MELSEC FX Series

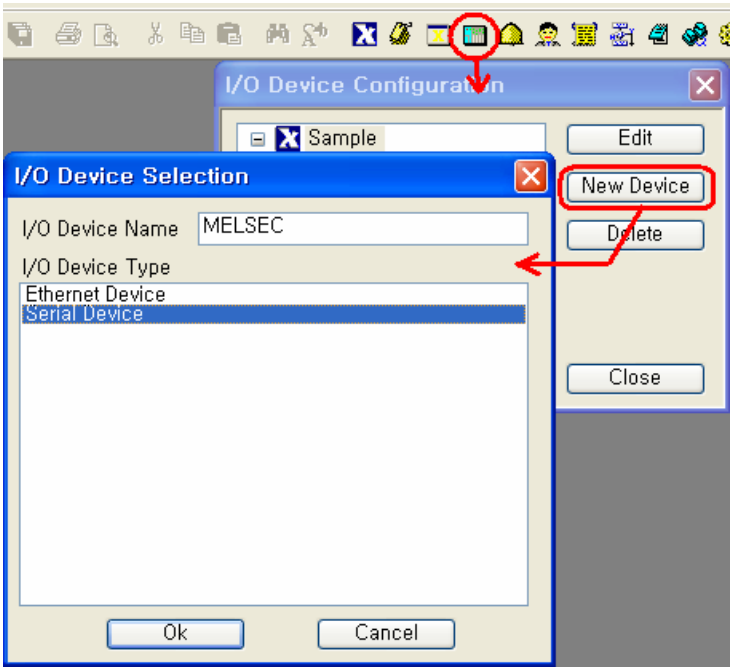
1. Overview

This driver supports the communication with MELSEC FX series PLCs through RS232C/422A port. The implemented protocol in this driver is the **'dedicated protocol'** of FX and uses the **'control protocol format 1'**.

2. Communication Setup : XPanel

(1) Create a new device.

For creating a new device activate the menu **'Tools'->'I/O Devices'** or  icon in tool-bar. Following picture shows the first step of creating a new device.

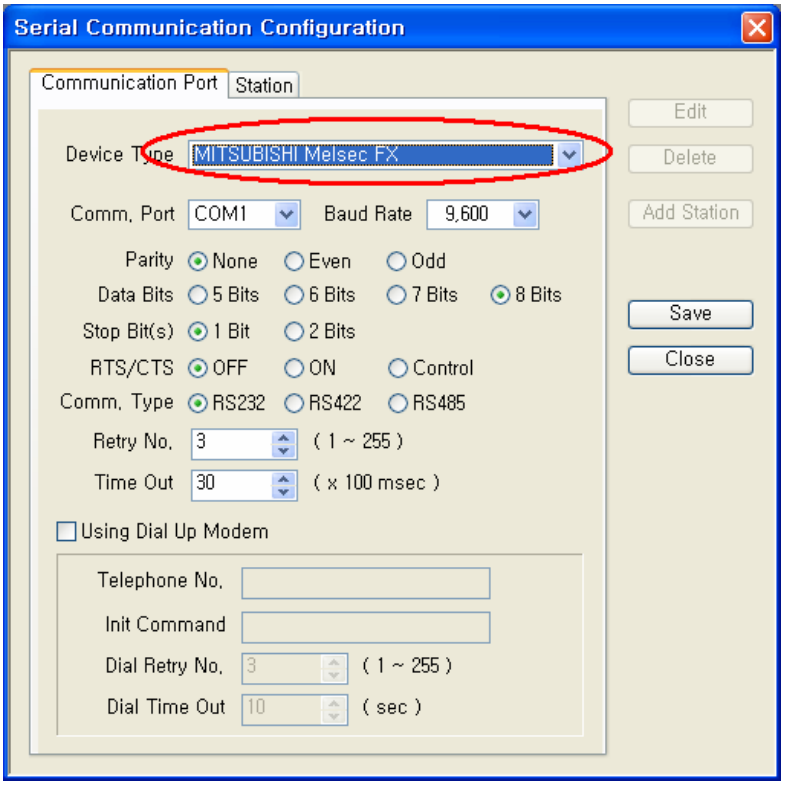


- **I/O Device Name**

  Give a device name. This name will be used in the TAG configuration window of database accompanied by the 'Station Name'.

(2) Select a device type : 'MITSUBISHI Melsec FX'

After selecting the 'OK' button of previous step, '**Serial Communication Configuration**' dialog box will be popped up as shown in following picture.



In this window, select the 'Device Type' as '**MITSUBISHI Melsec FX**' and configure the proper serial communication parameters. Ensure that those parameters are matched with PLC configuration.

(3) Create a station

Move to the '**Station**' tab of 'Serial Communication Configuration' dialog box.

In this dialog box, all the connected PLC stations can be configured and registered to the XPanel. Each field can be configured with following rules.

- **Station Name**

  Give a name to the PLC. This name will be used in the database window accompanied with the 'Device Name'.

- **Station Type**

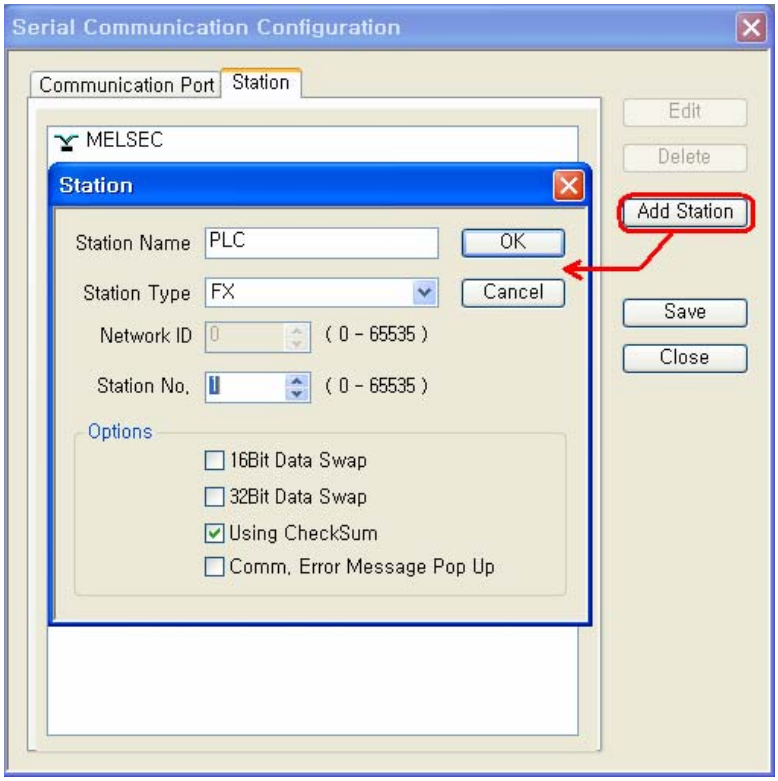
  Choose the type of connected PLC among the "FX".

- **Network ID**

  This field has no effect.

- **Station No.**

  Specify a decimal number between 0 and 15. This number must be matched with the number in the special data register D8121 of FX PLC.



- **16Bit Data Swap**

  This field has no effect.

- **32Bit Data Swap**

  This field has no effect

- **Using Checksum**

  This field has no effect. This communication driver always checks the check-sum.

- **Comm. Error Message Pop Up**

  If this item is checked, XPanel displays a communication error notification message at every Rx and Tx error.

  Otherwise(unchecked), XPanel does not display the message at data receive error. Only when there is data transmit (writing a TAG value to the station) error, the notification message is popped up. This message box will be closed automatically about 5 seconds after.

3. Communication Setup : MELSEC FX PLC

Typically, the configuration of PLC side is performed by the ‘GX Developer’. For normal communication with XPanel, following parameters must be set as noted.

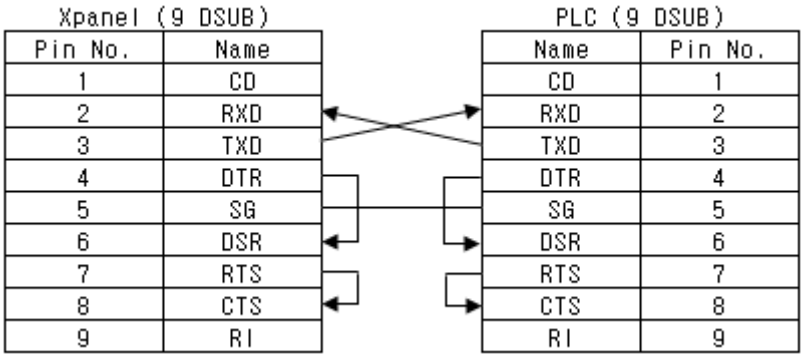
- Protocol : **Dedicated Protocol**
- Format : **Protocol Format 1**
- Sum Check : **Enable**

4. Supported PLC Memories

Memory	Symbol	CPU			Format	Data
		FX0n	FX,FX2c	FX2n		
Input	X	X0000-X0177	X0000-X0337	X0000-X0267	Octal	Bit
Output	Y	Y0000-Y0177	Y0000-Y0337	Y0000-Y0267	Octal	Bit
Aux Relay	M	M0000-M0511	M0000-M1535	M0000-M3071	Decimal	Bit
Special Relay	M	M8000-M8254	M8000-M8255	M8000-M8255	Decimal	Bit
Status Relay	S	S0000-S0127	S0000-S0999	S0000-S0999	Decimal	Bit
Data Register	D	D0000-D8255	D0000-D8255	D0000-D8255	Decimal	Word
Timer	TN	TN000-TN063	TN000-TN255	TN000-TN255	Decimal	Word
Counter	CN	CN000-CN254	CN000-CN255	CN000-CN255	Decimal	Word

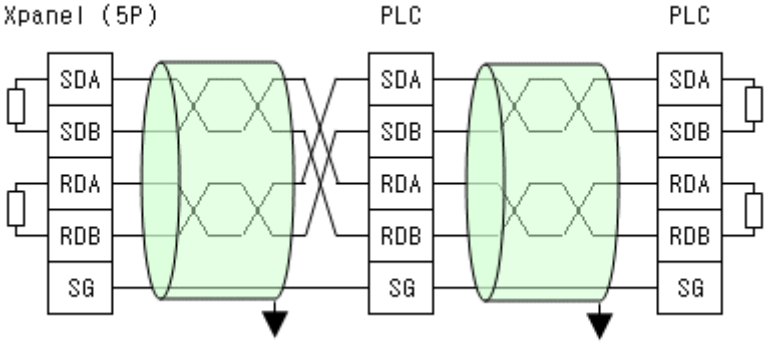
5. Wiring Diagram

[RS232C]

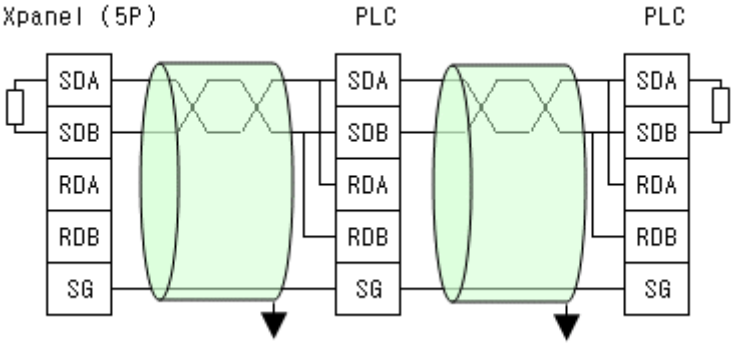


Xpanel (9 DSUB)		PLC (9 DSUB)	
Pin No.	Name	Name	Pin No.
1	CD	CD	1
2	RXD	RXD	2
3	TXD	TXD	3
4	DTR	DTR	4
5	SG	SG	5
6	DSR	DSR	6
7	RTS	RTS	7
8	CTS	CTS	8
9	RI	RI	9

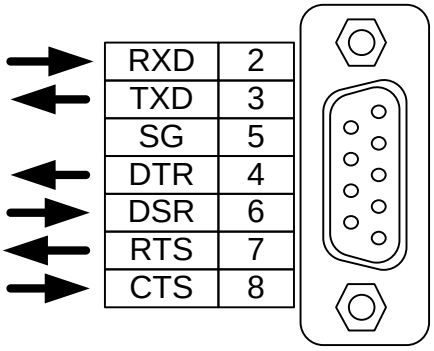
[RS422A]



[RS485]

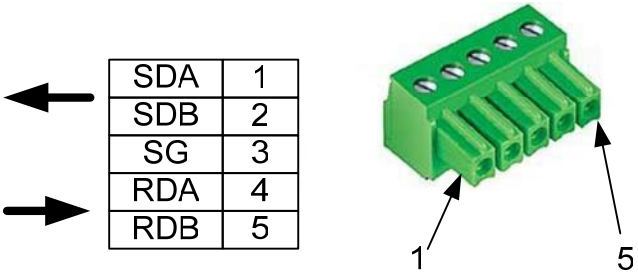


[XPANEL COM1/COM2 RS232C]



Pin assignment of XPanel
(RS232C, D-Sub 9 pin)

[XPANEL COM1 RS422/485]



Pin assignment of XPanel
(RS422/485, 5 pin terminal)