

7. Multi-Channel Communication

Since there are many different vendors and models of all kinds of equipments on the market, users often have a difficult time in data collection and integration. To solve this problem, HITECH develops a HMI model with 2 COM Ports and Ethernet to connect PLCs or other equipments (ex. temperature controller, server, inverter...etc) from different vendors so they are able to integrate and collect the data on HMI or PC.

Note that this feature is applicable on all HMI models; please refer to [Appendix A. - Table of the ADP 6.0 Features and HMI Models](#).

7.1. Connection

User can use COM1, COM2 or Ethernet Port to link the **Multi-Channel Connection**.

One can use RS232, RS422 or RS485 to set up the link, but the method of connection is based on the needs and available equipments. For Ethernet, one has to use RJ45 to set up the link. Also the PLC must be Ethernet-enabled. See Figure 228. For the method of connection and setup, please refer to [Chapter 9. Communication between PLC& PWS](#).

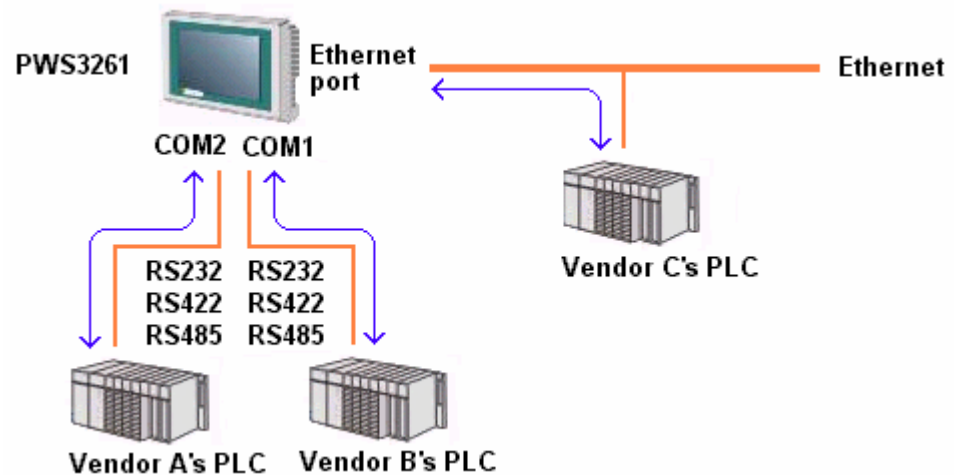


Figure 228. Multi-Channel Connection

7.2. Connection Setup

Multi-Channel connection setup includes the types of PLC and its parameters.

Follow the steps to set up:

1. In ADP, select [File]/[New]. The [New Application's Properties] dialog box is displayed. On the [General] tab, select the type of the **first** PLC from the [Controller/PLC] list, for example, "Mitsubishi FX Series." See Figure 229.

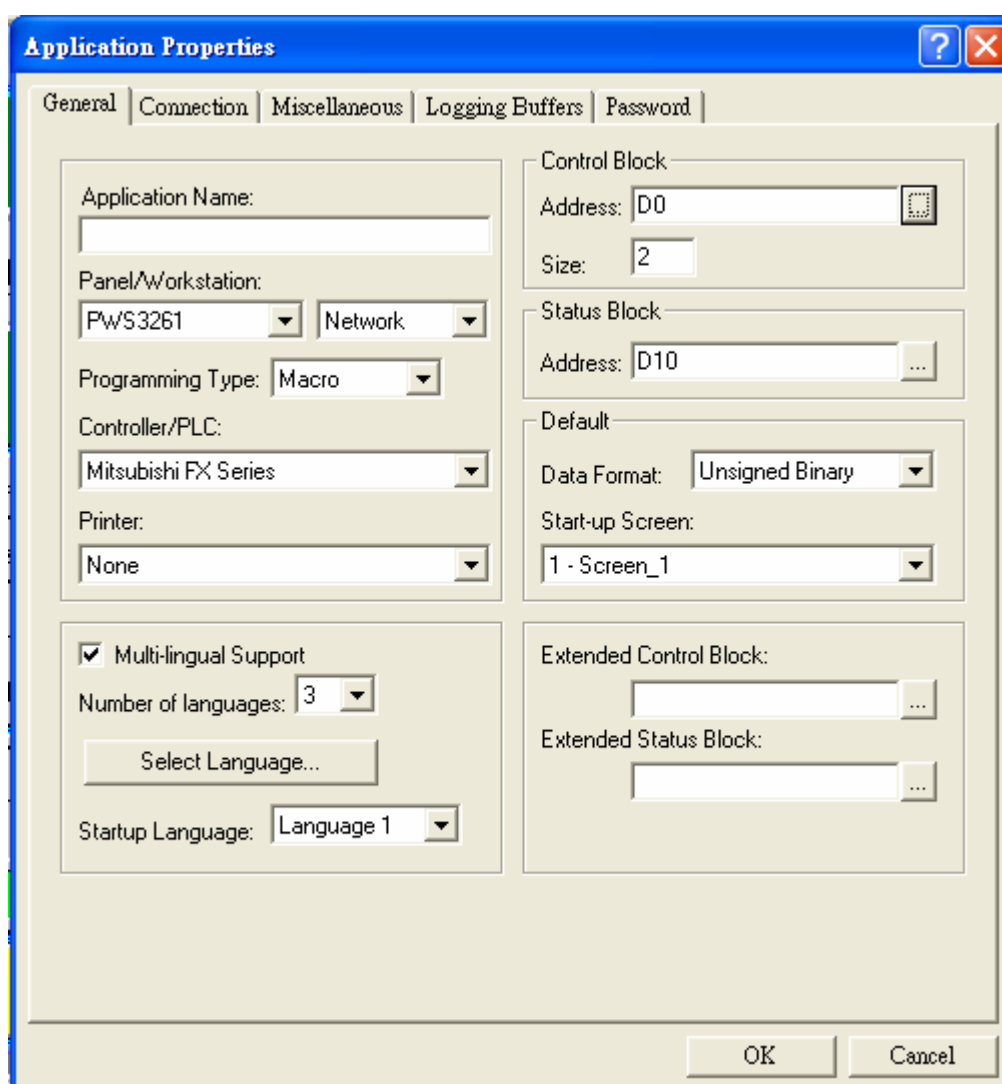


Figure 229. Select the Type of the First PLC

2. Select the [Connection] tab. On the [Connection] tab, select the method of connection for the **first** PLC from the [Port/method used for the connection] list. Next enter the addresses in the PWS's [Address] and PLC's [Default Address] box. Then make the selection from the [Baud Rate], [Data Bits], [Parity]

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and [Stop Bits] list. See 錯誤! 找不到參照來源。 . User can refer to Chapter 7 in the ADP User's Manual for details.

3. Then select the [Connection] tab, and set up the parameters for the first linked PLC including default address, baud rate, data bits, parity, stop bits...etc. See Figure 230. Please refer to [Chapter 9. Communication between PLC & PWS](#).

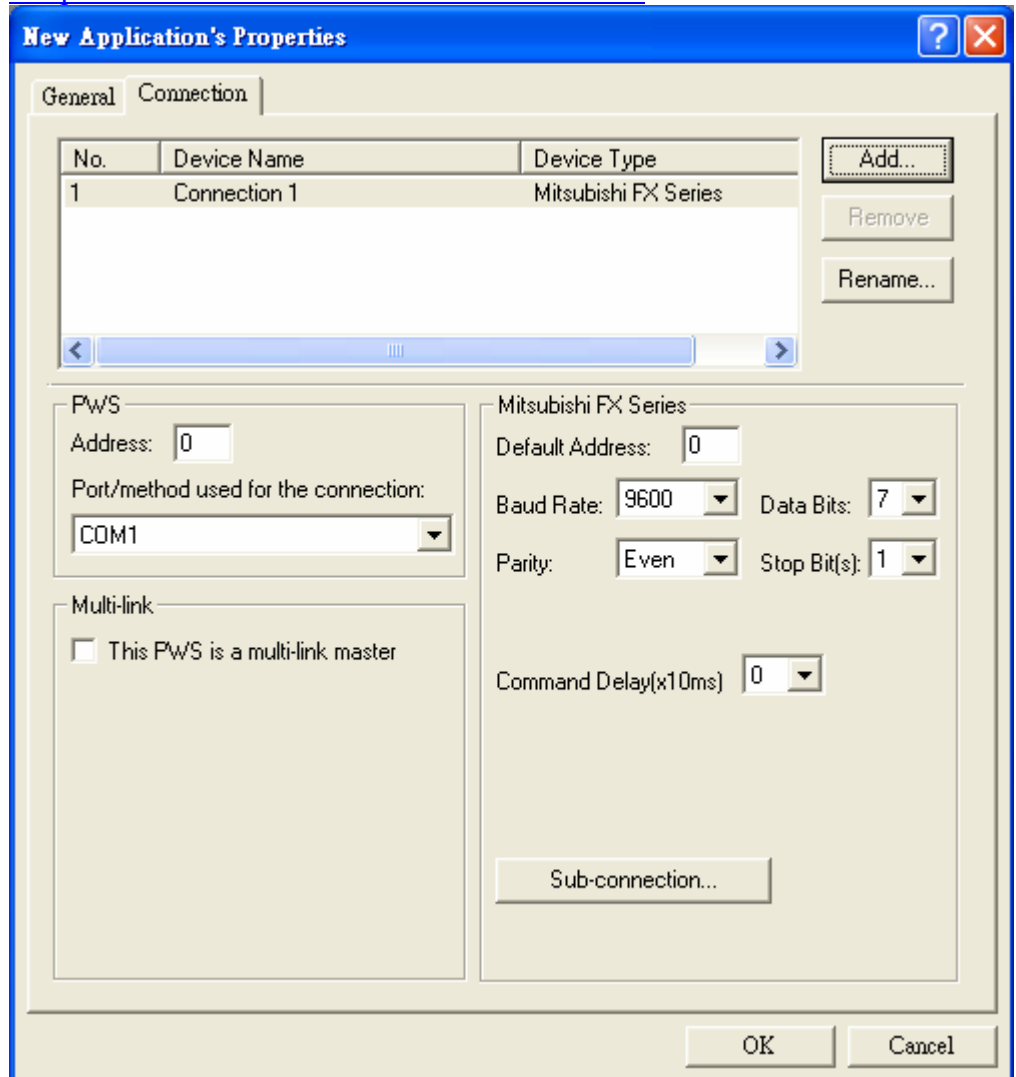


Figure 230. Setup the Connection with the first PLC

Note that if SW5 = ON, the parameters of the first linked PLC must be set up according to the Configuration Table in System Menu; If SW5 = OFF, the parameters of the first linked PLC must be set up according to the [Connection] tab in [Application]/[Workstation Setup]. See Figure 230.

4. To add a **second** PLC, click [Add] on the [Connection] tab, for example, "Simatic S7-200 [via PPI; 1-to-1]." See Figure 231 .

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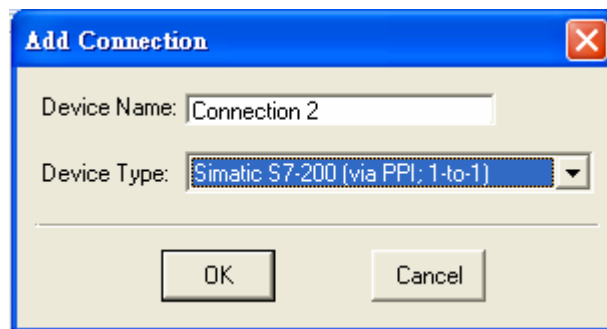


Figure 231. Add a second linked PLC

5. Follow the steps in 2. to set up the **second** PLC. Enter the addresses in the PWS's [Address] and PLC's [Default Address] box. Make the selection from the [Baud Rate], [Data Bits], [Parity] and [Stop Bits] list. See Figure 232. User can refer to [Chapter 9](#) in the ADP User's Manual for details.

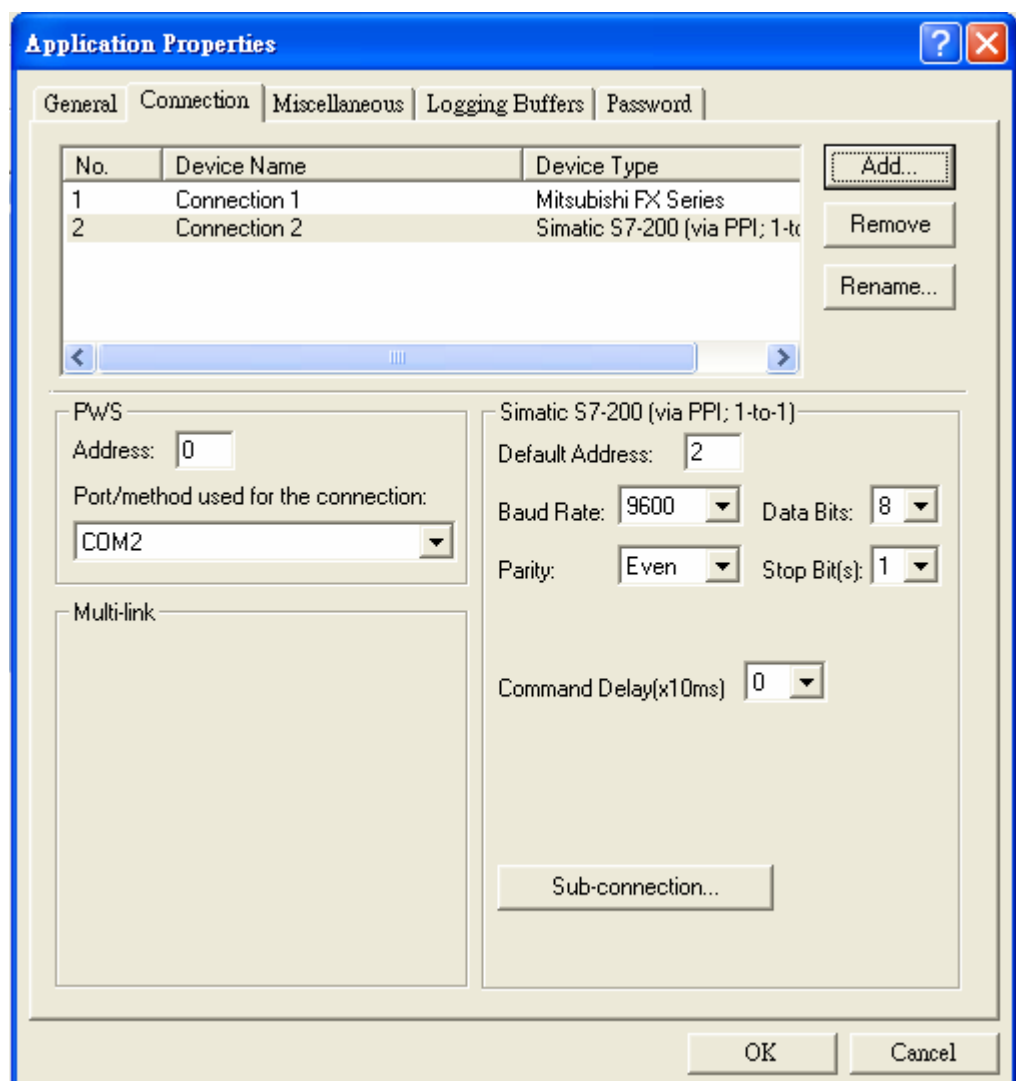


Figure 232. Set up the Connection with the second PLC

For the **second** PLC, one has to set up the parameters according to the [Connection] tab in [Application]/[Workstation Setup]. See Figure 230.

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6. If the communication port is being used already, then the following error message will show up. See Figure 233.



Figure 233. The Port is being Used Already

7. Next, to add an Ethernet-enabled PLC, click [Add] to add a **third** PLC, for example, “ModBus TCP/IP Device.” See Figure 234.

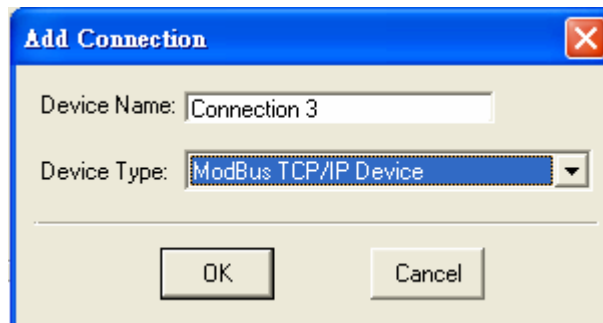


Figure 234. Add the third Ethernet-enabled PLC

8. To set up the **third** PLC (Ethernet-enabled), enter the address in [Default Address] and [IP Address] box. See Figure 235 錯誤! 找不到參照來源。 . User can refer to [Chapter 9](#) in the ADP User’s Manual for details.

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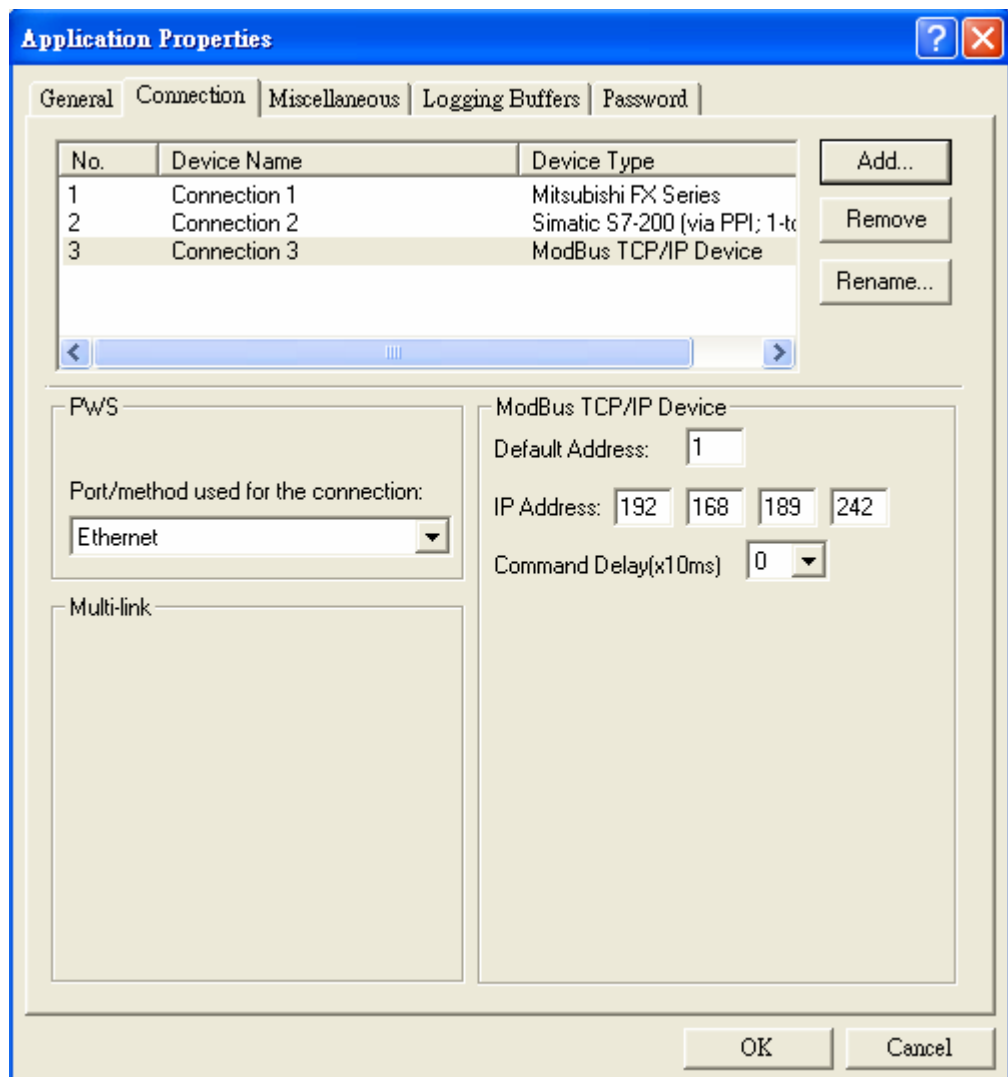
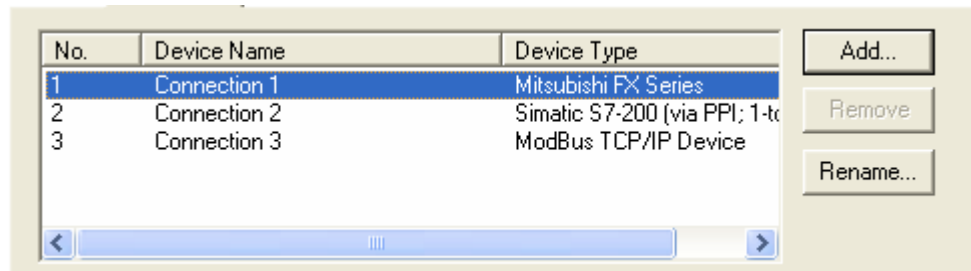


Figure 235. Set up the Connection with the third Ethernet-enabled PLC

9. Click [OK] to finish the setup. If user would like to change the setup later on, simply select [Application]/[Workstation Setup].

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Note:



- [Add] : To add a new connection device. Here is to add another PLC.
- [Remove] : To delete a connection device. This function is not applicable to the first connection (i.e. Connection 1).
- [Rename] : To change the Device Name or the Device Type. For Connection 1, user is only able to change its Device Name. To change its Device Type, one has to change it from the [General] tab.
- [No.] column : Numbered by the order of addition of a device and it is not changeable.

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7.3. Read/Write Address Setup

Since there is more than one type of PLCs, we need to assign a Read/Write Address for each PLC. Therefore, [/] denotes the separation from its register address.

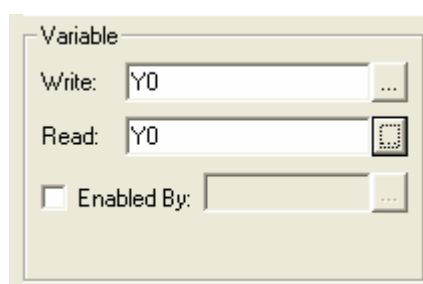
Note that this function is not applicable on all HMI models; please refer to [Appendix A. - Table of the ADP 6.0 Features and HMI Models](#).

Example: The connection of [Section 7.2. Connection Setup](#).

No.	Device Name	Device Type
1	Connection 1	Mitsubishi FX Series
2	Connection 2	Simatic S7-200 (via PPI ; 1 to 1)
3	Connection 3	Modbus TCP/IP Device

Follow the steps :

1. For Connection 1, in the [Write] and [Read] box, enter “1/Y1” for the bit address and “1/Y1D100” for the register address. “1” is [No.] column 1, it can be omitted and enter “Y1”.



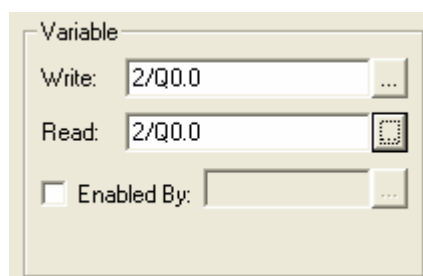
Variable

Write: Y0

Read: Y0

☐ Enabled By:

2. For Connection 2, in the [Write] and [Read] box, enter “2/Q0.0” for the bit address. Notice that “2” refers to Connection No. 2 and “/” denotes the separation from its register address. See below.



Variable

Write: 2/Q0.0

Read: 2/Q0.0

☐ Enabled By:

3. For Connection 3, in the [Write] and [Read] box, enter “3/1” for the bit address. Notice that “3” refers to Connection No. 3 and “/” denotes the separation from its register address. We have to include “/” in the setup. See below.

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Variable

Write: 3/1 ...

Read: 3/1 ...

☐ Enabled By: ...