



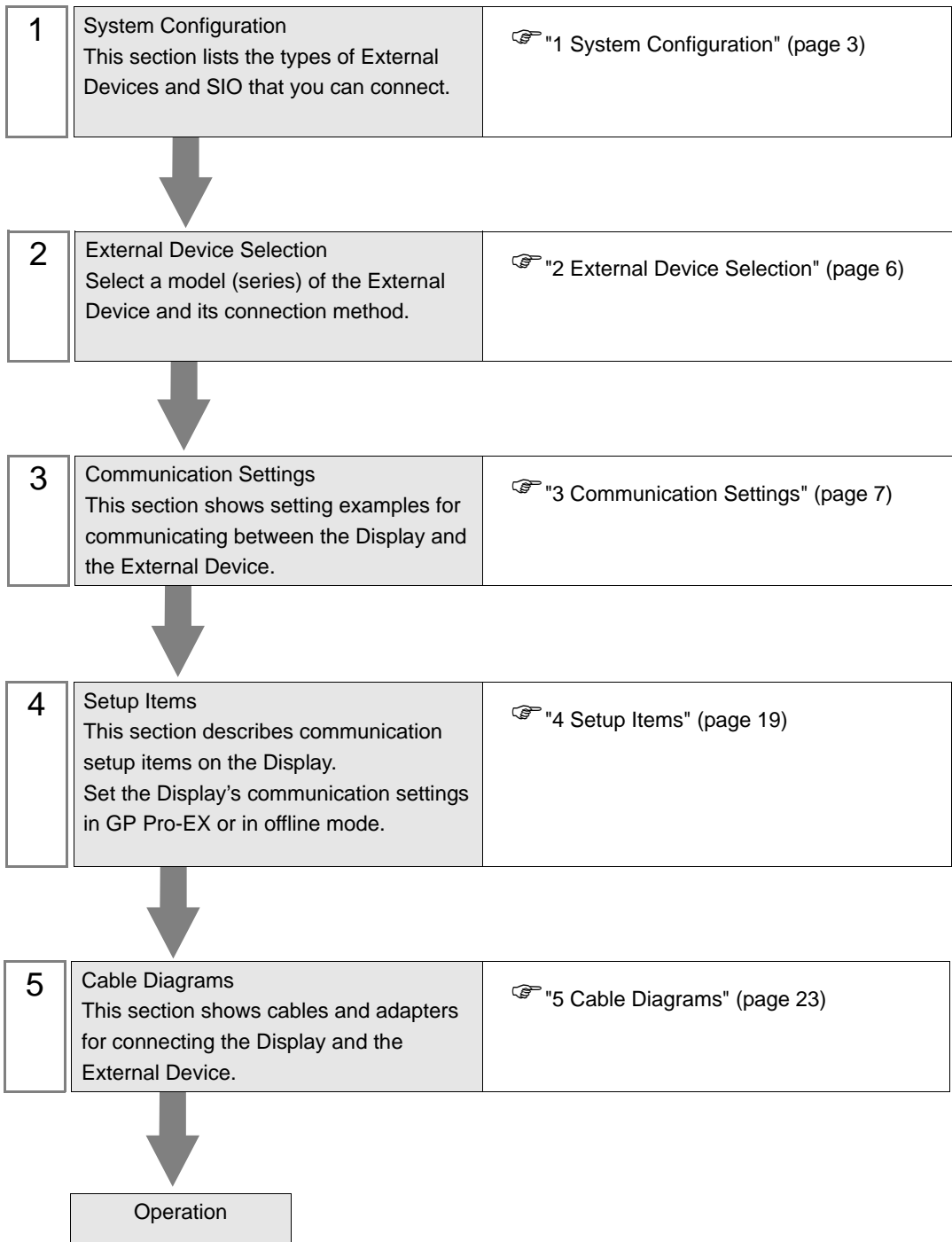
Inverter ASCII SIO Driver

| | | |
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Introduction

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

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



1 System Configuration

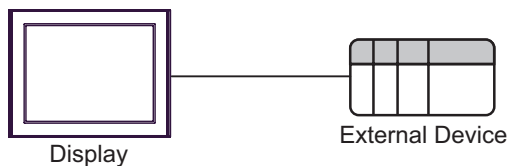
The following table lists system configurations for connecting Hitachi Industrial Equipment Systems Co.,Ltd. External Devices and the Display.

| Series | Inverter*1 | Link I/F | SIO Type | Setting Example | Cable Diagram |
|----------|-----------------|---|---------------------|-------------------------------|------------------------------|
| L300P | L300P-□□□■□F□ | Serial communications connector on the inverter | RS-422/485 (2 wire) | "Setting Example 1" (page 7) | " Cable Diagram 1" (page 23) |
| SJ300 | SJ300-□□□■□F■ | Serial communications connector on the inverter | RS-422/485 (2 wire) | "Setting Example 2" (page 9) | " Cable Diagram 1" (page 23) |
| SJ700 | SJ700-□□□■□F■F | Serial communications connector on the inverter | RS-422/485 (2 wire) | "Setting Example 3" (page 11) | " Cable Diagram 1" (page 23) |
| SJ700-2 | SJ700-□□□■□F■F2 | Serial communications connector on the inverter | RS-422/485 (2 wire) | "Setting Example 4" (page 13) | " Cable Diagram 1" (page 23) |
| SJH300 | SJH300-□□F | Serial communications connector on the inverter | RS-422/485 (2 wire) | "Setting Example 5" (page 15) | " Cable Diagram 1" (page 23) |
| HFC-VAH3 | HFC-VAH□□F3 | Serial communications connector on the inverter | RS-422/485 (2 wire) | "Setting Example 6" (page 17) | " Cable Diagram 1" (page 23) |

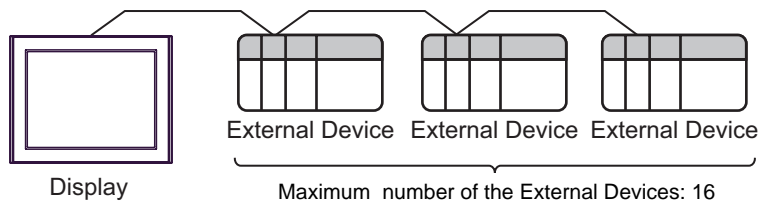
*1 ■ is not added as an option. □ differs depending on the option.

■ Connection Configuration

- 1:1 Connection



- 1:n Connection (when using either COM1 or COM2)



■ 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)

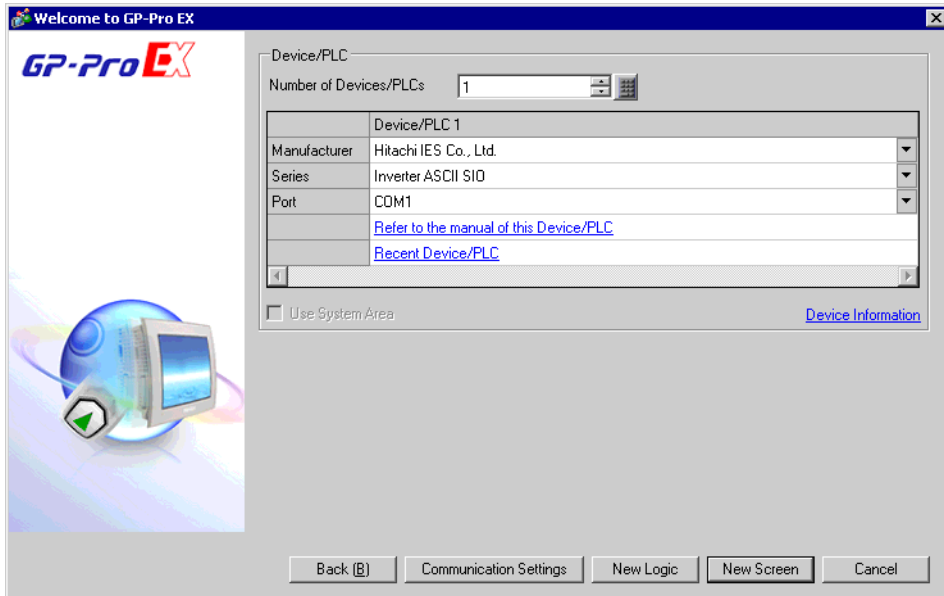
| DIP Switch | Setting | Description |
|------------|---------|---|
| 1 | OFF | Reserved (always OFF) |
| 2 | ON | SIO type: RS-422/485 |
| 3 | ON | |
| 4 | OFF | Output mode of SD (TXD) data: Always output |
| 5 | OFF | Terminal resistance (220Ω) insertion to SD (TXD): None |
| 6 | OFF | Terminal resistance (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 |
|------------------------|---|
| Number of Devices/PLCs | Enter an integer from 1 to 4 to define the number of Devices/PLCs to connect to the display. |
| Manufacturer | Select the manufacturer of the External Device to connect. Select "Hitachi IES Co., Ltd.". |
| Series | Select the External Device model (series) and the connection method. Select "Inverter ASCII SIO". In System configuration, make sure the External Device you are connecting is supported by "Inverter ASCII SIO". ☞ "1 System Configuration" (page 3) |
| Port | Select the Display port to connect to the External Device. |
| Use System Area | Not available in this driver. |

3 Communication Settings

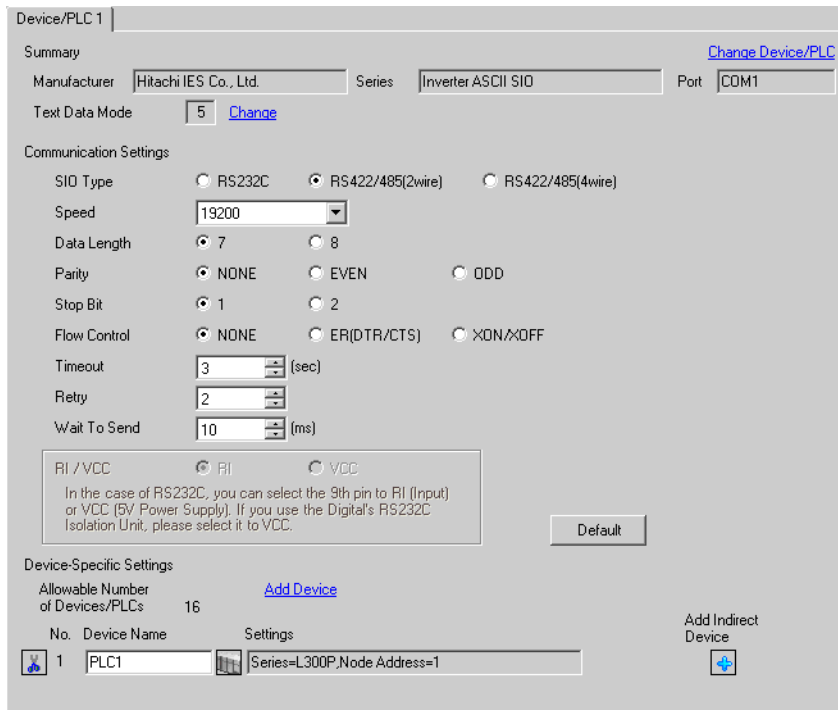
This section provides examples of communication settings recommended by Pro-face for the Display and the External Device.

3.1 Setting Example 1

■ GP Pro-EX Settings

◆ Communication Settings

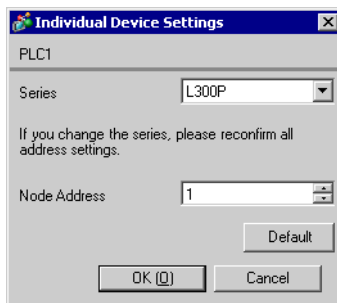
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



IMPORTANT • When the inverter status is Tripping or UV, you need to set Wait to Send to 50ms or more.

◆ Device Setting

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



■ External Device Settings

For External Device communication settings, use the FUNC key, Up key, Down key, and STR key located in the keypad of the External Device.

Refer to your External Device manual for details.

- 1 Turn ON the External Device.
- 2 Press FUNC key.
- 3 Press and hold Up key or Down key to display [C---].
- 4 Press FUNC key.
- 5 Press Up key to display the setting function code.
- 6 Press FUNC key.
- 7 Press Up key or Down key to select the setting value.
- 8 Press STR key.
- 9 Reboot the External Device.

◆ Setting Value

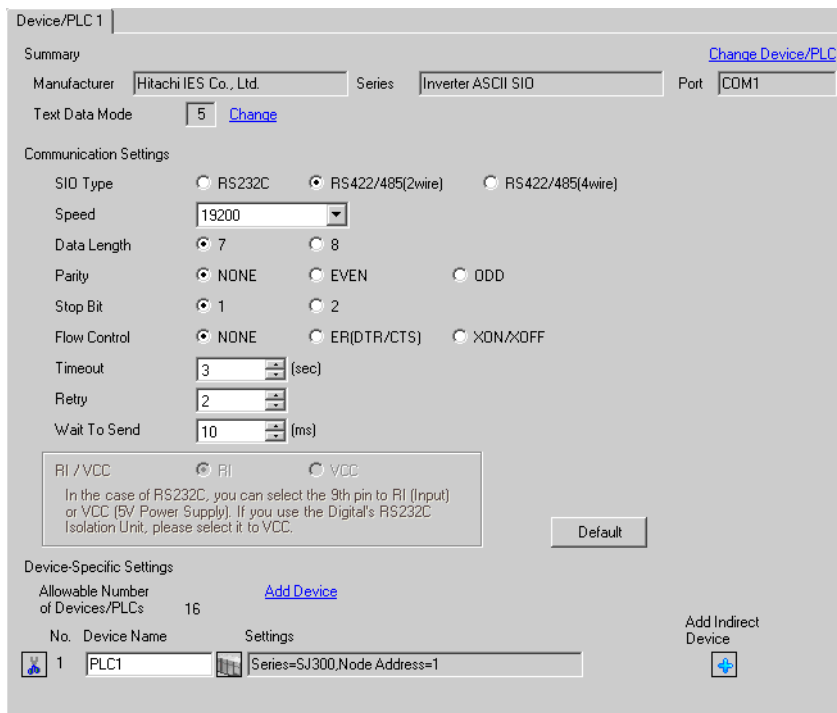
| Function Code | Setting Value | Setup Description |
|---------------|---------------|-------------------------------------|
| C070 | 03 | Data command method |
| C071 | 06 | Communication speed selection |
| C072 | 1. | Node allocation |
| C073 | 7 | Communication data length selection |
| C074 | 00 | Communication parity selection |
| C075 | 1 | Communication stop bit selection |
| C078 | 0. | Communication wait time |
| A001 | 03 | Frequency source setting |
| A002 | 03 | Run command source setting |

3.2 Setting Example 2

■ GP Pro-EX Settings

◆ Communication Settings

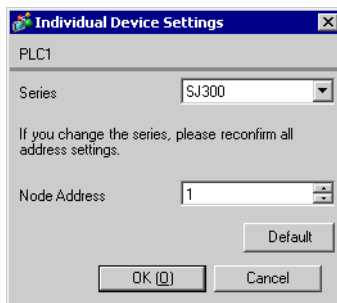
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



IMPORTANT • When the inverter status is Tripping or UV, you need to set Wait to Send to 50ms or more.

◆ Device Setting

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



■ External Device Settings

For External Device communication settings, use the FUNC key, Up key, Down key, and STR key located in the keypad of the External Device.

Refer to your External Device manual for details.

- 1 Turn ON the External Device.
- 2 Press FUNC key.
- 3 Press and hold Up key or Down key to display [C---].
- 4 Press FUNC key.
- 5 Press Up key to display the setting function code.
- 6 Press FUNC key.
- 7 Press Up key or Down key to select the setting value.
- 8 Press STR key.
- 9 Reboot the External Device.

◆ Setting Value

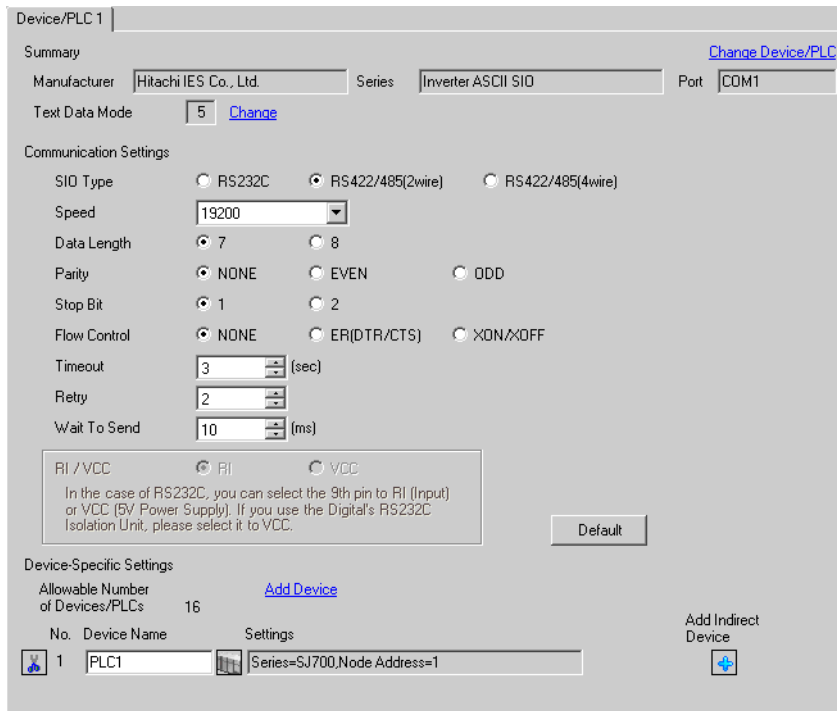
| Function Code | Setting Value | Setup Description |
|---------------|---------------|-------------------------------------|
| C070 | 03 | Data command method |
| C071 | 06 | Communication speed selection |
| C072 | 1. | Node allocation |
| C073 | 7 | Communication data length selection |
| C074 | 00 | Communication parity selection |
| C075 | 1 | Communication stop bit selection |
| C078 | 0. | Communication wait time |
| A001 | 03 | Frequency source setting |
| A002 | 03 | Run command source setting |

3.3 Setting Example 3

■ GP Pro-EX Settings

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

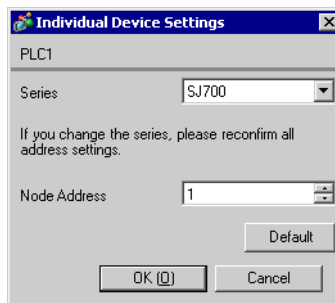


IMPORTANT

- When the inverter status is Tripping or UV, you need to set Wait to Send to 50ms or more.

◆ Device Setting

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



■ External Device Settings

For External Device communication settings, use the FUNC key, Up key, Down key, and STR key located in the keypad of the External Device.

Refer to your External Device manual for details.

- 1 Turn ON the External Device.
- 2 Press FUNC key for 3 seconds or longer.
- 3 Press FUNC key to display [d001].
- 4 Press and hold Down key to display [C---].
- 5 Press FUNC key.
- 6 Press Up key to display the setting function code.
- 7 Press FUNC key.
- 8 Press Up key or Down key to select the setting value.
- 9 Press STR key.
- 10 Reboot the External Device.

◆ Setting Value

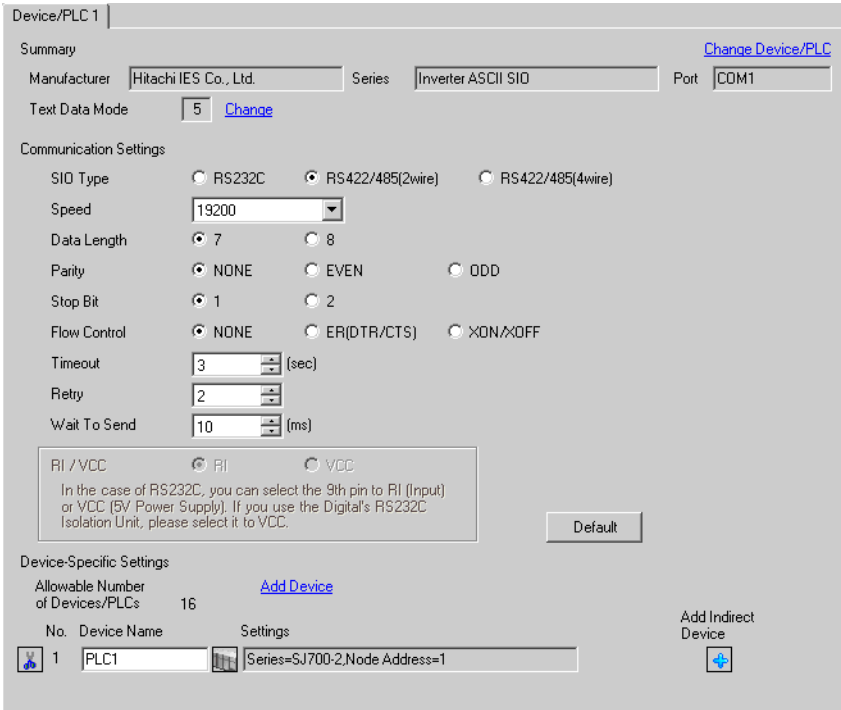
| Function Code | Setting Value | Setup Description |
|---------------|---------------|--|
| C071 | 06 | Communication speed selection |
| C072 | 1. | Node allocation |
| C073 | 7 | Communication data length selection |
| C074 | 00 | Communication parity selection |
| C075 | 1 | Communication stop bit selection |
| C076 | 02 | Selection of operation after communication error |
| C077 | 0.00 | Communication trip limit time setting |
| C078 | 0. | Communication wait time |
| C079 | 00 | Communication mode selection |
| A001 | 03 | Frequency source setting |
| A002 | 03 | Run command source setting |

3.4 Setting Example 4

■ GP Pro-EX Settings

◆ Communication Settings

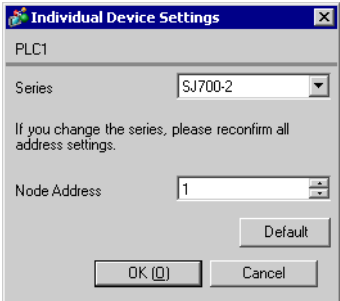
To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



IMPORTANT • When the inverter status is Tripping or UV, you need to set Wait to Send to 50ms or more.

◆ Device Setting

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



■ External Device Settings

For External Device communication settings, use the FUNC key, Up key, Down key, and STR key located in the keypad of the External Device.

Refer to your External Device manual for details.

- 1 Turn ON the External Device.
- 2 Press FUNC key for 3 seconds or longer.
- 3 Press FUNC key to display [d001].
- 4 Press and hold Down key to display [C---].
- 5 Press FUNC key.
- 6 Press Up key to display the setting function code.
- 7 Press FUNC key.
- 8 Press Up key or Down key to select the setting value.
- 9 Press STR key.
- 10 Reboot the External Device.

◆ Setting Value

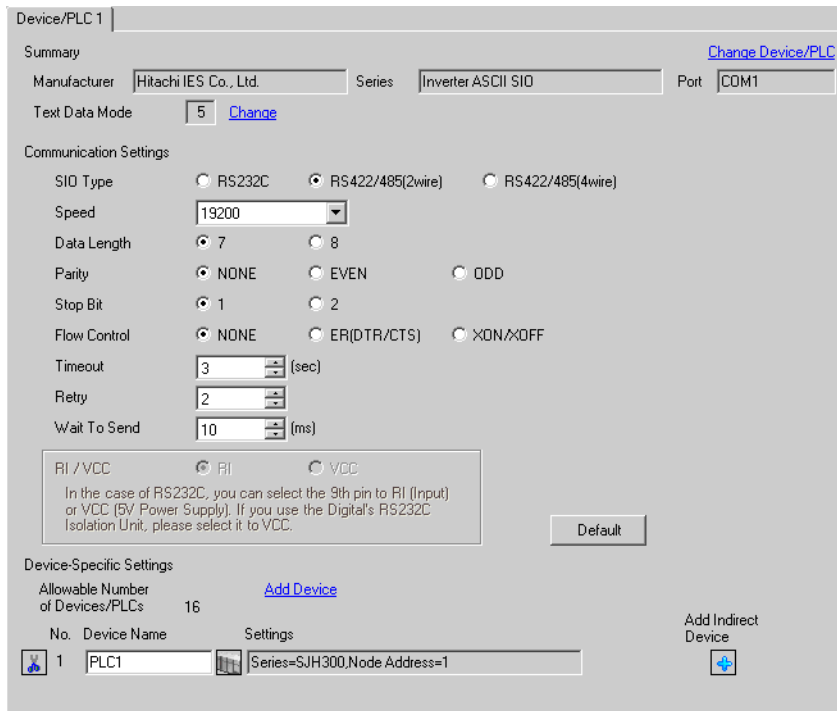
| Function Code | Setting Value | Setup Description |
|---------------|---------------|--|
| C071 | 06 | Communication speed selection |
| C072 | 1. | Node allocation |
| C073 | 7 | Communication data length selection |
| C074 | 00 | Communication parity selection |
| C075 | 1 | Communication stop bit selection |
| C076 | 02 | Selection of operation after communication error |
| C077 | 0.00 | Communication trip limit time setting |
| C078 | 0. | Communication wait time |
| C079 | 00 | Communication mode selection |
| A001 | 03 | Frequency source setting |
| A002 | 03 | Run command source setting |

3.5 Setting Example 5

■ GP Pro-EX Settings

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

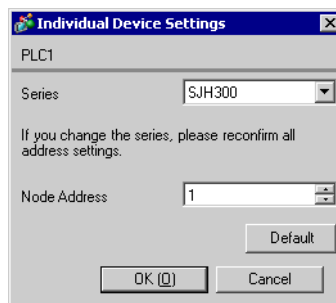


IMPORTANT

- When the inverter status is Tripping or UV, you need to set Wait to Send to 50ms or more.

◆ Device Setting

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



■ External Device Settings

For External Device communication settings, use the FUNC key, Up key, Down key, and STR key located in the keypad of the External Device.

Refer to your External Device manual for details.

- 1 Turn ON the External Device.
- 2 Press FUNC key.
- 3 Press and hold Up key or Down key to display [C---].
- 4 Press FUNC key.
- 5 Press Up key to display the setting function code.
- 6 Press FUNC key.
- 7 Press Up key or Down key to select the setting value.
- 8 Press STR key.
- 9 Reboot the External Device.

◆ Setting Value

| Function Code | Setting Value | Setup Description |
|---------------|---------------|----------------------------------|
| C070 | 03 | Data command |
| C071 | 06 | Communicating transmission speed |
| C072 | 1. | Communication code |
| C073 | 7 | Communication bit |
| C074 | 00 | Communication parity |
| C075 | 1 | Communication stop bit |
| C078 | 0. | Communication waiting time |
| A001 | 03 | Frequency command selection |
| A002 | 03 | Operation command selection |

3.6 Setting Example 6

■ GP Pro-EX Settings

◆ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].

Device/PLC 1

Summary [Change Device/PLC](#)

Manufacturer Series Port

Text Data Mode [Change](#)

Communication Settings

SIO Type RS232C RS422/485(2wire) RS422/485(4wire)

Speed

Data Length 7 8

Parity NONE EVEN ODD

Stop Bit 1 2

Flow Control NONE ER(DTR/CTS) XON/XOFF

Timeout (sec)

Retry

Wait To Send (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.

Device-Specific Settings

Allowable Number of Devices/PLCs 16 [Add Device](#)

| No. | Device Name | Settings | Add Indirect Device |
|-----|-------------|--------------------------------|----------------------------------|
| 1 | PLC1 | Series=HFC-VAH3,Node Address=1 | <input type="button" value="+"/> |

IMPORTANT

- When the inverter status is Tripping or UV, you need to set Wait to Send to 50ms or more.

◆ Device Setting

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

Individual Device Settings

PLC1

Series

If you change the series, please reconfirm all address settings.

Node Address

■ External Device Settings

For External Device communication settings, use the FUNC key, Up key, Down key, and STR key located in the keypad of the External Device.

Refer to your External Device manual for details.

- 1 Turn ON the External Device.
- 2 Press FUNC key.
- 3 Press and hold Up key or Down key to display [C---].
- 4 Press FUNC key.
- 5 Press Up key to display the setting function code.
- 6 Press FUNC key.
- 7 Press Up key or Down key to select the setting value.
- 8 Press STR key.
- 9 Reboot the External Device.


◆ Setting Value

| Function Code | Setting Value | Setup Description |
|---------------|---------------|----------------------------------|
| C070 | 03 | Data command |
| C071 | 06 | Communicating transmission speed |
| C072 | 1. | Communication code |
| C073 | 7 | Communication bit |
| C074 | 00 | Communication parity |
| C075 | 1 | Communication stop bit |
| C078 | 0. | Communication waiting time |
| A001 | 03 | Frequency setting selection |
| A002 | 03 | Operation setting selection |

4 Setup Items

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

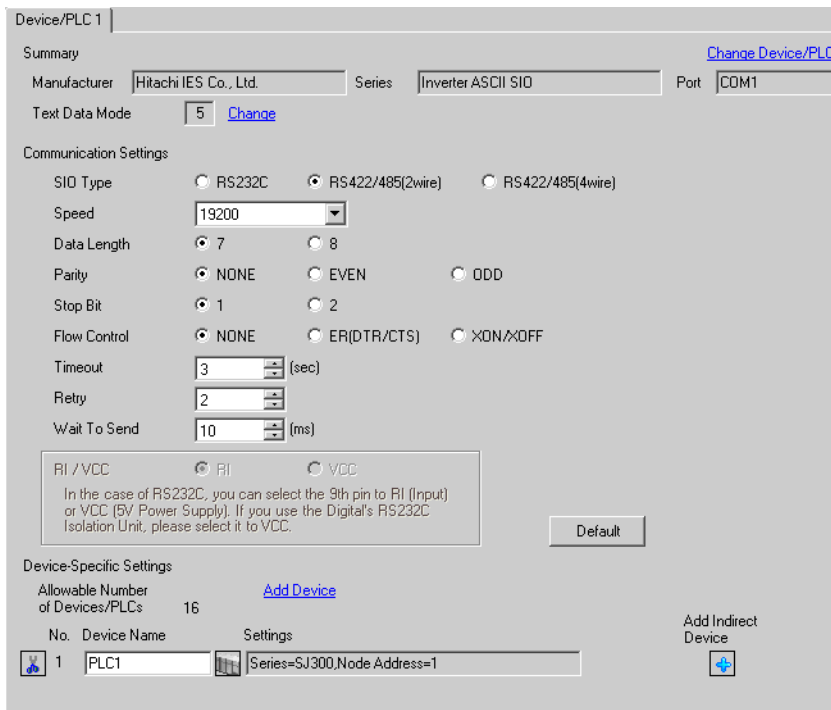
The setting of each parameter must match that of the External Device.

 "3 Communication Settings" (page 7)

4.1 Setup Items in GP Pro-EX

■ Communication Settings

To display the setup screen, from the [Project] menu, point to [System Settings] and select [Device/PLC].



Device/PLC 1

Summary [Change Device/PLC](#)

Manufacturer Series Port

Text Data Mode [Change](#)

Communication Settings

SIO Type RS232C RS422/485(2wire) RS422/485(4wire)

Speed

Data Length 7 8

Parity NONE EVEN ODD

Stop Bit 1 2

Flow Control NONE ER(DTR/CTS) XON/XOFF

Timeout (sec)

Retry

Wait To Send (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.

Device-Specific Settings

Allowable Number of Devices/PLCs 16 [Add Device](#)

No. Device Name Settings

| Setup Items | Setup Description |
|-------------|--|
| SIO Type | Select the SIO type to communicate with the External Device. IMPORTANT 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 communication speed between the External Device and the Display. |
| Data Length | Select data length. |
| Parity | Select how to check parity. |
| Stop Bit | Select stop bit length. |

Continued


| Setup Items | Setup Description |
|--------------|--|
| Flow Control | Select the communication control method to prevent overflow of transmission and reception data. |
| Timeout | Use an integer from 1 to 127 to enter the time (s) for which the Display waits for the response from the External Device. |
| Retry | In case of no response from the External Device, use an integer from 0 to 255 to enter how many times the Display retransmits the command. |
| Wait To Send | Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands. |

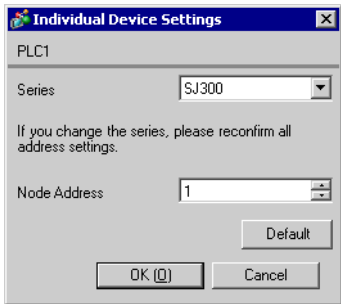
NOTE

- Refer to the GP-Pro EX Reference Manual for Indirect Device.

Cf. GP-Pro EX Reference Manual "Changing the Device/PLC at Runtime (Indirect Device)"

■ Device Setting

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



| Setup Items | Setup Description |
|--------------|--|
| Series | Select the series of the External Device. |
| Node Address | Use an integer from 1 to 32 to enter the address of the External Device. |

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 Settings] in offline mode. Touch the External Device you want to set from the displayed list.

| Comm. | Device | Option | | |
|------------------|--------|--------|--|------------------------|
| Inverter ASCII | SIO | | [COM1] | Page 1/1 |
| SIO Type | | | RS422/485(2wire) | |
| Speed | | | 19200 | |
| Data Length | | | <input checked="" type="radio"/> 7 <input type="radio"/> 8 | |
| Parity | | | <input checked="" type="radio"/> NONE <input type="radio"/> EVEN <input type="radio"/> ODD | |
| Stop Bit | | | <input checked="" type="radio"/> 1 <input type="radio"/> 2 | |
| Flow Control | | | NONE | |
| Timeout(s) | | | 3 | |
| Retry | | | 2 | |
| Wait To Send(ms) | | | 10 | |
| | Exit | | Back | 2008/11/18 13:48:00 |

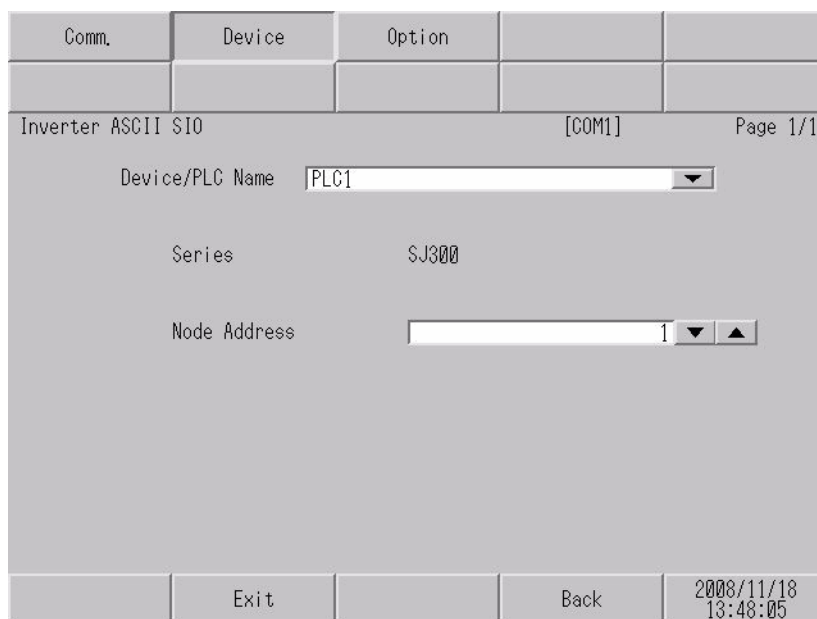
| Setup Items | Setup Description |
|--------------|--|
| SIO Type | Select the SIO type to communicate with the External Device. IMPORTANT In the communication settings, set [SIO Type] correctly according to the serial interface specifications of the Display. If you select an SIO type that the serial 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 | Select data length. |
| Parity | Select how to check parity. |
| Stop Bit | Select stop bit length. |
| Flow Control | Select the communication control method to prevent overflow of transmission and reception data. |

Continued

| Setup Items | Setup Description |
|-------------------|--|
| Timeout (s) | Use an integer from 1 to 127 to enter the time (s) for which the Display waits for the response from the External Device. |
| Retry | In case of no response from the External Device, use an integer from "0 to 255" to enter how many times the Display retransmits the command. |
| Wait To Send (ms) | Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands. |

■ Device Setting

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



| Setup Items | Setup Description |
|-----------------|---|
| Device/PLC Name | Select the External Device to set. Device name is a title of the External Device set with GP-Pro EX. (Initial value [PLC1]) |
| Series | Display the series of the External Device. |
| Node Address | Use an integer from 1 to 32 to enter the address of the External Device. |

5 Cable Diagrams


The following cable diagrams may be different from cable diagrams recommended by Hitachi Industrial Equipment Systems Co.,Ltd. Please be assured 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 more 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

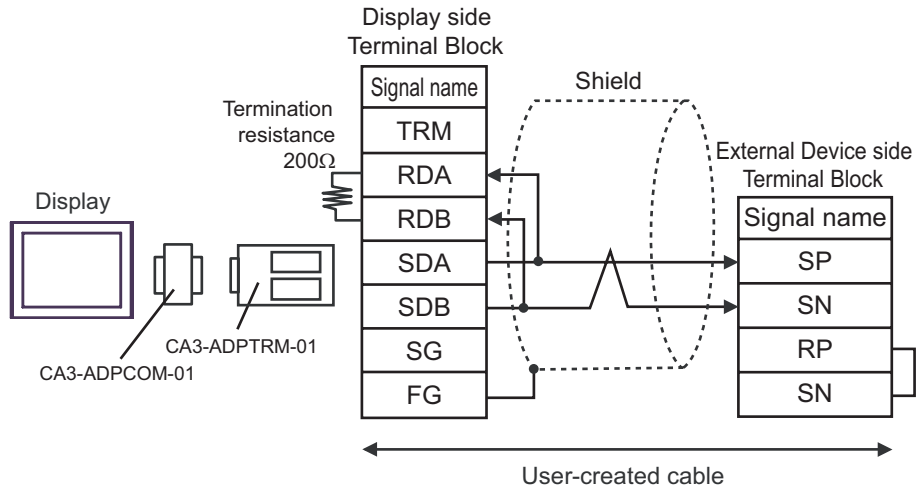
| Display (Connection Port) | Cable | | Notes |
|---|-------|--|----------------------------|
| GP3000 ^{*1} (COM1) AGP-3302B (COM2) GP-4*0ITM (COM1) ST ^{*2} (COM2) LT3000 (COM1) | 1A | COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable | Cable length: 250m or less |
| | 1B | User-created cable | |
| GP3000 ^{*3} (COM2) | 1C | Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable | |
| | 1D | Online adapter by Pro-face CA4-ADPONL-01 + User-created cable | |
| IPC ^{*4} | 1E | COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + User-created cable | |
| | 1F | User-created cable | |
| GP-4106 (COM1) | 1G | User-created cable | |
| GP-4107 (COM1) GP-4*03T ^{*5} (COM2) GP-4203T (COM1) | 1H | User-created cable | |

| Display (Connection Port) | Cable | | Notes |
|--|-------|--|----------------------------|
| GP4000* ⁶ (COM2) GP-4201T (COM1) | 1I | RS-422 terminal block conversion adapter by Pro-face PFXZCBADTM1* ⁷ + User-created cable | Cable length: 250m or less |
| | 1B | User-created cable | |
| LT-4*01TM (COM1) | 1J | RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBRJR81 | |

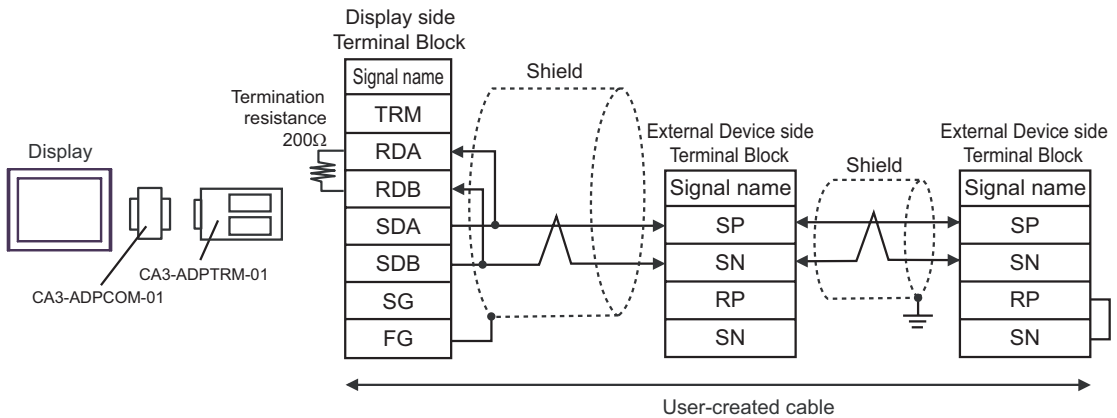
- *1 All GP3000 models except AGP-3302B
- *2 All ST models except AST-3211A and AST-3302B
- *3 All GP3000 models except GP-3200 series and AGP-3302B
- *4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.
 "■ IPC COM Port" (page 4)
- *5 Except GP-4203T
- *6 All GP4000 models except GP-4100 series, GP-4*01TM, GP-4201T and GP-4*03T
- *7 When using a Terminal Block Conversion Adapter (CA3-ADPTRM-01) instead of the RS-422 Terminal Block Conversion Adapter, refer to Cable Diagram 1A.

1A)

- 1:1 Connection



- 1:n Connection

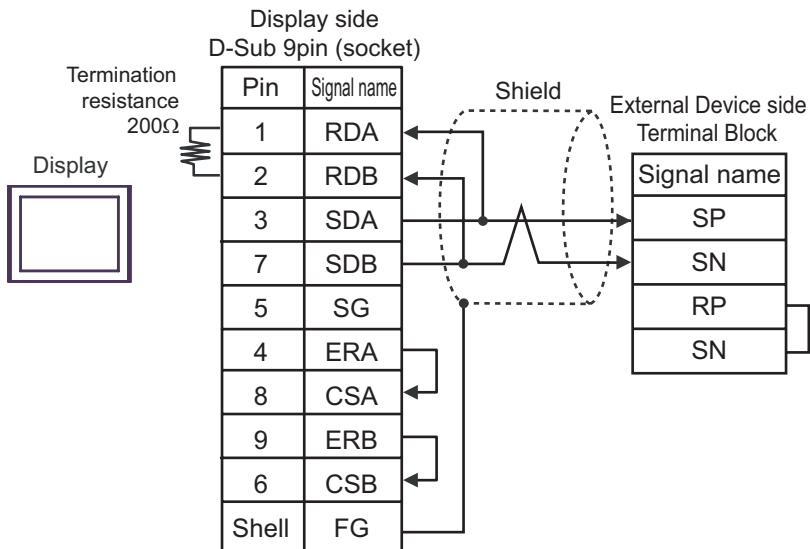


NOTE

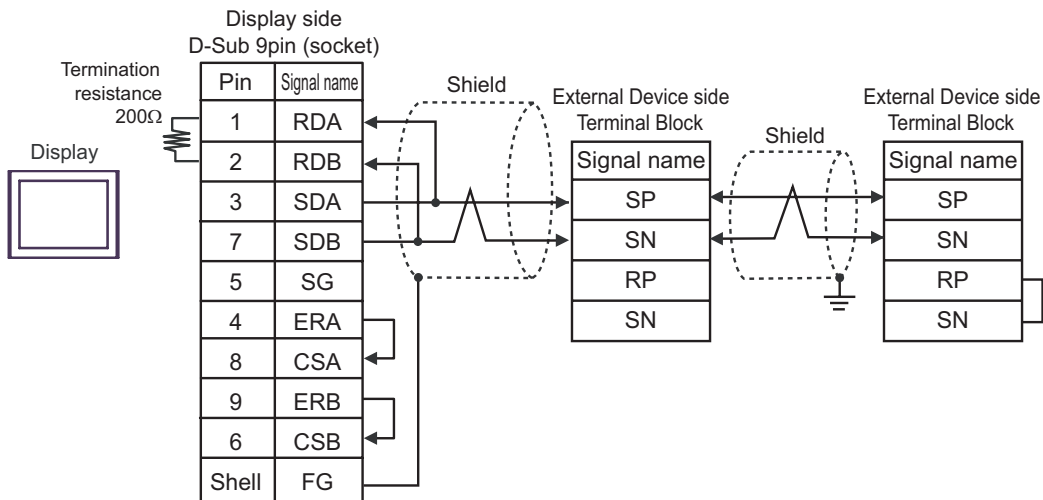
- Enable termination resistance by short-circuiting the terminatory External Device's RP terminal and the terminatory External Device's SN terminal.

1B)

- 1:1 Connection



- 1:n Connection

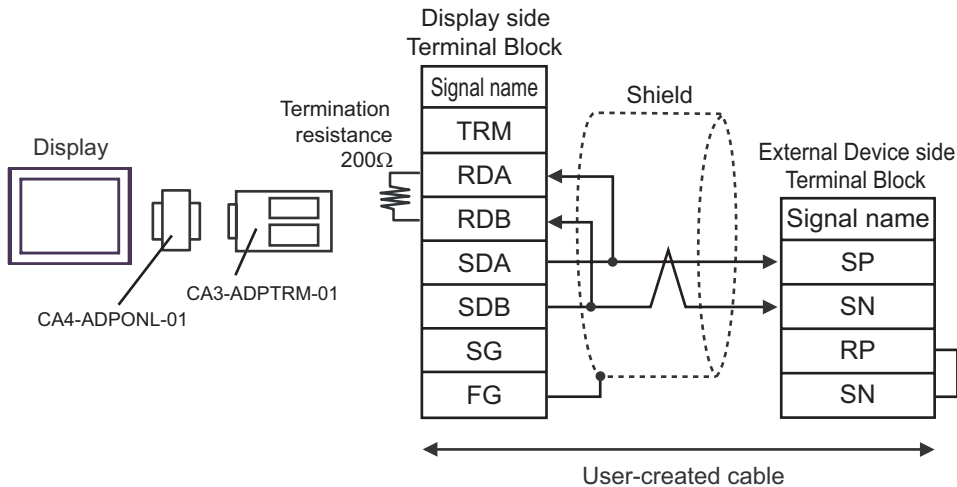


NOTE

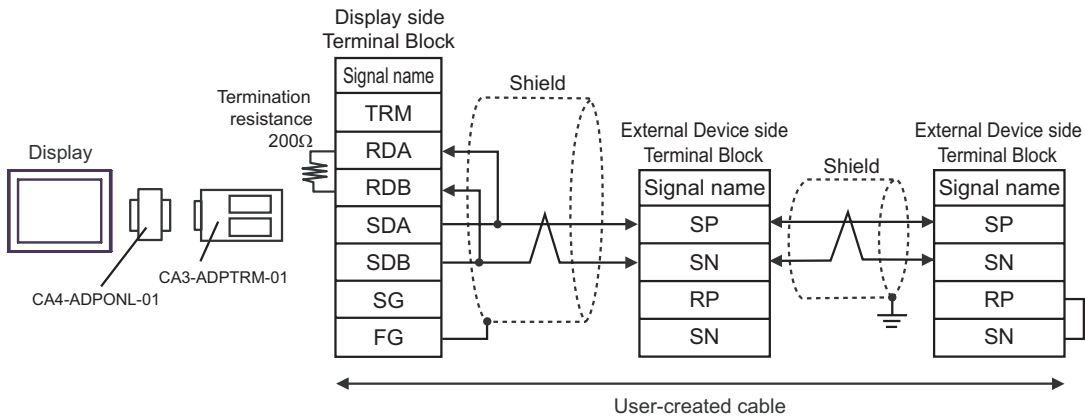
- Enable termination resistance by short-circuiting the terminatory External Device's RP terminal and the terminatory External Device's SN terminal.

1C)

- 1:1 Connection



- 1:n Connection

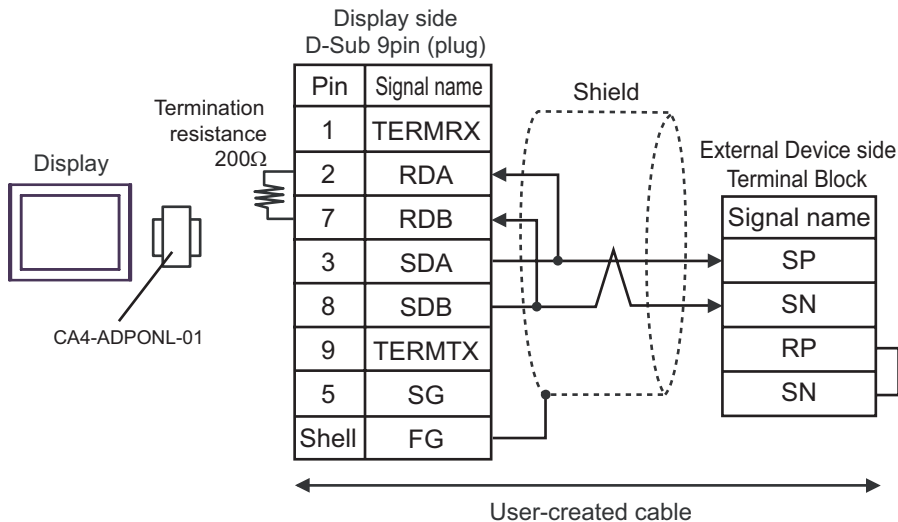


NOTE

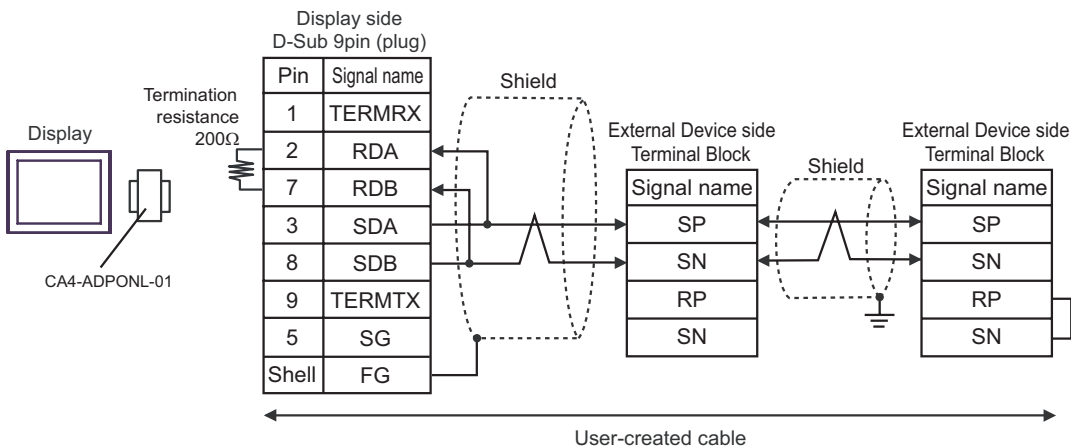
- Enable termination resistance by short-circuiting the terminatory External Device's RP terminal and the terminatory External Device's SN terminal.

1D)

- 1:1 Connection



- 1:n Connection

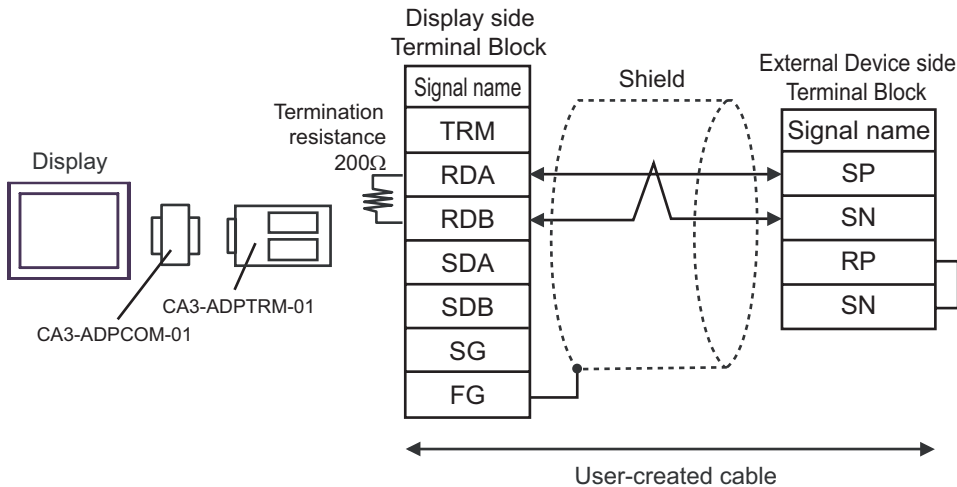


NOTE

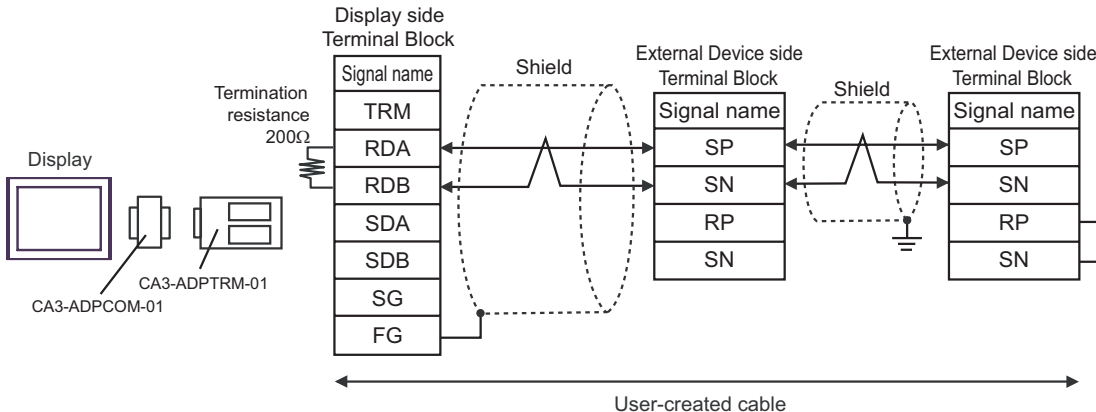
- Enable termination resistance by short-circuiting the terminatory External Device's RP terminal and the terminatory External Device's SN terminal.

1E)

- 1:1 Connection



- 1:n Connection

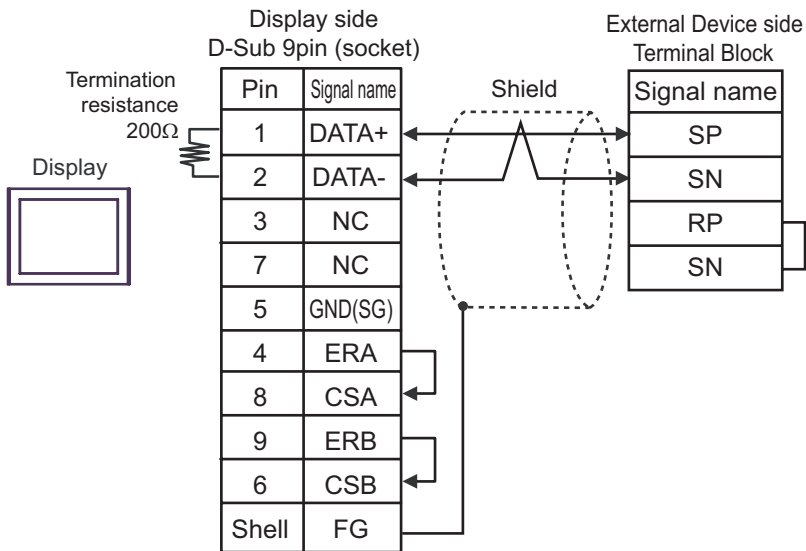


NOTE

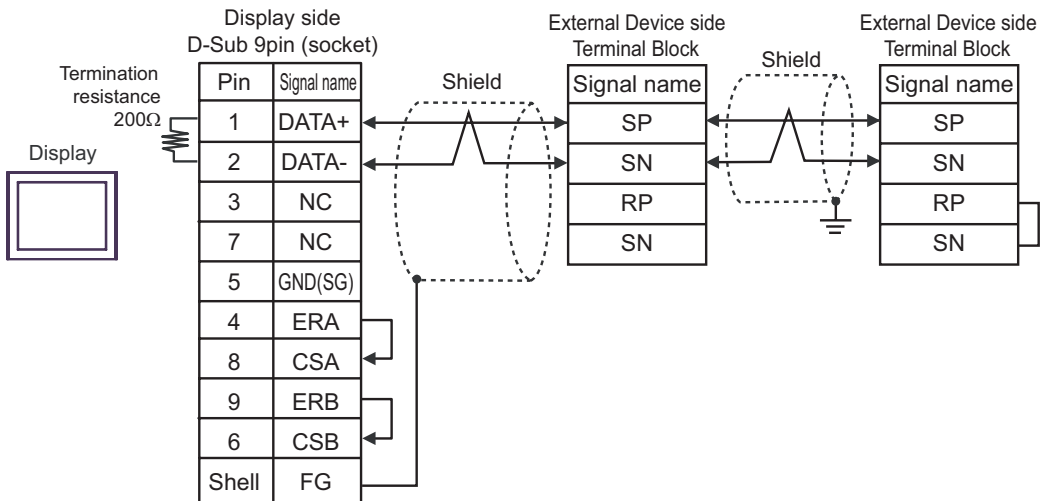
- Enable termination resistance by short-circuiting the terminatory External Device's RP terminal and the terminatory External Device's SN terminal.

1F)

- 1:1 Connection



- 1:n Connection

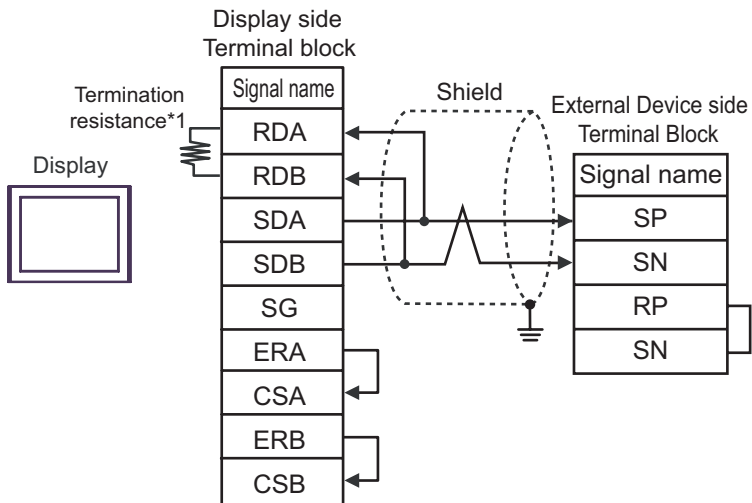


NOTE

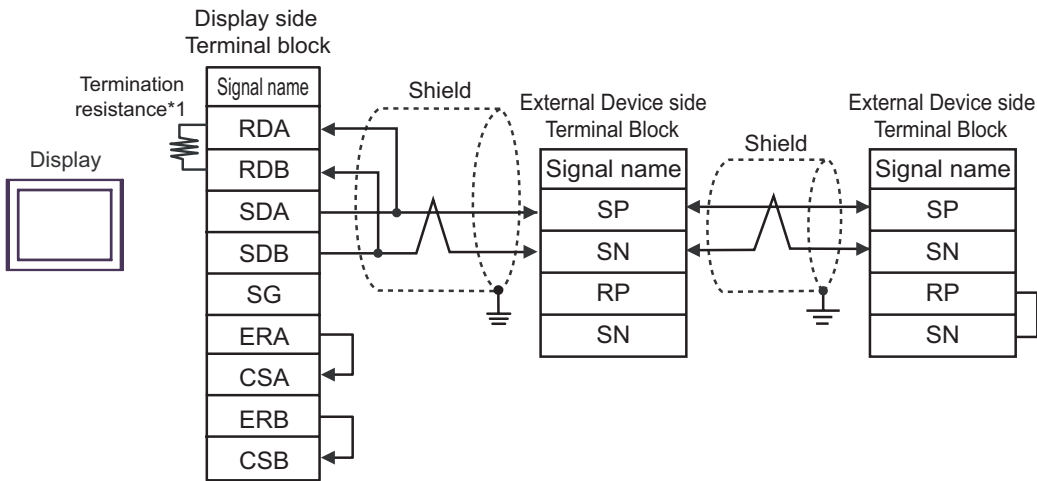
- Enable termination resistance by short-circuiting the terminatory External Device's RP terminal and the terminatory External Device's SN terminal.

1G)

- 1:1 Connection



- 1:n Connection



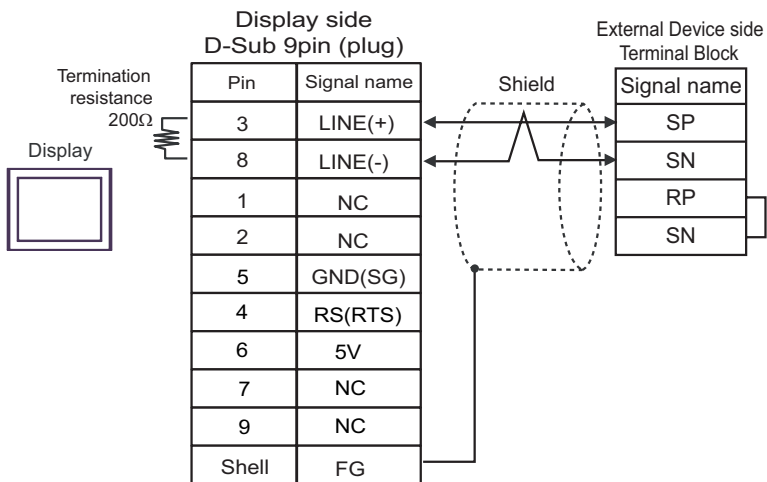
NOTE • Enable termination resistance by short-circuiting the terminatory External Device’s RP terminal and the terminatory External Device’s SN terminal.

*1 The resistance in the Display is used as the termination resistance. Set the value of the DIP Switch on the rear of the Display as shown in the table below.

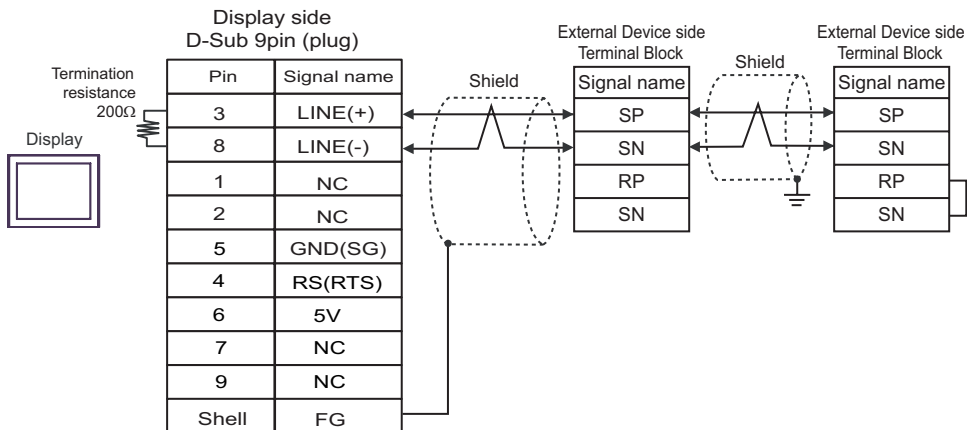
| DIP Switch No. | Set Value |
|----------------|-----------|
| 1 | OFF |
| 2 | OFF |
| 3 | OFF |
| 4 | ON |

1H)

- 1:1 Connection



- 1:n Connection



IMPORTANT

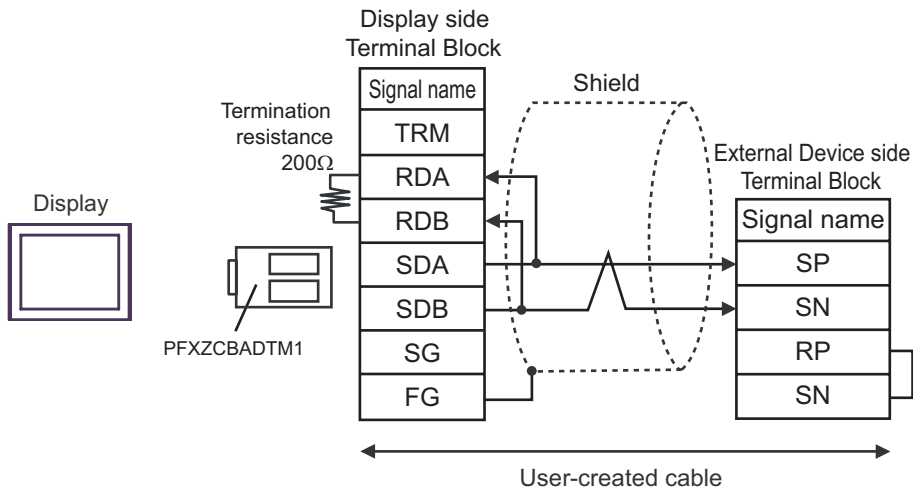
- The 5V output (Pin #6) on the Display is the power for the Siemens AG's PROFIBUS connector. Do not use it for other devices.

NOTE

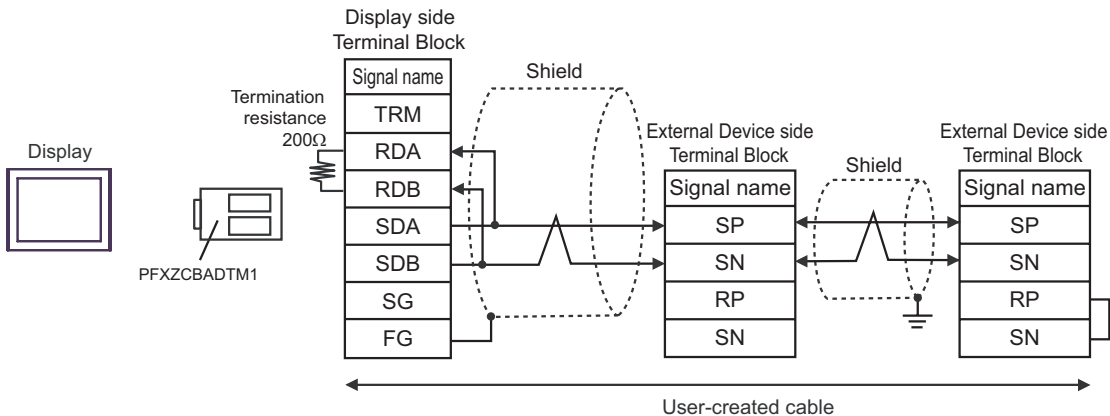
- Enable termination resistance by short-circuiting the terminatory External Device's RP terminal and the terminatory External Device's SN terminal.
- In COM on the GP-4107, the SG and FG terminals are isolated.

11)

- 1:1 Connection



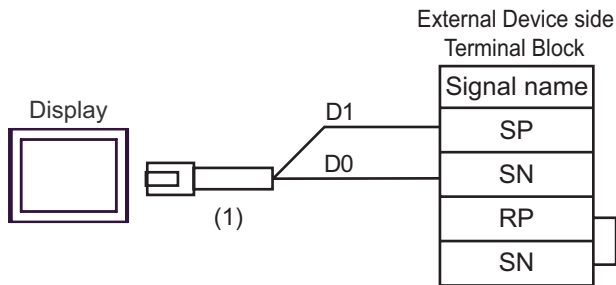
- 1:n Connection



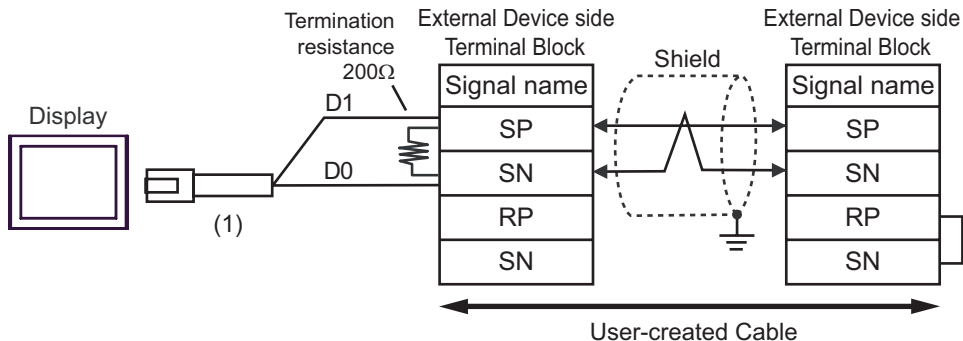
NOTE • Enable termination resistance by short-circuiting the terminatory External Device's RP terminal and the terminatory External Device's SN terminal.

1J)

- 1:1 Connection



- 1:n Connection




NOTE • Enable termination resistance by short-circuiting the terminatory External Device’s RP terminal and the terminatory External Device’s SN terminal.














| Number | Name | Notes |
|--------|--|-------|
| (1) | RJ45 RS-485 Cable (5m) by Pro-face PFXZLMCBJR81 | |

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.

6.1 L300P series

 This address can be specified as system data area.

| Device | Bit Address | Word Address | 32bits | Notes |
|--|-------------|---------------|---|---|
| Forward/Reverse/Stop Command | - | 00_00 | H/L |  *1*2 |
| Frequency Value Setup | - | 01_00 | | *2*3*4 |
| Intelligent Terminal Status Setup | - | 02_00 - 02_01 | |  *2*5 |
| Monitor Data Batch Read | - | 03_00 - 03_12 | |  *6*7 |
| Read Inverter Status | - | 04_00 - 04_03 | |  *6*8 |
| Read Trip History | - | 05_00 - 05_54 | |  *6*9 |
| Read/Set Setting Fields | - | F002 - F203 | |  *10 |
| | - | A001 - A296 | |  *10 |
| | - | b001 - b213 | |  *10 |
| | - | C001 - C123 | |  *10 |
| | - | H003 - H206 | |  *10 |
| | - | P001 - P049 | |  *10 |
| Re-initialize Setting Values | - | 08_00 | | *2*3*11 |
| Check if Setting Value can be saved to EEPROM or not | - | 09_00 | |  *6*12 |
| Save Setting Value to EEPROM | - | 0A_00 | | *2*3*13 |
| Re-calculate Internal Constant | - | 0B_00 | *2*3*14 | |
| Read Output Frequency Setting Value | - | 0E_00 |  *6*15 | |

*1 The device is allocated to Command 00 of the External Device.
The following table describes Command 00's write-only parameter number.

| Address | Write Data | Description |
|---------|------------|-----------------|
| 00_00 | 0 | Stop Command |
| | 1 | Forward Command |
| | 2 | Reverse Command |

*2 Read disabled.

*3 Word access only

*4 The device is allocated to Command 01 of the External Device.
The following table describes Command 01's write-only parameter number.
In a Display, it is treated as 32-bit data.

| Address | Description |
|---------|-----------------------|
| 01_00 | Frequency Value Setup |

- *5 The device is allocated to Command 02 of the External Device.
The following table describes Command 02's write-only parameter number.
In the External Device, it is a 64-bit data block. However, in a Display, it is separated into two 32-bit data blocks.

| Address | Description |
|---------|---|
| 02_00 | Lower 32 bits of 64-bit Intelligent Terminal Status data block |
| 02_01 | Higher 32 bits of 64-bit Intelligent Terminal Status data block |

The table below shows the set values of the External Device.
Refer to the External Device manual for set value details.

| Data | Description |
|--------------------|--|
| 0x0000000000000001 | [FW] Forward Command |
| 0x0000000000000002 | [RV] Reverse Command |
| 0x0000000000000004 | [CF1] Multi-level Speed 1 (Binary Operation) |
| 0x0000000000000008 | [CF2] Multi-level Speed 2 (Binary Operation) |
| 0x0000000000000010 | [CF3] Multi-level Speed 3 (Binary Operation) |
| ⋮ | ⋮ |

E.g. 1) When you want the External Device to operate in Forward Command and you also want to activate Multi-level Speed 1 and Multi-level Speed 2, write the following data to the External Device:
Forward Command 0x0000000000000001 + Multi-level Speed 1 0x0000000000000004 + Multi-level Speed 2 0x0000000000000008 = 0x000000000000000D
When you want to write data only to address 02_00, "0" will be written to address 02_01.
Use D-scripts's memory copy to simultaneously write data in address 02_00 and 02_01.

E.g. 2) When you want to clear Forward Command and remote operation data, write data "0x0000000200000001" to the External Device. This 64-bit data will be divided into two units of 32-bit data each, and will be written to the LS area. E.g., "0x00000001" will be written to LS100, and "0x00000002" will be written to LS101.
Use memcpy() (memory copy) function to copy the LS area data to address 02_00. This writes data "0x0000000200000001" to the External Device.

◆D-Script Example
[w:01/LS0100]=0x00000001
[w:01/LS0101]=0x00000001
memcpy([w:01/02_00],[w:01/LS0100],2)

- *6 Write disabled.
- *7 The device is allocated to Command 03 of the External Device.
The following table describes Command 03's read-only data.

| Address | Description | Address | Description |
|---------|------------------------------|---------|------------------------|
| 03_00 | Output frequency | 03_07 | Output torque monitor |
| 03_01 | Output current | 03_08 | Output voltage monitor |
| 03_02 | Direction of rotation | 03_09 | Electric power monitor |
| 03_03 | PID feedback monitor | 03_10 | Reserved |
| 03_04 | Intelligent input monitor | 03_11 | Run Mode time monitor |
| 03_05 | Intelligent output monitor | 03_12 | Power ON time monitor |
| 03_06 | Frequency converting monitor | | |

- *8 The device is allocated to Command 04 of the External Device. The following table describes Command 04's read-only data.

| Address | Description | Address | Description |
|---------|-------------------|---------|-----------------------|
| 04_03 | Inverter Status A | 04_01 | Inverter Status C |
| 04_02 | Inverter Status B | 04_00 | Reserved (default: 0) |

- *9 The device is allocated to Command 05 of the External Device. The following table describes Command 05's read-only data.

| Address | Description | Remarks |
|---------|---------------------------|---|
| 05_00 | Total count | Total accumulated number of 6-trip events |
| 05_01 | Trip factor | Trip 1 (8 bytes) |
| 05_02 | Inverter Status A | |
| 05_03 | Inverter Status B | |
| 05_04 | Inverter Status C | |
| 05_05 | Output frequency | |
| 05_06 | Accumulated Run Mode time | |
| 05_07 | Output current | |
| 05_08 | Output voltage | |
| 05_09 | Power ON time | |
| ⋮ | ⋮ | |
| 05_46 | Trip factor | Trip 6 (8 bytes) |
| 05_47 | Inverter Status A | |
| 05_48 | Inverter Status B | |
| 05_49 | Inverter Status C | |
| 05_50 | Output frequency | |
| 05_51 | Accumulated Run Mode time | |
| 05_52 | Output current | |
| 05_53 | Output voltage | |
| 05_54 | Power ON time | |

- *10 Some setting items are read-only or write-only. Check the setting permissions in the External Device manual before reading/writing a setting item.
- *11 The device is allocated to Command 08 of the External Device. The following table describes Command 08 data. This command is an instruction and is write-only. In a Display, writing data issues instructions to the External Device.

| Address | Description |
|---------|------------------------------|
| 08_00 | Re-initialize Setting Values |

- *12 The device is allocated to Command 09 of the External Device. The following table describes Command 09 data.

| Address | Description |
|---------|---|
| 09_00 | Check if Setting Values can be saved to EEPROM or not. When it saves, it sets to 1. |

- *13 The device is allocated to Command 0A of the External Device.
 The following table describes Command 0A data.
 This command is an instruction and is write-only.
 In a Display, writing data issues instructions to the External Device.

| Address | Description |
|---------|-------------------------------|
| 0A_00 | Save Setting Values to EEPROM |

- *14 The device is allocated to Command 0B of the External Device.
 The following table describes Command 0B data.
 This command is an instruction and is write-only.
 In a Display, writing data issues instructions to the External Device.
 In a Display, it is treated as 16-bit data.


| Address | Description |
|---------|--------------------------------|
| 0B_00 | Re-calculate Internal Constant |














- *15 The device is allocated to Command 0E of the External Device.
 The following table describes Command 0E data.
 This address is read-only.

| Address | Description |
|---------|-------------------------------------|
| 0E_00 | Read Output Frequency Setting Value |

| | |
|-------------|---|
| NOTE | <ul style="list-style-type: none"> • You can only set the Read Area Size for the system area available to use in the External Device. Please refer to the GP Pro-EX Reference Manual for Read Area Size. 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" |
|-------------|---|

6.2 SJ300 series

 This address can be specified as system data area.

| Device | Bit Address | Word Address | 32bits | Notes |
|--|-------------|---------------|---|---|
| Forward/Reverse/Stop Command | - | 00_00 | H/L |  *1*2 |
| Frequency Value Setup | - | 01_00 | | *2*3*4 |
| Intelligent Terminal Status Setup | - | 02_00 - 02_01 | |  *2*5 |
| Monitor Data Batch Read | - | 03_00 - 03_12 | |  *6*7 |
| Read Inverter Status | - | 04_00 - 04_03 | |  *6*8 |
| Read Trip History | - | 05_00 - 05_54 | |  *6*9 |
| Read/Set Setting Fields | - | F002 - F303 | |  *10 |
| | - | A001 - A393 | |  *10 |
| | - | b001 - b313 | |  *10 |
| | - | C001 - C123 | |  *10 |
| | - | H003 - H306 | |  *10 |
| | - | P001 - P049 | |  *10 |
| Re-initilaize Setting Values | - | 08_00 | | *2*3*11 |
| Check if Setting Value can be saved to EEPROM or not | - | 09_00 | |  *6*12 |
| Save Setting Value to EEPROM | - | 0A_00 | | *2*3*13 |
| Re-calculate Internal Constant | - | 0B_00 | *2*3*14 | |
| Read Output Frequency Setting Value | - | 0E_00 |  *6*15 | |

*1 The device is allocated to Command 00 of the External Device.
The following table describes Command 00's write-only parameter number.

| Address | Write Data | Description |
|---------|------------|-----------------|
| 00_00 | 0 | Stop Command |
| | 1 | Forward Command |
| | 2 | Reverse Command |

*2 Read disabled.

*3 Word access only

*4 The device is allocated to Command 01 of the External Device.
The following table describes Command 01's write-only parameter number.
In a Display, it is treated as 32-bit data.

| Address | Description |
|---------|-----------------------|
| 01_00 | Frequency Value Setup |

- *5 The device is allocated to Command 02 of the External Device.
The following table describes Command 02's write-only parameter number.
In the External Device, it is a 64-bit data block. However, in a Display, it is separated into two 32-bit data blocks.

| Address | Description |
|---------|---|
| 02_00 | Lower 32 bits of 64-bit Intelligent Terminal Status data block |
| 02_01 | Higher 32 bits of 64-bit Intelligent Terminal Status data block |

The table below shows the set values of the External Device.
Refer to the External Device manual for set value details.

| Data | Description |
|--------------------|--|
| 0x0000000000000001 | [FW] Forward Command |
| 0x0000000000000002 | [RV] Reverse Command |
| 0x0000000000000004 | [CF1] Multi-level Speed 1 (Binary Operation) |
| 0x0000000000000008 | [CF2] Multi-level Speed 2 (Binary Operation) |
| 0x0000000000000010 | [CF3] Multi-level Speed 3 (Binary Operation) |
| ⋮ | ⋮ |

E.g. 1) When you want the External Device to operate in Forward Command and also you want to activate Multi-level Speed 1 and Multi-level Speed 2, write the following data to the External Device:
Forward Command 0x0000000000000001 + Multi-level Speed 1 0x0000000000000004 + Multi-level Speed 2 0x0000000000000008 = 0x000000000000000D
When you want to write data only to address 02_00, "0" will be written to address 02_01.
Use D-scripts's memory copy to simultaneously write data in address 02_00 and 02_01.

E.g. 2) When you want to clear Forward Command and remote operation data, write data "0x0000000200000001" to the External Device. This 64-bit data will be divided into two units of 32-bit data each, and will be written to the LS area. E.g., "0x00000001" will be written to LS100, and "0x00000002" will be written to LS101.
Use memcpy() (memory copy) function to copy the LS area data to address 02_00. This writes data "0x0000000200000001" to the External Device.

◆D-Script Example
[w:01/LS0100]=0x00000001
[w:01/LS0101]=0x00000001
memcpy([w:01/02_00],[w:01/LS0100],2)

- *6 Write disabled.
- *7 The device is allocated to Command 03 of the External Device.
The following table describes Command 03's read-only data.

| Address | Description | Address | Description |
|---------|------------------------------|---------|------------------------|
| 03_00 | Output frequency | 03_07 | Output torque monitor |
| 03_01 | Output current | 03_08 | Output voltage monitor |
| 03_02 | Direction of rotation | 03_09 | Electric power monitor |
| 03_03 | PID feedback monitor | 03_10 | Reserved |
| 03_04 | Intelligent input monitor | 03_11 | Run Mode time monitor |
| 03_05 | Intelligent output monitor | 03_12 | Power ON time monitor |
| 03_06 | Frequency converting monitor | | |

- *8 The device is allocated to Command 04 of the External Device.
The following table describes Command 04's read-only data.

| Address | Description | Address | Description |
|---------|-------------------|---------|-----------------------|
| 04_03 | Inverter Status A | 04_01 | Inverter Status C |
| 04_02 | Inverter Status B | 04_00 | Reserved (default: 0) |

- *9 The device is allocated to Command 05 of the External Device.
The following table describes Command 05's read-only data.

| Address | Description | Remarks |
|---------|---------------------------|---|
| 05_00 | Total count | Total accumulated number of 6-trip events |
| 05_01 | Trip factor | Trip 1 (8 bytes) |
| 05_02 | Inverter Status A | |
| 05_03 | Inverter Status B | |
| 05_04 | Inverter Status C | |
| 05_05 | Output frequency | |
| 05_06 | Accumulated Run Mode time | |
| 05_07 | Output current | |
| 05_08 | Output voltage | |
| 05_09 | Power ON time | |
| ⋮ | ⋮ | |
| 05_46 | Trip factor | Trip 6 (8 bytes) |
| 05_47 | Inverter Status A | |
| 05_48 | Inverter Status B | |
| 05_49 | Inverter Status C | |
| 05_50 | Output frequency | |
| 05_51 | Accumulated Run Mode time | |
| 05_52 | Output current | |
| 05_53 | Output voltage | |
| 05_54 | Power ON time | |

- *10 Some setting items are read-only or write-only. Check the setting permissions in the External Device manual before reading/writing a setting item.
- *11 The device is allocated to Command 08 of the External Device.
The following table describes Command 08 data.
This command is an instruction and is write-only.
In Display, writing data issues instructions to the External Device.

| Address | Description |
|---------|------------------------------|
| 08_00 | Re-initialize Setting Values |

- *12 The device is allocated to Command 09 of the External Device.
The following table describes Command 09 data.

| Address | Description |
|---------|--|
| 09_00 | Check if Setting Values can be saved to EEPROM or not. When it saves, it sets to 1. |

- *13 The device is allocated to Command 0A of the External Device.
The following table describes Command 0A data.
This command is an instruction and is write-only.
In Display, writing data issues instructions to the External Device.

| Address | Description |
|---------|-------------------------------|
| 0A_00 | Save Setting Values to EEPROM |


- *14 The device is allocated to Command 0B of the External Device.
The following table describes Command 0B data.
This command is an instruction and is write-only.
In Display, writing data issues instructions to the External Device.
In a Display, it is treated as 16-bit data.

| Address | Description |
|---------|--------------------------------|
| 0B_00 | Re-calculate Internal Constant |


- *15 The device is allocated to Command 0E of the External Device.
The following table describes Command 0E data.
This address is read-only.














| Address | Description |
|---------|-------------------------------------|
| 0E_00 | Read Output Frequency Setting Value |

NOTE

- You can only set the Read Area Size for the system area available to use in the External Device. Please refer to the GP Pro-EX Reference Manual for Read Area Size.
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"

6.3 SJ700 series

 This address can be specified as system data area.

| Device | Bit Address | Word Address | 32bits | Notes |
|--|-------------|---------------|---|---|
| Forward/Reverse/Stop Command | - | 00_00 | H/L |  *1*2 |
| Frequency Value Setup | - | 01_00 | | *2*3*4 |
| Intelligent Terminal Status Setup | - | 02_00 - 02_01 | |  *2*5 |
| Monitor Data Batch Read | - | 03_00 - 03_12 | |  *6*7 |
| Read Inverter Status | - | 04_00 - 04_03 | |  *6*8 |
| Read Trip History | - | 05_00 - 05_54 | |  *6*9 |
| Read/Set Setting Fields | - | F002 - F303 | |  *10 |
| | - | A001 - A393 | |  *10 |
| | - | b001 - b313 | |  *10 |
| | - | C001 - C159 | |  *10 |
| | - | H003 - H306 | |  *10 |
| | - | P001 - P131 | |  *10 |
| Re-initilaize Setting Values | - | 08_00 | | *2*3*11 |
| Check if Setting Value can be saved to EEPROM or not | - | 09_00 | |  *6*12 |
| Save Setting Value to EEPROM | - | 0A_00 | | *2*3*13 |
| Re-calculate Internal Constant | - | 0B_00 | *2*3*14 | |
| Read Output Frequency Setting Value | - | 0E_00 |  *6*15 | |

*1 The device is allocated to Command 00 of the External Device.
The following table describes Command 00's write-only parameter number.

| Address | Write Data | Description |
|---------|------------|-----------------|
| 00_00 | 0 | Stop Command |
| | 1 | Forward Command |
| | 2 | Reverse Command |

*2 Read disabled.

*3 Word access only

*4 The device is allocated to Command 01 of the External Device.
The following table describes Command 01's write-only parameter number.
In a Display, it is treated as 32-bit data.

| Address | Description |
|---------|-----------------------|
| 01_00 | Frequency Value Setup |

- *5 The device is allocated to Command 02 of the External Device.
The following table describes Command 02's write-only parameter number.
In the External Device, it is a 64-bit data block. However, in a Display, it is separated into two 32-bit data blocks.

| Address | Description |
|---------|--|
| 02_00 | Lower 32 bits of 64-bit Intelligent Terminal Status data blocks |
| 02_01 | Higher 32 bits of 64-bit Intelligent Terminal Status data blocks |

The table below shows the set values of the External Device.
Refer to the External Device manual for set value details.

| Data | Description |
|--------------------|--|
| 0x0000000000000001 | [FW] Forward Command |
| 0x0000000000000002 | [RV] Reverse Command |
| 0x0000000000000004 | [CF1] Multi-level Speed 1 (Binary Operation) |
| 0x0000000000000008 | [CF2] Multi-level Speed 2 (Binary Operation) |
| 0x0000000000000010 | [CF3] Multi-level Speed 3 (Binary Operation) |
| ⋮ | ⋮ |

E.g. 1) When you want the External Device to operate in Forward Command and also you want to activate Multi-level Speed 1 and Multi-level Speed 2, write the following data to the External Device:
Forward Command 0x0000000000000001 + Multi-level Speed 1 0x0000000000000004 + Multi-level Speed 2 0x0000000000000008 = 0x000000000000000D
When you want to write data only to address 02_00, "0" will be written to address 02_01.
Use D-scripts's memory copy to simultaneously write data in address 02_00 and 02_01.

E.g. 2) When you want to clear Forward Command and remote operation data, write data "0x0000000200000001" to the External Device. This 64-bit data will be divided into two units of 32-bit data each, and will be written to the LS area. E.g., "0x00000001" will be written to LS100, and "0x00000002" will be written to LS101.
Use memcpy() (memory copy) function to copy the LS area data to address 02_00. This writes data "0x0000000200000001" to the External Device.

◆D-Script Example
[w:01/LS0100]=0x00000001
[w:01/LS0101]=0x00000001
memcpy([w:01/02_00],[w:01/LS0100],2)

- *6 Write disabled.
- *7 The device is allocated to Command 03 of the External Device.
The following table describes Command 03's read-only data.

| Address | Description | Address | Description |
|---------|------------------------------|---------|------------------------|
| 03_00 | Output frequency | 03_07 | Output torque monitor |
| 03_01 | Output current | 03_08 | Output voltage monitor |
| 03_02 | Direction of rotation | 03_09 | Electric power monitor |
| 03_03 | PID feedback monitor | 03_10 | Reserved |
| 03_04 | Intelligent input monitor | 03_11 | Run Mode time monitor |
| 03_05 | Intelligent output monitor | 03_12 | Power ON time monitor |
| 03_06 | Frequency converting monitor | | |

- *8 The device is allocated to Command 04 of the External Device.
The following table describes Command 04's read-only data.

| Address | Description | Address | Description |
|---------|-------------------|---------|-----------------------|
| 04_03 | Inverter Status A | 04_01 | Inverter Status C |
| 04_02 | Inverter Status B | 04_00 | Reserved (default: 0) |

- *9 The device is allocated to Command 05 of the External Device.
The following table describes Command 05's read-only data.

| Address | Description | Remarks |
|---------|---------------------------|---|
| 05_00 | Total count | Total accumulated number of 6-trip events |
| 05_01 | Trip factor | Trip 1 (8 bytes) |
| 05_02 | Inverter Status A | |
| 05_03 | Inverter Status B | |
| 05_04 | Inverter Status C | |
| 05_05 | Output frequency | |
| 05_06 | Accumulated Run Mode time | |
| 05_07 | Output current | |
| 05_08 | Output voltage | |
| 05_09 | Power ON time | |
| ⋮ | ⋮ | |
| 05_46 | Trip factor | Trip 6 (8 bytes) |
| 05_47 | Inverter Status A | |
| 05_48 | Inverter Status B | |
| 05_49 | Inverter Status C | |
| 05_50 | Output frequency | |
| 05_51 | Accumulated Run Mode time | |
| 05_52 | Output current | |
| 05_53 | Output voltage | |
| 05_54 | Power ON time | |

- *10 Some setting items are read-only or write-only. Check the setting permissions in the External Device manual before reading/writing a setting item.
- *11 The device is allocated to Command 08 of the External Device.
The following table describes Command 08 data.
This command is an instruction and is write-only.
In Display, writing data issues instructions to the External Device.

| Address | Description |
|---------|------------------------------|
| 08_00 | Re-initialize Setting Values |

- *12 The device is allocated to Command 09 of the External Device.
The following table describes Command 09 data.

| Address | Description |
|---------|--|
| 09_00 | Check if Setting Values can be saved to EEPROM or not. When it saves, it sets to 1. |

- *13 The device is allocated to Command 0A of the External Device.
The following table describes Command 0A data.
This command is an instruction and is write-only.
In Display, writing data issues instructions to the External Device.

| Address | Description |
|---------|-------------------------------|
| 0A_00 | Save Setting Values to EEPROM |


- *14 The device is allocated to Command 0B of the External Device.
The following table describes Command 0B data.
This command is an instruction and is write-only.
In Display, writing data issues instructions to the External Device.
In a Display, it is treated as 16-bit data.

| Address | Description |
|---------|--------------------------------|
| 0B_00 | Re-calculate Internal Constant |


- *15 The device is allocated to Command 0E of the External Device.
The following table describes Command 0E data.
This address is read-only.














| Address | Description |
|---------|-------------------------------------|
| 0E_00 | Read Output Frequency Setting Value |

NOTE

- You can only set the Read Area Size for the system area available to use in the External Device. Please refer to the GP Pro-EX Reference Manual for Read Area Size.
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"

6.4 SJ700-2 series

 This address can be specified as system data area.

| Device | Bit Address | Word Address | 32bits | Notes |
|--|-------------|---------------|---|---|
| Forward/Reverse/Stop Command | - | 00_00 | H/L |  *1*2 |
| Frequency Value Setup | - | 01_00 | | *2*3*4 |
| Intelligent Terminal Status Setup | - | 02_00 - 02_01 | |  *2*5 |
| Monitor Data Batch Read | - | 03_00 - 03_12 | |  *6*7 |
| Read Inverter Status | - | 04_00 - 04_03 | |  *6*8 |
| Read Trip History | - | 05_00 - 05_54 | |  *6*9 |
| Read/Set Setting Fields | - | F002 - F303 | |  *10 |
| | - | A001 - A393 | |  *10 |
| | - | b001 - b313 | |  *10 |
| | - | C001 - C169 | |  *10 |
| | - | H003 - H306 | |  *10 |
| | - | P001 - P131 | |  *10 |
| Re-initilaize Setting Values | - | 08_00 | | *2*3*11 |
| Check if Setting Value can be saved to EEPROM or not | - | 09_00 | |  *6*12 |
| Save Setting Value to EEPROM | - | 0A_00 | | *2*3*13 |
| Re-calculate Internal Constant | - | 0B_00 | *2*3*14 | |
| Read Output Frequency Setting Value | - | 0E_00 |  *6*15 | |

*1 The device is allocated to Command 00 of the External Device.
The following table describes Command 00's write-only parameter number.

| Address | Write Data | Description |
|---------|------------|-----------------|
| 00_00 | 0 | Stop Command |
| | 1 | Forward Command |
| | 2 | Reverse Command |

*2 Read disabled.

*3 Word access only

*4 The device is allocated to Command 01 of the External Device.
The following table describes Command 01's write-only parameter number.
In a Display, it is treated as 32-bit data.

| Address | Description |
|---------|-----------------------|
| 01_00 | Frequency Value Setup |

- *5 The device is allocated to Command 02 of the External Device.
The following table describes Command 02's write-only parameter number.
In the External Device, it is a 64-bit data block. However, in a Display, it is separated into two 32-bit data blocks.

| Address | Description |
|---------|---|
| 02_00 | Lower 32 bits of 64-bit Intelligent Terminal Status data block |
| 02_01 | Higher 32 bits of 64-bit Intelligent Terminal Status data block |

The table below shows the set values of the External Device.
Refer to the External Device manual for set value details.

| Data | Description |
|--------------------|--|
| 0x0000000000000001 | [FW] Forward Command |
| 0x0000000000000002 | [RV] Reverse Command |
| 0x0000000000000004 | [CF1] Multi-level Speed 1 (Binary Operation) |
| 0x0000000000000008 | [CF2] Multi-level Speed 2 (Binary Operation) |
| 0x0000000000000010 | [CF3] Multi-level Speed 3 (Binary Operation) |
| ⋮ | ⋮ |

E.g. 1) When you want the External Device to operate in Forward Command and also you want to activate Multi-level Speed 1 and Multi-level Speed 2, write the following data to the External Device:
Forward Command 0x0000000000000001 + Multi-level Speed 1 0x0000000000000004 + Multi-level Speed 2 0x0000000000000008 = 0x000000000000000D
When you want to write data only to address 02_00, "0" will be written to address 02_01.
Use D-scripts's memory copy to simultaneously write data in address 02_00 and 02_01.

E.g. 2) When you want to clear Forward Command and remote operation data, write data "0x0000000200000001" to the External Device. This 64-bit data will be divided into two units of 32-bit data each, and will be written to the LS area. E.g., "0x00000001" will be written to LS100, and "0x00000002" will be written to LS101.
Use memcpy() (memory copy) function to copy the LS area data to address 02_00. This writes data "0x0000000200000001" to the External Device.

◆D-Script Example
[w:01/LS0100]=0x00000001
[w:01/LS0101]=0x00000001
memcpy([w:01/02_00],[w:01/LS0100],2)

- *6 Write disabled.
- *7 The device is allocated to Command 03 of the External Device.
The following table describes Command 03's read-only data.

| Address | Description | Address | Description |
|---------|------------------------------|---------|------------------------|
| 03_00 | Output frequency | 03_07 | Output torque monitor |
| 03_01 | Output current | 03_08 | Output voltage monitor |
| 03_02 | Direction of rotation | 03_09 | Electric power monitor |
| 03_03 | PID feedback monitor | 03_10 | Reserved |
| 03_04 | Intelligent input monitor | 03_11 | Run Mode time monitor |
| 03_05 | Intelligent output monitor | 03_12 | Power ON time monitor |
| 03_06 | Frequency converting monitor | | |

- *8 The device is allocated to Command 04 of the External Device. The following table describes Command 04's read-only data.

| Address | Description | Address | Description |
|---------|-------------------|---------|-----------------------|
| 04_03 | Inverter Status A | 04_01 | Inverter Status C |
| 04_02 | Inverter Status B | 04_00 | Reserved (default: 0) |

- *9 The device is allocated to Command 05 of the External Device. The following table describes Command 05's read-only data.

| Address | Description | Remarks |
|---------|---------------------------|---|
| 05_00 | Total count | Total accumulated number of 6-trip events |
| 05_01 | Trip factor | Trip 1 (8 bytes) |
| 05_02 | Inverter Status A | |
| 05_03 | Inverter Status B | |
| 05_04 | Inverter Status C | |
| 05_05 | Output frequency | |
| 05_06 | Accumulated Run Mode time | |
| 05_07 | Output current | |
| 05_08 | Output voltage | |
| 05_09 | Power ON time | |
| ⋮ | ⋮ | |
| 05_46 | Trip factor | Trip 6 (8 bytes) |
| 05_47 | Inverter Status A | |
| 05_48 | Inverter Status B | |
| 05_49 | Inverter Status C | |
| 05_50 | Output frequency | |
| 05_51 | Accumulated Run Mode time | |
| 05_52 | Output current | |
| 05_53 | Output voltage | |
| 05_54 | Power ON time | |

- *10 Some setting items are read-only or write-only. Check the setting permissions in the External Device manual before reading/writing a setting item.
- *11 The device is allocated to Command 08 of the External Device. The following table describes Command 08 data. This command is an instruction and is write-only. In Display, writing data issues instructions to the External Device.

| Address | Description |
|---------|------------------------------|
| 08_00 | Re-initialize Setting Values |

- *12 The device is allocated to Command 09 of the External Device. The following table describes Command 09 data.

| Address | Description |
|---------|---|
| 09_00 | Check if Setting Values can be saved to EEPROM or not. When it saves, it sets to 1. |

- *13 The device is allocated to Command 0A of the External Device.
The following table describes Command 0A data.
This command is an instruction and is write-only.
In Display, writing data issues instructions to the External Device.

| Address | Description |
|---------|-------------------------------|
| 0A_00 | Save Setting Values to EEPROM |


- *14 The device is allocated to Command 0B of the External Device.
The following table describes Command 0B data.
This command is an instruction and is write-only.
In Display, writing data issues instructions to the External Device.
In a Display, it is treated as 16-bit data.

| Address | Description |
|---------|--------------------------------|
| 0B_00 | Re-calculate Internal Constant |


- *15 The device is allocated to Command 0E of the External Device.
The following table describes Command 0E data.
This address is read-only.














| Address | Description |
|---------|-------------------------------------|
| 0E_00 | Read Output Frequency Setting Value |

NOTE

- You can only set the Read Area Size for the system area available to use in the External Device. Please refer to the GP Pro-EX Reference Manual for Read Area Size.
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"

6.5 HFC-VAH3 series

 This address can be specified as system data area.

| Device | Bit Address | Word Address | 32bits | Notes |
|--|-------------|---------------|---|---|
| Forward/Reverse/Stop Command | - | 00_00 | H/L |  *1*2 |
| Frequency Value Setup | - | 01_00 | | *2*3*4 |
| Intelligent Terminal Status Setup | - | 02_00 - 02_01 | |  *2*5 |
| Monitor Data Batch Read | - | 03_00 - 03_12 | |  *6*7 |
| Read Inverter Status | - | 04_00 - 04_03 | |  *6*8 |
| Read Trip History | - | 05_00 - 05_54 | |  *6*9 |
| Read/Set Setting Fields | - | F002 - F803 | |  *10 |
| | - | A001 - A893 | |  *10 |
| | - | b004 - b813 | |  *10 |
| | - | C001 - C123 | |  *10 |
| | - | H080 - H885 | |  *10 |
| | - | P001 - P031 | |  *10 |
| Re-initilaize Setting Values | - | 08_00 | | *2*3*11 |
| Check if Setting Value can be saved to EEPROM or not | - | 09_00 | |  *6*12 |
| Save Setting Value to EEPROM | - | 0A_00 | | *2*3*13 |
| Re-calculate Internal Constant | - | 0B_00 | *2*3*14 | |
| Read Output Frequency Setting Value | - | 0E_00 |  *6*15 | |

*1 The device is allocated to Command 00 of the External Device.
The following table describes Command 00's write-only parameter number.

| Address | Write Data | Description |
|---------|------------|-----------------|
| 00_00 | 0 | Stop Command |
| | 1 | Forward Command |
| | 2 | Reverse Command |

*2 Read disabled.

*3 Word access only

*4 The device is allocated to Command 01 of the External Device.
The following table describes Command 01's write-only parameter number.
In a Display, it is treated as 32-bit data.

| Address | Description |
|---------|-----------------------|
| 01_00 | Frequency Value Setup |

- *5 The device is allocated to Command 02 of the External Device.
The following table describes Command 02's write-only parameter number.
In the External Device, it is a 64-bit data block. However, in a Display, it is separated into two 32-bit data blocks.

| Address | Description |
|---------|---|
| 02_00 | Lower 32 bits of 64-bit Intelligent Terminal Status data |
| 02_01 | Higher 32 bits of 64-bit Intelligent Terminal Status data |

The table below shows the set values of the External Device.
Refer to the External Device manual for set value details.

| Data | Description |
|--------------------|--|
| 0x0000000000000001 | [FW] Forward Command |
| 0x0000000000000002 | [RV] Reverse Command |
| 0x0000000000000004 | [CF1] Multi-level Speed 1 (Binary Operation) |
| 0x0000000000000008 | [CF2] Multi-level Speed 2 (Binary Operation) |
| 0x0000000000000010 | [CF3] Multi-level Speed 3 (Binary Operation) |
| ⋮ | ⋮ |

E.g. 1) When you want the External Device to operate in Forward Command and also you want to activate Multi-level Speed 1 and Multi-level Speed 2, write the following data to the External Device:
Forward Command 0x0000000000000001 + Multi-level Speed 1 0x0000000000000004 + Multi-level Speed 2 0x0000000000000008 = 0x000000000000000D
When you want to write data only to address 02_00, "0" will be written to address 02_01.
Use D-scripts's memory copy to simultaneously write data in address 02_00 and 02_01.

E.g. 2) When you want to clear Forward Command and remote operation data, write data "0x0000000200000001" to the External Device. This 64-bit data will be divided into two units of 32-bit data each, and will be written to the LS area. E.g., "0x00000001" will be written to LS100, and "0x00000002" will be written to LS101.
Use memcpy() (memory copy) function to copy the LS area data to address 02_00. This writes data "0x0000000200000001" to the External Device.

```
◆D-Script Example
[w:01/LS0100]=0x00000001
[w:01/LS0101]=0x00000001
memcpy([w:01/02_00],[w:01/LS0100],2)
```

- *6 Write disabled.
- *7 The device is allocated to Command 03 of the External Device.
The following table describes Command 03's read-only data.

| Address | Description | Address | Description |
|---------|------------------------------|---------|------------------------|
| 03_00 | Output frequency | 03_07 | Output torque monitor |
| 03_01 | Output current | 03_08 | Output voltage monitor |
| 03_02 | Direction of rotation | 03_09 | Electric power monitor |
| 03_03 | PID feedback monitor | 03_10 | Reserved |
| 03_04 | Intelligent input monitor | 03_11 | Run Mode time monitor |
| 03_05 | Intelligent output monitor | 03_12 | Power ON time monitor |
| 03_06 | Frequency converting monitor | | |

- *8 The device is allocated to Command 04 of the External Device.
The following table describes Command 04's read-only data.

| Address | Description | Address | Description |
|---------|-------------------|---------|-----------------------|
| 04_03 | Inverter Status A | 04_01 | Inverter Status C |
| 04_02 | Inverter Status B | 04_00 | Reserved (default: 0) |

- *9 The device is allocated to Command 05 of the External Device.
The following table describes Command 05's read-only data.

| Address | Description | Remarks |
|---------|---------------------------|---|
| 05_00 | Total count | Total accumulated number of 6-trip events |
| 05_01 | Trip factor | Trip 1 (8 bytes) |
| 05_02 | Inverter Status A | |
| 05_03 | Inverter Status B | |
| 05_04 | Inverter Status C | |
| 05_05 | Output frequency | |
| 05_06 | Accumulated Run Mode time | |
| 05_07 | Output current | |
| 05_08 | Output voltage | |
| 05_09 | Power ON time | |
| ⋮ | ⋮ | |
| 05_46 | Trip factor | Trip 6 (8 bytes) |
| 05_47 | Inverter Status A | |
| 05_48 | Inverter Status B | |
| 05_49 | Inverter Status C | |
| 05_50 | Output frequency | |
| 05_51 | Accumulated Run Mode time | |
| 05_52 | Output current | |
| 05_53 | Output voltage | |
| 05_54 | Power ON time | |

- *10 Some setting items are read-only or write-only. Check the setting permissions in the External Device manual before reading/writing a setting item.
- *11 The device is allocated to Command 08 of the External Device.
The following table describes Command 08 data.
This command is an instruction and is write-only.
In Display, writing data issues instructions to the External Device.

| Address | Description |
|---------|------------------------------|
| 08_00 | Re-initialize Setting Values |

- *12 The device is allocated to Command 09 of the External Device.
The following table describes Command 09 data.

| Address | Description |
|---------|--|
| 09_00 | Check if Setting Values can be saved to EEPROM or not. When it saves, it sets to 1. |

- *13 The device is allocated to Command 0A of the External Device.
The following table describes Command 0A data.
This command is an instruction and is write-only.
In Display, writing data issues instructions to the External Device.

| Address | Description |
|---------|-------------------------------|
| 0A_00 | Save Setting Values to EEPROM |


- *14 The device is allocated to Command 0B of the External Device.
The following table describes Command 0B data.
This command is an instruction and is write-only.
In Display, writing data issues instructions to the External Device.
In a Display, it is treated as 16-bit data.

| Address | Description |
|---------|--------------------------------|
| 0B_00 | Re-calculate Internal Constant |


- *15 The device is allocated to Command 0E of the External Device.
The following table describes Command 0E data.
This address is read-only.














| Address | Description |
|---------|-------------------------------------|
| 0E_00 | Read Output Frequency Setting Value |

NOTE

- You can only set the Read Area Size for the system area available to use in the External Device. Please refer to the GP Pro-EX Reference Manual for Read Area Size.
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"

6.6 SJH300 series

 This address can be specified as system data area.

| Device | Bit Address | Word Address | 32bits | Notes |
|--|-------------|---------------|---|---|
| Forward/Reverse/Stop Command | - | 00_00 | H/L |  *1*2 |
| Frequency Value Setup | - | 01_00 | | *2*3*4 |
| Intelligent Terminal Status Setup | - | 02_00 - 02_01 | |  *2*5 |
| Monitor Data Batch Read | - | 03_00 - 03_12 | |  *6*7 |
| Read Inverter Status | - | 04_00 - 04_03 | |  *6*8 |
| Read Trip History | - | 05_00 - 05_54 | |  *6*9 |
| Read/Set Setting Fields | - | F002 - F503 | |  *10 |
| | - | A001 - A596 | |  *10 |
| | - | b001 - b523 | |  *10 |
| | - | C001 - C541 | |  *10 |
| | - | H003 - H506 | |  *10 |
| | - | P001 - P131 | |  *10 |
| Re-initilaize Setting Values | - | 08_00 | | *2*3*11 |
| Check if Setting Value can be saved to EEPROM or not | - | 09_00 | |  *6*12 |
| Save Setting Value to EEPROM | - | 0A_00 | | *2*3*13 |
| Re-calculate Internal Constant | - | 0B_00 | *2*3*14 | |
| Read Output Frequency Setting Value | - | 0E_00 |  *6*15 | |

*1 The device is allocated to Command 00 of the External Device.
The following table describes Command 00's write-only parameter number.

| Address | Write Data | Description |
|---------|------------|-----------------|
| 00_00 | 0 | Stop Command |
| | 1 | Forward Command |
| | 2 | Reverse Command |

*2 Read disabled.

*3 Word access only

*4 The device is allocated to Command 01 of the External Device.
The following table describes Command 01's write-only parameter number.
In a Display, it is treated as 32-bit data.

| Address | Description |
|---------|-----------------------|
| 01_00 | Frequency Value Setup |

- *5 The device is allocated to Command 02 of the External Device.
 The following table describes Command 02's write-only parameter number.
 In the External Device, it is a 64-bit data block. However, in a Display, it is separated into two 32-bit data blocks.

| Address | Description |
|---------|---|
| 02_00 | Lower 32 bits of 64-bit Intelligent Terminal Status data block |
| 02_01 | Higher 32 bits of 64-bit Intelligent Terminal Status data block |

The table below shows the set values of the External Device.
 Refer to the External Device manual for set value details.

| Data | Description |
|--------------------|--|
| 0x0000000000000001 | [FW] Forward Command |
| 0x0000000000000002 | [RV] Reverse Command |
| 0x0000000000000004 | [CF1] Multi-level Speed 1 (Binary Operation) |
| 0x0000000000000008 | [CF2] Multi-level Speed 2 (Binary Operation) |
| 0x0000000000000010 | [CF3] Multi-level Speed 3 (Binary Operation) |
| ⋮ | ⋮ |

E.g. 1) When you want the External Device to operate in Forward Command and also you want to activate Multi-level Speed 1 and Multi-level Speed 2, write the following data to the External Device:
 Forward Command 0x0000000000000001 + Multi-level Speed 1 0x0000000000000004 + Multi-level Speed 2 0x0000000000000008 = 0x000000000000000D
 When you want to write data only to address 02_00, "0" will be written to address 02_01.
 Use D-scripts's memory copy to simultaneously write data in address 02_00 and 02_01.

E.g. 2) When you want to clear Forward Command and remote operation data, write data "0x0000000200000001" to the External Device. This 64-bit data will be divided into two units of 32-bit data each, and will be written to the LS area. E.g., "0x00000001" will be written to LS100, and "0x00000002" will be written to LS101.
 Use memcpy() (memory copy) function to copy the LS area data to address 02_00. This writes data "0x0000000200000001" to the External Device.

◆D-Script Example

```
[w:01/LS0100]=0x00000001
[w:01/LS0101]=0x00000001
memcpy([w:01/02_00],[w:01/LS0100],2)
```

- *6 Write disabled.
- *7 The device is allocated to Command 03 of the External Device.
 The following table describes Command 03's read-only data.

| Address | Description | Address | Description |
|---------|------------------------------|---------|------------------------|
| 03_00 | Output frequency | 03_07 | Output torque monitor |
| 03_01 | Output current | 03_08 | Output voltage monitor |
| 03_02 | Direction of rotation | 03_09 | Electric power monitor |
| 03_03 | PID feedback monitor | 03_10 | Reserved |
| 03_04 | Intelligent input monitor | 03_11 | Run Mode time monitor |
| 03_05 | Intelligent output monitor | 03_12 | Power ON time monitor |
| 03_06 | Frequency converting monitor | | |

- *8 The device is allocated to Command 04 of the External Device.
The following table describes Command 04's read-only data.

| Address | Description | Address | Description |
|---------|-------------------|---------|-----------------------|
| 04_03 | Inverter Status A | 04_01 | Inverter Status C |
| 04_02 | Inverter Status B | 04_00 | Reserved (default: 0) |

- *9 The device is allocated to Command 05 of the External Device.
The following table describes Command 05's read-only data.

| Address | Description | Remarks |
|---------|---------------------------|---|
| 05_00 | Total count | Total accumulated number of 6-trip events |
| 05_01 | Trip factor | Trip 1 (8 bytes) |
| 05_02 | Inverter Status A | |
| 05_03 | Inverter Status B | |
| 05_04 | Inverter Status C | |
| 05_05 | Output frequency | |
| 05_06 | Accumulated Run Mode time | |
| 05_07 | Output current | |
| 05_08 | Output voltage | |
| 05_09 | Power ON time | |
| ⋮ | ⋮ | |
| 05_46 | Trip factor | Trip 6 (8 bytes) |
| 05_47 | Inverter Status A | |
| 05_48 | Inverter Status B | |
| 05_49 | Inverter Status C | |
| 05_50 | Output frequency | |
| 05_51 | Accumulated Run Mode time | |
| 05_52 | Output current | |
| 05_53 | Output voltage | |
| 05_54 | Power ON time | |

- *10 Some setting items are read-only or write-only. Check the setting permissions in the External Device manual before reading/writing a setting item.
- *11 The device is allocated to Command 08 of the External Device.
The following table describes Command 08 data.
This command is an instruction and is write-only.
In Display, writing data issues instructions to the External Device.

| Address | Description |
|---------|------------------------------|
| 08_00 | Re-initialize Setting Values |

- *12 The device is allocated to Command 09 of the External Device.
The following table describes Command 09 data.

| Address | Description |
|---------|--|
| 09_00 | Check if Setting Values can be saved to EEPROM or not. When it saves, it sets to 1. |

- *13 The device is allocated to Command 0A of the External Device.
 The following table describes Command 0A data.
 This command is an instruction and is write-only.
 In a Display, writing data issues instructions to the External Device.


| Address | Description |
|---------|-------------------------------|
| 0A_00 | Save Setting Values to EEPROM |

- *14 The device is allocated to Command 0B of the External Device.
 The following table describes Command 0B data.
 This command is an instruction and is write-only.
 In a Display, writing data issues instructions to the External Device.
 In a Display, it is treated as 16-bit data.

| Address | Description |
|---------|--------------------------------|
| 0B_00 | Re-calculate Internal Constant |

- *15 The device is allocated to Command 0E of the External Device.
 The following table describes Command 0E data.
 This address is read-only.

| Address | Description |
|---------|-------------------------------------|
| 0E_00 | Read Output Frequency Setting Value |

| | |
|-------------|---|
| NOTE | <ul style="list-style-type: none"> • You can only set the Read Area Size for the system area available to use in the External Device. Please refer to the GP Pro-EX Reference Manual for Read Area Size. 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 codes and address codes 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 |
|--|-------------|-------------------|--------------|
| Forward/Reverse/Stop Command | 00_ | 0006 | Word Address |
| Frequency Value Setup | 01_ | 0060 | Word Address |
| Intelligent Terminal Status Setup | 02_ | 0007 | Word Address |
| Monitor Data Batch Read | 03_ | 0008 | Word Address |
| Read Inverter Status | 04_ | 0009 | Word Address |
| Read Trip History | 05_ | 000A | Word Address |
| Read/Set Setting Fields | A | 0000 | Word Address |
| | F | 0001 | Word Address |
| | b | 0002 | Word Address |
| | C | 0003 | Word Address |
| | H | 0004 | Word Address |
| | P | 0005 | Word Address |
| Re-initialize Setting Values | 08_ | 0061 | Word Address |
| Check if Setting Value can be saved to EEPROM or not | 09_ | 000B | Word Address |
| Save Setting Value to EEPROM | 0A_ | 0062 | Word Address |
| Re-calculate Internal Constant | 0B_ | 0063 | Word Address |
| Read Output Frequency Setting Value | 0E_ | 000C | 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 Message | Displays messages related to an error that has occurred. |
| Error Occurrence Area | <p>Displays the IP address or device address of the External Device where an error has occurred, or error codes received from the External Device.</p> <p>NOTE</p> <ul style="list-style-type: none"> • IP address is displayed as "IP address (Decimal): MAC address (Hex)". • Device address is 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 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 | Description |
|------------|-------------------------------------|
| 11H | Abnormal command code error |
| 16H | Abnormal parameter code/value error |

■ Error Messages Unique to External Device

| Message ID | Error Message | Description |
|------------|--|---|
| RHxx128 | (Node Name): The Setting value for device 00 is illegal. Please check the inverter manuals. | Only the value of 0 - 9 can be accepted by Operation Command 00. When you want to set the data more than 9, the Display will display this message. |
| RHxx129 | (Node Name): The Setting value for device 01 is illegal. Please check the inverter manuals. | Only the value of 0 - 999999 can be accepted by Operation Command 01. When you want to set the data more than 999999, the Display will display this message. |
| RHxx130 | (Node Name): The length of the data written to (Device Address) is out of range, the writing operation can not be implemented. | For write Command 07, the valid range of data length is 8 bytes, if the length of written data is out of 8 bytes, this error message will be displayed and command is not sent. |