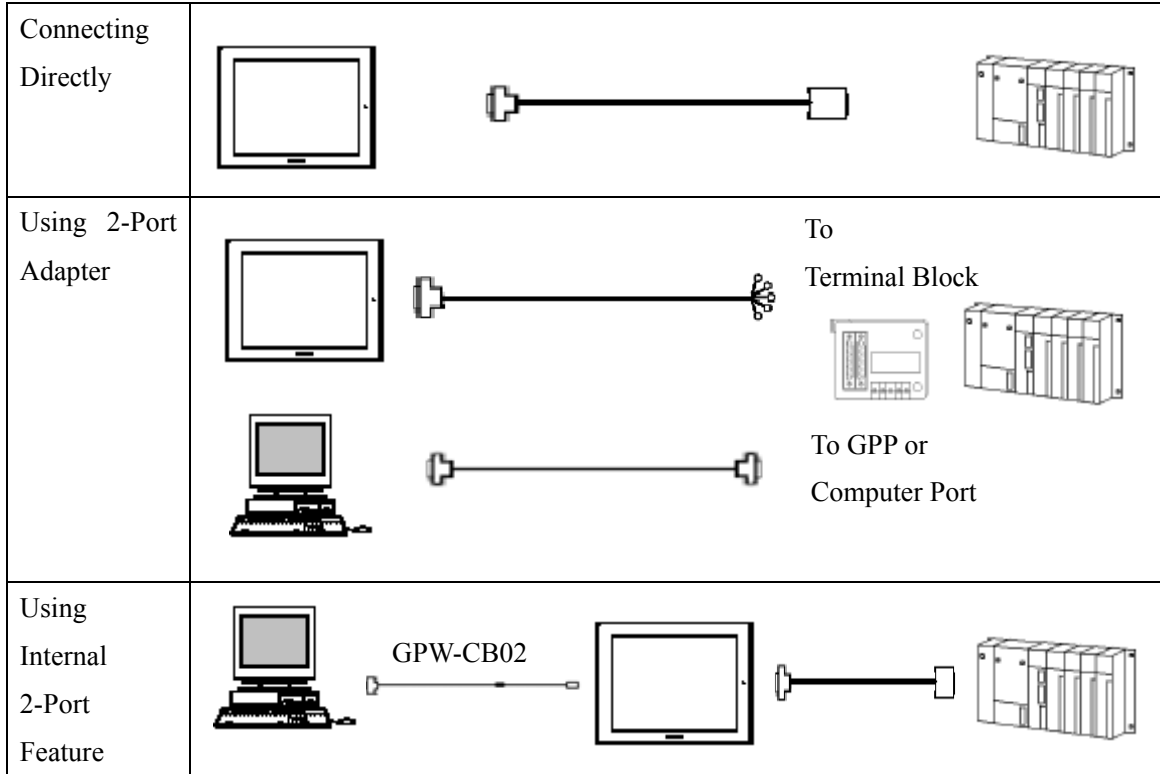# Mitsubishi <9> Mitsubishi Electric Corporation

QnA Series CPU Direct Connection

System Structure

Connecting Directly	
Using 2-Port Adapter	To Terminal Block / To GPP or Computer Port
Using Internal 2-Port Feature	GPW-CB02

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.

[Connecting Directly]

CPU	Communication Method	Connection Cable	GP
Q4A, Q2A, Q2AS, Q2AS-S1, Q4AR	RS-422	**Connection Method [1]**	
	RS-232C		

[Using 2-Port Adapter]

CPU	Adapter	Communication Method	Connection Cable	GP
Q4A, Q2A, Q2AS-S1 Q2ASH	GP070-MD11	RS-422	**Connection Method [2]**	

[Using Internal 2-Port Feature]

CPU	Communication Method	Connection Cable	GP
Q4A, Q2A, Q2AS-S1 Q2ASH	RS-232C	**Connection Method [1]**	GP77/77R Series GP2000 Series
	RS-422		

Procedure to Connect PLC

Select PLC Type on GP-PRO/PB -Package.

Refer to
Selecting PLC Type

Set the GP and PLC settings as the communication setting sample.

Refer to
Communication Setting Sample

Set GP communication.

There are 2 ways.

    Setting on GP-PRO/PB   C-Package and transfer the data

    Setting on the Offline of the GP main unit.

Refer to
Communication Settings [GP]

Set PLC communication.

Refer to
Communication Settings [PLC]

Connect PLC to GP.

Please check the connection method according to the connection type, or distance.

Refer to
Connection Method &
Recommended Products

Selecting PLC Type

Start up GP-PRO /PBIII.

Select the following PLC Type when creating the project file.

MITSUBISHI MELSEC QnA (LINK

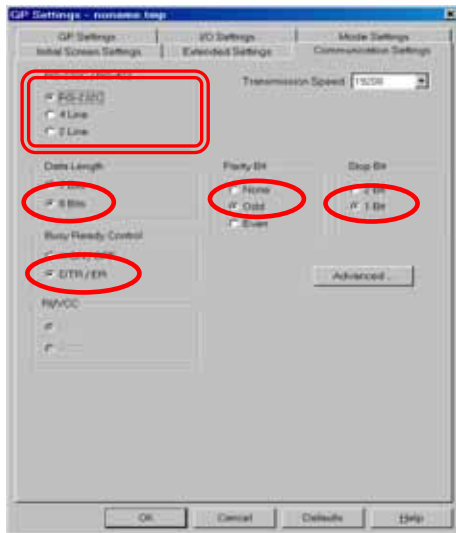## Communication Setting Sample

GP Setup		PLC Settings
Baud Rate	19200 bps	---
Data Length	8 bits	---
Stop Bit	1 bit	---
Parity Bit	Odd	---
Data Flow Control	ER Control	---
Communication Format [*1] (RS-232C)	RS-232C	---
Communication Format (RS-422)	4-wire type	---
Unit No.	0 (fixed)	---

*1   For Communication Format, select RS-232C when using GP430-IP10-O, or select 4-wire type cable when using another cable.

Pro-face®

Communication Settings [GP]

[GP-PRO/PB   C-Package Setting]

Select [GP Setup] on Project Manager.

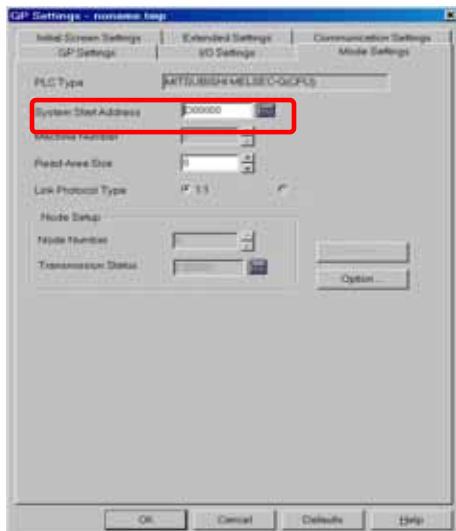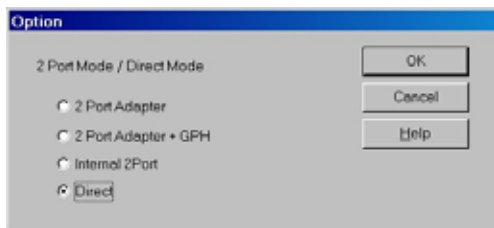| 1) Communication Settings	1) Communication Settings

	Transmission Speed : 19200bps
	Data Length : 8 Bits
	Stop Bit: 1 Bit
	Parity Bit: Odd
	Busy Ready Control : DTR / ER
	RS-232C/ RS-422 :
	    Using GP430-IP10-O : RS-232C
	    Using Other Cable: 4 Line
	
	    * Select one in ⬚⬚⬚⬚⬚ .

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-IP10-O or User-Created 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]
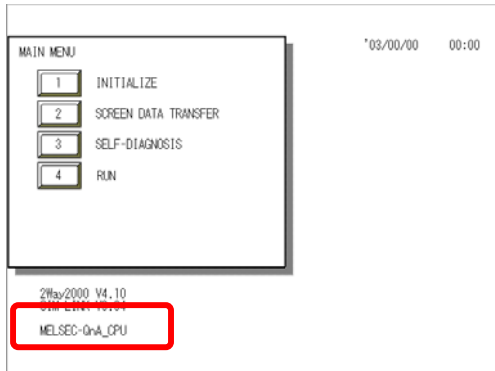
1) Checking GP Type	1) Checking GP Type
	If you have selected Mitsubishi MELSEC–QnA (CPU), the following will be shown. "MELSEC-QnA_CPU"
2) Communication Settings 	2) Communication Settings [MAIN MENU] ↓ [INITIALIZE] ↓ [SET UP I/O] ↓ [SET UP SIO]
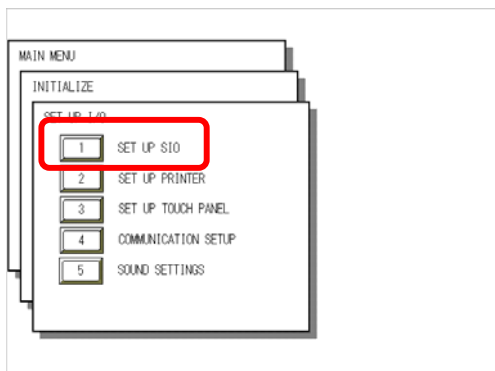
	Communication Rate: 19200bps
	Data Length: 8 Bits
	Stop Bit: 1 Bit
	Parity: Odd
	Control: ER Cntrl
	Communication Format
	  Using GP430-IP10-O: RS-232C
	  Using other cable: 4 Line
	
	 * Select one in ☐ .

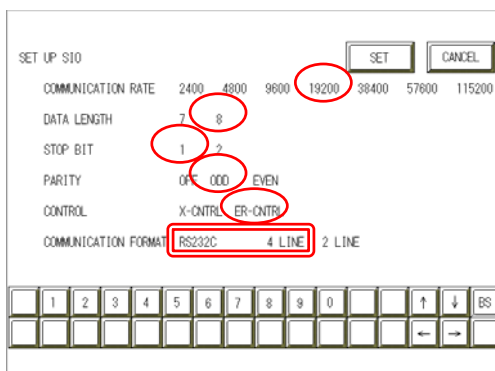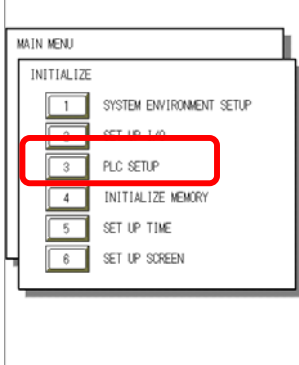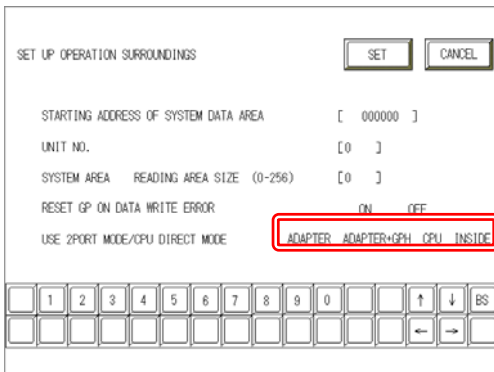| 3) Setting up Operation Surroundings	3) Setting up Operation Surroundings
MAIN MENU INITIALIZE 1 SYSTEM ENVIRONMENT SETUP SET UP I/O 3 PLC SETUP 4 INITIALIZE MEMORY 5 SET UP TIME 6 SET UP SCREEN	[MAIN MENU] ↓ [INITIALIZE] ↓ [PLC SETUP] ↓ [PLC SETUP]
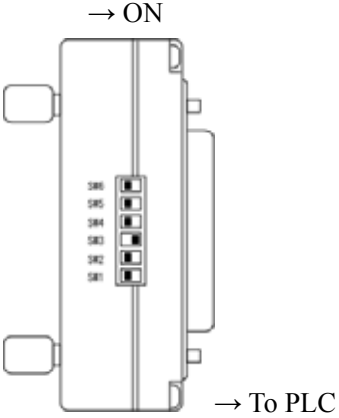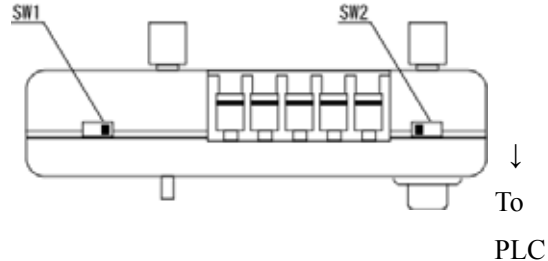
SET UP OPERATION SURROUNDINGS   [SET] [CANCEL]
 	
STARTING ADDRESS OF SYSTEM DATA AREA   [000000]
UNIT NO.   [0]
SYSTEM AREA   READING AREA SIZE (0-256)   [0]
RESET GP ON DATA WRITE ERROR   ON   OFF
USE 2PORT MODE/CPU DIRECT MODE   ADAPTER ADAPTER+GPH CPU INSIDE
 	
1 2 3 4 5 6 7 8 9 0 ↑ ↓ BS
← →
	Starting Address of System Data Area:
	                    Arbitrary Address
	Unit No.: 0
	Use 2-Port Mode/CPU Direct Mode
	   GP430-IP11-O Cable/User-Created Cable:
	                    CPU
	   2-Port Adapter : Adapter
	   Internal 2-Port Adapter: Inside
	
	 * Select one in [_____].

3　[2-Port Adapter　Settings]

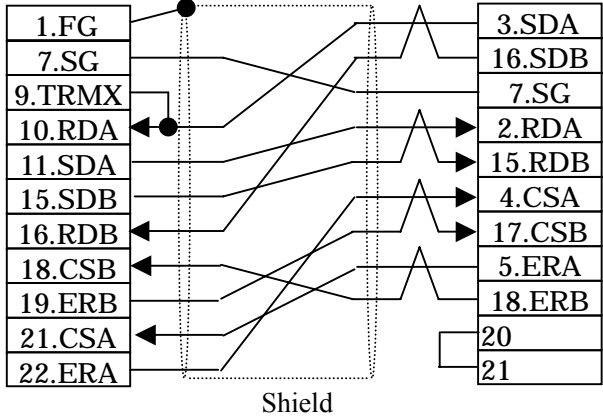| 1) PLC Type Settings	1) PLC Type Settings
→ ON → To PLC	SW 6: OFF SW 5: OFF SW 4: OFF SW 3: ON SW 2: OFF SW 1: OFF
2) Device/PLC Settings	2) Device/PLC Settings
SW1　　　　SW2 ↓ To PLC	SW 1: Connecting Peripheral Device 　RS-422 Cable:　Right (GPP) 　RS-232C Cable : Left (COMPUTER) SW 2: Setting to connect any peripheral 　　devices 　GP Only (No Peripheral Device): 　　　　　　Right (GP ONLY) 　GP and Peripheral Device: 　　　　　　Left (2-Port)

<Reference>　2-Port Adapter
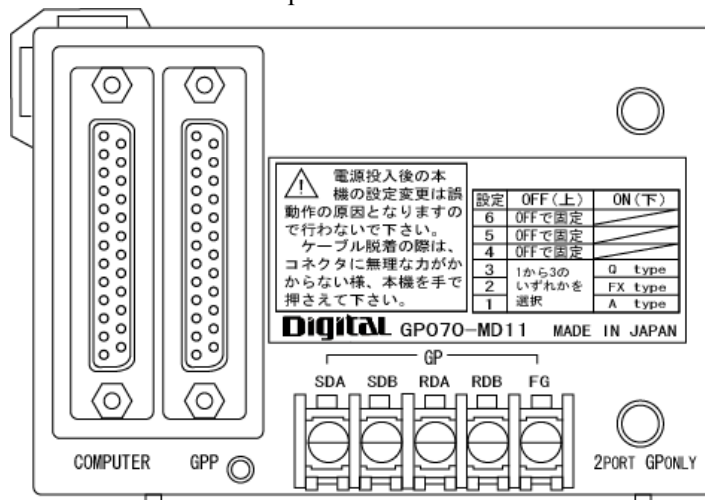
Communication Settings [PLC]

There are no items to set on the PLC.

Connection Method

[Connecting Directly / Connecting with Internal 2-Port Feature]

Type	Connection Method	Distance
Using GP430-IP10-O		5
Creating Cable	To GP (25p Male) — To PLC (25p Male) 1.FG 7.SG 9.TRMX 10.RDA 11.SDA 15.SDB 16.RDB 18.CSB 19.ERB 21.CSA 22.ERA 3.SDA 16.SDB 7.SG 2.RDA 15.RDB 4.CSA 17.CSB 5.ERA 18.ERB 20 21 Shield	Within 5 Supporting Models: GP2000 / GLC2000 Series

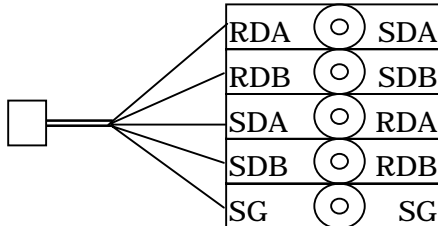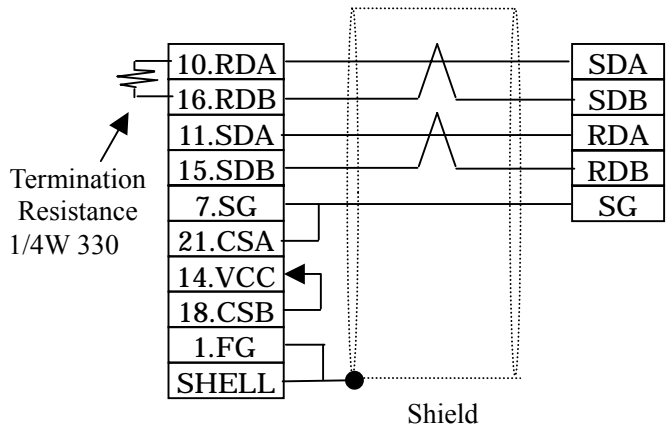> ⚠ **Important** **This wiring is available for only GP2000 Series / GLC2000 Series.**

Recommended Products

Connecter/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 via 2-Port Adapter]

Type	Connection Method	Distance
Using GP070-MDCB11	Cable with Adapter with 5 wires 5 contacts RDA ○ SDA RDB ○ SDB SDA ○ RDA SDB ○ RDB SG ○ SG ⚠ Caution Cross the signal names of wires and ones of terminal block contacts.	5
Creating Cable	To GP (25p Male) **Adapter Terminal Block** 10.RDA — SDA 16.RDB — SDB 11.SDA — RDA 15.SDB — RDB 7.SG — SG 21.CSA 14.VCC 18.CSB 1.FG SHELL Termination Resistance 1/4W 330 Shield ⚠ Caution RS-422 Connecter Terminal Adapter (GP070-CN10-O) cannot be used on the GP.	Within 600

Recommended Products

Connecter/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	