Siemens AG

SIMATIC S7 Ethernet Driver

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 below sections:

1	System Configuration This section shows the types of External Devices which can be connected and SIO type.	☞ "1 System Configuration" (page 3)
2	Selection of External Device Select a model (series) of the External Device to be connected and connection method.	☞ "2 Selection of External Device" (page 5)
3	Example of Communication Settings This section shows setting examples for communicating between the Display and the External Device.	☞ "3 Example of Communication Setting" (page 6)
4	Setup Items This section describes communication setup items on the Display. Set communication settings of the Display with GP-Pro Ex or in off-line mode.	☞ "4 Setup Items" (page 12)

Operation

1 System Configuration

The system configuration in the case when the External Device of Siemens AG and the Display are connected is shown.

Series	CPU	Link I/F	SIO Type[*1]	Setting Example
SIMATIC S7-200 Series	CPU222 CPU224 CPU224 XP CPU226	CP 243-1 IT[*2] CP 243-1	Ethernet (TCP) (OP Communication)	Setting Example 3 (page 10)
SIMATIC S7-300 Series	CPU312IFM CPU313 CPU314 CPU314IFM CPU315 CPU315-2 DP CPU316 CPU316-2 DP CPU318-2 CPU315-2 PN/DP CPU317-2 PN/DP CPU319-3 PN/DP	CP 343-1 IT CP 343-1	Ethernet (TCP) (FETCH/WRITE)	Setting Example 1 (page 6)
			Ethernet (TCP) (OP Communication)	Setting Example 2 (page 8)
	CPU315-2 PN/DP CPU317-2 PN/DP CPU319-3 PN/DP	Ethernet interface on CPU[*3]	Ethernet (TCP) (OP Communication)	Setting Example 2 (page 8)
SIMATIC S7-400 Series	CPU412-1 CPU412-2 DP CPU413-1 CPU413-2 DP CPU414-1 CPU414-2 DP CPU414-3 DP CPU416-1 CPU416-2 DP CPU416-3 DP CPU417-4 CPU414-3PN/DP CPU416-3PN/DP	CP 443-1 IT CP 443-1	Ethernet (TCP) (FETCH/WRITE)	Setting Example 1 (page 6)
			Ethernet (TCP) (OP Communication)	Setting Example 2 (page 8)
	CPU414-3PN/DP CPU416-3PN/DP	Ethernet interface on CPU[*3]	Ethernet (TCP) (OP Communication)	Setting Example 2 (page 8)

*1   OP Communication has a larger address range of usable devices as that of FETCH/WRITE, so we recommend use of OP Communication.
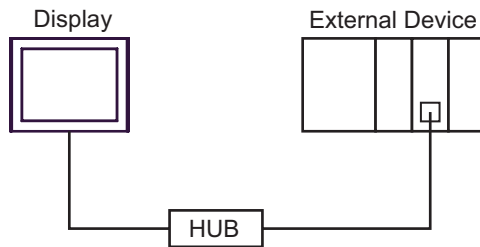
☞ "5 Supported Device" (page 19)

*2   CP 243-1 IT and CP 243-1 can use the version of CPU above Rel.1.20.
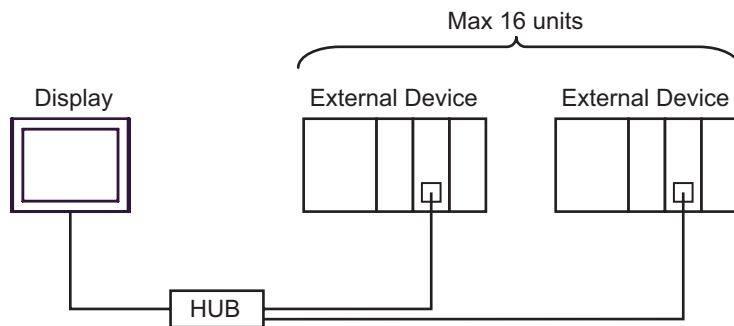
*3   The Ethernet interface in the CPU only supports OP Communication. FETCH/WRITE cannot be used.
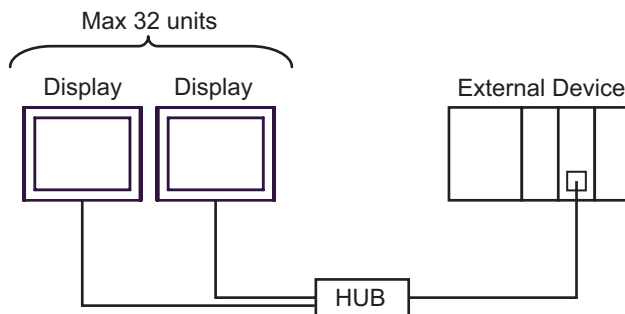
■ Connection Configuration

• 1:1 Connection

Display   External Device

HUB

• 1:n Connection

Max 16 units

Display   External Device   External Device

HUB

• n:1 Connection

Max 32 units

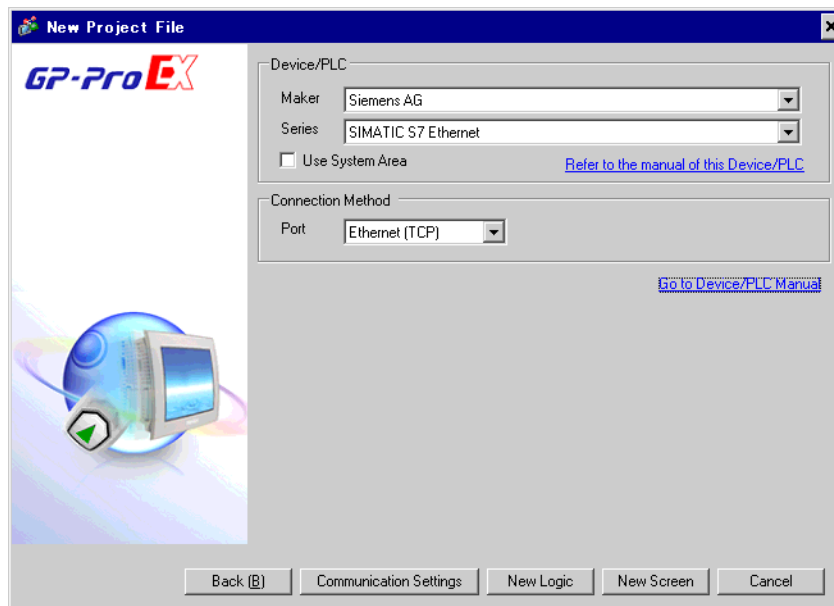Display   Display   External Device

HUB

NOTE   • The number of connectable Displays depends on the External Device.
         Please refer to the manual of the External Device for more details.

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 "Siemens AG".
Series	Select a model (series) of the External Device to be connected and connection method. Select "SIMATIC S7 Ethernet". Check the External Device which can be connected in "SIMATIC S7 Ethernet" in system configuration. ☞ "1 System Configuration" (page 3)
Use System Area	Check this option when you synchronize the system data area of Display and the device (memory) of External Device. When synchronized, you can use the ladder program of External Device to switch the display or display the window on the display. 　Cf.　GP-Pro EX Reference Manual "Appendix 1.4 LS Area (Direct Access Method)" This can be also set with GP-Pro EX or in off-line mode of Display. 　Cf.　GP-Pro EX Reference Manual " 5.17.6 Setting Guide of [System Setting Window]■[Main Unit Settings] Settings Guide◆System Area Setting" 　Cf.　Maintenance/Troubleshooting "2.15.1 Settings common to all Display models◆System Area Settings"
Port	Select the Display port to be connected to the External Device.

3 Example of Communication Setting

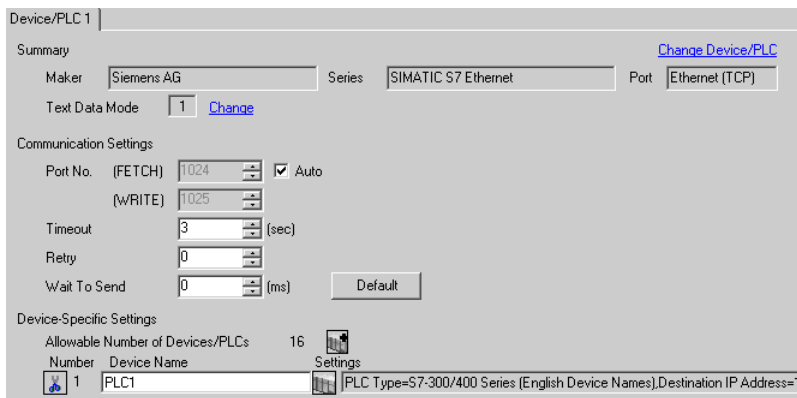Examples of communication settings of the Display and the External Device, recommended by Pro-face, are shown.

When you use the SIMATIC S7 300/400 Series, use GP-Pro EX and the ladder software to set as below.

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 External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multipleExternal Device, click from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.
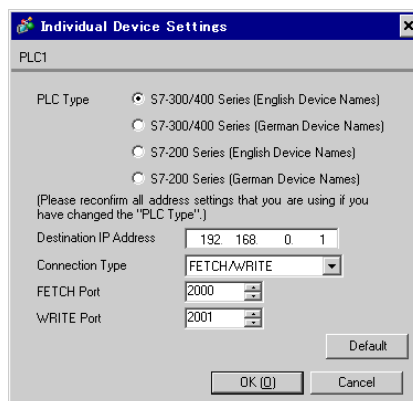
◆ Notes

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the Display in the off-line mode of the Display.

■ Setting of External Device

Use the FETCH TCP protocol and WRITE TCP protocol so that the Ethernet driver can read and write data for the External Device. Setting example is shown below. Please refer to the manual of the External Device for more details.

(1) Select CP343-1/443-1 from hardware configuration menu in the ladder software "STEP 7" by Siemens AG. When the dialog box is displayed, set [IP address] and [Subnet mask] in the [Parameters] tab.

(2) Start up "NetPro" from "STEP7", and select the CPU to which CP343-1/443-1 is connected. Right-click to select [Insert New Connection].

(3) Select [TCP connection] for [Type] in the displayed dialog box, and, leaving [Unspecified] selected for [Station], click [OK].

(4) Click [OK] in the warning dialog box displayed next.

(5) Click the [Address] tab in the displayed dialog box, and enter the port No. (FETCH PORT No. Default 2000) Do not set the duplicate port No.

(6) Next, click the [Options] tab and select [Fetch passive] in [Mode].

(7) Select the [Address] tab and enter the port No. (WRITE PORT No. Default 2001) Do not set the duplicate port No.

(8) Click the [Options] tab again and select [Write passive] in [Mode].

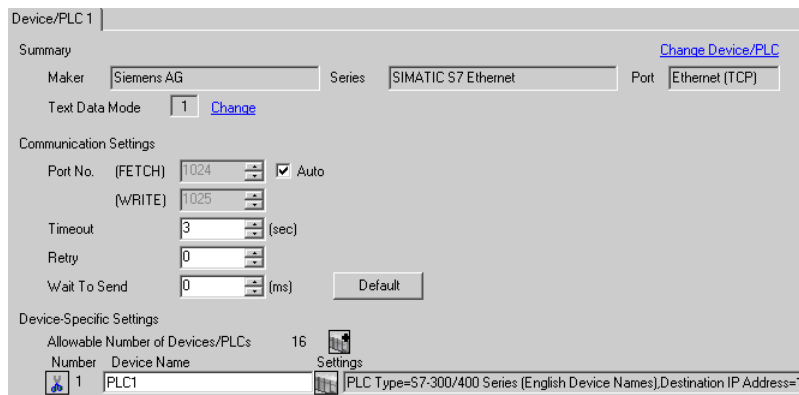(9) Save the above setting contents and download to the External Device.

◆ Notes

• The FETCH port's Partner that is set in the ladder software communication setting dialog box must be the same as the [Port No. (FETCH)] set in the GP-Pro EX communication settings. Likewise, the WRITE port's Partner must be the same as the [Port No. (WRITE)].
 If each Partner of the FETCH port and the WRITE port is blank, the [Port No.] can be also set to [Auto].
• Check with a network administrator about IP address. Do not set the duplicate IP address.
• The "Keep Alive" feature of Siemens CP Module is not supported. Please set the "Keep Alive" to 0.
• When the Display is turned off and on again during communication with the External Device or is switched to offline mode and then back to online mode, it may take several tens of seconds before the communication is resumed.

3.2   Setting Example 2

■ Settings of GP-Pro EX

◆ Communication Settings

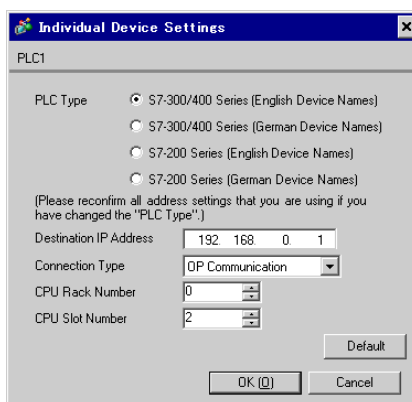To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.

Device/PLC 1

Summary   Change Device/PLC

Maker   Siemens AG   Series   SIMATIC S7 Ethernet   Port   Ethernet (TCP)

Text Data Mode   1   Change

Communication Settings

Port No.   (FETCH)   1024   ☑ Auto

            (WRITE)   1025

Timeout   3   (sec)

Retry   0

Wait To Send   0   (ms)   Default

Device-Specific Settings

Allowable Number of Devices/PLCs   16

Number   Device Name   Settings

1   PLC1   PLC Type=S7-300/400 Series (English Device Names),Destination IP Address=1

NOTE	• Port No. that is set to [Port No. (FETCH)] performs communication in OP Communication. Port No. that is set to [Port No. (WRITE)] is not used.

◆ Device Setting

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

When you connect multiple External Device, click   from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

Individual Device Settings

PLC1

PLC Type   ⊙ S7-300/400 Series (English Device Names)

                ○ S7-300/400 Series (German Device Names)

                ○ S7-200 Series (English Device Names)

                ○ S7-200 Series (German Device Names)

(Please reconfirm all address settings that you are using if you have changed the "PLC Type".)

Destination IP Address   192. 168.   0.   1

Connection Type   OP Communication

CPU Rack Number   0

CPU Slot Number   2

                                        Default

                        OK (O)   Cancel

◆ Notes

•   Check with a network administrator about IP address. Do not set the duplicate IP address.

•   Set IP address on the External Device for IP address in Device-specific settings.

•   You need to set IP address on the Display in the off-line mode of the Display.

■ Setting of External Device

The Communication setting for the External Device is executed using ladder software (STEP 7).

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

(1) Start up ladder software.

(2) Select [New Project Wizard] of [File] menu and make a project. Set the CPU, Organization Block, and project name to be used following the instruction provided by the wizard.

(3) Start up Hardware setting.

(4) Select the module to be used from the catalog view and allocate it to the slot of the mounted module number.

(5) After allocating the module, [Property] dialog box is displayed. Set IP address and subnet mask to [Property] dialog box of the module to be used for communication.

(6) Select [New] from [Subnet] of [Property] dialog box.

(7) Confirm displayed Subnet property and click [OK].

(8) Select Subnet property displayed in [Subnet] of [Property] dialog box. Click [OK] to close [Property] dialog box.

(9) Select [Save and Compile] from [Station] menu and save the contents of the settings. After saving, end Hardware setting.

(10)Start up NetPro and download the contents for setting to the External Device. After the download is completed, reboot the power of the External Device.

◆ Notes

• Check that the CPU rack number and CPU slot number to be used for communication are the same as the GP-ProEX setting. If the setting is not the same, communication cannot be conducted.

• Check with a network administrator about IP address. Do not set the duplicate IP address.

• When the Display is turned off and on again during communication with the External Device or is switched to offline mode and then back to online mode, it may take several tens of seconds before the communication is resumed.

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.
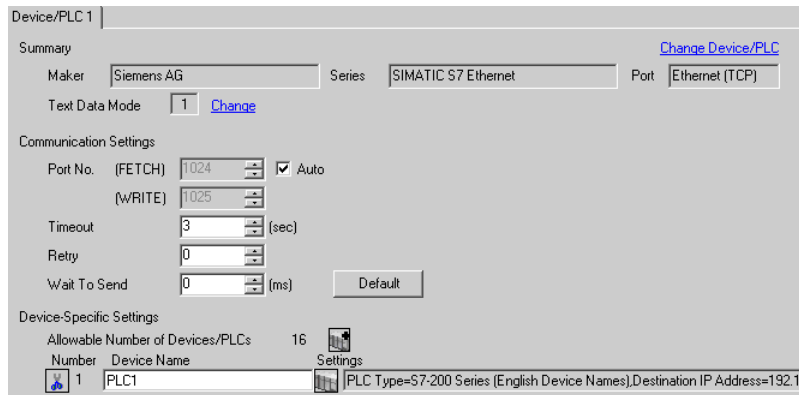
NOTE	• Port No. that is set to [Port No. (FETCH)] performs communication in OP Communication. Port No. that is set to [Port No. (WRITE)] is not used.
	• Set the "Timeout" value to "3" (sec) or more.

◆ Device Setting

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

When you connect multiple External Device, click   from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

◆ Notes

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the Display in the off-line mode of the Display.

■ Setting of External Device

Use the ladder software (STEP 7 Micro/Win32) for communication settings of the External Device. Please refer to the manual of the External Device for details.

(1) Start up the ladder software.

(2) From the [Tool] menu, select [Ethernet Wizard].

(3) Click [Next].

(4) Click [Read Module] to detect the installed Ethernet module.

(5) Enter the [Position] value of the detected module in [Module Position], and then click [Next].

(6) Set [IP Address] and [Subnet Mask], and then click [Next].

(7) Enter "1" (the number of the Displays to be connected) in "Number of connections to configure for this module.", and then click [Next].

(8) Follow the steps below to set the Display, and then click [OK].

   • Select "This is a Server Connection" to connect the External Device to the Display.
   • In the "Local Properties (Server)" area, select "Accept all connection requests." to allow connections from all IP addresses.
   • In the "Remote Properties (Client)" area, enter "10.00" in "TSAP".
   • Clear the "Enable the Keep Alive function for this connection." check box because the Display does not support KeepAlive.

NOTE • The connection number is displayed in this dialog box. If the connection number is "1", for example, [Connection 1] is displayed.

(9) Click [Next].

(10) To save the module configuration, set the memory address of the External Device, and then click [Next].

(11) Click [Finish].

(12) Click [Yes] for the confirmation message.

(13) Select [Save] from [File], and download the configuration to the External Device.

◆ Notes

   • Check with your network administrator about the IP address. Do not duplicate IP addresses.
   • The subroutine "ETH0_CTRL" must be called by the ladder program every scan.
   • When the Display is turned off and on again during communication with the External Device or is switched to offline mode and then back to online mode, it may take several tens of seconds before the communication is resumed.

4 Setup Items

Set 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 External Device.

)"3 Example of Communication Setting" (page 6)

NOTE	• Set the Display's IP address in off-line mode.
	Cf. Maintenance/Troubleshooting Manual "2.5 Ethernet Settings"

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.

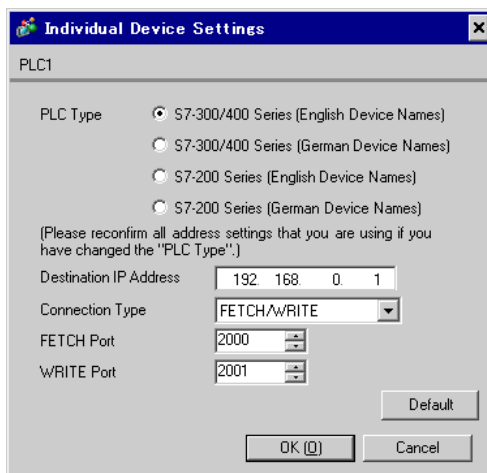| Setup Items	Setup Description
Port No.	Use an integer from 1024 to 65535 to enter FETCH port number and WRITE number of display. If a check is put in [Auto], port number is set automatically. When the connection type is OP Communication, the port number set to [Port No. (FETCH)] implements communication.
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 standby time (ms) for the Display from receiving packets to transmitting next commands.

■ 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].

When [Allowable No. of Device/PLCs] is multiple, you can click ▣ from [Device-Specific Settings] of [Device/PLC Settings] to add the External Device which is available to set.
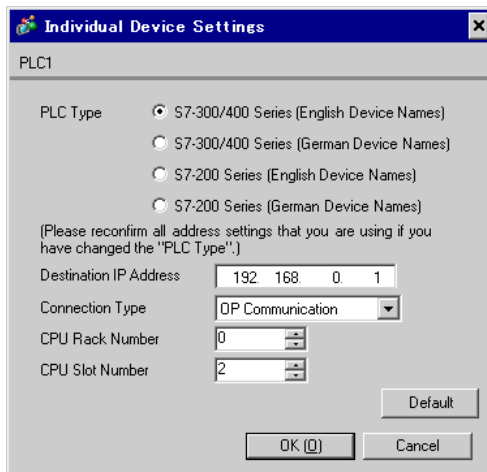
Setting contents of device setting differs depending on the connection type (SIMATIC S7-300/400 Series only).

<S7-300/400 Series Connection type: FETCH/WRITE>

Setup Items	Setup Description
PLC Type	Select the series of the External Device and either of the notations (English or German) for device names.
Destination IP Address	Set IP address of the External Device. **NOTE** • Check with a network administrator about IP address. Do not set the duplicate IP address.
Connection Type	Select the connnection type.
FETCH Port	Use an integer from 1024 to 65535 to enter the FETCH port No. of the External Device.
WRITE Port	Use an integer from 1024 to 65535 to enter the WRITE port No. of the External Device.

<S7-300/400 Series Connection type: OP Communication>

Setup Items	Setup Description
PLC Type	Select the series of the External Device and either of the notations (English or German) for device names.
Destination IP Address	Set IP address of the External Device. **NOTE** • Check with a network administrator about IP address. Do not set the duplicate IP address.
Connection Type	Select the connnection type.
CPU Rack Number	Use an integer from 0 to 7 to enter the CPU rack number of the External Device.
CPU Slot Number	Use an integer from 0 to 31 to enter the CPU slot number of the External Device.

<S7-200 Series >

Setup Items	Setup Description
PLC Type	Select the series of the External Device and either of the notations (English or German) for device names.
Destination IP Address	Set IP address of the External Device. **NOTE** • Check with a network administrator about IP address. Do not set the duplicate IP address.
Connection Number	Use an integer from 0 to 7 to enter the connection number of the External Device.
Module Position	Use an integer from 0 to 6 to enter the module position of the External Device.

4.2 Setup Items in Off-Line Mode

NOTE	• Refer to the Maintenance/Troubleshooting manual for 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 Settings] in off-line mode. Touch the External Device you want to set from the displayed list.

Comm.	Device			

SIMATIC S7 Ethernet   [TCP]   Page 1/1

```
            Port No.              ◯ Fixed   ● Auto
            (FETCH)                        1024  ▼  ▲
            (WRITE)                        1025  ▼  ▲
            Timeout(s)                        3  ▼  ▲
            Retry                             0  ▼  ▲
            Wait To Send(ms)                  0  ▼  ▲
```

| | Exit | | | Back | 2007/06/28 12:13:05 |

Setup Items	Setup Description
Port No.	Set the FETCH port No. and WRITE port No. of the Display. Select either [Fixed] or [Auto]. When you select [Fixed], use an integer from 1024 to 65535 to enter the port No. of the Display. When you select [Auto], the port No. will be automatically assigned regardless of the entered value. When the connection type is OP Communication, the port number set to [Port No. (FETCH)] implements communication.
Timeout (s)	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 (ms)	Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands.

◼ Device Setting

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

```
 ┌──────────┬──────────┬──────────┬──────────┬──────────┐
 │  Comm,   │  Device  │          │          │          │
 ├──────────┼──────────┼──────────┼──────────┼──────────┤
 │          │          │          │          │          │
 ├──────────┴──────────┴──────────┴──────────┴──────────┤
 │ SIMATIC S7 Ethernet                   [TCP]   Page 1/1│
 │                                                        │
 │      Device/PLC Name  │PLC1                     │ ▼│   │
 │                                                        │
 │         PLCTYPE          S7-300/400 English            │
 │         DEST IP ADDR     │192 168  0   1│               │
 │         CONNECTION TYPE  OP COMMUNICATION              │
 │         FETCH PORT NO.   │        2000│ ▼ │ ▲ │        │
 │         WRITE PORT NO.   │        2001│ ▼ │ ▲ │        │
 │         CPU RACK NO.     │           0│ ▼ │ ▲ │        │
 │         CPU SLOT NO.     │           2│ ▼ │ ▲ │        │
 │         CONNECTION NO.   │           0│ ▼ │ ▲ │        │
 │         MODULE POSITION  │           0│ ▼ │ ▲ │        │
 │                                                        │
 │                                                        │
 │          │  Exit  │          │  Back  │ 2007/06/28│    │
 │                                         12:13:09       │
 └────────────────────────────────────────────────────────┘
```

| Setup Items	Setup Description
Device/PLC Name	Select the External Device for device setting. Device name is a title of External Device set with GP-Pro EX.(Initial value [PLC1])
PLC TYPE	Display the PLC type. **NOTE** • Please make a change of the PLC type by [Device Setting] of GP-Pro EX.
DEST IP ADDR	Set IP address of the External Device. **NOTE** • Check with a network administrator about IP address. Do not set the duplicate IP address.
CONNECTION TYPE	Display the connection type. **NOTE** • Please make a change of the connection type by [Device Setting] of GP-Pro EX.
FETCH PORT NO.	Use an integer from 1024 to 65535 to enter the FETCH port No. of the External Device. Available only if the PLC type is "S7-300/400 Series". Valid only when the connection type is [FETH/WRITE].
WRITE PORT NO.	Use an integer from 1024 to 65535 to enter the WRITE port No. of the External Device. Available only if the PLC type is "S7-300/400 Series". Valid only when the connection type is [FETH/WRITE].
CPU RACK NO.	Use an integer from 0 to 7 to enter the rack number that External Device is mounted to. Available only if the PLC type is "S7-300/400 Series". Valid only when the connection type is [OP Communication].

| Setup Items	Setup Description
CPU SLOT NO.	Use an integer from 0 to 31 to enter the slot number that External Device is mounted to. Available only if the PLC type is "S7-300/400 Series". Valid only when the connection type is [OP Communication].
CONNECTION NO.	Use an integer from 0 to 7 to enter the connection number of the External Device. Available only if the PLC type is "S7-200 Series".
MODULE POSITION	Use an integer from 0 to 6 to enter the module position of the External Device. Available only if the PLC type is "S7-200 Series".

5 Supported Device

Range of supported device address is shown in the table below. Please note that the actually supported range of the devices varies depending on the External Device to be used. Please check the actual range in the manual of your External Device.

■ S7-300/400 Series

This address can be specified as system data area.

Device	Bit Address		Word Address		32 bits	Remarks
	English	German	English	German		
Data Block (OP Communication)	DB00001.DBX00000.0 - DB65535.DBX65535.7		DB00001.DBW00000 - DB65535.DBW65534			$\div 2$
Data Block (FETCH/WRITE)	DB00001.DBX00000.0 - DB00255.DBX16383.7		DB00001.DBW00000 - DB00255.DBW16382			$\div 2$ [*1]
Input	I00000.0 - I00127.7	E00000.0 - E00127.7	IW00000 - IW00126	EW00000 - EW00126		$\div 2$ [*1]
Output	Q00000.0 - Q00127.7	A00000.0 - A00127.7	QW00000 - QW00126	AW00000 - AW00126	H / L	$\div 2$ [*1]
Marker	M00000.0 - M00255.7		MW00000 - MW00254			$\div 2$ [*1]
Timer	-----		T00000 - T00255			[*2] [*3]
Counter	-----		C00000 - C00255	Z00000 - Z00255		[*2] [*3]

*1 When you write the bit address, the Display reads the word address corresponding to that of the External Device first. Change only the target bit address among the word data once read, and write the word data to the External Device.
Note that the correct data may not be written if you change the word address value in the ladder program while the Display reads the data of the External Device and writes it to the External Device.

*2 Write disable.

*3 Data Type varies depending on the connection type. When the connection type is OP Communication, Data Type is BCD. When it is FETCH/WRITE, Data Type is binary.

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 (Direct Access Method)"
• Please refer to the precautions on manual notation for icons in the table.
☞ "Manual Symbols and Terminology"

■ S7-200 Series

▭▭▭▭ This address can be specified as system data area.

Device	Bit Address		Word Address		32 bits	Remarks
	English	German	English	German		
Variable	V00000.0 - V10239.7		VW00000 - VW10238			$\div 2$
Input	I00000.0 - I00015.7	E00000.0 - E00015.7	IW00000 - IW00014	EW00000 - EW00014		$\div 2$ [*1]
Output	Q00000.0 - Q00015.7	A00000.0 - A00015.7	QW00000 - QW00014	AW00000 - AW00014	H / L	$\div 2$ [*2]
Marker	M00000.0 - M00031.7		MW00000 - MW00030			$\div 2$
Timer	-----		T00000 - T00255			*3
Counter	-----		C00000 - C00255	Z00000 - Z00255		*3

*1   Writing to the addresses IW0 to IW2 is disabled, depending on the CPU type. These addresses are reserved for onboard I/O.

*2   Only when the External Device is in the EXECUTION mode, writing to the output device is enabled. When the External Device switches to the STOP mode, the output device is reset.

*3   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 (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 in data displays.

| Device | Device Name | | Device Code | Address Code |
	English	German	(HEX)	
Data Block	DB	DB	0000	(Data Block No. x 0x10000) + Value of (word address divided by 2)
Input	I	E	0080	Value of word address divided by 2
Output	Q	A	0081	Value of word address divided by 2
Marker	M	M	0082	Value of word address divided by 2
Timer	T	T	0060	Word Address
Counter	C	Z	0061	Word Address
Variable	V	V	0001	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 error occurs. Device name is a title of the External Device set with GP-Pro EX. (Initial value [PLC1])
Error Message	Displays messages related to the error which occurs.
Error Occurrence Area	Displays IP address or device address of the External Device where error occurs, or error codes received from the External Device. **NOTE** • IP address is displayed such as "IP address (Decimal): MAC address (Hex)". • Device address is displayed such as "Address: Device address". • Received error codes are displayed such as "Decimal [Hex]".

Display Examples of Error Messages

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

NOTE
• Refer to your External Device manual for details on received error codes.
• Refer to "When an error is displayed (Error Code List)" in "Maintenance/Troubleshooting Manual" for details on the error messages common to the driver.

■ Error Code Peculiar to External Device

<Connection type: FETCH/WRITE>

Error Code	Description	Comment
0x09	Address Error: Trying to access an address that does not exist.	Check the address and correct it. It may be out of the address range, or DB may not be set to the External Device.

<Connection type: OP Communication>

Error Code	Description	Comment
0x05	Trying to access an address that does not exist.	Check the address range.
0x0A	Trying to access a DB that does not exist.	Check that DB is set.