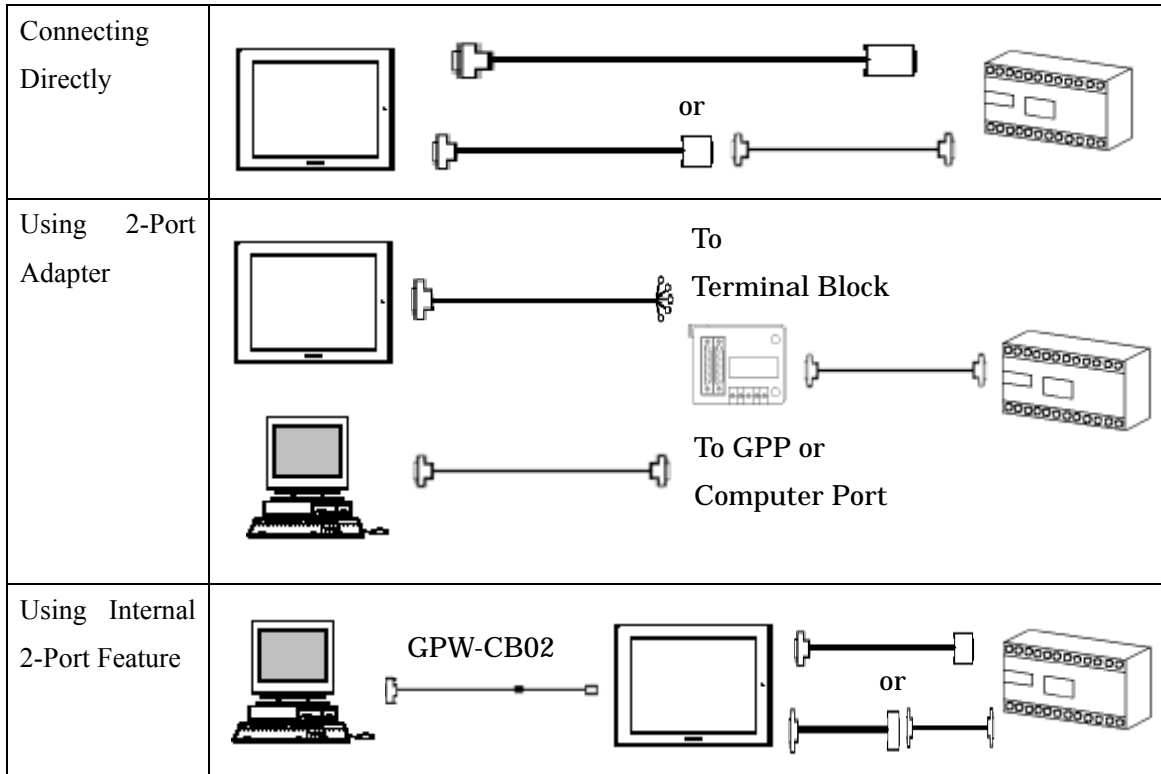



## Mitsubishi <16> Mitsubishi Electric Corporation

### FX Series CPU Direct Connection

#### System Structure






#### GP




Machine 	Model	Remark
GP	GP70 Series GP77/77R Series GP2000 Series	Excepting for handy types.  The internal 2-Port feature is supported by only GP77/77R Series and GP2000 Series.
GLC	GLC2000 Series	2-Port Adapter and the internal 2-Port feature are not supported.

## PLC





### [Connecting Directly]

CPU 	Communication Method	Connection Cable 	GP 
FX <sub>1</sub> , FX <sub>2</sub> , FX <sub>2C</sub>	RS-232C	<b>Connection Method</b> [1]	
FX <sub>0</sub> , FX <sub>0S</sub> , FX <sub>0N</sub> , FX <sub>1S</sub> , FX <sub>1N</sub> , FX <sub>2N</sub> , FX <sub>1NC</sub> , FX <sub>2NC</sub>	RS-232C	<b>Connection Method</b> [2]	




### [Connecting via Interface Unit Manufactured by Mitsubishi Electric Corporation]

CPU 	Interface Unit	Communication Method	Connection Cable 	GP 
FX <sub>1</sub> , FX <sub>2</sub> , FX <sub>2C</sub>	FX-232AW	RS-232C	<b>Connection Method</b> [3]	
FX <sub>0</sub> , FX <sub>0S</sub> , FX <sub>0N</sub> , FX <sub>1S</sub> , FX <sub>1N</sub> , FX <sub>2N</sub> , FX <sub>1NC</sub> , FX <sub>2NC</sub>			<b>Connection Method</b> [4]	

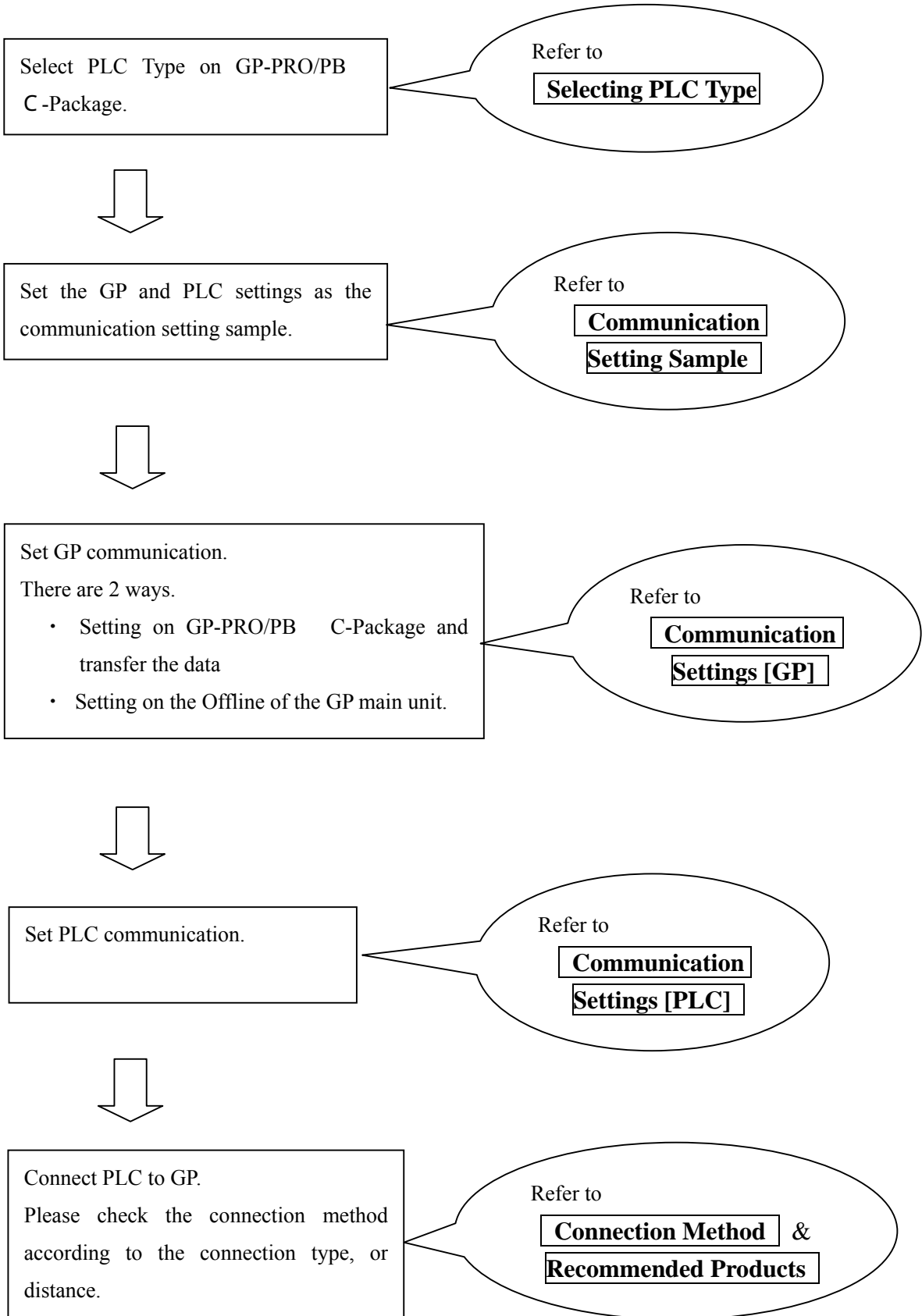
### [Connecting via 2-Port Adapter ]

CPU 	Adapter 	Communication Method	Connection Cable 	GP 
FX <sub>2</sub>	GP070-MD11	RS-422	<b>Connection Method</b> [5]	
FX <sub>0S</sub> , FX <sub>0N</sub> , FX <sub>1S</sub> , FX <sub>1N</sub> , FX <sub>2N</sub> , FX <sub>1NC</sub> , FX <sub>2NC</sub>			<b>Connection Method</b> [6]	

### [Using Internal 2-Port Feature]

CPU 	Communication Method	Connection Cable 	GP 
FX <sub>0S</sub> , FX <sub>0N</sub> , FX <sub>1S</sub> , FX <sub>1N</sub> , FX <sub>2N</sub> , FX <sub>1NC</sub> , FX <sub>2NC</sub>	RS-232	<b>Connection Method</b> [2]	GP77/77R Series GP2000 Series

## Procedure to Connect PLC



## Selecting PLC Type

Start up GP-PRO /PBIII.

Select the following PLC Type when creating the project file.



## Communication Setting Sample

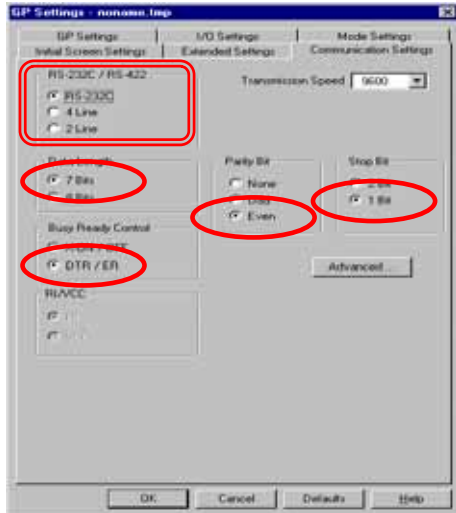
GP Setup		FX Series Settings
Baud Rate	9600 bps	---
Data Length	7 bits (fixed)	---
Stop Bit	1 bit (fixed)	---
Parity Bit	Even (fixed)	---
Data Flow Control	ER Control	---
Communication Format	RS-232C	---
Communication Format	4-wire	---
Unit No.	0 (fixed)	---

## Communication Settings [GP]

1 [GP-PRO/PB C-Package Setting]

Select [GP Setup] on Project Manager.

### 1) Communication Settings

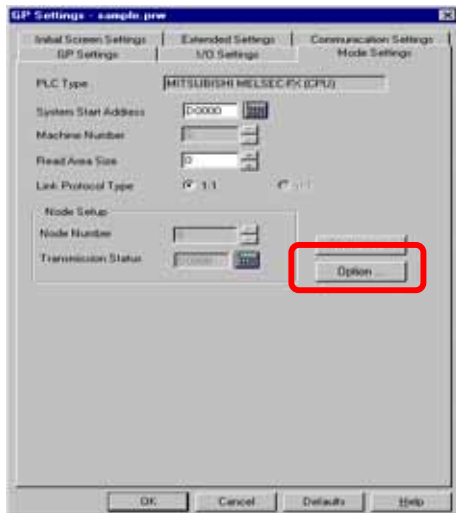


### 1) Communication Settings

Transmission Speed : 9600bps  
 Data Length : 7 Bits  
 Stop Bit: 1 Bit  
 Parity Bit: Even  
 Busy Ready Control : DTR / ER  
 RS-232C/ RS-422 :  
 Using GP430-IP11-O : RS232C  
 Using 2-Port Adaptor : 4 Line

\* Select one in   
 depending on the communication  
 method.

### 2) Mode Settings

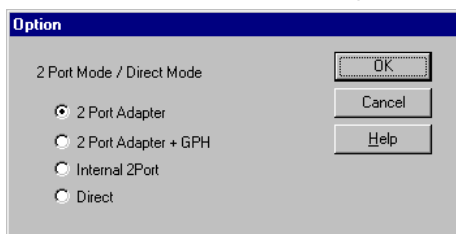


### 2) Mode Settings

System Start Address: Arbitrary Address

Select [Option...].

### 3) 2-Port Mode/Direct Mode Settings

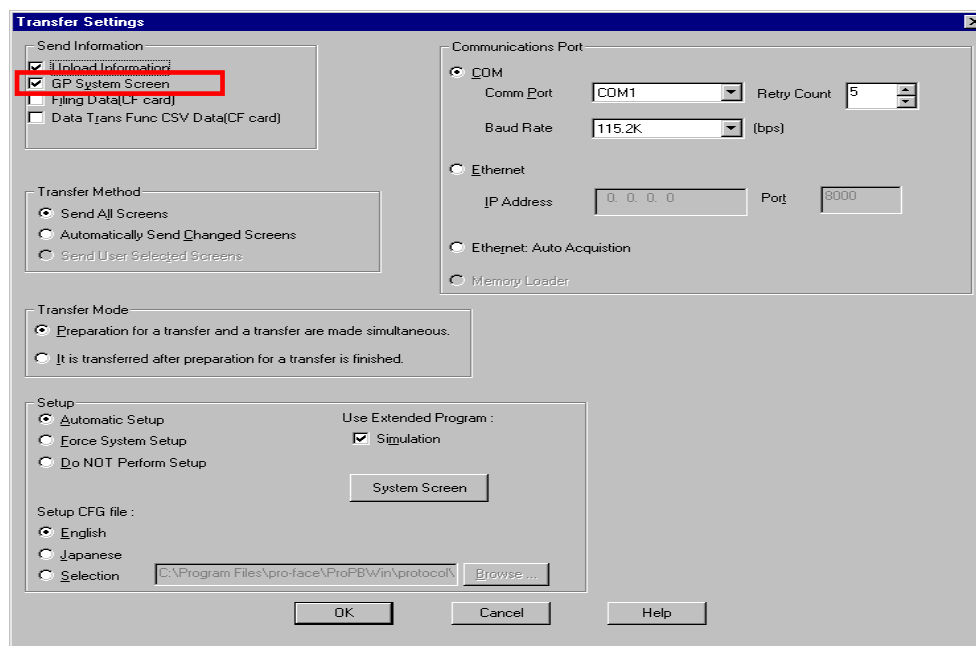


### 3) 2-Port Mode/Direct Mode Settings

Using GP430-IP11-O Cable: Direct  
 Using 2-Port Adapter : 2-Port Adapter  
 Using Internal 2-Port Feature: Internal 2-Port

Select [Transfer] --> [Setup] --> [Transfer Settings].

#### 4) Transfer Settings



#### 4) Transfer Settings      GP System Settings: Checked

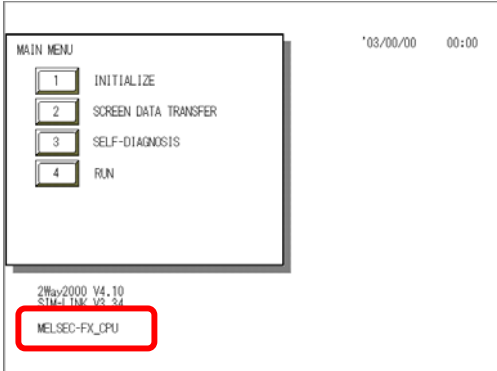
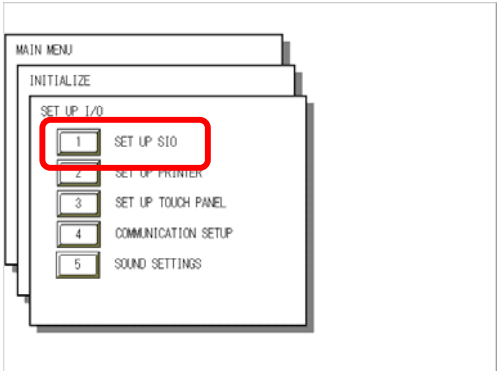
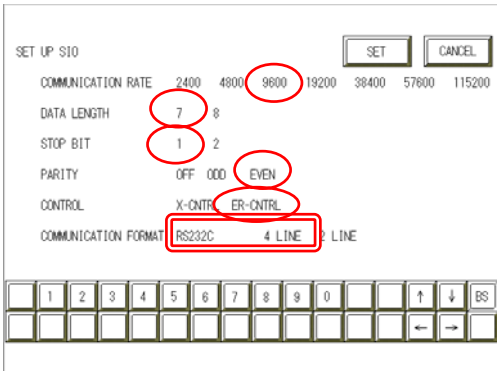
Transfer to GP after settings completed.

## 2 [GP Settings]

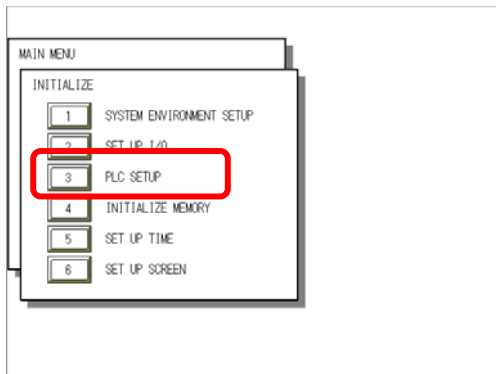
### -Displaying Setting Screen-

Touch the left top of the screen within 10 second after powering on.

Or touch the right top and the right bottom of the screen at the same time. Keep 2 points touched and touch the left bottom. The menu bar will display on the bottom of the screen. Then touch [Offline].

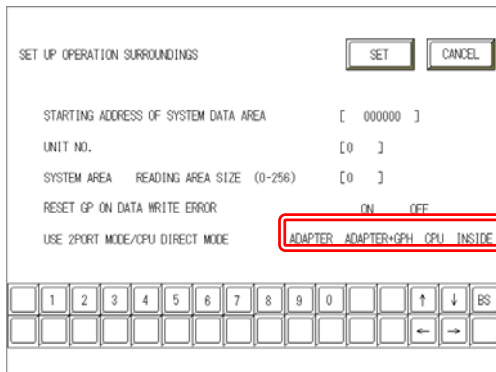
<p><b>1) Checking GP Type</b></p> 	<p><b>1) Checking GP Type</b></p> <p>If you have selected Mitsubishi MELSEC-FX (CPU), the following will be shown.</p> <p>”MELSEC-FX_CPU”</p>
<p><b>2) Communication Settings</b></p> 	<p><b>2) Communication Settings</b></p> <p>[MAIN MENU] ↓ [INITIALIZE] ↓ [SET UP I/O] ↓ [SET UP SIO]</p>
	<p>Communication Rate: 9600bps Data Length : 7 Bits Stop Bit: 1 Bit Parity: Even Control : ER Cntrl Communication Format Using GP430-IP11-O: RS232C Using 2-Port Adapter : 4 Line</p> <p>* Select one in <input type="text"/> depending on the communication method.</p>

### 3) Setting up Operation Surroundings



### 3) Setting up Operation Surroundings

[MAIN MENU]  
 ↓  
 [INITIALIZE]  
 ↓  
 [PLC SETUP]  
 ↓  
 [PLC SETUP]



Starting Address of System Data Area:  
 Arbitrary Address

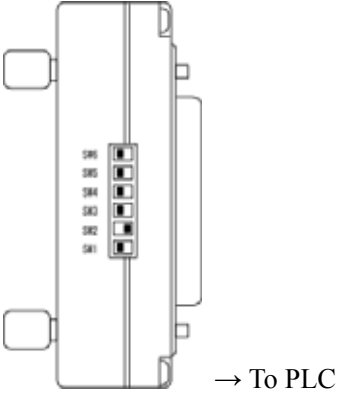
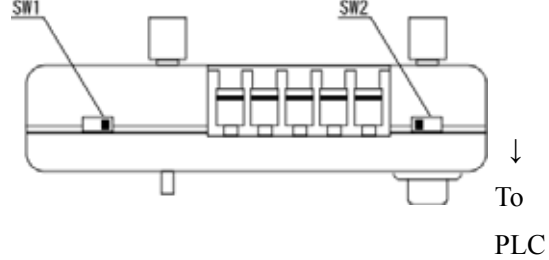
Unit No.: 0

Use 2-Port Mode/CPU Direct Mode  
 GP430-IP11-O Cable: CPU  
 2-Port Adapter : Adapter  
 Internal 2-Port Adapter: Inside

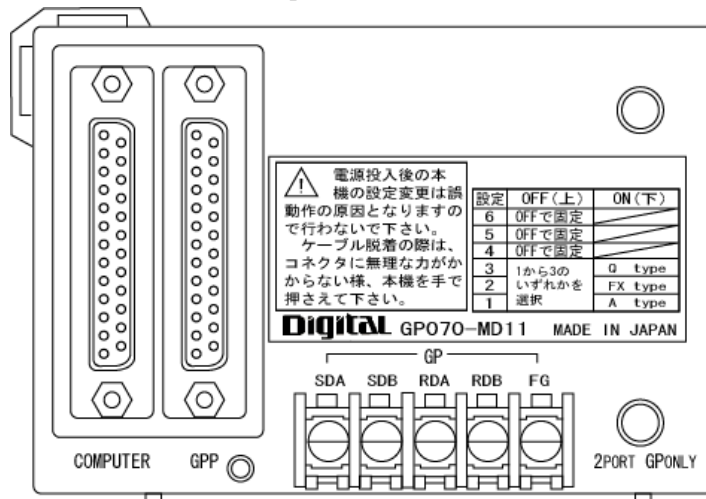
\* Select one in  .



### 3 [2-Port Adapter Settings]

<p>1) <u>PLC Type Settings</u></p> <p>→ ON</p>  <p>→ To PLC</p>	<p>1) <u>PLC Type Settings</u></p> <p>SW 6 :OFF</p> <p>SW 5 :OFF</p> <p>SW 4 :OFF</p> <p>SW 3 :OFF</p> <p>SW 2 :ON</p> <p>SW 1 :OFF</p>
<p>2) <u>Device/PLC Settings</u></p>  <p>↓ To PLC</p>	<p>2) <u>Device/PLC Settings</u></p> <p>SW 1: Connecting Peripheral Device</p> <p>RS-422 Cable: Right (GPP)</p> <p>RS-232C Cable : Left (COMPUTER)</p> <p>SW 2: Setting to Connect any Peripheral devices</p> <p>Only GP (No Peripheral Device):</p> <p style="text-align: right;">Right (GP ONLY)</p> <p>GP and Peripheral Device:</p> <p style="text-align: right;">Left (2PORT)</p>

<Reference> 2-Port Adapter




## Communication Settings [PLC]

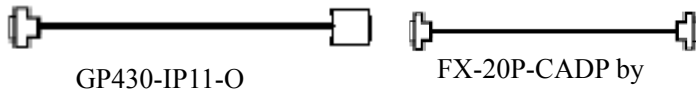
There are no items to set on the PLC.

## Connection Method

[Connecting to FX<sub>1</sub> / FX<sub>2</sub> / FX<sub>2C</sub> Directly]

Type	Connection Method	Distance
Using GP430-IP11-O		5m



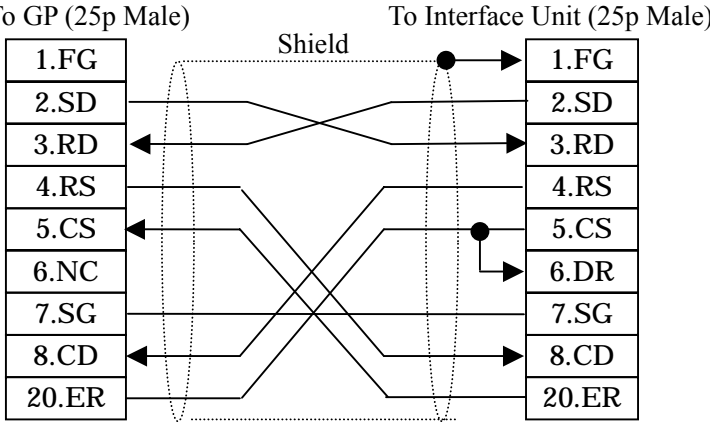
[Connecting to FX<sub>0</sub> / FX<sub>0S</sub> / FX<sub>0N</sub> / FX<sub>1S</sub> / FX<sub>1N</sub> / FX<sub>2N</sub> / FX<sub>1NC</sub> / FX<sub>2NC</sub> directly  
or Using Internal 2-Port Feature]

Connection Method		Distance
To GP	 GP430-IP11-O      FX-20P-CADP by Mitsubishi Elec.	To PLC 5m



For direct connection, a user-created cable cannot be used. Please be sure to use GP430-IP11-O.

[Connecting to FX<sub>1</sub> / FX<sub>2</sub> / FX<sub>2C</sub> via Interface Unit]

Type	Connection Method	Distance
Using GP410-IS00-O	To GP  GP410-IS00-O  To PLC FX-422CAB by Mitsubishi Elec.	5m
Creating Cable between GP and Interface Unit	To GP (25p Male) 	Within 15m



\* If a communication cable is used, it must be connected to the SG.

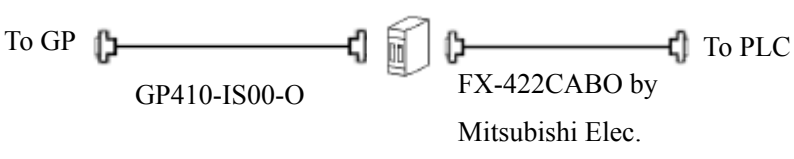



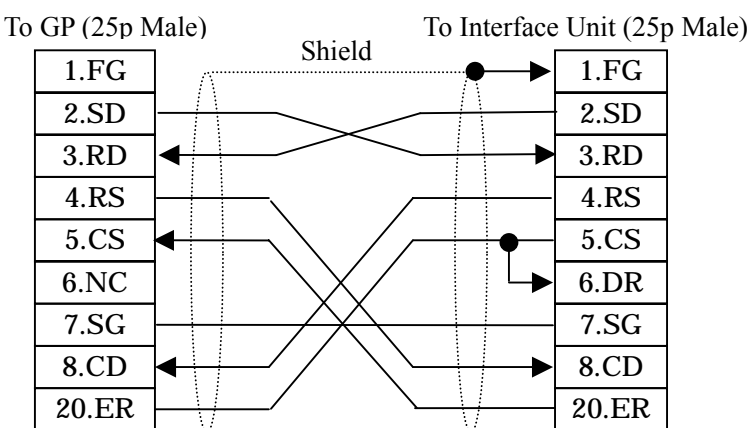


The optional cable, GP410-IS00-O is 5m long. If you need a longer cable or shorter, please use a user-created cable to connect.

### Recommended Products

Connector/Cover for GP	D-sub 25 pin Plug	XM2A-2501 <OMRON Co.>
	Cover for D-sub 25 pin	XM2S-2511 <OMRON Co.>
	Jack Screw	XM2Z-0071 <OMRON Co.>
Cable	CO-MA-VV-SB5P × 28AWG <Hitachi Cable Ltd.>	
Setscrew	Metric Coarse Screw Tread : M2.6 × 0.45	

[Connecting to FX<sub>0</sub> / FX<sub>0S</sub> / FX<sub>0N</sub> / FX<sub>1S</sub> / FX<sub>1N</sub> / FX<sub>2N</sub> / FX<sub>1NC</sub> / FX<sub>2NC</sub> via Interface Unit]

Type	Connection Method	Distance																		
Using GP410-IS00-O	 <p>To GP  — GP410-IS00-O —  FX-422CABO by Mitsubishi Elec. —  To PLC</p>	5m																		
Creating Cable between GP and Interface Unit	 <p>To GP (25p Male) <span style="margin-left: 150px;">Shield</span> <span style="margin-left: 150px;">To Interface Unit (25p Male)</span></p> <table border="1" style="display: inline-table; margin-right: 50px;"> <tr><td>1.FG</td></tr><tr><td>2.SD</td></tr><tr><td>3.RD</td></tr><tr><td>4.RS</td></tr><tr><td>5.CS</td></tr><tr><td>6.NC</td></tr><tr><td>7.SG</td></tr><tr><td>8.CD</td></tr><tr><td>20.ER</td></tr> </table> <table border="1" style="display: inline-table;"> <tr><td>1.FG</td></tr><tr><td>2.SD</td></tr><tr><td>3.RD</td></tr><tr><td>4.RS</td></tr><tr><td>5.CS</td></tr><tr><td>6.DR</td></tr><tr><td>7.SG</td></tr><tr><td>8.CD</td></tr><tr><td>20.ER</td></tr> </table>	1.FG	2.SD	3.RD	4.RS	5.CS	6.NC	7.SG	8.CD	20.ER	1.FG	2.SD	3.RD	4.RS	5.CS	6.DR	7.SG	8.CD	20.ER	Within 15m
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\* If a communication cable is used, it must be connected to the SG.



The optional cable, GP410-IS00-O is 5m long. If you need a longer cable or shorter, please use a user-created cable to connect.

### Recommended Products

Connector/Cover for GP	D-sub 25 pin Plug	XM2A-2501 <OMRON Co.>
	Cover for D-sub 25 pin	XM2S-2511 <OMRON Co.>
	Jack Screw	XM2Z-0071 <OMRON Co.>
Cable	CO-MA-VV-SB5P × 28AWG <Hitachi Cable Ltd.>	
Setscrew	Metric Coarse Screw Tread : M2.6 × 0.45	

[Connecting to FX<sub>2</sub> via 2-Port Adapter ]

Type	Connection Method	Distance
Using GP070-MDCB11	<p>Cable with 5 wires      Adapter with 5 contacts</p> <p><b>Caution</b> Cross the signal names of wires and ones of terminal block contacts.</p>	5m
Creating Cable	<p>To GP (25p Male)      Adapter Terminal Block</p> <p><b>Caution</b> RS-422 Connector Terminal Adapter (GP070-CN10-O) cannot be used on the GP.</p>	Within 600m

### Recommended Products

Connector/Cover for GP	D-sub 25 pin Plug	XM2A-2501 <OMRON Co.>
	Cover for D-sub 25 pin	XM2S-2511 <OMRON Co.>
	Jack Screw	XM2Z-0071 <OMRON Co.>
Terminal on Adapter	Equivalent to V1.25-MS3 <J.S.T. Mfg. Co., Ltd.>	
Cable	CO-SPEV-SB (A) 3PX0.5SQ <Hitachi Cable Ltd.>	
Setscrew	Metric Coarse Screw Tread : M2.6 × 0.45	

[Connecting FX<sub>0S</sub> / FX<sub>0N</sub> / FX<sub>1S</sub> / FX<sub>1N</sub> / FX<sub>2N</sub> / FX<sub>1NC</sub> / FX<sub>2NC</sub> via 2-Port Adapter ]

Type	Connection Method	Distance
Using GP070-MDCB11	<p>Cable with 5 wires      Adapter with 5 contacts</p> <p>To GP</p> <p>To PLC</p> <p>FX-20P-CADP or FX-422CABO by Mitsubishi Elec.</p> <p>[Commercial D-sub 25 pin female-to-female converter connector is required.]</p> <p><b>Caution</b> Cross the signal names of wires and ones of terminal block contacts.</p>	5m
Creating Cable	<p>To GP (25p Male)      Adapter Terminal Block</p> <p>Termination Resistance 1/4W 330</p> <p>Shield</p> <p><b>Caution</b> RS-422 Connector Terminal Adapter (GP070-CN10-O) cannot be used on the GP.</p>	Within 600m

### Recommended Products

Connector/Cover For GP	D-sub 25 pin Plug	XM2A-2501 <OMRON Co.>
	Cover for D-sub 25 pin	XM2S-2511 <OMRON Co.>
	Jack Screw	XM2Z-0071 <OMRON Co.>
Terminal on Adapter	Equivalent to V1.25-MS3 <J.S.T. Mfg. Co., Ltd.>	
Cable	CO-SPEV-SB (A) 3PX0.5SQ <Hitachi Cable Ltd.>	
Setscrew	Metric Coarse Screw Tread : M2.6 × 0.45	