Pro-face

Digital
Human Machine Interface

Device/PLC Connection Manuals

Yokogawa Electric Corporation/Yokogawa M&C PLC

Important

With Yokogawa FCN/FCJ Series Modbus 1:n protocol units, when the same project file is used on multiple GP/GLC units, the system may malfunction. When using multiple GP/GLC units, create and maintain only one unique project file for each GP/GLC unit.

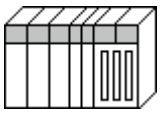
1 System Structure

The following describes the system structure for connecting the GP to Yokogawa Electric Corp. PLCs.

Reference

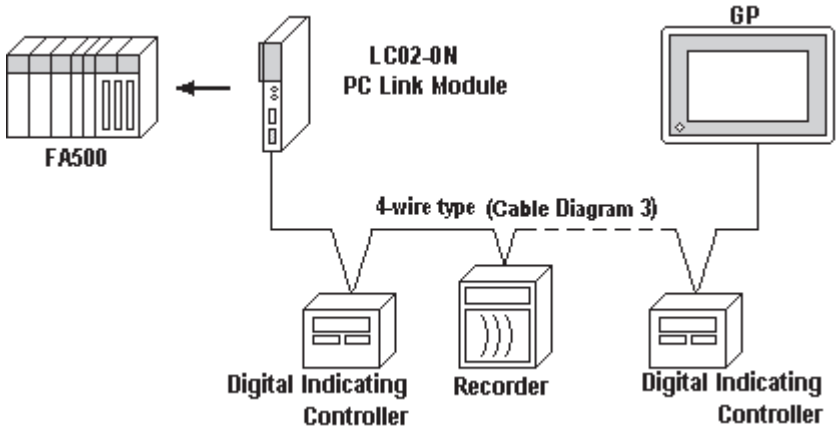
*The Cable Diagrams mentioned in the following tables are listed in the section titled "**2.8.2 Cable Diagrams**".*

■ FACTORY ACE Series/FA500 (using Link I/F)

CPU	Link I/F	Cable Diagram	Cables	GP
	 PC Link Module			
FA500	LC01-ON	RS-232C (Cable Diagram 1)	Digital's GP-410-IS00-O (5m)	GP Series
	LC02-ON	RS-232C (Cable Diagram 1) RS-422 (Cable Diagram 2)	RS-232C Digital's GP410-IS00-O (5m)	
		RS-422 1:n communication *1 (Cable Diagram 3)		

** 1 **1:n Communication***

*The system structure of 1:n communication for Yokogawa PLCs (**FA500**), or equipment supporting its protocol (n#), and a GP unit (1) used as an upper link protocol is described here.*



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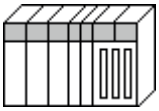
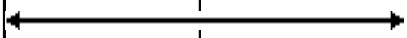
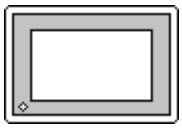
* FA500 and equipment (Digital Indicating Controller, <UT37/38/2000> and Recorder, <µR-Series>...etc) supporting the same protocol are hereafter referred to as *PA Equipment*.

- *Be sure to use only one GP in the system.*
- *In the Link above, maximum 32 PA Equipment can be connected to one GP.*
- *When Sequence Control is not required, a PLC is not needed.*
- *Using the method above, Unit No. s 1~16 can be setup; a Unit No. of 17 or higher cannot be used.*

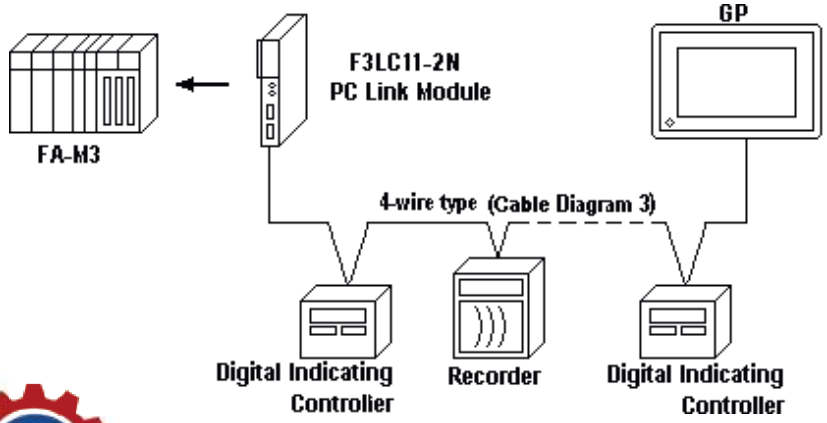
Note: **Wherever RS-422 appears in the table, RS-485 can be used on the PLC.**

■ FACTORY ACE Series/FA-M3 (using Link I/F)

CPU	Link I/F	Cable Diagram	Cables	GP
	 PC Link Module			
F3SP10-0N	F3LC01-1N	RS-232C (Cable Diagram 4)		GP Series
F3SP20-0N, F3SP21-0N, F3SP25-2N, F3SP28-3N, F3SP30-0N, F3SP35-5N, F3SP38-6N, F3SP53-4H, F3SP58-6H, F3FP36-3N, F3SP28-3S, F3SP38-6S, F3SP53-4S, F3SP58-6S, F3SP59-7S	F3LC11-1N F3LC11-1F F3LC12-1F	RS-232C (Cable Diagram 4)		
	F3LC11-2N	RS-422 (4-wire type) (Cable Diagram 2)		
		RS-422 (2-wire type) (Cable Diagram 5)		
	F3LC11-2N	RS-422, 4-wire type 1:n communication *1 (Cable Diagram 3)		
		RS-422, 2-wire type 1:n communication (Cable Diagram 6)		

1* ***1:n Communication*

*The system structure of 1:n communication for Yokogawa PLCs (**FA-M3**), or equipment supporting its protocol (n#), and a GP unit (1) used as an upper link protocol is described here.*



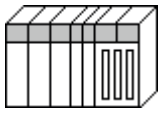
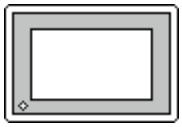
(See next page)

* FA-M3 and equipment (Digital Indicating Controller, <UT37/38/2000> and Recorder, <mR-Series>...etc) supporting the same protocol is referred to as *PA Equipment*, below.

- *Be sure to use only one GP in the system.*
- *In the* Link *above, maximum 32 PA Equipment can be connected to one GP.*
- *When Sequence Control is unnecessary, the system structure can be created without the PLC.*
- *Using the method above, Unit No.s 1~16 can be setup, however a Unit No. of 17 or more cannot be used.*

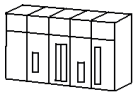
Note: **Wherever RS-422 appears in the table, RS-485 can be used on the PLC.**

■ FACTORY ACE Series/FA-M3 (CPU Direct Connection)

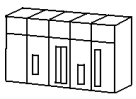
CPU	Cables	GP
		
F3SP21-0N, F3SP25-2N, F3SP28-3N, F3SP35-5N, F3SP38-6N, F3SP53-4H, F3SP58-6H, F3SP28-3S, F3SP38-6S, F3SP53-4S, F3SP58-6S, F3SP59-7S	Yokogawa's cable for programming tool KM11-2N*A	GP Series

STOP **Two GP units cannot be connected at the same time using the PC Link I/F.**

■ STARDOM Standalone Controller FCN/FCJ Series (When using Yokogawa Electric FCN/FCJ ModbusRTU 1:n Protocol)

CPU	Link I/F	Cable Diagram	Target Unit
			
FCN	COM Port on CPU	RS-232C (Cable Diagram 7)	GP/GLC/ST Series, Factory Gateway
	RS232C Port 1 or 2 on NFLR111 RS232C Communication Module	RS-232C (Cable Diagram 8)	
	Communication Terminal Block on NFLR121 RS422/RS485 Communcation Module	RS-422 (4-wire) (Cable Diagram 9)	
		RS-422 (4-wire) 1:n Communication (Cable Diagram 10)	
		RS-422 (2-wire) (Cable Diagram 11)	
		RS-422 (2-wire) 1:n Communication (Cable Diagram 12)	
FCJ	COM Port 1 or 2 on CPU	RS-232C (Cable Diagram 7)	GP/GLC/ST Series, Factory Gateway

■ STARDOM Standalone Controller FCN/FCJ Series (When using Yokogawa Electric FACTORY ACE 1:1, FACTORY ACE 1:n Protocol)

CPU	Link I/F	Cable Diagram	Target Unit
			
FCN	COM Port on CPU	RS-232C (Cable Diagram 4)	GP/GLC/ST Series, Factory Gateway
FCJ	COM Port 1 or 2 on CPU		

2 Cable Diagrams

The cable diagrams illustrated below and the cable diagrams recommended by Yokogawa Electric may differ, however, using these cables for your PLC operations will not cause any problems.

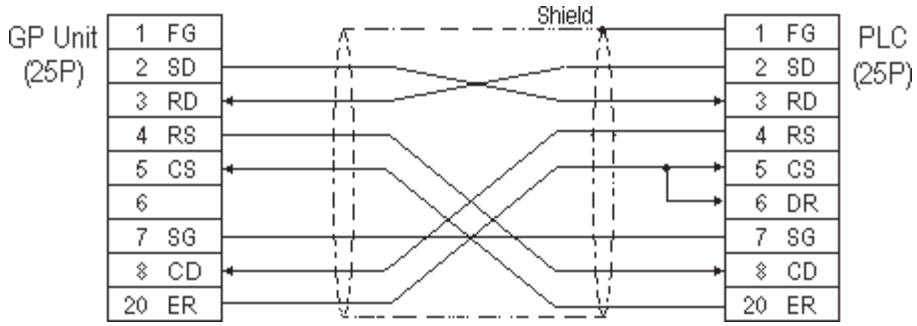
Careful!

Ground your PLC's FG terminal according to your country's applicable standard. For details, refer to the corresponding PLC manual.

Important

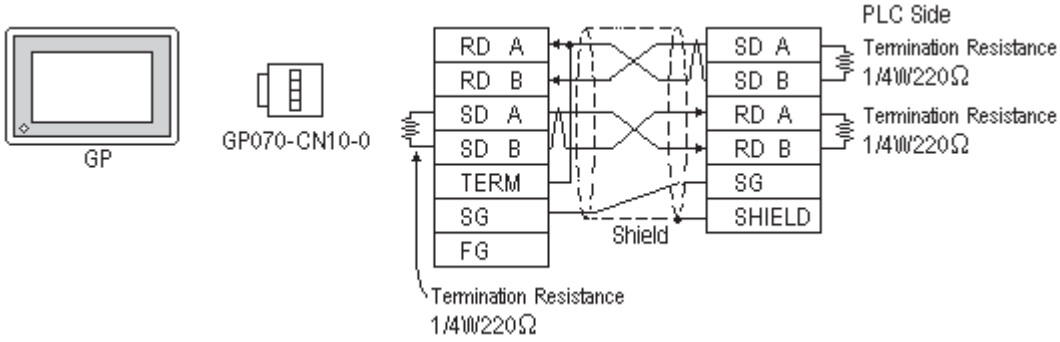
- ***Connect the FG line of the Shield cable to either the GP or PLC, depending on your environment. When using a* connector hood *and grounding the FG line, be sure to use an electrical conductor. The following connection diagrams show examples for connecting a shielded cable to the PLC.***
- ***For the RS-232C connection, use a cable length less than 15m.***
- ***If a communications cable is used, it must be connected to the SG (signal ground).***
- ***For the RS-422 connection, refer to Yokogawa's PLC manual for the cable length.***

Cable Diagram 1 (RS-232C)

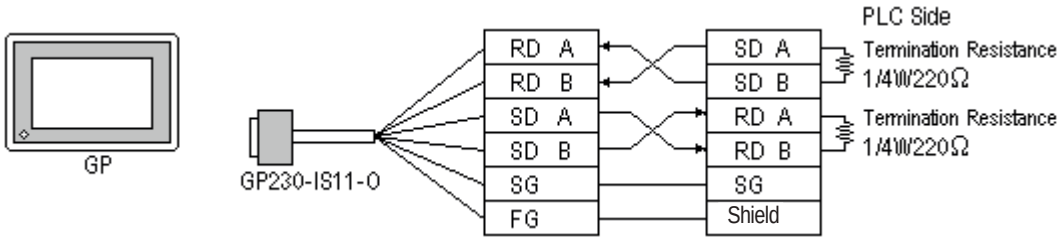


Cable Diagram 2 (RS-422)

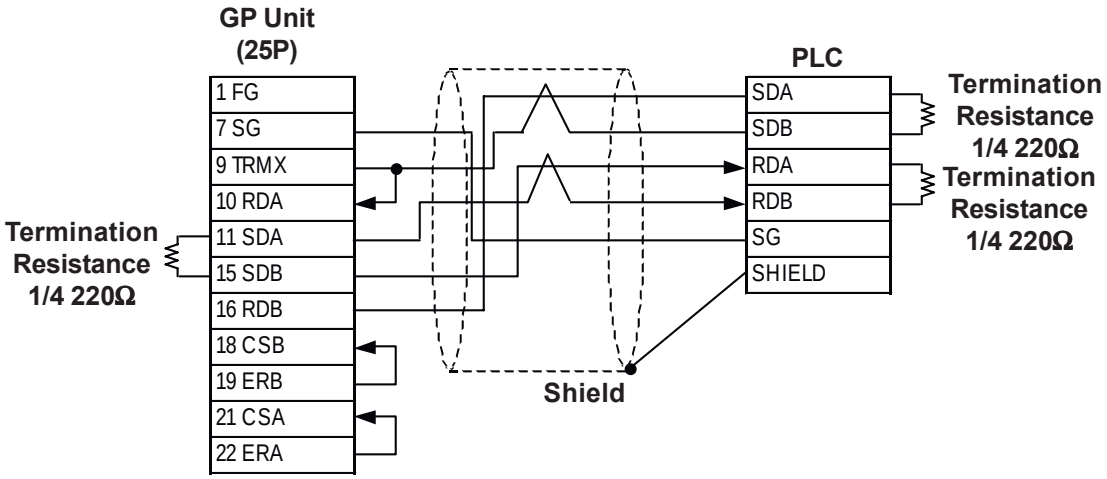
• When using Digital's RS-422 connector terminal adapter GP070-CN10-0



• When using Digital's RS-422 Cable, GP230-IS11-0



• When making your own cable connections



Note:

- **When making your own connections, we recommend using Hitachi Densen's CO-SPEV-SB(A)3P*0.5SQ cable.**
- **When connecting the #9 and #10 pins in the GP Serial I/F, a termination resistance of 100Ω is added between RDA and RDB.**
- **When connecting an RS422 cable, length can be up to 600 meters.**

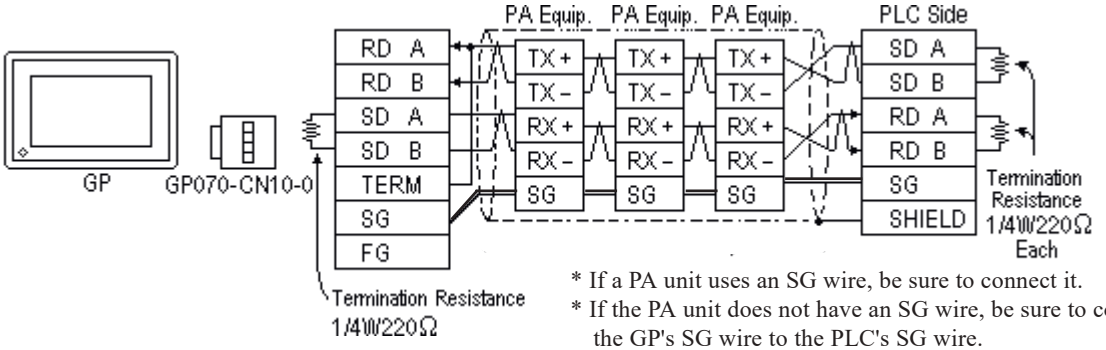
Cable Diagram 3 (RS-422)

The diagrams below are examples of wire connections on both ends of the GP and PLC. Setup the termination resistors on both ends of the equipment, as illustrated.

Important

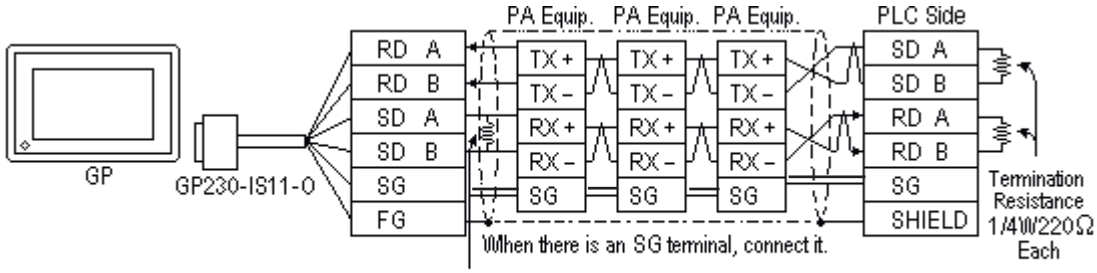
- ***Be careful as the reading of the A signal and B signal is opposite on the GP and the LC02-0N (PLC).***
- ***Make the PC Link I/F Station Number from 2 to 32.***
- ***Setup the PA unit connected to the GP using different Unit Numbers. An error will develop if multiple PA units are setup using the same Unit Number. When an error occurs, the error message "Data Reception Error occurs (02:FD:**)" (** indicates the unit No.) will appear.***
- ***Setup the GP (1) and PA units (n#) with the same Communication Settings.***

• When using Digital's RS-422 connector terminal adapter GP070-CN10-0



* If a PA unit uses an SG wire, be sure to connect it.
* If the PA unit does not have an SG wire, be sure to connect the GP's SG wire to the PLC's SG wire.

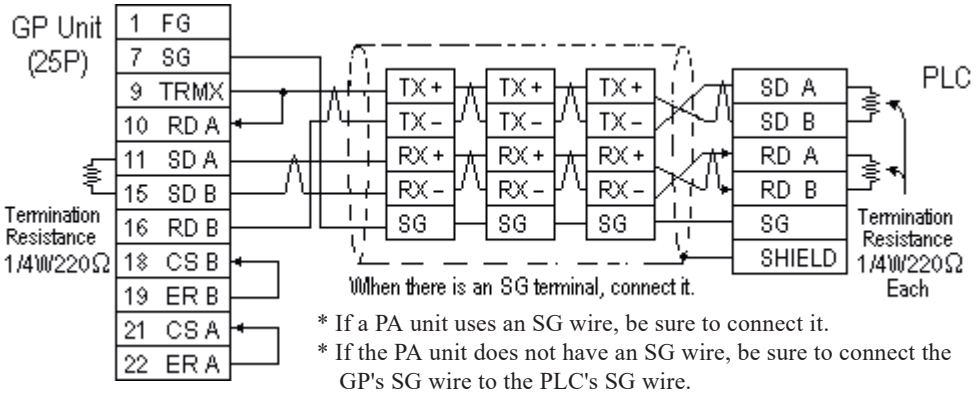
• When using Digital's RS-422 Cable, GP230-IS11-0



* Termination Resistance 1/4W220Ω

* If a PA unit uses an SG wire, be sure to connect it.
* If the PA unit does not have an SG wire, be sure to connect the GP's SG wire to the PLC's SG wire.

• When making your own cable connections

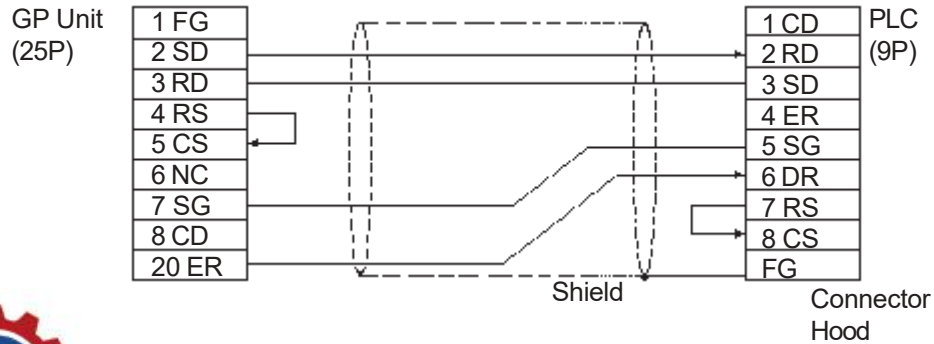


* If a PA unit uses an SG wire, be sure to connect it.
* If the PA unit does not have an SG wire, be sure to connect the GP's SG wire to the PLC's SG wire.

Note:

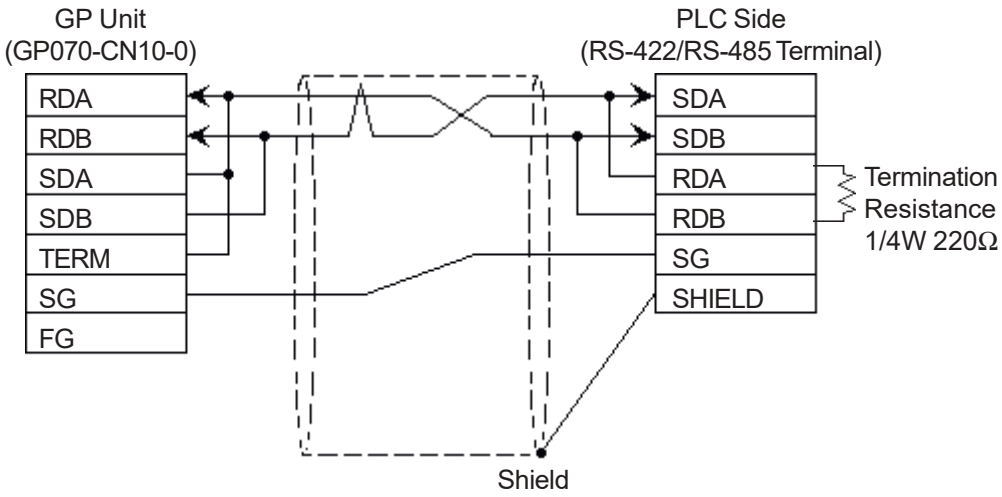
When connecting the #9 and #10 pins in the GP Serial I/F, a termination resistance of 100Ω is added between RDA and RDB.

Cable Diagram 4 (RS-232C)

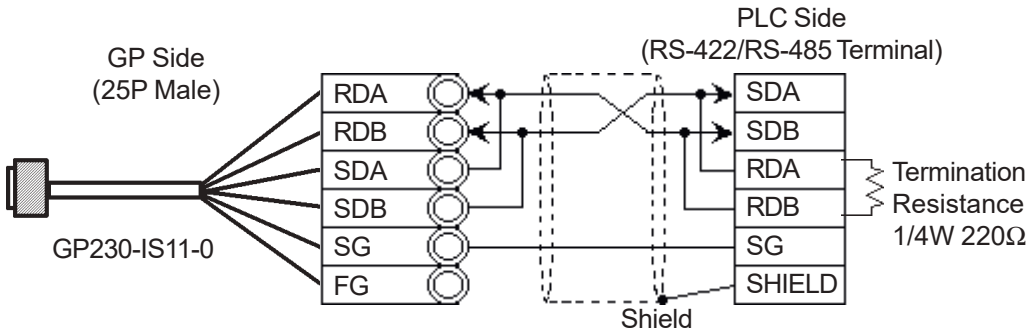


Cable Diagram 5 (RS-422)

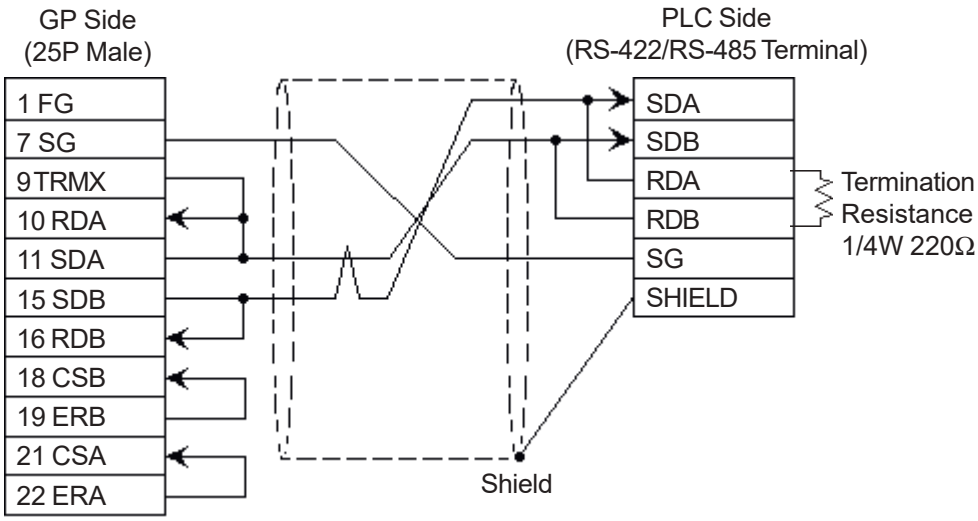
• When using Digital's RS-422 connector terminal adapter GP070-CN10-0



• When using Digital's RS-422 cable, GP230-IS11-0

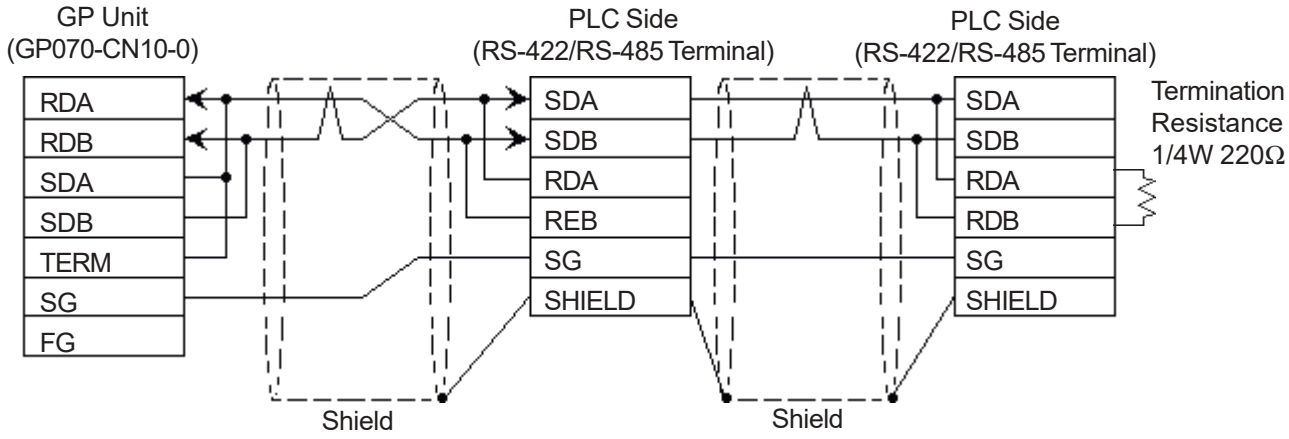


• When making your own cable connections

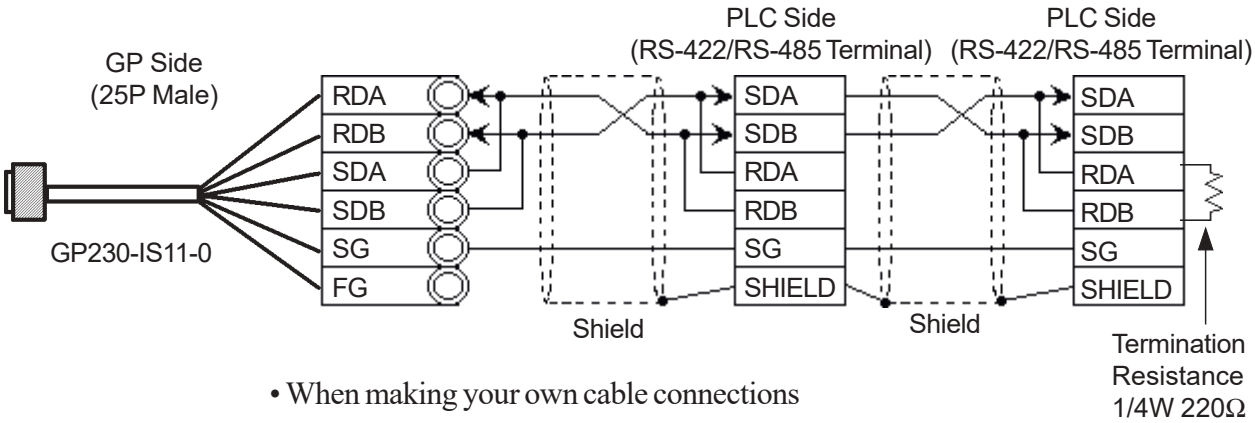


Cable Diagram 6 (RS-422)

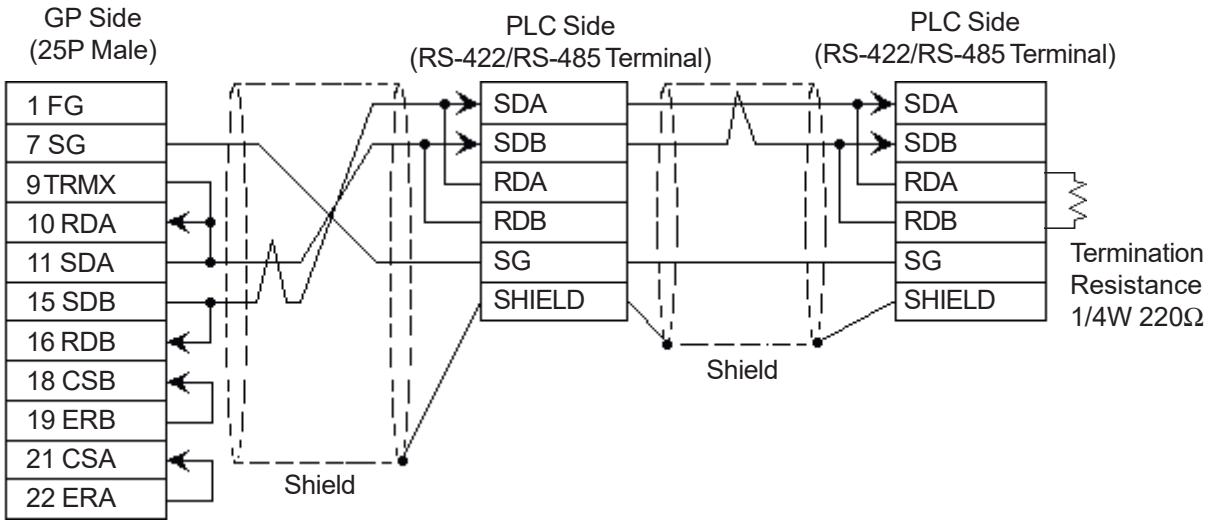
• When using Digital's RS-422 connector terminal adapter GP070-CN10-0



• When using Digital's RS-422 cable, GP230-IS11-0



• When making your own cable connections

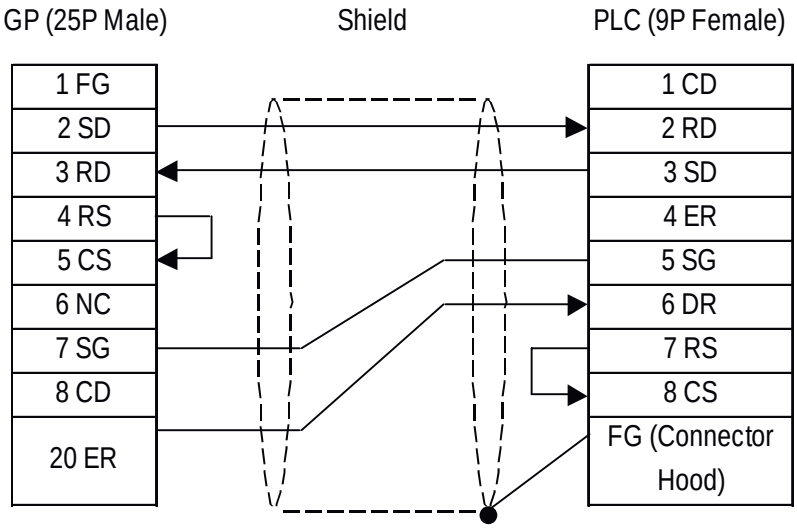


Note:

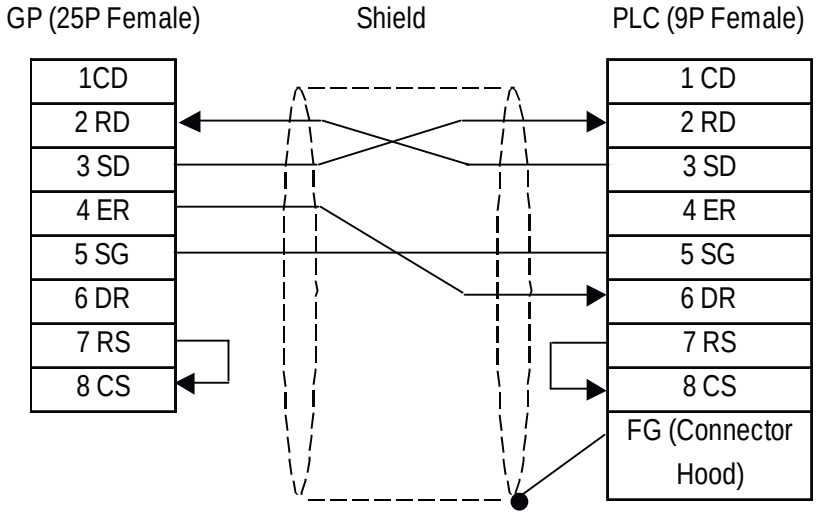
- **If the connection is terminated while 2-wire type communication is being carried out, use the 2-wire termination resistance switch on the PC link module (F3LC11-2N).**
- **The names of the poles A and B are reversed between the GP and the PLC.**

Cable Diagram 7 (RS-232C)

• When connecting to a GP.

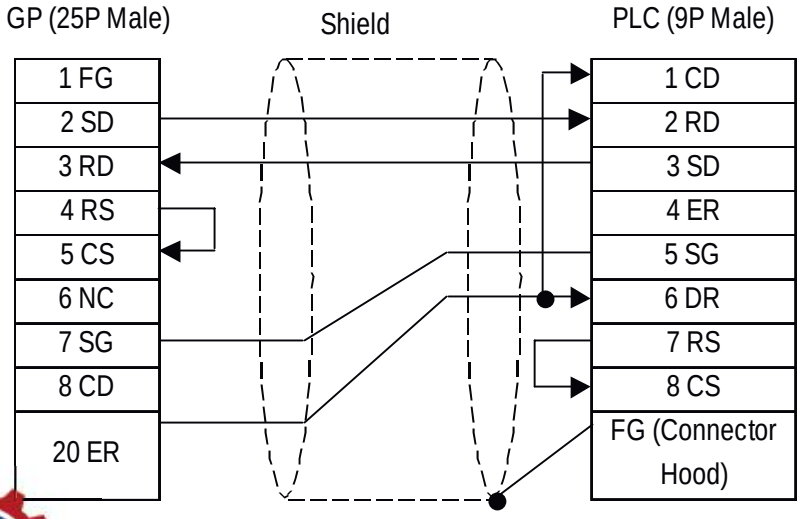


• When using ST401 unit.

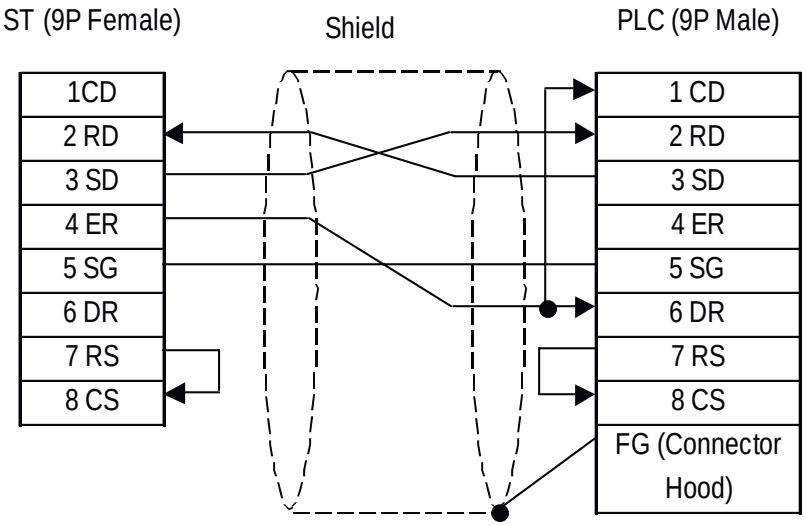


Cable Diagram 8 (RS-232C)

• When connecting to a GP.

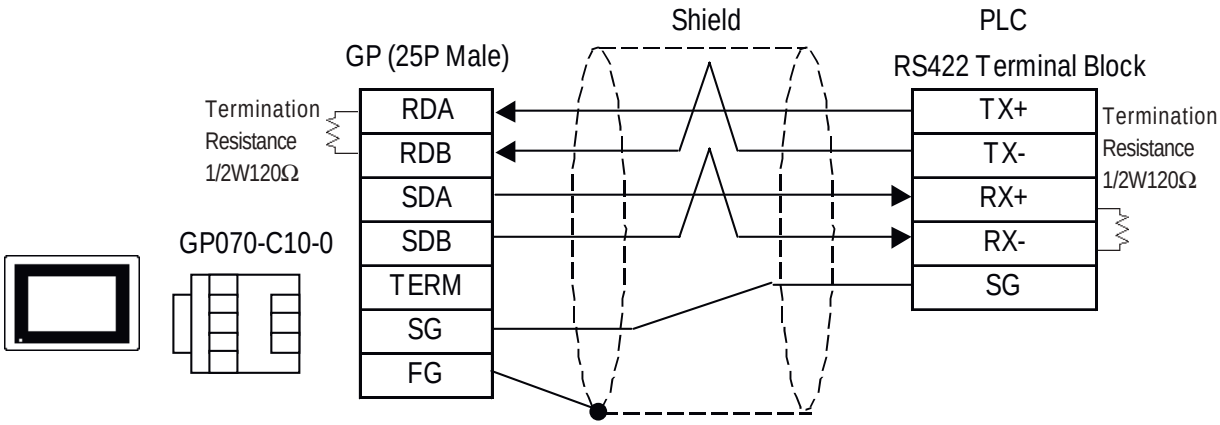


• When using ST401 unit.

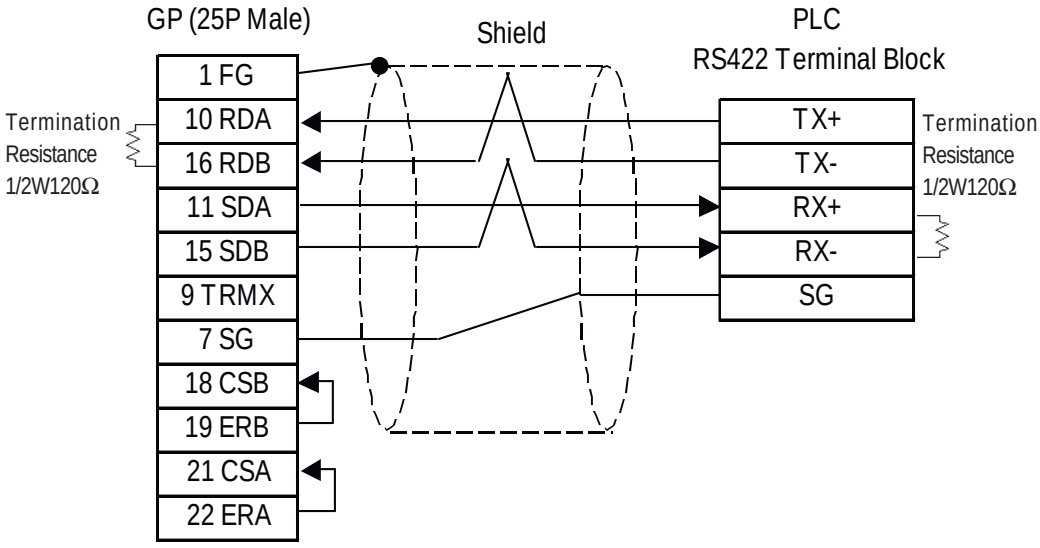


Cable Diagram 9 (RS-422)

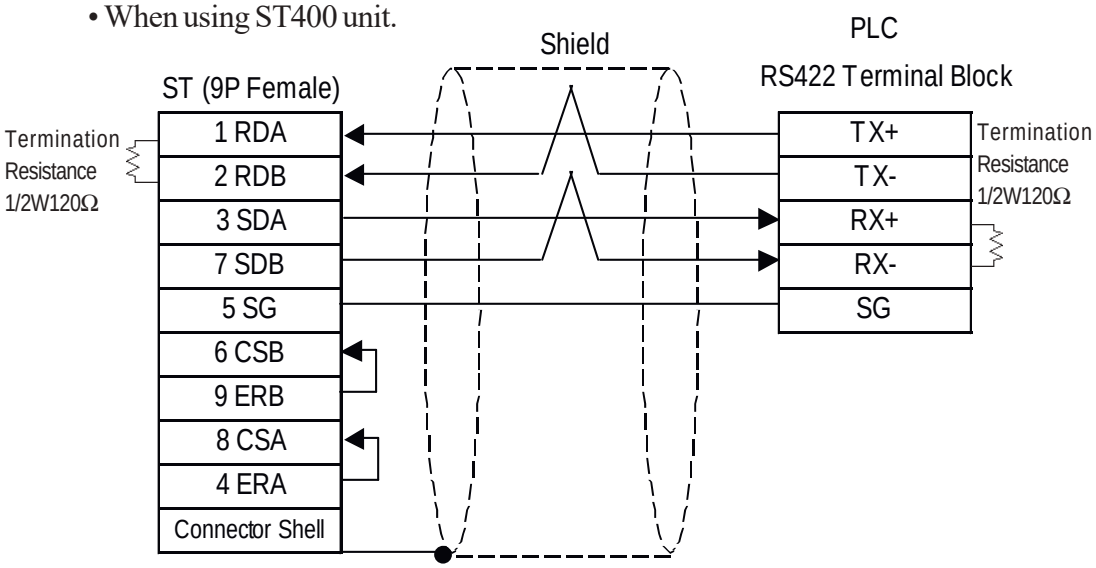
• When using Digital's RS-422 connector terminal adapter GP070-CN10-0



• When making your own cable connections

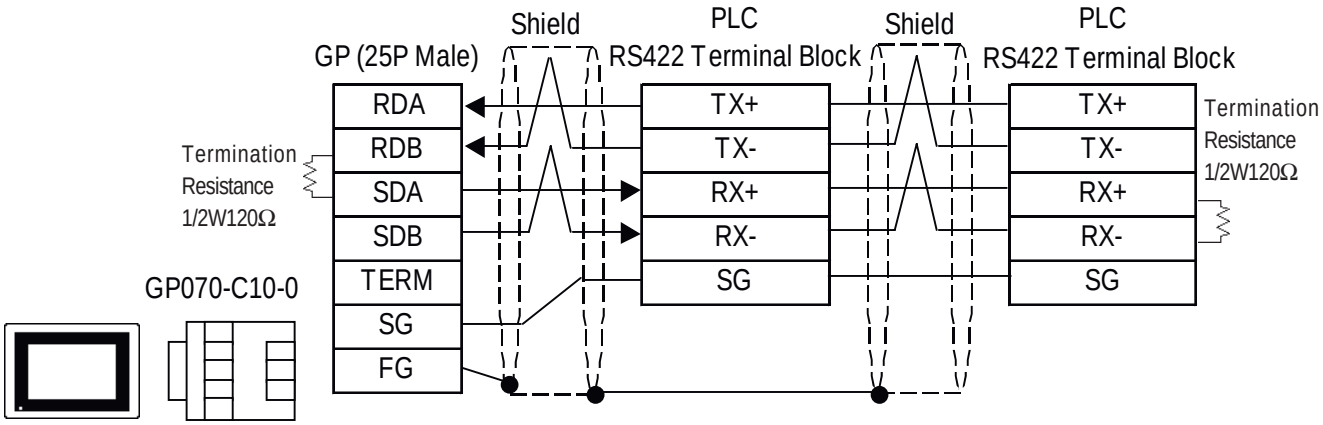


• When using ST400 unit.

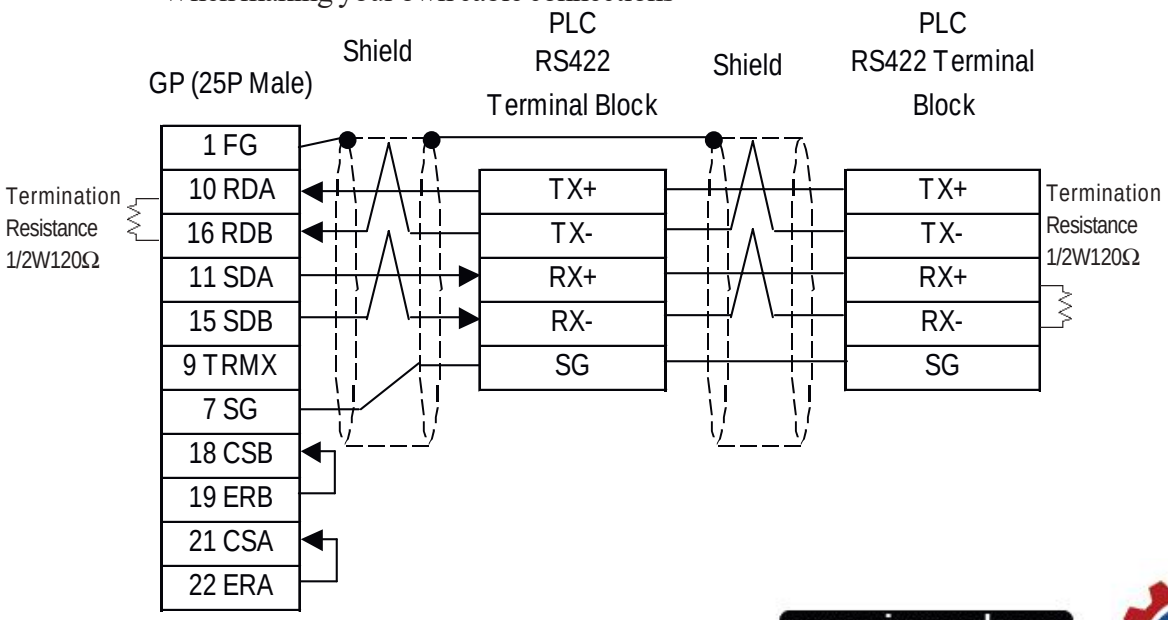


Cable Diagram 10 (RS-422)

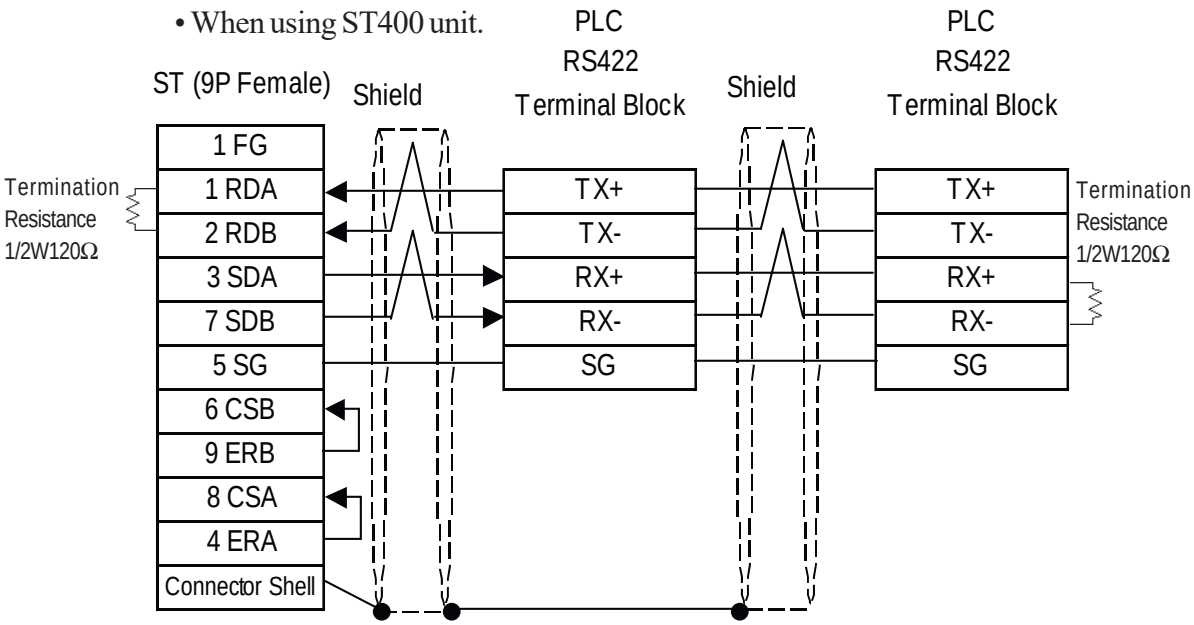
• When using Digital's RS-422 connector terminal adapter GP070-CN10-0



• When making your own cable connections

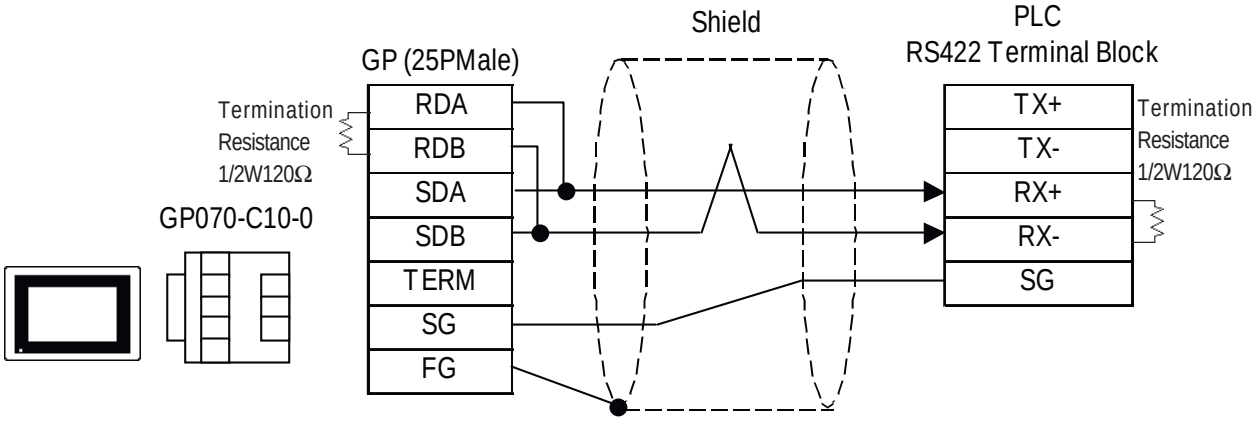


• When using ST400 unit.

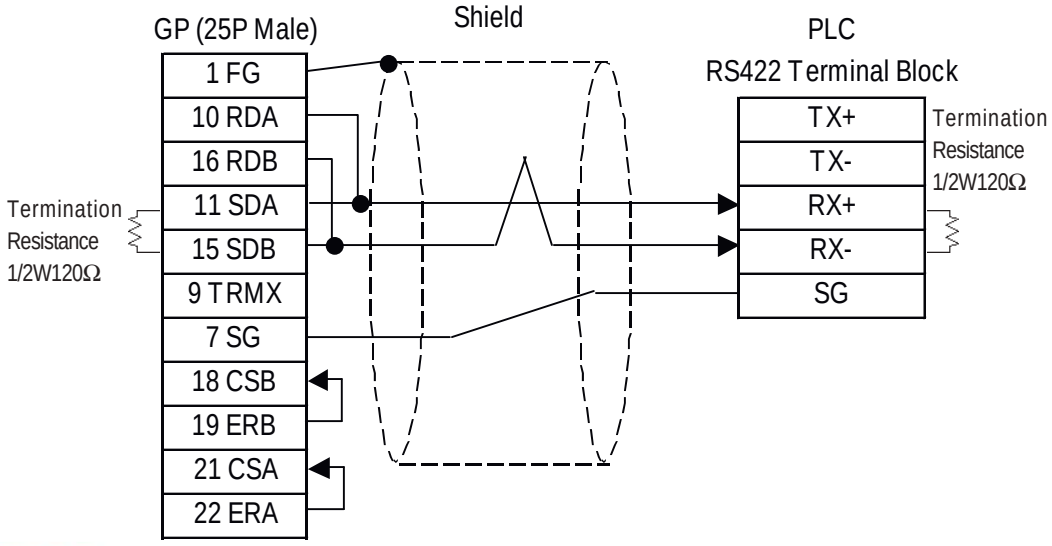


Cable Diagram 11 (RS-422)

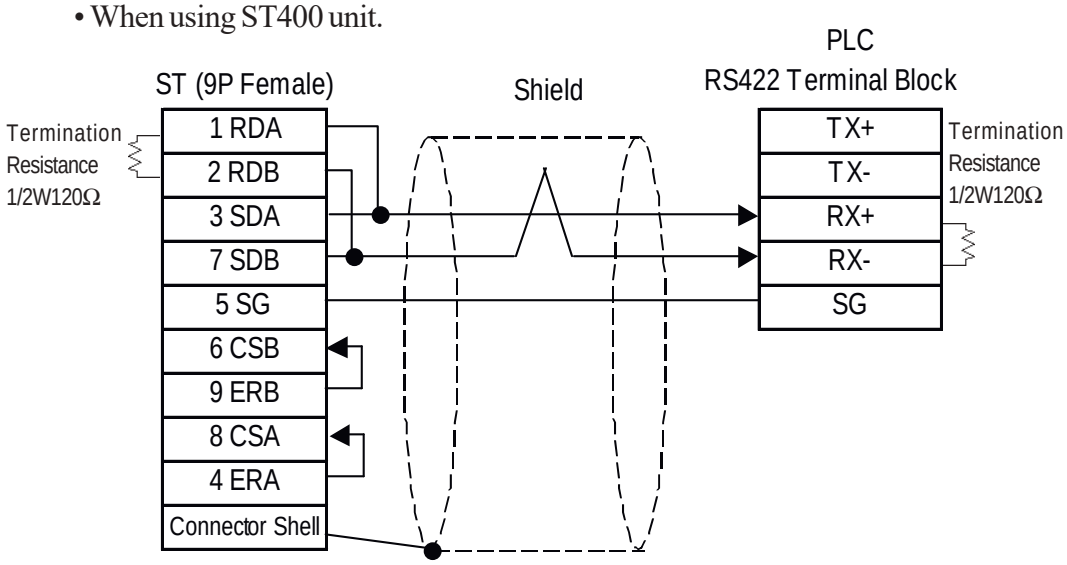
• When using Digital's RS-422 connector terminal adapter GP070-CN10-0



• When making your own cable connections

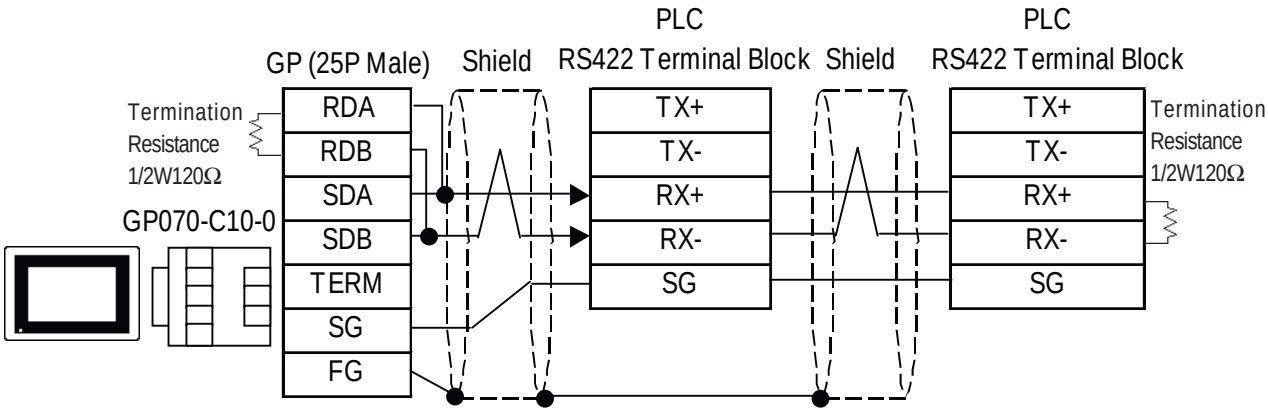


• When using ST400 unit.

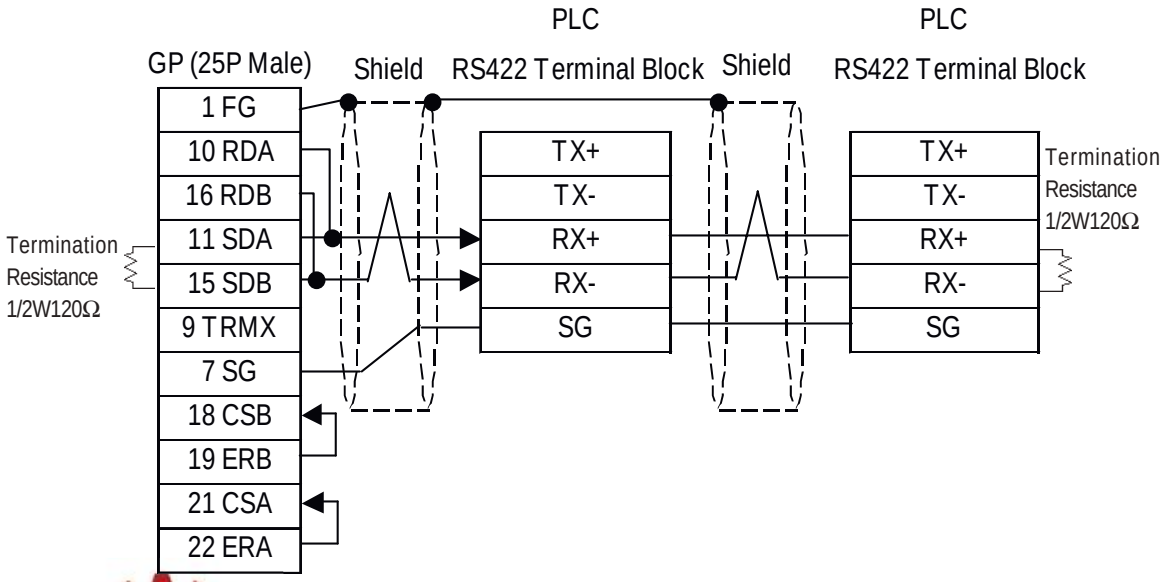


Cable Diagram 12 (RS-422)

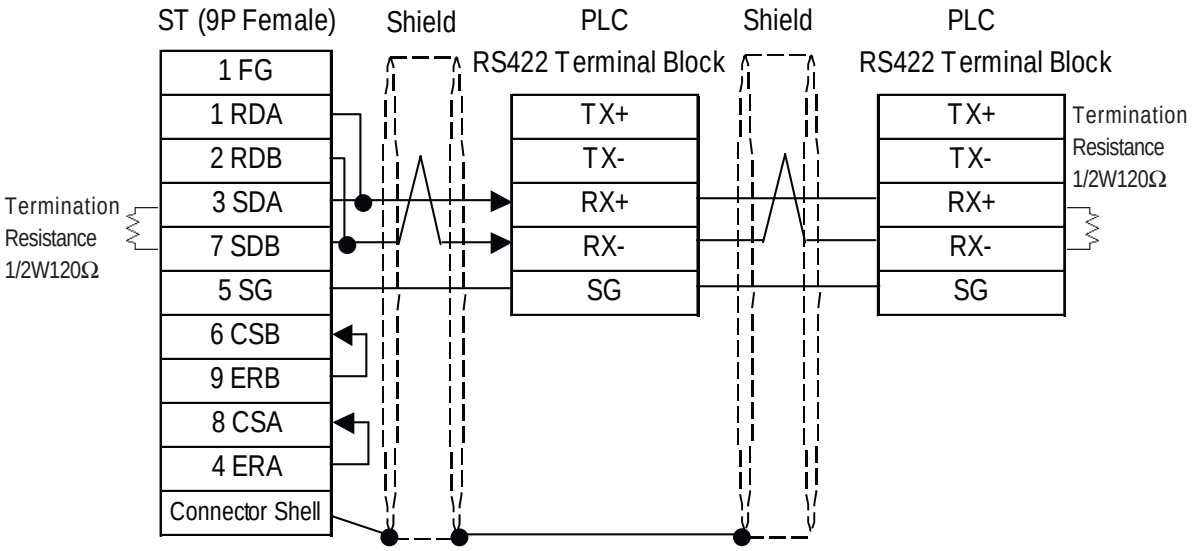
• When using Digital's RS-422 connector terminal adapter GP070-CN10-0



• When making your own cable connections



• When using ST400 unit.



3 Supported Devices

The following describes the range of devices supported by the GP.

■ FA500 (1:1 communication)

Setup System Area here.

Device	Bit Address	Word Address	Particulars	
Input Relay	X00201 ~ X61164	X00201 ~ X61149	÷16+1 *1 *2	L/H
Output Relay	Y00201 ~ Y61164	Y00201 ~ Y61149	÷16+1 *1 *2	
Internal Relay	I0001 ~ I2048	I0001 ~ I2033	÷16+1 *2	
Joint Relay	E0001 ~ E2048	E0001 ~ E2033	÷16+1	
Special Relay	M001 ~ M512	M001 ~ M497	÷16+1 *2 *3	
Link Relay	L0001 ~ L1024	L0001 ~ L1009	÷16+1 *2 *3	
Timer (contact)	T001 ~ T256	---	*2	
Counter (contact)	C001 ~ C256	---	*2	
Timer (current value)	---	TP001 ~ TP256	*2	
Timer (setup value)	---	TS001 ~ TS256	*2	
Counter (current value)	---	CP001 ~ CP256	*2	
Counter (setup value)	---	CS001 ~ CS256	*2	
Data Register	---	D0001 ~ D2048	Bit 5 *2	
Common Register	---	B0001 ~ B2048	Bit 5 *2	
Special Register	---	Z001 ~ Z128	Bit 5 *2*3	
Link Register	---	W0001 ~ W1024	Bit 5 *2*3	

** 1 The value of the terminal number (bit), 01~49, of the last two digits for the Input Relay and Output Relay can only be a multiple of 16 +1.*

E.g. For X00201

X 002 01

Slot No. — Terminal No.

** 2 Write the CPU Number (1~4) in front of the device name.*

E.g. For Internal Relay I0001, CPU #3:

3 I0001

CPU No. — Device Name

** 3 Cannot perform data write.*

■ **FA500** (1:n communication)

Setup System Area here.

Device	Bit Address	Word Address	Particulars	
Input Relay	X00201 ~ X61164	X00201 ~ X61149	÷16+1 *1*2	L/H
Output Relay	Y00201 ~ Y61164	Y00201 ~ Y61149	÷16+1 *1*2	
Internal Relay	I0001 ~ I2048	I0001 ~ I2033	÷16+1 *2	
Joint Relay	E0001 ~ E2048	E0001 ~ E2033	÷16+1	
Special Relay	M001 ~ M512	M001 ~ M497	÷16+1 *2*3	
Link Relay	L0001 ~ L1024	L0001 ~ L1009	÷16+1 *2*3	
Timer (contact)	T001 ~ T256	---	*2	
Counter (contact)	C001 ~ C256	---	*2	
Timer (current value)	---	TP001 ~ TP256	*2	
Timer (setup value)	---	TS001 ~ TS256	*2	
Counter (current value)	---	CP001 ~ CP256	*2	
Counter (setup value)	---	CS001 ~ CS256	*2	
Data Register	---	D0001 ~ D2047	Bit 15 *2	
Common Register	---	B0001 ~ B2047	Bit 15 *2	
Special Register	---	Z001 ~ Z128	Bit 15 *2*3	
Link Register	---	W0001 ~ W1024	Bit 15 *2*3	

** 1 When setting Word Address, set the value of the terminal number, 01~49, of the last two digits for the* Input Relay *and* Output Relay to *a multiple of 16+1.*

E.g. For X00201

X 002 01
Slot No. Terminal No.

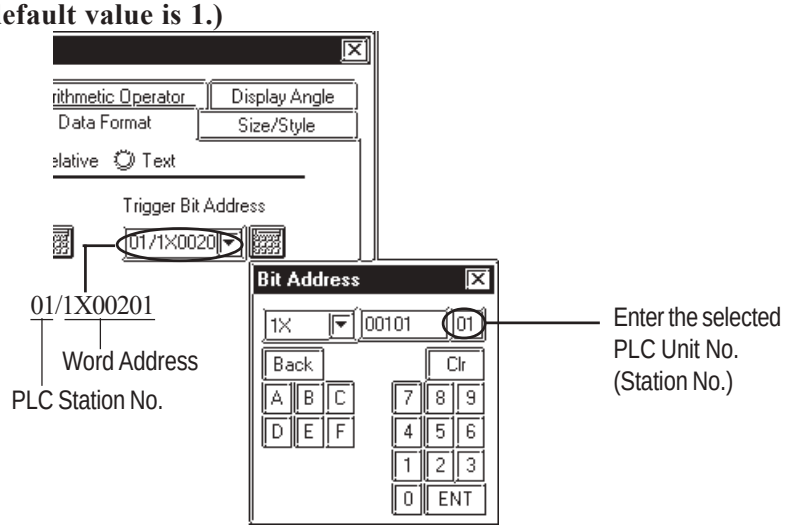
** 2 Write the CPU Number (1~4) in front of the device name.*

E.g. For Internal Relay I0001, CPU #3:

3 I0001
CPU No. Device Name

** 3 Cannot perform data write.*

Note: **When setting tags up in GP-PRO/PBIII for Windows, the PLC Station number can be specified during address Input. If a station number is not indicated, it automatically uses the previously entered station number. (The initial default value is 1.)**



■ FA-M3 (1:1 Communication)

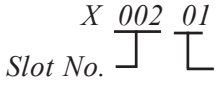
Setup System Area here.

Device	Bit Address	Word Address	Particulars	
Input Relay	X00201 ~ X71664	X00201 ~ X71649	÷16+] *1 *2	L/H
Output Relay	Y00201 ~ Y71664	Y00201 ~ Y71649	÷16+] *1	
Internal Relay	I00001 ~ I65535	I00001 ~ I65521	÷16+]	
Joint Relay	E0001 ~ E4096	E0001 ~ E4081	÷16+]	
Special Relay	M0001 ~ M9984	M0001 ~ M9969	÷16+]	
Link Relay	L00001 ~ L78192	L00001 ~ L78177	÷16+] *6	
Timer (contact)	T0001 ~ T3072	---	*2	
Counter (contact)	C0001 ~ C3072	---	*2	
Timer (current value)	---	TP0001 ~ TP3072		
Timer (setup value)	---	TS0001 ~ TS3072	*2	
Counter (current value)	---	CP0001 ~ CP3072		
Counter (setup value)	---	CS0001 ~ CS3072	*2	
Data Register	---	D00001 ~ D65535	Bit 5]	
File Register	---	B00001 ~ B065536	Bit 5] *3 *4	
		B065537 ~ B131072		
		B131073 ~ B196608		
		B196609 ~ B262144		
Joint Register	---	R0001 ~ R4096	Bit 5]	
Special Register	---	Z001 ~ Z1024	Bit 5]	
Link Register	---	W00001 ~ W74096	Bit 5] *5*6	

(See next page)

**1 The value of the terminal number (bit), 01~49, of the last two digits for the Input Relay and Output Relay can only be a multiple of 16 +1.*

E.g. For X00201



**2 Cannot perform data write.*

**3 File registers are each 65,535 words on your GP application.*

You cannot extend over more than a single data "block" when performing the following features.

Be sure to set these features' settings so they are within a single data block.

1) "a-tag " settings

2) Performing Block read/write from Pro-Server

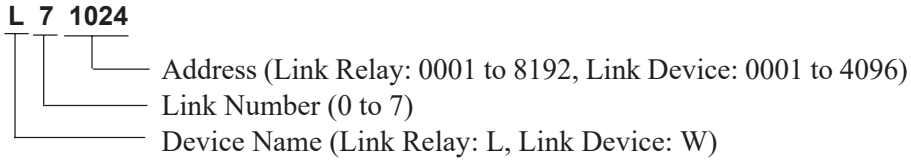
3) Designating the "Convert from" and "Convert to" address for the "Address Conversion" features

**4 When using a PC Link module, only Link Register up to B99999 can be used.*

**5 Up to 4,096 link registers can be used.*

**6 Enter Link Relay (L) and Link Register (W) data as follows:*

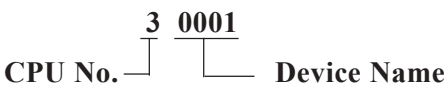
(Ex.) When entering Link Relay "L71024" data.



The address data's left-most digit is the Link Number, and the next four digits are the address.

• Write the CPU Number (1~4) in front of the device name.

E.g. For Internal Relay I0001, CPU #3:



• The types of devices that can be used will vary depending on the type of PLC.

For detailed information refer to Yokogawa's Sequencer CPU manual.

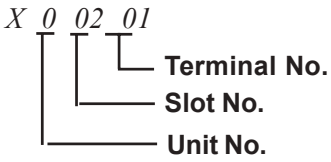
■ FA-M3 (1:n Communication)

Setup System Area here.

Device	Bit Address	Word Address	Remarks	
Input Relay	X00201 ~ X71364	X00201 ~ X71349	÷16+1 *1 *2	
Output Relay	Y00201 ~ Y71364	Y00201 ~ Y71349	÷16+1 *1	
Internal Relay	I0001 ~ I32768	I0001 ~ I32753	÷16+1	
Joint Relay	E0001 ~ E4096	E0001 ~ E4081	÷16+1	
Special Relay	M0001 ~ M9984	M0001 ~ M9969	÷16+1	
Link Relay	L00001 ~ L72048	L00001 ~ L72033	÷16+1 *4	
Timer (contact)	T0001 ~ T2047	---	*2	
Counter (contact)	C0001 ~ C2047	---	*2	
Timer (current value)	---	TP0001 ~ TP2047		L/H
Timer (setup value)	---	TS0001 ~ TS2047		
Counter (current value)	---	CP0001 ~ CP2047		
Counter (setup value)	---	CS0001 ~ CS2047		
Data Register	---	D0001 ~ D2047	Bit 15	
File Register	---	B0001 ~ B2047	Bit 15	
Joint Register	---	R0001 ~ R2047	Bit 15	
Special Register	---	Z001 ~ Z1024	Bit 15	
Link Register	---	W0001 ~ W11024	Bit 15 *3 *4	

**1 The value of the terminal number (bit), 01~49, of the last two digits for the Input Relay and Output Relay can only be a multiple of 16 +1.*

E.g. For X00201

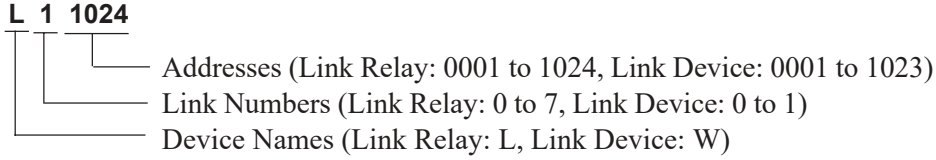


**2 Cannot perform data write.*

**3 A total of up to 4,096 link registers can be used.*

**4 Enter Link Relay (L) and Link Register (W) data as follows:*

(Ex.) When entering Link Relay "L11024" data.



The address data's left-most digit is the Link Number, and the next four digits are the address.

Note:

- **Write the CPU Number (1~4) in front of the device name.**

E.g. For Internal Relay I0001, CPU #3:

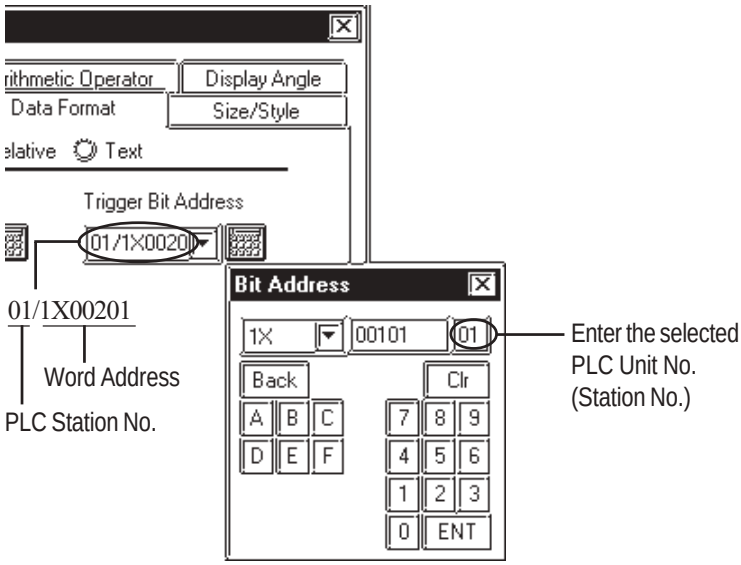
3 I0001

CPU No. — Device Name

The range of devices that can be used will vary depending on the type of PLC. For detailed information refer to the Yokogawa's Sequencer CPU manual.

Note:

- **When setting up Tags in GP-PRO/PBIII for Windows, the PLC Station number can be specified at address Input. If a station number is not specified, the previously entered station number is used. (The default value is 1.)**



Important

When converting addresses of Joint Relays used in GP-*10/ GP-*30/ GP-*50 Series unit project screens, all addresses will be converted to CPU No. 1 addresses. After all screens are converted, be sure to check all Joint Relay CPU numbers.

■ STARDOM Standalone Controller (When using Yokogawa Electric FACTORY ACE 1:1, FACTORY ACE 1:1 Protocol)

Register Image	Bit Address	Word Address	Particulars
Internal Relay	I0001 ~ I32767	I0001 ~ 32753	÷16+1
Data Register	---	D00001 ~ D32767	Bit 15
File Register	---	B000001 ~ B032767	Bit 15

Note:

- **Set each device using a CPU number of 1.**

■ STARDOM Standalone Controller (When using Yokogawa Electric FCN/FCJ ModbusRTU 1:n Protocol)

Setup System Area here.

Device	Bit Address	Word Address	Note	
Coil	1:00001 to 31:09984	1:00001 to 31:09969	÷16+1	L/H
Input Relay	1:10001 to 31:19984	1:10001 to 31:19969	÷16+1 *1	
Retain Register	1:4000100 to 16:4999915	1:40001 to 16:49999		
	————	17:40001 to 31:49999	Bit15 *2	
Input Register	————	1:30001 to 31:39999	Bit15 *1	

**1 Read only. Write is not possible. If write is attempted, a Host Communication error (02:FB) will occur.*

**2 Node address 17 to 31's Bit Address designation becomes* Bit15 *operation.*

Note:

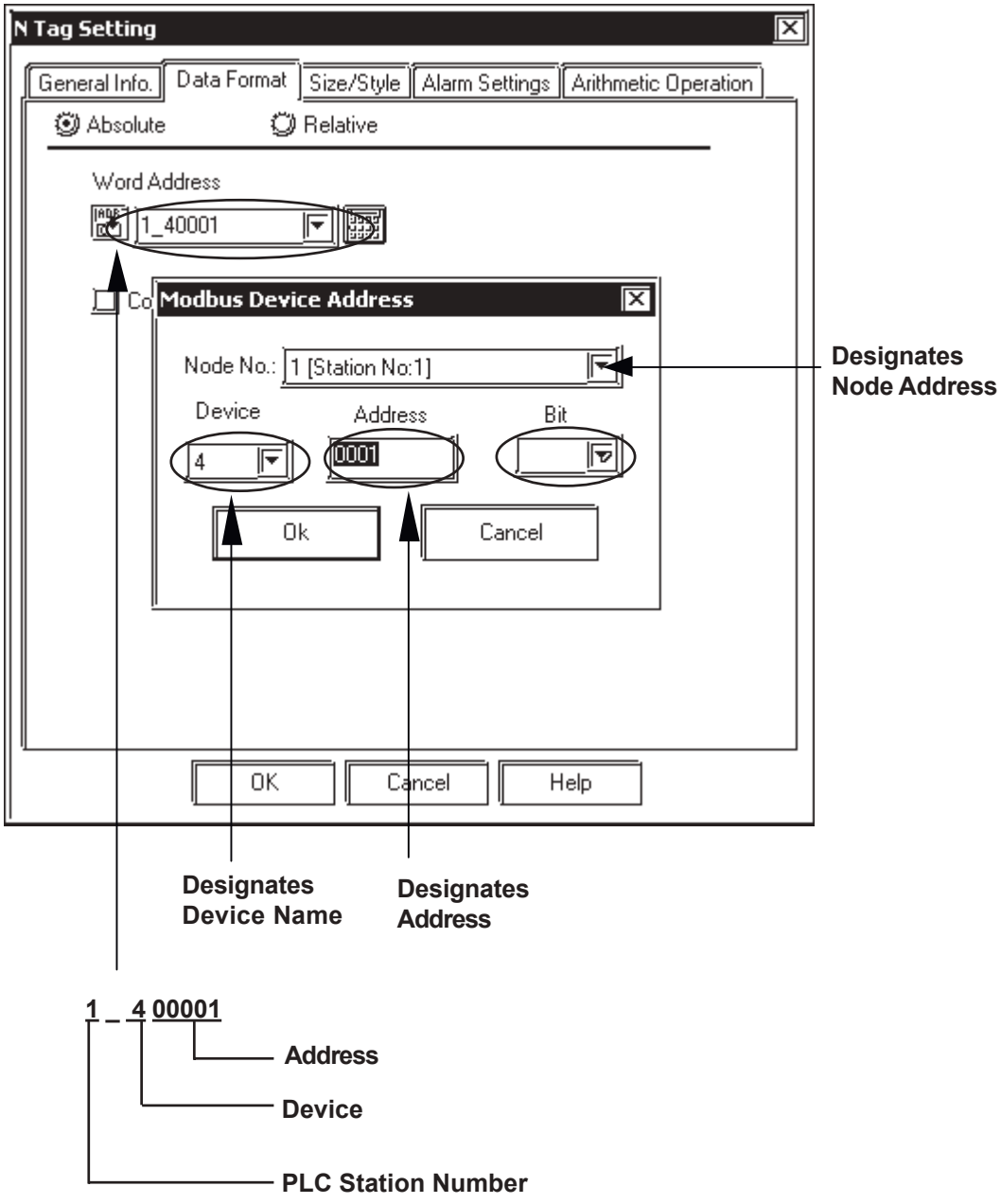
- **Address ranges depend on the type of PLC used. For details please refer to your PLC unit's manual.**

When using Pro-Server:

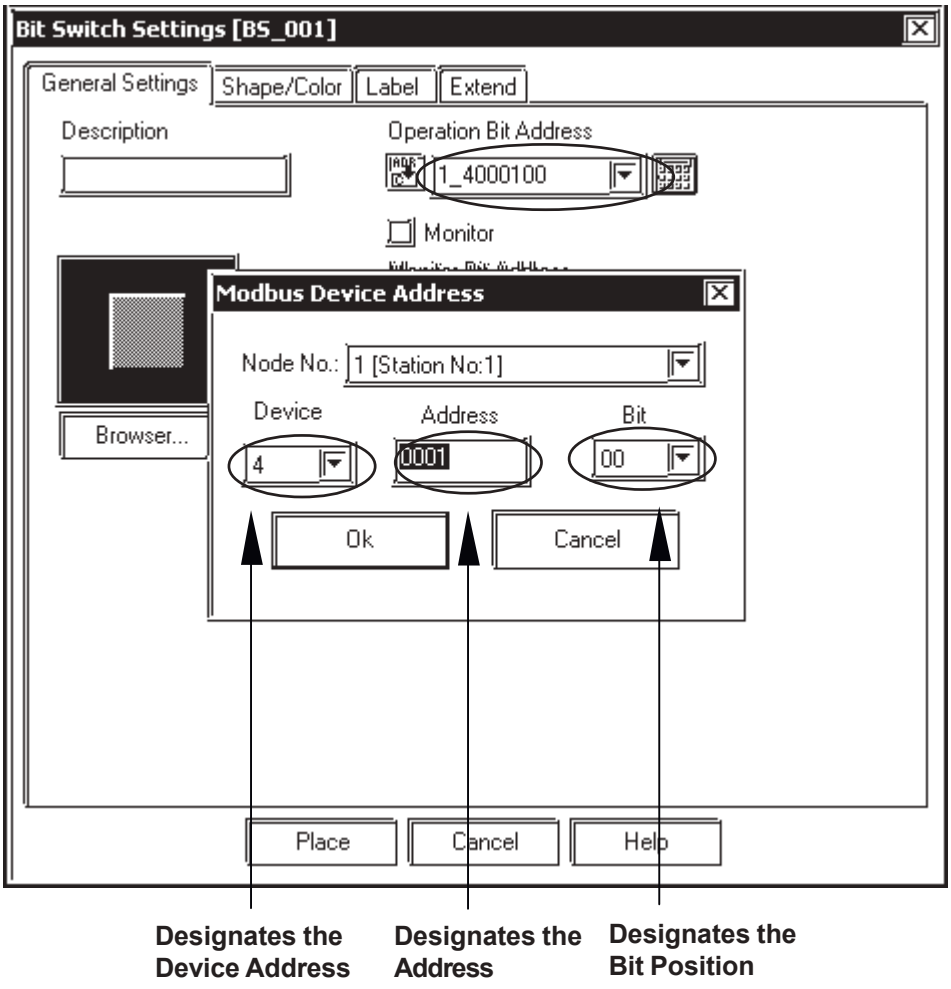
Important

When accessing via Pro-Server, be sure to define in advance Device Addresses to be accessed, and after creating project screens, Pro-Server must be used to import the symbols. For details, refer to your Pro-Server Operation Manual.

■ When using Word Addresses



■ When using Bit Addresses



4 Environment Setup

The following lists Digital's recommended PLC and GP communication settings.

■ FACTORY ACE Series (using Link I/F RS-232C connection)

GP Setup		PC Link Module Setup	
Baud Rate	19200 bps	Baud Rate *1	19200 bps
Data Length	8 bits	Data Length	8 bits
Stop Bit	1 bit	Stop Bit	1 bit
Parity Bit	None	Parity Bit	None
Data Flow Control	ER Control	---	
Communication Format	RS-232C	---	
---		Check Sum	No
---		Specify End Character	Yes
---		Protect Function	No
---		Data Format Setup Switch	8 OFF
Unit No.	1	Station Number *2	1

**1 The PC Link I/F F3LC11-1F can be communicated by 115.2kbps.*

**2 The PC Link I/F F3LC01-1N does not have this setting.*

■ FACTORY ACE Series (using Link I/F RS-422 connection)

GP Setup		PC Link Module/PA Equipment Setup	
Baud Rate (1:1 comm)	19200 bps	Baud Rate (1:1 comm)	19200 bps
Baud Rate (1:n comm)	9600 bps	Baud Rate (1:n comm)	9600 bps
Data Length	8 bits	Data Length	8 bits
Stop Bit	1 bit	Stop Bit	1 bit
Parity Bit	None	Parity Bit	None
Data Flow Control	ER Control	---	
Communication Format (Select 4-wire type)	4-wire type	---	
Communication Format (Select 2-wire type)	2-wire type	---	
---		Checksum	No
---		Specify End Character	Yes
---		Protect Function	No
---		Data Format Setup Switch	8 OFF
Unit No. (1:1 comm)	FA-500: 2 FA-M3: 1	Station No. (1:1 comm)	FA-500: 2 FA-M3: 1
Unit No. (1:n comm)	Match with PC Link Module station No.	Station No. (1:n comm)	Set up so that all PA Equip., PC Link module No.s are different

■ FACTORY ACE Series (FA-M3 CPU Direct Connection)

GP Setup		CPU Communication Port Setup	
Baud Rate	19200 bps	Baud Rate	19200 bps *1
Data Length	8 bits	---	
Stop Bit	1 bit	---	
Parity Bit	Even	Parity Bit	Even
Data Flow Control	ER Control	---	
Communication Format	RS-232C	---	
---		PC Link Function	Use
---		Check Sum	No
---		Specify End Character	Yes
---		Protect Function	No
Unit No.	1	---	

**1 For F3SP28-3N, F3SP38-6N, F3SP53-4H, F3SP58-6H, F3SP28-3S, F3SP38-6S, F3SP53-4S, F3SP58-6S and F3SP59-7S, a baud rate of 115200 bps is also available.*

■ STARDOM Standalone Controller (When using Yokogawa Electric FACTORY ACE 1:1, FACTORY ACE 1:n Protocol)

GP Setup		CPU Communication Port Setup	
Baud Rate	19200 bps *3	Baud Rate	19200 bps *1*3
Data Length	8 bits	Data Length	8 bits *1
Stop Bit	1 bit	Stop Bit	1 bit *1
Parity Bit	None	Parity Bit	None *1
Data Flow Control	ER Control	---	
Communication Format	RS-232C	---	
---		Check Sum	No *2
---		Specify End Character	Yes *2
Unit No.	1	Station No.	1 *2

**1 Set these parameters in the COM port setup using the Web browser.*

**2 Pass the settings to the task startup FB parameters.*

**3 Communication at 115.2 kbps is possible.*

Set the COM port as follows:

Com1SioDriver=DUONUS_S10

Com2SioDriver=DUONUS_S10

ConsoleComPort=(blank)

■ STARDOM Standalone Controller FCN/FCJ (When using Yokogawa Electric FCN/FCJ ModbusRTU 1:n Protocol via CPU unit's COM Port connection)

GP Setup		CPU Communication Port Setup	
Baud Rate	9600 bps	Baud Rate	9600 bps *1*3
Data Length	8 bits	Data Length	8 bits *1
Stop Bit	1 bit	Stop Bit	1 bit *1
Parity Bit	None	Parity Bit	None *1
Data Flow Control	ER Control	---	
Communication Format	RS-232C	---	
Station No.	1	Station No.	1 *2
---		Communication Mode	RTU Mode
---		Communication Type	Slave

**1 Set these parameters in the COM port setup using the Web browser.*

**2 Pass the settings to the task startup FB parameters.*

**3 Communication at 115.2 kbps is possible.*

Set the COM port as follows:

Com1SioDriver=DUONUS_S10

Com2SioDriver=DUONUS_S10

ConsoleComPort=(blank)

■ STARDOM Standalone Controller FCN (When using Yokogawa Electric FCN/FCJ ModbusRTU 1:n Protocol via NFLR111 RS232C Communication Module connection)

GP Setup		NFLR111 Port Setup	
Baud Rate	9600 bps	Baud Rate	9600 bps *1*3
Data Length	8 bit	Data Length	8 bit *1
Stop Bit	1 bit	Stop Bit	1 bit *1
Parity Bit	None	Parity Bit	None *1
Data Flow Control	ER Control	Other Settings	Use default values *1
Communication Format	RS-232C	---	
Station No.	1	Station No.	1 *2
---		Communication Mode	RTU Mode
---		Communication Type	Slave

**1 Set these parameters in the Resource Configurator.*

**2 Pass the settings to the task startup FB parameters.*

**3 Communication at 115.2 kbps is possible.*

■ STARDOM Standalone Controller FCN (When using Yokogawa Electric FCN/FCJ ModbusRTU 1:n Protocol via NFLR121 RS422/RS485 Communication Module connection)

GP Setup		NFLR121 Port Setup	
Baud Rate	9600 bps *4	Baud Rate	9600 bps *1*3
Data Length	8 bit	Data Length	8 bit *1
Stop Bit	1 bit	Stop Bit	1 bit *1
Parity Bit	None	Parity Bit	None *1
Data Flow Control	ER Control	Other Settings	Use default values*1
Communication Format (using 4-wire)	4-wire	Wiring Format	4-wire *1
Communication Format (using 2-wire)	2-wire		2-wire *1
Station No.	1	Station No.	1 *2
---		Communication Mode	RTU Mode
---		Communication Type	Slave

**1 Set these parameters in the COM port setup using the Web browser.*

**2 Pass the settings to the task startup FB parameters.*

**3 Communication at 115.2 kbps is possible.*

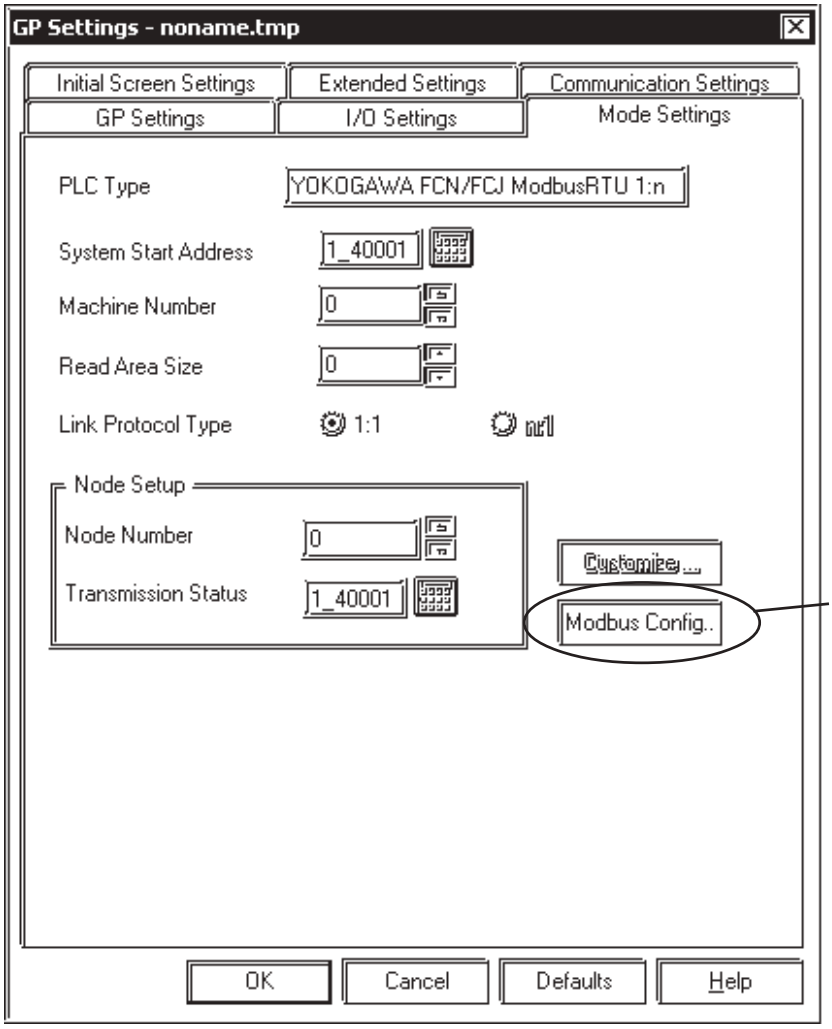
When communicating using a 2-wire 1:n connection with 2 or more PLC units, be sure to set the GP unit's Send Wait time of 20ms or more.

If communication is performed using the default value of 0ms, an Host Communication error (02:FE:) will occur from the PLC.**

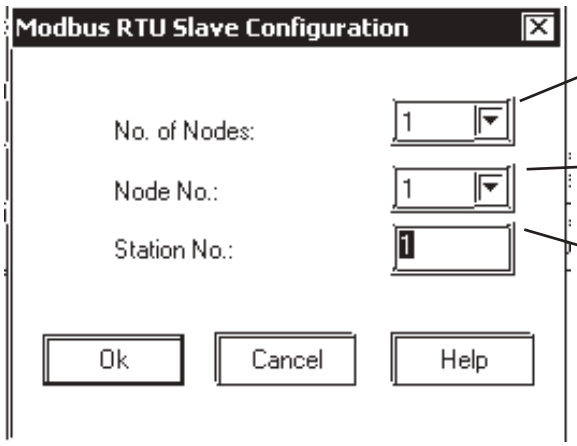
■ Special Settings

Screen Creation Software Settings

The screen creation software settings are located in the [GP System] - [Mode Settings] area. The screens and items used for entering settings are as follows.



Designates PLC settings



Designates the number of PLC units to connect. (1 to 31) Default:1

Desingates the Node number. (1 to 31) Default:1

Designates the address of the PLC. (1 to 247) Default:1