



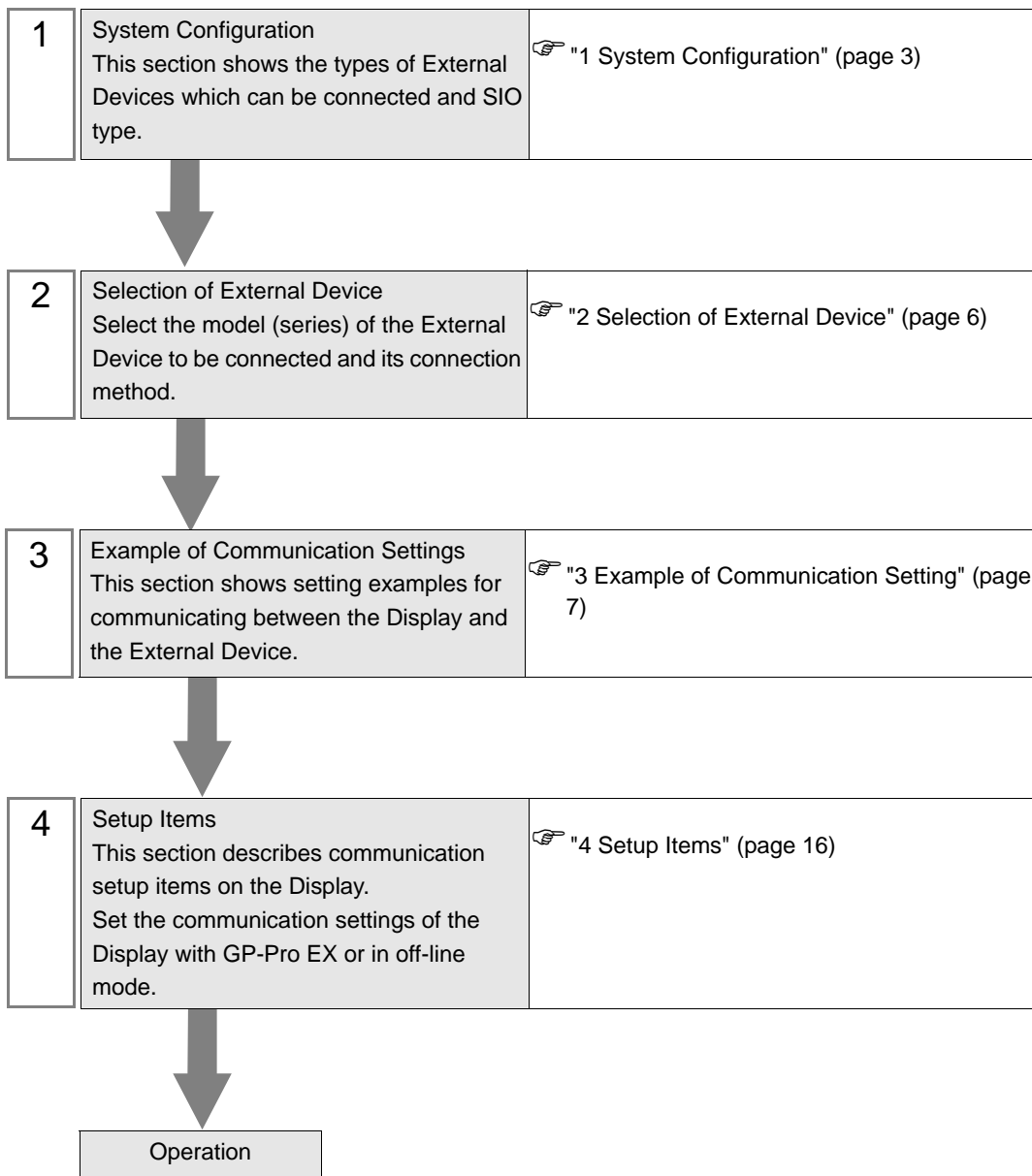
# Computer Link Ethernet Driver

|   |  |    |
|---|--|----|
| 1 | System Configuration.....              | 3  |
| 2 | Selection of External Device .....     | 6  |
| 3 | Example of Communication Setting ..... | 7  |
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| 6 | Device Code and Address Code.....      | 26 |
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## Introduction

This manual describes how to connect the Display and the External Device (target PLC).

In this manual, the connection procedure will be described by following the sections below:



# 1 System Configuration

The following shows the system configuration where the External Device of TOSHIBA Corporation and the Display are connected.

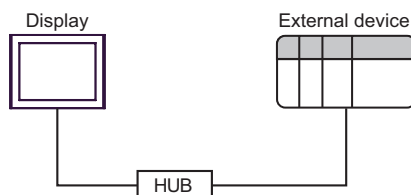
| Series Name | Model/CPU |  | Link I/F   | SIO Type       | Setting Example                |
|-------------|-----------|--|--|----------------|--------------------------------|
| T Series    | T2N       |  | PU-235N<br>PU-245N   | Ethernet (UDP) | Setting Example 1<br>(page 7)  |
|             | T3H       |  | EN311  |                | Setting Example 2<br>(page 9)  |
|             | S2T       |  | EN611<br>EN631<br>EN651A   |                | Setting Example 4<br>(page 14) |
| V Series    | Model2000 | S2PU22A<br>S2PU32A<br>S2PU72A<br>S2PU72D<br>S2PU82 | EN611<br>EN621<br>EB621<br>EN631<br>EN641<br>EB641<br>EN651A<br>EN661<br>FN661 | Ethernet (UDP) | Setting Example 3<br>(page 11) |
|             | Model3000 | S3PU21<br>S3PU45A<br>S3PU55A<br>S3PU55B<br>S3PU65A | EN711<br>EN721<br>EN731<br>EN741<br>EN751<br>EN761<br>FN711                    |                |                                |

**NOTE**

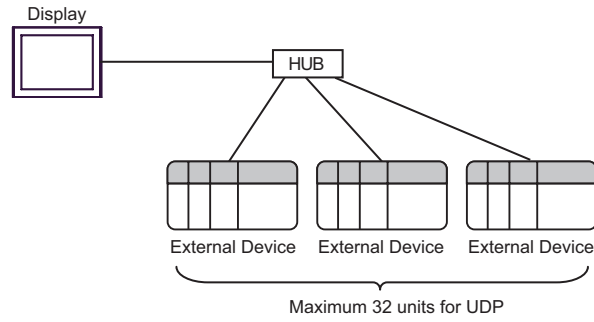
- The length of the communication cable depends on the I/F link to be used. Please refer to the manual of the External Device for details.

## ■ Connection Configuration

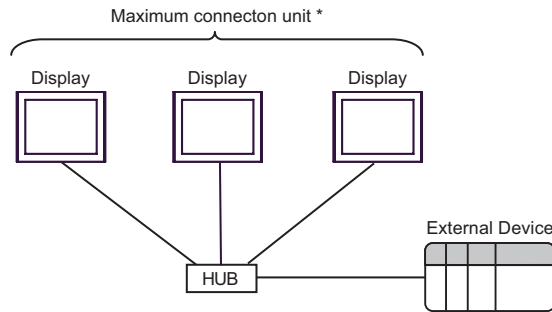
[1:1 Connection]



[1:n Connection]

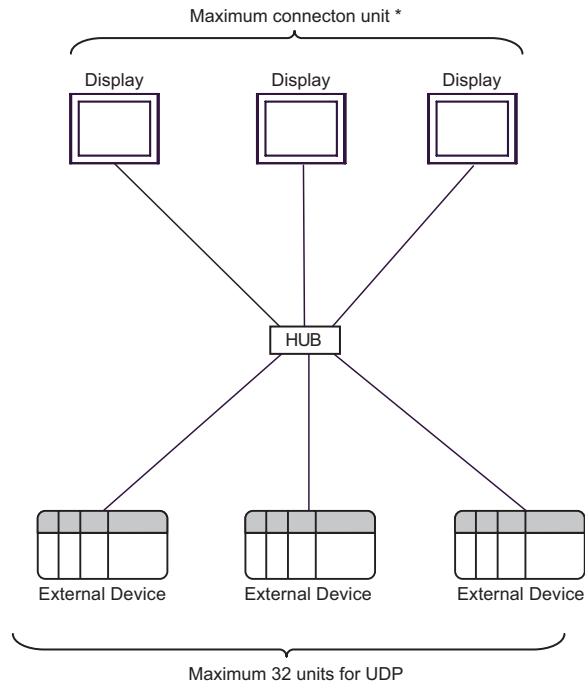


[[n:1 Connection]



\* For T Series, one External Device can connect to up to two Displays.  
 For V Series, there is no limit to the number of Displays that can be connected to one External Device.  
 Note that more Displays will result in increasing the communication load.

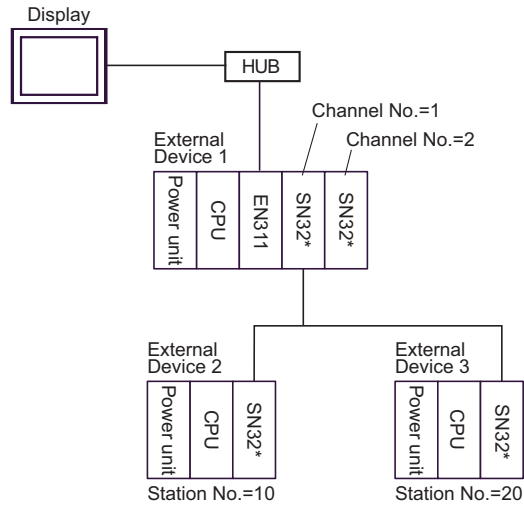
[[n:m Connection]



\* For T Series, one External Device can connect to up to two Displays.  
 For V Series, there is no limit to the number of Displays that can be connected to one External Device.  
 Note that more Displays will result in increasing the communication load.

[When using the gateway function]

Example)



**NOTE**

- The CPU available with External Device 1 is T3H (Firmware version 1.2 or later) only. For External Device 2 and 3, T3H or S2T only.
- Channel Nos. are assigned in order from near the CPU.
- Station Nos. can be set using the switch on the TOSLINE module (setting range: 1 to 64).

<Setting Example>

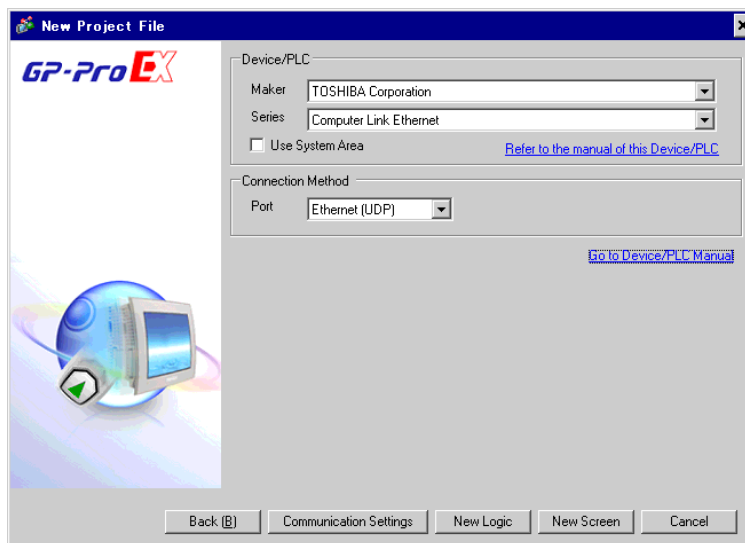
To access the above External Device 2 with station No. 10, check [Use gateway function] in the [Device-Specific Settings] window and then configure the following settings.

| Item        | Setting |
|-------------|---------|
| Channel No. | 1       |
| Station No. | 10      |

These settings provide access to External Device 2 via External Device 1.

## 2 Selection of External Device

Select the External Device to be connected to the Display.



| Setup Items     | Setup Description  |
|-----------------|--|
| Maker           | Select the maker of the External Device to be connected. Select "TOSHIBA Corporation".   |
| Series          | Select the model (series) of the External Device to be connected and its connection method. Select "Computer Link Ethernet".<br>Check the External Device which can be connected in "Computer Link Ethernet" in system configuration.<br>☞ "1 System Configuration" (page 3)   |
| Use System Area | Check this option when you synchronize the system data area of the Display and the device (memory) of the External Device. When they are synchronized, you can use the ladder program of the External Device to switch the display or to display the window on the Display.<br>Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"<br>This can also be set with GP-Pro EX or in off-line mode of the Display.<br>Cf. GP-Pro EX Reference Manual "5.14.6 Setting Guide of [System Setting Window], Setting Guide of [Main Unit Settings], System Area Setting"<br>Cf. Maintenance/Troubleshooting Manual "2.14.1 Common to the Display", Setting Guide of [Main Unit Settings], System Area Setting |
| Port            | Select the port of the Display to be connected to the External Device.   |

## 3 Example of Communication Setting

The following shows examples of communication settings of the Display and the External Device, which are recommended by Digital Electronics Corp.


### 3.1 Setting Example 1

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.

##### ◆ Device Setting

To display the setting screen, click  ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

## ■ Settings of External Device

To configure communication settings for the Ethernet unit, use the DIP switches on the Ethernet module, and the ladder software (T-PDS32 for Windows). Please refer to the manual of the External Device for more details on the settings.

### ◆ Using the DIP Switches for Settings

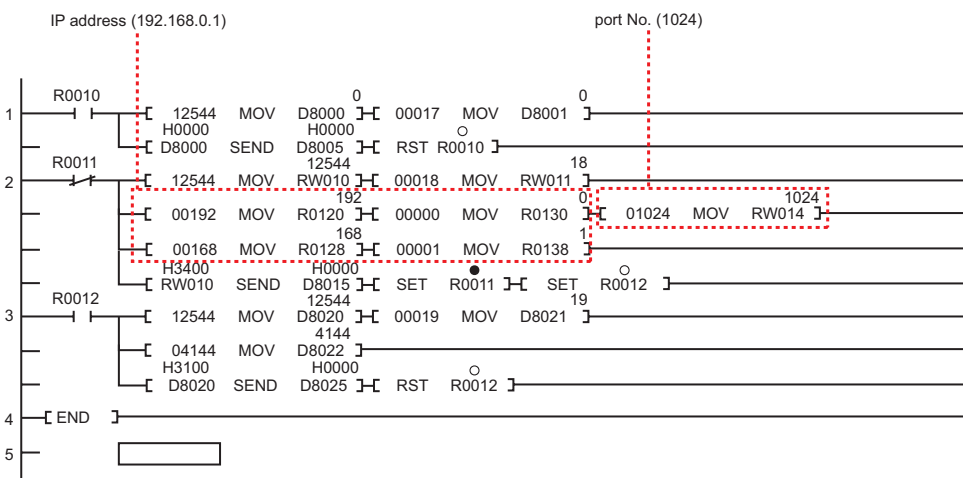
Set the DIP switches on the Ethernet module as shown below.

| DIP Switch | Settings | Setup Description                  |
|------------|----------|------------------------------------|
| SW01       | OFF      | Programmer (T-PDS)                 |
| SW02       | ON       | RAM                                |
| SW03       | OFF      | RUN                                |
| SW04       | OFF      | Computer link (communication port) |
| SW05       | OFF      |                                    |
| SW06       | OFF      | Odd parity (programmable port)     |

### ◆ Using the Ladder Software for Settings

1. Start up the ladder software.
2. From the [Option] menu, select [Connection Type].
3. In the [Connection Type] dialog box, select [Direct] and then click [Setting].
4. Select the connection port on the PC, and then click [OK].
5. From the [PLC] menu, select [Online/Offline] to switch to online mode.
6. From the [PLC] menu, select [I/O assign information] - [General I/O assign information].
7. In the [I/O assign information] dialog box, click [Auto assign] to register the I/O module installed in the slot.
8. Set the IP address and port No. of the External Device using the ladder program.

The following is an example where the IP address is set to "192.168.0.1", and the port No. to "1024".



9. Run the created ladder program to reflect the communication settings.

### ◆ Notes

- Check with the network administrator about the IP address.
- Be sure not to duplicate IP addresses on the same network.



## 3.2 Setting Example 2

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.

Device/PLC 1

Summary [Change Device/PLC](#)

Maker: TOSHIBA Corporation Series: Computer Link Ethernet Port: Ethernet (UDP)

Text Data Mode: 2 [Change](#)

Communication Settings

Port No.: 1024

Timeout: 3 (sec)

Retry: 2

Wait To Send: 0 (ms) [Default](#)

Device-Specific Settings

Allowable Number of Devices/PLCs: 32 [Settings](#)

| Number | Device Name |
|--------|-------------|
| 1      | PLC1        |

Series=T Series, IP Address=192.168.0.001, Port No.=1024, Use gateway func!

#### ◆ Device Setting

To display the setting screen, click ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

Individual Device Settings

PLC1

Series:  T Series  V Series

Please reconfirm all of address settings that you are using if you have changed the series.

IP Address: 192.168.0.1

Port No.: 1024

TL-S Setting

Use gateway function

Channel No.: 1

Station No.: 1

[Default](#)

[OK \(O\)](#) [Cancel](#)

## ■ Settings of External Device

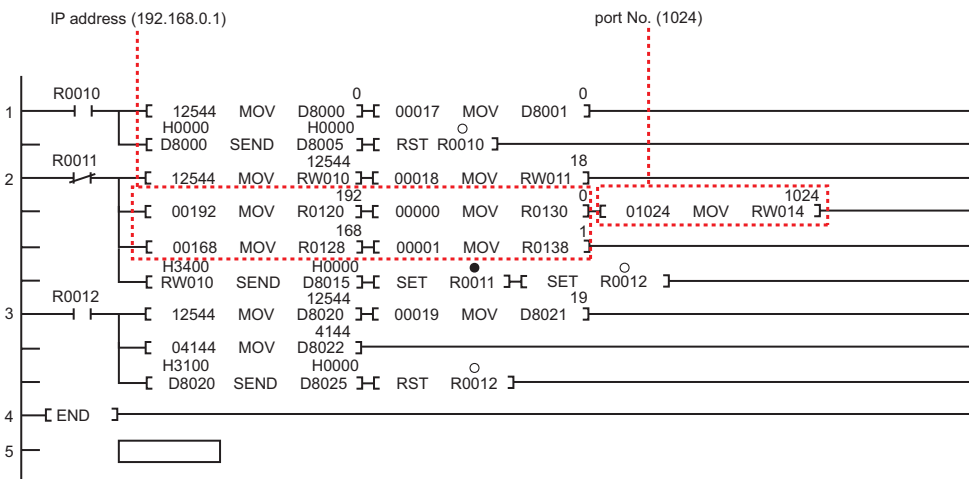
To configure communication settings for the Ethernet unit, use the ladder software (T-PDS32 for Windows).

Please refer to the manual of the External Device for more details on the settings.

### ◆ Using the Ladder Software for Settings

1. Start up the ladder software.
2. From the [Option] menu, select [Connection Type].
3. In the [Connection Type] dialog box, select [Direct] and then click [Setting].
4. Select the connection port on the PC, and then click [OK].
5. From the [PLC] menu, select [Online/Offline] to switch to online mode.
6. From the [PLC] menu, select [I/O assign information] - [General I/O assign information].
7. In the [I/O assign information] dialog box, click [Auto assign] to register the I/O module installed in the slot.
8. Set the IP address and port No. of the External Device using the ladder program.

The following is an example where the IP address is set to "192.168.0.1", and the port No. to "1024".



9. Run the created ladder program to reflect the communication settings.

### ◆ Notes

- Check with the network administrator about the IP address.
- Be sure not to duplicate IP addresses on the same network.


### 3.3 Setting Example 3

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.

##### ◆ Device Setting

To display the setting screen, click  ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

## ■ Settings of External Device

To configure communication settings for the Ethernet unit, use the DIP switches on the Ethernet module, and the ladder software (V-Series Engineering Tool 3).

Please refer to the manual of the External Device for more details on the settings.

### ◆ Using the DIP Switches for Settings

Set the DIP switches on the Ethernet module as shown below.

| DIP Switch | Settings | Setup Description                          |
|------------|----------|--|
| SW08       | ON       | IP address type: Selectable from the Tool. |
| SW07       | ON       |  |
| SW06       | ON       | IP address free setting: Free              |
| SW05       | OFF      | Unused                                     |
| SW04       | OFF      | Unused                                     |
| SW03       | OFF      | Unused                                     |
| SW02       | OFF      | Operation mode: Normal                     |
| SW01       | OFF      |  |

### ◆ Using the Ladder Software for Settings

1. Start the product manager of V-Series Engineering Tool 3 (for administration) and specify the user product path.
2. Click [Login security setting] to display the [Login security] dialog box.  
Enter the user name and password, and then click [OK].
3. From the [Member] menu, select [Add].  
Enter a user name and password other than the administrator's, and then click [OK].
4. Start V-Series Engineering Tool 3.
5. Right-click the [System] folder and then select [New] from the menu that appears.
6. Enter a system name and then click [OK].
7. Double-click the created icon with the system name.
8. Right-click the [Station] folder and then select [New] from the menu that appears.
9. Enter a station name and select the station model name in use. Then click [OK].
10. Right-click the [Unit] folder and then select [New] from the menu that appears.
11. Select the No. and model name of the unit in use. Then click [OK].
12. Right-click the [Module] folder and then select [New] from the menu that appears.
13. Configure the CPU module as follows.  
In the [Add module] dialog box, select the slot No. and model name of the CPU module in use. Then click [OK].
14. Configure the Ethernet module as follows.  
In the [Add module] dialog box, select the slot No. and model name of the Ethernet module in use. Then click [OK].
15. Right-click the CPU module and then select [Module parameter] from the menu that appears.

16. Select the module name and enter the following settings for the External Device. Then click [Write].

| Setup Items                      | Setting   |
|----------------------------------|---|
| Computer Link 1<br>Ether. SlotNo | Slot No. where the Ethernet module is installed |
| Computer Link 1<br>UDP ProtNo    | 1024  |

17. Switch to the Ethernet module name and enter the following settings for the External Device. Then click [Download].

| Setup Items         | Setting       |
|---------------------|---------------|
| IP address type     | Optional      |
| IP address primary  | 192.168.0.1   |
| Subnet mask primary | 255.255.255.0 |

18. Click [Close].

19. From the [Tool] menu, select [Transmission parameter setting].

20. In the [Transmission parameter setting] dialog box, set the parameters and then click [OK].

21. Right-click the station model module and select [Download] from the menu that appears to write the communication settings into the External Device.

#### ◆ Notes

- Check with the network administrator about the IP address.
- Be sure not to duplicate IP addresses on the same network.
- For Ethernet communication with the Display unit, use the Ethernet module's EN-A connector.  
It is not possible to communicate with the Display unit using the EN-B connector.

## 3.4 Setting Example 4

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Series  Port

Text Data Mode  [Change](#)

Communication Settings

Port No.

Timeout  (sec)

Retry

Wait To Send  (ms)

Device-Specific Settings

Allowable Number of Devices/PLCs

| Number                           | Device Name                       | Settings   |
|----------------------------------|-----------------------------------|--|
| <input type="button" value="1"/> | <input type="text" value="PLC1"/> | <input type="button" value="Settings"/> Series=T Series,IP Address=192.168.000.001,Port No.=1024,Use gateway func! |

#### ◆ Device Setting

To display the setting screen, click  ([Setting]) of the External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

Individual Device Settings

PLC1

Series  T Series  V Series

Please reconfirm all of address settings that you are using if you have changed the series.

IP Address

Port No.

TL-S Setting

Use gateway function

Channel No.

Station No.

## ■ Settings of External Device

To configure communication settings for the Ethernet unit, use the DIP switches on the Ethernet module, the ladder software (T-PDS32 for Windows), and the Ethernet parameter configuration tool.

Please refer to the manual of the External Device for more details on the settings.

### ◆ Using the DIP Switches for Settings

Set the DIP switches on the Ethernet module as shown below.

| DIP Switch | Settings | Setup Description                          |
|------------|----------|--|
| SW08       | ON       | IP address type: Selectable from the Tool. |
| SW07       | ON       |  |
| SW06       | ON       | IP address free setting: Free              |
| SW05       | OFF      | Unused                                     |
| SW04       | OFF      | Unused                                     |
| SW03       | OFF      | Unused                                     |
| SW02       | OFF      | Operation mode: Normal                     |
| SW01       | OFF      |  |

### ◆ Using the Configuration Tool for Settings

1. Start up the ladder software.
2. From the [Option] menu, select [Connection Type].
3. In the [Connection Type] dialog box, select [Direct] and then click [Setting].
4. Select the connection port on the PC, and then click [OK].
5. From the [PLC] menu, select [Online/Offline] to switch to online mode.
6. From the [PLC] menu, select [I/O assign information] - [General I/O assign information].
7. In the [I/O assign information] dialog box, click [Auto assign] to register the I/O module installed in the slot.
8. Click [OK] to start the writing process.
9. Click the [Data monitor] tool button.
10. Click [Range], and set "SW063" in [Initial address], and "1" in [Block size]. Then click [OK].
11. Double-click "SW063" that appears.
12. Set the port No. "1024" in [Value], and then click [Setting].
13. Click [Close].
14. Start the Ethernet parameter configuration tool.
15. Click [Read].
16. Enter the following settings for the External Device in the [Ethernet parameter settings] dialog box. Then click [Finish].

| Setup Items        | Setting       |
|--------------------|---------------|
| IP address         | 192.168.0.1   |
| Subnet mask        | 255.255.255.0 |
| Gateway IP address | 0.0.0.0       |

17. Click [Yes] to complete the parameter settings.
18. Reboot the External Device.

## 4 Setup Items

Set the communication settings of the Display with GP-Pro Ex or in off-line mode of the Display.

The setting of each parameter must be identical to that of the External Device.

☞ "3 Example of Communication Setting" (page 7)

### 4.1 Setup Items in GP-Pro EX


#### ■ Communication Settings


To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.

| Setup Items  | Setup Description  |
|--------------|--|
| Port No.     | Use an integer from "1024 to 65535" to enter the port No. of the Display.  |
| Timeout      | Use an integer from "1 to 127" to enter the time (s) for which the Display waits for the response from the External Device.                  |
| Retry        | In case of no response from the External Device, use an integer from "0 to 255" to enter how many times the Display retransmits the command. |
| Wait To Send | Use an integer from "0 to 255" to enter the standby time (ms) from when the Display receives packets until it transmits the next command.    |



## ■ Device Setting

To display the setting screen, click  ([Setting]) of the External Device you want to set from [Device-Specific Settings ] of [Device/PLC Settings ].

To connect multiple External Devices, click  from [Device-Specific Settings] of [Device/PLC Settings] to add External Devices.



**Individual Device Settings**

PLC1

Series  T Series  V Series

Please reconfirm all of address settings that you are using if you have changed the series.

IP Address

Port No.

TL-S Setting

Use gateway function

Channel No.

Station No.

Default

OK (O) Cancel

| Setup Items          | Setup Description  |
|----------------------|--|
| Series               | Select the model of the External Device.   |
| IP Address           | Set the IP address of the External Device.<br><b>NOTE</b><br>Check with the network administrator about the IP address. Be sure not to duplicate IP addresses.                       |
| Port No.             | Use an integer from "1024 to 65535" to enter the port No. of the External Device.  |
| Use gateway function | Check this to use the TOSLINE network for network access.  |
| Channel No.          | Use an integer from "1 to 64" to enter the channel No. of the network module in the External Device that serves as a gateway. Available only when [Use gateway function] is checked. |
| Station No.          | Use an integer from "1 to 64" to enter the station No. of the target External Device. Available only when [Use gateway function] is checked.   |

## 4.2 Settings in Off-Line Mode

**NOTE**

- Please refer to the Maintenance/Troubleshooting manual for more information on how to enter off-line mode or about the operation.

Cf. Maintenance/Troubleshooting Manual "2.2 Off-line Mode"

### ■ Communication Settings

To display the setting screen, touch [Device/PLC Settings] from [Peripheral Equipment Settings] in off-line mode. Touch the External Device you want to set from the list that appears.

| Comm.                  | Device |      |       |                        |
|------------------------|--------|------|-------|------------------------|
| Computer Link Ethernet |        |      | [UDP] | Page 1/1               |
| Port No.               |        | 1024 | ▼ ▲   |                        |
| Timeout(s)             |        | 3    | ▼ ▲   |                        |
| Retry                  |        | 2    | ▼ ▲   |                        |
| Wait To Send(ms)       |        | 0    | ▼ ▲   |                        |
|                        | Exit   |      | Back  | 2007/06/14<br>16:02:56 |

| Setup Items  | Setup Description  |
|--------------|--|
| Port No.     | Use an integer from "1024 to 65535" to enter the port No. of the Display.  |
| Timeout      | Use an integer from "1 to 127" to enter the time (s) for which the Display waits for the response from the External Device.                  |
| Retry        | In case of no response from the External Device, use an integer from "0 to 255" to enter how many times the Display retransmits the command. |
| Wait To Send | Use an integer from "0 to 255" to enter the standby time (ms) from when the Display receives packets until it transmits the next command.    |

## ■ Device Setting

To display the setting screen, touch [Device/PLC Settings] from [Peripheral Equipment Settings]. Touch the External Device you want to set from the list that appears, and touch [Device Settings].

| Comm.                  | Device  |       |          |                        |
|------------------------|---|-------|----------|------------------------|
| Computer Link Ethernet |   | [UDP] | Page 1/1 |                        |
| Device/PLC Name        | [PLC1]  |       |          |                        |
| Series                 | T Series  |       |          |                        |
| IP Address             | 192 168 0 1   |       |          |                        |
| Port No.               | 1024  |       |          |                        |
| Gateway function       | <input checked="" type="radio"/> OFF <input type="radio"/> ON |       |          |                        |
| Channel No.            | 1   |       |          |                        |
| Station No.            | 1   |       |          |                        |
| Exit                   |   | Back  |          | 2007/06/14<br>16:03:07 |


| Setup Items      | Setup Description  |
|------------------|--|
| Device/PLC Name  | Select the External Device to set. Device name is the title of the External Device set with GP-Pro EX. (Initial value [PLC1])  |
| Series           | Displays the model of the External Device.   |
| IP Address       | Set the IP address of the External Device.<br><b>NOTE</b><br>Check with the network administrator about the IP address. Be sure not to duplicate IP addresses.                         |
| Port No.         | Use an integer from "1024 to 65535" to enter the port No. of the External Device.  |
| Gateway function | Select "ON" to use the TOSLINE network for network access.   |
| Channel No.      | Use an integer from "1 to 64" to enter the channel No. of the network module in the External Device that serves as a gateway. Available only when [Use gateway function] is set to ON. |
| Station No.      | Use an integer from "1 to 64" to enter the station No. of the target External Device. Available only when [Use gateway function] is set to ON.   |


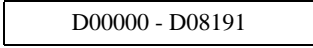



## 5 Supported Device

The following table shows the range of supported device addresses.

### 5.1 T Series

#### ■ T2N

 : This address can be specified as system data area.

| Device              | Bit Address     | Word Address   | 32 bit  | Remarks   |
|---------------------|-----------------|--|---|---|
| Input               | X00000 - X0127F | XW0000 - XW0127  |  |   |
| Output              | Y00000 - Y0127F | YW0000 - YW0127  |   |   |
| Auxiliary Relay     | R00000 - R0255F | RW0000 - RW0255  |   |   |
| Special Relay       | S00000 - S0255F | SW0000 - SW0255  |   |   |
| Link Relay          | L00000 - L0255F | LW0000 - LW0255  |   |   |
| Timer Register      | -               | T0000 - T0511  |   |   |
| Timer Device        | T.0000 - T.0511 | -  |   | *1  |
| Counter Register    | -               | C0000 - C0511  |   |   |
| Counter Device      | C.0000 - C.0511 | -  |   | *1  |
| Link Register Relay | Z00000 - Z0999F | -  |   |   |
| Data Register       | -               |  D00000 - D08191 |   |  |
| Link Register       | -               | W00000 - W02047  |   |  |
| File Register       | -               | F00000 - F01023  |   |  |

\*1 Write disable

#### NOTE


- Please refer to the GP-Pro EX Reference Manual for system data area.


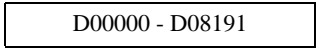



Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"

- Please refer to the precautions on manual notation for icons in the table.

 "Manual Symbols and Terminology"

## ■ T3H/S2T

 : This address can be specified as system data area.

| Device              | Bit Address     | Word Address   | 32 bit  | Remarks   |
|---------------------|-----------------|--|---|---|
| Input               | X00000 - X0511F | XW0000 - XW0511  |  |   |
| Output              | Y00000 - Y0511F | YW0000 - YW0511  |   |   |
| Auxiliary Relay     | R00000 - R0999F | RW0000 - RW0999  |   |   |
| Special Relay       | S00000 - S0255F | SW0000 - SW0255  |   |   |
| Link Relay          | L00000 - L0255F | LW0000 - LW0255  |   |   |
| Timer Register      | -               | T0000 - T0999  |   |   |
| Timer Device        | T.0000 - T.0999 | -  |   | *1  |
| Counter Register    | -               | C0000 - C0511  |   |   |
| Counter Device      | C.0000 - C.0511 | -  |   | *1  |
| Link Register Relay | Z00000 - Z0999F | -  |   |   |
| Data Register       | -               |  D00000 - D08191 |   |  |
| Link Register       | -               | W00000 - W02047  |   |  |
| File Register       | -               | F00000 - F32767  |   |  |

\*1 Write disable

**NOTE**

- Please refer to the GP-Pro EX Reference Manual for system data area.


Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"


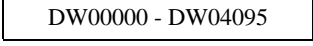


- Please refer to the precautions on manual notation for icons in the table.

 "Manual Symbols and Terminology"

## 5.2 V Series

## ■ model2000 (S2PU22/S2PU32/S2PU72/S2PU82)

 : This address can be specified as system data area.

| Device                      | Bit Address       | Word Address  | 32 bit   | Remarks   |
|-----------------------------|-------------------|---|--|---|
| I Variable                  | IX00000 - IX3071F | IW0000 - IW3071   |  |   |
| O Variable                  | QX00000 - QX3071F | QW0000 - QW3071   |  |   |
| System                      | S00000 - S0511F   | SW0000 - SW0511   |  |   |
| Data                        | -                 |  DW00000 - DW04095 |  |  |
| Data                        | R00000 - R4095F   | RW00000 - RW4095  |  | *1  |
| User Register <sup>*2</sup> | -                 | F00000 - F32767   |  |  |

\*1 The R and RW devices and the D device are in the same area. To write bits from the Display, specify the R device.

\*2 Available only to S2PU82.

**NOTE**


- There are the local variable, controller global variable and station global variable besides the above devices, though you cannot access them from the Display.
- Please refer to the GP-Pro EX Reference Manual for system data area.



Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"

- Please refer to the precautions on manual notation for icons in the table.

 "Manual Symbols and Terminology"

## ■ model3000 (S3PU21)

 : This address can be specified as system data area.

| Device        | Bit Address       | Word Address      | 32 bit       | Remarks   |
|---------------|-------------------|-------------------|--------------|---|
| I Variable    | IX00000 - IX3071F | IW0000 - IW3071   | <b>L / H</b> |   |
| O Variable    | QX00000 - QX3071F | QW0000 - QW3071   |              |   |
| System        | S00000 - S0511F   | SW0000 - SW0511   |              |   |
| Data          | -                 | DW00000 - DW04095 |              |  |
| Data          | R00000 - R4095F   | RW00000 - RW4095  |              | *1  |
| User Register | -                 | F00000 - F32767   |              |  |

\*1 The R and RW devices and the D device are in the same area. To write bits from the Display, specify the R device.

### **NOTE**


- There are the local variable, controller global variable and station global variable besides the above devices, though you cannot access them from the Display.
- Please refer to the GP-Pro EX Reference Manual for system data area.

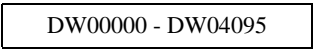


Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"

- Please refer to the precautions on manual notation for icons in the table.

 "Manual Symbols and Terminology"

## ■ model3000 (S3PU45)

 : This address can be specified as system data area.

| Device        | Bit Address       | Word Address  | 32 bit     | Remarks   |
|---------------|-------------------|---|------------|---|
| I Variable    | IX00000 - IX5119F | IW00000 - IW5119  | <b>L/H</b> |   |
| O Variable    | QX00000 - QX5119F | QW00000 - QW5119  |            |   |
| System        | S000000 - S0511F  | SW00000 - SW0511  |            |   |
| Data          | -                 |  DW00000 - DW04095 |            |  |
| Data          | R000000 - R4095F  | RW000000 - RW4095   |            | *1  |
| User Register | -                 | F000000 - F32767  |            |  |

\*1 The R and RW devices and the D device are in the same area. To write bits from the Display, specify the R device.

### **NOTE**

- There are the local variable, controller global variable and station global variable besides the above devices, though you cannot access them from the Display.
- Please refer to the GP-Pro EX Reference Manual for system data area.


Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"



- Please refer to the precautions on manual notation for icons in the table.

 "Manual Symbols and Terminology"



## ■ model3000 (S3PU55/S3PU65)

 : This address can be specified as system data area.

| Device        | Bit Address       | Word Address      | 32 bit     | Remarks   |
|---------------|-------------------|-------------------|------------|---|
| I Variable    | IX00000 - IX8191F | IW0000 - IW8191   | <b>L/H</b> |   |
| O Variable    | QX00000 - QX8191F | QW0000 - QW8191   |            |   |
| System        | S00000 - S0511F   | SW0000 - SW0511   |            |   |
| Data          | -                 | DW00000 - DW04095 |            |  |
| Data          | R00000 - R4095F   | RW00000 - RW4095  |            | *1  |
| User Register | -                 | F00000 - F32767   |            |  |

\*1 The R and RW devices and the D device are in the same area. To write bits from the Display, specify the R device.

### **NOTE**

- There are the local variable, controller global variable and station global variable besides the above devices, though you cannot access them from the Display.
- Please refer to the GP-Pro EX Reference Manual for system data area.

Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"

- Please refer to the precautions on manual notation for icons in the table.

 "Manual Symbols and Terminology"

## 6 Device Code and Address Code

Use device code and address code when you select "Device Type & Address" for the address type of the data display or other devices.

### 6.1 T Series

#### ■ T2N

| Device              | Device Name | Device Code (HEX) | Address Code |
|---------------------|-------------|-------------------|--------------|
| Input Register      | XW          | 0080              | Word Address |
| Input Device        | X           |                   | Word Address |
| Output Register     | YW          | 0081              | Word Address |
| Output Device       | Y           |                   | Word Address |
| Auxiliary Register  | RW          | 0084              | Word Address |
| Auxiliary Relay     | R           |                   | Word Address |
| Special Register    | SW          | 0085              | Word Address |
| Special Relay       | S           |                   | Word Address |
| Link Relay Register | LW          | 0086              | Word Address |
| Link Relay Device   | L           |                   | Word Address |
| Timer Register      | T           | 0060              | Word Address |
| Counter Register    | C           | 0061              | Word Address |
| Data Register       | D           | 0000              | Word Address |
| Link Register       | W           | 0001              | Word Address |
| File Register       | F           | 0002              | Word Address |

## ■ T3H/S2T

| Device              | Device Name | Device Code (HEX) | Address Code |
|---------------------|-------------|-------------------|--------------|
| Input Register      | XW          | 0080              | Word Address |
| Input Device        | X           |                   | Word Address |
| Output Register     | YW          | 0081              | Word Address |
| Output Device       | Y           |                   | Word Address |
| Auxiliary Register  | RW          | 0084              | Word Address |
| Auxiliary Relay     | R           |                   | Word Address |
| Special Register    | SW          | 0085              | Word Address |
| Special Relay       | S           |                   | Word Address |
| Link Relay Register | LW          | 0086              | Word Address |
| Link Relay Device   | L           |                   | Word Address |
| Timer Register      | T           | 0060              | Word Address |
| Counter Register    | C           | 0061              | Word Address |
| Data Register       | D           | 0000              | Word Address |
| Link Register       | W           | 0001              | Word Address |
| File Register       | F           | 0002              | Word Address |

## 6.2 V Series

## ■ model2000 (S2PU82)

| Device              | Device Name | Device Code (HEX) | Address Code |
|---------------------|-------------|-------------------|--------------|
| I Variable Register | IW          | 0080              | Word Address |
| I Variable Device   | IX          |                   | Word Address |
| Q Variable Register | QW          | 0081              | Word Address |
| Q Variable Device   | QX          |                   | Word Address |
| System Register     | SW          | 0085              | Word Address |
| System Device       | S           |                   | Word Address |
| Data Register       | DW          | 0000              | Word Address |
| User Register       | F           | 0002              | Word Address |
| Data Register       | RW          | 0084              | Word Address |
| Data Device         | R           |                   | Word Address |

## ■ model2000 (S2PU22/S2PU32/S2PU72)

| Device              | Device Name | Device Code (HEX) | Address Code |
|---------------------|-------------|-------------------|--------------|
| I Variable Register | IW          | 0080              | Word Address |
| I Variable Device   | IX          |                   | Word Address |
| Q Variable Register | QW          | 0081              | Word Address |
| Q Variable Device   | QX          |                   | Word Address |
| System Register     | SW          | 0085              | Word Address |
| System Device       | S           |                   | Word Address |
| Data                | DW          | 0000              | Word Address |
| Data Register       | RW          | 0084              | Word Address |
| Data Device         | R           |                   | Word Address |

■ model3000 (S3PU45)

| Device              | Device Name | Device Code (HEX) | Address Code |
|---------------------|-------------|-------------------|--------------|
| I Variable Register | IW          | 0080              | Word Address |
| I Variable Device   | IX          |                   | Word Address |
| Q Variable Register | QW          | 0081              | Word Address |
| Q Variable Device   | QX          |                   | Word Address |
| System Register     | SW          | 0085              | Word Address |
| System Device       | S           |                   | Word Address |
| Data                | DW          | 0000              | Word Address |
| User Register       | F           | 0002              | Word Address |
| Data Register       | RW          | 0084              | Word Address |
| Data Device         | R           |                   | Word Address |

■ model3000 (S3PU55/S3PU65)

| Device              | Device Name | Device Code (HEX) | Address Code |
|---------------------|-------------|-------------------|--------------|
| I Variable Register | IW          | 0080              | Word Address |
| I Variable Device   | IX          |                   | Word Address |
| Q Variable Register | QW          | 0081              | Word Address |
| Q Variable Device   | QX          |                   | Word Address |
| System Register     | SW          | 0085              | Word Address |
| System Device       | S           |                   | Word Address |
| Data                | DW          | 0000              | Word Address |
| User Register       | F           | 0002              | Word Address |
| Data Register       | RW          | 0084              | Word Address |
| Data Device         | R           |                   | Word Address |

## 7 Error Messages

Error messages are displayed on the Display screen as follows: "No.: Device Name: Error Message (Error Occurrence Area)". Each description is shown below.

| Item                  | Description  |
|-----------------------|--|
| No.                   | Error No.  |
| Device Name           | Name of the External Device where an error has occurred. Device name is the title of the External Device set with GP-Pro EX. ((Initial value [PLC1])   |
| Error Message         | Displays messages related to an error that has occurred.   |
| Error Occurrence Area | <p>Displays the IP address or device address of the External Device where an error has occurred, or error codes received from the External Device.</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>• IP address is displayed as "IP address (Decimal): MAC address (Hex)".</li> <li>• Device address is displayed as "Address: Device address".</li> <li>• Received error codes are displayed as "Decimal [Hex]".</li> </ul> |

Display Examples of Error Messages

"RHAA035: PLC1: Error has been responded for device write command (Error Code: 2[02H])"

**NOTE**

- Please refer to the manual of the External Device for more details on received error codes.
- Please refer to "When an error is displayed (Error Code List)" in "Maintenance/Troubleshooting manual" for more details on the error messages common to the driver.

### ■ Error Codes Specific to the External Device

Error codes specific to the External Device are shown below.

| Error Code | Description   |
|------------|---|
| 115 (73H)  | Register No./Size error. This error occurs if you access an address outside the area. |