Pro-face

Digital Human Machine Interface

Device/PLC Connection Manuals

About the Device/PLC Connection Manuals

Prior to reading these manuals and setting up your device, be sure to read the "Important: Prior to reading the Device/PLC Connection manual" information. Also, be sure to download the "Preface for Trademark Rights, List of Units Supported, How to Read Manuals and Documentation Conventions" PDF file. Furthermore, be sure to keep all manual-related data in a safe, easy-to-find location.

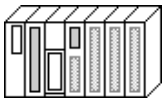
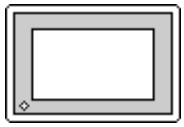
2.7 Matsushita Electric Works

2.7.1 System Structure

The following describes the system structure for connecting the GP to Matsushita Electric Works PLCs.

Reference *The Cable Diagrams mentioned in the following tables are listed in the section titled "**2.7.2 Cable Diagrams**".*

■ MEWNET Series (using Link Unit)

CPU	Link I/F	Cable Diagram	Cables	GP
	 Computer Communication Unit (C.C.U.)	←	→	
FP1 (C24, C40C)	CPU unit Upper Link I/F *1	RS-232C (Cable Diagram 1) *5	Matsushita AFB85813 *4	GP Series
FP10SH FP2	CPU unit Upper Link I/F *2	RS-232C (Cable Diagram 1)	Matsushita AFB85813 *4	
FP3	AFP3462			
FP5	AFP5462			
FP10(S)	AFP3462			
	Upper Link I/F on CPU *2			
FP-M	Upper Link I/F on CPU *3	RS232C (Cable Diagram 1) *5		
FP0	Upper Link I/F on CPU *1	RS232C (Cable Diagram 6)		
FPG-C32T FPG-C32T2 FPG-C24R2	FPG-COM1 FPG-COM2	RS232C (Cable Diagram 7)		
		RS232C (Cable Diagram 8)		

**1 Connect to the RS-232C port.*

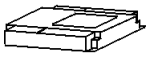
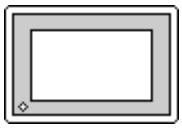
**2 Connect to COM port.*

**3 Connect to Serial port connector.*

**4 Due to the size of its connector case, this cable cannot be used for GP-270, GP-370 , GP-377, GP-377R and GP-2300 series unit.*

**5 Use <Cable Diagram 2 > if the PLC's version is 2.6 or older.*

■ **MEWNET Series** (using CPUdirect connection)

CPU	Adapter	Cable Diagram	Cables	GP
				
FP1 *1		RS-422 (Cable Diagram 3)		GP Series
	Matsushita Electric Works' RS-422/232C terminal changer AFP8550 adapter *2	RS-232C (Cable Diagram 4)		
FP-M *3		RS-232C (Cable Diagram 5)		
FPO *4 FP2 *1 FPG-C32T FPG-C32T2 FPG-C24R2		RS-232C (For cable diagram, refer to Matsushita's FP pc M5 type (AFC8513) users manual)	Matsushita's FP personal computer M5 type (AFC8513)	

** 1 Connect to the Programming Tool connector.*

** 2 It is necessary to connect the RS-422/RS-232C adapter with the PLC using Matsushita's FP1peripheral AFP15205 connection programmable cable .*

** 3 Connect to the Program connector.*

**4 Connect to the Tool port.*

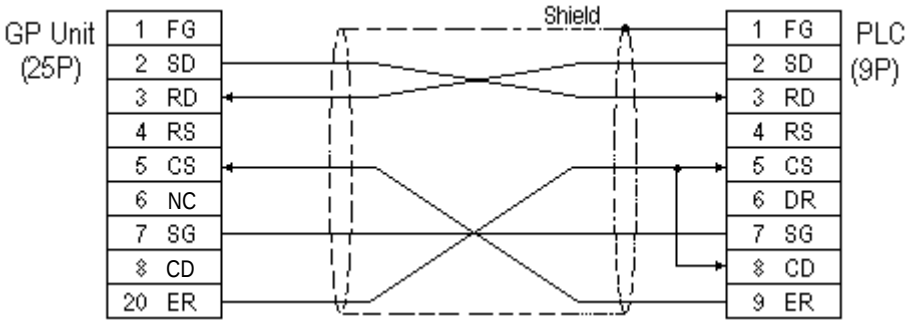
2.7.2 Cable Diagrams

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

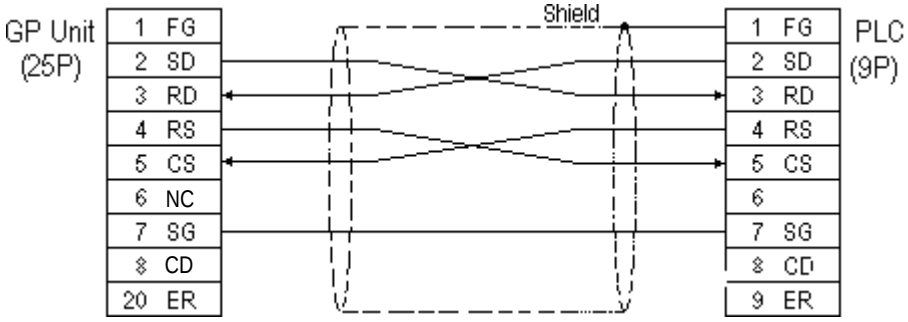
Ground your PLC's FG terminal according to your country's applicable standard. For details, refer to the corresponding PLC manual.

- ***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.***
- ***For the RS-232C connection, use a cable length less than 15m.***
- ***If a communications cable is used, be sure to connect the SG (signal ground).***
- ***For the RS-422 connection, refer to Matsushita's PLC manual for the cable length.***

Cable Diagram 1 (RS-232C)



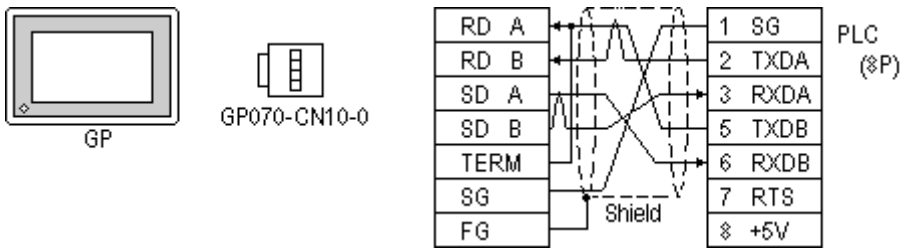
Cable Diagram 2 (RS-232C)



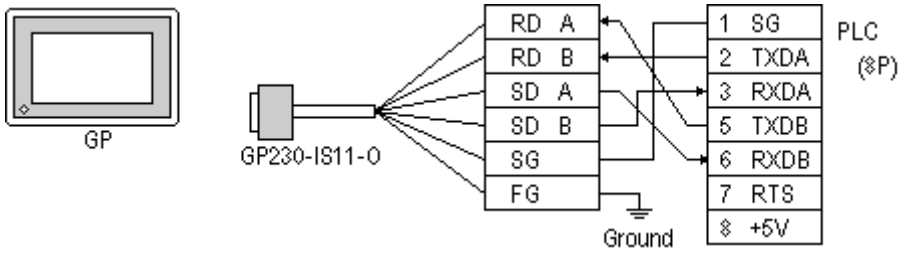
Cable Diagram 3 (RS-422)

Note: **You can use Hirose's circular HR212-10P-8P for the PLC connector.**

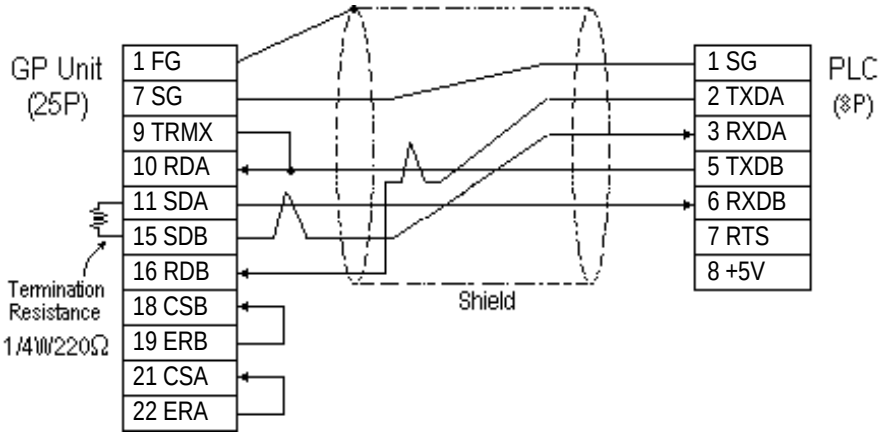
• When using Digital's RS-422 connector terminal adapter GP070-CN10-0



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

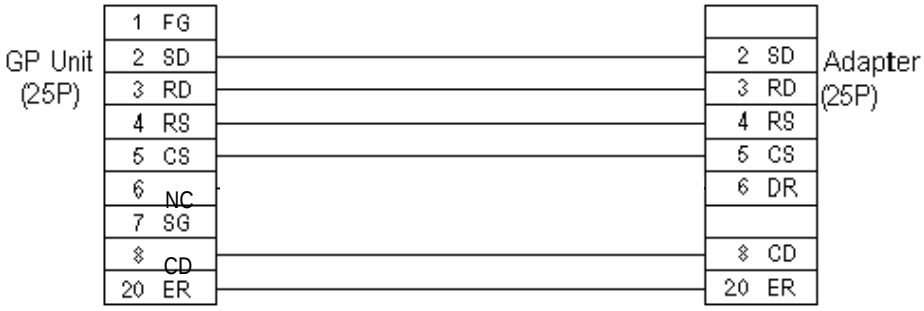


• When making your own cable connections

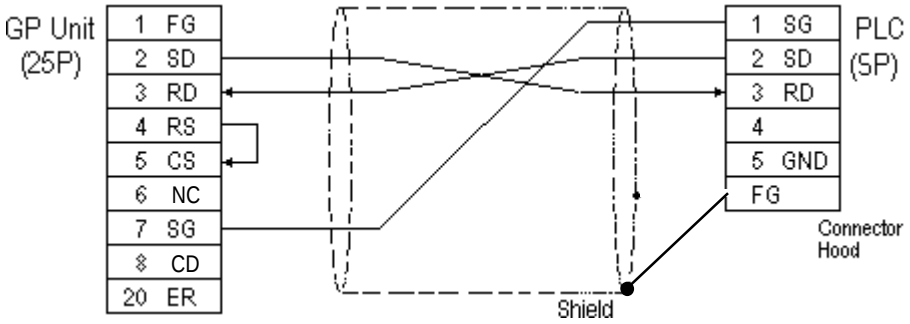


Note: **When connecting the #9 and #10 pins in the GP Serial I/F, a termination resistance of 100Ω is added between RDA and RDB.**

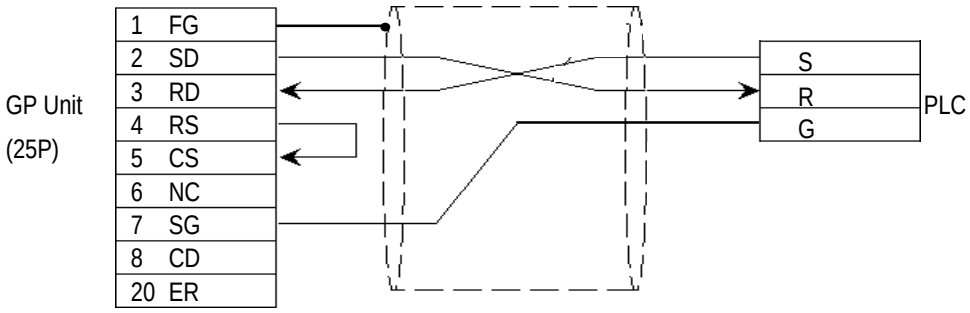
Cable Diagram 4 (RS-232C)



Cable Diagram 5 (RS-232C)

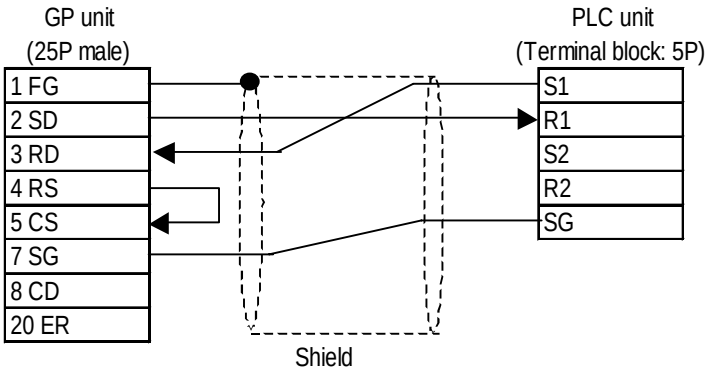


Cable Diagram 6 (RS-232C)



Cable Diagram 7 (COM port 1, RS-232C)

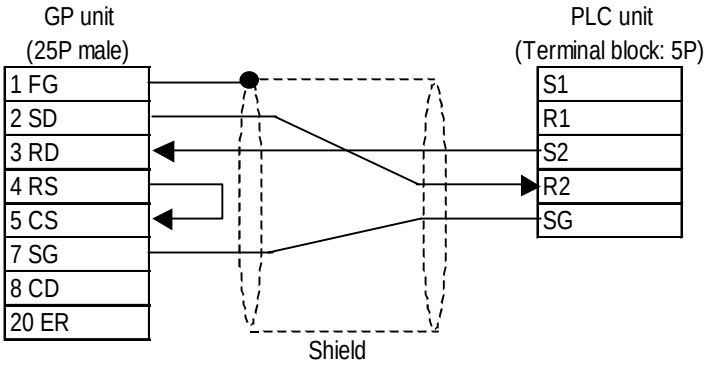
• When making your own connections



Note: • **The SG is common to COM ports 1 and 2.**

Cable Diagram 8 (COM port 2, RS-232C)

• When making your own connections



Note: • **The SG is common to COM ports 1 and 2.**

2.7.3 Supported Devices

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

■ MEWNET Series

Setup System Area here.

Device	Bit Address	Word Address	Particulars	
Input Relay	X0000 ~ X511F	WX000 ~ WX511	*1	L/H
Output Relay	Y0000 ~ Y511F	WY000 ~ WY511		
Internal Relay	R0000 ~ R886F	WR000 ~ WR886		
Link Relay	L000 ~ L639F	WL000 ~ WL639		
Special Relay	R9000 ~ R910F	WR900 ~ WR910	*1	
Timer (contact)	T0000 ~ T3071	---	*1	
Counter (contact)	C0000 ~ C3071	---	*1	
Timer/Counter (elapsed time)	---	EV0000 ~ EV3071	*1	
Timer/Counter (setup value)	---	SV0000 ~ SV3071	*1	
Data Register	---	DT0000 ~ DT10239	Bit 15 *2	
Link Register	---	Ld0000 ~ Ld8447	Bit 15	
File Register	---	FL00000 ~ FL32764	Bit 15	
Special Data Register	---	DT90000~DT90511	Bit 15 *3	

**1 Cannot perform data write.*

**2 Some CPU types use this device's word address DT09000 and higher as the Special Data Register.*

**3 Only the FP10SH, FP10S, FP10 and FP2 can use this device.*

Note:

- **When using the Timer and Counter with FP-M, setup each range in the System Register.**

Important

- ***Some CPU devices also have extensions, but only the device ranges shown here can be used.***
- ***For the system area, only the range between DT0000 and DT8999 can be specified.***
- ***The types and ranges of available devices may differ depending upon your CPU unit. Before use, check with the manual for your CPU unit.***

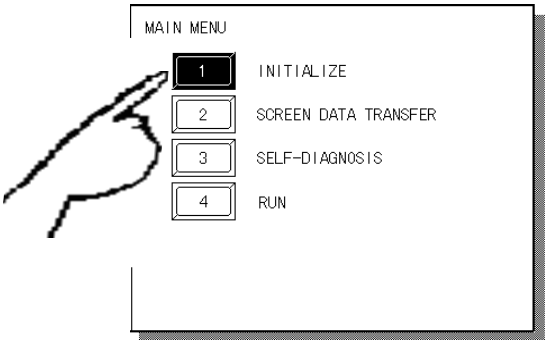
◆ Monitor Set-up

With the MEWNET-FP series, be sure to change the GP to offline mode before inputting the initial Monitor settings.

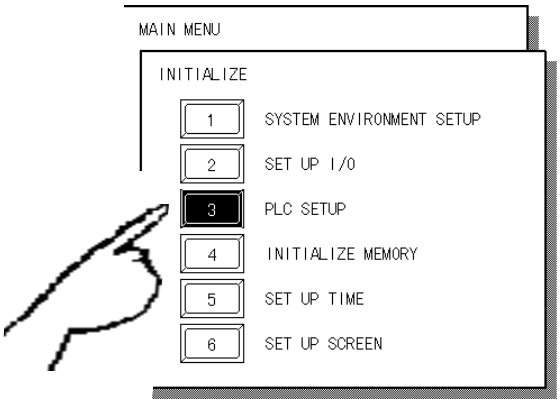
Reference *Offline mode -> refer to each Users' manual, Chapter 4 Offline Mode*

Careful! *[Monitor is Registered] is preinstalled as the initial value.*

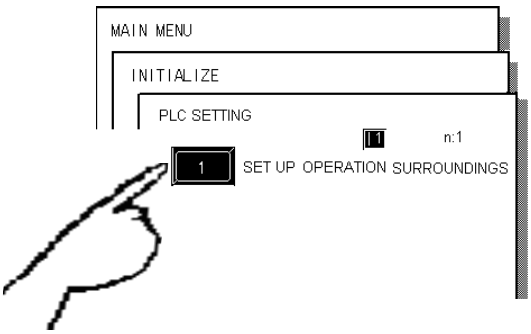
When a PLC has 2 or more communication units (CCUs) installed with one CPU, and each of those CCUs is connected to a GP, be sure this setting is [OFF].



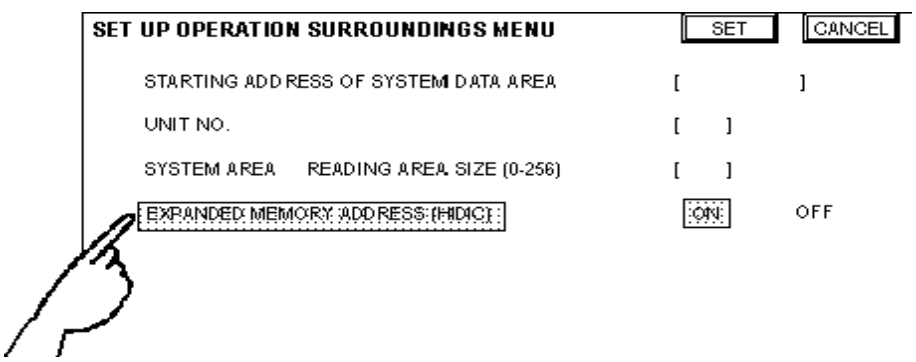
① Touch item #1, INITIALIZE. The INITIALIZE menu will appear.



② Touch item #3, PLC SETUP. The PLC SETTING menu will appear.



③ Touch selection [1:1] and then item #1, SET UP OPERATION SURROUNDINGS. The selected option is then highlighted.



④ Touch MONITOR REGISTER and the text will change to reverse video to show it has been selected.

⑤ When the PLC has only a single (1) communication unit (CCU), which is attached to a single GP, select [ON]. When a PLC has 2 or more communication units (CCUs) installed with one CPU, and each of the CCUs is connected to a GP, select [OFF].

2.7.4 Environment Setup

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

■ FP1 (using CPU Upper Link I/F)

GP Setup		Computer Communication Unit Setup	
Baud Rate	19200 bps	Baud Rate	19200 bps
Data Length	8 bits	Data Bit	8 bits
Stop Bit	1 bit	Stop Bit	1 bit
Parity Bit	Odd	Parity Bit	Odd
Data Flow Control	ER Control	---	
Communication Format	RS-232C	---	
---		RS-232C port Operation Select	1 (Computer Link)
---		RS-422 port Unit No.	1
Unit No.	1	Unit No.	1

■ FP1 (CPU Direct Connection)

GP Setup		Computer Communication Unit Setup	
Baud Rate	19200 bps	---	
Data Length	8 bits (fixed)	---	
Stop Bit	1 bit (fixed)	---	
Parity Bit	Odd (fixed)	---	
Data Flow Control	ER Control	---	
Communication Format	4-wire type *1	---	
---		RS-232C Port Operation Selection	1 (computer link)
---		RS-422 Port Unit No.	1
Unit No.	1 (fixed)	---	

**1 If an RS-422/232C conversion adapter is in use, set the communication format to "RS-232C".*

■ FP3/FP5/ FP10(S) (When using Computer Communication Unit)

GP Setup		Computer Communication Unit Setup	
Baud Rate	19200 bps	Baud Rate	19200 bps
Data Length	8 bits	Data Bit	8 bits
Stop Bit	1 bit	Stop Bit	1 bit
Parity Bit	Odd	Parity Bit	Odd
Data Flow Control	ER Control	Control Signal *1	Make CS/CP ineffective
Communication Format	RS-232C	---	
Unit No.	1	Station No.	1

**1 The FP-10(S) does not have the Control Signal setting.*

■ FP10(S) /FP10SH /FP2(When using COM Port)

GP Setup		COM Port Setup	
Baud Rate	19200 bps	Baud Rate	19200 bps *1
Data Length	8 bits	Data Bit	8 bits
Stop Bit	1 bit	Stop Bit	1 bit
Parity Bit	Odd	Parity Bit	Odd
Data Flow Control	ER Control	---	
Communication Format	RS-232C	---	
Unit No.	1	Unit No.	1

**1 The FP10SH can also send data at 115200bps.*

■ FP2 (CPU Direct Connection)

GP Setup		Tool Port Setup	
Baud Rate	19200bps	Baud Rate	19200bps
Data Length	8bit	Run Mode Setting Switch	SW1:OFF
Stop Bit	1bit	Data Length	8bit
Parity Bit	Odd	————	
Data Flow Control	ER Control	————	
Communication Format	RS-232C	————	
Unit No.	1	Unit No.	1
————		Modem Connection	No Connection

■ FP-M (When using Serial Port Connector)

GP Setup		FPM Setup	
Baud Rate	19200 bps	Baud Rate	19200 bps
Data Length	8 bits	Data Bit	8 bits
Stop Bit	2 bits	Stop Bit	2 bits
Parity Bit	None	Parity Bit	None
Data Flow Control	ER Control	Start code End code	No STX CR
Communication Format	RS-232C	Communication Format	RS-232C
---		Selection of serial port operation	1 (computer link)
Unit No.	1	Station number	1

■ FP-M (When using a Programmable Connector)

GP Setup		FP-M Setup	
Baud Rate	19200 bps	Baud Rate	19200 bps
Data Length	8 bits	Data Bit	8 bits
Stop Bit	1 bit (fixed)	---	
Parity Bit	Odd (fixed)	---	
Data Flow Control	ER Control	---	
Communication Format	RS-232C	---	
Unit No.	1	Station number	1

■ FPO (Using Link I/F on CPU)

GP Setup		FPO Setup	
Baud Rate	9600bps	Baud Rate	9600bps
Data Length	8bit	Data Length	8bit
Stop Bit	1bit	Stop Bit	1bit
Parity Bit	Odd	Parity Bit	Odd
Data Flow Control	ER Control	Data Flow Control	ER Control
Unit No.	1	Unit No.	1

■ FPO (CPU Direct connection)

GP Setup		FPO Setup	
Baud Rate	9600bps	Baud Rate	9600bps
Data Length	8bit	Data Length	8bit
Stop Bit	1bit (fixed)	Stop Bit	-------
Parity Bit	Odd (fixed)	Parity Bit	-------
Data Flow Control	ER Control	Data Flow Control	ER Control
Unit No.	1	Unit No.	1

■ FP Σ (Using Link I/F)

GP Setup		FPO Setup	
Baud Rate	9600bps	Baud Rate	9600bps
Data Length	8bits	Data Length	8bits
Stop Bit	1bit	Stop Bit	1bit
Parity Bit	Odd	Parity Bit	Odd
Data Flow Control	ER Control	Data Flow Control	ER Control
Unit No.	1	Unit No.	1
Communication Format	RS-232C	-------	-------