

Device/PLC Connection Manuals



About the Device/PLC Connection Manuals

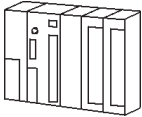


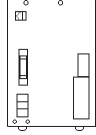
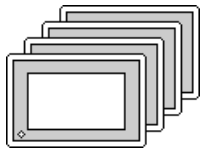
Prior to reading these manuals and setting up your device, be sure to read the "Important: Prior to reading the Device/PLC Connection manual" information. Also, be sure to download the "Preface for Trademark Rights, List of Units Supported, How to Read Manuals and Documentation Conventions" PDF file.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

7.2 Mitsubishi Electric

7.2.1 System Structure

This section explains the system structure for the Ethernet connection between a PLC made by Mitsubishi Electric and the GP.

■ MELSEC-A Series/AJ71E71, A1SJ71E71 (using Ethernet Unit)

| CPU | Link I/F | Cable Diagram | Cables | Unit | GP/GLC |
|---|--|---|--|--|---|
|  |  Ethernet Unit |  | |  |  |
| A2A, A3A, A2N, A2U-S1 | AJ71E71 | | Ethernet cable (conforming to the IEEE802.3) | Digital's GP Ethernet I/F Unit (GP070-ET11/GP070- ET41) | GP/GLC Series ^{*1} |
| A2US | A1SJ71E71 | | | GP77R Series Multi Unit E (GP077-MLTE11) GP-377R Series Multi Unit (GP377-MLTE11) | |

**1 Refer to the following table for compatible GP/GLC units and Ethernet connection information.*

| Series Name | | Product Name | Optional Ethernet I/F Unit | Built-in Ethernet Port |
|----------------|-----------------|--------------------|----------------------------|------------------------|
| GP70 Series | GP-470 Series | GP-470E | ○ | x |
| | GP-570 Series | GP-570S | ○ | x |
| | | GP-570T | ○ | x |
| | | GP-57JS | ○ | x |
| | | GP-570VM | ○ | x |
| | GP-571 Series | GP-571T | ○ | x |
| | GP-675 Series | GP-675S | ○ | x |
| | | GP-675T | ○ | x |
| GP-870 Series | GP-870VM | ○ | x | |
| 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 the Multi unit can be used.

*2 The 2-Way Driver (Pro-server, GP-Web and others) cannot be used.

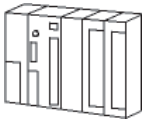


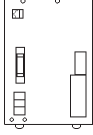
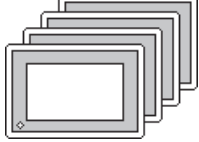
*3 When using the optional Ethernet I/F unit, a bus conversion unit (PSL-CONV00) is required.

*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.



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

■ MELSEC-Q Series

| CPU | Link/I/F | Cable Diagram | Cables | Unit | GP/GLC |
|---|--|--|--|---|---|
|  |  Ethernet Unit |  | |  |  |
| Q00CPU Q01CPU Q00JCPU Q02CPU Q02HCPU Q06HCPU Q12HCPU Q25HCPU | QJ71E71 QJ71E71-B2 QJ71E71-100 | | Ethernet cable (conforming to the IEEE802.3) | Digital's GP Ethernet I/F Unit GP070-ET11 GP070-ET41 GP377-MLTE11 GP377-MLTE41 GP077-MLTE41 | GP/GLC Series *1 |

*1 Refer to the following table for compatible GP/GLC units and Ethernet connection information.

| 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.

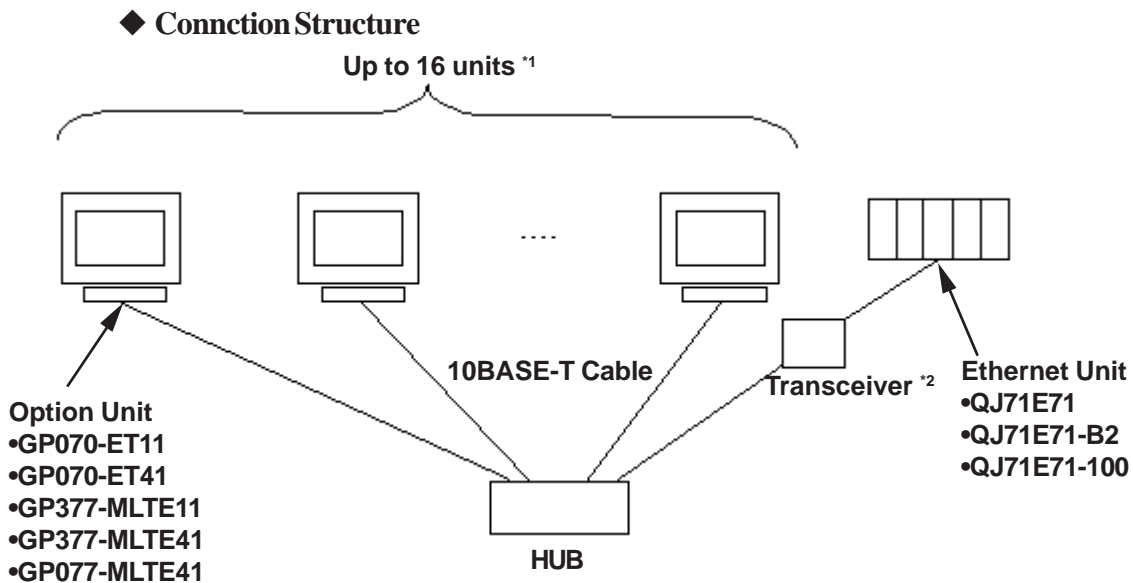
*2 The 2-Way Driver (Pro-Server, GP-Web and others) cannot be used.

*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.



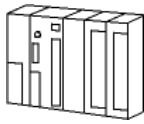



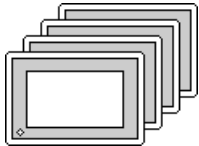
Note: • For cable connections, refer to the user's manual for each optional unit. For the GP2000 and GLC2000 series, however, refer to the user's manual for the main unit.



*1 When transmitting data via the PLC's OPEN Setting feature instead of the Auto OPEN UDP Port feature, up to 16 GP units can be connected. Also, when using the PLC's Auto Open UDP Port feature, there is no limitation for the number of GP units that can be connected.

*2 When using a 10BASE-5 or a 10BASE-2 cable with the Mitsubishi PLC, use a transceiver to connect this cable with the 10BASE-T cable.

■ MELSEC-QnA Series

| CPU | Link I/F | Cable Diagram | Cables | Unit | GP/GLC |
|---|--|--|--|---|---|
|  |  Ethernet Unit |  | |  |  |
| Q2A Q2A-S1 Q3A Q4A Q4AR | AJ71QE71 AJ71QE71-B5 | | Ethernet cable (conforming to the IEEE802.3) | Digital's GP Ethernet I/F Unit GP070-ET11 GP070-ET41 GP377-MLTE11 GP377-MLTE41 GP077-MLTE41 | GP/GLC Series ^{*1} |
| Q2AS Q2AS-S1 Q2ASH Q2ASH-S1 | A1SJ71QE71-B2 A1SJ71QE71-B5 | | | | |

**1 Refer to the following table for compatible GP/GLC units and Ethernet connection information.*

| 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.*

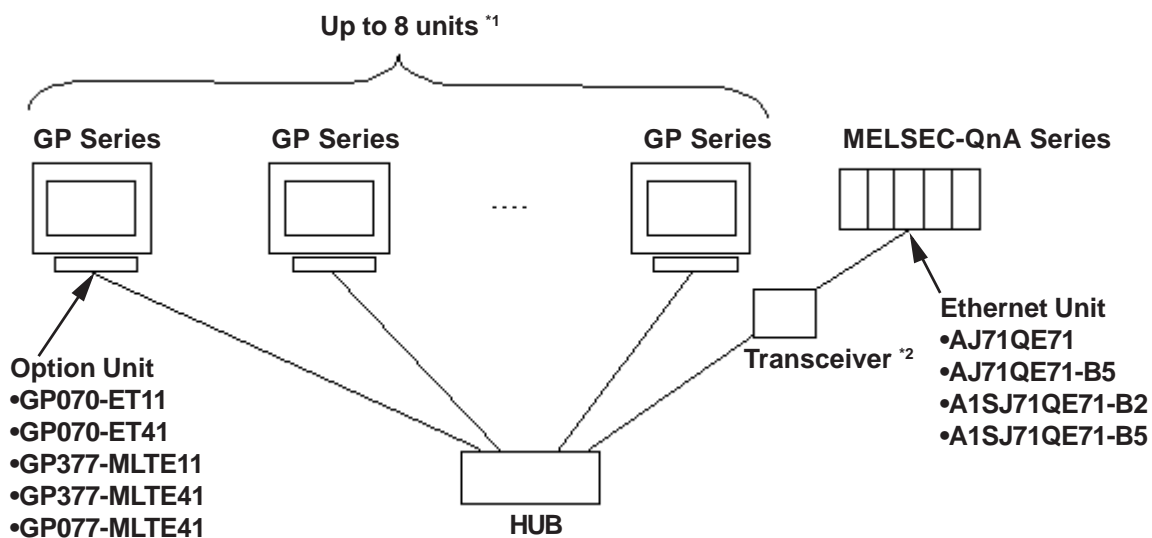
**3 When using optional Ethernet I/F unit, a bus conversion unit (PSL-CONV00) is required.*

**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, however, refer to the user's manual for the main unit.

◆ Connection Structure



*1 When transmitting data via the PLC's OPEN Setting feature instead of the Auto OPEN UDP Port feature, up to 8 GP units can be connected. Also, when using the PLC's Auto Open UDP Port feature, there is no limitation for the number of GP units that can be connected.










*2 When using a 10BASE-5 or a 10BASE-2 cable with the Mitsubishi PLC, use a transceiver to connect this cable with the 10BASE-T cable.

7.2.2 Supported Devices

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

■ MELSEC-A Series

 Setup System Area here.

| Device | Bit Address | Word Address | Particulars | |
|-------------------------|-----------------|-----------------|---|-----|
| Input Relay | X0000 - X1FFF | X0000 - X07F0 |  | L/H |
| Output Relay | Y0000 - Y1FFF | Y0000 - Y07F0 |  | |
| Internal Relay | M0000 - M8191 | M0000 - M8176 |  | |
| Latch Relay | L0000 - L8191 | --- | | |
| Special Relay | M9000 - M9255 | M9000 - M9240 |  | |
| Annunciator | F0000 - F2047 | F0000 - F2032 |  | |
| Link Relay | B0000 - B0FFF | --- | | |
| Timer (contact) | TS0000 - TS2047 | --- | | |
| Timer (coil) | TC0000 - TC2047 | --- | | |
| Counter (contact) | CS0000 - CS1023 | --- | | |
| Counter (coil) | CC0000 - CC1023 | --- | | |
| Timer (current value) | --- | TN0000 - TN2047 | | |
| Counter (current value) | --- | CN0000 - CN1023 | | |
| Data Register | --- | D0000 - D6143 |  | |
| Special Register | --- | D9000 - D9255 |  | |
| Link Register | --- | W0000 - W0FFF |  | |
| File Register | --- | R0000 - R8191 |  | |



Note: The range of supported devices may differ depending on your CPU. For the range of supported devices for each CPU, refer to the User's Manual for Model AJ71E71 Interface Unit by Mitsubishi Electric.

■ MELSEC-Q/MELSEC-QnA Series

 Setup System Area here.

| Device | Bit Address | Word Address | Particulars | |
|---------------------------------|-------------------|-------------------|-------------|-----|
| Input Relay | X0000 ~ X1FFF | X0000 ~ X1FF0 | | L/H |
| Output Relay | Y0000 ~ Y1FFF | Y0000 ~ Y1FF0 | | |
| Internal Relay | M0000 ~ M32767 | M0000 ~ M32752 | | |
| Special Relay | SM0000 ~ SM2047 | SM0000 ~ SM2032 | | |
| Latch Relay | L0000 ~ L32767 | L0000 ~ L32752 | | |
| Annunciator | F0000 ~ F32767 | F0000 ~ F32767 | | |
| Edge Relay | V0000 ~ V32767 | V0000 ~ V32752 | | |
| Step Relay | S0000 ~ S8191 | S0000 ~ S8176 | | |
| Link Relay | B0000 ~ B7FFF | B0000 ~ B7FF0 | | |
| Special Link Relay | SB000 ~ SB7FF | SB000 ~ SB7F0 | | |
| Timer (contact) | TS00000 ~ TS23087 | _____ | | |
| Timer (Coil) | TC00000 ~ TC23087 | _____ | | |
| Aggregate Timer (contact) | SS00000 ~ SS23087 | _____ | | |
| Aggregate Timer (coil) | SC00000 ~ SC23087 | _____ | | |
| Counter (contact) | CS00000 ~ CS23087 | _____ | | |
| Counter (coil) | CC00000 ~ CC23087 | _____ | | |
| Timer (current value) | _____ | TN00000 ~ TN23087 | | |
| Aggregate Timer (current value) | _____ | SN00000 ~ SN23087 | | |
| Counter (current value) | _____ | CN00000 ~ CN23087 | | |
| Data Register | _____ | D00000 ~ D25983 | | |
| Special Register | _____ | SD0000 ~ SD2047 | | |
| Link Register | _____ | W0000 ~ W657F | | |
| Special Link Register | _____ | SW000 ~ SW7FF | | |
| File Register (Normal) | _____ | R0000 ~ R32767 | | |
| File Register (Serial) | _____ | 0R0000 ~ 0R7FFF | | |
| | _____ | 1R0000 ~ 1R7FFF | | |
| | : | : | : | |
| | _____ | 30R0000 ~ 30R7FFF | | |
| | _____ | 31R0000 ~ 31R67FF | | |



- **The device ranges given here show the maximum range available for each parameter setting.**
- **When using File Registers, depending on the type of unit used, a PLC Memory Card may be required. Depending on the size of the Memory Card, the device ranges will change. For details, refer to Mitsubishi Electric Co., Ltd's User's Manual.**
- **When using the QnA series unit's File Registers, depending on the QnA unit's CPU version, certain usage restrictions will apply. For details, refer to Mitsubishi Electric Co., Ltd.'s User's Manual for QnA Series.**

- **DEST PORT NO.**

Enter the port number of the other station in the range from 1024 to 65535. (1025 to 65534, for MELSEC QnA and Q Series units)

- **PROTOCOL TYPE**

You can select either UDP or TCP communication. If the power will be turned ON/OFF synchronously, it is recommended that you use UDP communications.



For the IP addresses, check with the network manager. Do not specify any duplicate IP address.



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 (8000 ~ 8009). Be sure not to use Port No.s 5001 and 5002, since they are used by the PLC's Ethernet Unit.

◆ **SET UP NETWORK EXT. INFORMATION**

| SETUP NETWORK EXT. INFORMATION | | | | | | | | | | | | SET | CANCEL | |
|--------------------------------|---|---|---|----------|---|---|---|---|---|---|---|-----|--------|---|
| SEND WAIT TIME | [| |] | (ms) | | | | | | | | | | |
| TIMEOUT | [| |] | (x 2sec) | | | | | | | | | | |
| IP ROUTER ADDRESS | [| |] | . | [| |] | . | [| |] | . | [| |
| SUBNET MASK | [| |] | . | [| |] | . | [| |] | . | [| |
| UDP RETRY COUNT(0-255) | [| |] | | | | | | | | | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | | ↑ | ↓ |
| | | | | | | | | | | | | | ← | → |

- **SEND WAIT TIME (0 to 255)**

Wait time can be added when a command is transmitted from the GP. Use the wait time if the traffic on the communications line is heavy. If no wait time is required, enter "0."

- **TIMEOUT (0 to 65535)**

Enter the desired timeout value. If no response is received from the other station within the specified time, a timeout occurs. If “0” is specified, the default time is 15 seconds when it is TCP communication, and is 5 seconds when it is UDP communication.

- **IP ROUTE ADDRESS**

Enter the IP address of the router (only one). If no router is used, enter “0” in all fields.

- **SUBNET MASK**

Enter subnet masks. If no subnet mask is used, enter “0” in all fields.

- **UDP RETRY COUNT (0 to 255)**

Designates the number of times the GP re-sends a command when there is no reply from the other port and a timeout occurs. When no reply is received after the re-try setting number is reached, an error message will appear on the GP screen.



If the memory is initialized in the OFFLINE mode, random values may be included. Be sure to check the displayed values.

◆ **SET UP OPERATION SURROUNDINGS**

| | | | | | | | | | | | | | | | | | |
|--|----|----|----|----|----|----|----|----|---|---|--|--|--|--------|---|--------|--|
| SET UP OPERATION SURROUNDINGS | | | | | | | | | | | | | | SET | | CANCEL | |
| STARTING ADDRESS OF SYSTEM DATA AREA | | | | | | | | | | | | | | [] | | | |
| SYSTEM AREA READING AREA SIZE (0-256) | | | | | | | | | | | | | | [] | | | |
| DATA CODE | | | | | | | | | | | | | | BINARY | | ASCII | |
| RESET GP DATA WRITE ERROR | | | | | | | | | | | | | | ON | | OFF | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | | | | ↑ | ↓ | BS | |
| | 1D | 2D | 3D | 4D | 1B | 2B | 3B | 4B | | | | | | ← | → | | |


- **DATA CODE (Set only when connecting to a MELSEC-Q Series and MELSEC-QnA Series)**

This selection controls the type of DATA CODE settings used. Select either BINARY or ASCII, and confirm that the PLC settings are the same.

■ Sample Ladder Program

◆ MELSEC-A Series (Ethernet interface unit: AJ71E71)

PLC's Ladder Program is needed to communicate with the GP.

Reference  For the complete details of settings, refer to the user's manual for Model AJ71E71 Ethernet Interface Unit (Mitsubishi Electric).

The following is a sample ladder.

<Sample Ladder>

```
LD      M9038
DMOVP  Hxxxxxxx      D100 (IP address of PLC) *1
MOV    K0      D102
MOV    H0100   D116 (Settings for UDP communications)
MOV    K1024   D124 (Port number of PLC)
MOV    K1024   D127 (Port number of GP)
DMOV   Hxxxxxxx D125 (IP address of GP) *1
DMOV   HFFFFFFF D128
MOV    HFFFF   D130
LD      M9036
TOP    H0000 H0000 D100 K50
LD      X0019
MOV    K5      D113
TOP    H0000 K13 D113 K1
LD      M9036
OUT    Y0019
LD      M9036
OUT    Y0008
END
```

*1 For the IP addresses, check with the network manager. "xxxxxxx" stands for an IP address in the hexadecimal notation. Do not specify any duplicate addresses.



Be sure that any addresses (D...) used in the communications settings for the PLC are not the same as the first address of the system on the GP.

◆ MELSEC-Q Series

Prior to GP starting GP communication, the MNET/10H Ethernet settings must be set in the PLC's ladder logic software. The setting values are as shown below.

1. Network Parameter MNET/10H Ethernet Settings
2. Ethernet Operation Settings
3. OPEN Settings

1. Network Parameter MNET/10H Ethernet Settings

| Items | PLC Settings |
|------------------------|--------------------------|
| Network Classification | Ethernet |
| First I/O No. | Any number ^{*1} |
| Network No. | Any number ^{*1} |
| Group No. | Any number ^{*1} |
| Machine No. | Any number ^{*1} |
| Mode | Online |

**1 This setting does not effect PLC/GP communication.*

2. Ethernet Operation Settings



Recommended Settings

| Items | PLC Settings | | Remarks |
|---------------------------------------|--------------------------|-------------------------|---|
| | BINARY Code | ASCII Code | |
| Data Code Settings | BINARY Code | ASCII Code | Should be same as GP unit's data Code Settings. |
| Initial Timing Settings | Not waiting for OPEN | Always waiting for OPEN | |
| IP Address Settings | Any number ^{*1} | | |
| Write Possible in RUN mode | Not allowed | Allowed ^{*2} | |
| Send Frame Settings | Ethernet (V2.0) | | |
| TCP Confirming Settings ^{*3} | KeepAlive | Ping | Both can be used. |

**1 Please contact your computer network supervisor to confirm your setting data.*

**2 When performing Write from a GP in RUN mode, set the Write Possible in RUN mode to "Allowed".*

**3 This setting does not effect PLC/GP communication.*

3. OPEN Settings

| Items | PLC Settings | | | | Remarks |
|---------------------------|----------------------------|-------------|--------------|--------------------|--|
| | TCP/IP | | UDP/IP | | |
| Protocol | TCP/IP | | UDP/IP | | Should be same as GP unit's Communication Format Settings. |
| OPEN Format ^{*1} | Active | Fullpassive | Unpassive | MELSOFT connection | Either Fullpassive or Unpassive can be used. |
| SRC Port No. | Any number ^{*2} | | | | Should be same as GP unit's DEST Port No. |
| DEST IP Address | Any number ^{*2*3} | | | | Should be same as GP unit's SRC IP Address. |
| DEST Port Address | Any number ^{*2*3} | | | | Should be same as GP unit's SRC Port No |
| Fixed Buffer | Transmission | | Subscription | | Independent of GP. |
| Fixed Buffer Method | Yes | | | | |
| Paring Open | Yes | | No | | Independent of GP. |
| Confirming | No | | Yes | | Both can be used. |

**1 Can be used only when Protocol is set to TCP/IP (Hexadecimal).*

**2 Please contact your computer network supervisor to confirm your setting data.*

**3 If OPEN Format is set to "Unpassive", this item does not need to be set*

When the Auto Open UDP Port feature is used, the Table 3. OPEN Settings are not needed. When these settings are used, however, the PLC's port number is 5000 (default setting).

Reference For details, refer to Mitsubishi Electric's Q and QnA Series Ethernet Interface User Manuals.

◆ MELSEC-QnA Series

PLC's Ethernet Unit Dipswitch Settings and a Ladder Program are needed to communicate with the GP.

Ethernet Unit Settings

• Operation Mode Setting Switch

| Contents | Settings |
|-------------------------|----------|
| Operation Mode Settings | 0:Online |

• Communication Condition Setting Switch

 Recommended Settings

| Switch | Contents | Settings | |
|---------|---|---|---|
| SW1 | Action performed when TCP/IP Timeout occurs | OFF:When TCP/IP Timeout Error occurs, the line is closed. | ON:When TCP/IP Timeout Error occurs, the line is not closed. |
| SW2 | Data Code Settings | OFF:BINARY Code | ON:ASCII Code |
| SW3 | Auto Start Settings | OFF:Perform action(s) defined in Y19. | ON:Regardless of Y19, after unit is turned ON again or is Reset, Initialization is performed. |
| SW4-SW6 | Cannot use (fixed to OFF) | | |
| SW7 | CPU Communication Timing Settings *1 | OFF:Write in RUN mode is Impossible. | ON:Write in RUN mode is Possible. |
| SW8 | Initial Timing Settings | OFF:Quick Start (start without time delay) | ON:Normal Start (Start after 20 seconds time delay) |

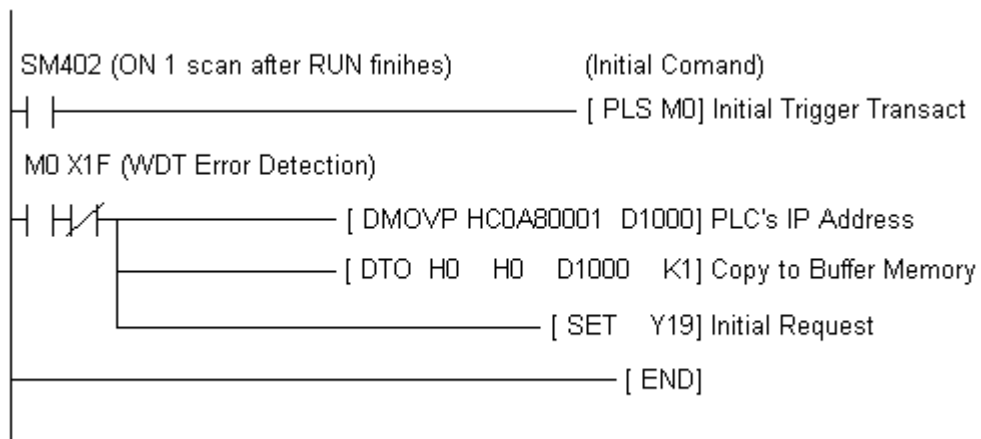
*1 When performing Write From GP in RUN mode, set the CPU Communication Timing Settings to ON.

Sample Ladder Program

This Sample Ladder Program is for communication via the Auto Open UDP Port No. (default:5000).

- PLC IP Address: 192.168.0.1
- PLC Port No.: 5000

When communicating via this function, the GP's IP Address and Port No. do not need to be set.



Reference

The sample ladder above is the minimum ladder to communicate with GP via UDP/IP. For details about error processing and TCP/IP communication, refer to Mitsubishi Electric Co., Ltd.'s User's manual for QnA Series Ethernet Interface Unit (Detail manual).

7.2.4 Error Codes

Reference *About the GP Ethernet Specific Error Codes, refer to the "Protocol Stack Error Codes".*

■PLC SPECIFIC ERROR CODES

PLC error codes are displayed by the “Host Communication Error (02:**:**)” and indicated in the left lower corner of the GP screen. (**:** indicates the PLC’s specific error codes)

| Error Code | Description | Status |
|------------|---------------------------|---|
| 0055 | Write error in RUN mode | Write in RUN mode is set to OFF. |
| 4031 | CPU Device Settings Error | Designated device is outside allowable range. |

Reference *For more details about error codes, refer to Mitsubishi Electric Co., Ltd.’s User’s Manuals for Q Series Ethernet Interface Unit and QnA Series Ethernet Interface Unit.*

7.9 Protocol Stack Error Codes

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

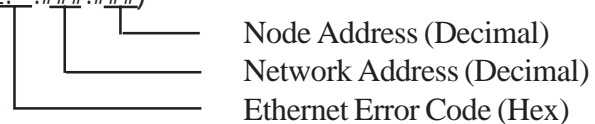
Host communication error (02:FE:**)

** 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:**:###:###)

