



KV-10_80RW/TW

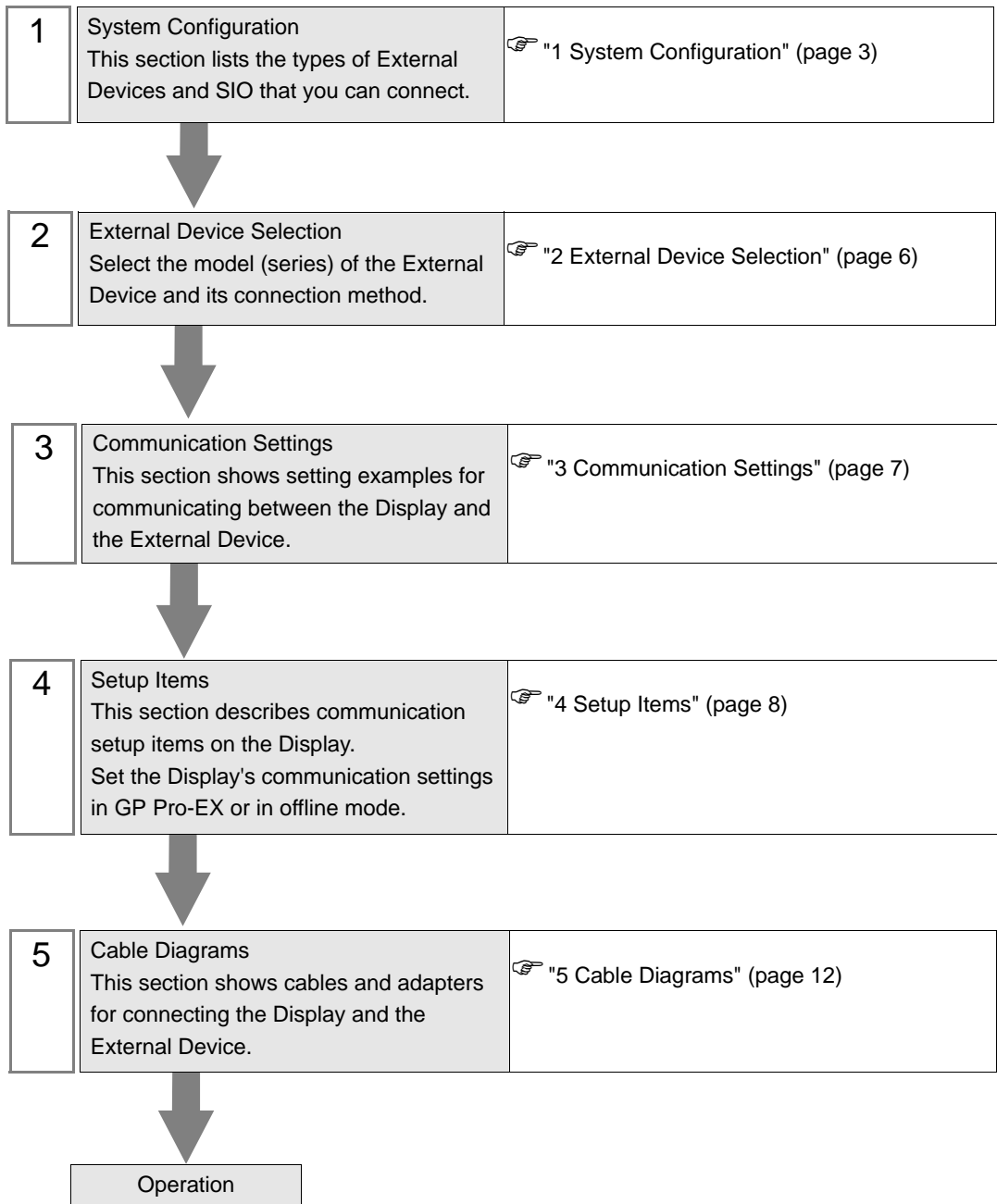
CPU Direct Driver

| | | |
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Introduction

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

In this manual, the connection procedure 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* ¹ | Link I/F | SIO Type | Setting Example | Cable Diagram |
|-----------|--|----------------------|----------|----------------------------|---------------------------|
| KV Series | KV-10□ KV-16□ KV-24□ KV-40□ KV-80□ | Port on the CPU unit | RS-232C | Setting Example 1 (page 7) | Cable Diagram 1 (page 12) |

*1 □ varies depending on the External Device.

■ Connection Configuration

- 1:1 Connection



■ IPC COM Port

When connecting IPC with an External Device, the COM port used depends on the series and SIO type. Please refer to the IPC manual for details.

Usable port

| Series | Usable Port | | |
|--|---|----------------------|----------------------|
| | RS-232C | RS-422/485(4 wire) | RS-422/485(2 wire) |
| PS-2000B | COM1 ^{*1} , COM2, COM3 ^{*1} , COM4 | - | - |
| PS-3450A, PS-3451A, PS3000-BA, PS3001-BD | COM1, COM2 ^{*1*2} | COM2 ^{*1*2} | COM2 ^{*1*2} |
| PS-3650A (T41 model), PS-3651A (T41 model) | COM1 ^{*1} | - | - |
| PS-3650A (T42 model), PS-3651A (T42 model) | COM1 ^{*1*2} , COM2 | COM1 ^{*1*2} | COM1 ^{*1*2} |
| PS-3700A (Pentium®4-M), PS-3710A | COM1 ^{*1} , COM2 ^{*1} , COM3 ^{*2} , COM4 | COM3 ^{*2} | COM3 ^{*2} |
| PS-3711A | COM1 ^{*1} , COM2 ^{*2} | COM2 ^{*2} | COM2 ^{*2} |
| PS4000 ^{*3} | COM1, COM2 | - | - |
| PL3000 | COM1 ^{*1*2} , COM2 ^{*1} , COM3, COM4 | COM1 ^{*1*2} | COM1 ^{*1*2} |

*1 The RI/5V can be switched. Use the IPC's switch to change if necessary.

*2 Set up the SIO type with the DIP Switch. Please set up as follows according to SIO type to be used.

*3 When making communication between an External Device and COM port on the Expansion slot, only RS-232C is supported. However, ER (DTR/CTS) control cannot be executed because of the specification of COM port.

For connection with External Device, use user-created cables and disable Pin Nos. 1, 4, 6 and 9. Please refer to the IPC manual for details of pin layout.

DIP Switch setting: RS-232C

| DIP Switch | Setting | Description |
|------------|-------------------|---|
| 1 | OFF ^{*1} | Reserved (always OFF) |
| 2 | OFF | SIO type: RS-232C |
| 3 | OFF | |
| 4 | OFF | Output mode of SD (TXD) data: Always output |
| 5 | OFF | Terminal resistance (220Ω) insertion to SD (TXD): None |
| 6 | OFF | Terminal resistance (220Ω) insertion to RD (RXD): None |
| 7 | OFF | Short-circuit of SDA (TXA) and RDA (RXA): Not available |
| 8 | OFF | Short-circuit of SDB (TXB) and RDB (RXB): Not available |
| 9 | OFF | RS (RTS) Auto control mode: Disabled |
| 10 | OFF | |

*1 When using PS-3450A, PS-3451A, PS3000-BA and PS3001-BD, turn ON the set value.

DIP Switch setting: RS-422/485 (4 wire)

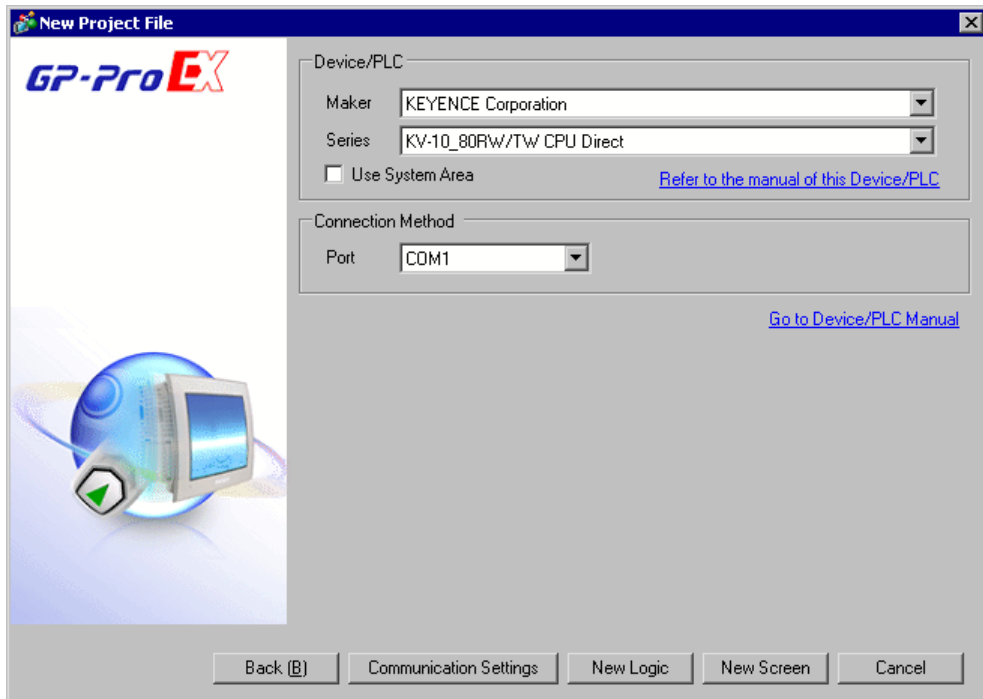
| DIP Switch | Setting | Description |
|------------|---------|---|
| 1 | OFF | Reserved (always OFF) |
| 2 | ON | SIO type: RS-422/485 |
| 3 | ON | |
| 4 | OFF | Output mode of SD (TXD) data: Always output |
| 5 | OFF | Terminal resistance (220Ω) insertion to SD (TXD): None |
| 6 | OFF | Terminal resistance (220Ω) insertion to RD (RXD): None |
| 7 | OFF | Short-circuit of SDA (TXA) and RDA (RXA): Not available |
| 8 | OFF | Short-circuit of SDB (TXB) and RDB (RXB): Not available |
| 9 | OFF | RS (RTS) Auto control mode: Disabled |
| 10 | OFF | |

DIP Switch setting: RS-422/485 (2 wire)

| DIP Switch | Setting | Description |
|------------|---------|--|
| 1 | OFF | Reserved (always OFF) |
| 2 | ON | SIO type: RS-422/485 |
| 3 | ON | |
| 4 | OFF | Output mode of SD (TXD) data: Always output |
| 5 | OFF | Terminal resistance (220Ω) insertion to SD (TXD): None |
| 6 | OFF | Terminal resistance (220Ω) insertion to RD (RXD): None |
| 7 | ON | Short-circuit of SDA (TXA) and RDA (RXA): Available |
| 8 | ON | Short-circuit of SDB (TXB) and RDB (RXB): Available |
| 9 | ON | RS (RTS) Auto control mode: Enabled |
| 10 | ON | |

2 External Device Selection

Select the External Device to be connected to the Display.



| Setup Items | Setup Description |
|-----------------|--|
| Maker | Select the maker of the External Device to be connected. Select "KEYENCE Corporation". |
| Series | <p>Select a model (series) of the External Device to be connected and connection method. Select "KV-10_80RW/TW CPU Direct".</p> <p>In System configuration, check to make sure the external device which you are connecting is supported in "KV-10_80RW/TW CPU Direct".</p> <p>☞ "1 System Configuration" (page 3)</p> |
| Use System Area | <p>Check this option to synchronize the system data area of the Display and the device (memory) of the External Device. When synchronized, you can use the External Device's ladder program to switch the display or display the window on the Display.</p> <p>Cf. GP-Pro EX Reference Manual "LS Area (Direct Access Method Area)"</p> <p>This feature can also be set in GP-Pro EX or in the Display's offline mode.</p> <p>Cf. GP-Pro EX Reference Manual "Display Unit (System Area) Settings Guide"</p> <p>Cf. Maintenance/Troubleshooting Guide "Main Unit - System Area Settings"</p> |
| Port | Select the Display port to be connected to the External Device. |

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/PLC 1

Summary

Maker: KEYENCE Corporation Series: KV-10_80RW/TW CPU Direct Port: COM1 [Change Device/PLC](#)

Text Data Mode: 2 [Change](#)

Communication Settings

SIO Type: ☒ RS232C ☐ RS422/485(2wire) ☐ RS422/485(4wire)

Speed: 19200

Data Length: ☒ 7 ☒ 8

Parity: ☐ NONE ☒ EVEN ☐ ODD

Stop Bit: ☒ 1 ☐ 2

Flow Control: ☒ NONE ☐ ER(DTR/CTS) ☐ XON/XOFF

Timeout: 3 (sec)

Retry: 2

Wait To Send: 0 (ms)

RI / VCC: ☒ RI ☐ VCC

In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

Default

Device-Specific Settings

Allowable Number of Devices/PLCs: 1

| Number | Device Name | Settings |
|--------|-------------|---------------------------|
| 1 | PLC1 | There is no setting item. |

■ External Device Settings


The External Device does not require communication settings.

The communication speed changes between 9600 and 38400 according to the Display setting.

4 Setup Items

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

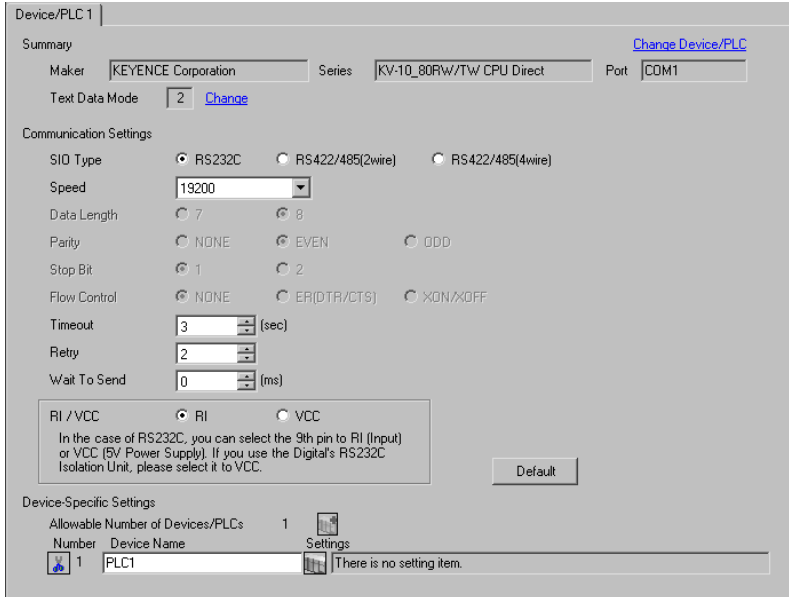
The setting of each parameter must match that of the External Device.

 "3 Communication Settings" (page 7)

4.1 Setup Items in GP-Pro EX

■ Communication Settings

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



Device/PLC 1

Summary [Change Device/PLC](#)

Maker: KEYENCE Corporation Series: KV-10_80RW/TW CPU Direct Port: COM1

Text Data Mode: 2 [Change](#)

Communication Settings

SIO Type: ☒ RS232C ☐ RS422/485(2wire) ☐ RS422/485(4wire)

Speed: 19200

Data Length: ☐ 7 ☒ 8

Parity: ☐ NONE ☒ EVEN ☐ ODD

Stop Bit: ☒ 1 ☐ 2

Flow Control: ☒ NONE ☐ ER(DTR/CTS) ☐ XON/XOFF

Timeout: 3 (sec)

Retry: 2

Wait To Send: 0 (ms)

RI / VCC: ☒ RI ☐ VCC

In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.

Default

Device-Specific Settings

Allowable Number of Devices/PLCs: 1

| Number | Device Name | Settings |
|--------|-------------|---------------------------|
| 1 | PLC1 | There is no setting item. |

| Setup Items | Setup Description |
|--------------|--|
| SIO Type | <p>Select the SIO type to communicate with the External Device.</p> <p>IMPORTANT</p> <ul style="list-style-type: none"> In the communication settings, set [SIO Type] correctly according to the serial interface specifications of the Display. <p>If you select an SIO type that the serial interface does not support, proper operation cannot be guaranteed.</p> <p>Refer to your Display manual for details on the serial interface specifications.</p> |
| Speed | Select the communication speed between the External Device and the Display. |
| Data Length | Displays the data length. |
| Parity | Displays how to check parity. |
| Stop Bit | Displays the stop bit length. |
| Flow Control | Displays the communication control method to prevent transmission and reception data overflow. |
| Timeout | Use an integer from 1 to 127 to enter the time (s) for which the Display waits for the response from the External Device. |

Continued

| Setup Items | Setup Description |
|--------------|---|
| Retry | In case of no response from the External Device, use an integer from 0 to 255 to enter how many times the Display retransmits the command. |
| Wait To Send | Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands. |
| RI/VCC | You can switch RI/VCC of the 9th pin when you select RS232C for SIO type. It is necessary to change RI/5V by changeover switch of IPC when connect with IPC. Please refer to the manual of the IPC for more detail. |

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"

- The number of the setup items to be displayed for 1 page in the offline mode depends on the Display in use. Please refer to the Reference manual for details.

■ Communication Settings

To display the setting screen, touch [Device/PLC Settings] from [Peripheral Equipment Settings] in offline mode.

Touch the External Device you want to set from the displayed list.

| Comm. | Option | | | |
|--|--------|------|--|------------------------|
| KV-10_80RW/TW CPU Direct [COM1] Page 1/1 | | | | |
| SIO Type | RS232C | | | |
| Speed | 19200 | | | |
| Data Length | 8 | | | |
| Parity | EVEN | | | |
| Stop Bit | 1 | | | |
| Flow Control | NONE | | | |
| Timeout(s) | 3 | | | |
| Retry | 2 | | | |
| Wait to Send(ms) | 0 | | | |
| Exit | | Back | | 2008/08/01 16:15:31 |

| Setup Items | Setup Description |
|--------------|--|
| SIO Type | <p>Select the SIO type to communicate with the External Device.</p> <p>IMPORTANT</p> <ul style="list-style-type: none"> In the communication settings, set [SIO Type] correctly according to the serial interface specifications of the Display. If you select an SIO type that the serial interface does not support, proper operation cannot be guaranteed. Refer to your Display manual for details on the serial interface specifications. |
| Speed | Select the communication speed between the External Device and the Display. |
| Data Length | Displays the data length. |
| Parity | Displays how to check parity. |
| Stop Bit | Displays the stop bit length. |
| Flow Control | Displays the communication control method to prevent transmission and reception data overflow. |
| Timeout | Use an integer from 1 to 127 to enter the time (s) for which the Display waits for the response from the External Device. |
| Retry | In case of no response from the External Device, use an integer from 0 to 255 to enter how many times the Display retransmits the command. |

| Setup Items | Setup Description |
|--------------|---|
| Wait To Send | Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands. |

■ Option Settings

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

| | | | | |
|---|--------|--------|----------|------------------------|
| Comm. | Option | | | |
| KV-10_80RW/TW CPU Direct | | [COM1] | Page 1/1 | |
| <p>RI / VCC <input checked="" type="radio"/> RI <input type="radio"/> VCC</p> <p>In the case of RS232C, you can select the 9th pin to RI(Input) or VCC(5V Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC.</p> | | | | |
| Exit | | Back | | 2008/08/01 16:15:36 |

| Setup Items | Setup Description |
|-------------|---|
| RI/VCC | You can switch RI/VCC of the 9th pin when you select RS232C for SIO type. It is necessary to change RI/5V by changeover switch of IPC when connect with IPC. Please refer to the manual of the IPC for more detail. |

NOTE

- GP-4100 series and GP-4*0ITM do not have the [Option] setting in the offline mode.

5 Cable Diagrams


The following cable diagrams may be different from those recommended by KEYENCE Corporation. Please be assured, however, there is no operational problem in applying the cable diagrams shown in this manual.

- The FG pin of the External Device body must be D-class grounded. Refer to your External Device manual for details.
- The SG and FG are connected inside the Display. When connecting the External Device to the SG, design your system to avoid short-circuit loops.
- Connect an isolation unit if the communication is not stable due to noise or other factors.

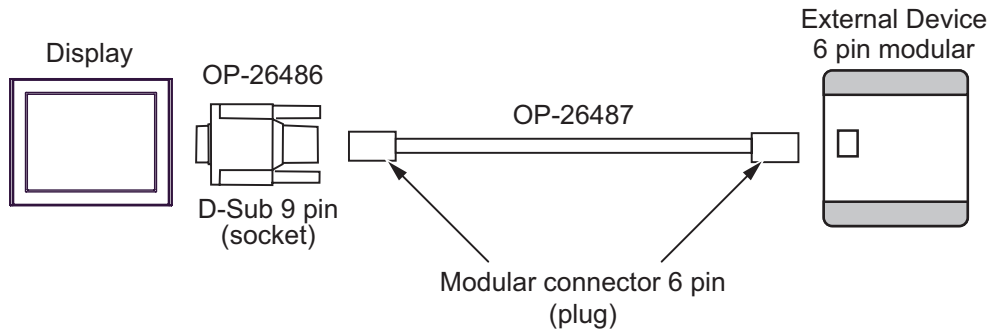
Cable Diagram 1

| Display (Connection Port) | Cable | | Remarks |
|--|-------|---|---------|
| GP3000 (COM1) GP-4*0ITM (COM1) ST (COM1) IPC ^{*1} PC/AT | 1A | D-Sub 9-pin connector by KEYENCE Corporation OP-26486 + Connection cable by KEYENCE Corporation OP-26487 | - |
| GP-4105 (COM1) | 1B | User-created cable + D-Sub 9-pin connector by KEYENCE Corporation OP-26486 + Connection cable by KEYENCE Corporation OP-26487 | |

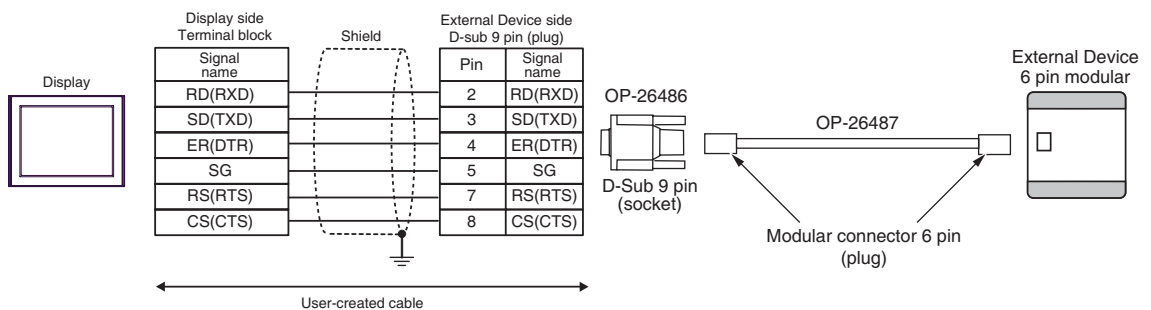
*1 Only the COM port which can communicate by RS-232C can be used.

 ■ IPC COM Port (page 4)

1A)



1B)



6 Supported Devices

The following table shows the range of supported device addresses. Please note that the actually supported range of the devices varies depending on the External Device to be used. Please check the actual range in the manual of your External Device.

■ KV-10 Series

 : This address can be specified as system data area.

| Device | Bit Address | Word Address | 32 bits | Remarks |
|---|--|---|---|---|
| Input/Output Relay | 0000 - 0005 0100 - 0415 0500 - 0503 0600 - 0915 | ----- | L/H | *1 |
| Internal Auxiliary Relay | 1000 - 1915 | ----- | | |
| Special Auxiliary Relay | 2000 - 2915 | ----- | | *1 |
| Timer (Contact) | T000 - T063 | ----- | | |
| Counter (Contact) | C000 - C063 | ----- | | |
| High-speed Counter Comparator (Contact) | CTC0 - CTC3 | ----- | | *2 |
| Timer (Setting Value) | ----- | TS000 - TS063 | | |
| Counter (Setting Value) | ----- | CS000 - CS063 | | |
| Timer (Current Value) | ----- | TC000 - TC063 | | |
| Counter (Current Value) | ----- | CC000 - CC063 | | |
| Data memory | ----- | DM0000 - DM0999 | | Bit 15 |
| Temporary Data Memory | ----- | TM00 - TM31 | | Bit 15 *1 |
| Analog Timer | ----- | AT0 | | *2 |
| High-speed Counter (Current Value) | ----- | CTH0 - CTH1 | | |
| High-speed Counter Comparator (Setting Value) | ----- | CTC0 - CTC3 | | |

*1 Some device addresses are disabled to write.

*2 Write disabled.

NOTE

- For system data area, refer to the GP-Pro EX Reference Manual.

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"

■ KV-16 Series

 : This address can be specified as system data area.

| Device | Bit Address | Word address | 32 bits | Remarks |
|---|--|---|---|---|
| Input/Output Relay | 0000 - 0009 0100 - 0415 0500 - 0505 0600 - 0915 | ---- | <div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 2px;">L/H</div> </div> | *1 |
| Internal Auxiliary Relay | 1000 - 1915 | ---- | | |
| Special Auxiliary Relay | 2000 - 2915 | ---- | | *1 |
| Timer (Contact) | T000 - T063 | ---- | | |
| Counter (Contact) | C000 - C063 | ---- | | |
| High-speed Counter Comparator (Contact) | CTC0 - CTC3 | ---- | | *2 |
| Timer (Setting Value) | ---- | TS000 - TS063 | | |
| Counter (Setting Value) | ---- | CS000 - CS063 | | |
| Timer (Current Value) | ---- | TC000 - TC063 | | |
| Counter (Current Value) | ---- | CC000 - CC063 | | |
| Data memory | ---- | DM0000 - DM0999 | | Bit 15 |
| Temporary Data Memory | ---- | TM00 - TM31 | | Bit 15 *1 |
| Analog Timer | ---- | AT0 | | *2 |
| High-speed Counter (Current Value) | ---- | CTH0 - CTH1 | | |
| High-speed Counter Comparator (Setting Value) | ---- | CTC0 - CTC3 | | |

*1 Some device addresses are disabled to write.

*2 Write disabled.

NOTE

- For system data area, refer to the GP-Pro EX Reference Manual.

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"

■ KV-24 Series

 : This address can be specified as system data area.

| Device | Bit Address | Word Address | 32 bits | Remarks |
|---|---|---|---|---|
| Input/Output Relay | 0000 - 0415 0500 - 0507 0600 - 0915 | ---- | L / H | *1 |
| Internal Auxiliary Relay | 1000 - 1915 3000 - 6915 | ---- | | |
| Special Auxiliary Relay | 2000 - 2915 | ---- | | *1 |
| Timer (Contact) | T000 - T119 | ---- | | |
| Counter (Contact) | C000 - C119 | ---- | | |
| High-speed Counter Comparator (Contact) | CTC0 - CTC3 | ---- | | *2 |
| Timer (Setting Value) | ---- | TS000 - TS119 | | |
| Counter (Setting Value) | ---- | CS000 - CS119 | | |
| Timer (Current Value) | ---- | TC000 - TC119 | | |
| Counter (Current Value) | ---- | CC000 - CC119 | | |
| Data memory | ---- | DM0000 - DM1999 | | Bit 15 |
| Temporary Data Memory | ---- | TM00 - TM31 | | Bit 15 *1 |
| Analog Timer | ---- | AT0 - AT1 | | *2 |
| High-speed Counter (Current Value) | ---- | CTH0 - CTH1 | | |
| High-speed Counter Comparator (Setting Value) | ---- | CTC0 - CTC3 | | |

*1 Some device addresses are disabled to write.

*2 Write disabled.

NOTE

- For system data area, refer to the GP-Pro EX Reference Manual.

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"

■ KV-40 Series

 : This address can be specified as system data area.

| Device | Bit Address | Word Address | 32 bits | Remarks |
|---|---|-----------------|---|---|
| Input/Output Relay | 0000 - 0107 0200 - 0415 0500 - 0507 0600 - 0607 0700 - 0915 | ----- | <div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 2px;">L/H</div> </div> | *1 |
| Internal Auxiliary Relay | 1000 - 1915 3000 - 6915 | ----- | | |
| Special Auxiliary Relay | 2000 - 2915 | ----- | | *1 |
| Timer (Contact) | T000 - T119 | ----- | | |
| Counter (Contact) | C000 - C119 | ----- | | |
| High-speed Counter Comparator (Contact) | CTC0 - CTC3 | ----- | | *2 |
| Timer (Setting Value) | ----- | TS000 - TS119 | | |
| Counter (Setting Value) | ----- | CS000 - CS119 | | |
| Timer (Current Value) | ----- | TC000 - TC119 | | |
| Counter (Current Value) | ----- | CC000 - CC119 | | |
| Data memory | ----- | DM0000 - DM1999 | | <div style="border: 1px solid black; padding: 2px;">Bit 15</div> |
| Temporary Data Memory | ----- | TM00 - TM31 | | <div style="border: 1px solid black; padding: 2px;">Bit 15</div> *1 |
| Analog Timer | ----- | AT0 - AT1 | | *2 |
| High-speed Counter (Current Value) | ----- | CTH0 - CTH1 | | |
| High-speed Counter Comparator (Setting Value) | ----- | CTC0 - CTC3 | | |

*1 Some device addresses are disabled to write.

*2 Write disabled.

NOTE

- For system data area, refer to the GP-Pro EX Reference Manual.

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"

■ KV-80 Series

 : This address can be specified as system data area.

| Device | Bit Address | Word Address | 32 bits | Remarks |
|---|----------------------------|---|---|---|
| Input/Output Relay | 0000 - 0415 0500 - 0915 | ----- | L / H | *1 |
| Internal Auxiliary Relay | 1000 - 1915 3000 - 6915 | ----- | | |
| Special Auxiliary Relay | 2000 - 2915 | ----- | | *1 |
| Timer (Contact) | T000 - T119 | ----- | | |
| Counter (Contact) | C000 - C119 | ----- | | |
| High-speed Counter Comparator (Contact) | CTC0 - CTC3 | ----- | | *2 |
| Timer (Setting Value) | ----- | TS000 - TS119 | | |
| Counter (Setting Value) | ----- | CS000 - CS119 | | |
| Timer (Current Value) | ----- | TC000 - TC119 | | |
| Counter (Current Value) | ----- | CC000 - CC119 | | |
| Data memory | ----- | DM0000 - DM1999 | | Bit 15 |
| Temporary Data Memory | ----- | TM00 - TM31 | | Bit 15 *1 |
| Analog Timer | ----- | AT0 - AT1 | | *2 |
| High-speed Counter (Current Value) | ----- | CTH0 - CTH1 | | |
| High-speed Counter Comparator (Setting Value) | ----- | CTC0 - CTC3 | | |

*1 Some device addresses are disabled to write.

*2 Write disabled.

NOTE

- For system data area, refer to the GP-Pro EX Reference Manual.

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"

7 Device Code and Address Code

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

| Device | Device Name | Device Code (HEX) | Address Code |
|---|-------------|-------------------|--------------|
| Timer (Setting Value) | TS | 0062 | Word address |
| Counter (Setting Value) | CS | 0063 | Word address |
| Timer (Current Value) | TC | 0060 | Word address |
| Counter (Current Value) | CC | 0061 | Word address |
| Data memory | DM | 0000 | Word address |
| Temporary Data Memory | TM | 0001 | Word address |
| Analog Timer | AT | 0067 | Word address |
| High-speed Counter (Current Value) | CTH | 0065 | Word address |
| High-speed Counter Comparator (Setting Value) | CTC | 0066 | Word address |

8 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 number |
| Device Name | Name of the External Device where an error has occurred. Device/PLC name is the title of the External Device set with GP Pro-EX.(Initial value [PLC1]) |
| Error Messages | Displays messages related to an error that has occurred. |
| Error Occurrence Area | <p>Displays the IP address or device address of the External Device where an error has occurred, or error codes received from the External Device.</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> NOTE </div> <ul style="list-style-type: none"> • IP addresses are displayed as "IP address (Decimal): MAC address (Hex)". • Device addresses are displayed as "Address: Device address". • Received error codes are displayed as "Decimal [Hex]". |

Examples of Error Messages

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

NOTE

- 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 | Description |
|------------|--|
| 0x02 | No ladder program is registered in the External Device. |
| 0x04 | Accessed the device not defined as device in the External Device. ^{*1} |
| 0x13 | Tried to change the setting values of Counter, Timer, and/or High-speed Counter Comparator in the write protected program. |

^{*1} When you write to Timer (Contact/Current Value/Setting Value), Counter (Contact/Current Value/Setting Value), High-speed Counter and High-speed Counter Comparator (Setting Value), you must adjust the corresponding settings in the ladder program in advance.

