

Device/PLC Connection Manuals



About the Device/PLC Connection Manuals

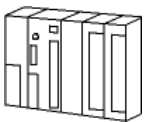



Prior to reading these manuals and setting up your device, be sure to read the "Important: Prior to reading the Device/PLC Connection manual" information. Also, be sure to download the "Preface for Trademark Rights, List of Units Supported, How to Read Manuals and Documentation Conventions" PDF file.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

7.6 Meidensha

7.6.1 System Structure

This section explains the system structure for the Ethernet connection between a Meidensha PLC and the GP/GLC.

■ UNISEQUE Series

PLC	Link I/F	Cables	Optional Ethernet I/F unit	GP/GLC
	 Ethernet Unit			
UNISEQUE RC100	RM105	Ethernet cable conforming to IEEE802.3	Digital's GP Ethernet I/F unit GP070-ET41 GP-377R Series Multi Unit E GP377-MLTE11 GP377-MLTE41 GP77R Series Multi Unit E GP077-MLTE41	GP/GLC Series ^{*1}
UNISEQUE ADC4000	AM417			
UNISEQUE ADC7000				

**1 For the applicable GP/GLC series units, the applicability of the optional Ethernet I/F unit, and the availability of the built-in Ethernet port are listed below.*

Series Name		Product Name	Optional Ethernet I/F Unit	Built-in Ethernet Port
GP77R Series	GP-377R Series	GP-377RT	○ ^{*1 *2}	x
	GP-477R Series	GP-477RE	○ ^{*2}	x
	GP-577R Series	GP-577RS	○ ^{*2}	x
		GP-577RT	○ ^{*2}	x
GP2000 Series	GP-2300 Series	GP-2300L	x	○
		GP-2300S	x	○
		GP-2300T	x	○
	GP-2400 Series	GP-2400T	x	○
		GP-2500 Series	GP-2500L	○ ^{*3 *4}
			GP-2500S	○ ^{*3 *4}
			GP-2500T	○ ^{*3 *4}
	GP-2501 Series	GP-2501L	○ ^{*2 *3}	x
		GP-2501S	○ ^{*2 *3}	x
		GP-2501T	○ ^{*2 *3}	x
	GP-2600 Series	GP-2600T	○ ^{*3 *4}	○
	GP-2601 Series	GP-2601T	○ ^{*2 *3}	x
GLC2000 Series	GLC-2300 Series	GLC-2300L	x	○
		GLC-2300T	x	○
	GLC-2400 Series	GLC-2400T	x	○
	GLC-2500 Series	GLC-2500T	○ ^{*3 *4}	○
	GLC-2600 Series	GLC-2600T	○ ^{*3 *4}	○
ST Series		ST403	x	○

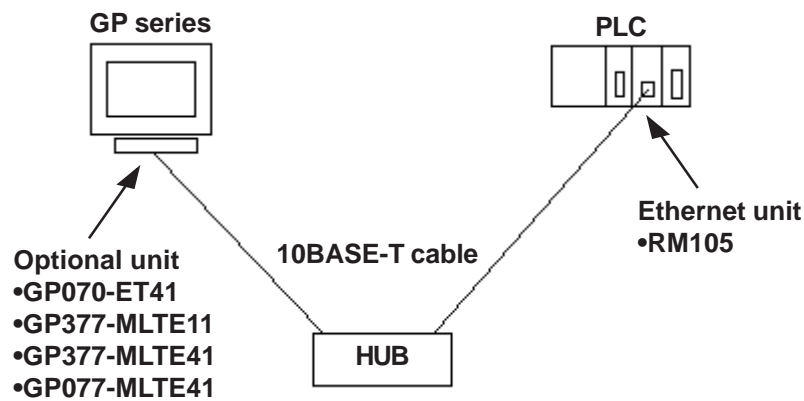
- *1 Only Multi unit can be used.
- *2 The 2-Way Driver (Pro-Server, GP-Web and others) cannot be used.
- *3 When using optional Ethernet I/F unit, a bus conversion unit (PSL-CONV00) is required.
- *4 Using the optional Ethernet I/F Unit allows you to set up separate Class and Net No.s for 2-Way Driver applications (Pro-Server, GP-Web and others) and the PLC. When doing this, data transfer with the PLC is performed through the optional Ethernet I/F Unit.



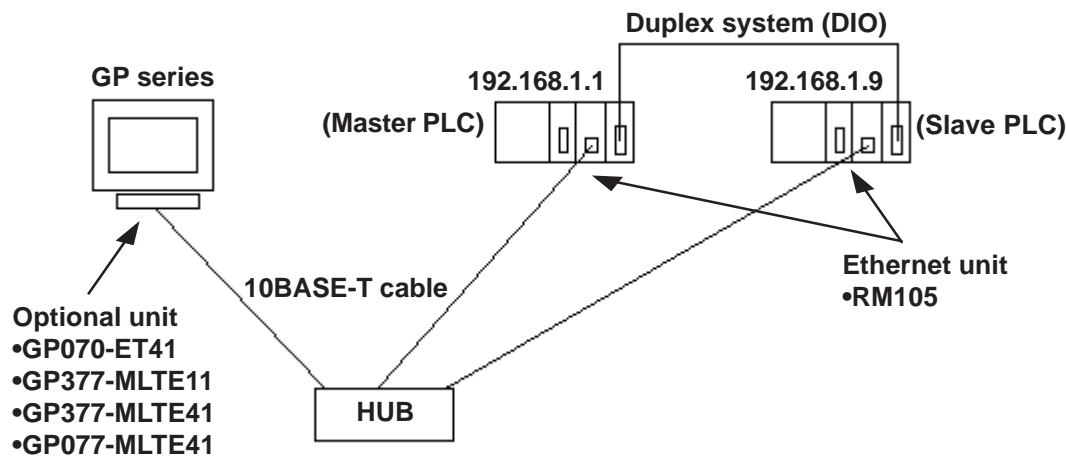
- **Note:** For cable connections, refer to the user's manual for each optional unit. For the GP2000 and GLC2000 series, refer to the user's manual for that unit.

◆ Connection Structure

<1 : 1 connection>



< Duplex system connection >



- Note:**
- The IP address of the Slave PLC is that of the Master PLC plus 8. For example, when the IP address of the Master PLC is 192.168.1.1, the IP address of the Slave PLC is 192.168.1.9. The GP ignores any UDP broadcast data other than that to the specified IP address.

For further information about a duplex system, refer to the PLC's user's manual.

7.6.2 Supported Devices

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

■ UNISEQUE Series

 Setup System Area here.

Device	Bit Address	Word Address	Other	
Memory	00000 ~ 1FFFF	0000 ~ 1FFF		L/H



- Note:**
- The address range(s) available will vary depending on the CPU used. Be sure to check this information in your CPU's manual prior to creating your system.

7.6.3 Environment Setup

■ GP Settings

The following describes GP settings for using Ethernet communication.

◆ SETUP OPERATION SURROUNDINGS MENU

SETUP OPERATION SURROUNDINGS MENU

RETURN

1 SETUP OPERATION SURROUNDINGS

2 SETUP ETHERNET INFORMATION

3 SETUP ETHERNET EXT. INFORMATION

◆ SETUP ETHERNET INFORMATION

Select "SETUP ETHERNET INFORMATION" and enter each parameter.

SETUP ETHERNET INFORMATION

SET CANCEL

SRC IP ADDRESS [] . [] . [] . []

SRC PORT NO. []

DEST IP ADDRESS [] . [] . [] . []

1 2 3 4 5 6 7 8 9 0 BS

← →

SRC IP ADDRESS

Enter the GP's SRC IP Address. Enter a dot between every 8 bits to divide the IP Address (32 bits all together) into four groups, and enter decimal numbers in each group.

SRC PORT NO.

Set the SRC Port No. between 1024 and 65535.

DEST IP ADDRESS

Set the PROSEC's DST IP Address.



- Regarding the IP Address and the Port No., please confirm these points with your Network supervisor. You must not duplicate the number you have already used for an IP Address setting.



- When using the built-in Ethernet port on a GP2000 or GLC2000 series unit, be sure not to set any duplicate "SRC PORT No." values. Check the 2-Way Driver's "SRC PORT No." setting via the following menu:

GP OFFLINE mode's Main menu [INITIALIZE] -> [SETUP OPERATION SURROUNDINGS] -> [EXTENDED SETTINGS] -> [SETUP ETHERNET INFORMATION].

The default value is 8000. The 2-Way Driver uses this port and the following 9 ports.

◆ SETUP ETHERNET EXT. INFORMATION

SEND WAIT TIME

You can display the waiting time while GP's command is actually sent. This function is useful when there is a lot of traffic in your system. If not used, set it to "0".

TIMEOUT

You can set the time for waiting for a reply from the destination. If any reply is not made by the destination within the time you set, a communication timeout will occur. "0" setting is the default value as 15 second-setting for timeout.

IP ROUTER ADDRESS

Set Router's IP Address. (There is only one setting for Router.) If not used, set all values to "0".

SUBNET MASK

Set the Subnet Mask. If not used, set all values to "0".

UDP RETRY COUNT (0 to 255)

This setting cannot be used, and the setting value is disabled.



- If you initialize GP/GLC memory from the OFFLINE mode, some values may revert to the factory settings. Please confirm all values after initialization.

■ PLC Unit Setup

◆ UNISEQUE Series

GP Setup		PLC Setup	
IP address of user's station	IP address of GP	---	---
Port No. of user's station	IP address of GP	---	---
IP address of destination	IP address of PLC	IP address	IP address of PLC
---	---	Port No. TCP	20010 (fixed)
---	---	Port No. UDP	20050 (fixed)
---	---	Broadcast	Available/unavailable

*1 For the setting values, check with the network administrator.

*2 If the built-in Ethernet port is used on the GP2000 or GLC2000 series, check that the "Port No. of user's station" is not duplicated with the port No. for the 2-Way Driver.

The port No. for the 2-Way Driver can be checked by selecting [INITIALIZE] -> [SETUP OPERATION SURROUNDINGS] -> [EXTENDED SETTINGS] -> [SETUP ETHERNET INFORMATION]. The default value is 8000. The 2-Way Driver uses 10 continuous ports (8000 to 8009) starting with the default setting.

*3 If a duplex system connection is used, specify the IP address of the Master PLC.

The GP automatically recognizes the IP address of the Slave PLC. Therefore, specify the IP address of the Slave PLC by adding 8 to the IP address of the Master PLC.

Example:

IP address of Master PLC: 192.168.0.1

IP address of Slave PLC: 192.168.0.9

7.6.4 Error Codes

Reference For error codes specific to the GP Ethernet, refer to the "Protocol Stack Error Codes".

■ PLC SPECIFIC ERROR CODES

An error code specific to the PLC is displayed in the lower left corner of the GP/GLC screen like "Host communication error (02:**) " (**) stands for the error code specific to the PLC).

◆ UNISEQUE Series

Error Code	Description	Status
05	Illegal access	Addressing is illegal.
08	Error mode	The CPU is disabled for transmission (e.g., because the PLC's ladder program stops).



7.9 Protocol Stack Error Codes

Protocol Stack Error Codes are displayed on the GP as follows.

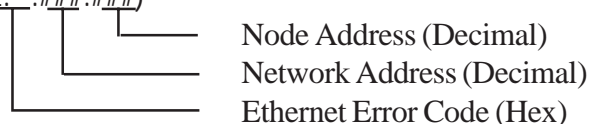
Host communication error (02:FE:**)

** represents one of the following error codes, from 00 to F0.

Error Code	Description	Notes
00	There is a setup error related to the IP address of your station at initialization.	
05	Initialization has failed.	
06	Cancelling of communications has failed.	
07	An attempt was made to establish a connection before initialization was successfully completed.	
08	Your station's port number is incorrect	
09	The destination station's port number is incorrect.	
0A	The IP address of the other station is incorrect.	
0B	The same port number is already being used by UDP for establishing the connection.	
0C	The same port number is already being used by TCP for establishing the connection.	
0D	Protocol stack has refused connection establishment.	
0E	Protocol stack has returned the unsuccessful establishment of a connection.	
0F	The connection has been shut down.	
10	All connections are busy. No connection is available.	
13	Your station was aborted by a different station.	
30	There was no reply from the protocol stack.	
32	There was no reply from the other station.	*1 *2
40	No network information exists for the designated node.	*1
41	I/O memory type of the random read-out response data is incorrect.	*1
42	Network information does not exist.	
F0	Undefined error.	

- *1 When using an OMRON Corporation CS1/CJ/CJ1M Series unit, the error code will appear on the GP screen as shown below. Also, behind the Ethernet error code will appear the designated Network and Node addresses.

Host Communication Error (02:FE:**:###:###)



- *2 When using a Hitachi Industrial Equipment Corporation's HIDIC H Series or a Schneider Corporation MODBUS TCP unit, the error code will appear on the GP screen as shown below. Also, behind the Ethernet error code will appear the designated Node address.

Host Communication Error (02:FE:**:###:###)

