KEYENCE Corporation

KEY_KETH_20

11/2025

# KV-700 - 8000, X - ETH Driver


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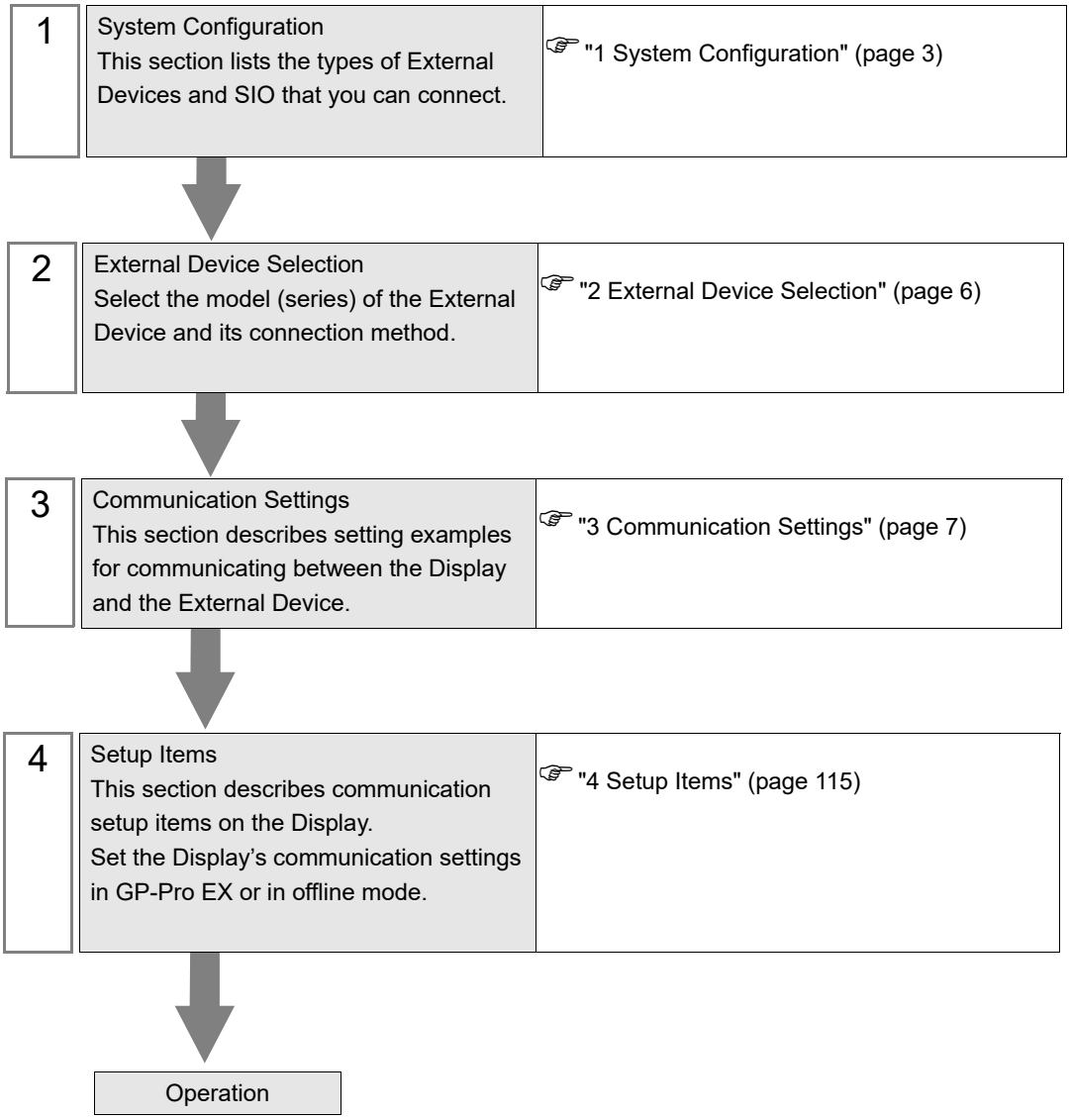
IMPORTANT

- The below Displays are no longer sold nor maintained by Pro-face. To reduce unplanned downtime due to aged hardware and to maximize your cyber security environment we recommend replacing your devices with a new, successor model. For details, please visit our homepage for "Recommended Substitution". Discontinued from GP-Pro EX 5.00 onwards: GP3000 Series, GP-4100 Series (Monochrome model), LT3000 Series, ST3000 Series, PL Series, PE4000 Series, PS2000/3000/4000 Series.
- For details on the Displays supported by the driver, please check the "Connectable Devices" on our website.
  http://www.pro-face.com/trans/en/manual/1064.html

## Introduction

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

In this manual, the connection procedure is described in the sections identified below.



# 1 System Configuration

The following table lists system configurations for connecting KEYENCE Corporation External Devices and the Display.

| Series | CPU | Link I/F | SIO Type | Setting Example |
|---|---|---|---|---|
| KV-700 Series | KV-700 | KV-LE20A | Ethernet (UDP) | Setting Example 1 (page 7) |
| | | | Ethernet (TCP) | Setting Example 2 (page 10) |
| | | KV-LE20V*1 | Ethernet (UDP) | Setting Example 5 (page 19) |
| | | | Ethernet (TCP) | Setting Example 6 (page 22) |
| KV-1000 Series | KV-1000 | KV-LE20A | Ethernet (UDP) | Setting Example 3 (page 13) |
| | | | Ethernet (TCP) | Setting Example 4 (page 16) |
| | | KV-LE20V*1 | Ethernet (UDP) | Setting Example 5 (page 19) |
| | | | Ethernet (TCP) | Setting Example 6 (page 22) |
| KV-3000 Series | KV-3000 | KV-LE20V*1 | Ethernet (UDP) | Setting Example 7 (page 25) |
| | | | Ethernet (TCP) | Setting Example 8 (page 28) |
| KV-5000 Series | KV-5000 | KV-LE20V*1 | Ethernet (UDP) | Setting Example 7 (page 25) |
| | | | Ethernet (TCP) | Setting Example 8 (page 28) |
| | | Ethernet port on CPU*1 | Ethernet (UDP) | Setting Example 9 (page 31) |
| | | | Ethernet (TCP) | Setting Example 10 (page 34) |
| KV-5500 Series | KV-5500 | KV-LE21V*2 | Ethernet (UDP) | Setting Example 11 (page 37) |
| | | | Ethernet (TCP) | Setting Example 12 (page 40) |
| | | Ethernet port on CPU*2 | Ethernet (UDP) | Setting Example 13 (page 43) |
| | | | Ethernet (TCP) | Setting Example 14 (page 46) |
| KV-7000 Series | KV-7300*3 | KV-LE20V | Ethernet (UDP) | Setting Example 15 (page 49) |
| | | | Ethernet (TCP) | Setting Example 16 (page 52) |
| | | KV-LE21V | Ethernet (UDP) | Setting Example 15 (page 49) |
| | | | Ethernet (TCP) | Setting Example 16 (page 52) |
| | | KV-EP21V | Ethernet (UDP) | Setting Example 21 (page 67) |
| | | | Ethernet (TCP) | Setting Example 22 (page 70) |
| | | KV-XLE02 | Ethernet (UDP) | Setting Example 23 (page 73) |
| | | | Ethernet (TCP) | Setting Example 24 (page 76) |

| Series | CPU | Link I/F | SIO Type | Setting Example |
|---|---|---|---|---|
| KV-7000 Series | KV-7500*3 | KV-LE20V | Ethernet (UDP) | Setting Example 15 (page 49) |
| | | | Ethernet (TCP) | Setting Example 16 (page 52) |
| | | KV-LE21V | Ethernet (UDP) | Setting Example 15 (page 49) |
| | | | Ethernet (TCP) | Setting Example 16 (page 52) |
| | | KV-EP21V | Ethernet (UDP) | Setting Example 21 (page 67) |
| | | | Ethernet (TCP) | Setting Example 22 (page 70) |
| | | Ethernet port on CPU | Ethernet (UDP) | Setting Example 17 (page 55) |
| | | | Ethernet (TCP) | Setting Example 18 (page 58) |
| | | KV-XLE02 | Ethernet (UDP) | Setting Example 23 (page 73) |
| | | | Ethernet (TCP) | Setting Example 24 (page 76) |
| KV-Nano Series | KV-NC32T<br>KV-N14□□<br>KV-N24□□<br>KV-N40□□<br>KV-N60□□ | KV-NC1EP*4 | Ethernet (UDP) | Setting Example 19 (page 61) |
| | | | Ethernet (TCP) | Setting Example 20 (page 64) |
| KV-8000 Series | KV-8000*5 | KV-LE20V | Ethernet (UDP) | Setting Example 25 (page 79) |
| | | | Ethernet (TCP) | Setting Example 26 (page 82) |
| | | KV-LE21V | Ethernet (UDP) | Setting Example 25 (page 79) |
| | | | Ethernet (TCP) | Setting Example 26 (page 82) |
| | | KV-EP21V | Ethernet (UDP) | Setting Example 27 (page 85) |
| | | | Ethernet (TCP) | Setting Example 28 (page 88) |
| | | Ethernet port on CPU | Ethernet (UDP) | Setting Example 29 (page 91) |
| | | | Ethernet (TCP) | Setting Example 30 (page 94) |
| | | KV-XLE02 | Ethernet (UDP) | Setting Example 31 (page 97) |
| | | | Ethernet (TCP) | Setting Example 32 (page 100) |
| KV-X series | KV-X310<br>KV-X520<br>KV-X530<br>KV-X550*6 | Ethernet port on CPU | Ethernet (UDP) | Setting Example 33 (page 103) |
| | | | Ethernet (TCP) | Setting Example 34 (page 106) |
| | | KV-XLE02 | Ethernet (UDP) | Setting Example 35 (page 109) |
| | | | Ethernet (TCP) | Setting Example 36 (page 112) |

*1 Communication settings require ladder software KV STUDIO Ver. 4 or later.

*2 Communication settings require ladder software KV STUDIO Ver. 6 or later.

*3 Communication settings require ladder software KV STUDIO Ver. 8 or later.

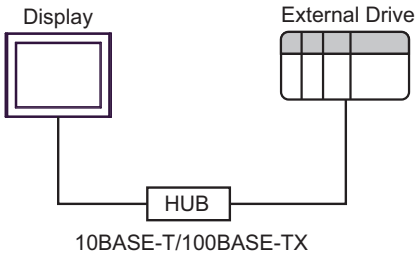
*4 Communication settings require ladder software KV STUDIO Ver. 7.1 or later.

*5 Communication settings require ladder software KV STUDIO Ver. 10.0 or later.

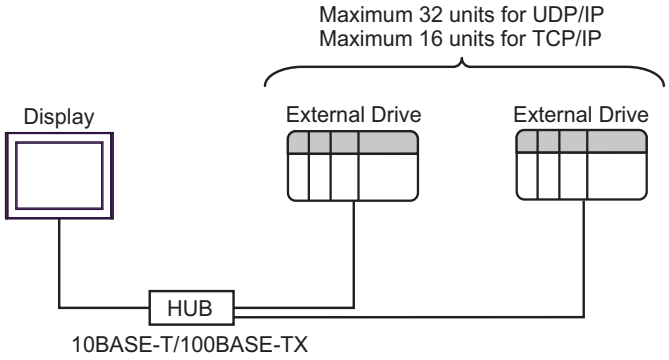
*6 Communication settings require ladder software KV STUDIO Ver. 12.0 or later.

## ■ Connection Configuration

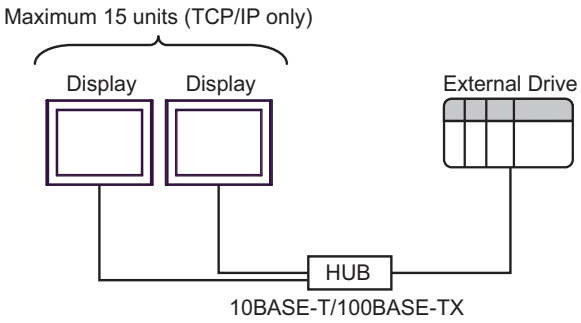
- 1:1 Connection




- 1:n Connection




- n:1 Connection

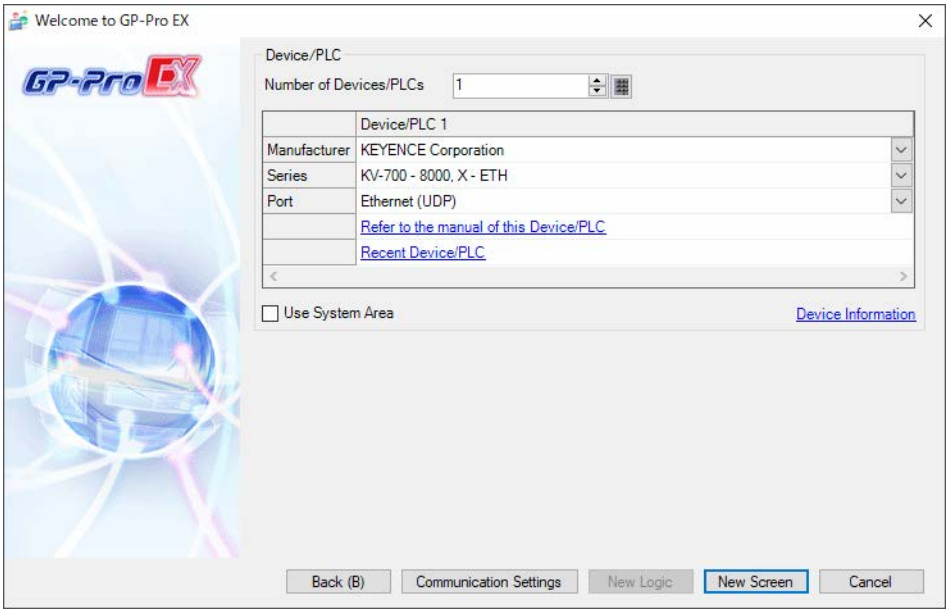



**NOTE**

- You can connect only one display when you use UDP/IP.

# 2 External Device Selection

Select the External Device to connect to the Display.




| Setup Items | Setup Description |
|---|---|
| Number of Devices/ PLCs | Enter an integer from "1 to 4" to set the series number. |
| Manufacturer | Select the manufacturer of the External Device to be connected. Select "KEYENCE Corporation". |
| Series | Select the model (series) of the External Device to be connected and the connection method. Select "KV-700 - 8000, X - ETH".<br>In System Configuration, check to make sure the external device to which you are connecting is supported in "KV-700 - 8000, X - ETH".<br>☞ "1 System Configuration" (page 3) |
| Port | Select the port of the Display to be connected to the External Device. |
| Use System Area | Check this option to synchronize the system data area of the display unit and the device (memory) of the External Device. When they are synchronized, you can use the ladder program of the External Device to change screens or to pop up a window on the Display.<br>Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"<br>This can also be set with GP-Pro EX or in the Display offline mode.<br>Cf. GP-Pro EX Reference Manual "[System Settings] Setting Guide, [Display Unit] Settings Guide, System Area Settings"<br>Cf. Maintenance/Troubleshooting Guide "Settings common to all Display models, [Main Unit Settings] Settings Guide, System Area Settings" |

# 3 Communication Settings

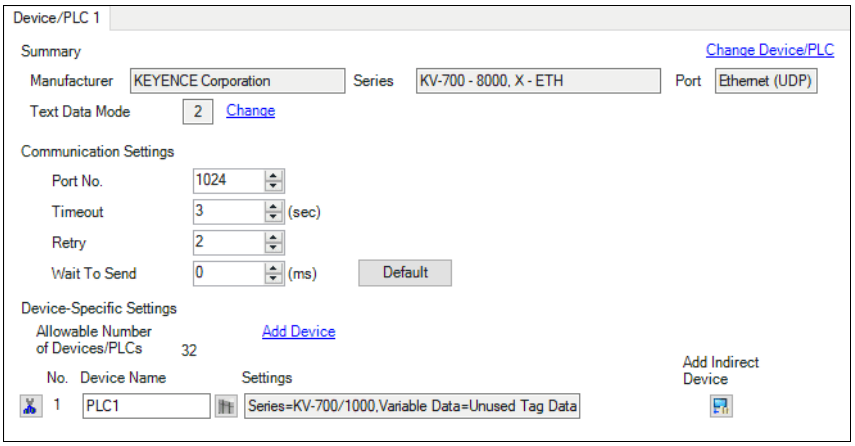
This section provides examples of communication settings recommended by Pro-face for the Display and the External Device.

## 3.1 Setting Example 1

### ■ GP-Pro EX Settings

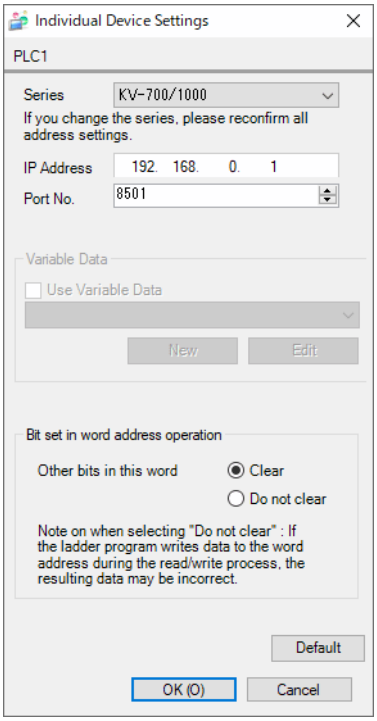
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use the configuration tool (KV BUILDER/Ver. 4.70) for External Device communication settings. Refer to your External Device manual for details.

1 Start up the configuration tool.

2 From the [File] menu, select [New Project], enter a project name, and then click [OK].

3 In the [Change Device] dialog box, if extended memory is installed, select "KV-700+M"; if not, select "KV-700". Then click [OK].

4 In the dialog box that appears, click [Yes] to move to the Unit Editor.

5 Click the [Unit selection (2)] tab, select "KV-LE20A", and then drag and drop the unit between the CPU and the end unit.

6 With KV-LE20A selected, switch to the [Unit setup (3)] tab, and set as follows.

| Setup Items | Settings |
|---|---|
| First DM No. | DM10000 |
| Speed | 100/10 Mbps (automatic) |
| IP Address | 192.168.0.1 |
| Subnet Mask | 255.255.255.0 |
| Port No. (HOST Link) | 8501 |

7 From the [File] menu, select [Save and Exit] to return to the editor mode.

8 From the [Monitor/Simulator] menu, select [Convert → Move → Monitor].

9 Check [Unit setting information], and then click [Exec]. The setting information is transferred.

This completes the setting of the External Device.

◆ Notes

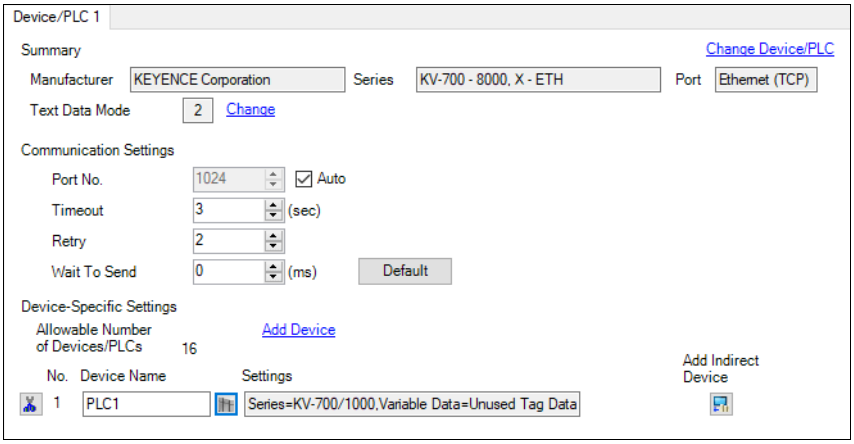
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.2 Setting Example 2

### ■ GP-Pro EX Settings

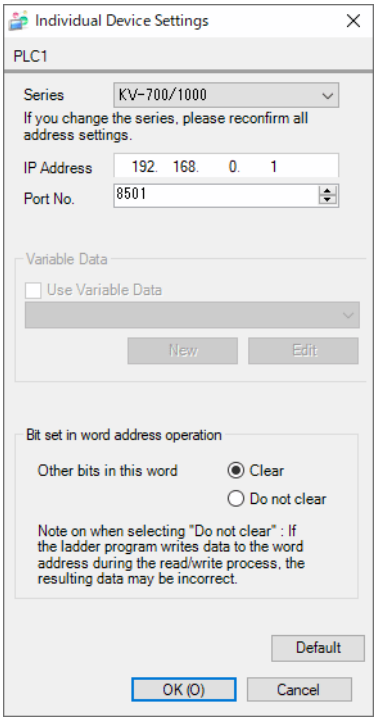
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use the configuration tool (KV BUILDER/Ver. 4.70) for External Device communication settings. Refer to your External Device manual for details.

1 Start up the configuration tool.

2 From the [File] menu, select [New Project], enter a project name, and then click [OK].

3 In the [Change Device] dialog box, if extended memory is installed, select "KV-700+M"; if not, select "KV-700". Then click [OK].

4 In the dialog box that appears, click [Yes] to move to the Unit Editor.

5 Click the [Unit selection (2)] tab, select "KV-LE20A", and then drag and drop the unit between the CPU and the end unit.

6 With KV-LE20A selected, switch to the [Unit setup (3)] tab, and set as follows.

| Setup Items | Settings |
|---|---|
| First DM No. | DM10000 |
| Speed | 100/10 Mbps (automatic) |
| IP Address | 192.168.0.1 |
| Subnet Mask | 255.255.255.0 |
| Port No. (HOST Link) | 8501 |

7 From the [File] menu, select [Save and Exit] to return to the editor mode.

8 From the [Monitor/Simulator] menu, select [Convert → Move → Monitor].

9 Check [Unit setting information], and then click [Exec]. The setting information is transferred.

This completes the setting of the External Device.

◆ Notes

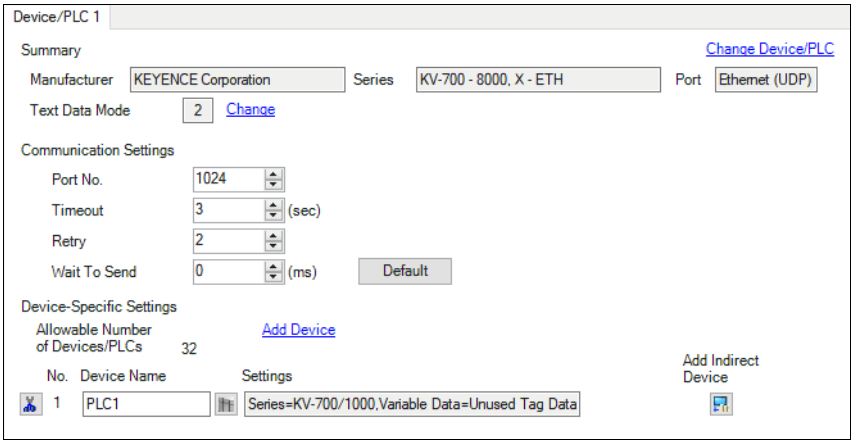
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.3 Setting Example 3

### ■ GP-Pro EX Settings

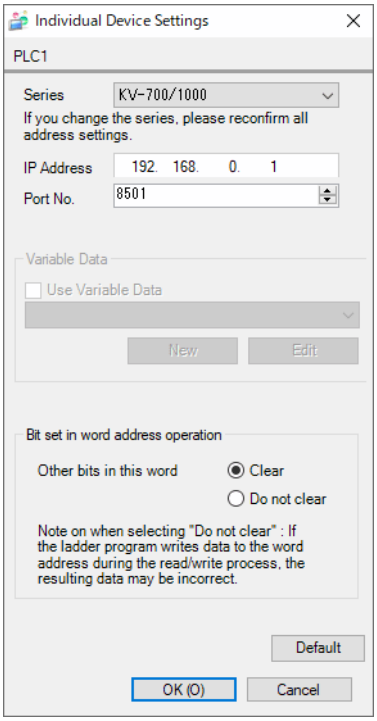
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use the configuration tool (KV STUDIO/Ver. 2.50) for External Device communication settings. Refer to your External Device manual for details.

1 Start up the configuration tool.
2 From the [File] menu, select [New Project], enter a project name, and then click [OK].
3 In the dialog box that appears, click [Yes] to move to the Unit Editor.
4 Click the [Unit selection (2)] tab, select "KV-LE20A", and then drag and drop the unit between the CPU and the end unit.
5 With KV-LE20A selected, switch to the [Unit setup (3)] tab, and set as follows.

| Setup Items | Settings |
|---|---|
| First DM No. | DM10000 |
| Speed | 100/10 Mbps (automatic) |
| IP Address | 192.168.0.1 |
| Subnet Mask | 255.255.255.0 |
| Port No. (HOST Link) | 8501 |

6 From the [File] menu, select [Save and Exit] to return to the editor mode.
7 From the [Monitor/Simulator] menu, select [Convert → Move].
8 Check [Unit setting information], and then click [Exec]. The setting information is transferred.

This completes the setting of the External Device.

◆ Notes

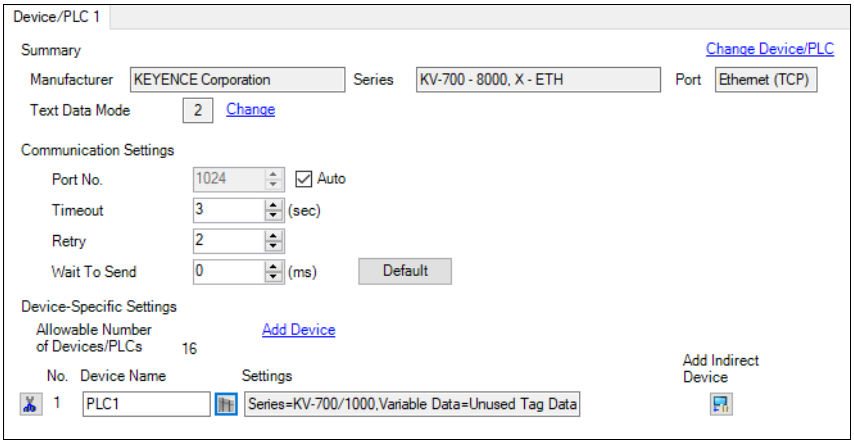
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.4 Setting Example 4

### ■ GP-Pro EX Settings

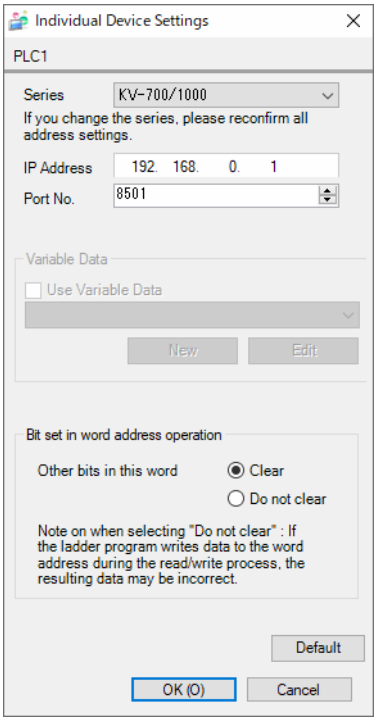
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use the configuration tool (KV STUDIO/Ver. 2.50) for External Device communication settings. Refer to your External Device manual for details.

1 Start up the configuration tool.
2 From the [File] menu, select [New Project], enter a project name, and then click [OK].
3 In the dialog box that appears, click [Yes] to move to the Unit Editor.
4 Click the [Unit selection (2)] tab, select "KV-LE20A", and then drag and drop the unit between the CPU and the end unit.
5 With KV-LE20A selected, switch to the [Unit setup (3)] tab, and set as follows.

| Setup Items | Settings |
|---|---|
| First DM No. | DM10000 |
| Speed | 100/10 Mbps (automatic) |
| IP Address | 192.168.0.1 |
| Subnet Mask | 255.255.255.0 |
| Port No. (HOST Link) | 8501 |

6 From the [File] menu, select [Save and Exit] to return to the editor mode.
7 From the [Monitor/Simulator] menu, select [Convert → Move].
8 Check [Unit setting information], and then click [Exec]. The setting information is transferred.

This completes the setting of the External Device.

◆ Notes

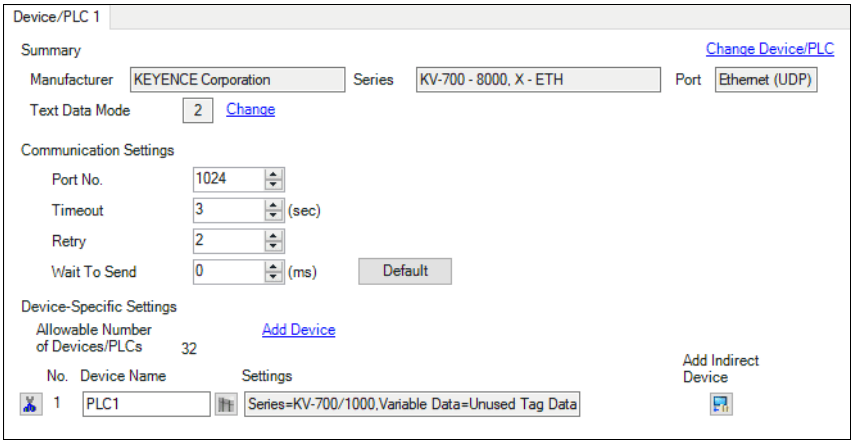
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.5 Setting Example 5

### ■ GP-Pro EX Settings

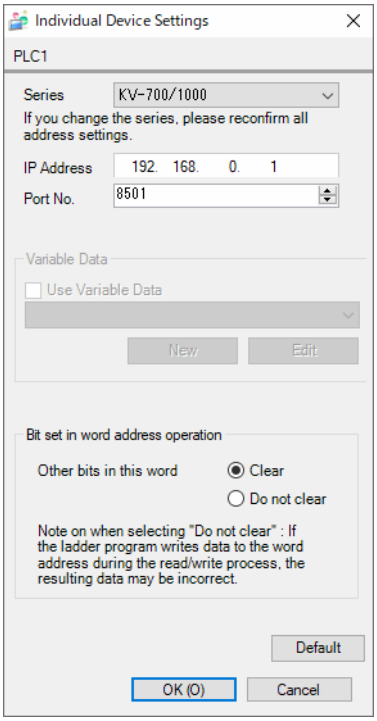
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use the ladder software (KV STUDIO Ver. 4 or later) for External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New Project] and display the [New Project] dialog box.
3 Type a project name in [Project Name], select the External Device to use under [PLC model], and click [OK].
4 Click [Yes] in the [Confirm unit setting information] dialog box and display the [Unit Editor] window.
5 Select "KV-LE20V" from the displayed unit list on the [Select unit] tab, and drag & drop it to the unit placement area.
6 Right-click "KV-LE20V" in the unit placement area and select [Unit setup display].
7 Configure the following setting items.

| Setup Items | Settings |
|---|---|
| First DM No. | DM10100 |
| Speed | 100/10 Mbps (automatic) |
| IP Address | 192.168.0.1 |
| Subnet Mask | 255.255.255.0 |
| Port No. (HOST Link) | 8501 |

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer Program] dialog box.
12 Check [Unit setting info] and [Program], and then click [Execute]. The setting information is transferred.

This completes the setting of the External Device.

### ◆ Notes

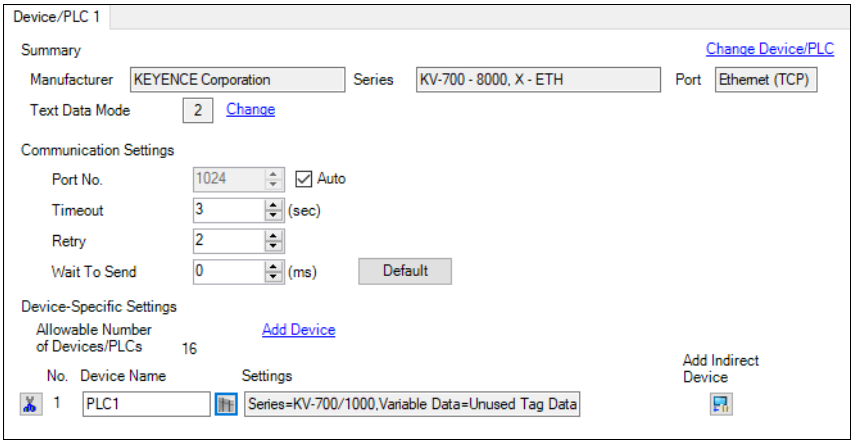
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.6 Setting Example 6

### ■ GP-Pro EX Settings

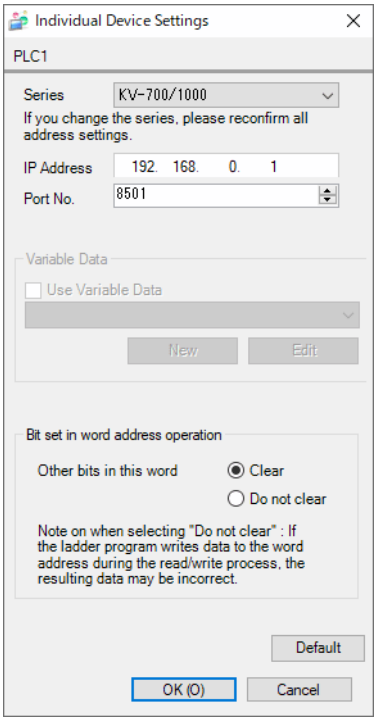
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use the ladder software (KV STUDIO Ver. 4 or later) for External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New Project] and display the [New Project] dialog box.
3 Type a project name in [Project Name], select the External Device to use under [PLC model], and click [OK].
4 Click [Yes] in the [Confirm unit setting information] dialog box and display the [Unit Editor] window.
5 Select "KV-LE20V" from the displayed unit list on the [Select unit] tab, and drag & drop it to the unit placement area.
6 Right-click "KV-LE20V" in the unit placement area and select [Unit setup display].
7 Configure the following setting items.

| Setup Items | Settings |
|---|---|
| First DM No. | DM10100 |
| Speed | 100/10 Mbps (automatic) |
| IP Address | 192.168.0.1 |
| Subnet Mask | 255.255.255.0 |
| Port No. (HOST Link) | 8501 |

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer Program] dialog box.
12 Check [Unit setting info] and [Program], and then click [Execute]. The setting information is transferred.

This completes the setting of the External Device.

### ◆ Notes

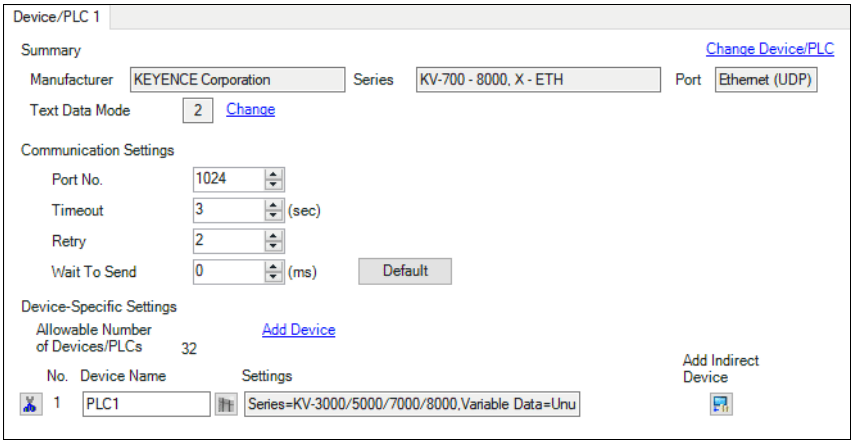
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.7 Setting Example 7

### ■ GP-Pro EX Settings

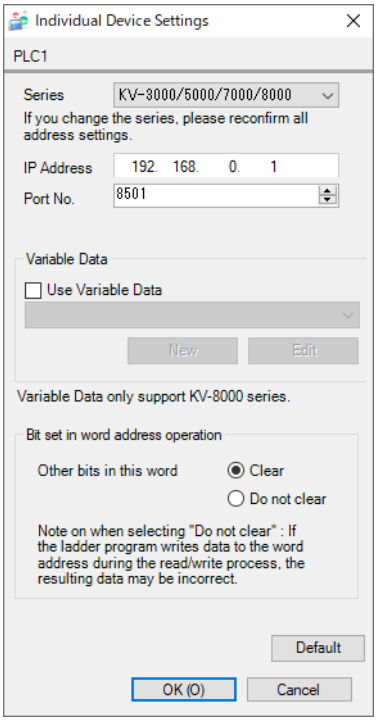
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use the ladder software (KV STUDIO Ver. 4 or later) for External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New Project] and display the [New Project] dialog box.
3 Type a project name in [Project Name], select the External Device to use under [PLC model], and click [OK].
4 Click [Yes] in the [Confirm unit setting information] dialog box and display the [Unit Editor] window.
5 Select "KV-LE20V" from the displayed unit list on the [Select unit] tab, and drag & drop it to the unit placement area.
6 Right-click "KV-LE20V" in the unit placement area and select [Unit setup display].
7 Configure the following setting items.

| Setup Items | Settings |
|---|---|
| First DM No. | DM10100 |
| Speed | 100/10 Mbps (automatic) |
| IP Address | 192.168.0.1 |
| Subnet Mask | 255.255.255.0 |
| Port No. (HOST Link) | 8501 |

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer Program] dialog box.
12 Check [Unit setting info] and [Program], and then click [Execute]. The setting information is transferred.

This completes the setting of the External Device.

### ◆ Notes

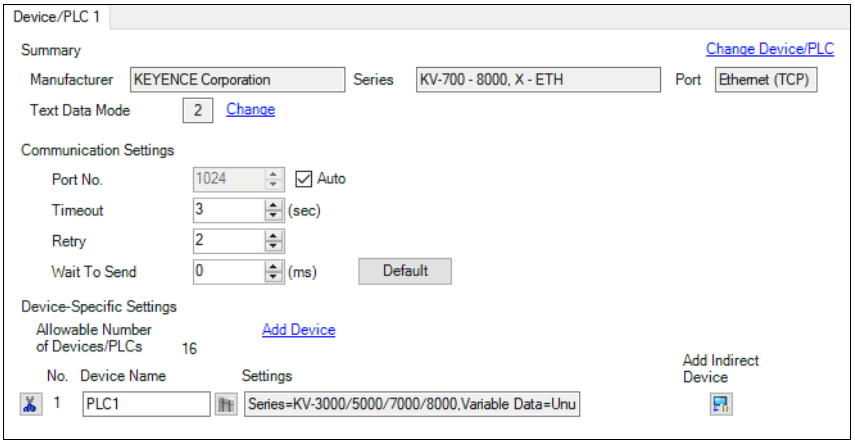
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.8 Setting Example 8

### ■ GP-Pro EX Settings

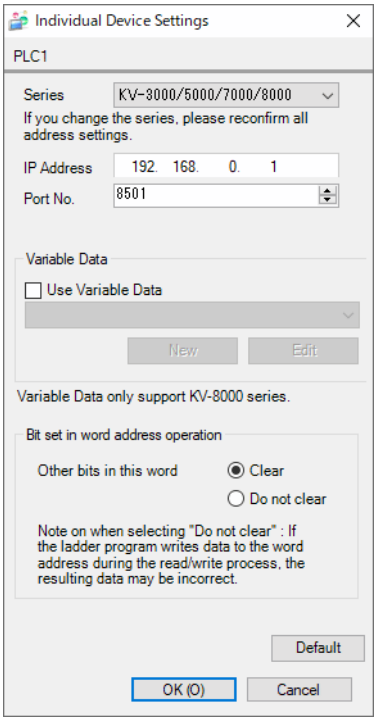
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use the ladder software (KV STUDIO Ver. 4 or later) for External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New Project] and display the [New Project] dialog box.
3 Type a project name in [Project Name], select the External Device to use under [PLC model], and click [OK].
4 Click [Yes] in the [Confirm unit setting information] dialog box and display the [Unit Editor] window.
5 Select "KV-LE20V" from the displayed unit list on the [Select unit] tab, and drag & drop it to the unit placement area.
6 Right-click "KV-LE20V" in the unit placement area and select [Unit setup display].
7 Configure the following setting items.

| Setup Items | Settings |
|---|---|
| First DM No. | DM10100 |
| Speed | 100/10 Mbps (automatic) |
| IP Address | 192.168.0.1 |
| Subnet Mask | 255.255.255.0 |
| Port No. (HOST Link) | 8501 |

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer Program] dialog box.
12 Check [Unit setting info] and [Program], and then click [Execute]. The setting information is transferred.

This completes the setting of the External Device.

### ◆ Notes

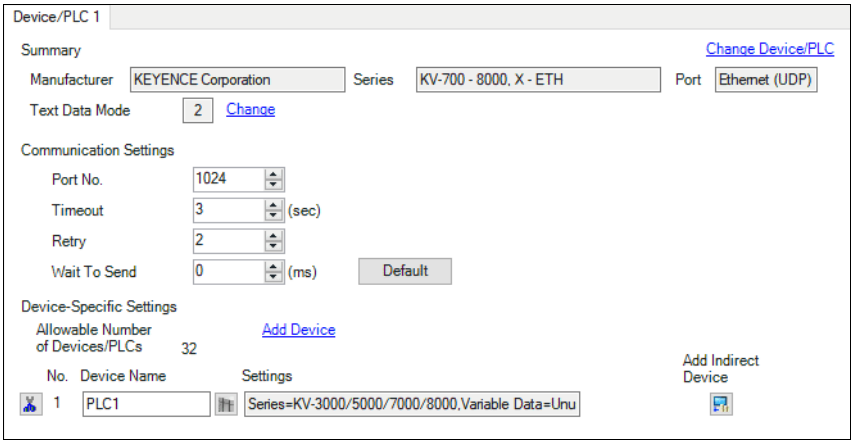
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.9 Setting Example 9

### ■ GP-Pro EX Settings

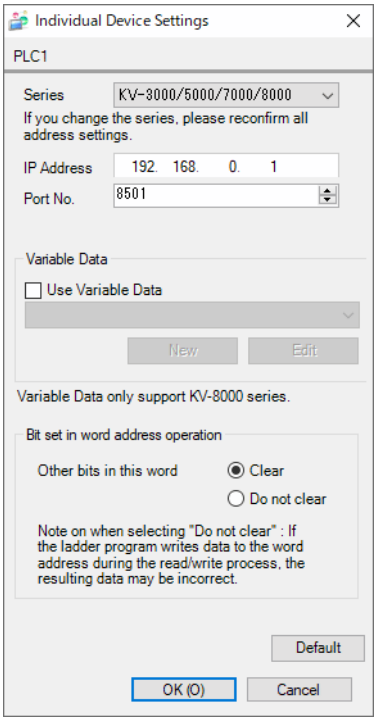
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use the ladder software (KV STUDIO Ver. 4 or later) for External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New Project] and display the [New Project] dialog box.
3 Type a project name in [Project Name], select the External Device to use under [PLC model], and click [OK].
4 Click [Yes] in the [Confirm unit setting information] dialog box and display the [Unit Editor] window.
5 Right-click "KV-5000" in the unit placement area and select [Unit setup display].
6 Select "Ethernet" in [Communication Mode], and configure the following setting items.

| Setup Items | Settings |
|---|---|
| First DM No. | DM0 |
| Speed | 100/10 Mbps (automatic) |
| IP Address | 192.168.0.1 |
| Subnet Mask | 255.255.255.0 |
| Port No. (HOST Link) | 8501 |

7 From the [Convert] menu, select [Auto-assign relay/DM].
8 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
9 Click [Yes].
10 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer Program] dialog box.
11 Check [Unit setting info] and [Program], and then click [Execute]. The setting information is transferred.

This completes the setting of the External Device.

### ◆ Notes

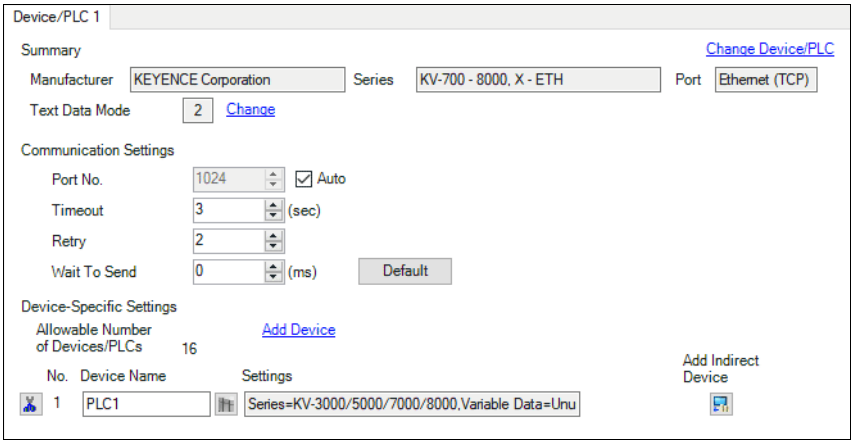
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.10 Setting Example 10

### ■ GP-Pro EX Settings

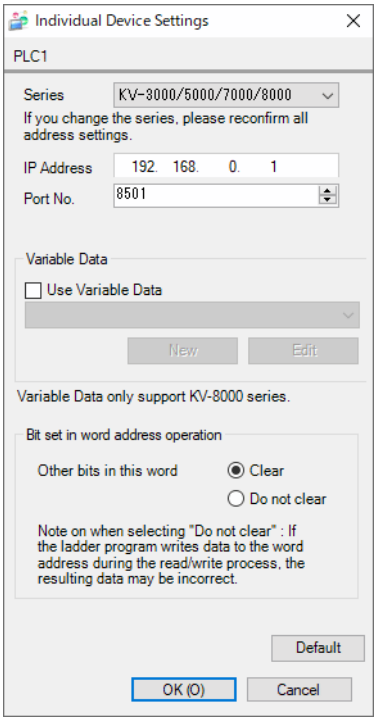
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use the ladder software (KV STUDIO Ver. 4 or later) for External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New Project] and display the [New Project] dialog box.
3 Type a project name in [Project Name], select the External Device to use under [PLC model], and click [OK].
4 Click [Yes] in the [Confirm unit setting information] dialog box and display the [Unit Editor] window.
5 Right-click "KV-5000" in the unit placement area and select [Unit setup display].
6 Select "Ethernet" in [Communication Mode], and configure the following setting items.

| Setup Items | Settings |
|---|---|
| First DM No. | DM0 |
| Speed | 100/10 Mbps (automatic) |
| IP Address | 192.168.0.1 |
| Subnet Mask | 255.255.255.0 |
| Port No. (HOST Link) | 8501 |

7 From the [Convert] menu, select [Auto-assign relay/DM].
8 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
9 Click [Yes].
10 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer Program] dialog box.
11 Check [Unit setting info] and [Program], and then click [Execute]. The setting information is transferred.

This completes the setting of the External Device.

### ◆ Notes

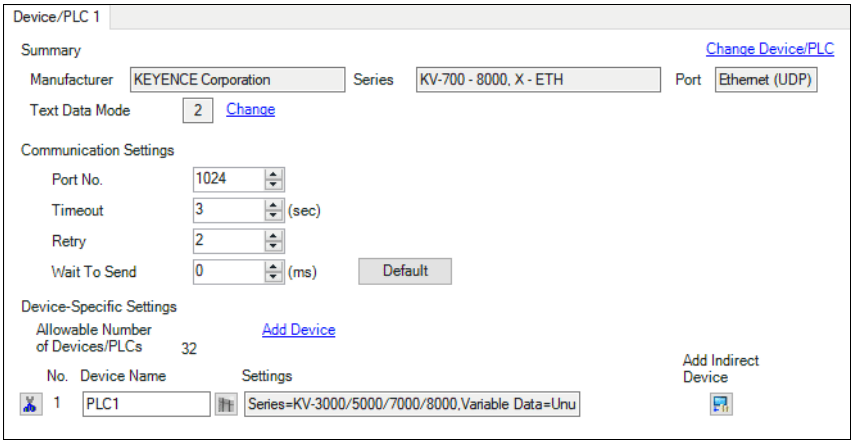
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.11 Setting Example 11

### ■ GP-Pro EX Settings

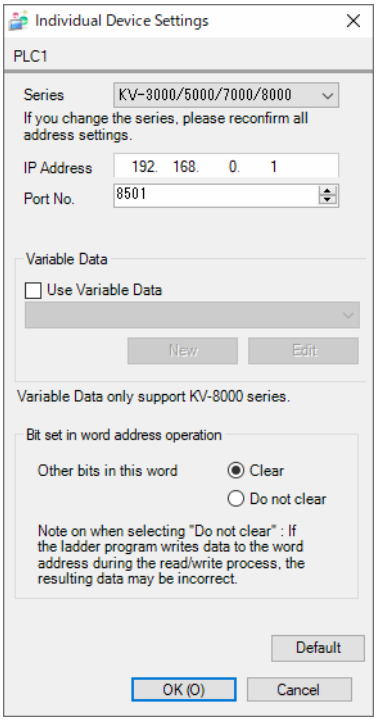
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.
- If you are using a KV-5500 series device, from the [Series] list select [KV-3000/5000/7000/8000].

## ■ External Device Settings

Use ladder software KV STUDIO Ver. 6 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 On the [Select unit (1)] tab, from the displayed list of units select "KV-LE2*V", then drag & drop to the unit placement area.
6 In the unit placement area click "KV-LE2*V" and then select the [Setup unit (2)] tab.
7 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
12 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
13 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
14 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

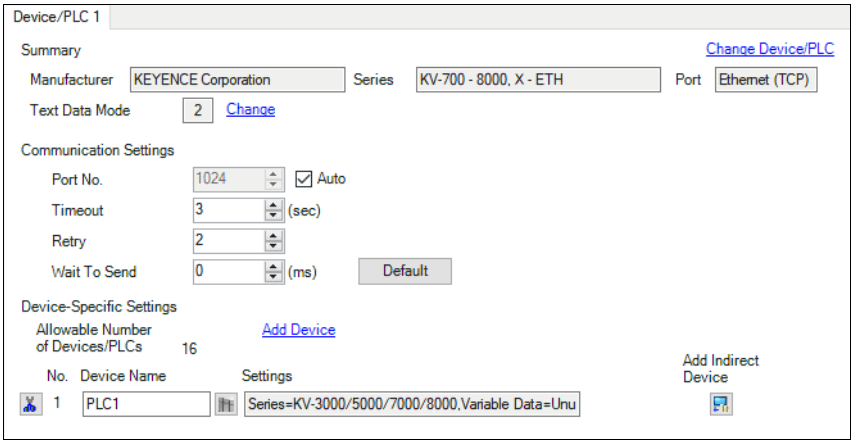
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.12 Setting Example 12

### ■ GP-Pro EX Settings

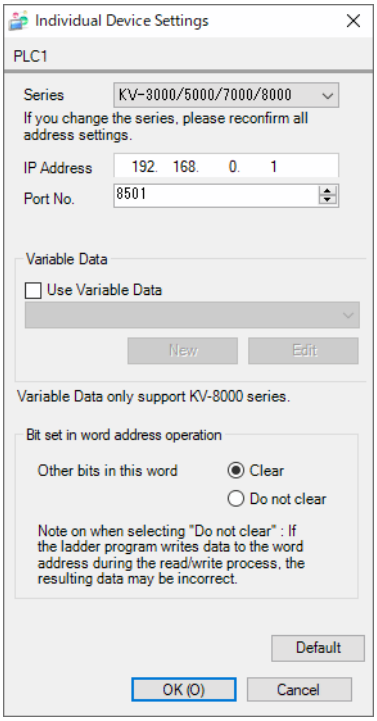
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.
- If you are using a KV-5500 series device, from the [Series] list select [KV-3000/5000/7000/8000].

## ■ External Device Settings

Use ladder software KV STUDIO Ver. 6 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 On the [Select unit (1)] tab, from the displayed list of units select "KV-LE2*V", then drag & drop to the unit placement area.
6 In the unit placement area click "KV-LE2*V" and then select the [Setup unit (2)] tab.
7 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
12 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
13 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
14 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

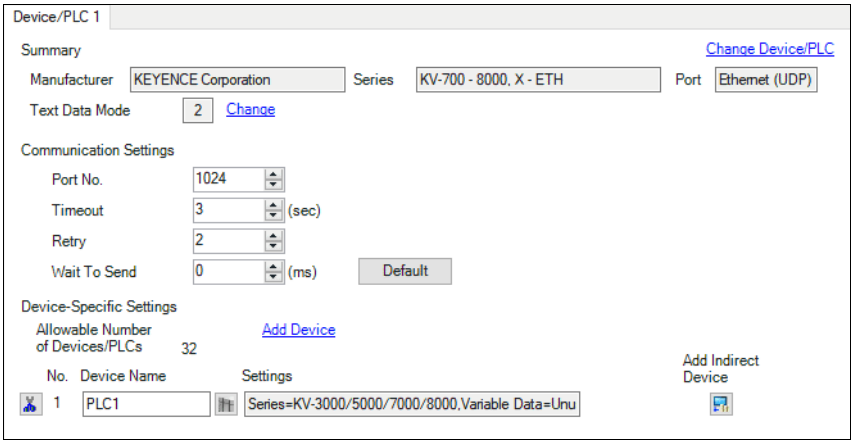
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.13 Setting Example 13

### ■ GP-Pro EX Settings

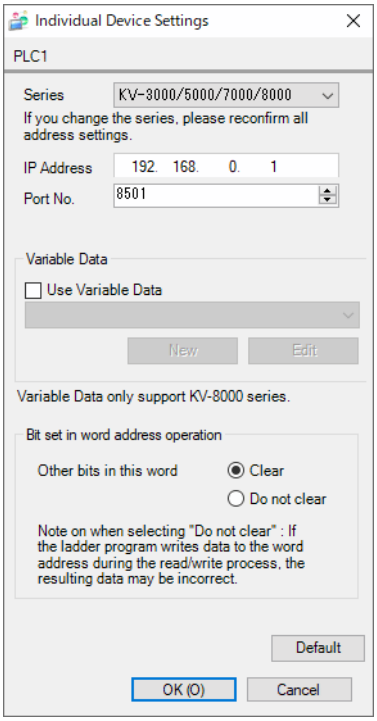
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.
- If you are using a KV-5500 series device, from the [Series] list select [KV-3000/5000/7000/8000].

## ■ External Device Settings

Use the ladder software KV STUDIO Ver. 6 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 In the unit placement area, click "KV-5500" and then select the [Setup unit (2)] tab.
6 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |

7 From the [Convert] menu, select [Auto-assign relay/DM].
8 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
9 Click [Yes].
10 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
11 Check the connection between the computer and device, and then click [OK]. Communication settings for the connections are set.
12 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
13 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

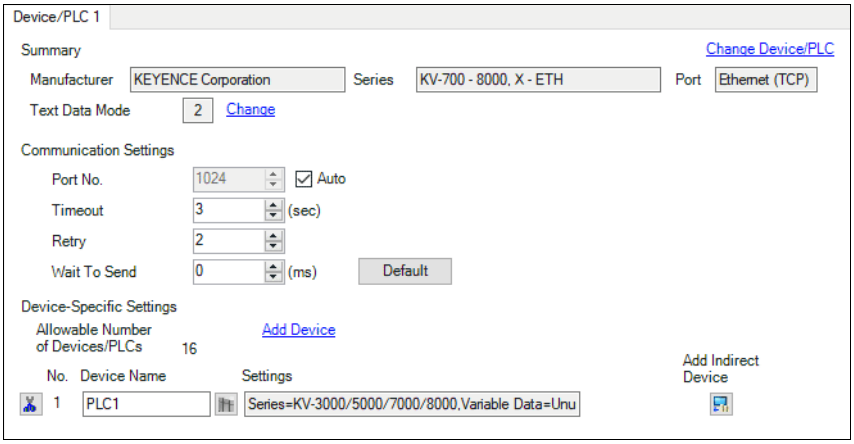
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.14 Setting Example 14

### ■ GP-Pro EX Settings

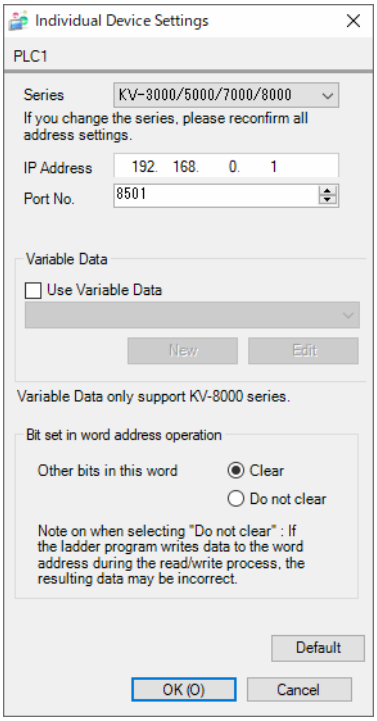
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.
- If you are using a KV-5500 series device, from the [Series] list select [KV-3000/5000/7000/8000].

## ■ External Device Settings

Use the ladder software KV STUDIO Ver. 6 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 In the unit placement area, click "KV-5500" and then select the [Setup unit (2)] tab.
6 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |

7 From the [Convert] menu, select [Auto-assign relay/DM].
8 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
9 Click [Yes].
10 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
11 Check the connection between the computer and device, and then click [OK]. Communication settings for the connections are set.
12 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
13 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

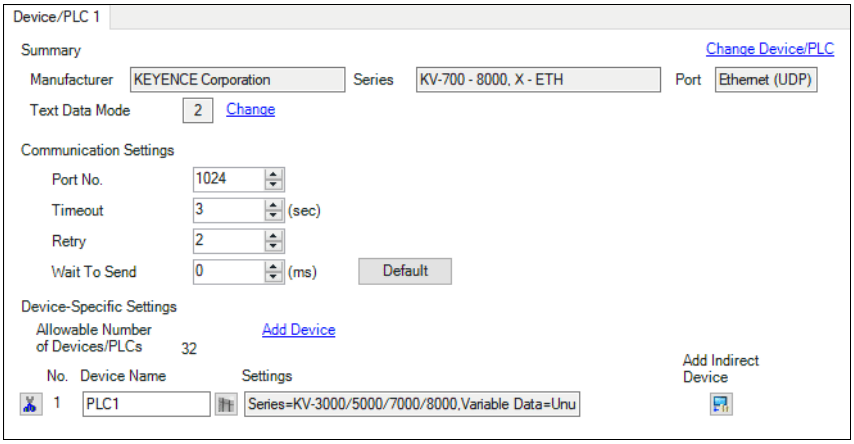
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.15 Setting Example 15

### ■ GP-Pro EX Settings

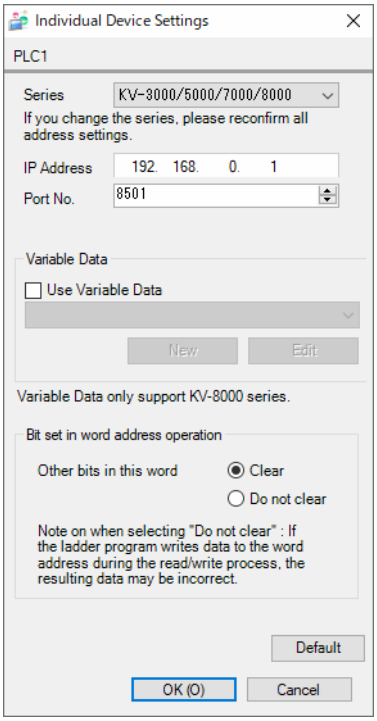
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use ladder software KV STUDIO Ver. 8 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 On the [Select unit (1)] tab, from the displayed list of units select "KV-LE2*V", then drag & drop to the unit placement area.
6 In the unit placement area click "KV-LE2*V" and then select the [Setup unit (2)] tab.
7 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 0 |
| Port No. (HOST Link) | 8501 |

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
12 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
13 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
14 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

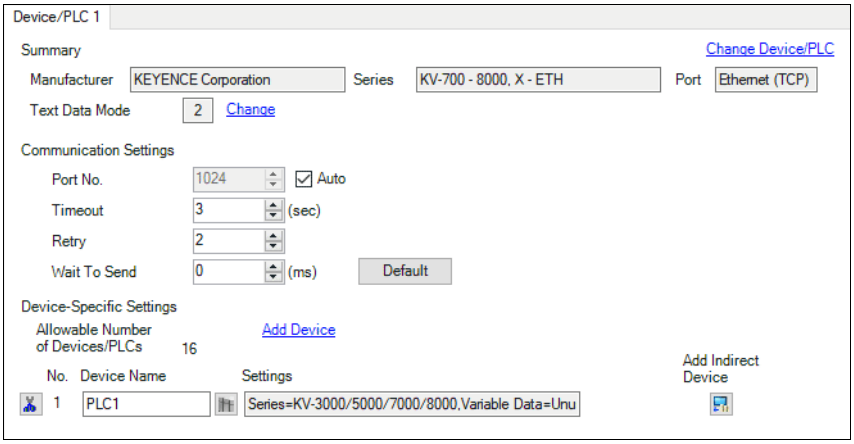
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.16 Setting Example 16

### ■ GP-Pro EX Settings

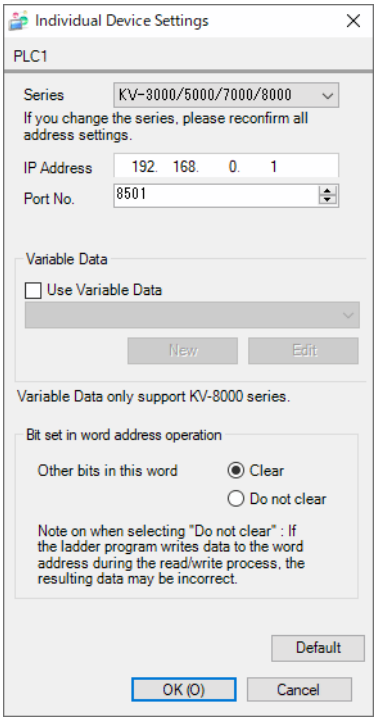
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use ladder software KV STUDIO Ver. 8 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 On the [Select unit (1)] tab, from the displayed list of units select "KV-LE2*V", then drag & drop to the unit placement area.
6 In the unit placement area click "KV-LE2*V" and then select the [Setup unit (2)] tab.
7 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 0 |
| Port No. (HOST Link) | 8501 |

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
12 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
13 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
14 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

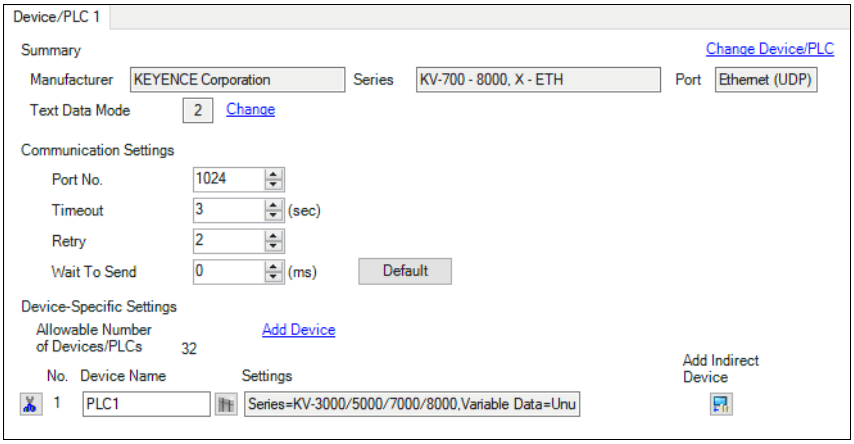
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.17 Setting Example 17

### ■ GP-Pro EX Settings

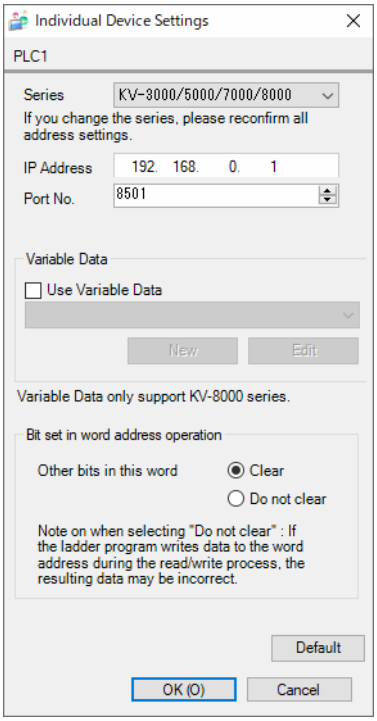
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use the ladder software KV STUDIO Ver. 8 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 In the unit placement area, click CPU and then select the [Setup unit (2)] tab.
6 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 0 |
| Port No. (HOST Link) | 8501 |

7 From the [Convert] menu, select [Auto-assign relay/DM].
8 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
9 Click [Yes].
10 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
11 Check the connection between the computer and device, and then click [OK]. Communication settings for the connections are set.
12 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
13 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

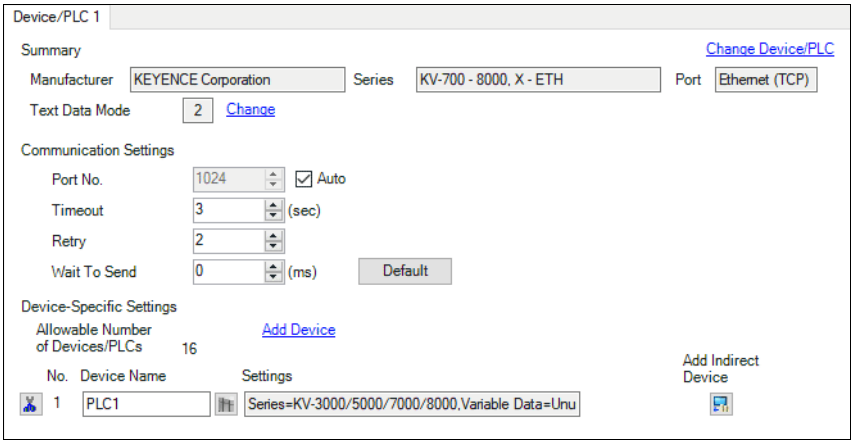
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.18 Setting Example 18

### ■ GP-Pro EX Settings

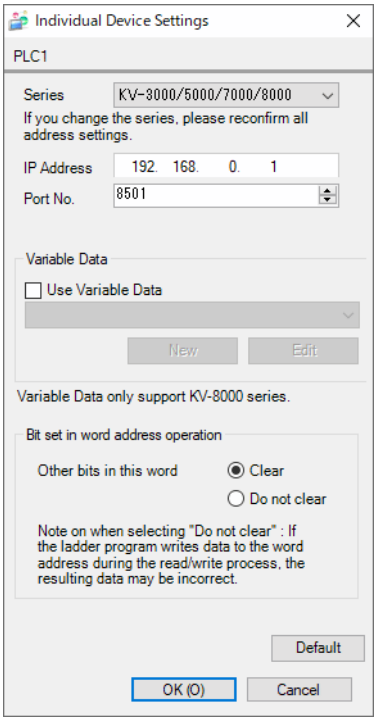
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use the ladder software KV STUDIO Ver. 8 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 In the unit placement area, click CPU and then select the [Setup unit (2)] tab.
6 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 0 |
| Port No. (HOST Link) | 8501 |

7 From the [Convert] menu, select [Auto-assign relay/DM].
8 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
9 Click [Yes].
10 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
11 Check the connection between the computer and device, and then click [OK]. Communication settings for the connections are set.
12 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
13 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

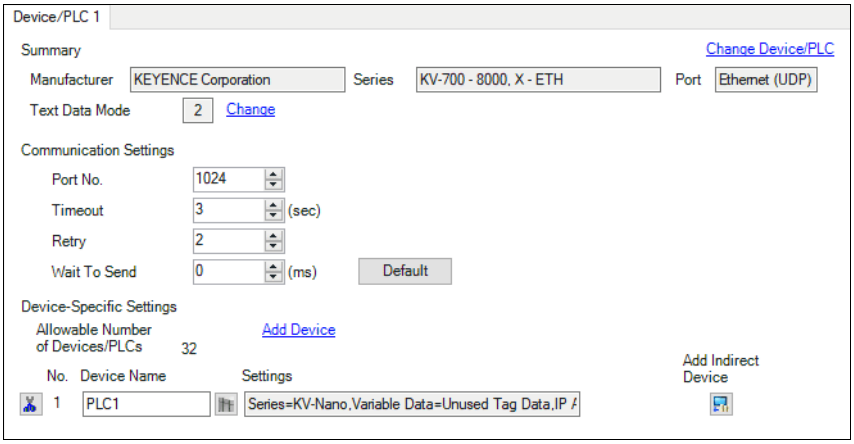
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.19 Setting Example 19

### ■ GP-Pro EX Settings

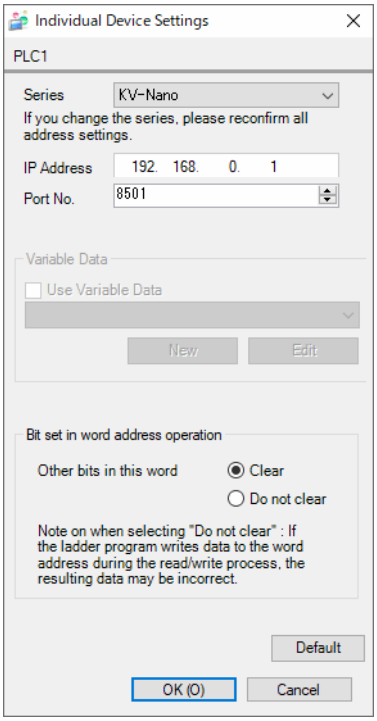
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the External Device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use ladder software KV STUDIO Ver. 8 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 On the [Select unit (1)] tab, from the displayed list of units select "KV-NC1EP", then drag & drop to the unit placement area.
6 In the unit placement area click "KV-NC1EP" and then select the [Setup unit (2)] tab.
7 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 0 |
| Port No. (HOST Link) | 8501 |

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
12 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
13 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
14 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

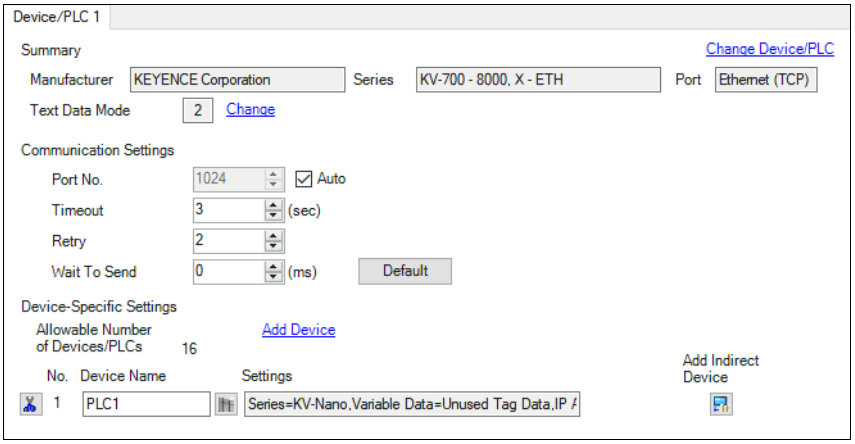
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.20 Setting Example 20

### ■ GP-Pro EX Settings

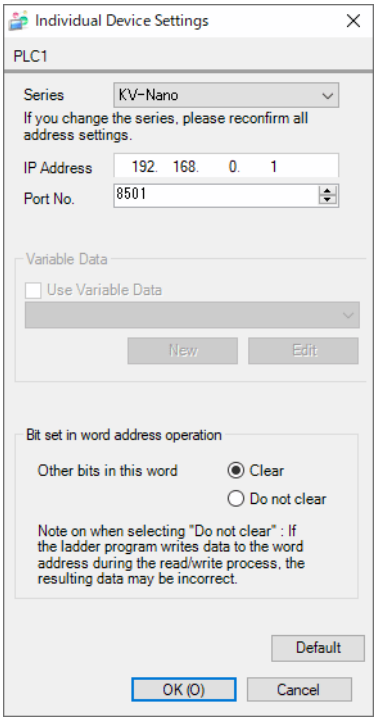
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the External Device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use ladder software KV STUDIO Ver. 8 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 On the [Select unit (1)] tab, from the displayed list of units select "KV-NC1EP", then drag & drop to the unit placement area.
6 In the unit placement area click "KV-NC1EP" and then select the [Setup unit (2)] tab.
7 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 0 |
| Port No. (HOST Link) | 8501 |

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
12 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
13 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
14 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

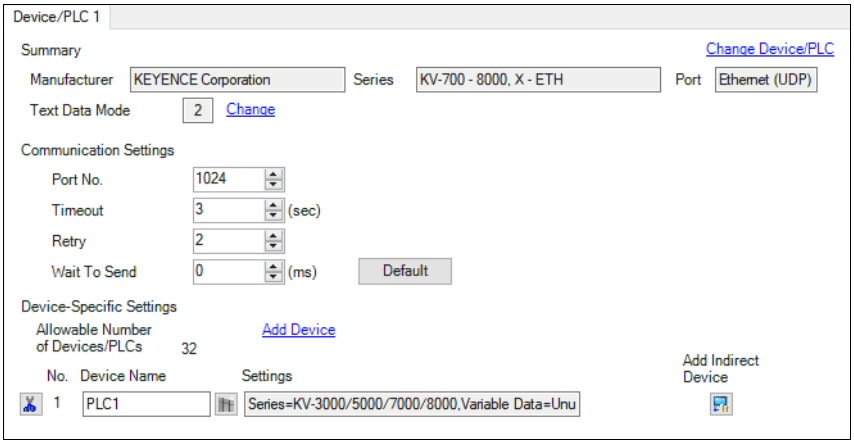
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.21 Setting Example 21

### ■ GP-Pro EX Settings

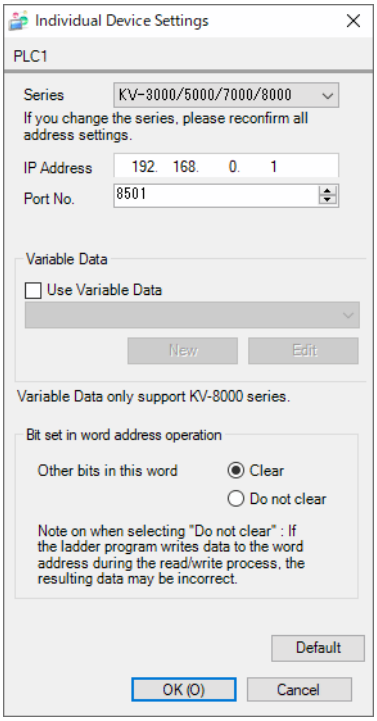
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the External Device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use ladder software KV STUDIO Ver. 8 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 On the [Select unit (1)] tab, from the displayed list of units select "KV-EP2*V", then drag & drop to the unit placement area.
6 In the unit placement area click "KV-EP2*V" and then select the [Setup unit (2)] tab.
7 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 0 |
| Port No. (HOST Link) | 8501 |

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
12 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
13 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
14 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

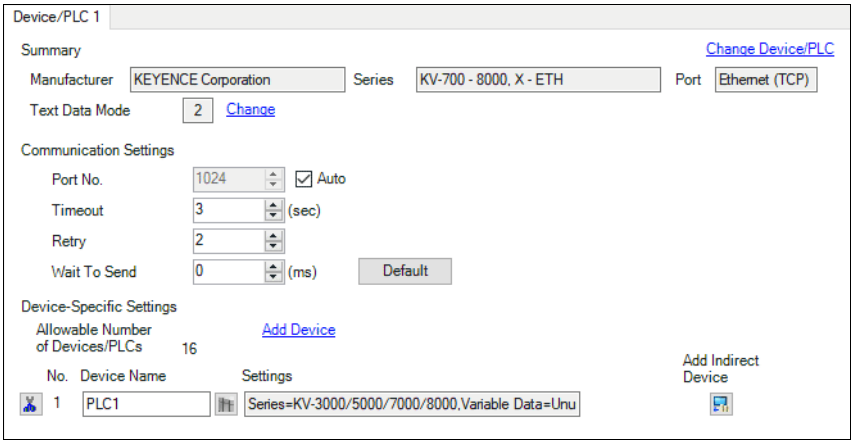
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.22 Setting Example 22

### ■ GP-Pro EX Settings

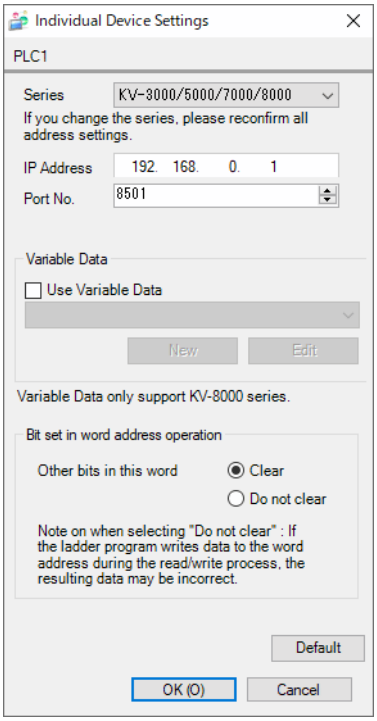
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the External Device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use ladder software KV STUDIO Ver. 8 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 On the [Select unit (1)] tab, from the displayed list of units select "KV-EP2*V", then drag & drop to the unit placement area.
6 In the unit placement area click "KV-EP2*V" and then select the [Setup unit (2)] tab.
7 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 0 |
| Port No. (HOST Link) | 8501 |

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
12 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
13 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
14 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

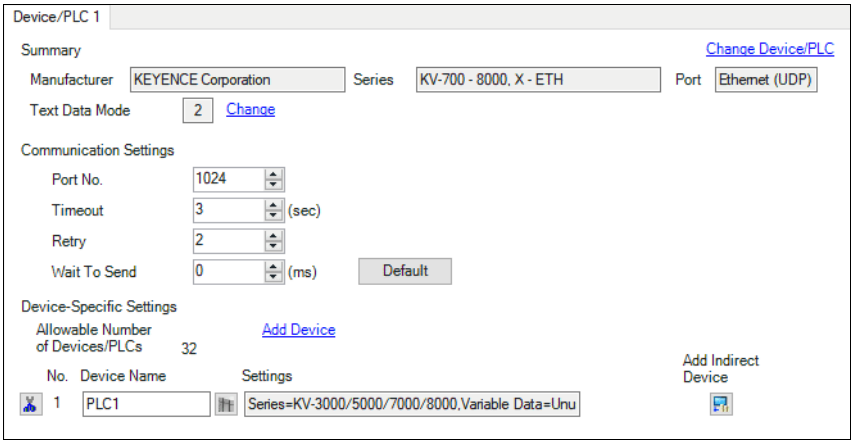
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.23 Setting Example 23

### ■ GP-Pro EX Settings

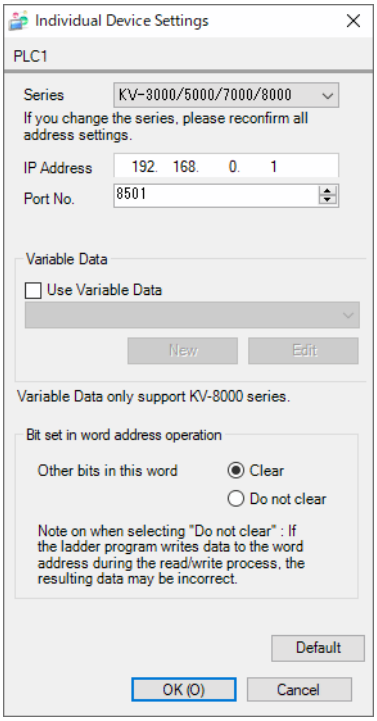
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the External Device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use ladder software KV STUDIO Ver. 9.44 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 On the [Select unit (1)] tab, from the displayed list of units select "KV-XLE02", then drag & drop to the unit placement area.
6 In the unit placement area click "KV-XLE02" and then select the [Setup unit (2)] tab.
7 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 600 |
| Port No. (HOST Link) | 8501 |

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
12 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
13 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
14 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

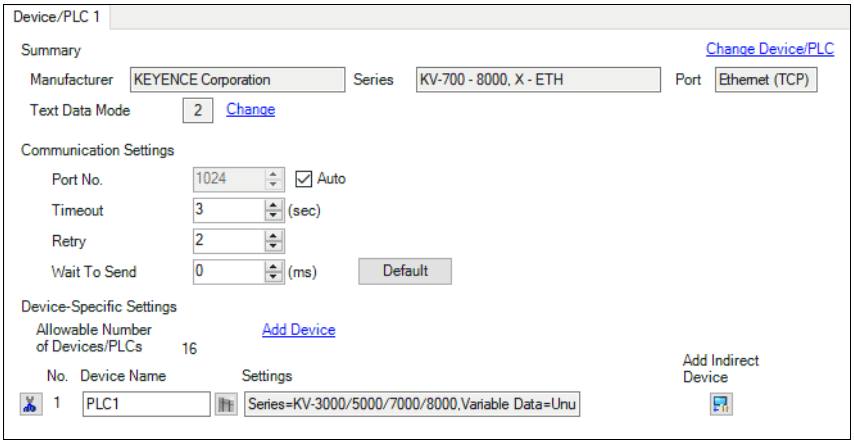
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.24 Setting Example 24

### ■ GP-Pro EX Settings

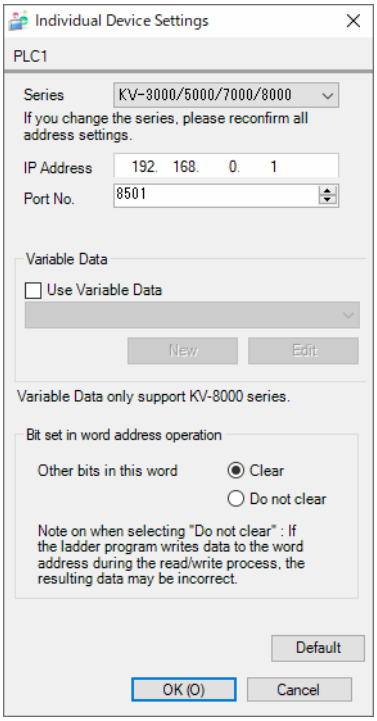
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the External Device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use ladder software KV STUDIO Ver. 9.44 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 On the [Select unit (1)] tab, from the displayed list of units select "KV-XLE02", then drag & drop to the unit placement area.
6 In the unit placement area click "KV-XLE02" and then select the [Setup unit (2)] tab.
7 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 0 |
| Port No. (HOST Link) | 8501 |

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
12 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
13 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
14 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

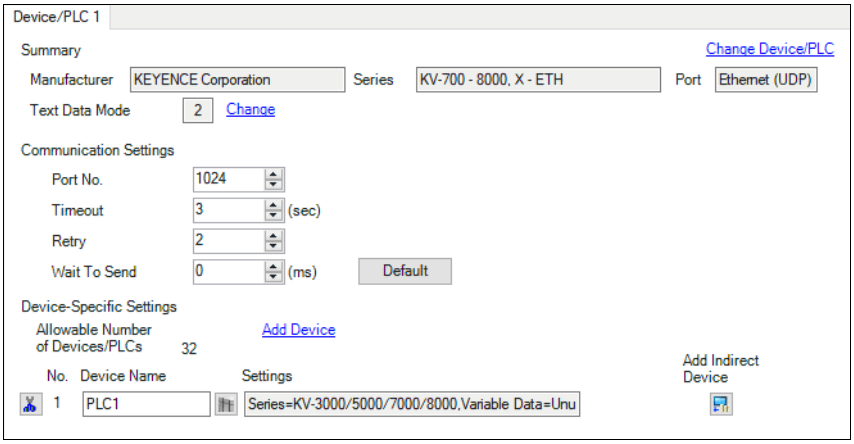
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.25 Setting Example 25

### ■ GP-Pro EX Settings

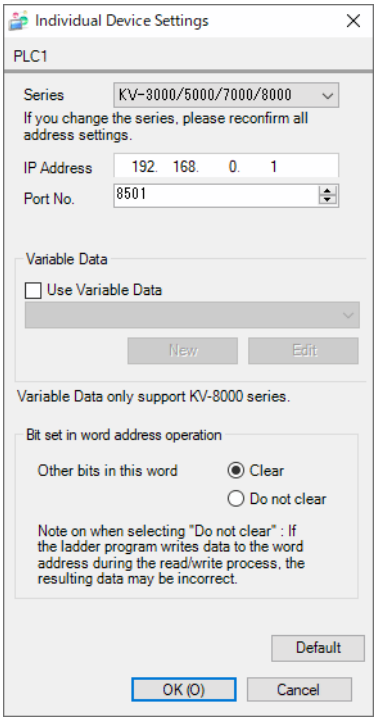
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




**NOTE**

- When using the variable data, set the port number to "8502".

◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use ladder software KV STUDIO Ver. 8 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 On the [Select unit (1)] tab, from the displayed list of units select "KV-LE2*V", then drag & drop to the unit placement area.
6 In the unit placement area click "KV-LE2*V" and then select the [Setup unit (2)] tab.
7 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 0 |
| Port No. (HOST Link) | 8501 |
| Port No. (VT)*1 | 8502 |

*1 When using variable data (symbol address)

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
12 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
13 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
14 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

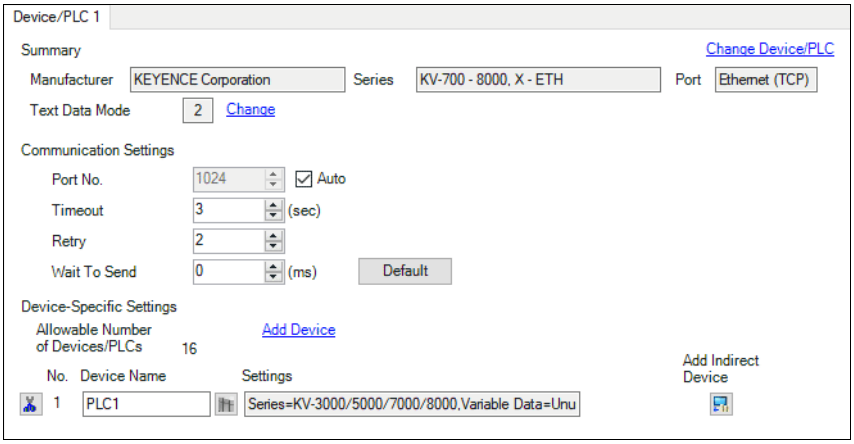
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.26 Setting Example 26

### ■ GP-Pro EX Settings

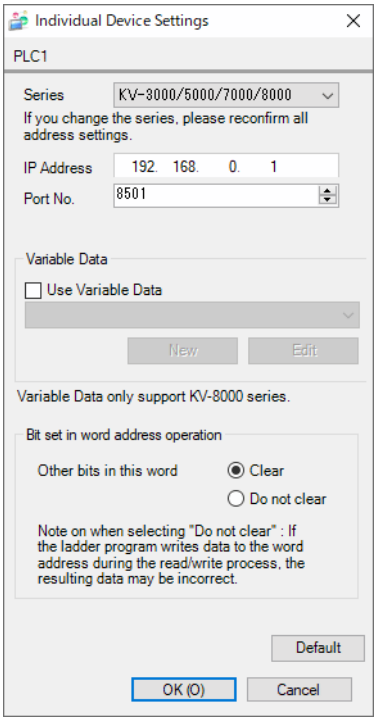
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




**NOTE**

- When using the variable data, set the port number to "8500".

◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use ladder software KV STUDIO Ver. 8 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 On the [Select unit (1)] tab, from the displayed list of units select "KV-LE2*V", then drag & drop to the unit placement area.
6 In the unit placement area click "KV-LE2*V" and then select the [Setup unit (2)] tab.
7 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 0 |
| Port No. (HOST Link) | 8501 |
| Port No. (KVS, KV, COM+, DB)*1 | 8500 |

*1 When using variable data (symbol address)

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
12 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
13 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
14 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

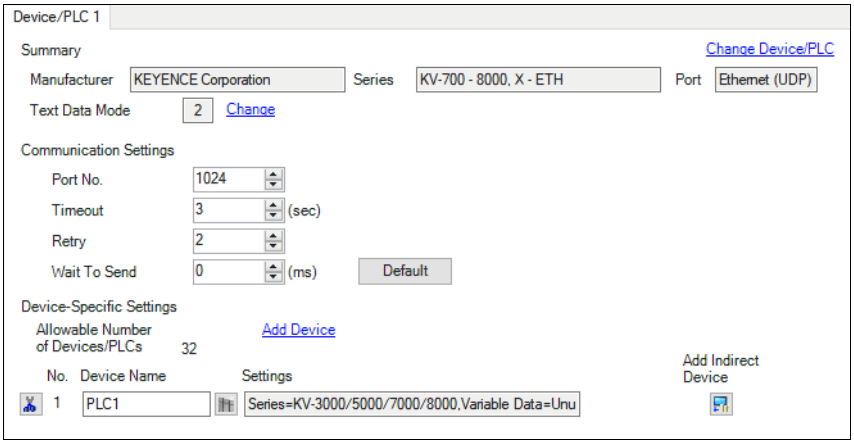
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.27 Setting Example 27

### ■ GP-Pro EX Settings

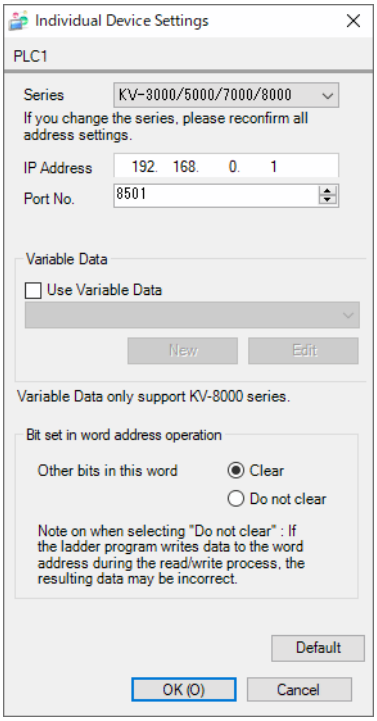
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the External Device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




**NOTE**

- When using the variable data, set the port number to "8502".

◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use ladder software KV STUDIO Ver. 8 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 On the [Select unit (1)] tab, from the displayed list of units select "KV-EP2*V", then drag & drop to the unit placement area.
6 In the unit placement area click "KV-EP2*V" and then select the [Setup unit (2)] tab.
7 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 0 |
| Port No. (HOST Link) | 8501 |
| Port No. (VT)*1 | 8502 |

*1 When using variable data (symbol address)

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
12 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
13 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
14 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

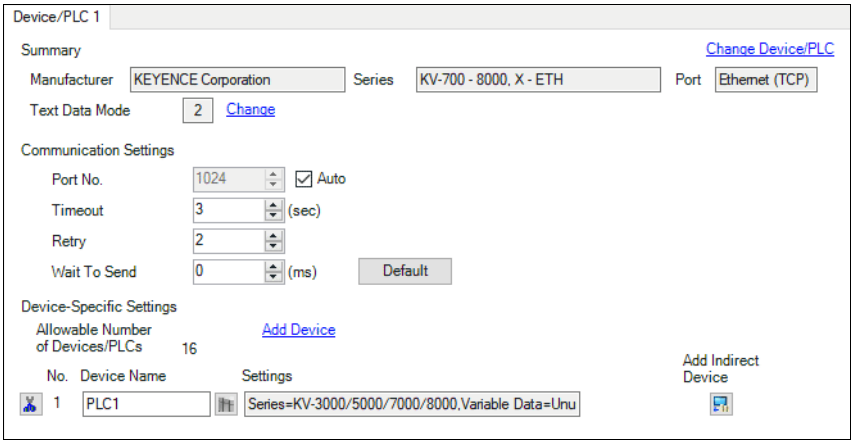
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.28 Setting Example 28

### ■ GP-Pro EX Settings

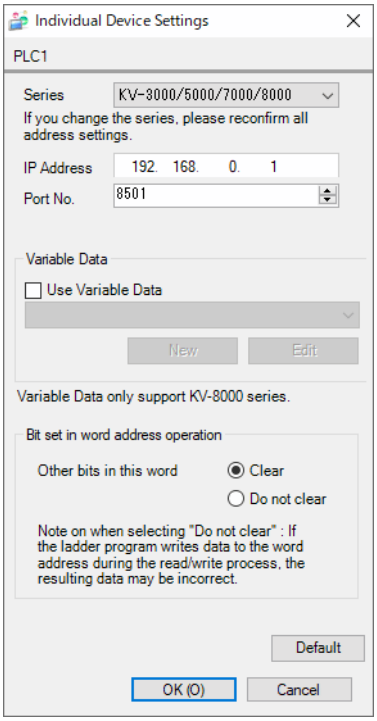
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the External Device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




**NOTE**

- When using the variable data, set the port number to "8500".

◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use ladder software KV STUDIO Ver. 8 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 On the [Select unit (1)] tab, from the displayed list of units select "KV-EP2*V", then drag & drop to the unit placement area.
6 In the unit placement area click "KV-EP2*V" and then select the [Setup unit (2)] tab.
7 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 0 |
| Port No. (HOST Link) | 8501 |
| Port No. (KVS, KV, COM+, DB)*1 | 8500 |

*1 When using variable data (symbol address)

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
12 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
13 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
14 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

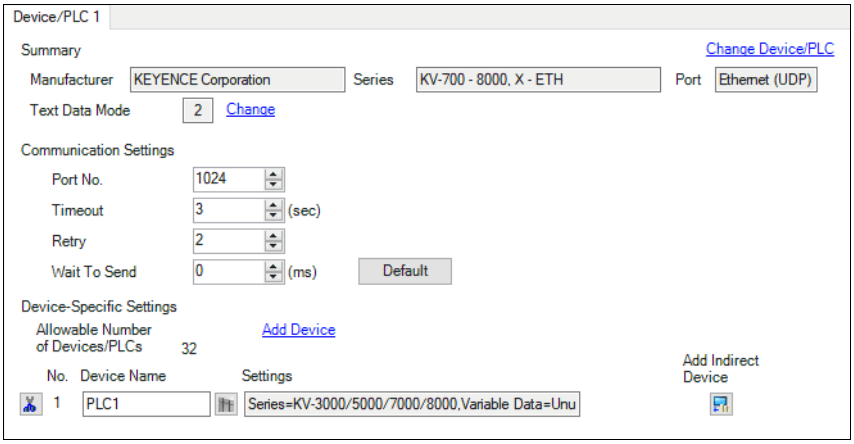
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.29 Setting Example 29

### ■ GP-Pro EX Settings

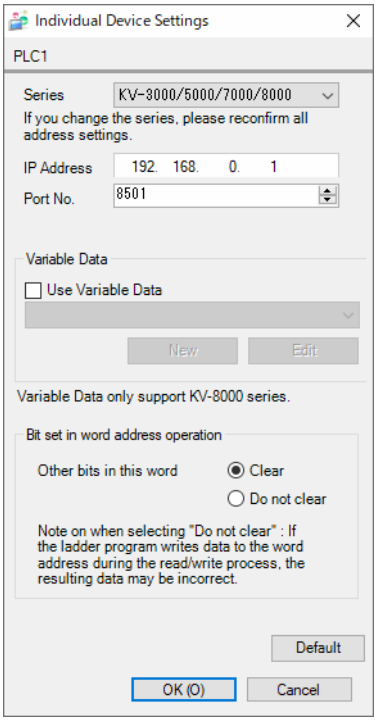
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




**NOTE**

- When using the variable data, set the port number to "8502".

◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use the ladder software KV STUDIO to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 In the unit placement area, click CPU and then select the [Setup unit (2)] tab.
6 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 0 |
| Port No. (HOST Link) | 8501 |
| Port No. (VT)*1 | 8502 |

*1 When using variable data (symbol address)

7 From the [Convert] menu, select [Auto-assign relay/DM].
8 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
9 Click [Yes].
10 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
11 Check the connection between the computer and device, and then click [OK]. Communication settings for the connections are set.
12 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
13 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

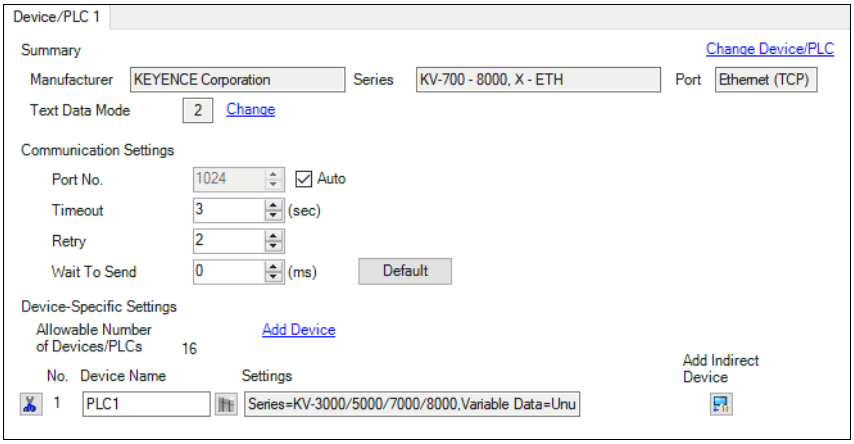
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.30 Setting Example 30

### ■ GP-Pro EX Settings

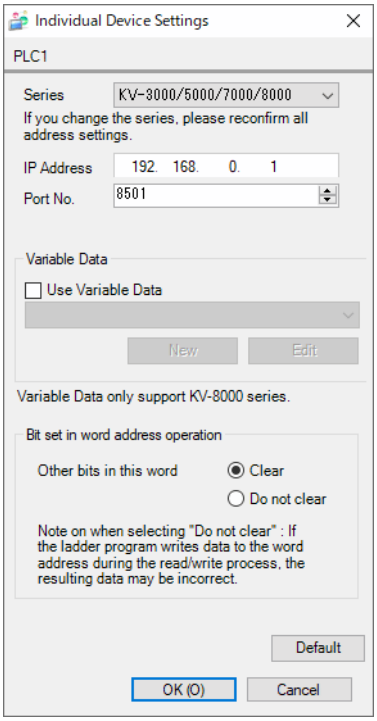
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




**NOTE**

- When using the variable data, set the port number to "8500".

◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use the ladder software KV STUDIO Ver. 8 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 In the unit placement area, click CPU and then select the [Setup unit (2)] tab.
6 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 0 |
| Port No. (HOST Link) | 8501 |
| Port No. (KVS, KV, COM+, DB)*1 | 8500 |

*1 When using variable data (symbol address)

7 From the [Convert] menu, select [Auto-assign relay/DM].
8 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
9 Click [Yes].
10 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
11 Check the connection between the computer and device, and then click [OK]. Communication settings for the connections are set.
12 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
13 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

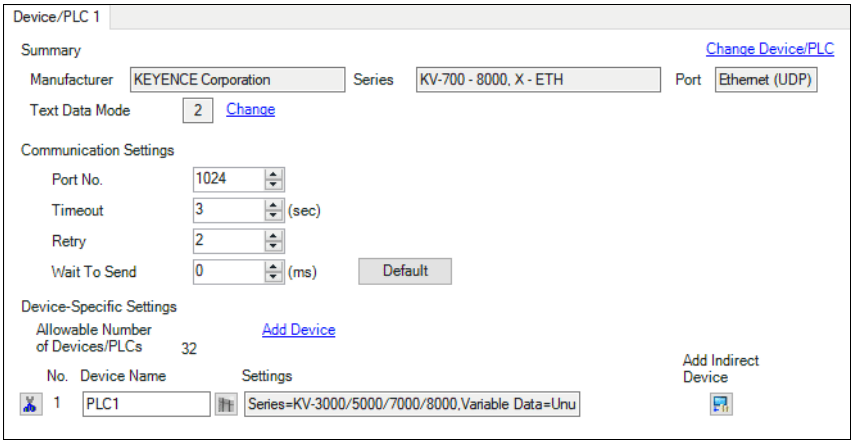
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.31 Setting Example 31

### ■ GP-Pro EX Settings

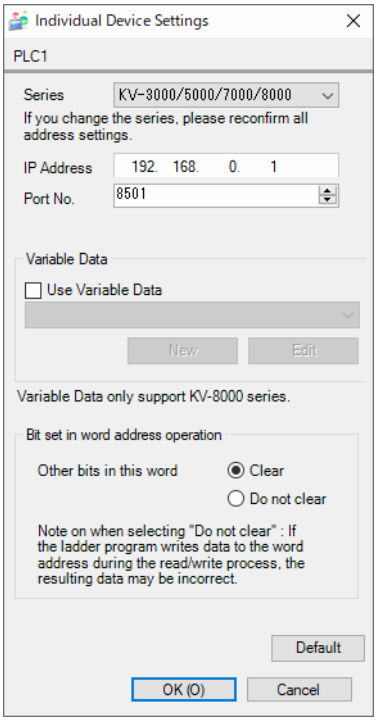
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the External Device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




**NOTE**

- When using the variable data, set the port number to "8502".

◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use ladder software KV STUDIO to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 On the [Select unit (1)] tab, from the displayed list of units select "KV-XLE02", then drag & drop to the unit placement area.
6 In the unit placement area click "KV-XLE02" and then select the [Setup unit (2)] tab.
7 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Port No. (HOST Link) | 8501 |
| Port No. (VT)*1 | 8502 |

*1 When using variable data (symbol address)

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
12 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
13 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
14 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

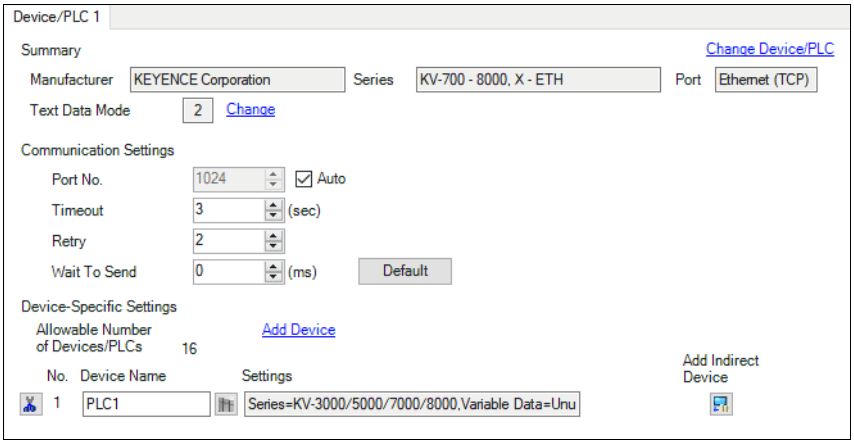
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.32 Setting Example 32

### ■ GP-Pro EX Settings

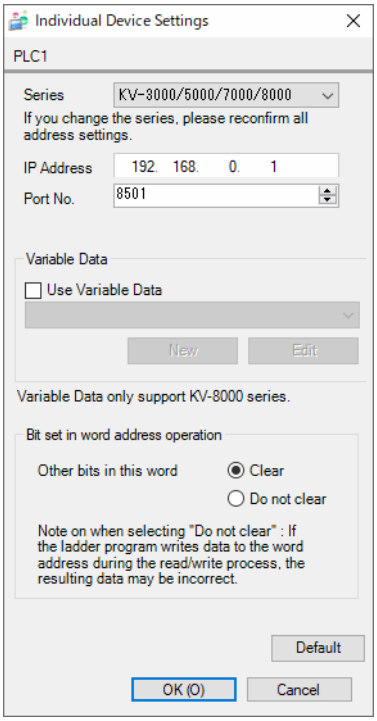
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the External Device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




**NOTE**

- When using the variable data, set the port number to "8500".

◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use ladder software KV STUDIO to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 On the [Select unit (1)] tab, from the displayed list of units select "KV-XLE02", then drag & drop to the unit placement area.
6 In the unit placement area click "KV-XLE02" and then select the [Setup unit (2)] tab.
7 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 0 |
| Port No. (HOST Link) | 8501 |
| Port No. (KVS, KV, COM+, DB)*1 | 8500 |

*1 When using variable data (symbol address)

8 From the [Convert] menu, select [Auto-assign relay/DM].
9 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
10 Click [Yes].
11 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
12 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
13 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
14 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

### ◆ Notes

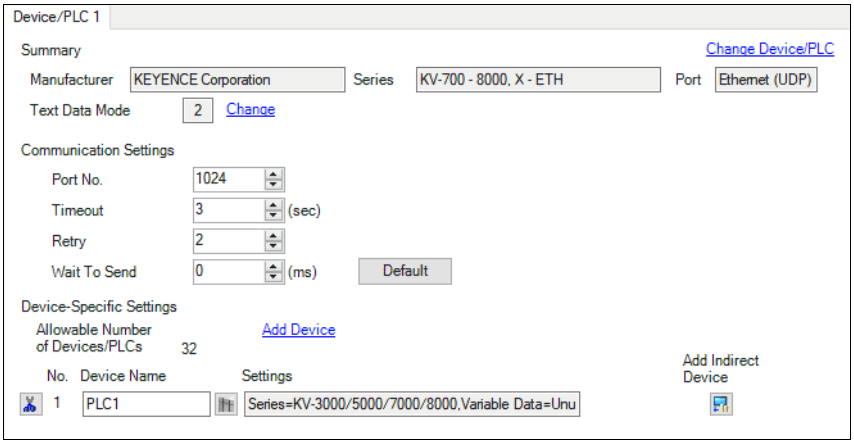
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.33 Setting Example 33

### ■ GP-Pro EX Settings

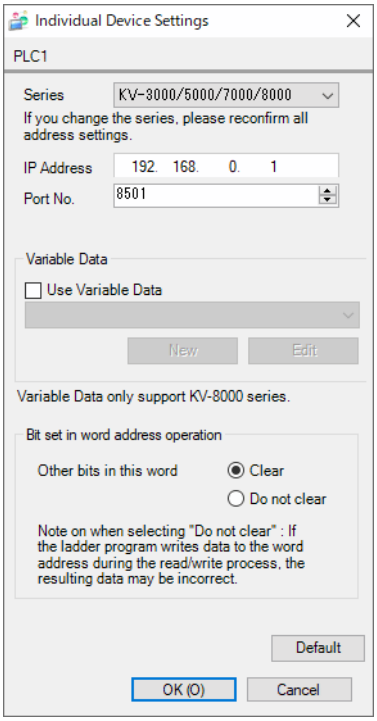
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the External Device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




**NOTE**

- When using the variable data, set the port number to "8502".

◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use ladder software KV STUDIO Ver. 12.0 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.

2 From the [File] menu, select [New project] to display the [New project] dialog box.

3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].

4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.

5 In the unit placement area click CPU and then select the [Setup unit (2)] tab.

6 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 600 |
| Port No. (HOST Link) | 8501 |
| Port No. (VT)*1 | 8502 |

*1 When using variable data (symbol address)

7 From the [Convert] menu, select [Auto-assign relay/DM].

8 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.

9 Click [Yes].

10 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.

11 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.

12 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.

13 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

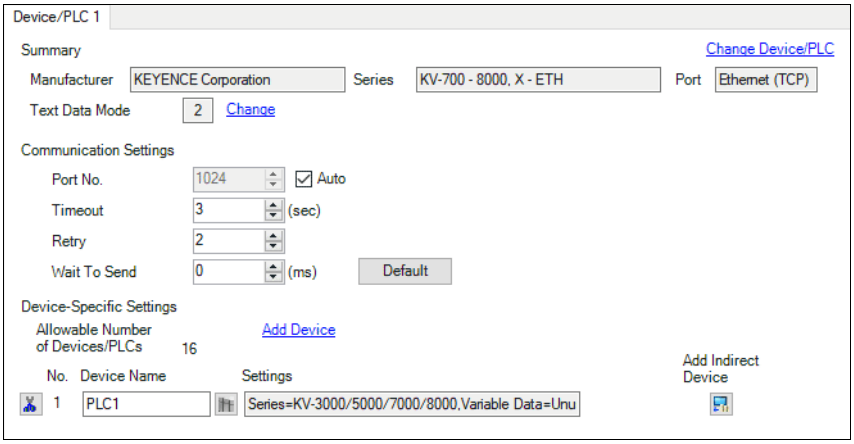
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.34 Setting Example 34

### ■ GP-Pro EX Settings

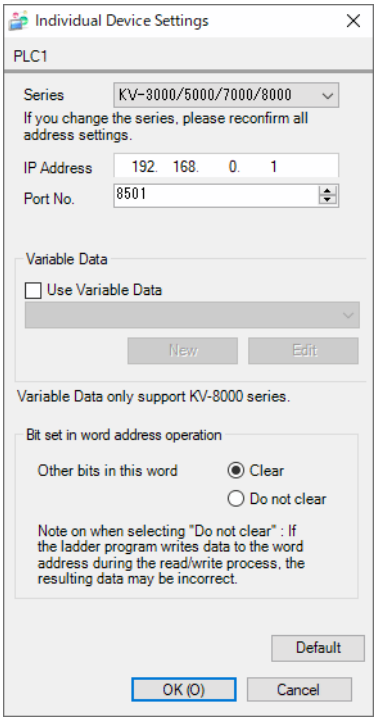
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the External Device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




**NOTE**

- When using the variable data, set the port number to "8500".

◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use ladder software KV STUDIO Ver. 12.0 or later to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 In the unit placement area click CPU and then select the [Setup unit (2)] tab.
6 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 0 |
| Port No. (HOST Link) | 8501 |
| Port No. (KVS, KV, COM+, DB)*1 | 8500 |

*1 When using variable data (symbol address)

7 From the [Convert] menu, select [Auto-assign relay/DM].
8 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
9 Click [Yes].
10 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
11 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
12 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
13 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

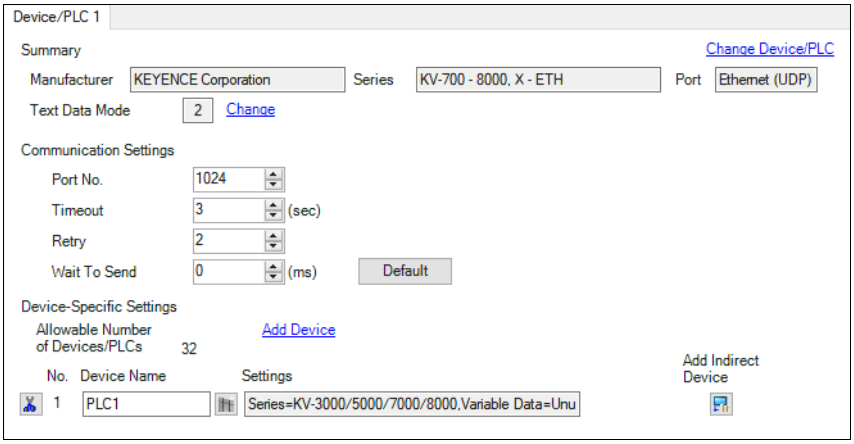
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.35 Setting Example 35

### ■ GP-Pro EX Settings

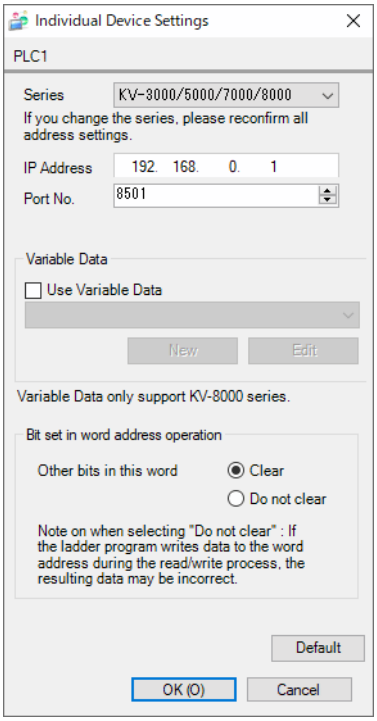
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the External Device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




**NOTE**

- When using the variable data, set the port number to "8502".

◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use ladder software KV STUDIO to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 In the unit placement area click CPU and then select the [Setup unit (2)] tab.
6 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Port No. (HOST Link) | 8501 |
| Port No. (VT)*1 | 8502 |

*1 When using variable data (symbol address)

7 From the [Convert] menu, select [Auto-assign relay/DM].
8 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
9 Click [Yes].
10 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
11 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
12 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
13 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

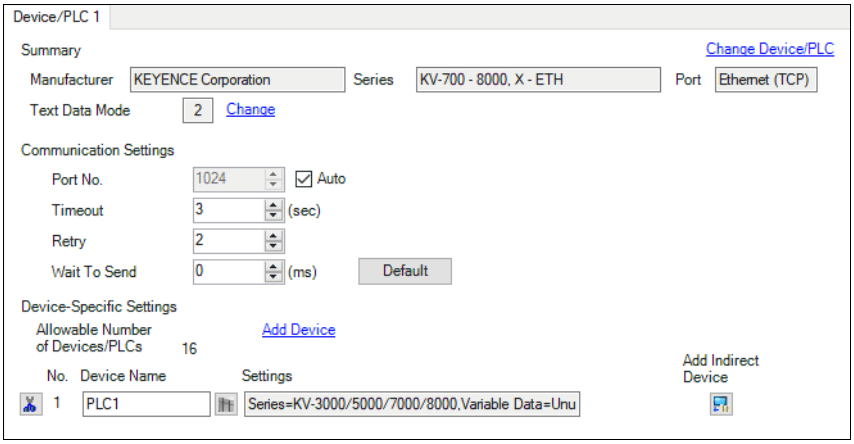
- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

## 3.36 Setting Example 36

### ■ GP-Pro EX Settings

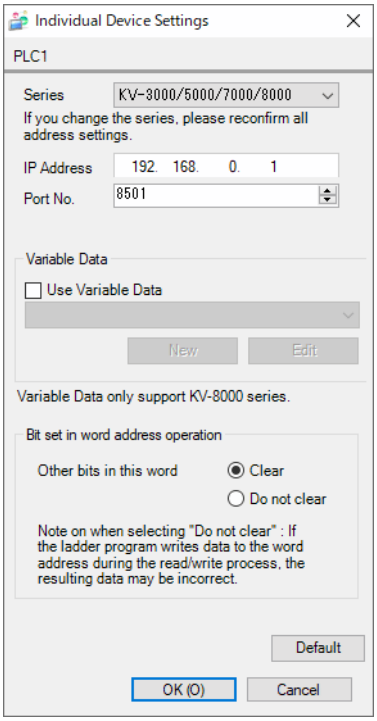
#### ◆ Communication Settings

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



◆ Device Settings

To display the [Individual Device Settings] dialog box, select the External Device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.




**NOTE**

- When using the variable data, set the port number to "8500".

◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.
- In [Individual Device Settings], set the IP address of the External Device.
- Set the Display's IP address in offline mode.

## ■ External Device Settings

Use ladder software KV STUDIO to define the External Device communication settings. Refer to your External Device manual for details.

1 Start up the ladder software.
2 From the [File] menu, select [New project] to display the [New project] dialog box.
3 In the [Project name] field enter the project name, in the [PLC model] property select the External Device, and click [OK].
4 In the [Confirm unit setting information] dialog box click [Yes], and the [Unit Editor] window will display.
5 In the unit placement area click CPU and then select the [Setup unit (2)] tab.
6 Configure the setup items as follows.

| Setup Items | Settings |
|---|---|
| IP address | 192.168.0.1 |
| Subnet mask | 255.255.255.0 |
| Default gateway | 0.0.0.0 |
| DNS server | 0.0.0.0 |
| Keep Alive | 0 |
| Port No. (HOST Link) | 8501 |
| Port No. (KVS, KV, COM+, DB)*1 | 8500 |

*1 When using variable data (symbol address)

7 From the [Convert] menu, select [Auto-assign relay/DM].
8 From the [File] menu, select [Close] and display the [Unit Editor] dialog box.
9 Click [Yes].
10 From the [Monitor/Simulator] menu, point to [Setup communication] and select [Setup communication] to display the [Comm settings] dialog box.
11 Check the connection between the computer and device, and then click [OK]. Communication settings for the connection are set.
12 From the [Monitor/Simulator] menu, select [Transfer to PLC] to display the [Transfer program] dialog box.
13 Select the [Unit setting info] and [Program] check boxes, and then click [Execute]. The settings are transferred.

This completes the External Device setup.

◆ Notes

- Check with your network administrator about the IP address you want to use.
- Do not duplicate IP addresses on the same network.

# 4 Setup Items

Set up the Display's communication settings in GP-Pro EX or in the Display's offline mode.

The setting of each parameter must match that of the External Device.

☞"3 Communication Settings" (page 7)

**NOTE**

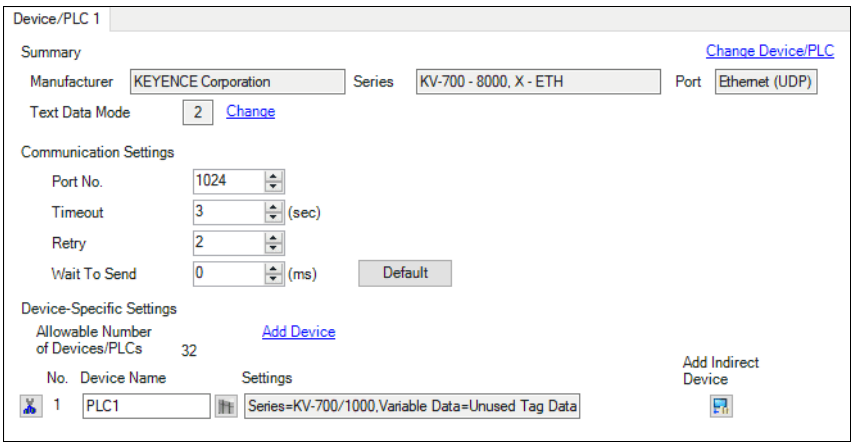
- Set the Display's IP address in offline mode.

  Cf. Maintenance/Troubleshooting Guide "Ethernet Settings"

## 4.1 Setup Items in GP-Pro EX

### ■ Communication Settings

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



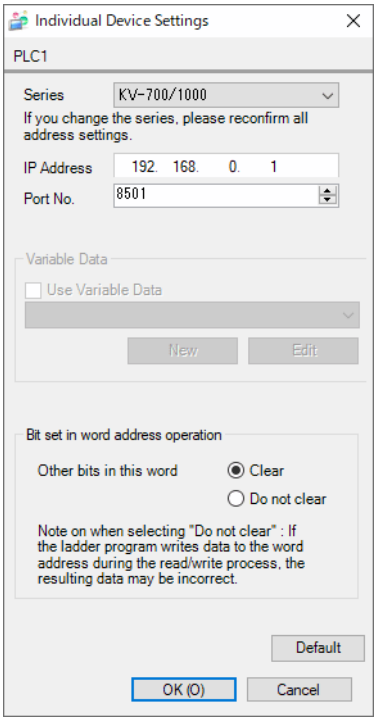

| Setup Items | Setup Description |
|---|---|
| Port No. | Use an integer from "1024 to 65535" to enter the port number of the Display. If you check [Auto], the port number will be automatically set.<br>**NOTE**<br>• [Auto] option is available to set only when you select "Ethernet (TCP)" in [Connection Method]. |
| Timeout | Enter the time(s) for which the Display waits for the response from the External Device, from "1 to 127". |
| Retry | In case of no response from the External Device, enter how many times the Display retransmits the command, from "0 to 255". |
| Wait To Send | Enter the standby time (ms) from when the Display receives packets until it transmits the next command, from "0 to 255". |

**NOTE**

- Refer to the GP-Pro EX Reference Manual for information on Indirect Devices.

## ■ Device Settings

To display the [Individual Device Settings] dialog box, select the external device and click [Settings] from [Device-Specific Settings] in the [Device/PLC] window. To connect multiple External Devices, click [Add Device] from [Device-Specific Settings] in the [Device/PLC] window to add another External Device.



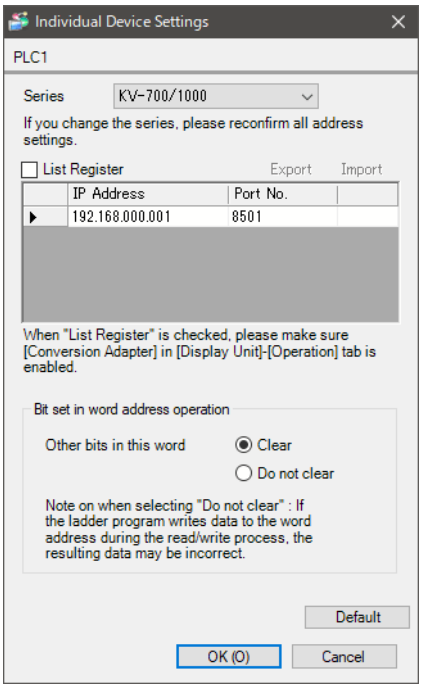

| Setup Items | Setup Description |
|---|---|
| Series | Select the series of the External Device. |
| IP Address | Set the IP address of the External Device.<br>NOTE<br>• Check with your network administrator about the IP address you want to use.<br>• Do not duplicate IP addresses on the same network. |
| Port No. | Use an integer from "1024 to 65535" to enter the port number of the External Device.<br>IMPORTANT<br>• Only one display can be connected to one port. |
| Use Variable Data | To use variable data (symbolic address), select this check box and then select the variable data.<br>You can use variable data when [Series] is set to "KV-3000/5000/7000/8000" or "KV-X300/500".<br>To create new variable data or to update existing variable data, click [New].<br>To update existing variable data, click [Edit].<br>☞ " ■ Importing Variable Data" (page 143) |
| Other bits in this word | Select "Clear" or "Do not clear" for the handling of other bit data in the same word when a bit operation is performed to a bit specified word address. |

◆ When using the Hand-held GP

When the display unit you are using is the Hand-held GP, the following [Individual Device Settings] dialog box will display.

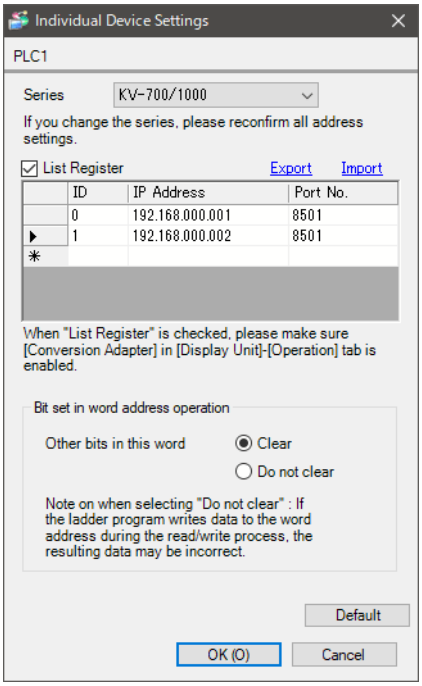
To switch communication External Devices with ID number (rotary switch) of the GP3000H Conversion Adaptor, the List Register needs to be used.

- <When the List Register is not used>




| Setup Items | Setup Description |
|---|---|
| Series | Select the series of the External Device. |
| List Register | Remove the check from the [List Register] box. |
| IP Address | Set the IP address of the External Device.<br>NOTE<br>• Check with your network administrator about the IP address you want to use.<br>• Do not duplicate IP addresses on the same network. |
| Port No. | Use an integer from "1024 to 65535" to enter the port number of the External Device.<br>IMPORTANT<br>• Only one display can be connected to one port. |
| Other bits in this word | Select "Clear" or "Do not clear" for the handling of other bit data in the same word when a bit operation is performed to a bit specified word address. |

- <When the List Register is used>




| Setup Items | Setup Description |
|---|---|
| Series | Select the series of the External Device. |
| List Register | Put a check in the [List Register] box.<br>IMPORTANT<br>• Select the [Display Unit]-[Operation] tab from the workspace [System Settings], and put a check in "Enable" of the [Conversion Adapter.] |
| Export | List information is exported in the comma-deliminated CSV file.<br>☞ " ◆ Export Procedures of Device Settings" (page 119) |
| Import | List information described in the comma-deliminated CSV file is imported.<br>☞ " ◆ Import Procedures of Device Settings" (page 119) |
| ID | Use an integer from "0 to 255" to enter the ID number (rotary switch) of the GP3000H Conversion Adaptor. |
| IP Address | Set the IP address of the External Device.<br>NOTE<br>• Check with your network administrator about the IP address you want to use.<br>• Do not duplicate IP addresses on the same network. |
| Port No. | Use an integer from "1024 to 65535" to enter the port number of the External Device.<br>IMPORTANT<br>• Only one display can be connected to one port. |
| Other bits in this word | Select "Clear" or "Do not clear" for the handling of other bit data in the same word when a bit operation is performed to a bit specified word address. |

◆ Export Procedures of Device Settings

1 Click [Export] in the [Individual Device Settings] dialog box and display the [Export] dialog box.

2 Input the file name and click [Save].

◆ Import Procedures of Device Settings

1 Click [Import] in the [Individual Device Settings] dialog box and display the [Import] dialog box.

2 Select the CSV file and click [Open].

## 4.2 Setup Items in Offline Mode

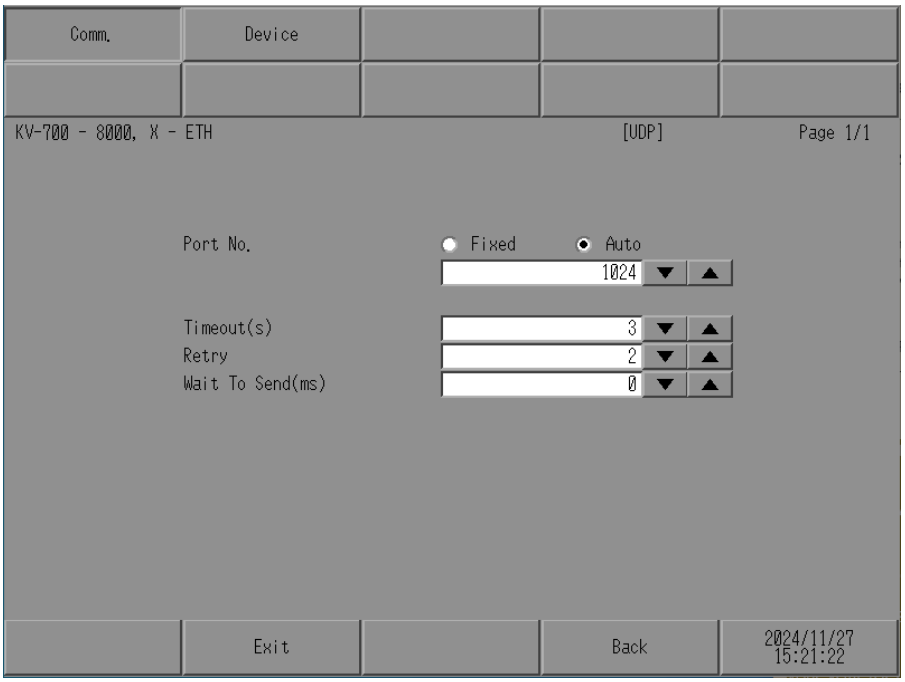
**NOTE**

- Refer to the Maintenance/Troubleshooting guide for information on how to enter offline mode or about the operation.

  Cf. Maintenance/Troubleshooting Guide "Offline Mode"

### ■ Communication Settings

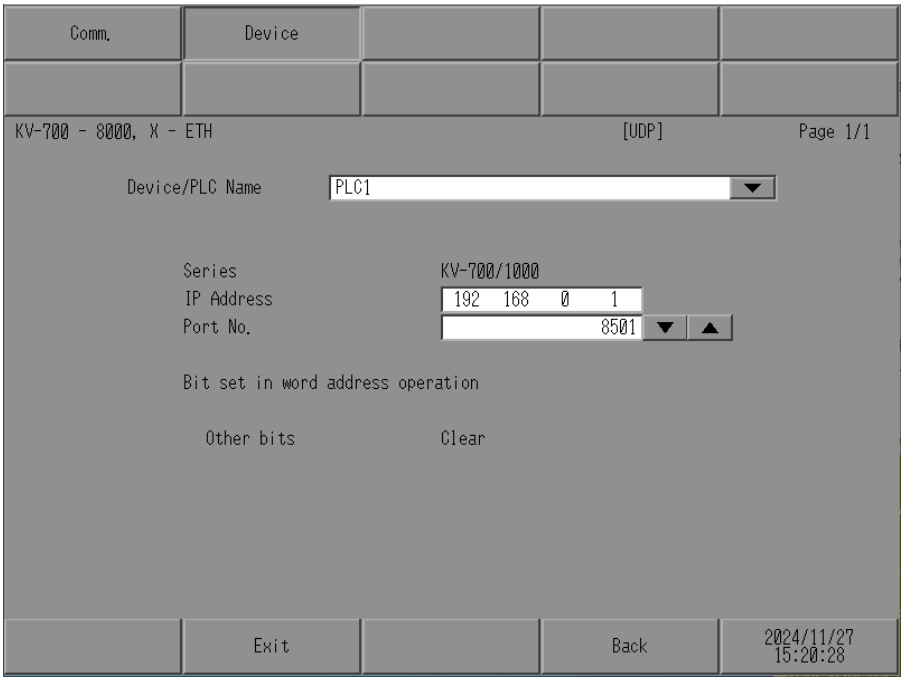
To display the setting screen, touch [Device/PLC Settings] from [Peripheral Settings] in offline mode. Touch the External Device you want to set from the displayed list.




| Setup Items | Setup Description |
|---|---|
| Port No. | Set the Port No. of the Display.<br>In UDP connection, the entered port number will be assigned regardless of whether you select [Fixed] or [Auto].<br>In TCP connection, select either of [Fixed] or [Auto]. When you select [Fixed], use an integer from "1024 to 65535" to enter the port number of the Display.When you select [Auto], the port number will be automatically assigned regardless of the entered value. |
| Timeout | Enter the time(s) for which the Display waits for a response from the External Device, from "1 to 127". |
| Retry | In case of no response from the External Device, enter how many times the Display retransmits the command, from "0 to 255". |
| Wait To Send | Enter the standby time (ms) from when the Display receives packets until it transmits the next command, from "0 to 255". |

## ■ Device Settings

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 Settings].

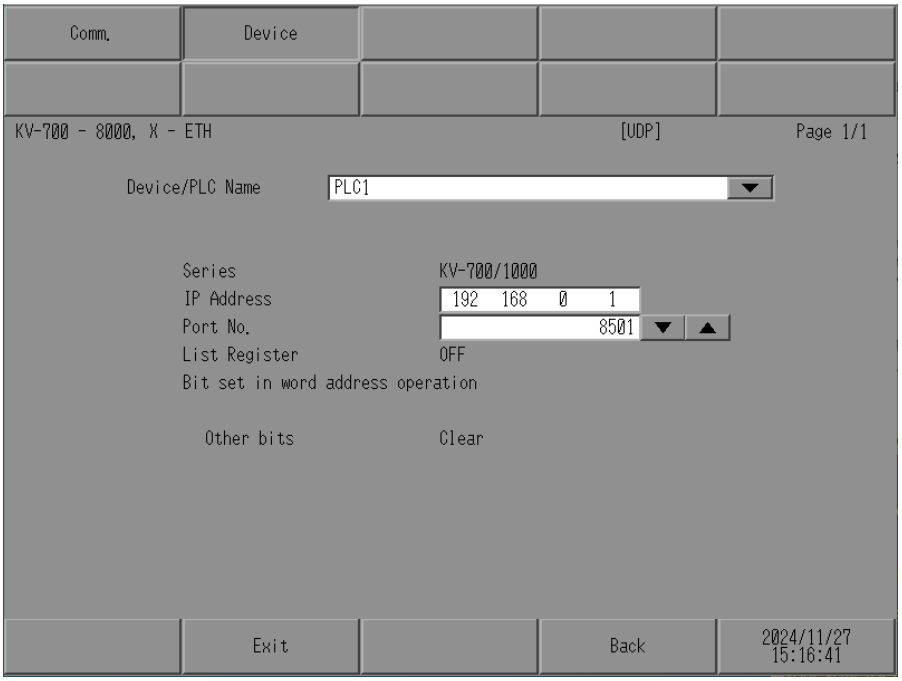



| Setup Items | Setup Description |
|---|---|
| Device/PLC Name | Select the External Device to set. Device/PLC Name is the title of the External Device set with GP-Pro EX. (Initial value [PLC1]) |
| Series | Displays the series of the External Device. |
| IP Address | Set the IP address of the External Device.<br>**NOTE**<br>• Check with your network administrator about the IP address you want to use.<br>• Do not duplicate IP addresses on the same network. |
| Port No. | Use an integer from "1024 to 65535" to enter the port number of the External Device.<br>IMPORTANT<br>• Only one display can be connected to one port. |
| Bit set in word address operation | Displays "Clear" or "Do not clear" for the handling of other bit data in the same word when a bit operation is performed to a bit specified word address. (Cannot be set in offline mode.) |

**NOTE**

- When using GP-4400/4500/4600 Series, even though the Device setting screen shows the [List Register], its settings are ignored.

◆ When using the Hand-held GP




| Setup Items | Setup Description |
|---|---|
| Device/PLC Name | Select the External Device to set. Device/PLC Name is the title of the External Device set with GP-Pro EX. (Initial value [PLC1]) |
| Series | Displays the series of the External Device. |
| IP Address | Set the IP address of the External Device.<br>**NOTE**<br>• Check with your network administrator about the IP address you want to use.<br>• Do not duplicate IP addresses on the same network. |
| Port No. | Use an integer from "1024 to 65535" to enter the port number of the External Device.<br>IMPORTANT<br>• Only one display can be connected to one port. |
| List Register | Display the settings of the List Register.<br>**NOTE**<br>• Setting content of the List Register cannot be displayed or changed in the offline mode. |
| Bit set in word address operation | Displays "Clear" or "Do not clear" for the handling of other bit data in the same word when a bit operation is performed to a bit specified word address. (Cannot be set in offline mode.) |

# 5 Supported Devices

The following table shows the range of supported device addresses. Note that the actually supported range varies depending on the External Device. Consult your External Device manual for the range.

## 5.1 KV-700 Series

: This address can be specified as system data area.

| Device | Bit Address | Word Address | 32 bits | Remarks |
|---|---|---|---|---|
| Input Relay | 00000 - 59915 | 000 - 599 | L/H | |
| Output Relay | | | | |
| Internal Auxiliary Relay | | | | |
| Control Relay | CR0000 - CR3915 | CR00 - CR39 | | |
| Timer (Contact) | T000 - T511 | ----- | - | |
| Counter (Contact) | C000 - C511 | ----- | | |
| High-speed Counter Comparator (Contact) | CTC0 - CTC3 | ----- | | *1 |
| Timer (Setting Value) | ----- | TS000 - TS511 | L/H | *2 |
| Counter (Setting Value) | ----- | CS000 - CS511 | | *2 |
| Timer (Current Value) | ----- | TC000 - TC511 | | *2 |
| Counter (Current Value) | ----- | CC000 - CC511 | | *2 |
| Data Memory | ----- | DM00000 - DM39999 | | Bit 15 *3 *4 |
| Temporary Data Memory | ----- | TM000 - TM511 | | Bit 15 *3 |
| Control Memory | ----- | CM0000 - CM3999 | | Bit 15 *3 |
| Digital Trimmer | ----- | TRM0 - TRM7 | | *1 *2 |
| High-speed Counter (Current Value) | ----- | CTH0 - CTH1 | | *2 |
| High-speed Counter Comparator (Setting Value) | ----- | CTC0 - CTC3 | | *2 |

*1 Write disable

*2 32-bit device

*3 The access method when specifying bits is different depending on the setting of "Other bits in this word" in "Individual Device Settings".

[Clear] ..... Bit 15

[Do not clear] ..... When bits are written, the Display reads the corresponding word address from the External Device, sets particular bits of that word address to ON, and then returns the resulting address to the External Device. Note that the data may not be written correctly if you write to the word address using the ladder program while the Display is reading data from, and writing data to, the External Device.

*4 To use DM20000 to DM39999, you need to install extended memory.

NOTE

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

  Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"

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

  ☞ "Manual Symbols and Terminology"

## 5.2 KV-1000 Series

: This address can be specified as system data area.

| Device | Bit Address | Word Address | 32 bits | Remarks |
|---|---|---|---|---|
| Input Relay | 00000 - 59915 | 000 - 599 | L/H | *1 |
| Output Relay | | | | *1 |
| Internal Auxiliary Relay | | | | *1 |
| Internal Auxiliary Relay | MR00000 - MR99915 | MR000 - MR999 | | |
| Latch Relay | LR00000 - LR99915 | LR000 - LR999 | | |
| Control Relay | CR0000 - CR3915 | CR00 - CR39 | | |
| Timer (Contact) | T0000 - T3999 | ----- | - | |
| Counter (Contact) | C0000 - C3999 | ----- | | |
| High-speed Counter Comparator (Contact) | CTC0 - CTC3 | ----- | | *2 |
| Timer (Setting Value) | ----- | TS0000 - TS3999 | L/H | *3 |
| Counter (Setting Value) | ----- | CS0000 - CS3999 | | *3 |
| Timer (Current Value) | ----- | TC0000 - TC3999 | | *3 |
| Counter (Current Value) | ----- | CC0000 - CC3999 | | *3 |
| Data Memory | ----- | DM00000 - DM65534 | | Bit 15 *4 |
| Extension Data Memory | ----- | EM00000 - EM65534 | | Bit 15 *4 |
| Extension Data Memory | ----- | FM00000 - FM32766 | | Bit 15 *4 |
| Temporary Data Memory | ----- | TM000 - TM511 | | Bit 15 *4 |
| Control Memory | ----- | CM00000 - CM11998 | | Bit 15 *4 |
| Index Register | ----- | Z01 - Z12 | | Bit 15 *4 *5 |
| Digital Trimmer | ----- | TRM0 - TRM7 | | *2 *3 |
| High-speed Counter (Current Value) | ----- | CTH0 - CTH1 | | *3 |
| High-speed Counter Comparator (Setting Value) | ----- | CTC0 - CTC3 | | *3 |

*1 KV-1000 shows R000 to R599 (R00000 to R59915); the Display, on the other hand, shows 000 to 599 (00000 to 59915).

*2 Write disable

*3 32-bit device

*4 The access method when specifying bits is different depending on the setting of "Other bits in this word" in "Individual Device Settings".

[Clear].....

[Do not clear]..... When bits are written, the Display reads the corresponding word address from the External Device, sets particular bits of that word address to ON, and then returns the resulting address to the External Device. Note that the data may not be written correctly if you write to the word address using the ladder program while the Display is reading data from, and writing data to, the External Device.

*5 Z11 and Z12, used by the External Device system, are not available to write in.

**NOTE**

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

  Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"

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

  ☞ "Manual Symbols and Terminology"

## 5.3 KV-3000/5000/5500 Series

: This address can be specified as system data area.

| Device | | Bit Address | Word Address | 32 bits | Remarks |
|---|---|---|---|---|---|
| Input Relay | | R00000 - R99915 | R000 - R999 | L / H | |
| Output Relay | | | | | |
| Internal Auxiliary Relay | | | | | |
| Link Relay | | B0000 - B3FFF | B000 - B3FF | | |
| Internal Auxiliary Relay | | MR00000 - MR99915 | MR000 - MR999 | | |
| Latch Relay | | LR00000 - LR99915 | LR000 - LR999 | | |
| Control Relay | | CR0000 - CR3915 | CR00 - CR39 | | |
| Work Relay | | VB0000 - VB3FFF | VB000 - VB3FF | | |
| Timer (Contact) | | T0000 - T3999 | ----- | - | |
| Counter (Contact) | | C0000 - C3999 | ----- | | |
| High-speed Counter Comparator (Contact) | | CTC0 - CTC3 | ----- | | *1 |
| Timer (Setting Value) | | ----- | TS0000 - TS3999 | L / H | *2 |
| Counter (Setting Value) | | ----- | CS0000 - CS3999 | | *2 |
| Timer (Current Value) | | ----- | TC0000 - TC3999 | | *2 |
| Counter (Current Value) | | ----- | CC0000 - CC3999 | | *2 |
| Data Memory | | ----- | DM00000 - DM65534 | | Bit 15 *3 |
| Extension Data Memory | | ----- | EM00000 - EM65534 | | Bit 15 *3 |
| File Register | Current Bank | ----- | FM00000 - FM32767 | | Bit 15 *3 |
| | Serial Number System | ----- | ZF000000 - ZF131071 | | Bit 15 *3 |
| Temporary Data Memory | | ----- | TM000 - TM511 | | Bit 15 *3 |
| Control Memory | | ----- | CM00000 - CM05999 | | Bit 15 *3 |
| Link Register | | ----- | W0000 - W3FFF | | Bit 15 *3 |
| Work Memory | | ----- | VM00000 - VM59999 | | Bit 15 *3 |
| Index Register | | ----- | Z01 - Z12 | | *2 *4 |
| Digital Trimmer | | ----- | TRM0 - TRM7 | | *1 *2 |
| High-speed Counter (Current Value) | | ----- | CTH0 - CTH1 | | *2 |
| High-speed Counter Comparator (Setting Value) | | ----- | CTC0 - CTC3 | | *2 |

*1 Write disable

*2 32-bit device

*3 The access method when specifying bits is different depending on the setting of "Other bits in this word" in "Individual Device Settings".

[Clear].....

[Do not clear]..... When bits are written, the Display reads the corresponding word address from the External Device, sets particular bits of that word address to ON, and then returns the resulting address to the External Device. Note that the data may not be written correctly if you write to the word address using the ladder program while the Display is reading data from, and writing data to, the External Device.

*4 Z11 and Z12, used by the External Device system, are not available to write in.

**NOTE**

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

  Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"

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

  ☞ "Manual Symbols and Terminology"

## 5.4 KV-7000 Series

: This address can be specified as system data area.

| Device | | Bit Address | Word Address | 32 bits | Remarks |
|---|---|---|---|---|---|
| Input Relay | | R000000 - R199915 | R0000 - R1999 | L/H | *1 |
| Output Relay | | | | | *1 |
| Internal Auxiliary Relay | | | | | *1 |
| Link Relay | | B0000 - B7FFF | B000 - B7FF | | |
| Internal Auxiliary Relay | | MR000000 - MR399915 | MR0000 - MR3999 | | *2 |
| Latch Relay | | LR00000 - LR99915 | LR000 - LR999 | | |
| Control Relay | | CR0000 - CR7915 | CR00 - CR79 | | |
| Work Relay | | VB0000 - VBF9FF | VB000 - VBF9F | | |
| Timer (Contact) | | T0000 - T3999 | ----- | - | |
| Counter (Contact) | | C0000 - C3999 | ----- | | |
| Timer (Setting Value) | | ----- | TS0000 - TS3999 | L/H | *3 |
| Counter (Setting Value) | | ----- | CS0000 - CS3999 | | *3 |
| Timer (Current Value) | | ----- | TC0000 - TC3999 | | *3 |
| Counter (Current Value) | | ----- | CC0000 - CC3999 | | *3 |
| Data Memory | | ----- | DM00000 - DM65534 | | Bit 15 *4 |
| Extension Data Memory | | ----- | EM00000 - EM65534 | | Bit 15 *4 |
| File Register | Current Bank | ----- | FM00000 - FM32767 | | Bit 15 *4 |
| | Serial Number System | ----- | ZF000000 - ZF524287 | | Bit 15 *4 |
| Temporary Data Memory | | ----- | TM000 - TM511 | | Bit 15 *4 |
| Control Memory | | ----- | CM0000 - CM5999 | | Bit 15 *4 |
| Link Register | | ----- | W0000 - W7FFF | | Bit 15 *4 |
| Work Memory | | ----- | VM00000 - VM50999 | | Bit 15 *4 |
| Index Register | | ----- | Z01 - Z12 | | *3 *5 |
| Digital Trimmer | | ----- | TRM0 - TRM7 | | *3 *6 |

*1 When using CPU functions version 2.2 or earlier, or a KV-EP21V/KV-LE21V/KV-LE20V, bit addresses are R00000 to R99915 and word addresses are R000 to R999.

*2 When using KV-EP21V, KV-LE21V or KV-LE20V, bit addresses are MR00000 - MR99915 and word addresses are MR000 - MR999.

*3 32-bit device

*4 The access method when specifying bits is different depending on the setting of "Other bits in this word" in "Individual Device Settings".

[Clear]..... Bit 15

[Do not clear] ..... When bits are written, the Display reads the corresponding word address from the External Device, sets particular bits of that word address to ON, and then returns the resulting address to the External Device. Note that the data may not be written correctly if you write to the word address using the ladder program while the Display is reading data from, and writing data to, the External Device.

*5 Z11 and Z12, used by the External Device system, are not available to write in.

*6 Write disable.

**NOTE**

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

  Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"

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

  ☞ "Manual Symbols and Terminology"

## 5.5 KV-Nano Series

: This address can be specified as system data area.

| Device | Bit Address | Word Address | 32 bits | Remarks |
|---|---|---|---|---|
| Input Relay | R00000 - R59915 | R000 - R599 | L/H | |
| Output Relay | | | | |
| Internal Auxiliary Relay | | | | |
| Link Relay | B0000 - B1FFF | B000 - B1FF | | |
| Internal Auxiliary Relay | MR00000 - MR59915 | MR000 - MR599 | | |
| Latch Relay | LR00000 - LR19915 | LR000 - LR199 | | |
| Control Relay | CR0000 - CR8915 | CR00 - CR89 | | |
| Work Relay | VB0000 - VB1FFF | VB000 - VB1FF | | |
| Timer (Contact) | T0000 - T0511 | ----- | - | |
| Counter (Contact) | C0000 - C0255 | ----- | | |
| High-speed Counter Comparator (Contact) | CTC0 - CTC7 | ----- | | *1 |
| Timer (Setting Value) | ----- | TS0000 - TS0511 | L/H | *2 |
| Counter (Setting Value) | ----- | CS0000 - CS0255 | | *2 |
| Timer (Current Value) | ----- | TC0000 - TC0511 | | *2 |
| Counter (Current Value) | ----- | CC0000 - CC0255 | | *2 |
| Data Memory | ----- | DM00000 - DM32767 | | Bit 15 *3 |
| Temporary Data Memory | ----- | TM000 - TM511 | | Bit 15 *3 |
| Control Memory | ----- | CM00000 - CM08999 | | Bit 15 *3 |
| Link Register | ----- | W0000 - W3FFF | | Bit 15 *3 |
| Work Memory | ----- | VM00000 - VM09499 | | Bit 15 *3 |
| Index Register | ----- | Z01 - Z12 | | *2 *4 |
| High-speed Counter (Current Value) | ----- | CTH0 - CTH3 | | *2 |
| High-speed Counter Comparator (Setting Value) | ----- | CTC0 - CTC7 | | *2 |

*1 Write disable

*2 32-bit device

*3 The access method when specifying bits is different depending on the setting of "Other bits in this word" in "Individual Device Settings".

[Clear].....

[Do not clear] ..... When bits are written, the Display reads the corresponding word address from the External Device, sets particular bits of that word address to ON, and then returns the resulting address to the External Device. Note that the data may not be written correctly if you write to the word address using the ladder program while the Display is reading data from, and writing data to, the External Device.

*4 Z11 and Z12, used by the External Device system, are not available to write in.

**NOTE**

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

  Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"

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

  ☞ "Manual Symbols and Terminology"

## 5.6 KV-8000 Series

: This address can be specified as system data area.

| Device | | Bit Address | Word Address | 32 bits | Remarks |
|---|---|---|---|---|---|
| Input Relay | | R000000 - R199915 | R0000 - R1999 | L/H | *1 |
| Output Relay | | | | | *1 |
| Internal Auxiliary Relay | | | | | *1 |
| Link Relay | | B0000 - B7FFF | B000 - B7FF | | |
| Internal Auxiliary Relay | | MR000000 - MR399915 | MR0000 - MR3999 | | *2 |
| Latch Relay | | LR00000 - LR99915 | LR000 - LR999 | | |
| Control Relay | | CR0000 - CR7915 | CR00 - CR79 | | |
| Work Relay | | VB0000 - VBF9FF | VB000 - VBF9F | | |
| Timer (Contact) | | T0000 - T3999 | ----- | - | |
| Counter (Contact) | | C0000 - C3999 | ----- | | |
| Timer (Setting Value) | | ----- | TS0000 - TS3999 | L/H | *3 |
| Counter (Setting Value) | | ----- | CS0000 - CS3999 | | *3 |
| Timer (Current Value) | | ----- | TC0000 - TC3999 | | *3 |
| Counter (Current Value) | | ----- | CC0000 - CC3999 | | *3 |
| Data Memory | | ----- | DM00000 - DM65534 | | Bit 15 *4 |
| Extension Data Memory | | ----- | EM00000 - EM65534 | | Bit 15 *4 |
| File Register | Current Bank | ----- | FM00000 - FM32767 | | Bit 15 *4 |
| | Serial Number System | ----- | ZF000000 - ZF524287 | | Bit 15 *4 |
| Temporary Data Memory | | ----- | TM000 - TM511 | | Bit 15 *4 |
| Control Memory | | ----- | CM0000 - CM7599 | | Bit 15 *4 |
| Link Register | | ----- | W0000 - W7FFF | | Bit 15 *4 |
| Work Memory | | ----- | VM000000 - VM589823 | | Bit 15 *4 *5 |
| Index Register | | ----- | Z01 - Z12 | | *3 *6 |
| Digital Trimmer | | ----- | TRM0 - TRM7 | | *3 *7 |

*1 When using a KV-EP21V/KV-LE21V/KV-LE20V, bit addresses are R00000 to R99915 and word addresses are R000 to R999.

*2 When using KV-EP21V, KV-LE21V or KV-LE20V, bit addresses are MR00000 - MR99915 and word addresses are MR000 - MR999.

*3 32-bit device

*4 The access method when specifying bits is different depending on the setting of "Other bits in this word" in "Individual Device Settings".

[Clear].....

[Do not clear].....When bits are written, the Display reads the corresponding word address from the External Device, sets particular bits of that word address to ON, and then returns the resulting address to the External Device. Note that the data may not be written correctly if you write to the word address using the ladder program while the Display is reading data from, and writing data to, the External Device.

*5 When using KV-EP21V, KV-LE21V or KV-LE20V, the range is VM00000 to VM63999.

*6 Z11 and Z12, used by the External Device system, are not available to write in.

*7 Write disable.

**NOTE**

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

  Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"

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

  ☞ "Manual Symbols and Terminology"

## 5.7 KV-8000 Series (Variable Specification)

| Data type | | Bit address | Word address | 32 bits | Remarks |
|---|---|---|---|---|---|
| BOOL | Single Tag | <TAGNAME> | - | - | *1 *2 |
| | 1D Array | <TAGNAME>[a1] - <TAGNAME>[a2] | | | |
| | 2D Array | <TAGNAME>[a1,b1] - <TAGLNAME>[a2,b2] | | | |
| | 3D Array | <TAGNAME>[a1,b1,c1] - <TAGNAME>[a2,b2,c2] | | | |
| | 4D Array | <TAGNAME>[a1,b1,c1,d1] - <TAGNAME>[a2,b2,c2,d2] | | | |
| | 5D Array | <TAGNAME>[a1,b1,c1,d1,e1] - <TAGNAME>[a2,b2,c2,d2,e2] | | | |
| | 6D Array | <TAGNAME>[a1,b1,c1,d1,e1,f1] - <TAGNAME>[a2,b2,c2,d2,e2,f2] | | | |
| | 7D Array | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2] | | | |
| | 8D Array | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1,h1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2,h2] | | | |
| INT UINT | Single Tag | <TAGNAME>.00 - <TAGNAME>.15 | <TAGNAME> | L / H | *1 *2 |
| | 1D Array | <TAGNAME>[a1].00 - <TAGNAME>[a2].15 | <TAGNAME>[a1] - <TAGNAME>[a2] | | |
| | 2D Array | <TAGNAME>[a1,b1].00 - <TAGLNAME>[a2,b2].15 | <TAGNAME>[a1,b1] - <TAGLNAME>[a2,b2] | | |
| | 3D Array | <TAGNAME>[a1,b1,c1].00 - <TAGNAME>[a2,b2,c2].15 | <TAGNAME>[a1,b1,c1] - <TAGNAME>[a2,b2,c2] | | |
| | 4D Array | <TAGNAME>[a1,b1,c1,d1].00 - <TAGNAME>[a2,b2,c2,d2].15 | <TAGNAME>[a1,b1,c1,d1] - <TAGNAME>[a2,b2,c2,d2] | | |
| | 5D Array | <TAGNAME>[a1,b1,c1,d1,e1].00 - <TAGNAME>[a2,b2,c2,d2,e2].15 | <TAGNAME>[a1,b1,c1,d1,e1] - <TAGNAME>[a2,b2,c2,d2,e2] | | |
| | 6D Array | <TAGNAME>[a1,b1,c1,d1,e1,f1].00 - <TAGNAME>[a2,b2,c2,d2,e2,f2].15 | <TAGNAME>[a1,b1,c1,d1,e1,f1] - <TAGNAME>[a2,b2,c2,d2,e2,f2] | | |
| | 7D Array | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1].00 - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2].15 | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2] | | |
| | 8D Array | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1,h1].00 - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2,h2].15 | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1,h1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2,h2] | | |

| Data type | | Bit address | Word address | 32 bits | Remarks |
|---|---|---|---|---|---|
| DINT UDINT | Single Tag | <TAGNAME>.00 - <TAGNAME>.31 | <TAGNAME> | - | *1 *2 |
| | 1D Array | <TAGNAME>[a1].00 - <TAGNAME>[a2].31 | <TAGNAME>[a1] - <TAGNAME>[a2] | | |
| | 2D Array | <TAGNAME>[a1,b1].00 - <TAGLNAME>[a2,b2].31 | <TAGNAME>[a1,b1] - <TAGLNAME>[a2,b2] | | |
| | 3D Array | <TAGNAME>[a1,b1,c1].00 - <TAGNAME>[a2,b2,c2].31 | <TAGNAME>[a1,b1,c1] - <TAGNAME>[a2,b2,c2] | | |
| | 4D Array | <TAGNAME>[a1,b1,c1,d1].00 - <TAGNAME>[a2,b2,c2,d2].31 | <TAGNAME>[a1,b1,c1,d1] - <TAGNAME>[a2,b2,c2,d2] | | |
| | 5D Array | <TAGNAME>[a1,b1,c1,d1,e1].00 - <TAGNAME>[a2,b2,c2,d2,e2].31 | <TAGNAME>[a1,b1,c1,d1,e1] - <TAGNAME>[a2,b2,c2,d2,e2] | | |
| | 6D Array | <TAGNAME>[a1,b1,c1,d1,e1,f1].00 - <TAGNAME>[a2,b2,c2,d2,e2,f2].31 | <TAGNAME>[a1,b1,c1,d1,e1,f1] - <TAGNAME>[a2,b2,c2,d2,e2,f2] | | |
| | 7D Array | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1].00 - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2].31 | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2] | | |
| | 8D Array | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1,h1].00 - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2,h2].31 | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1,h1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2,h2] | | |
| LREAL REAL | Single Tag | - | <TAGNAME> | - | *1 *2 |
| | 1D Array | | <TAGNAME>[a1] - <TAGNAME>[a2] | | |
| | 2D Array | | <TAGNAME>[a1,b1] - <TAGLNAME>[a2,b2] | | |
| | 3D Array | | <TAGNAME>[a1,b1,c1] - <TAGNAME>[a2,b2,c2] | | |
| | 4D Array | | <TAGNAME>[a1,b1,c1,d1] - <TAGNAME>[a2,b2,c2,d2] | | |
| | 5D Array | | <TAGNAME>[a1,b1,c1,d1,e1] - <TAGNAME>[a2,b2,c2,d2,e2] | | |
| | 6D Array | | <TAGNAME>[a1,b1,c1,d1,e1,f1] - <TAGNAME>[a2,b2,c2,d2,e2,f2] | | |
| | 7D Array | | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2] | | |
| | 8D Array | | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1,h1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2,h2] | | |

| Data type | | Bit address | Word address | 32 bits | Remarks |
|---|---|---|---|---|---|
| STRING | Single Tag | - | <TAGNAME> | - | *1 *2 |
| | 1D Array | | <TAGNAME>[a1] - <TAGNAME>[a2] | | |
| | 2D Array | | <TAGNAME>[a1,b1] - <TAGLNAME>[a2,b2] | | |
| | 3D Array | | <TAGNAME>[a1,b1,c1] - <TAGNAME>[a2,b2,c2] | | |
| | 4D Array | | <TAGNAME>[a1,b1,c1,d1] - <TAGNAME>[a2,b2,c2,d2] | | |
| | 5D Array | | <TAGNAME>[a1,b1,c1,d1,e1] - <TAGNAME>[a2,b2,c2,d2,e2] | | |
| | 6D Array | | <TAGNAME>[a1,b1,c1,d1,e1,f1] - <TAGNAME>[a2,b2,c2,d2,e2,f2] | | |
| | 7D Array | | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2] | | |
| | 8D Array | | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1,h1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2,h2] | | |

*1 For structures, the Tag Name includes the structure name. Structure variable is shown on the Display as "structure name '$'Structure-member". ('$' is delimiter)
For array, the Tag Name includes the array name. Array variable is shown on the Display as follows.
1D Array: <TAGNAME>(a)
2D Array: <TAGNAME>(a,b)
3D Array: <TAGNAME>(a,b,c)
4D Array: <TAGNAME>(a,b,c,d)
5D Array: <TAGNAME>(a,b,c,d,e)
6D Array: <TAGNAME>(a,b,c,d,e,f)
7D Array: <TAGNAME>(a,b,c,d,e,f,g)
8D Array: <TAGNAME>(a,b,c,d,e,f,g,h)

*2 The maximum length of the Symbol Name is 255 characters, including delimiters and the element number.

IMPORTANT

- To use variables, you need to import Variable Data (symbol addresses). For information about how to import and the upper limit for capacity of variable data, please refer to GP-Pro EX Reference Manual.

  Cf. GP-Pro EX Reference Manual, "Using Device/PLC Tags"

NOTE

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

  ☞ "Manual Symbols and Terminology"

## 5.8 KV-X Series

: This address can be specified as system data area.

| Device | | Bit Address | Word Address | 32 bits | Remarks |
|---|---|---|---|---|---|
| Input Relay | | R000000 - R199915 | R0000 - R1999 | L/H | *1 |
| Output Relay | | | | | *1 |
| Internal Auxiliary Relay | | | | | *1 |
| Link Relay | | B0000 - B7FFF | B000 - B7FF | | |
| Internal Auxiliary Relay | | MR000000 - MR399915 | MR0000 - MR3999 | | *2 |
| Latch Relay | | LR00000 - LR99915 | LR000 - LR999 | | |
| Control Relay | | CR0000 - CR7915 | CR00 - CR79 | | |
| Work Relay | | VB0000 - VBF9FF | VB000 - VBF9F | | |
| Timer (Contact) | | T0000 - T3999 | ----- | - | |
| Counter (Contact) | | C0000 - C3999 | ----- | | |
| Timer (Setting Value) | | ----- | TS0000 - TS3999 | L/H | *3 |
| Counter (Setting Value) | | ----- | CS0000 - CS3999 | | *3 |
| Timer (Current Value) | | ----- | TC0000 - TC3999 | | *3 |
| Counter (Current Value) | | ----- | CC0000 - CC3999 | | *3 |
| Data Memory | | ----- | DM00000 - DM65534 | | Bit 15 *4 |
| Extension Data Memory | | ----- | EM00000 - EM65534 | | Bit 15 *4 |
| File Register | Current Bank | ----- | FM00000 - FM32767 | | Bit 15 *4 |
| | Serial Number System | ----- | ZF000000 - ZF524287 | | Bit 15 *4 |
| Temporary Data Memory | | ----- | TM000 - TM511 | | Bit 15 *4 |
| Control Memory | | ----- | CM0000 - CM7599 | | Bit 15 *4 |
| Link Register | | ----- | W0000 - W7FFF | | Bit 15 *4 |
| Work Memory | | ----- | VM000000 - VM589823 | | Bit 15 *4 *5 |
| Index Register | | ----- | Z01 - Z10 | | *3 *6 |
| Digital Trimmer | | ----- | TRM0 - TRM7 | | *3 *7 |

*1 When using a KV-EP21V/KV-LE21V/KV-LE20V, bit addresses are R00000 to R99915 and word addresses are R000 to R999.

*2 When using KV-EP21V, KV-LE21V or KV-LE20V, bit addresses are MR00000 - MR99915 and word addresses are MR000 - MR999.

*3 32-bit device

*4 The access method when specifying bits is different depending on the setting of "Other bits in this word" in "Individual Device Settings".

[Clear].....

[Do not clear].....When bits are written, the Display reads the corresponding word address from the External Device, sets particular bits of that word address to ON, and then returns the resulting address to the External Device. Note that the data may not be written correctly if you write to the word address using the ladder program while the Display is reading data from, and writing data to, the External Device.

*5 When using KV-EP21V, KV-LE21V or KV-LE20V, the range is VM00000 to VM63999.

*6 Z11 and Z12, used by the External Device system, are not available to write in.

*7 Write disable.

**NOTE**

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

  Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"

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

  ☞ "Manual Symbols and Terminology"

## 5.9 KV-X Series (Variable Specification)

This address can be specified as system data area.

| Data type | | Bit address | Word address | 32 bits | Remarks |
|---|---|---|---|---|---|
| BOOL | Single Tag | <TAGNAME> | - | - | *1 *2 |
| | 1D Array | <TAGNAME>[a1] - <TAGNAME>[a2] | | | |
| | 2D Array | <TAGNAME>[a1,b1] - <TAGLNAME>[a2,b2] | | | |
| | 3D Array | <TAGNAME>[a1,b1,c1] - <TAGNAME>[a2,b2,c2] | | | |
| | 4D Array | <TAGNAME>[a1,b1,c1,d1] - <TAGNAME>[a2,b2,c2,d2] | | | |
| | 5D Array | <TAGNAME>[a1,b1,c1,d1,e1] - <TAGNAME>[a2,b2,c2,d2,e2] | | | |
| | 6D Array | <TAGNAME>[a1,b1,c1,d1,e1,f1] - <TAGNAME>[a2,b2,c2,d2,e2,f2] | | | |
| | 7D Array | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2] | | | |
| | 8D Array | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1,h1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2,h2] | | | |
| INT UINT | Single Tag | <TAGNAME>.00 - <TAGNAME>.15 | <TAGNAME> | L / H | *1 *2 |
| | 1D Array | <TAGNAME>[a1].00 - <TAGNAME>[a2].15 | <TAGNAME>[a1] - <TAGNAME>[a2] | | |
| | 2D Array | <TAGNAME>[a1,b1].00 - <TAGLNAME>[a2,b2].15 | <TAGNAME>[a1,b1] - <TAGLNAME>[a2,b2] | | |
| | 3D Array | <TAGNAME>[a1,b1,c1].00 - <TAGNAME>[a2,b2,c2].15 | <TAGNAME>[a1,b1,c1] - <TAGNAME>[a2,b2,c2] | | |
| | 4D Array | <TAGNAME>[a1,b1,c1,d1].00 - <TAGNAME>[a2,b2,c2,d2].15 | <TAGNAME>[a1,b1,c1,d1] - <TAGNAME>[a2,b2,c2,d2] | | |
| | 5D Array | <TAGNAME>[a1,b1,c1,d1,e1].00 - <TAGNAME>[a2,b2,c2,d2,e2].15 | <TAGNAME>[a1,b1,c1,d1,e1] - <TAGNAME>[a2,b2,c2,d2,e2] | | |
| | 6D Array | <TAGNAME>[a1,b1,c1,d1,e1,f1].00 - <TAGNAME>[a2,b2,c2,d2,e2,f2].15 | <TAGNAME>[a1,b1,c1,d1,e1,f1] - <TAGNAME>[a2,b2,c2,d2,e2,f2] | | |
| | 7D Array | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1].00 - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2].15 | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2] | | |
| | 8D Array | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1,h1].00 - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2,h2].15 | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1,h1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2,h2] | | |

| Data type | | Bit address | Word address | 32 bits | Remarks |
|---|---|---|---|---|---|
| DINT UDINT | Single Tag | <TAGNAME>.00 - <TAGNAME>.31 | <TAGNAME> | - | *1 *2 |
| | 1D Array | <TAGNAME>[a1].00 - <TAGNAME>[a2].31 | <TAGNAME>[a1] - <TAGNAME>[a2] | | |
| | 2D Array | <TAGNAME>[a1,b1].00 - <TAGLNAME>[a2,b2].31 | <TAGNAME>[a1,b1] - <TAGLNAME>[a2,b2] | | |
| | 3D Array | <TAGNAME>[a1,b1,c1].00 - <TAGNAME>[a2,b2,c2].31 | <TAGNAME>[a1,b1,c1] - <TAGNAME>[a2,b2,c2] | | |
| | 4D Array | <TAGNAME>[a1,b1,c1,d1].00 - <TAGNAME>[a2,b2,c2,d2].31 | <TAGNAME>[a1,b1,c1,d1] - <TAGNAME>[a2,b2,c2,d2] | | |
| | 5D Array | <TAGNAME>[a1,b1,c1,d1,e1].00 - <TAGNAME>[a2,b2,c2,d2,e2].31 | <TAGNAME>[a1,b1,c1,d1,e1] - <TAGNAME>[a2,b2,c2,d2,e2] | | |
| | 6D Array | <TAGNAME>[a1,b1,c1,d1,e1,f1].00 - <TAGNAME>[a2,b2,c2,d2,e2,f2].31 | <TAGNAME>[a1,b1,c1,d1,e1,f1] - <TAGNAME>[a2,b2,c2,d2,e2,f2] | | |
| | 7D Array | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1].00 - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2].31 | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2] | | |
| | 8D Array | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1,h1].00 - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2,h2].31 | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1,h1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2,h2] | | |
| LREAL REAL | Single Tag | - | <TAGNAME> | - | *1 *2 |
| | 1D Array | | <TAGNAME>[a1] - <TAGNAME>[a2] | | |
| | 2D Array | | <TAGNAME>[a1,b1] - <TAGLNAME>[a2,b2] | | |
| | 3D Array | | <TAGNAME>[a1,b1,c1] - <TAGNAME>[a2,b2,c2] | | |
| | 4D Array | | <TAGNAME>[a1,b1,c1,d1] - <TAGNAME>[a2,b2,c2,d2] | | |
| | 5D Array | | <TAGNAME>[a1,b1,c1,d1,e1] - <TAGNAME>[a2,b2,c2,d2,e2] | | |
| | 6D Array | | <TAGNAME>[a1,b1,c1,d1,e1,f1] - <TAGNAME>[a2,b2,c2,d2,e2,f2] | | |
| | 7D Array | | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2] | | |
| | 8D Array | | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1,h1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2,h2] | | |

| Data type | | Bit address | Word address | 32 bits | Remarks |
|---|---|---|---|---|---|
| STRING | Single Tag | - | <TAGNAME> | - | *1 *2 |
| | 1D Array | | <TAGNAME>[a1] - <TAGNAME>[a2] | | |
| | 2D Array | | <TAGNAME>[a1,b1] - <TAGLNAME>[a2,b2] | | |
| | 3D Array | | <TAGNAME>[a1,b1,c1] - <TAGNAME>[a2,b2,c2] | | |
| | 4D Array | | <TAGNAME>[a1,b1,c1,d1] - <TAGNAME>[a2,b2,c2,d2] | | |
| | 5D Array | | <TAGNAME>[a1,b1,c1,d1,e1] - <TAGNAME>[a2,b2,c2,d2,e2] | | |
| | 6D Array | | <TAGNAME>[a1,b1,c1,d1,e1,f1] - <TAGNAME>[a2,b2,c2,d2,e2,f2] | | |
| | 7D Array | | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2] | | |
| | 8D Array | | <TAGNAME>[a1,b1,c1,d1,e1,f1,g1,h1] - <TAGNAME>[a2,b2,c2,d2,e2,f2,g2,h2] | | |

*1 For structures, the Tag Name includes the structure name. Structure variable is shown on the Display as "structure name '$'Structure-member". ('$' is delimiter)
For array, the Tag Name includes the array name. Array variable is shown on the Display as follows.
1D Array: <TAGNAME>(a)
2D Array: <TAGNAME>(a,b)
3D Array: <TAGNAME>(a,b,c)
4D Array: <TAGNAME>(a,b,c,d)
5D Array: <TAGNAME>(a,b,c,d,e)
6D Array: <TAGNAME>(a,b,c,d,e,f)
7D Array: <TAGNAME>(a,b,c,d,e,f,g)
8D Array: <TAGNAME>(a,b,c,d,e,f,g,h)

*2 The maximum length of the Symbol Name is 255 characters, including delimiters and the element number.

IMPORTANT

- To use variables, you need to import Variable Data (symbol addresses). For information about how to import and the upper limit for capacity of variable data, please refer to GP-Pro EX Reference Manual.

  Cf. GP-Pro EX Reference Manual, "Using Device/PLC Tags"

NOTE

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

  Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"

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

  ☞ "Manual Symbols and Terminology"

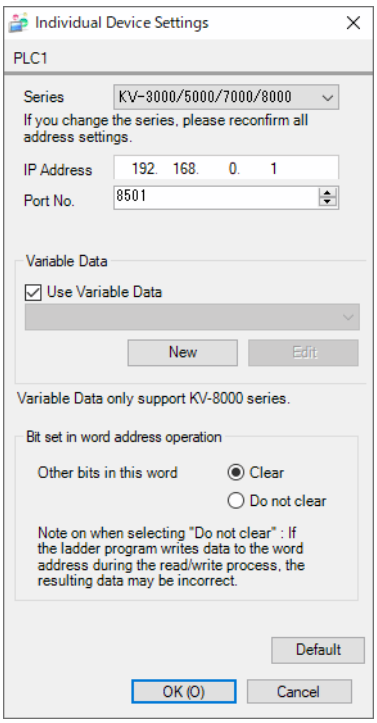
## ■ Importing Variable Data

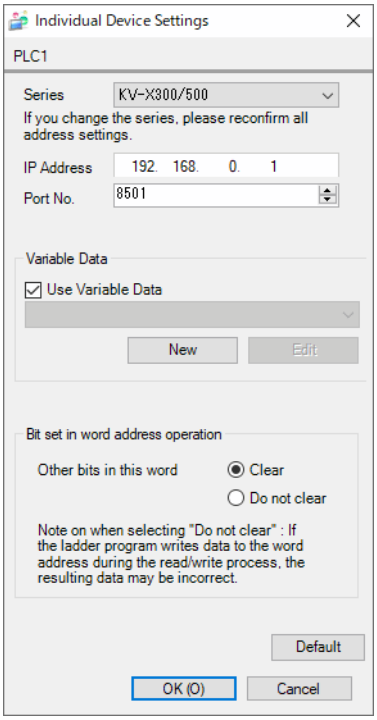
**NOTE**

- Variable data can be imported only for the KV-8000 series and KV-X series.
  However, only global variable data can be imported. Local variable data cannot be imported.

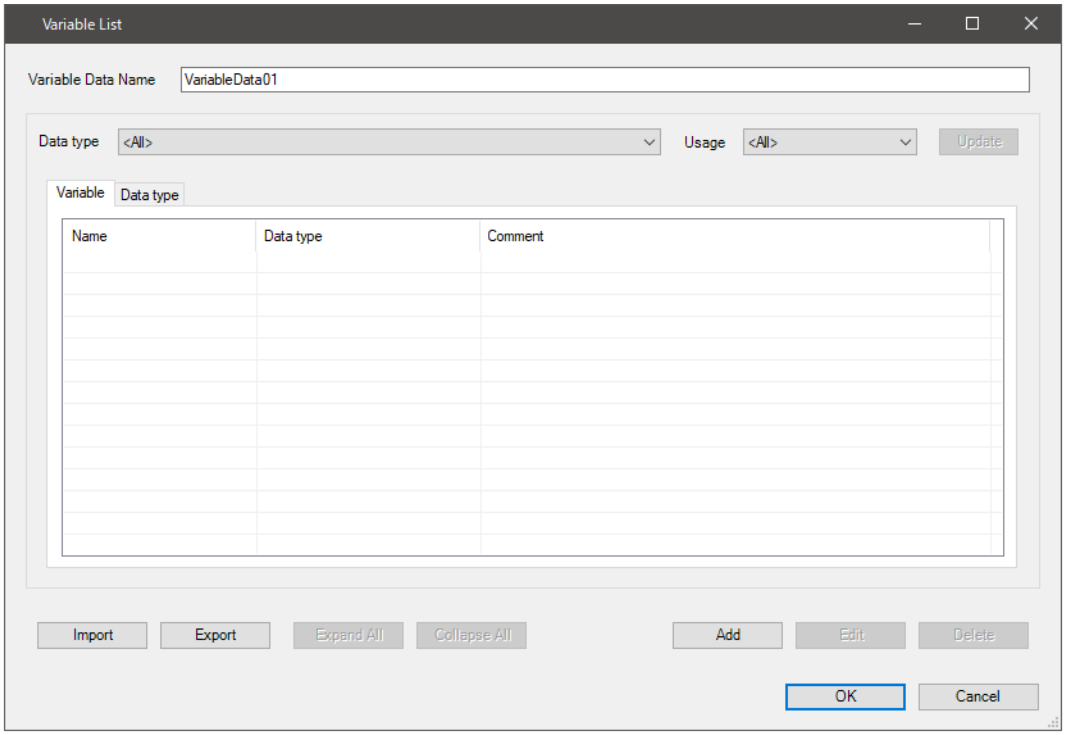
1 Go to the [Individual Device Settings] dialog box using GP-Pro EX and select "KV-3000/5000/7000/8000" or "KV-X300/500" in the [Series] selector.

2 Check [Use Variable Data].

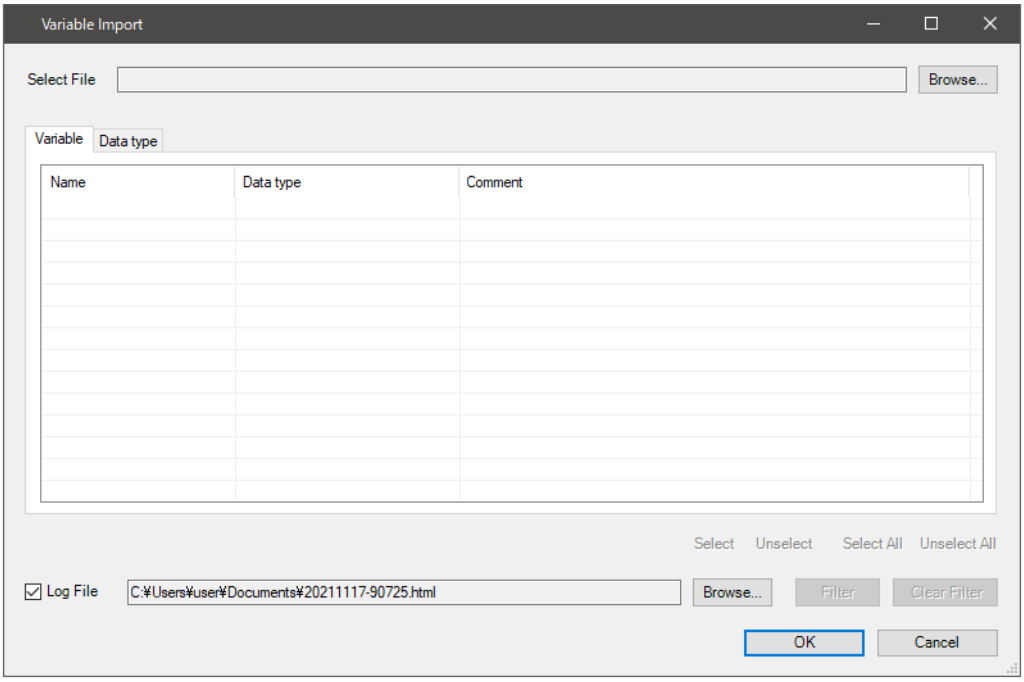


3 Click [New] to display the Variable List window.

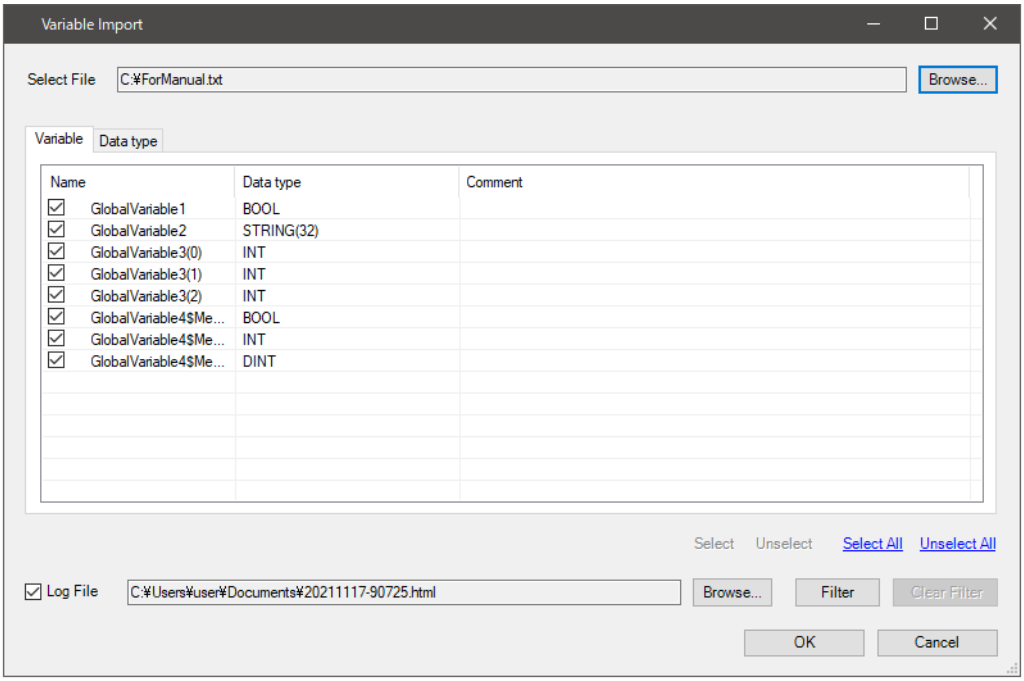



4 Click [Import] to display the Variable Import window.

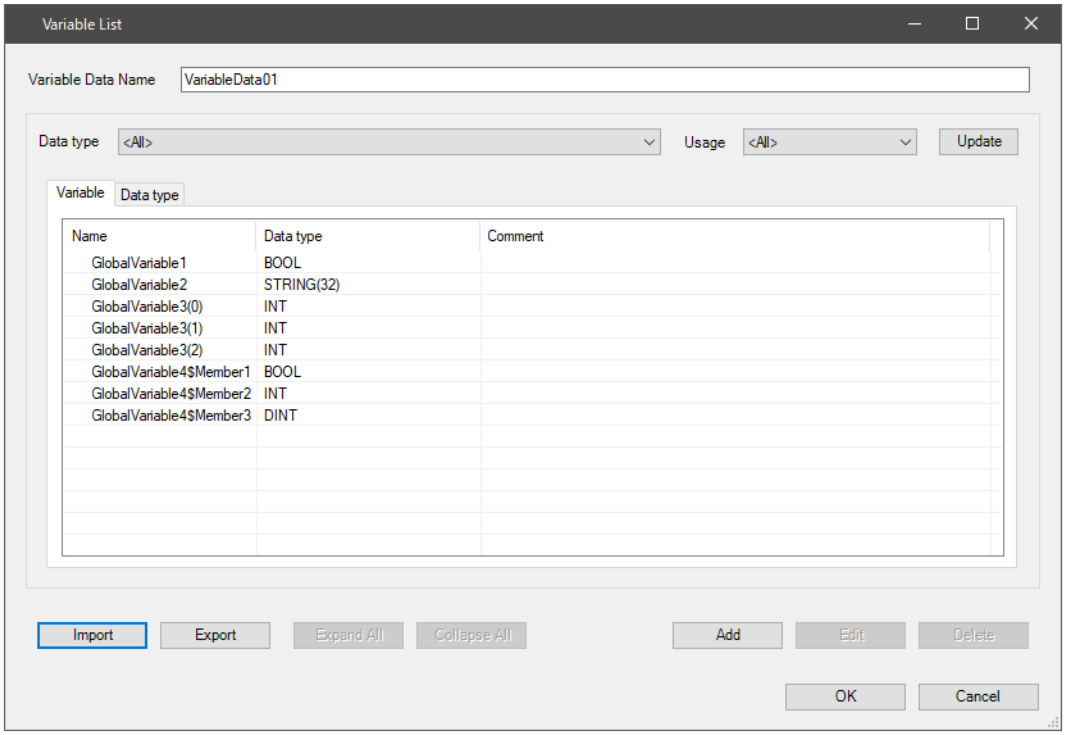



5 Click [Browse...] of [Select File], and select the variable data.

6 Check the variables to import, and click [OK].




7 Check the imported variables, and click [OK].



# 6 Device Code and Address Code

Use device code and address code if you select "Device Type & Address" for the address type in Data Displays.

## 6.1 KV-700 Series

| Device | Device Name | Device Code (HEX) | Address Code |
|---|---|---|---|
| Input Relay | ----- | 0080 | Word Address |
| Output Relay | | | |
| Internal Auxiliary Relay | | | |
| Control Relay | CR | 008A | Word Address |
| Timer (Setting Value) | TS | 0062 | Double Word Address |
| Counter (Setting Value) | CS | 0063 | Double Word Address |
| Timer (Current Value) | TC | 0060 | Double Word Address |
| Counter (Current Value) | CC | 0061 | Double Word Address |
| Data Memory | DM | 0000 | Word Address |
| Temporary Data Memory | TM | 0001 | Word Address |
| Control Memory | CM | 0002 | Word Address |
| Digital Trimmer | TRM | 0064 | Double Word Address |
| High-speed Counter (Current Value) | CTH | 0065 | Double Word Address |
| High-speed Counter Comparator (Setting Value) | CTC | 0066 | Double Word Address |

## 6.2 KV-1000 Series

| Device | Device Name | Device Code (HEX) | Address Code |
|---|---|---|---|
| Input Relay | ----- | 0080 | Word Address |
| Output Relay | | | |
| Internal Auxiliary Relay | | | |
| Internal Auxiliary Relay | MR | 0082 | Word Address |
| Latch Relay | LR | 0084 | Word Address |
| Control Relay | CR | 008A | Word Address |
| Timer (Setting Value) | TS | 0062 | Double Word Address |
| Counter (Setting Value) | CS | 0063 | Double Word Address |
| Timer (Current Value) | TC | 0060 | Double Word Address |
| Counter (Current Value) | CC | 0061 | Double Word Address |
| Data Memory | DM | 0000 | Word Address |
| Extension Data Memory | EM | 0010 | Word Address |
| Extension Data Memory | FM | 0011 | Word Address |
| Temporary Data Memory | TM | 0001 | Word Address |
| Control Memory | CM | 0002 | Word Address |
| Index Register | Z | 0003 | Word Address |
| Digital Trimmer | TRM | 0064 | Double Word Address |
| High-speed Counter (Current Value) | CTH | 0065 | Double Word Address |
| High-speed Counter Comparator (Setting Value) | CTC | 0066 | Double Word Address |

## 6.3 KV-3000/5000/5500 Series

| Device | | Device Name | Device Code (HEX) | Address Code |
|---|---|---|---|---|
| Input Relay | | R | 0080 | Word Address |
| Output Relay | | | | |
| Internal Auxiliary Relay | | | | |
| Link Relay | | B | 008B | Word Address |
| Internal Auxiliary Relay | | MR | 0082 | Word Address |
| Latch Relay | | LR | 0084 | Word Address |
| Control Relay | | CR | 008A | Word Address |
| Work Relay | | VB | 008C | Word Address |
| Timer (Setting Value) | | TS | 0062 | Double Word Address |
| Counter (Setting Value) | | CS | 0063 | Double Word Address |
| Timer (Current Value) | | TC | 0060 | Double Word Address |
| Counter (Current Value) | | CC | 0061 | Double Word Address |
| Data Memory | | DM | 0000 | Word Address |
| Extension Data Memory | | EM | 0010 | Word Address |
| File Register | Current Bank | FM | 0011 | Word Address |
| | Serial Number System | ZF | 0012 | Word Address |
| Temporary Data Memory | | TM | 0001 | Word Address |
| Control Memory | | CM | 0002 | Word Address |
| Link Register | | W | 0013 | Word Address |
| Work Memory | | VM | 0014 | Word Address |
| Index Register | | Z | 0067 | Double Word Address |
| Digital Trimmer | | TRM | 0064 | Double Word Address |
| High-speed Counter (Current Value) | | CTH | 0065 | Double Word Address |
| High-speed Counter Comparator (Setting Value) | | CTC | 0066 | Double Word Address |

## 6.4 KV-7000 Series

| Device | | Device Name | Device Code (HEX) | Address Code |
|---|---|---|---|---|
| Input Relay | | R | 0080 | Word Address |
| Output Relay | | | | |
| Internal Auxiliary Relay | | | | |
| Link Relay | | B | 008B | Word Address |
| Internal Auxiliary Relay | | MR | 0082 | Word Address |
| Latch Relay | | LR | 0084 | Word Address |
| Control Relay | | CR | 008A | Word Address |
| Work Relay | | VB | 008C | Word Address |
| Timer (Setting Value) | | TS | 0062 | Double Word Address |
| Counter (Setting Value) | | CS | 0063 | Double Word Address |
| Timer (Current Value) | | TC | 0060 | Double Word Address |
| Counter (Current Value) | | CC | 0061 | Double Word Address |
| Data Memory | | DM | 0000 | Word Address |
| Extension Data Memory | | EM | 0010 | Word Address |
| File Register | Current Bank | FM | 0011 | Word Address |
| | Serial Number System | ZF | 0012 | Word Address |
| Temporary Data Memory | | TM | 0001 | Word Address |
| Control Memory | | CM | 0002 | Word Address |
| Link Register | | W | 0013 | Word Address |
| Work Memory | | VM | 0014 | Word Address |
| Index Register | | Z | 0067 | Double Word Address |
| Digital Trimmer | | TRM | 0064 | Double Word Address |

## 6.5 KV-Nano Series

| Device | Device Name | Device Code (HEX) | Address Code |
|---|---|---|---|
| Input Relay | R | 0080 | Word Address |
| Output Relay | | | |
| Internal Auxiliary Relay | | | |
| Link Relay | B | 008B | Word Address |
| Internal Auxiliary Relay | MR | 0082 | Word Address |
| Latch Relay | LR | 0084 | Word Address |
| Control Relay | CR | 008A | Word Address |
| Work Relay | VB | 008C | Word Address |
| Timer (Setting Value) | TS | 0062 | Double Word Address |
| Counter (Setting Value) | CS | 0063 | Double Word Address |
| Timer (Current Value) | TC | 0060 | Double Word Address |
| Counter (Current Value) | CC | 0061 | Double Word Address |
| Data Memory | DM | 0000 | Word Address |
| Temporary Data Memory | TM | 0001 | Word Address |
| Control Memory | CM | 0002 | Word Address |
| Link Register | W | 0013 | Word Address |
| Work Memory | VM | 0014 | Word Address |
| Index Register | Z | 0067 | Double Word Address |
| High-speed Counter (Current Value) | CTH | 0065 | Double Word Address |
| High-speed Counter Comparator (Setting Value) | CTC | 0066 | Double Word Address |

## 6.6 KV-8000 Series

| Device | | Device Name | Device Code (HEX) | Address Code |
|---|---|---|---|---|
| Input Relay | | R | 0080 | Word Address |
| Output Relay | | | | |
| Internal Auxiliary Relay | | | | |
| Link Relay | | B | 008B | Word Address |
| Internal Auxiliary Relay | | MR | 0082 | Word Address |
| Latch Relay | | LR | 0084 | Word Address |
| Control Relay | | CR | 008A | Word Address |
| Work Relay | | VB | 008C | Word Address |
| Timer (Setting Value) | | TS | 0062 | Double Word Address |
| Counter (Setting Value) | | CS | 0063 | Double Word Address |
| Timer (Current Value) | | TC | 0060 | Double Word Address |
| Counter (Current Value) | | CC | 0061 | Double Word Address |
| Data Memory | | DM | 0000 | Word Address |
| Extension Data Memory | | EM | 0010 | Word Address |
| File Register | Current Bank | FM | 0011 | Word Address |
| | Serial Number System | ZF | 0012 | Word Address |
| Temporary Data Memory | | TM | 0001 | Word Address |
| Control Memory | | CM | 0002 | Word Address |
| Link Register | | W | 0013 | Word Address |
| Work Memory | | VM | 0014 | Word Address |
| Index Register | | Z | 0067 | Double Word Address |
| Digital Trimmer | | TRM | 0064 | Double Word Address |

## 6.7 KV-X Series

| Device | | Device Name | Device Code (HEX) | Address Code |
|---|---|---|---|---|
| Input Relay | | R | 0080 | Word Address |
| Output Relay | | | | |
| Internal Auxiliary Relay | | | | |
| Link Relay | | B | 008B | Word Address |
| Internal Auxiliary Relay | | MR | 0082 | Word Address |
| Latch Relay | | LR | 0084 | Word Address |
| Control Relay | | CR | 008A | Word Address |
| Work Relay | | VB | 008C | Word Address |
| Timer (Setting Value) | | TS | 0062 | Double Word Address |
| Counter (Setting Value) | | CS | 0063 | Double Word Address |
| Timer (Current Value) | | TC | 0060 | Double Word Address |
| Counter (Current Value) | | CC | 0061 | Double Word Address |
| Data Memory | | DM | 0000 | Word Address |
| Extension Data Memory | | EM | 0010 | Word Address |
| File Register | Current Bank | FM | 0011 | Word Address |
| | Serial Number System | ZF | 0012 | Word Address |
| Temporary Data Memory | | TM | 0001 | Word Address |
| Control Memory | | CM | 0002 | Word Address |
| Link Register | | W | 0013 | Word Address |
| Work Memory | | VM | 0014 | Word Address |
| Index Register | | Z | 0067 | Double Word Address |
| Digital Trimmer | | TRM | 0064 | Double 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 | Displays the IP address or device address of the External Device where an error has occurred, or error codes received from the External Device.<br>NOTE<br>• IP address is displayed as "IP address (Decimal): MAC address (Hex)".<br>• Device address is displayed as "Address: Device address".<br>• Received error codes are displayed 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 "Display-related errors" in "Maintenance/Troubleshooting guide" for details on the error messages common to the driver.

## ■ Error Codes Unique to External Device

| Error Code (HEX) | Error Description |
|---|---|
| E0 | Accessed the device not defined as device in the External Device.*1 |
| E1 | A command which is not supported by the CPU unit was sent. |
| E4 | Wrote in the write disable device. |

*1 Setup in the ladder program is required before accessing the Timer (Contact/Current Value/Setting Value), Counter (Contact/Current Value/Setting Value), High-speed Counter (Current Value) and High-speed Counter Comparator (Setting Value).

## ■ Error Messages Unique to External Device

| Message ID | Error Message | Description |
|---|---|---|
| RHxx128 | (Node Name): ID=(Adapter ID) is not registered in the List | When the ID number of the GP3000H Conversion Adaptor is not registered in the list, this message is displayed when turning on the Display's power on. Register the GP3000H Conversion Adaptor ID number. |
| RHxx129 | (Node Name): Conversion Adapter is not connected, or the setting for Conversion Adapter is set Disable. Please confirm the connection or the setting. | When the GP3000H Conversion Adapter is not connected or a check is not put in the [Disable] box of the [Conversion Adapter], this message is displayed after putting a check in the "List Register". Check the connection or setting of the GP3000H Conversion Adaptor. |