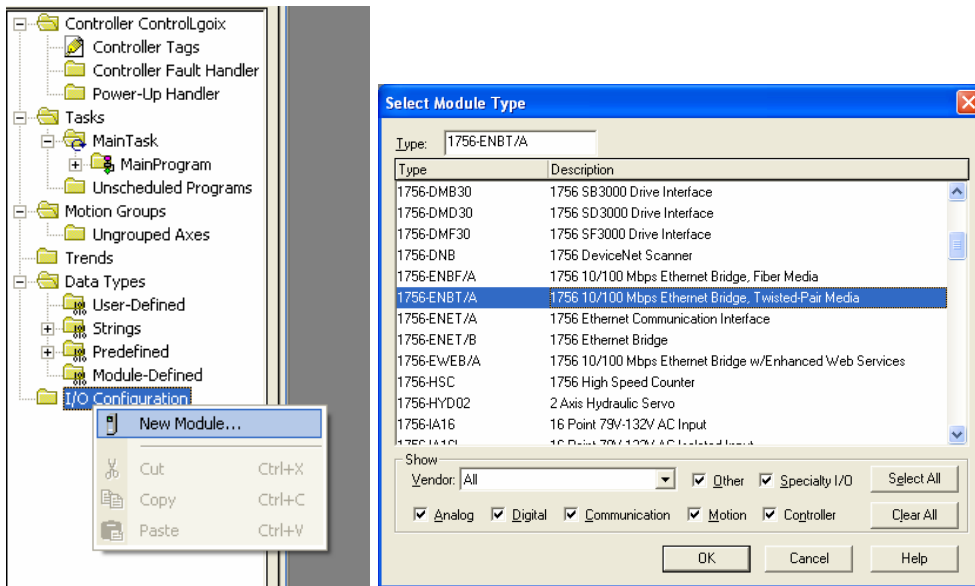
Click **Download**



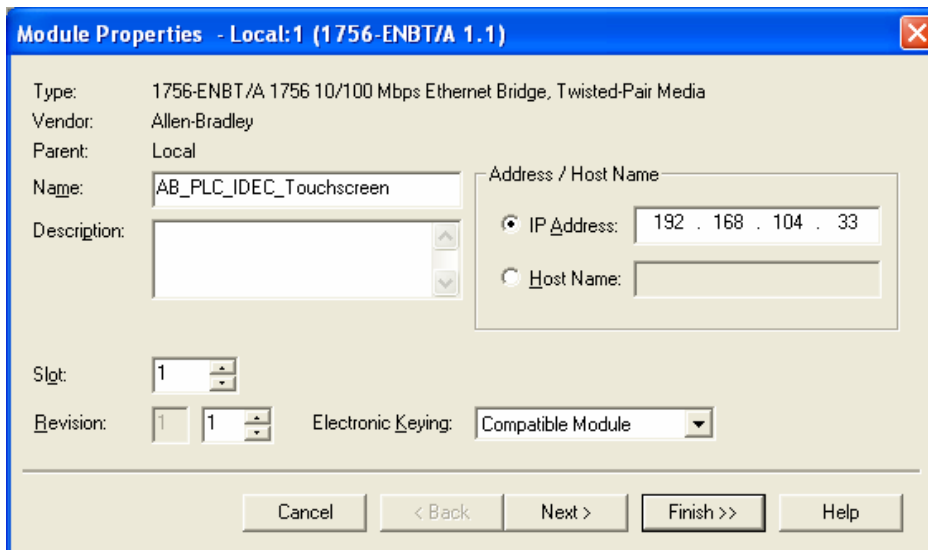
3) Click on the **Rem Prog** drop down menu and select **Go Offline**.



4) Right mouse click on **I/O Configuration** to select **New Module**, and then select the **Module Type** as shown below and click **OK**.

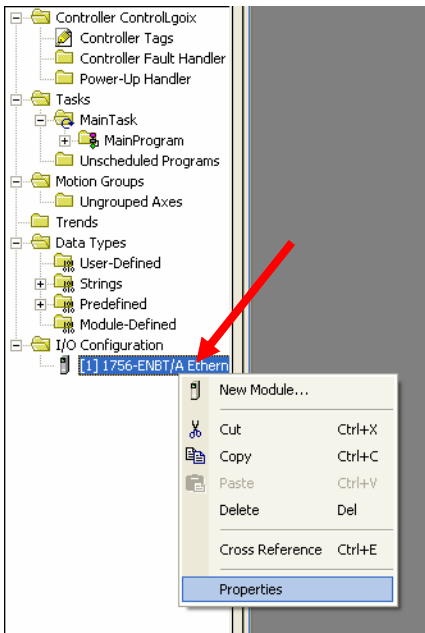


5) Type name on Module Properties box, enter the IP address, and then click **Finish**.

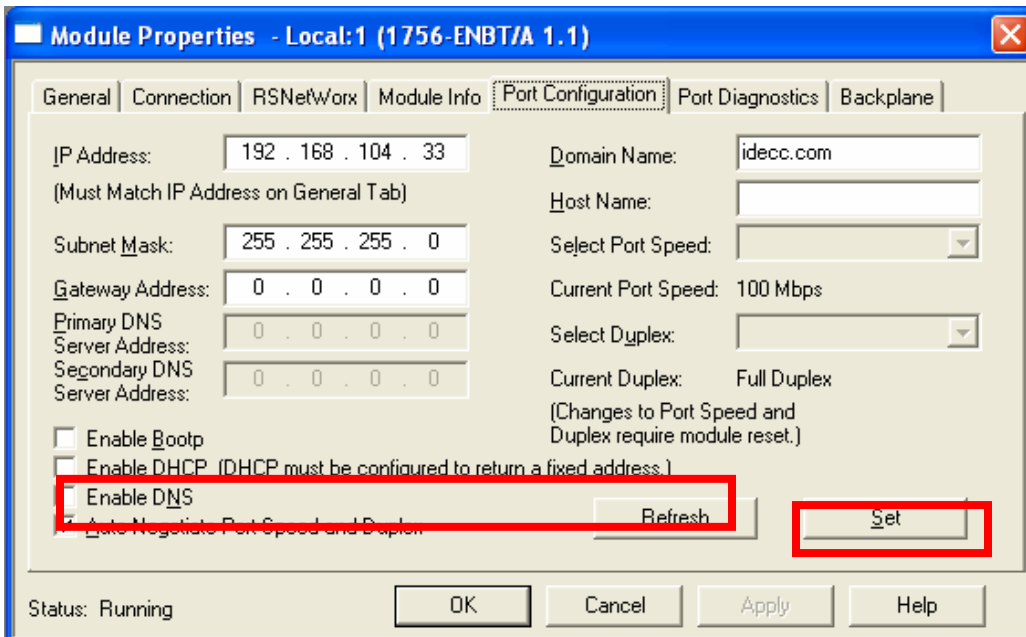
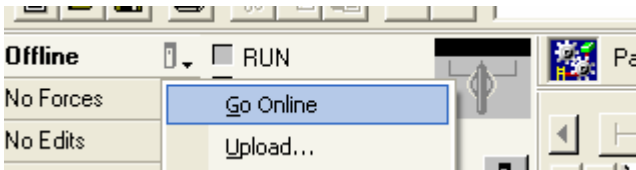


6) As shown below, the newly selected Module Type appears in the I/O Configuration folder.

Right mouse click on the Module Type and then select **Properties**.

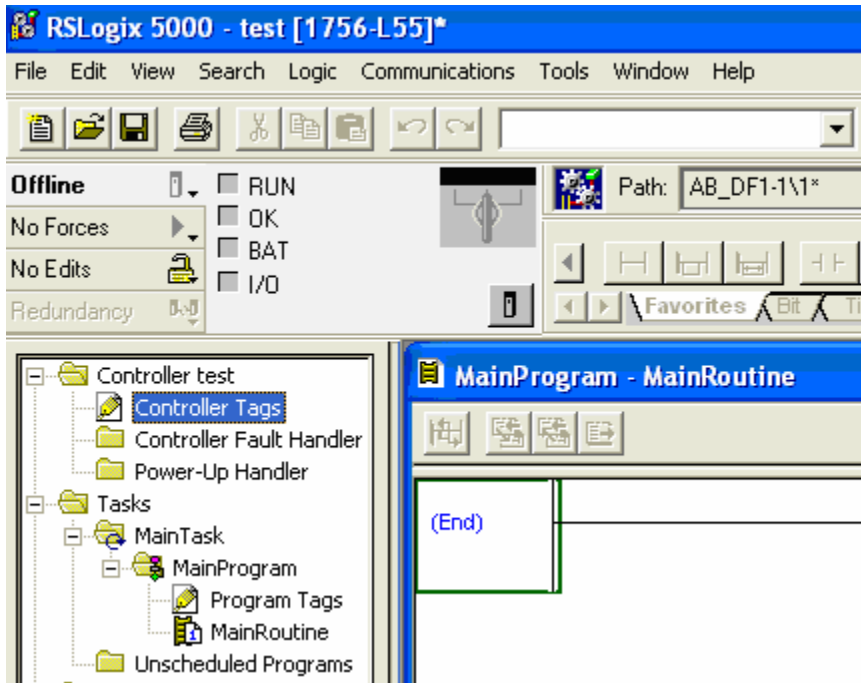


7) Under the **General** tab, enter the valid IP address. Then go to the **Port Configuration** tab in **ONLINE** mode and uncheck the "Enable DHCP (DHCP must be configured to return a fixed address.) Enter the valid IP address, Subnet Mask and Gateway Address for the controller and click on **Set** then **OK**.



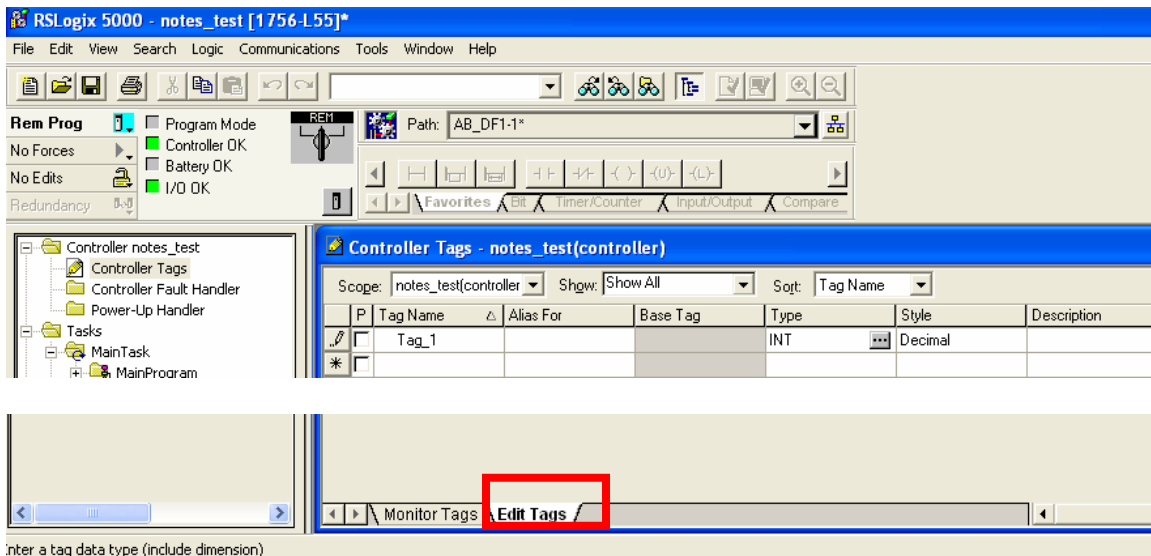
Creating Tags and Assigning the Map

8) Double click on the **Controller Tags** on left panel.



9) Enter below Tag Name and data type in **Edit Tag**.

The IDEC MICRO/I support INT, SINT, DINT and REAL.

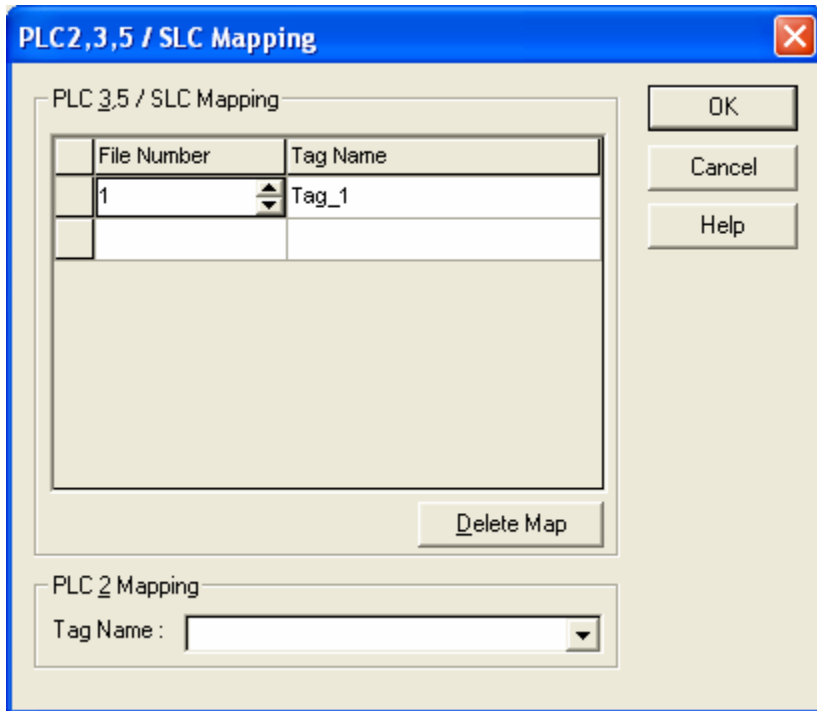


10) Mapping

To map the PLC/SLC messages, make sure the program is in **OFF Line**

- Select **Logic** in Main Menu
- Click the Map PLC/SLC Messages
- Name the File Number and the Tag Name as shown below.

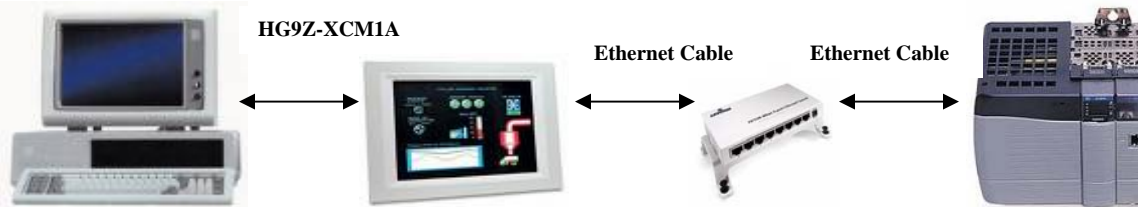
d) Click **OK**



11) Download the program to the controller.

Step 3: WINDO/I NV2 SOFTWARE

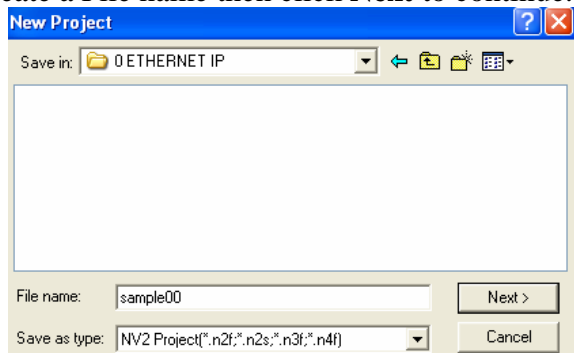
Configure the HG3F/HG4F by creating a program in the WindO/I NV2 software.



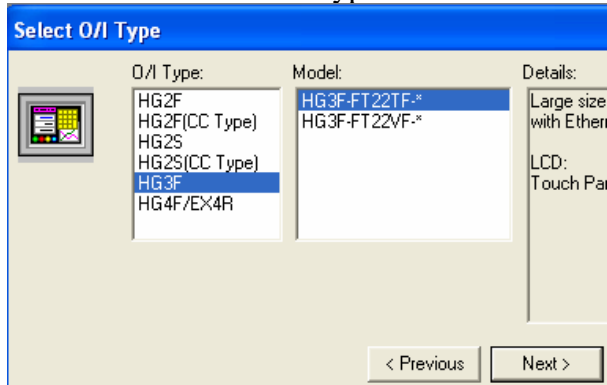
1) Connect the programming cable (part number: HG9Z-XCM1A) from the PC to the HG3F/HG4F (via serial 2 port).

2) Launch WindO/I NV2 version 3.3

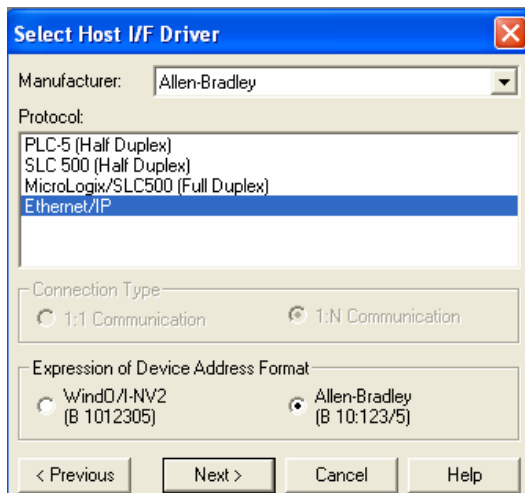
Create a File name then click **Next** to continue.



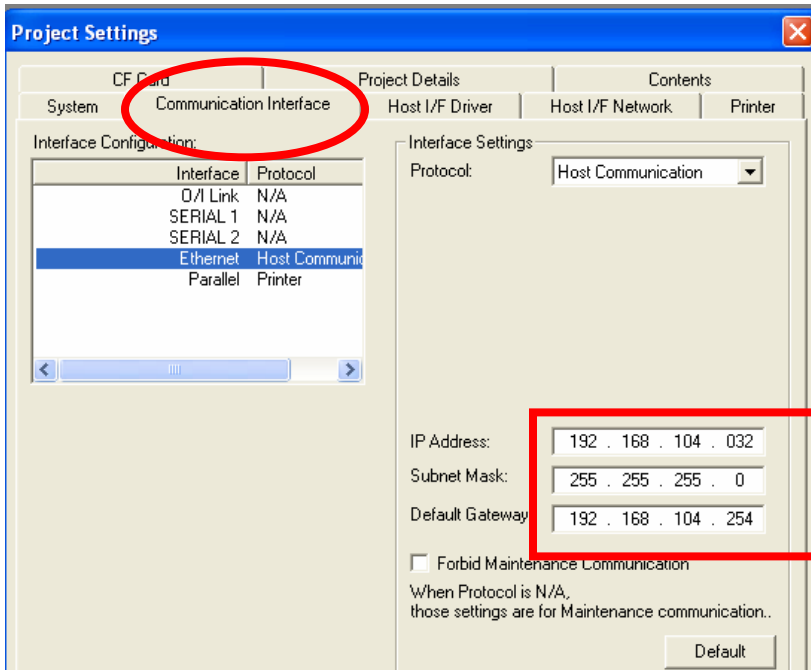
3) Select the O/I and Model type. Click **Next** to continue.



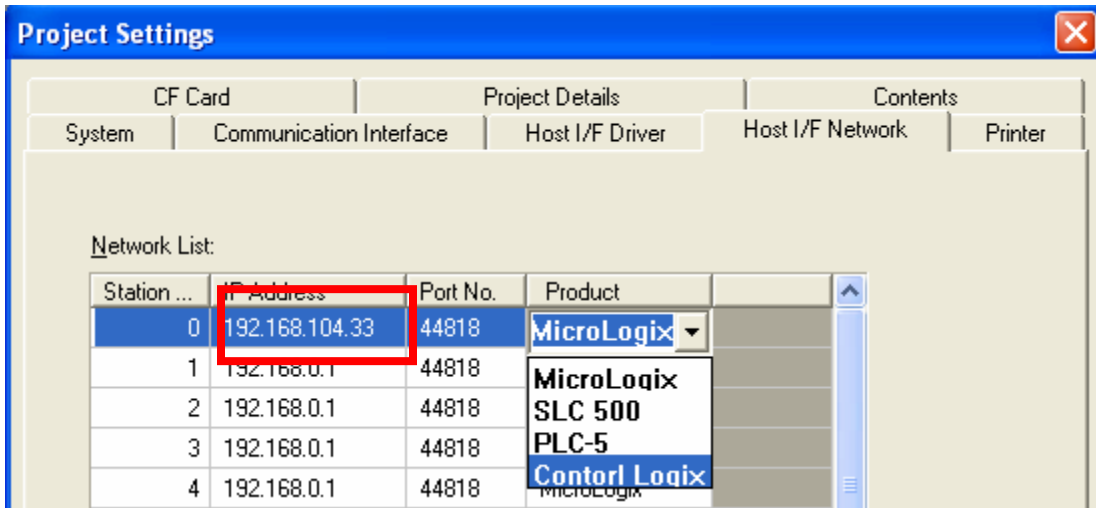
4) Select the Host I/F Driver: Allen Bradley, Ethernet/IP
Click **Next** to continue.



5) In the Project Settings window, select the **Communication Interface** tab.
Set the IP Address as shown:



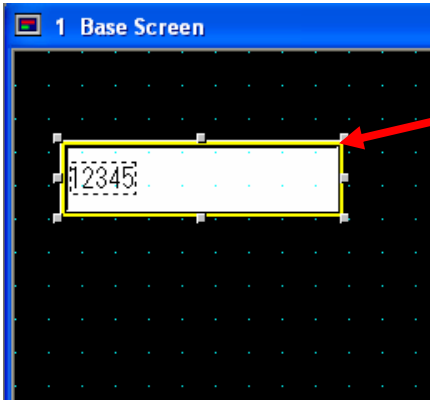
- 6) Select **Host I/F Network** tab. Enter the Controllogix IP Address (as shown). The Station# is set to “0” (according to Controllogix device#). Leave the **Port No.** as is. The product is **Controllogix** (as used in this example).



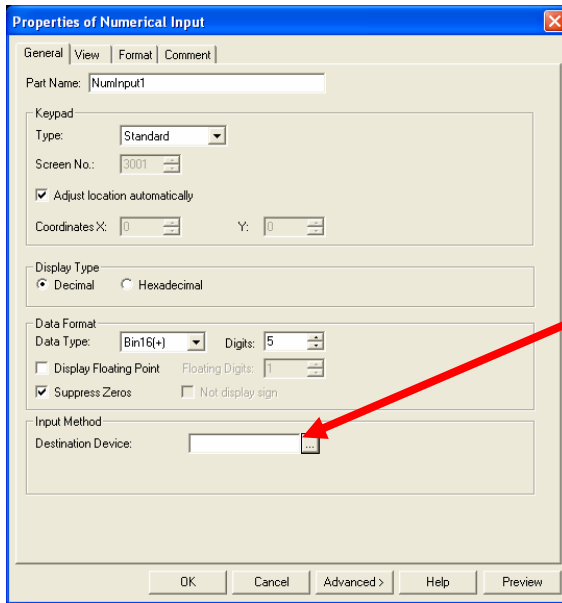
Please see the table below for the “Device Name” and “Data type of tags in ControlLogix.”

Tag names in Control Logix	Wind O/I- NV2 Device Name	Device Symbol	File Number	Address Range	Data type of tags in Control Logix
Tag_1	Integer	N	1	0	INT
Tag_2	SINT	SINT	2	0	SINT
Tag_3	Float/REAL	F	3	00 – 90	REAL
Tag_4	Long/DINT	L	4	00	DINT

6. To test the communication between two devices over the Ethernet network, first select **Numerical Input** on the Base Screen for File number 1 or Tag 1. Double click on the "Numerical Input".



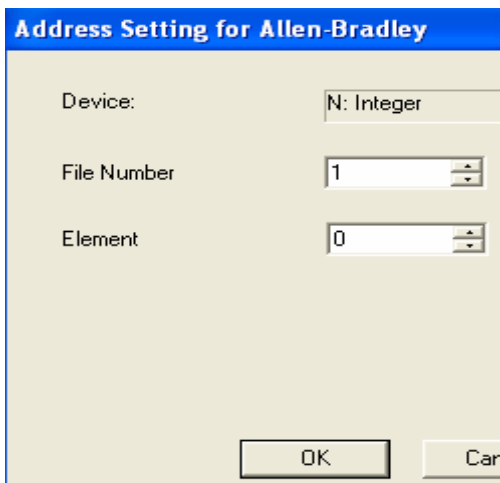
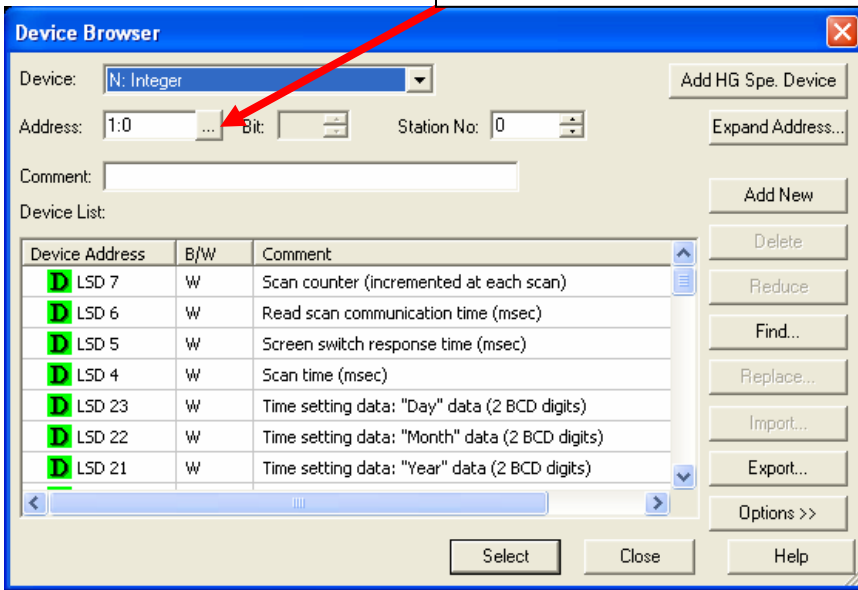
- 1) Select **Numerical Input** & drop on the base screen.
- 2) Double click **Numerical Input** to configure the Properties.



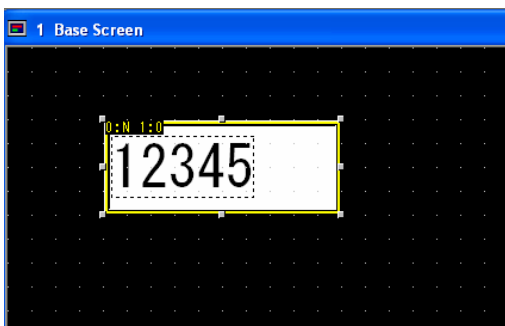
Click this button to open Device Browser.

7. In the Device Browser window, select N: Integer, Address: 1:0, Station No.: 0 (Control Logix is assigned as file number 1, element 0) then click the **Select** button to use the device.

Click this button to open the address settings window



8. Download the entire project by selecting **Online** → **Download** (in WindO/I-NV2, Ver. 3.30) and enter 12345 in the Numerical Input as shown below.



9. You should see the data 12345 will display in Controller Tag. Make sure you are in **Online Mode** and **Monitor Tags**.

The screenshot displays the RSLogix 5000 software interface. The top menu bar includes File, Edit, View, Search, Logic, Communications, Tools, Window, and Help. The toolbar contains various icons for file operations and navigation. The left pane shows a project tree with folders for Controller notes_test, Controller Tags, Controller Fault Handler, Power-Up Handler, Tasks, and MainTask. The main window is titled "Controller Tags - notes_test(controller)" and shows a table of tags. The table has columns for Tag Name, Value, Force Mask, Style, Type, and Description. The first row shows Tag_1 with a value of 12345. The bottom status bar shows "Monitor Tags" and "Edit Tags /".

Tag Name	Value	Force Mask	Style	Type	Description
Tag_1	12345		Decimal	INT	

Download complete with no errors or warnings.