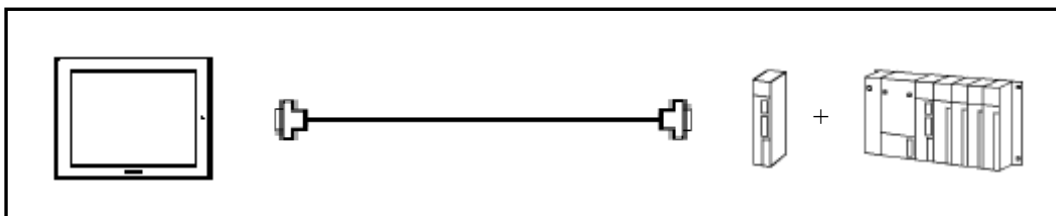



Mitsubishi <11> Mitsubishi Electric Corporation
Q Series (Q Mode) + Link Unit Connection





System Structure



GP

Machine 	Model	Remark
GP	GP70 Series GP77/77R Series GP2000 Series	Excepting for handy types.
GLC	GLC2000 Series	

PLC

CPU 	Serial Communication Unit 	Communication Method	Connection Cable 	GP 
Q02 Q02H Q06H Q12H Q25H	QJ71C24-R2	RS-232C	Connection Method [1]	
	QJ71C24	RS-232C		
			RS-422	

Procedure to Connect PLC

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



Communication Settings Sample

GP Setup		Serial Communication Unit Settings *1	
Baud Rate	19200bps	Baud Rate	19200 bps
Data Length	7 bits	Data Bit	7 bits
Stop Bit	2 bits	Stop Bit	2 bits
Parity Bit	Even	Parity Check Parity setting even/odd	Yes Even
Data Flow Control	ER Control	---	
Communication Format (RS-232C)	RS-232C	Mode Setup (RS-232C)	4 (Format 4 Protocol Mode)
Communication Format (RS-422)	4-wire type	Mode Setup (RS-422)	4 (Format 4 Protocol Mode)
---		Sum Check	Yes
Unit No.	0	Station Number	0

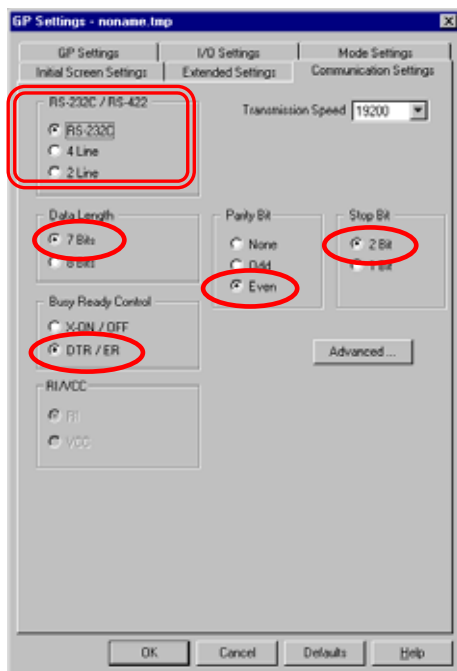
*1 The setting is made by Mitsubishi's GPP function software.

Communication Settings [GP]

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

Select [GP Setup] on Project Manager.

1) Communication Settings

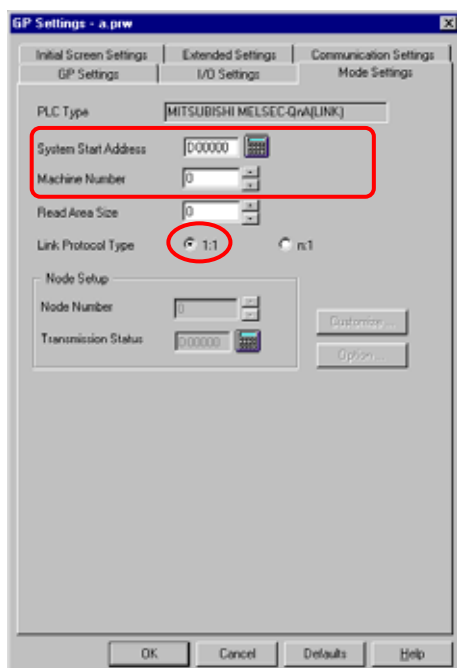


1) Communication Settings

Transmission Speed : 19200bps
Data Length : 7 Bits
Stop Bit : 2 Bit
Parity Bit : Even
Busy Ready Control : DTR / ER
RS-232C / RS-422
RS-232C Connection : RS-232C
RS-422 Connection : 4 Line

* Select one in depending on the communication method.

2) Mode Settings

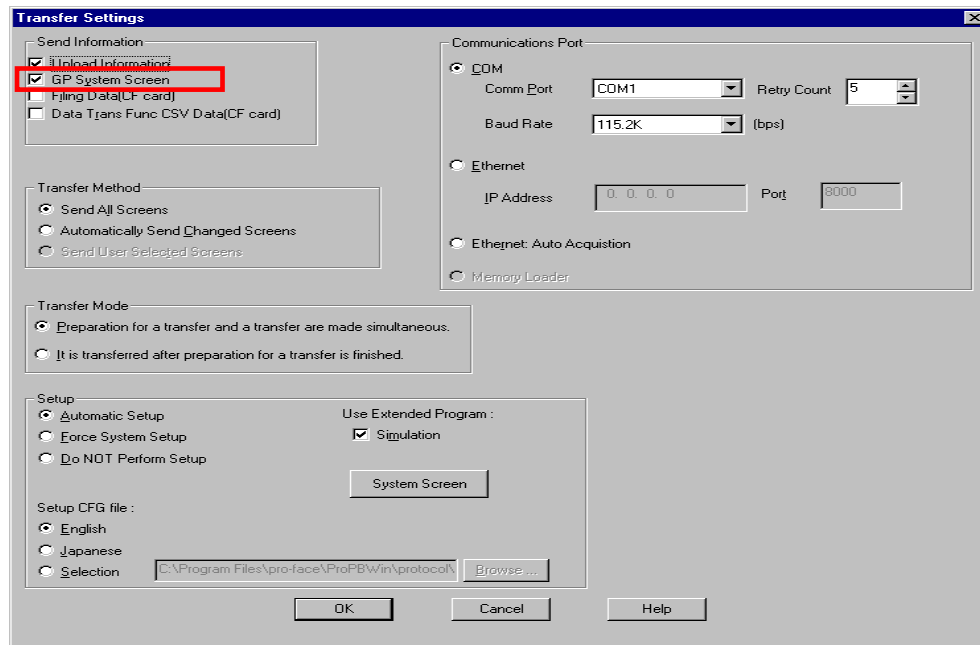


2) Mode Settings

System Start Address: Arbitrary Address
Machine Number: 0
Link Protocol Type: 1:1

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

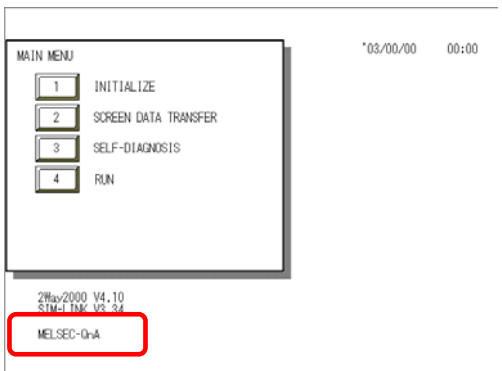
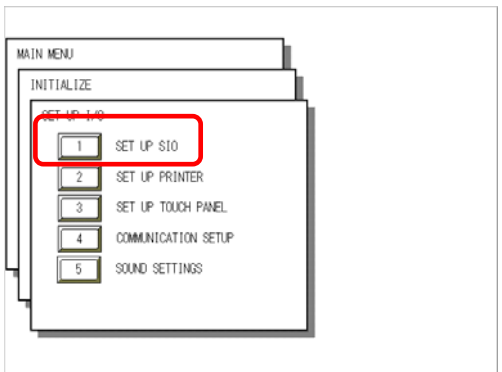
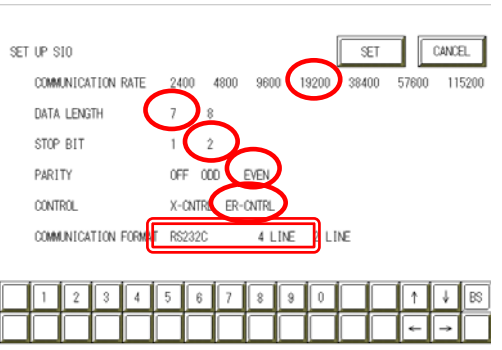
3) Transfer Settings

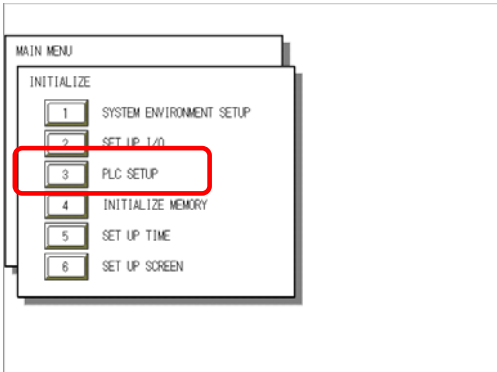

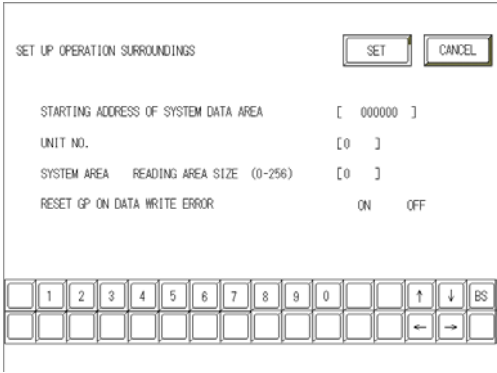


3) Transfer Settings GP System Settings: Checked

Transfer to GP after settings completed.

2 [GP Settings]

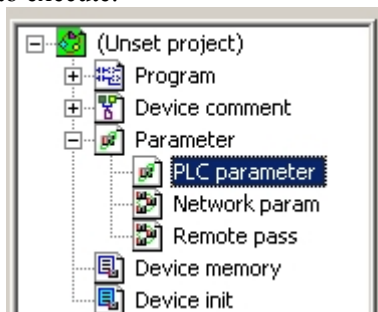
<p><u>1) Checking GP Type</u></p> 	<p><u>1) Checking GP Type</u></p> <p>If you have selected Mitsubishi MELSEC-QnA (Link), the following will be shown.</p> <p>”MELSEC-QnA”</p>
<p><u>2) Communication Settings</u></p> 	<p><u>2) Communication Settings</u></p> <p>[MAIN MENU] ↓ [INITIALIZE] ↓ [SET UP I/O] ↓ [SET UP SIO]</p>
	<p>Communication Rate: 19200bps Data Length: 7 Bits Stop Bit: 2 Bits Parity: Even Control: ER Cntrl</p> <p>Communication Format RS-232C Connection: RS-232C RS-422 Connection: 4 Line</p> <p>* Select one in <input type="text"/> depending on the communication method.</p>

<p>3) Setting up Operation Surroundings</p> 	<p>3) Setting up Operation Surroundings</p> <p>[MAIN MENU] ↓ [INITIALIZE] ↓ [PLC SETUP] ↓ [PLC SETUP]</p>
	<p>SET UP OPERATION SURROUNDINGS MENU: 1: 1</p>
	<p>Starting Address of System Data Area: Arbitrary Address Unit No . : 0</p>

Communication Settings [PLC]

1 [RS-232C / RS-422 Connection]

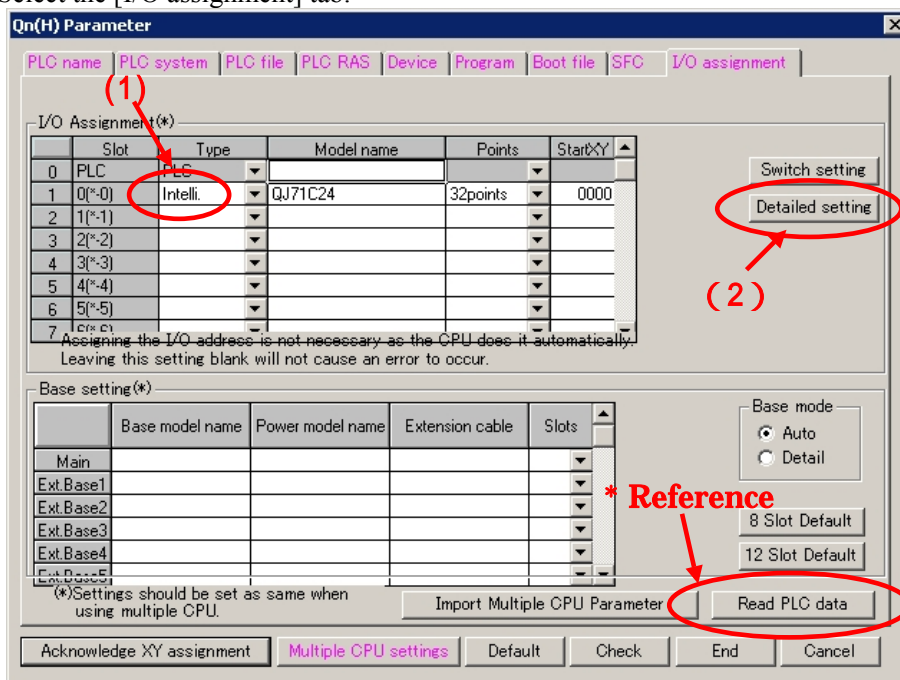
Start up the ladder tool “GX Developer”. Double-click [PC Parameter] under [Parameter] to execute.



A dialog box below opens.



Select the [I/O assignment] tab.

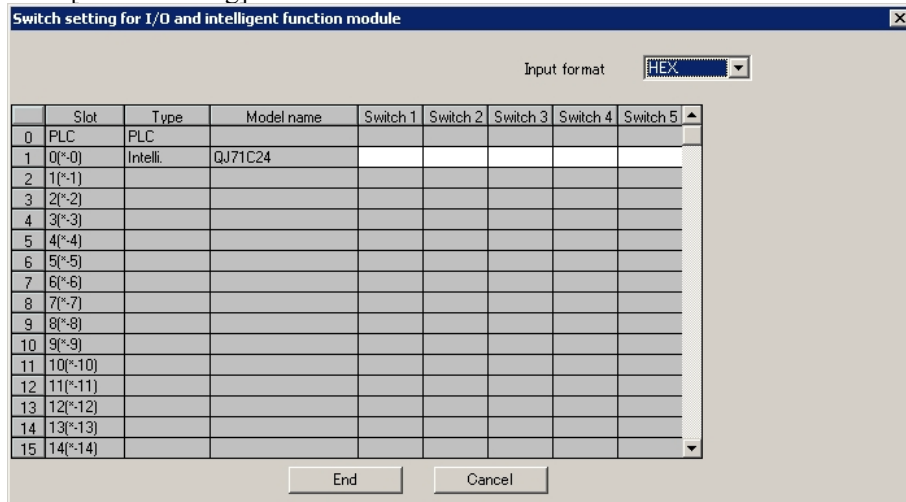


(1) Click [Type] to select [Intelli.]

* By clicking the [Read PLC data] button, the type(s) and points of the unit(s) inserted currently into the base unit can be read automatically.

(The PC needs to be connected to the CPU via ladder cable.)

(2) Click [Switch setting].



A dialog box above opens.
Set [Switch setting] as below.

(Settings Switch1 and Switch2 are for the RS-232C interface on CH1.
Settings Switch3 and Switch4 are for the RS-422/485interface on CH2.
Settings Switch5 are for the machine number on both CH1 and CH2.)

In this sample here, a sample setting only for CH1 is introduced, but set CH2 in a same way as CH1.

Slot	Type	Model name	Switch 1	Switch 2	Switch 3	Switch 4	Switch 5
0	PLC	PLC					
1	0(*-0)	Intelli.	QJ71C24	07FC	0004		0000
2	1(*-1)						

Please see the setting description as below.

Switch No.	Set Value	Setting Description		
Switch 1	07FC	07 --> Transmission Speed 19,200bps		
		Bit	Settings	Item / Content
		Bit0	OFF	Operation Setting / Independent
		Bit1	OFF	Data Bit / 7 bits
		Bit2	ON	Parity Bit / Yes
		Bit3	ON	Even/Odd Parity / Even
		Bit4	ON	Stop Bit / 2 bits
		Bit5	ON	Sum Check Code / Yes
		Bit6	ON	Write during RUN / Enabled
	Bit7	ON	Change Setting / Enabled	
Switch 2	0004	Communication Protocol Setting --> MC Protocol Type 4		
Switch 3		Same as Switch 1		
Switch 4		Same as Switch 2		
Switch 5	0000	Machine Number : 0		
Note: When communicating CH1 and CH2 at the same time, set 115200 bps for the total of the transmission speed of both interfaces.				

After completing the above settings, click [End].

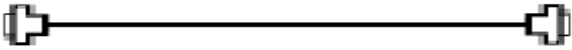
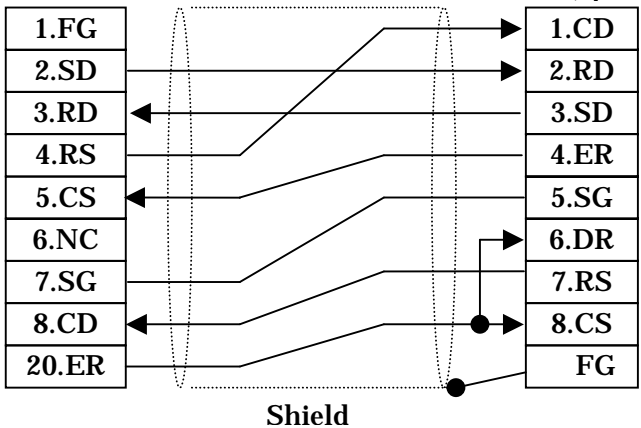
The [Switch Setting] dialog box returns to the [Parameter Setting] dialog box. Click [End] again.

- 3) Select [Offline]-->[Write to PLC] to open the [Write to PLC] dialog box.
Check [PC/Network] under [Parameter]. Click [Execute] to start downloading the parameter file to the PLC.

After downloading completed, power off and on the PLC to restart up.

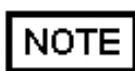
Connection Method

[1] RS-232C Connection

Type	Connection Method	Distance
Using GP000-IS02-MS		3m
Creating Cable	<p>GP Unit (25p Male) PLC (9p Male)</p>  <p style="text-align: center;">Shield</p>	Within 15 m



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

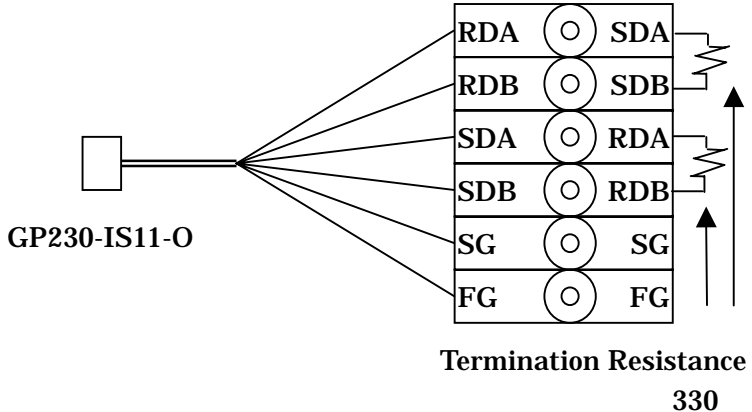
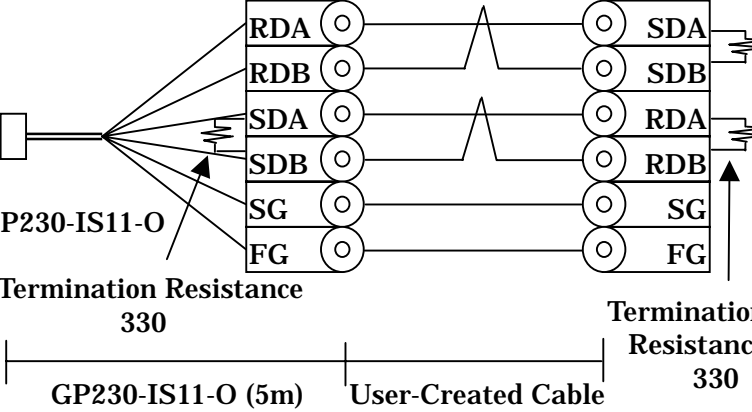
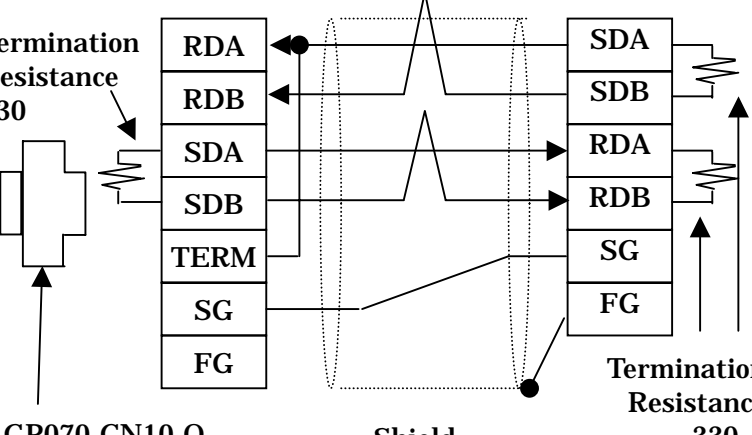


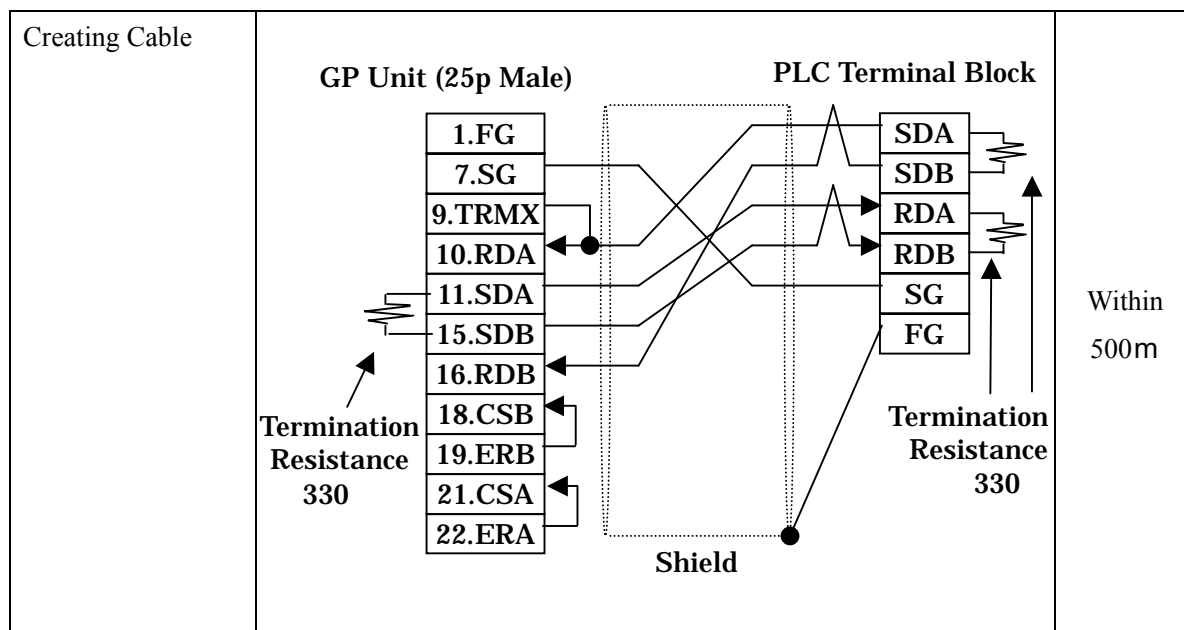
The optional cable, GP000-IS02-MS is 3m long. If you need a longer cable or shorter, please use a User-Created cable to connect.

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	

[2] RS-422 Connection

Type	Connection Method	Distance
Using GP230-IS11-O	<p>GP Unit (25p Male) PLC Terminal Block</p>  <p>GP230-IS11-O</p> <p>Termination Resistance 330</p>	5m
Extending GP230-IS11-O	<p>GP Unit (25p Male) PLC Terminal Block with 6 contacts</p> <p>Cable with 6 wires</p>  <p>GP230-IS11-O</p> <p>Termination Resistance 330</p> <p>GP230-IS11-O (5m) User-Created Cable</p> <p>Termination Resistance 330</p>	5 - 500m
Using GP070-CN10-O	<p>Conversion Adapter PLC Terminal Block</p>  <p>Termination Resistance 330</p> <p>GP070-CN10-O</p> <p>Shield</p> <p>Termination Resistance 330</p>	Within 500m



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

* Termination Resistance

PLC / between SDA and SDB, between RDA and RDB : 330
(with wattage that specified on PLC)

GP Unit / as required (Refer to Cable Diagrams) : 330
(with wattage that specified on PLC)

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	SPEV(SB)-MPC-0.2*3P <Mitsubishi Cable Ind.>	
Setscrew	Metric Coarse Screw Tread : M2.6 × 0.45	