

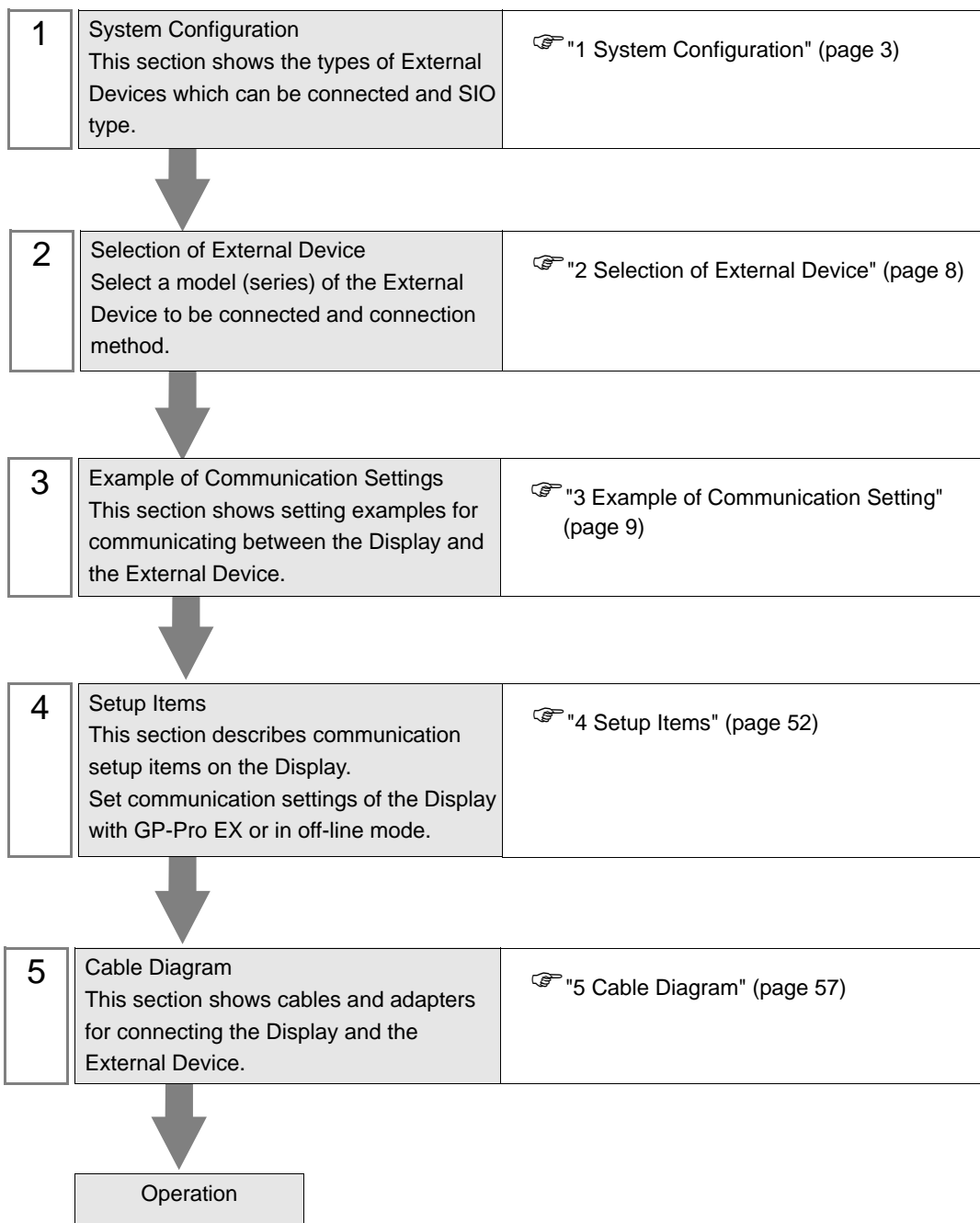
# MEMOBUS SIO Driver

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## PREFACE

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

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



# 1 System Configuration

The system configuration in the case when the External Device of YASKAWA Electric Corporation and the Display are connected is shown.

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
Control Pack	CP-9200SH	CN1 on 217IF	RS232C	"3.1 Setting Example 1" (page 9)	" Cable Diagram 1" (page 57)
		CN2 on 217IF	RS232C	"3.1 Setting Example 1" (page 9)	" Cable Diagram 2" (page 58)
		CN3 on 217IF	RS422/485 (4wire)	"3.2 Setting Example 2" (page 14)	" Cable Diagram 3" (page 59)
	CP-9200 CP-9200H	Port on the CPU unit	RS232C	"3.13 Setting Example 13" (page 48)	" Cable Diagram 12" (page 83)
MP900	MP920	PORT1, PORT2 on the CPU unit	RS232C	"3.3 Setting Example 3" (page 19)	" Cable Diagram 1" (page 57)
		CN1, CN2 on 217IF	RS232C	"3.3 Setting Example 3" (page 19)	" Cable Diagram 9" (page 77)
		CN3 on 217IF	RS422/485 (4wire)	"3.4 Setting Example 4" (page 22)	" Cable Diagram 4" (page 62)
			RS422/485 (2wire)	"3.5 Setting Example 5" (page 25)	" Cable Diagram 5" (page 64)
	MP930	PORT1, PORT2 on the CPU unit	RS232C	"3.3 Setting Example 3" (page 19)	" Cable Diagram 1" (page 57)
	MP940	PORT1 on the CPU unit	RS232C	"3.3 Setting Example 3" (page 19)	" Cable Diagram 6" (page 68)
		PORT2 on the CPU unit	RS422/485 (4wire)	"3.4 Setting Example 4" (page 22)	" Cable Diagram 7" (page 69)
			RS422/485 (2wire)	"3.5 Setting Example 5" (page 25)	" Cable Diagram 8" (page 72)
	MP2000	MP2300 MP2200	Serial port on CP218IF-01	RS232C	"3.6 Setting Example 6" (page 28)
Serial port on 260IF-01			RS232C	"3.6 Setting Example 6" (page 28)	" Cable Diagram 1" (page 57)
Serial port on 261IF-01			RS232C	"3.6 Setting Example 6" (page 28)	" Cable Diagram 1" (page 57)
Serial port on 217IF-01			RS232C	"3.6 Setting Example 6" (page 28)	" Cable Diagram 1" (page 57)
			RS422/485 (4wire)	"3.7 Setting Example 7" (page 32)	" Cable Diagram 7" (page 69)
			RS422/485 (2wire)	"3.8 Setting Example 8" (page 36)	" Cable Diagram 8" (page 72)

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
MEMOCON GL	GL120	MEMOBUS port 1 on the CPU10 unit MEMOBUS port 2 on the CPU10 unit MEMOBUS port on the CPU20 unit MEMOBUS port on the CPU21 unit	RS232C	"3.9 Setting Example 9" (page 40)	" Cable Diagram10" (page 78)
		JAMSC-120NOM26100			
		JAMSC-120NOM27100	RS422/485 (4wire)	"3.10 Setting Example 10" (page 42)	" Cable Diagram 11" (page 79)
	GL130	MEMOBUS port on the CPU30 unit MEMOBUS port on the CPU35 unit	RS232C	"3.9 Setting Example 9" (page 40)	" Cable Diagram10" (page 78)
		JAMSC-120NOM26100			
		JAMSC-120NOM27100	RS422/485 (4wire)	"3.10 Setting Example 10" (page 42)	" Cable Diagram 11" (page 79)
MEMOCON SC	U84,84J	JAMSC-C8110	RS232C	"3.11 Setting Example 11" (page 44)	" Cable Diagram 12" (page 83)
	U84S	JAMSC-C8610	RS232C	"3.11 Setting Example 11" (page 44)	" Cable Diagram 12" (page 83)
	GL40S	JAMSC-IF61 JAMSC-IF41A	RS232C	"3.11 Setting Example 11" (page 44)	" Cable Diagram 12" (page 83)
	GL60H GL70H	JAMSC-IF60 JAMSC-IF61	RS232C	"3.11 Setting Example 11" (page 44)	" Cable Diagram 12" (page 83)
	GL60S	JAMSC-IF60 JAMSC-IF61	RS232C	"3.11 Setting Example 11" (page 44)	" Cable Diagram 12" (page 83)
		JAMSC-IF612	RS422/485 (4wire)	"3.12 Setting Example 12" (page 46)	" Cable Diagram 13" (page 84)
MEMOCON Micro	Micro	Port on the CPU unit	RS232C	"3.14 Setting Example 14" (page 50)	" Cable Diagram 14" (page 88)

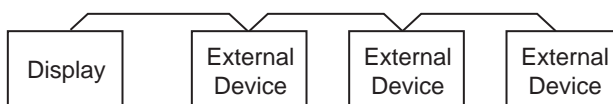
## ■ Connection Configuration

- 1:1 Connection



- 1:n Connection

You can connect maximum 16 units of External Device to 1 unit of GP.



## ■ COM Port of IPC

When connecting IPC with External Device, the COM port which can be used changes with series and SIO type. Please refer to the manual of IPC for details.

### Usable port

Series	Usable port		
	RS-232C	RS-422/485(4 wire)	RS-422/485(2 wire)
PS-2000B	COM1 <sup>*1</sup> , COM2, COM3 <sup>*1</sup> , COM4	-	-
PS-3450A, PS-3451A	COM1, COM2 <sup>*1*2</sup>	COM2 <sup>*1*2</sup>	COM2 <sup>*1*2</sup>
PS-3650A, PS-3651A	COM1 <sup>*1</sup>	-	-
PS-3700A (Pentium®4-M) PS-3710A	COM1 <sup>*1</sup> , COM2 <sup>*1</sup> , COM3 <sup>*2</sup> , COM4	COM3 <sup>*2</sup>	COM3 <sup>*2</sup>
PS-3711A	COM1 <sup>*1</sup> , COM2 <sup>*2</sup>	COM2 <sup>*2</sup>	COM2 <sup>*2</sup>
PL-3000B	COM1 <sup>*1*2</sup> , COM2 <sup>*1</sup> , COM3, COM4	COM1 <sup>*1*2</sup>	COM1 <sup>*1*2</sup>

\*1 The RI/5V can be switched. Please switch with the change switch of IPC.

\*2 It is necessary to set up the SIO type with the Dip switch. Please set up as follows according to SIO type to be used.

### Dip switch setting: RS-232C

Dip switch	Setting	Description
1	OFF <sup>*1</sup>	Reserve (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): Does not Exist
8	OFF	Short-circuit of SDB (TXB) and RDB (RXB): Does not Exist
9	OFF	RS (RTS) Auto control mode: Disable
10	OFF	

\*1 It is necessary to turn ON the set value, only when using PS-3450A and PS-3451A.

## Dip switch setting: RS-422/485 (4 wire)

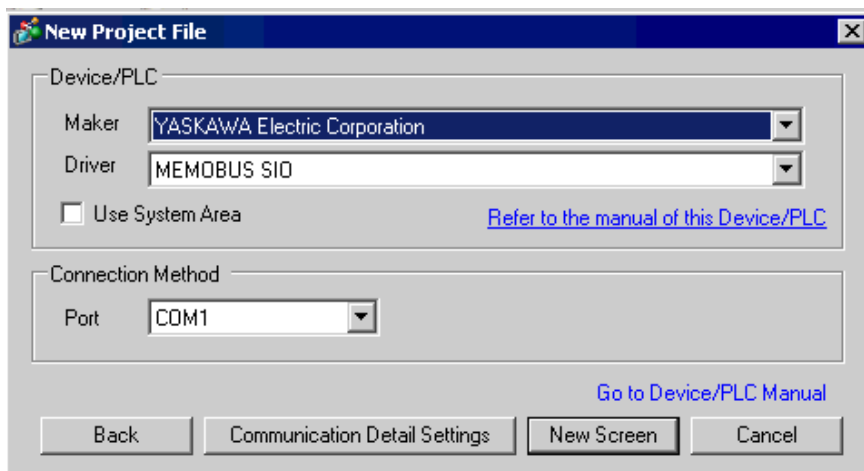
Dip switch	Setting	Description
1	OFF	Reserve (always OFF)
2	ON	SIO type: RS-422/485
3	ON	
4	OFF	Output mode of SD (TXD) data: Always output
5	OFF	Terminal resistance (220Ω) insertion to SD (TXD): None
6	OFF	Terminal resistance (220Ω) insertion to RD (RXD): None
7	OFF	Short-circuit of SDA (TXA) and RDA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

## Dip switch setting: RS-422/485 (2 wire)

Dip switch	Setting	Description
1	OFF	Reserve (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): Exist
8	ON	Short-circuit of SDB (TXB) and RDB (RXB): Exist
9	ON	RS (RTS) Auto control mode: Enable
10	ON	

## 2 Selection of External Device

Select the External Device to be connected to the Display.



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



### 3 Example of Communication Setting

Examples of communication settings of the Display and the External Device, recommended by Digital Electronics Corp., are shown.

#### 3.1 Setting Example 1

##### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker: YASKAWA Electric Corporation Driver: MEMOBUS SIO Port: COM1

Text Data Mode: 1 [Change](#)

Communication Settings

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

Speed: 9600

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 No. of Device/PLCs: 16 Unit(s)

No.	Device Name	Settings
1	PLC1	Series=MP900/2000/CP-9200SH, Slave Address=1

### ◆ Device Setting

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

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



### ◆ Notes

- Conform the head address of the system area to GMW00000.
- When you connect 217IF of which version is "\*\*\*\*\*\_21700\_\*\*\*\*\*" or lower to the Display, set [Wait To Send] to [20ms].

## ■ Settings of External Device

### ◆ Ladder Software Setting

- 1 Right-click [root] in the browser of the ladder software "CP717" and select [Group Folder] from [New].

#### **NOTE**

- Please refer to the manual of the ladder software for the version which supports the Control Pack Series.

- 2 The [New] dialog box is displayed. Enter the optional group name (ex. "GROUP") and click [OK].
- 3 The group folder (ex. "GROUP") is created under the [root] in the browser of "CP717". Right-click the folder and select [Order Folder] from [New].
- 4 The [New] dialog box is displayed. Enter the optional order name (ex. "ORDER") and click [OK].
- 5 [ORDER] is created under the [root]-[GROUP] in the browser of "CP717". Right-click it and select [PLC Type] from [New].
- 6 The [PLC Type] dialog box is displayed. Enter the optional PLC name and CPU name and select [CP-9200SH] for [Device Name], then click [OK].
- 7 The PLC folder (ex. "PLC") is created under the [root]-[GROUP] in the browser of "CP717". The CPU folder (ex. "CPU1") is created under the PLC folder. Double-click [CPU1] to display the [CPU Logon] dialog box.
- 8 Enter "User name" and "Password" optionally in the [CPU Logon] dialog box and click [OK].
- 9 Multiple folders are created under the [root]-[GROUP]-[PLC]-[CPU1] in the browser of "CP717". Double-click [Definition Folder]-[Module Configuration] to open the [Engineering Manager] window.
- 10 Select [CP-9200SH] in [Module] of the [No.00] field in the [Rack1] tab.
- 11 Select [CP-217] in [Module] of the same [No.] field as your slot number to define the link unit.
- 12 Double-click the same [No.] as your slot number to display the setting window.

Setup Items	Setup Description
Transmission Protocol	Memobus
Master/Slave	Slave
Device address	Device address of the External Device
Serial I/F	RS-232C
Transmission Mode	RTU
Data Length	8Bit
Parity Bit	even
Stop Bit	1Stop
Baud Rate	19.2K
Send Delay	Not specified

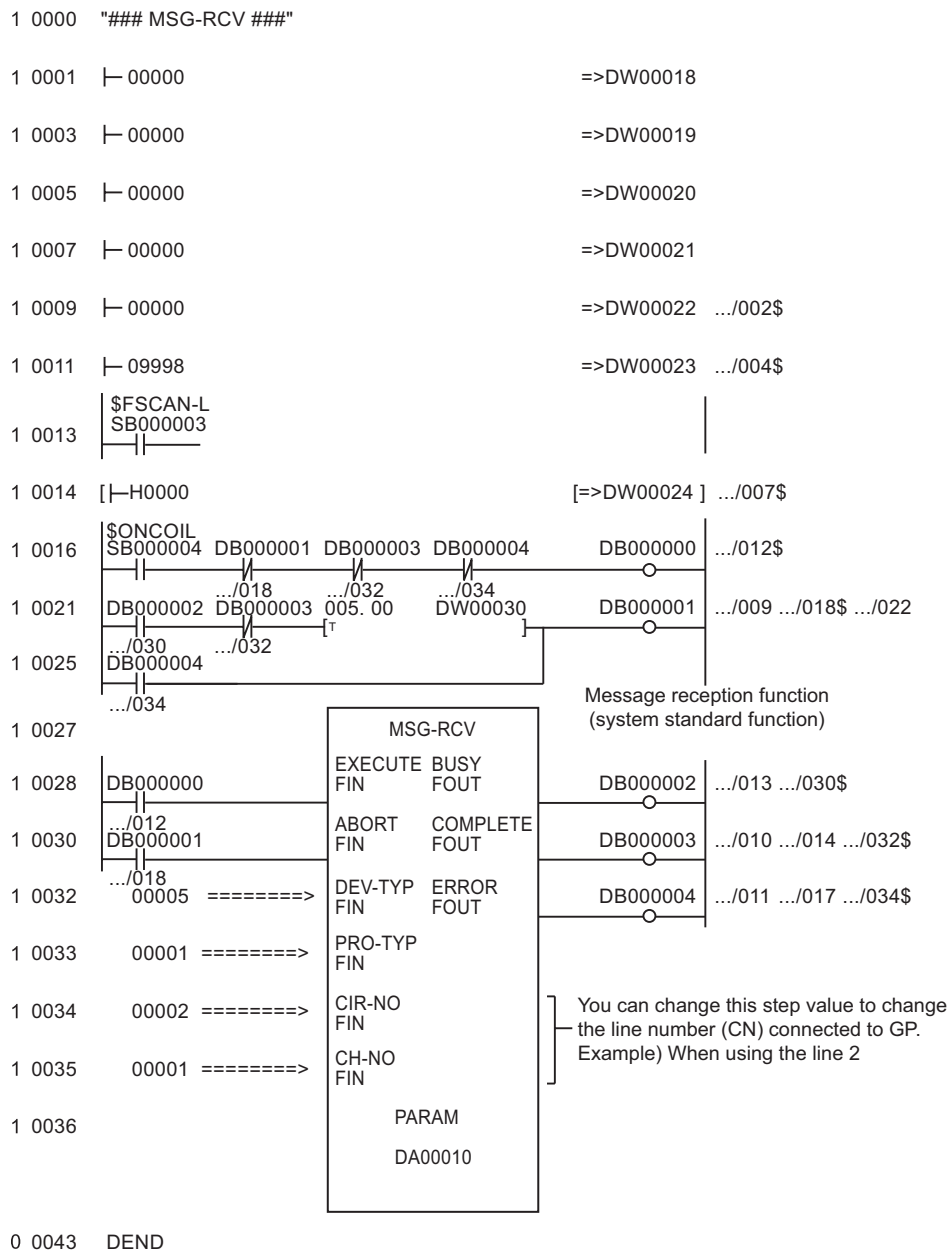
### ◆ Example of Ladder Program

You need the ladder program to connect the Display to the Link I/F CP217IF by YASKAWA Electric Corporation.

The ladder program example is shown below.

## NOTE

- This ladder program example enables to communicate the 1 CN port with the Display. Note that each CN port requires the ladder program when you use multiple ports, CN1 to CN3, to communicate simultaneously.
- Use the ladder software to perform the communication settings on the External Device. Those settings are not performed in this ladder program.



**◆ Notes**

- Please refer to the manual of the ladder software for more detail on other setting description.

## 3.2 Setting Example 2

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  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.


[Default](#)

Device-Specific Settings

Allowable No. of Device/PLCs: 16 Unit(s)

No.	Device Name	Settings
1	PLC1	Series=MP900/2000/CP-9200SH, Slave Address=1

### ◆ Device Setting

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

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



### ◆ Notes

- Conform the head address of the system area to GMW00000.
- When you connect 217IF of which version is "\*\*\*\*\*\_21700\_\*\*\*\*\*" or lower to the Display, set [Wait To Send] to [20ms].

## ■ Settings of External Device

### ◆ Ladder Software Setting

- 1 Right-click [root] in the browser of the ladder software "CP717" and select [Group Folder] from [New].

#### NOTE

- Please refer to the manual of the ladder software for the version which supports the Control Pack Series.

- 2 The [New] dialog box is displayed. Enter the optional group name (ex. "GROUP") and click [OK].
- 3 The group folder (ex. "GROUP") is created under the [root] in the browser of "CP717". Right-click the folder and select [Order Folder] from [New].
- 4 The [New] dialog box is displayed. Enter the optional order name (ex. "ORDER") and click [OK].
- 5 [ORDER] is created under the [root]-[GROUP] in the browser of "CP717". Right-click it and select [PLC Type] from [New].
- 6 The [PLC Type] dialog box is displayed. Enter the optional PLC name and CPU name and select [CP-9200SH] for [Device Name], then click [OK].
- 7 The PLC folder (ex. "PLC") is created under the [root]-[GROUP] in the browser of "CP717". The CPU folder (ex. "CPU1") is created under the PLC folder. Double-click [CPU1] to display the [CPU Logon] dialog box.
- 8 Enter "User name" and "Password" optionally in the [CPU Logon] dialog box and click [OK].
- 9 Multiple folders are created under the [root]-[GROUP]-[PLC]-[CPU1] in the browser of "CP717". Double-click [Definition Folder]-[Module Configuration] to open the [Engineering Manager] window.
- 10 Select [CP-9200SH] in [Module] of the [No.00] field in the [Rack1] tab.
- 11 Select [CP-217] in [Module] of the same [No.] field as your slot number to define the link unit.
- 12 Double-click the same [No.] as your slot number to display the setting window.

Setup Items	Setup Description
Transmission Protocol	Memobus
Master/Slave	Slave
Device address	Device address of the External Device
Serial I/F	RS-485
Transmission Mode	RTU
Data Length	8Bit
Parity Bit	even
Stop Bit	1Stop
Baud Rate	19.2K
Send Delay	Not specified



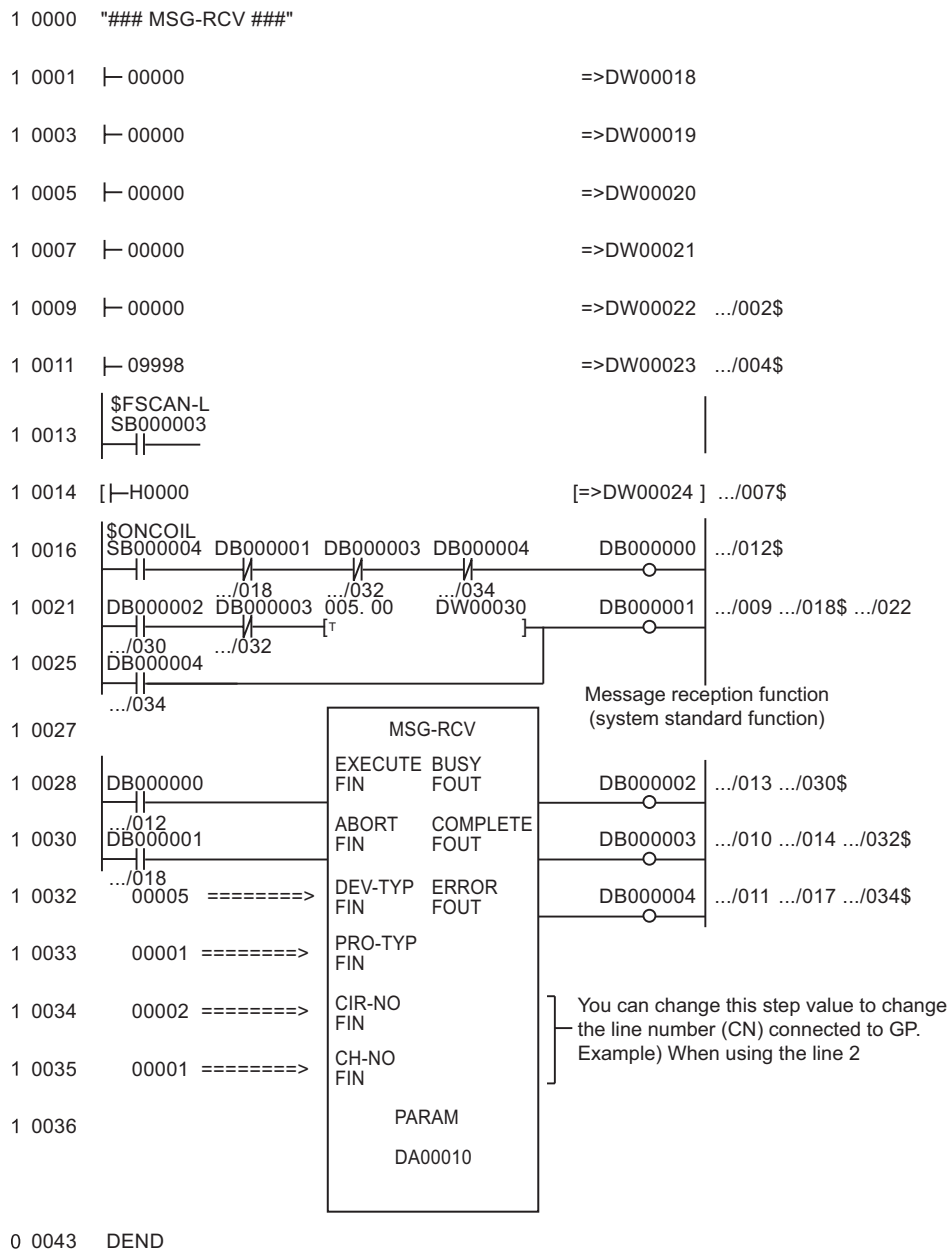
### ◆ Example of Ladder Program

You need the ladder program to connect the Display to the Link I/F CP217IF by YASKAWA Electric Corporation.

The ladder program example is shown below.

**NOTE**

- This ladder program example enables to communicate the 1 CN port with the Display. Note that each CN port requires the ladder program when you use multiple ports, CN1 to CN3, to communicate simultaneously.
- Use the ladder software to perform the communication settings on the External Device. Those settings are not performed in this ladder program.



**◆ Notes**

- Please refer to the manual of the ladder software for more detail on other setting description.

### 3.3 Setting Example 3

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  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 No. of Device/PLCs 16 Unit(s)

No.	Device Name	Settings
1	PLC1	Series=MP900/2000/CP-9200SH, Slave Address=1

##### ◆ Device Setting

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

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

Individual Device Settings

PLC1

Series

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

Slave Address

## ■ Settings of External Device

### ◆ Ladder Software Setting

- 1 Right-click [root] in the browser of the ladder software "MPE720" and select [Group Folder] from [New].
- 2 The [New] dialog box is displayed. Enter the optional group name (ex. "GROUP") and click [OK].
- 3 The group folder (ex. "GROUP") is created under the [root] in the browser of "MPE720". Right-click the folder and select [Order Folder] from [New].
- 4 The [New] dialog box is displayed. Enter the optional order name (ex. "ORDER") and click [OK].
- 5 [ORDER] is created under the [root]-[GROUP] in the browser of "MPE720". Right-click it and select [PLC Type] from [New].
- 6 The [PLC Type] dialog box is displayed. Enter the optional PLC name and CPU name and select your External Device for [Device Name], then click [OK].
- 7 The PLC folder (ex. "PLC") is created under the [root]-[GROUP] in the browser of "MPE720". The CPU folder (ex. "CPU1") is created under the PLC folder. Double-click [CPU1] to display the [CPU Logon] dialog box.
- 8 Enter "User name" and "Password" optionally in the [CPU Logon] dialog box and click [OK].
- 9 Multiple folders are created under the [root]-[GROUP]-[PLC]-[CPU1] in the browser of "MPE720".  
Double-click [Definition Folder]-[Module Configuration] to open the [Engineering Manager] window.
- 10 Select your link unit in [Module] of the [No.00] field in the [Rack1] tab.
- 11 Double-click the same [No.] field as your slot number to display the setting window.

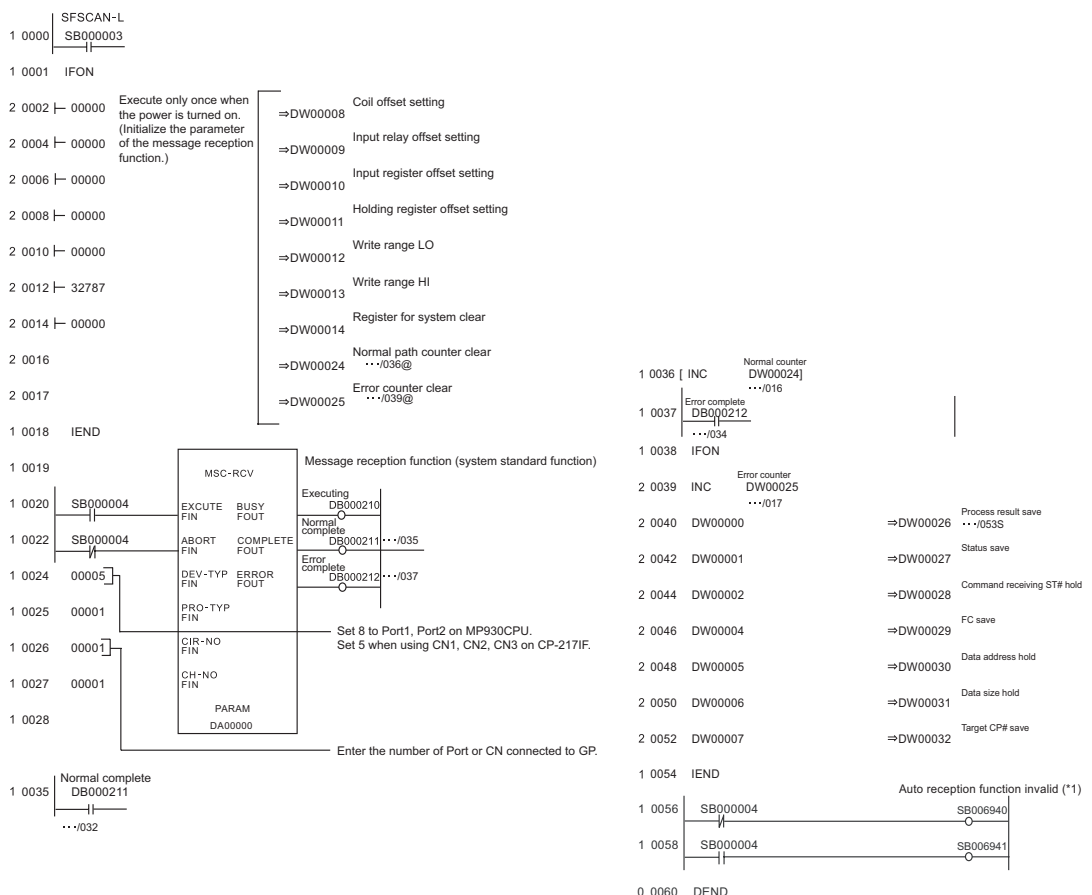
Setup Items	Setup Description
Transmission Protocol	Memobus
Master/Slave	Slave
Device address	Device address of the External Device
Serial I/F	RS-232C
Transmission Mode	RTU
Data Length	8Bit
Parity Bit	even
Stop Bit	1Stop
Baud Rate	19.2K
Send Delay	Not specified
Auto Reception <sup>*1</sup>	Not specified

<sup>\*1</sup> When [Auto Reception] is set to [Not specified], the ladder program is required to communicate the Display with the External Device. It is not required in case of [Specified].

### ◆ Example of Ladder Program

### NOTE

- The ladder program is required when connecting the Display to CN1, CN2, CN3 on the transmission module CP-217IF by YASKAWA Electric Corporation, or to the memobus port (port1, port2) on the CPU.
- This ladder program example enables to communicate the 1 connecting port with the Display. Note that each connecting port requires the ladder program when you use multiple connecting ports to communicate simultaneously.
- Use the ladder software to perform the communication settings on the External Device. Those settings are not performed in this ladder program.



## NOTE

- To communicate with the invalid auto reception function on port 1 or port 2 of the MP920 series CPU unit, "Auto reception function invalid (\*1)" of the above ladder program example is needed.

In the above ladder program example, the auto reception function of port 1 becomes invalid. To make the auto reception function of port 2 invalid, change SB006490, SB006941 of the "Auto reception function invalid (\*1)" to SB006950 and SB006951.

◆ Notes

Please refer to the manual of the ladder software for more detail on other setting description.

### 3.4 Setting Example 4

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

##### ◆ Device Setting

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

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

## ■ Settings of External Device

### ◆ Ladder Software Setting

- 1 Right-click [root] in the browser of the ladder software "MPE720" and select [Group Folder] from [New].
- 2 The [New] dialog box is displayed. Enter the optional group name (ex. "GROUP") and click [OK].
- 3 The group folder (ex. "GROUP") is created under the [root] in the browser of "MPE720". Right-click the folder and select [Order Folder] from [New].
- 4 The [New] dialog box is displayed. Enter the optional order name (ex. "ORDER") and click [OK].
- 5 [ORDER] is created under the [root]-[GROUP] in the browser of "MPE720". Right-click it and select [PLC Type] from [New].
- 6 The [PLC Type] dialog box is displayed. Enter the optional PLC name and CPU name and select your External Device for [Device Name], then click [OK].
- 7 The PLC folder (ex. "PLC") is created under the [root]-[GROUP] in the browser of "MPE720". The CPU folder (ex. "CPU1") is created under the PLC folder. Double-click [CPU1] to display the [CPU Logon] dialog box.
- 8 Enter "User name" and "Password" optionally in the [CPU Logon] dialog box and click [OK].
- 9 Multiple folders are created under the [root]-[GROUP]-[PLC]-[CPU1] in the browser of "MPE720".  
Double-click [Definition Folder]-[Module Configuration] to open the [Engineering Manager] window.
- 10 Select your link unit in [Module] of the [No.00] field in the [Rack1] tab.
- 11 Double-click the same [No.] field as your slot number to display the setting window.

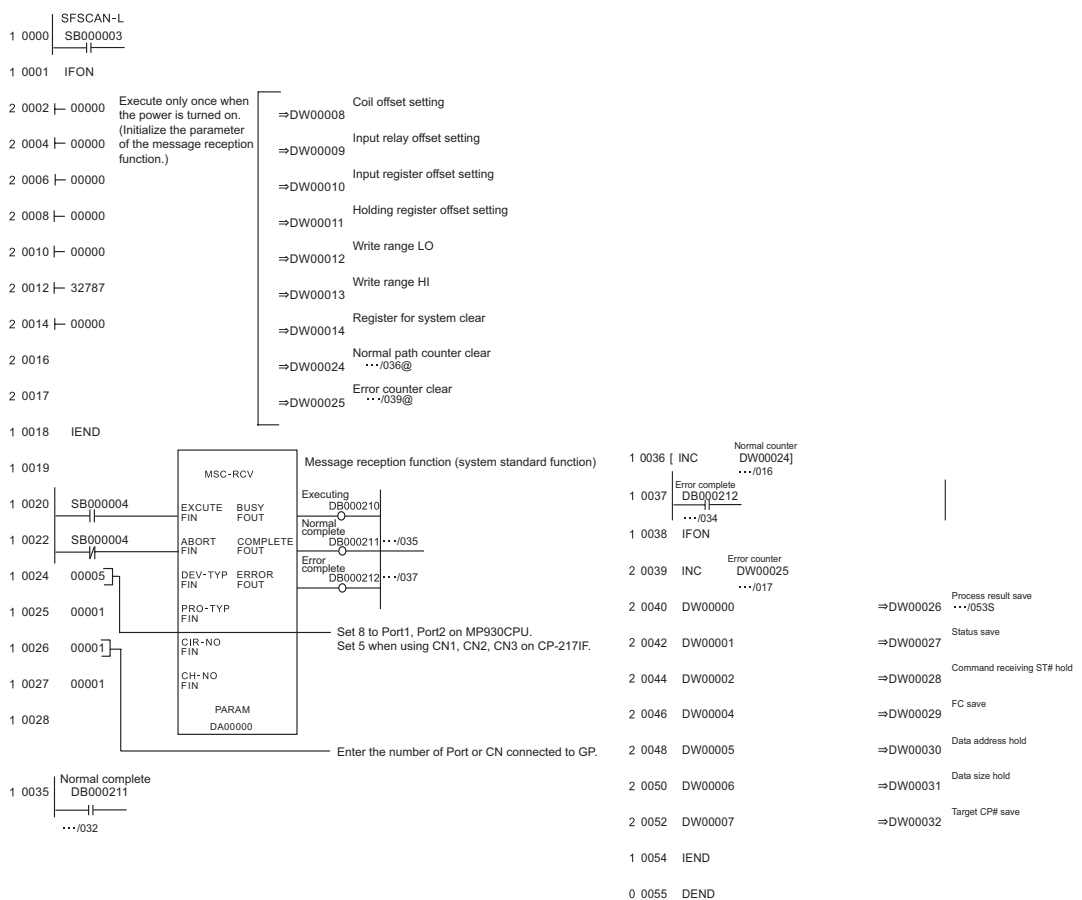
Setup Items	Setup Description
Transmission Protocol	Memobus
Master/Slave	Slave
Device address	Device address of the External Device
Serial I/F	RS-485
Transmission Mode	RTU
Data Length	8Bit
Parity Bit	even
Stop Bit	1Stop
Baud Rate	19.2K
Send Delay	Not specified
Auto Reception <sup>*1</sup>	Not specified

<sup>\*1</sup> When [Auto Reception] is set to [Not specified], the ladder program is required to communicate the Display with the External Device. It is not required in case of [Specified].

### ◆ Example of Ladder Program

### NOTE

- The ladder program is required when connecting the Display to CN1, CN2, CN3 on the transmission module CP-217IF by YASKAWA Electric Corporation, or to the memobus port (port1, port2) on the CPU.
- This ladder program example enables to communicate the 1 connecting port with the Display. Note that each connecting port requires the ladder program when you use multiple connecting ports to communicate simultaneously.
- Use the ladder software to perform the communication settings on the External Device. Those settings are not performed in this ladder program.



◆ Notes

Please refer to the manual of the ladder software for more detail on other setting description.



### 3.5 Setting Example 5

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker: YASKAWA Electric Corporation Driver: MEMOBUS SIO Port: COM1

Text Data Mode: 1 [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 No. of Device/PLCs: 16 Unit(s)

No.	Device Name	Settings
1	PLC1	Series=MP900/2000/CP-9200SH, Slave Address=1

##### ◆ Device Setting

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

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

Individual Device Settings

PLC1

Series: MP900/2000/CP-9200SH

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

Slave Address: 1

Default

OK Cancel

## ■ Settings of External Device

### ◆ Ladder Software Setting

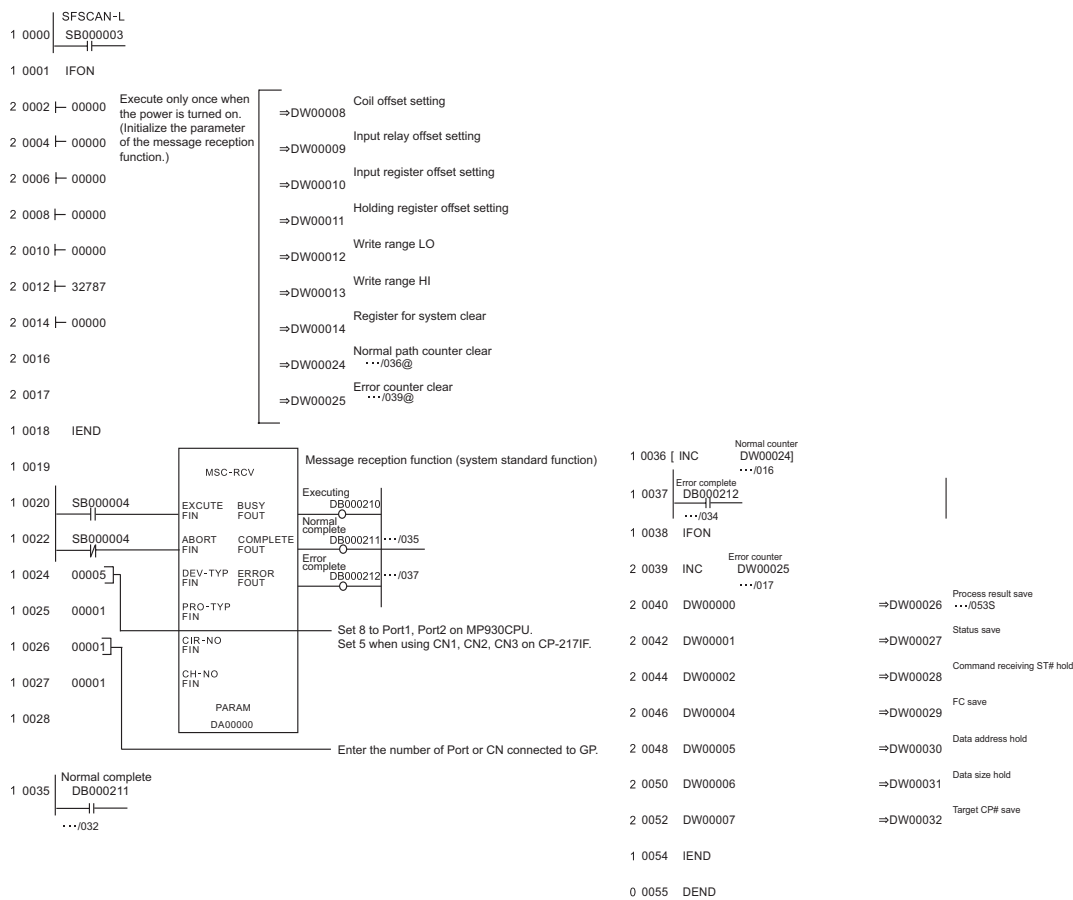
- 1 Right-click [root] in the browser of the ladder software "MPE720" and select [Group Folder] from [New].
- 2 The [New] dialog box is displayed. Enter the optional group name (ex. "GROUP") and click [OK].
- 3 The group folder (ex. "GROUP") is created under the [root] in the browser of "MPE720". Right-click the folder and select [Order Folder] from [New].
- 4 The [New] dialog box is displayed. Enter the optional order name (ex. "ORDER") and click [OK].
- 5 [ORDER] is created under the [root]-[GROUP] in the browser of "MPE720". Right-click it and select [PLC Type] from [New].
- 6 The [PLC Type] dialog box is displayed. Enter the optional PLC name and CPU name and select your External Device for [Device Name], then click [OK].
- 7 The PLC folder (ex. "PLC") is created under the [root]-[GROUP] in the browser of "MPE720". The CPU folder (ex. "CPU1") is created under the PLC folder. Double-click [CPU1] to display the [CPU Logon] dialog box.
- 8 Enter "User name" and "Password" optionally in the [CPU Logon] dialog box and click [OK].
- 9 Multiple folders are created under the [root]-[GROUP]-[PLC]-[CPU1] in the browser of "MPE720".  
Double-click [Definition Folder]-[Module Configuration] to open the [Engineering Manager] window.
- 10 Select your link unit in [Module] of the [No.00] field in the [Rack1] tab.
- 11 Double-click the same [No.] field as your slot number to display the setting window.

Setup Items	Setup Description
Transmission Protocol	Memobus
Master/Slave	Slave
Device address	Device address of the External Device
Serial I/F	RS-485
Transmission Mode	RTU
Data Length	8Bit
Parity Bit	even
Stop Bit	1Stop
Baud Rate	19.2K
Send Delay	Not specified
Auto Reception <sup>*1</sup>	Not specified

<sup>\*1</sup> When [Auto Reception] is set to [Not specified], the ladder program is required to communicate the Display with the External Device. It is not required in case of [Specified].

◆ Example of Ladder Program

- NOTE**
- The ladder program is required when connecting the Display to CN1, CN2, CN3 on the transmission module CP-217IF by YASKAWA Electric Corporation, or to the memobus port (port1, port2) on the CPU.
  - This ladder program example enables to communicate the 1 connecting port with the Display. Note that each connecting port requires the ladder program when you use multiple connecting ports to communicate simultaneously.
  - Use the ladder software to perform the communication settings on the External Device. Those settings are not performed in this ladder program.



◆ Notes

Please refer to the manual of the ladder software for more detail on other setting description.

### 3.6 Setting Example 6

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  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.

Default

Device-Specific Settings

Allowable No. of Device/PLCs 16 Unit(s)

No.	Device Name	Settings
1	PLC1	Series=MP900/2000/CP-9200SH, Slave Address=1

##### ◆ Device Setting

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

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

**Individual Device Settings**

PLC1

Series

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

Slave Address

Default

OK Cancel

## ■ Settings of External Device

### ◆ Ladder Software Setting

- 1 Right-click [root] in the browser of the ladder software "MPE720" and select [Group Folder] from [New].
- 2 The [New] dialog box is displayed. Enter the optional group name (ex. "GROUP") and click [OK].
- 3 The group folder (ex. "GROUP") is created under the [root] in the browser of "MPE720". Right-click the folder and select [Order Folder] from [New].
- 4 The [New] dialog box is displayed. Enter the optional order name (ex. "ORDER") and click [OK].
- 5 [ORDER] is created under the [root]-[GROUP] in the browser of "MPE720". Right-click it and select [PLC Type] from [New].
- 6 The [PLC Type] dialog box is displayed. Enter the optional PLC name (ex. "PLC") and select your External Device for [Device Name], then click [OK].
- 7 The PLC folder (ex. "PLC") is created under the [root]-[GROUP] in the browser of "MPE720". Double-click [PLC] to display the [CPU Logon] dialog box.
- 8 Enter "User name" and "Password" optionally in the [CPU Logon] dialog box and click [OK].
- 9 Multiple folders are created under the [root]-[GROUP]-[PLC] in the browser of "MPE720". Double-click [Definition Folder]-[Module Configuration] to open the [Engineering Manager] window.
- 10 Select your link unit in [Module] of the same [No.] field as your slot number in [Controller].
- 11 Double-click the same [No.] field as your slot number to display the setting window.

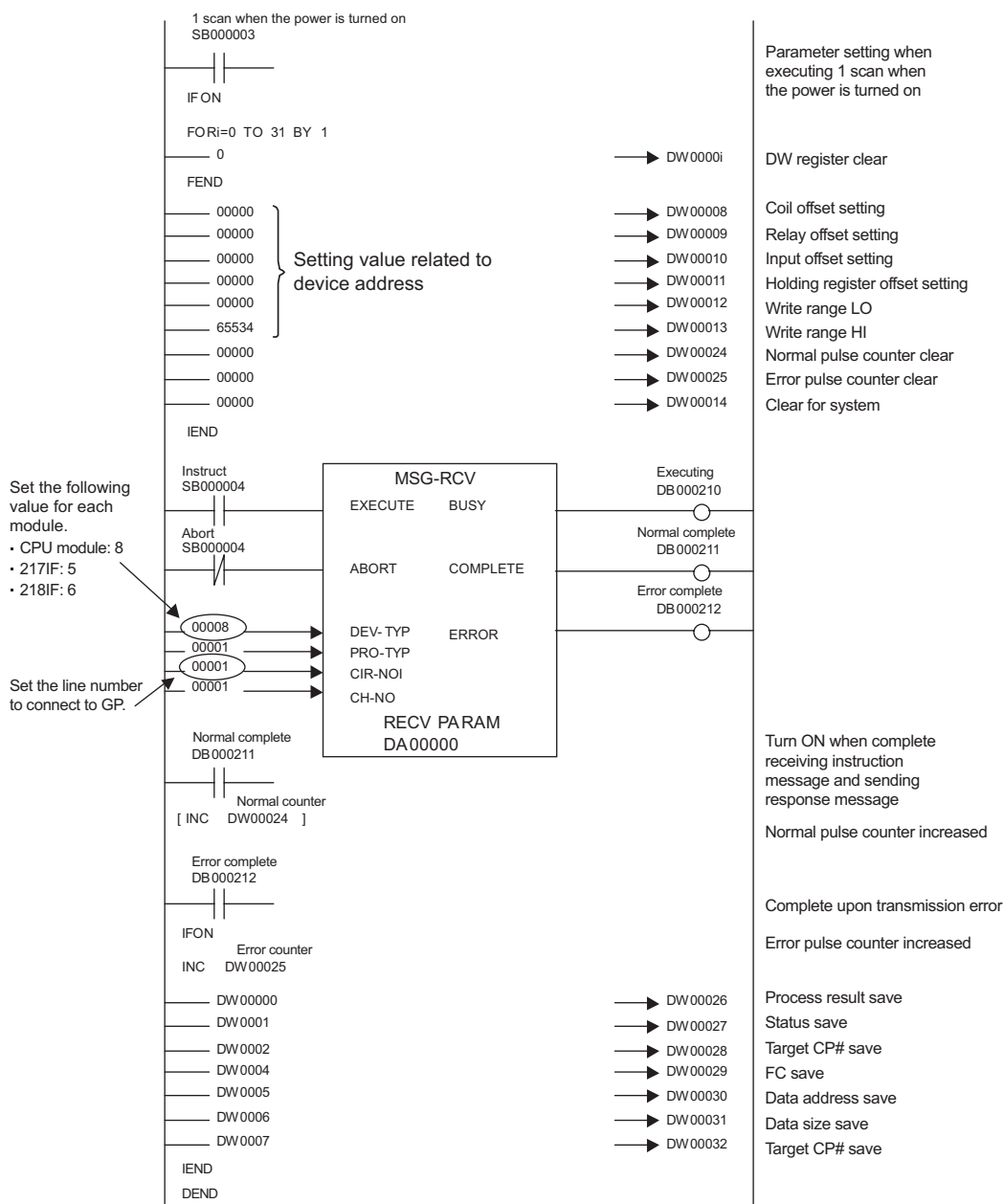
Setup Items	Setup Description
Transmission Protocol	Memobus
Master/Slave	Slave
Device address	Device address of the External Device
Serial I/F	RS-232C
Transmission Mode	RTU
Data Length	8Bit
Parity Bit	even
Stop Bit	1Stop
Baud Rate	19.2K
Send Delay	Not specified
Auto Reception <sup>*1</sup>	Not specified

<sup>\*1</sup> When [Auto Reception] is set to [Not specified], the ladder program is required to communicate the Display with the External Device. It is not required in case of [Specified].

## ◆ Example of Ladder Program

**NOTE**

- This ladder program example enables to communicate the 1 connecting port with the Display. Note that each connecting port requires the ladder program when you use multiple connecting ports to communicate simultaneously.
- Note that each connector requires the ladder program when you connect the RS232C connector, the RS422 connector on 217IF-01, and the RS232C connector on 218IF-01 simultaneously.
- Use the ladder software to perform the communication settings on the External Device. Those settings are not performed in this ladder program.



**◆ Notes**

- Please refer to the manual of the ladder software for more detail on other setting description.

### 3.7 Setting Example 7

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker: YASKAWA Electric Corporation Driver: MEMOBUS SIO Port: COM1

Text Data Mode: 1 [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 No. of Device/PLCs: 16 Unit(s)

No. Device Name Settings

1 PLC1 Series=MP900/2000/CP-9200SH, Slave Address=1

##### ◆ Device Setting

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

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

Individual Device Settings

PLC1

Series: MP900/2000/CP-9200SH

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

Slave Address: 1

Default

OK (O) Cancel



## ■ Settings of External Device

### ◆ Ladder Software Setting

- 1 Right-click [root] in the browser of the ladder software "MPE720" and select [Group Folder] from [New].
- 2 The [New] dialog box is displayed. Enter the optional group name (ex. "GROUP") and click [OK].
- 3 The group folder (ex. "GROUP") is created under the [root] in the browser of "MPE720". Right-click the folder and select [Order Folder] from [New].
- 4 The [New] dialog box is displayed. Enter the optional order name (ex. "ORDER") and click [OK].
- 5 [ORDER] is created under the [root]-[GROUP] in the browser of "MPE720". Right-click it and select [PLC Type] from [New].
- 6 The [PLC Type] dialog box is displayed. Enter the optional PLC name (ex. "PLC") and select your External Device for [Device Name], then click [OK].
- 7 The PLC folder (ex. "PLC") is created under the [root]-[GROUP] in the browser of "MPE720". Double-click [PLC] to display the [CPU Logon] dialog box.
- 8 Enter "User name" and "Password" optionally in the [CPU Logon] dialog box and click [OK].
- 9 Multiple folders are created under the [root]-[GROUP]-[PLC] in the browser of "MPE720". Double-click [Definition Folder]-[Module Configuration] to open the [Engineering Manager] window.
- 10 Select your link unit in [Module] of the same [No.] field as your slot number in [Controller].
- 11 Double-click the same [No.] field as your slot number to display the setting window.

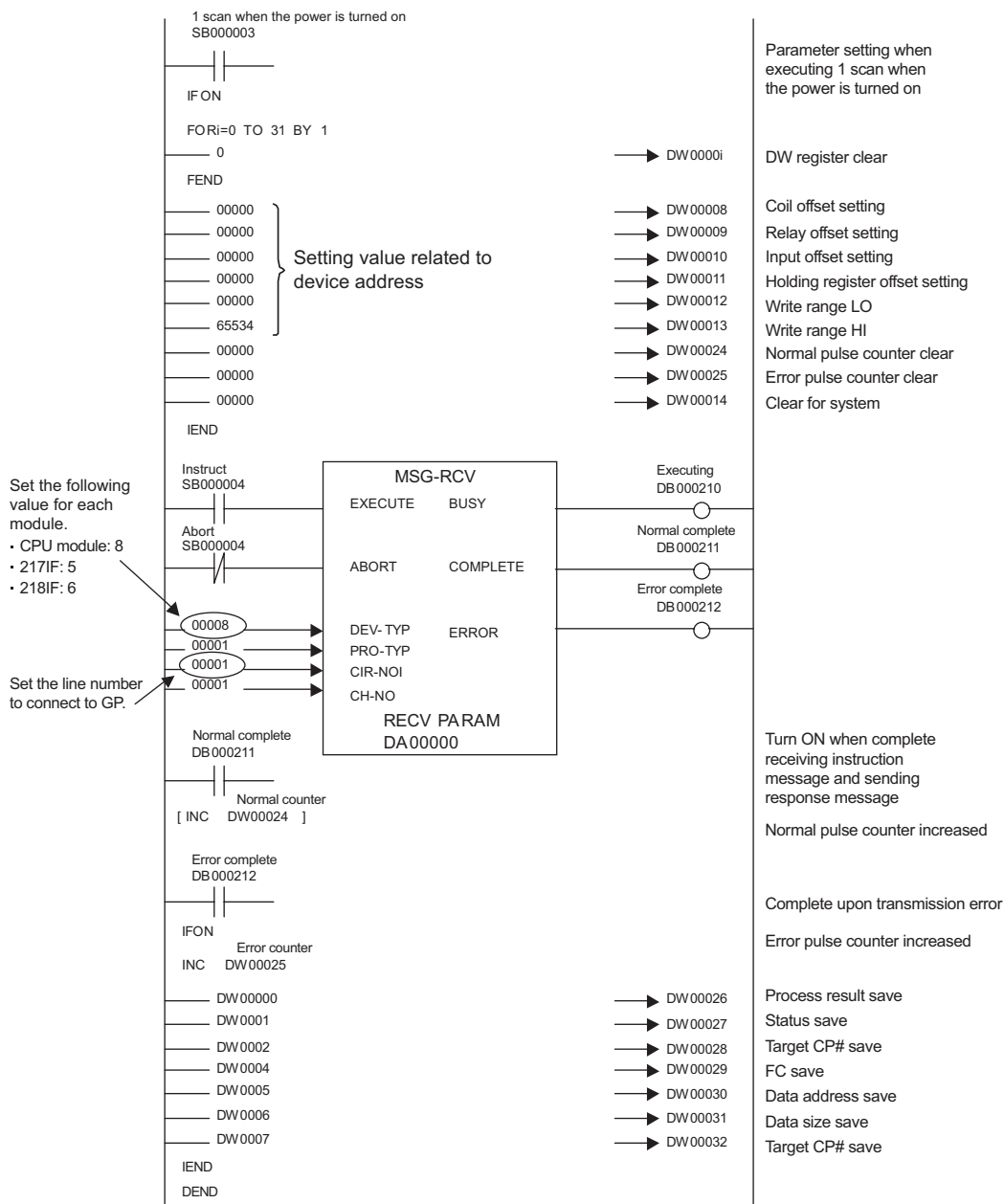
Setup Items	Setup Description
Transmission Protocol	Memobus
Master/Slave	Slave
Device address	Device address of the External Device
Serial I/F	RS-485
Transmission Mode	RTU
Data Length	8Bit
Parity Bit	even
Stop Bit	1Stop
Baud Rate	19.2K
Send Delay	Not specified
Auto Reception <sup>*1</sup>	Not specified

<sup>\*1</sup> When [Auto Reception] is set to [Not specified], the ladder program is required to communicate the Display with the External Device. It is not required in case of [Specified].

## ◆ Example of Ladder Program

**NOTE**

- This ladder program example enables to communicate the 1 connecting port with the Display. Note that each connecting port requires the ladder program when you use multiple connecting ports to communicate simultaneously.
- Note that each connector requires the ladder program when you connect the RS232C connector, the RS422 connector on 217IF-01, and the RS232C connector on 218IF-01 simultaneously.
- Use the ladder software to perform the communication settings on the External Device. Those settings are not performed in this ladder program.



**◆ Notes**

- Please refer to the manual of the ladder software for more detail on other setting description.

## 3.8 Setting Example 8

### ■ Settings of GP-Pro EX

#### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker: YASKAWA Electric Corporation Driver: MEMOBUS SIO Port: COM1

Text Data Mode: 1 [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 No. of Device/PLCs: 16 Unit(s)

No.	Device Name	Settings
1	PLC1	Series=MP900/2000/CP-9200SH, Slave Address=1

#### ◆ Device Setting

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

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

Individual Device Settings

PLC1

Series: MP900/2000/CP-9200SH

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

Slave Address: 1

Default

OK Cancel

## ■ Settings of External Device

### ◆ Ladder Software Setting

- 1 Right-click [root] in the browser of the ladder software "MPE720" and select [Group Folder] from [New].
- 2 The [New] dialog box is displayed. Enter the optional group name (ex. "GROUP") and click [OK].
- 3 The group folder (ex. "GROUP") is created under the [root] in the browser of "MPE720". Right-click the folder and select [Order Folder] from [New].
- 4 The [New] dialog box is displayed. Enter the optional order name (ex. "ORDER") and click [OK].
- 5 [ORDER] is created under the [root]-[GROUP] in the browser of "MPE720". Right-click it and select [PLC Type] from [New].
- 6 The [PLC Type] dialog box is displayed. Enter the optional PLC name (ex. "PLC") and select your External Device for [Device Name], then click [OK].
- 7 The PLC folder (ex. "PLC") is created under the [root]-[GROUP] in the browser of "MPE720". Double-click [PLC] to display the [CPU Logon] dialog box.
- 8 Enter "User name" and "Password" optionally in the [CPU Logon] dialog box and click [OK].
- 9 Multiple folders are created under the [root]-[GROUP]-[PLC] in the browser of "MPE720". Double-click [Definition Folder]-[Module Configuration] to open the [Engineering Manager] window.
- 10 Select your link unit in [Module] of the same [No.] field as your slot number in [Controller].
- 11 Double-click the same [No.] field as your slot number to display the setting window.

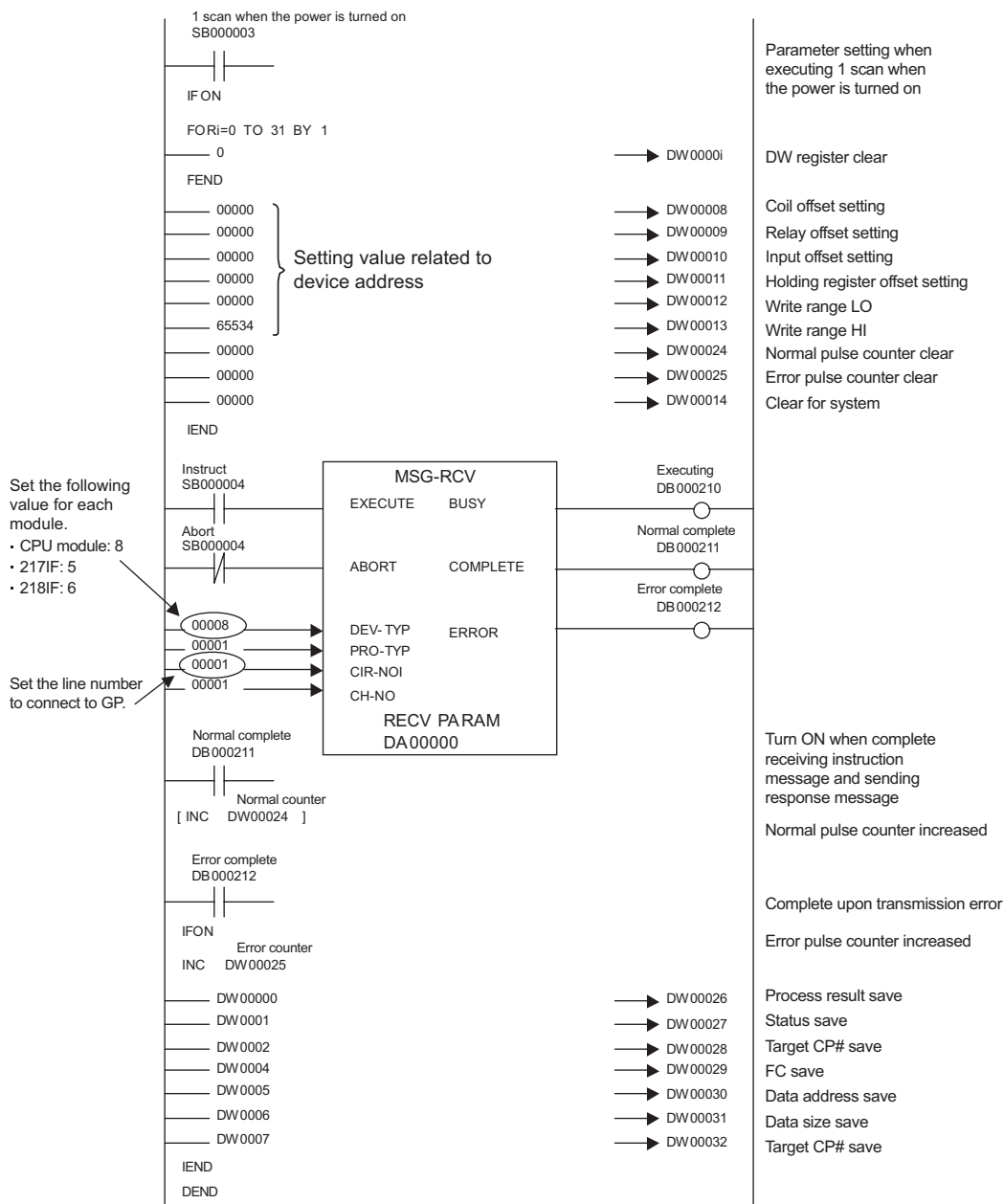
Setup Items	Setup Description
Transmission Protocol	Memobus
Master/Slave	Slave
Device address	Device address of the External Device
Serial I/F	RS-485
Transmission Mode	RTU
Data Length	8Bit
Parity Bit	even
Stop Bit	1Stop
Baud Rate	19.2K
Send Delay	Not specified
Auto Reception <sup>*1</sup>	Not specified

<sup>\*1</sup> When [Auto Reception] is set to [Not specified], the ladder program is required to communicate the Display with the External Device. It is not required in case of [Specified].

## ◆ Example of Ladder Program

**NOTE**

- This ladder program example enables to communicate the 1 connecting port with the Display. Note that each connecting port requires the ladder program when you use multiple connecting ports to communicate simultaneously.
- Note that each connector requires the ladder program when you connect the RS232C connector, the RS422 connector on 217IF-01, and the RS232C connector on 218IF-01 simultaneously.
- Use the ladder software to perform the communication settings on the External Device. Those settings are not performed in this ladder program.



**◆ Notes**

- Please refer to the manual of the ladder software for more detail on other setting description.

### 3.9 Setting Example 9

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  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.

Default

Device-Specific Settings

Allowable No. of Device/PLCs 16 Unit(s)

No.	Device Name	Settings
1	PLC1	Series=MEMOCON GL, Slave Address=1

##### ◆ Device Setting

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

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

Individual Device Settings

PLC1

Series

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

Slave Address

Default

OK (O) Cancel



## ■ Settings of External Device

Use the ladder software (MEMOSOFT for Windows) for communication settings of the External Device.

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

### ◆ Procedure

- 1 Connect the Link I/F to a PC.
- 2 Start the ladder software and create a new project.  
Double click [CPU20] of [System Configuration] in the tree view to display the [CPU Parameter Settings] dialog box.
- 3 Select the CPU of the connecting External Device from [PC Type].
- 4 Click the [RS232C Port Setting] tab and perform the communication settings of the External Device.

Setup Items	Setup Description
Mode	RTU
Data Bit	8 (Fixed)
Parity	EVEN
Stop Bit	1
Speed	19200
Address	1
Delay	0

- 5 Select [Loader], [Project File to PC] from the [Tool] menu and load the communication settings to the External Device.
- 6 Turn ON the power of the External Device again.

### 3.10 Setting Example 10

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker: YASKAWA Electric Corporation Driver: MEMOBUS SIO Port: COM1

Text Data Mode: 1 [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 No. of Device/PLCs: 16 Unit(s)

No.	Device Name	Settings
1	PLC1	Series=MEMOCON GL, Slave Address=1

##### ◆ Device Setting

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

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

Individual Device Settings

PLC1

Series: MEMOCON GL

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

Slave Address: 1

Default

OK Cancel

## ■ Settings of External Device

Use the ladder software (MEMOSOFT for Windows) for communication settings of the External Device.

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

### ◆ Procedure

- 1 Connect the Link I/F to a PC.
- 2 Start the ladder software and create a new project.  
Double click [Port Settings] of [System Configuration] in the tree view to display the [COMM. Parameter Settings] dialog box.
- 3 Perform the communication settings for the COMM. port of the channel to be used.

Setup Items	Setup Description
Mode	RTU
Data Bit	8 (Fixed)
Parity	EVEN
Stop Bit	1
Speed	19200
Address	1
Delay	0

- 4 Select [Loader], [Project File to PC] from the [Tool] menu and load the communication settings to the External Device.
- 5 Turn ON the power of the External Device again.

### 3.11 Setting Example 11

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  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.

Default

Device-Specific Settings

Allowable No. of Device/PLCs 16 Unit(s)

No.	Device Name	Settings
1	PLC1	Series=MEMOCON SC, Slave Address=1

##### ◆ Device Setting

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

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

Individual Device Settings

PLC1

Series

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

Slave Address

Default

OK (O) Cancel

## ■ Settings of External Device

Use the process computer for communication settings of the External Device.

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

### ◆ Procedure

- 1 Perform the following communication settings in the process computer.

Setup Items	Setup Description
Mode	RTU
Data Bit	8 (Fixed)
Parity Setting	Enable
Parity	EVEN
Stop Bit	1
Speed	19200
Address	1
Delay	0

### 3.12 Setting Example 12

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker: YASKAWA Electric Corporation Driver: MEMOBUS SIO Port: COM1

Text Data Mode: 1 [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 No. of Device/PLCs: 16 Unit(s)

No.	Device Name	Settings
1	PLC1	Series=MEMOCON SC, Slave Address=1

##### ◆ Device Setting

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

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

Individual Device Settings

PLC1

Series: MEMOCON SC

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

Slave Address: 1

Default

OK Cancel

## ■ Settings of External Device

Use the process computer for communication settings of the External Device.

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

### ◆ Procedure

- 1 Perform the following communication settings in the process computer.

Setup Items	Setup Description
Mode	RTU
Data Bit	8 (Fixed)
Parity Setting	Enable
Parity	EVEN
Stop Bit	1
Speed	19200
Address	1
Delay	0

### 3.13 Setting Example 13

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker: YASKAWA Electric Corporation Driver: MEMOBUS SIO Port: COM1

Text Data Mode: 1 [Change](#)

Communication Settings

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

Speed: 9600

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 No. of Device/PLCs: 16 Unit(s)

No. Device Name Settings

1 PLC1 Series=MEMOCON SC,Slave Address=1

##### ◆ Device Setting

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

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

Individual Device Settings

PLC1

Series: MEMOCON SC

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

Slave Address: 1

Default

OK Cancel



## ■ Settings of External Device

There is no communication setting on the External Device.

Note that the address should be set using the DIP switch 3 SW of the External Device.

### 3.14 Setting Example 14

#### ■ Settings of GP-Pro EX

##### ◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker  Driver  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.

Default

Device-Specific Settings

Allowable No. of Device/PLCs 16 Unit(s)

No.	Device Name	Settings
1	PLC1	Series=MEMOCON SC, Slave Address=1

##### ◆ Device Setting

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

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

Individual Device Settings

PLC1

Series

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

Slave Address

Default

OK Cancel

## ■ Settings of External Device

Use the programming panel for communication settings of the External Device.

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

### ◆ Procedure

- 1 Perform the following communication settings in the programming panel.

Setup Items	Setup Description
Address	1
Baud Rate	9600
Parity Setting	Enable
Parity Type	Even
Stop Bit Length	1
Data Bit Length	8 (RTU mode)
Port Delay Timer	10 ms

## 4 Setup Items

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

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

☞ "3 Example of Communication Setting" (page 9)

### 4.1 Setup Items in GP-Pro EX

#### ■ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker YASKAWA Electric Corporation Driver MEMOBUS SIO Port COM1

Text Data Mode 1 [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 No. of Device/PLCs 16 Unit(s)

No.	Device Name	Settings
1	PLC1	Series=MP900/2000/CP-9200SH, Slave Address=1

Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device.
Speed	Select 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.
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.
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.

## ◆ Device Setting



Setup Items	Setup Description
Series	Select the series of the External Device.
Slave Address <sup>*1</sup>	Enter the slave address of the External Device, using 1 to 247.

<sup>\*1</sup> Do not set the duplicate unit No. in case of RS422-485 (2wire) or RS422/485 (4wire).

4.2 Setup Items in Off-Line Mode

NOTE

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

Cf. Maintenance/Troubleshooting "2.2 Offline Mode"

◆ Communication Settings

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

Comm.	Device	Option		
MEMOBUS SIO [COM1] Page 1/1				
SIO Type	RS232C			
Speed	19200			
Data Length	<input type="radio"/> 7 <input checked="" type="radio"/> 8			
Parity	<input type="radio"/> NONE <input checked="" type="radio"/> EVEN <input type="radio"/> ODD			
Stop Bit	<input checked="" type="radio"/> 1 <input type="radio"/> 2			
Flow Control	ER(DTR/CTS)			
Timeout(s)	3			
Retry	2			
Wait To Send(ms)	0			
Exit		Back		2006/07/20 16:47:48

Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device. <div>IMPORTANT</div> To make the communication settings correctly, confirm the serial interface specifications of Display unit for [SIO Type]. We cannot guarantee the operation if a communication type that the serial interface does not support is specified. For details concerning the serial interface specifications, refer to the manual for Display unit.
Speed	Select 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.
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.

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 (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

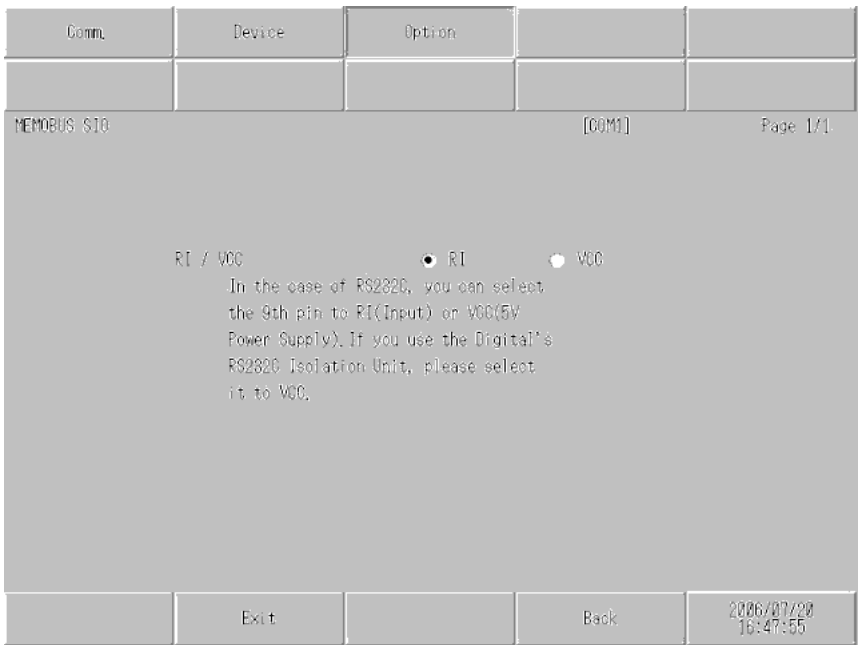
To display the setting screen, touch [Device/PLC Settings] from [Peripheral Equipment Settings]. Touch the External Device you want to set from the displayed list, and touch [Device Settings].

Setup Items	Setup Description
Device/PLC Name	Select the External Device to set. Device name is a title of the External Device set with GP-Pro EX. (Initial value [PLC1])
Series	Displays the series of the External Device.
Slave Address *1	Enter the slave address of the External Device, using 1 to 247.

\*1 Do not set the duplicate unit No. in case of RS422-485 (2wire) or RS422/485 (4wire).

◆ Option

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].



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.



## 5 Cable Diagram

The cable diagram shown below may be different from the cable diagram recommended by YASKAWA Electric Corporation. Please be assured there is no operational problem in applying the cable diagram shown in this manual.

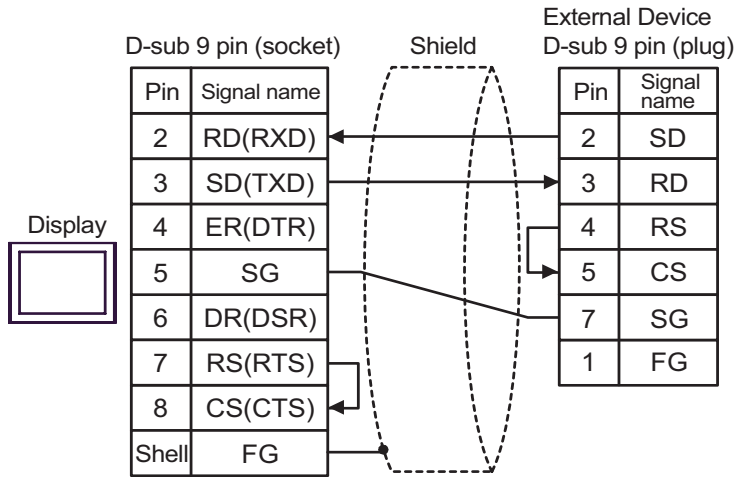
- The FG pin of the main body of the External Device must be D-class grounded. Please refer to the manual of the External Device for more details.
- SG and FG are connected inside the Display. When connecting SG to the External Device, design the system not to form short-circuit loop.
- Connect the isolation unit, when communication is not stabilized under the influence of a noise etc..

Cable Diagram 1

Display (Connection Port)	Cable	Remarks
GP (COM1) ST (COM1) IPC*1 PC/AT	Your own cable	The cable length must be 15m or less.

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


☞ ■ COM Port of IPC (page 6)

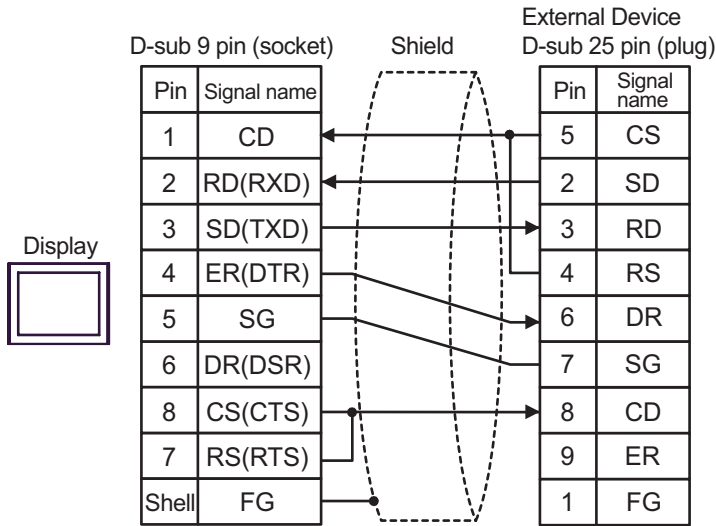


Cable Diagram 2

Display (Connection Port)	Cable	Remarks
GP (COM1) ST (COM1) IPC*1 PC/AT	Your own cable	The cable length must be 15m or less.

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

 ■ COM Port of IPC (page 6)

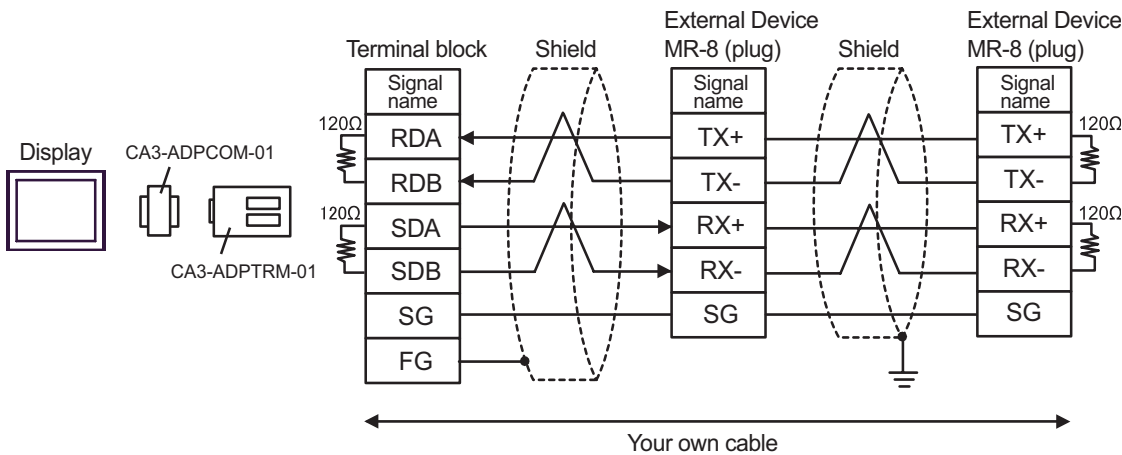


Cable Diagram 3

Display (Connection Port)	Cable		Remarks
GP* <sup>1</sup> (COM1) AGP-3302B (COM2) ST* <sup>2</sup> (COM2) IPC* <sup>3</sup>	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	The cable length must be 300m or less.
	B	Your own cable	
GP* <sup>4</sup> (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3- ADPTRM-01 + Your own cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	

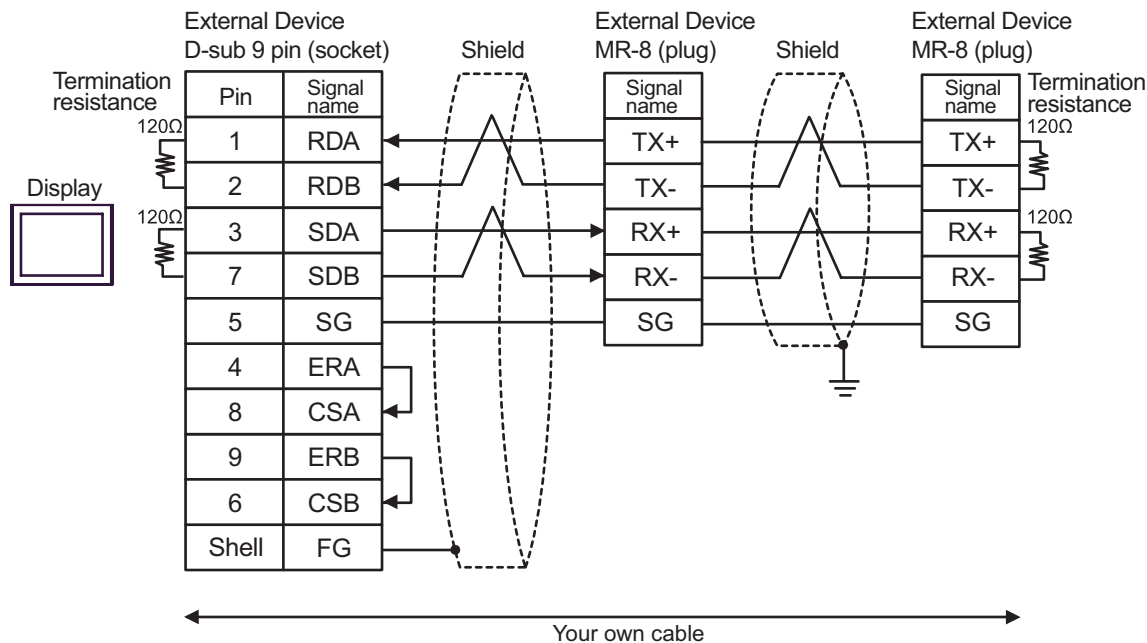
- \*1 All GP models except AGP-3302B
- \*2 All ST models except AST-3211A
- \*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.  
☞ ■ COM Port of IPC (page 6)
- \*4 All GP models except GP-3200 series and AGP-3302B

A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable



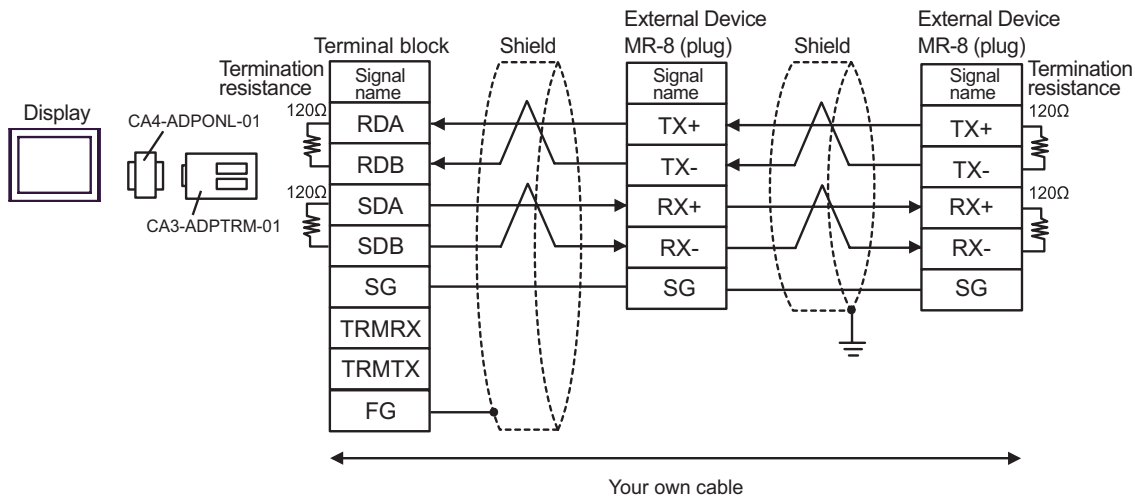
**NOTE** • When the External device has the SG terminal, connect it to the SG terminal of the Display.

B) When using your own cable



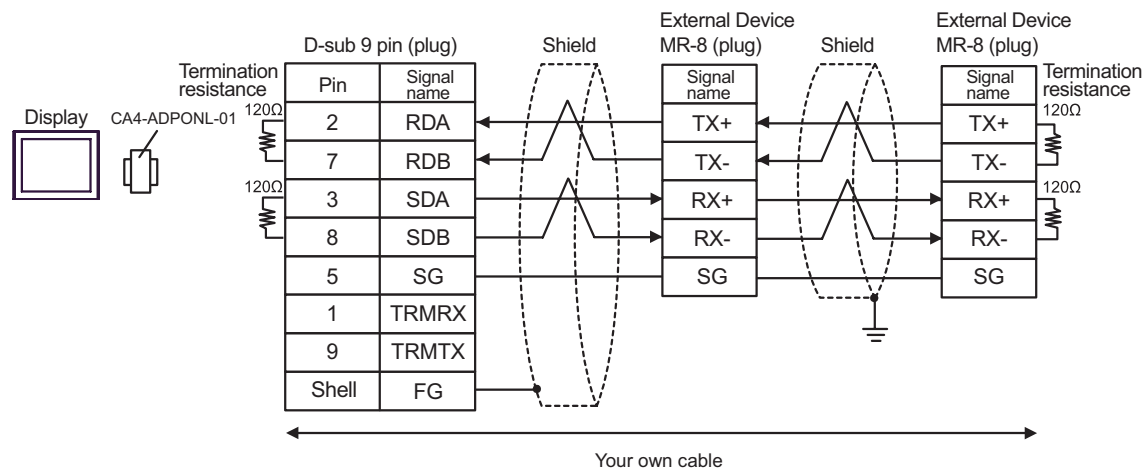
**NOTE** • When the External device has the SG terminal, connect it to the SG terminal of the Display.

C) When using the online adapter (CA4-ADPPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable



**NOTE** • When the External device has the SG terminal, connect it to the SG terminal of the Display.

D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

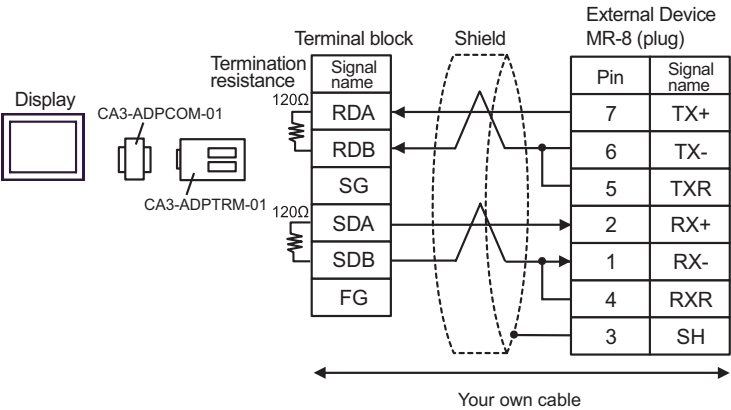


Cable Diagram 4

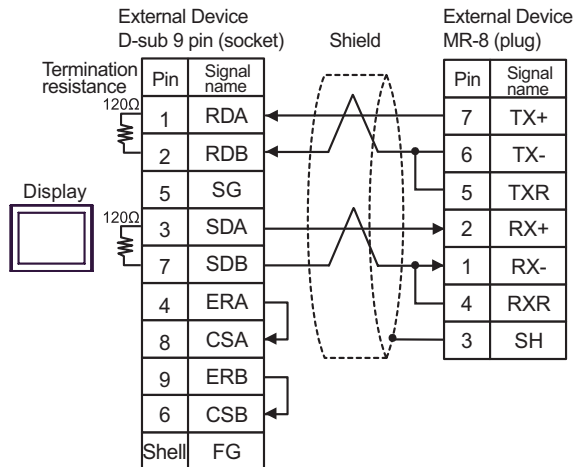
Display (Connection Port)	Cable		Remarks
GP <sup>*1</sup> (COM1) AGP-3302B (COM2) ST <sup>*2</sup> (COM2) IPC <sup>*3</sup>	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	The cable length must be 300m or less.
	B	Your own cable	
GP <sup>*4</sup> (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	

- \*1 All GP models except AGP-3302B
- \*2 All ST models except AST-3211A
- \*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.  
☞ ■ COM Port of IPC (page 6)
- \*4 All GP models except GP-3200 series and AGP-3302B

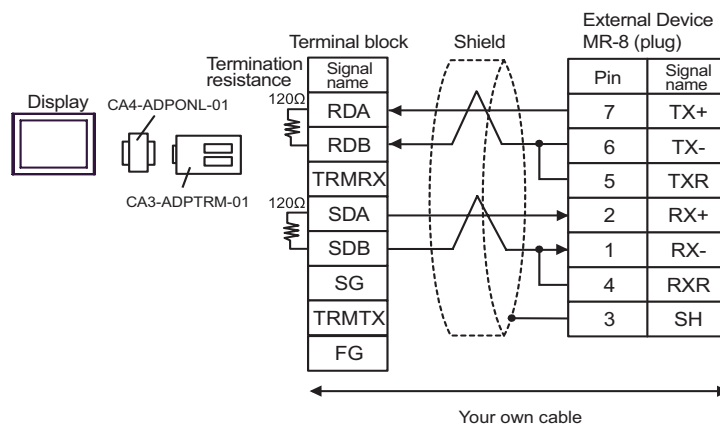
A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable



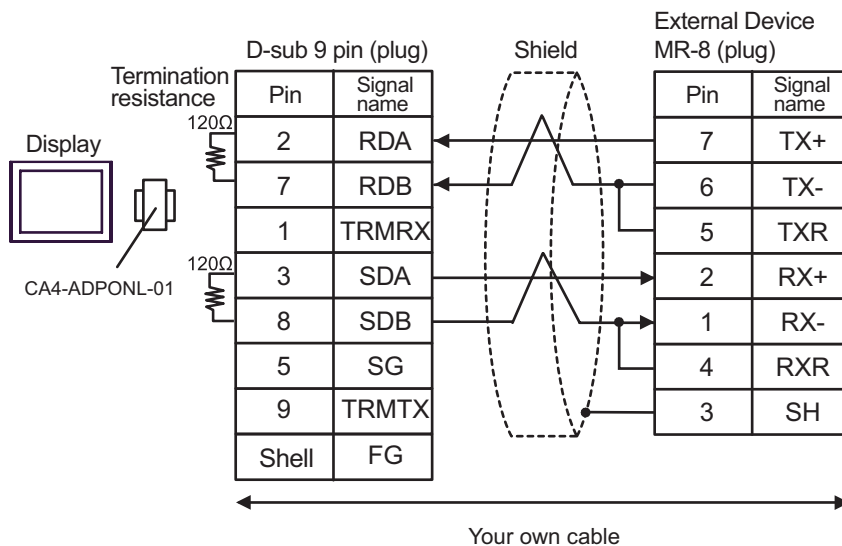
## B) When using your own cable



## C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable



## D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable



Cable Diagram 5


Display (Connection Port)	Cable		Remarks
GP <sup>*1</sup> (COM1) AGP-3302B (COM2) ST <sup>*2</sup> (COM2)	A	Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Your own cable	The cable length must be 300m or less.
	B	Your own cable	
GP <sup>*3</sup> (COM2)	C	Online adapter by Pro-face (CA4-ADPONL-01) + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	D	Online adapter by Pro-face (CA4-ADPONL-01) + Your own cable	
IPC <sup>*4</sup>	E	Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Your own cable	
	F	Your own cable	

\*1 All GP models except AGP-3302B

\*2 All ST models except AST-3211A

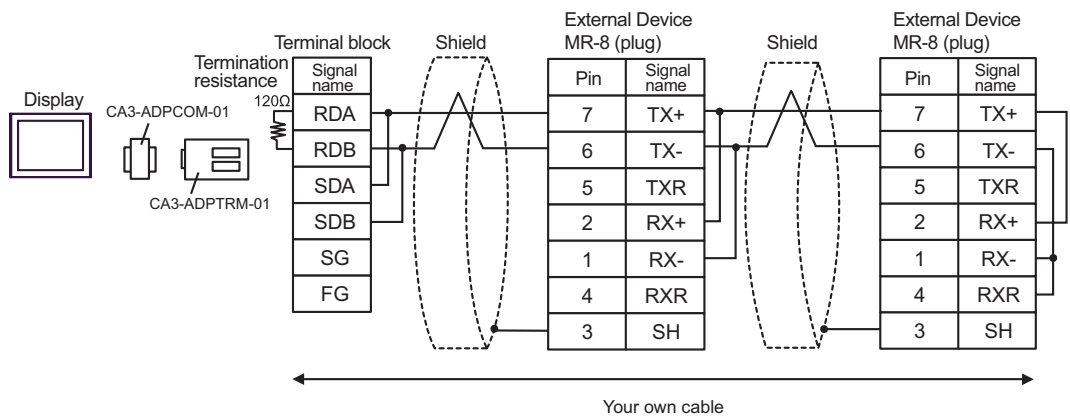
\*3 All GP models except GP-3200 series and AGP-3302B

\*4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.

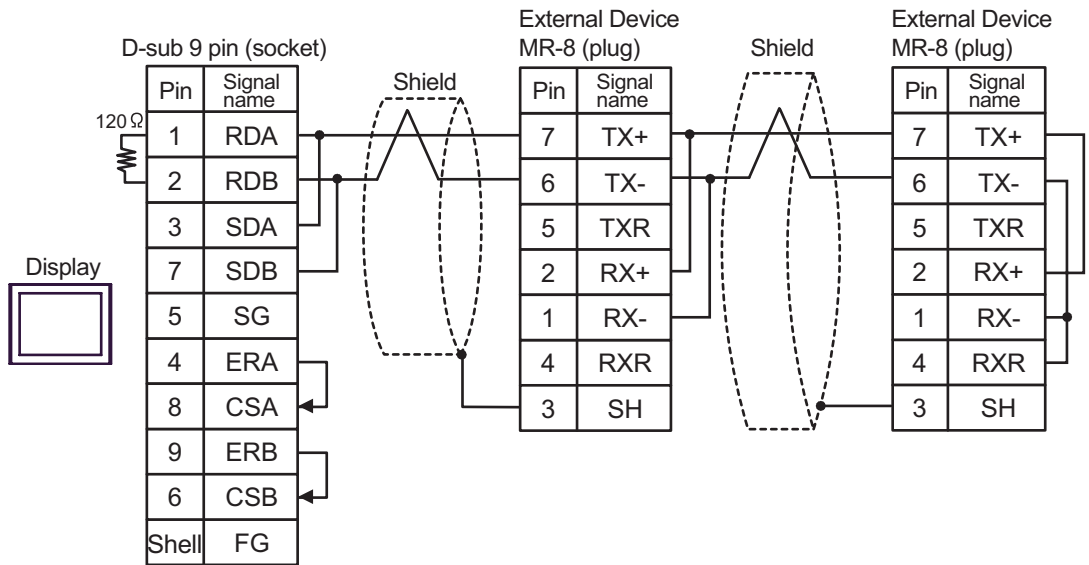
 ■ COM Port of IPC (page 6)



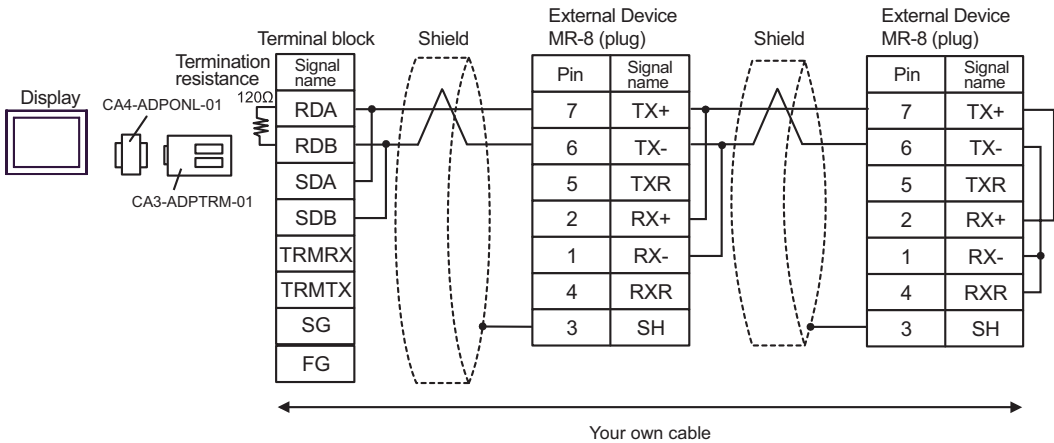
A) When using the terminal block conversion adapter (CA3-ADPTRM-01), the COM port conversion adapter (CA3-ADPCOM-01) by Pro-face and your own cable



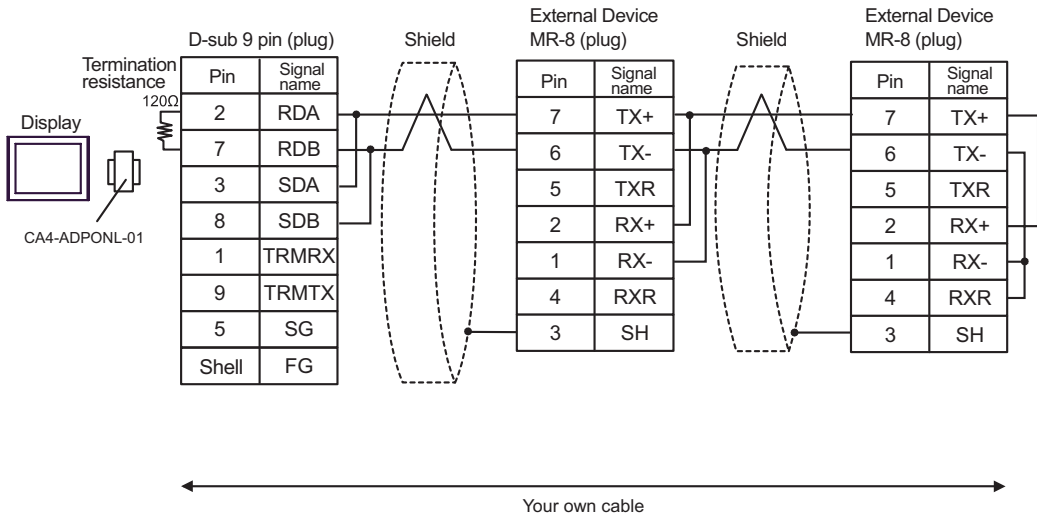
B) When using your own cable



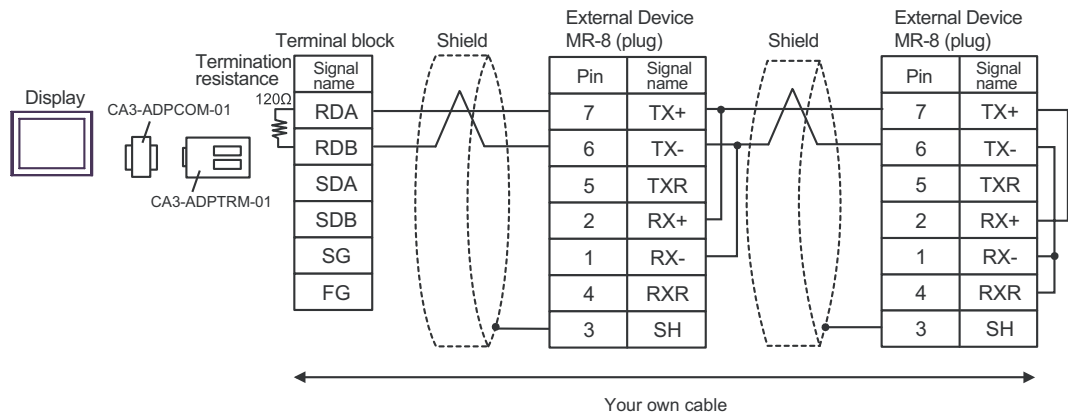
- C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable



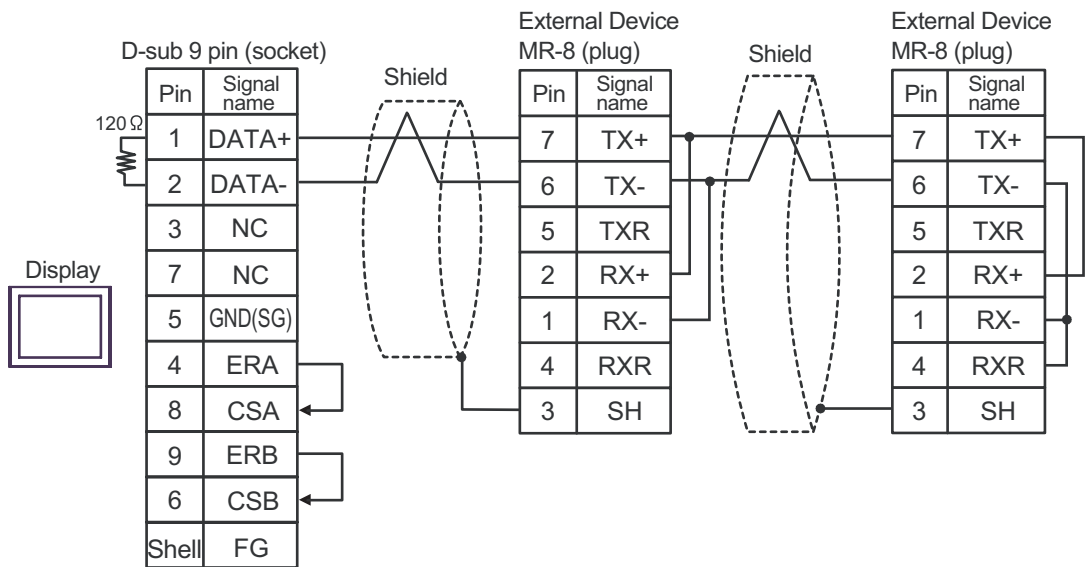
- D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable



E) When using the terminal block conversion adapter (CA3-ADPTRM-01), the COM port conversion adapter (CA3-ADPCOM-01) by Pro-face and your own cable




F) When using your own cable

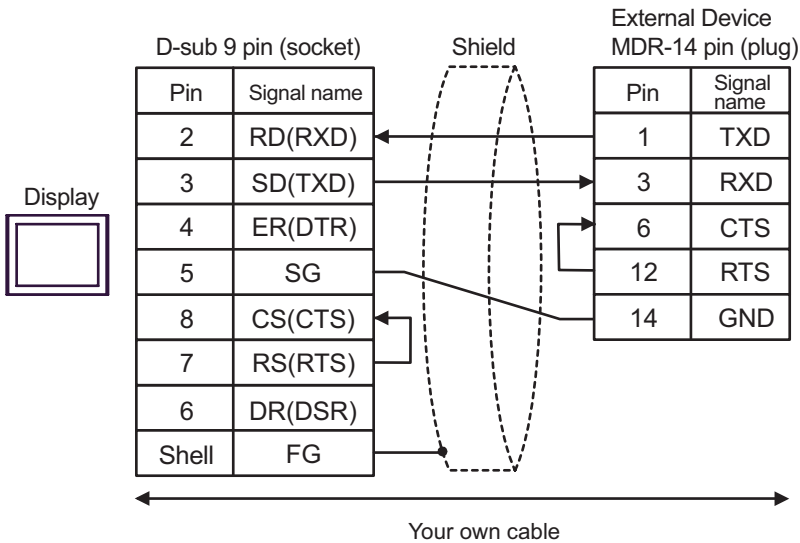


Cable Diagram 6

Display (Connection Port)	Cable	Remarks
GP (COM1) ST (COM1) IPC*1 PC/AT	Your own cable	The cable length must be 15m or less.

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

 ■ COM Port of IPC (page 6)




Cable Diagram 7

Display (Connection Port)	Cable		Remarks
GP <sup>*1</sup> (COM1) AGP-3302B (COM2) ST <sup>*2</sup> (COM2) IPC <sup>*3</sup>	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	The cable length must be 300m or less.
	B	Your own cable	
GP <sup>*4</sup> (COM2)	C	Online adapter by Pro-face (CA4-ADPONL-01) + Terminal block conversion adapter by Pro-face CA3- ADPTRM-01 + Your own cable	
	D	Online adapter by Pro-face (CA4-ADPONL-01) + Your own cable	

\*1 All GP models except AGP-3302B

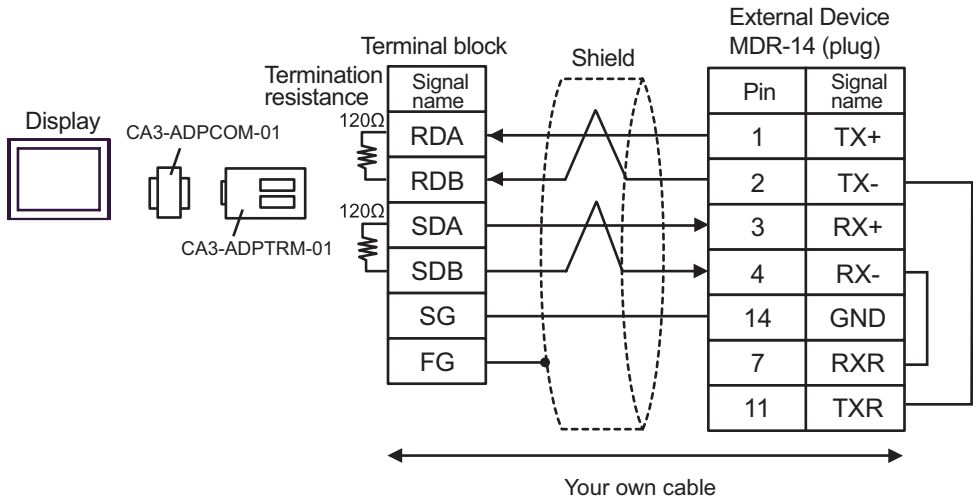
\*2 All ST models except AST-3211A

\*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.

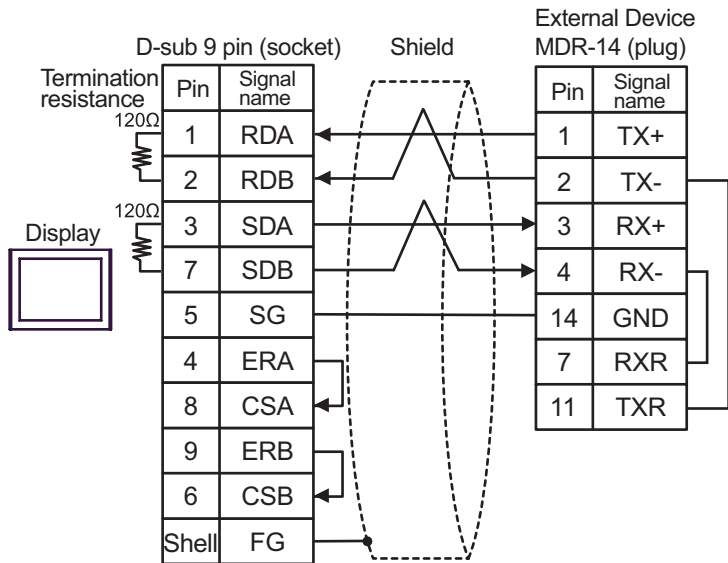
 ■ COM Port of IPC (page 6)

\*4 All GP models except GP-3200 series and AGP-3302B

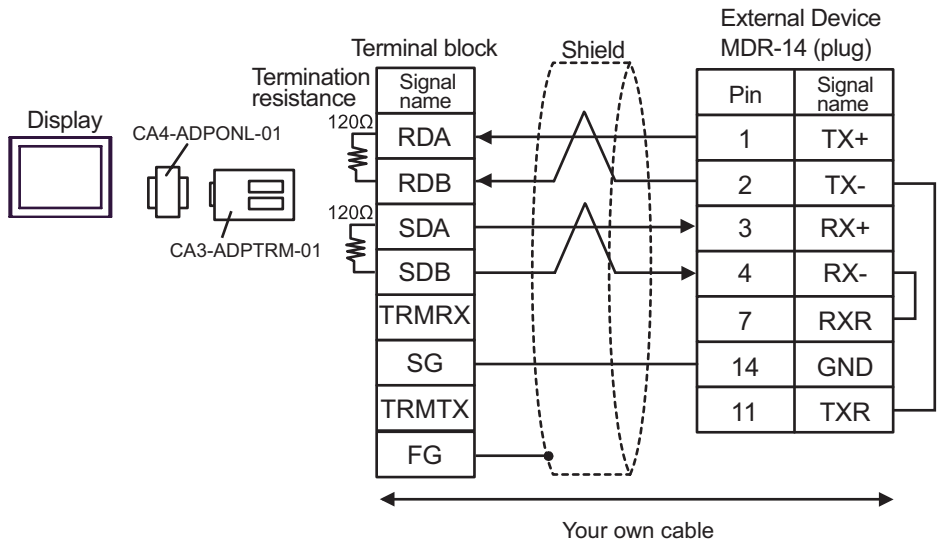
- A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable



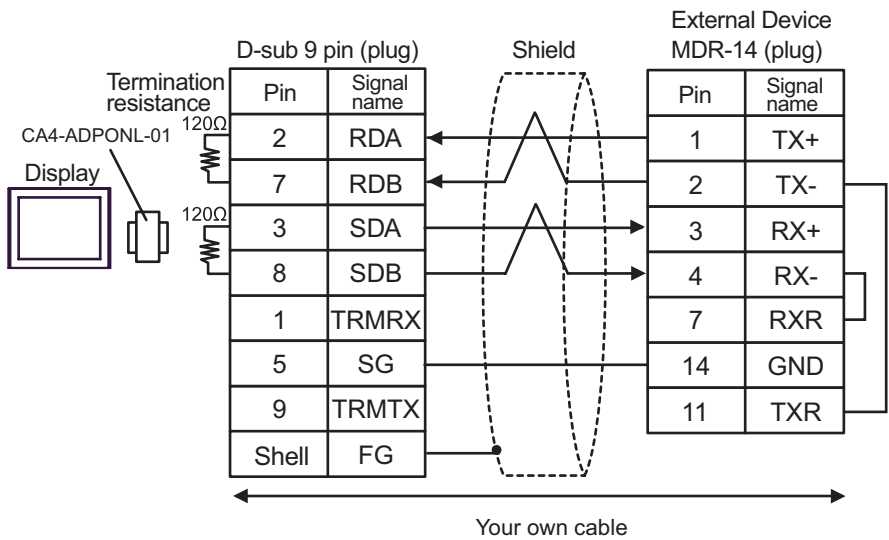
- B) When using your own cable



- C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable



- D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable



Cable Diagram 8

Display (Connection Port)	Cable		Remarks
GP <sup>*1</sup> (COM1) AGP-3302B (COM2) ST <sup>*2</sup> (COM2)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	The cable length must be 300m or less.
	B	Your own cable	
GP <sup>*3</sup> (COM2)	C	Online adapter by Pro-face (CA4-ADPONL-01) + Terminal block conversion adapter by Pro-face CA3- ADPTRM-01 + Your own cable	
	D	Online adapter by Pro-face (CA4-ADPONL-01) + Your own cable	
IPC <sup>*4</sup>	E	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	F	Your own cable	

\*1 All GP models except AGP-3302B

\*2 All ST models except AST-3211A

\*3 All GP models except GP-3200 series and AGP-3302B

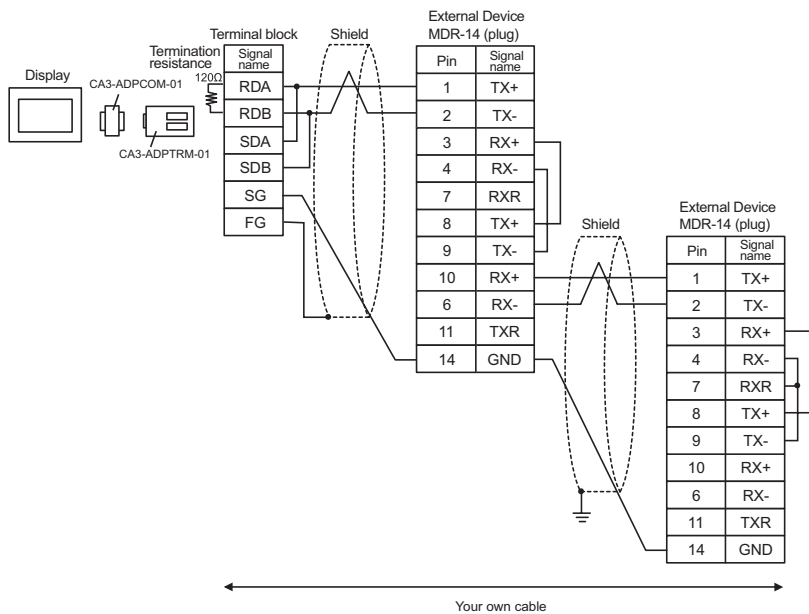
\*4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.



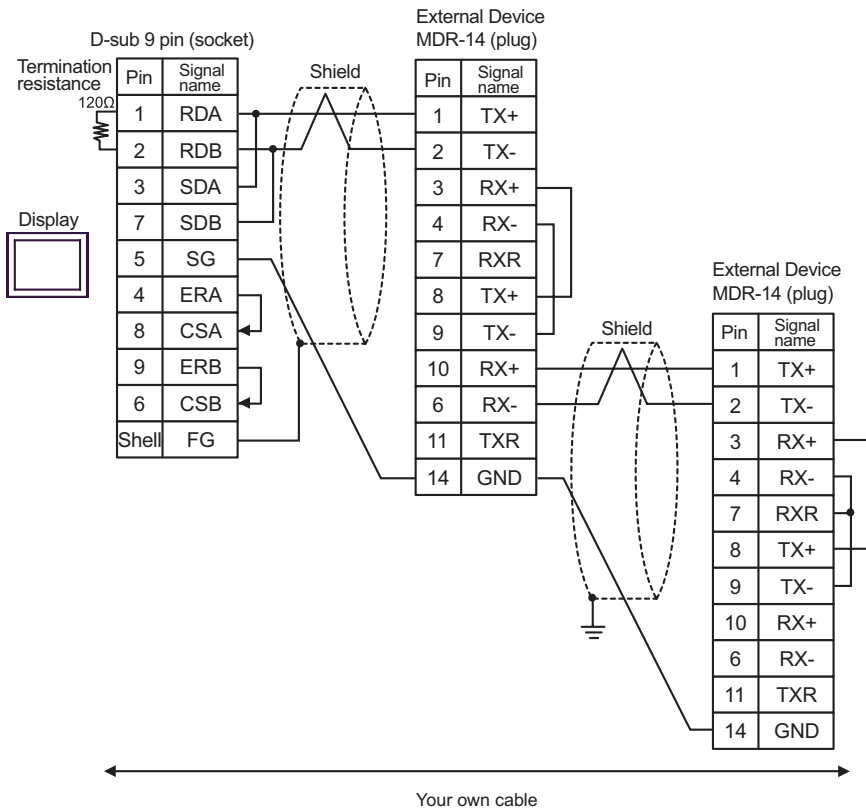
■ COM Port of IPC (page 6)



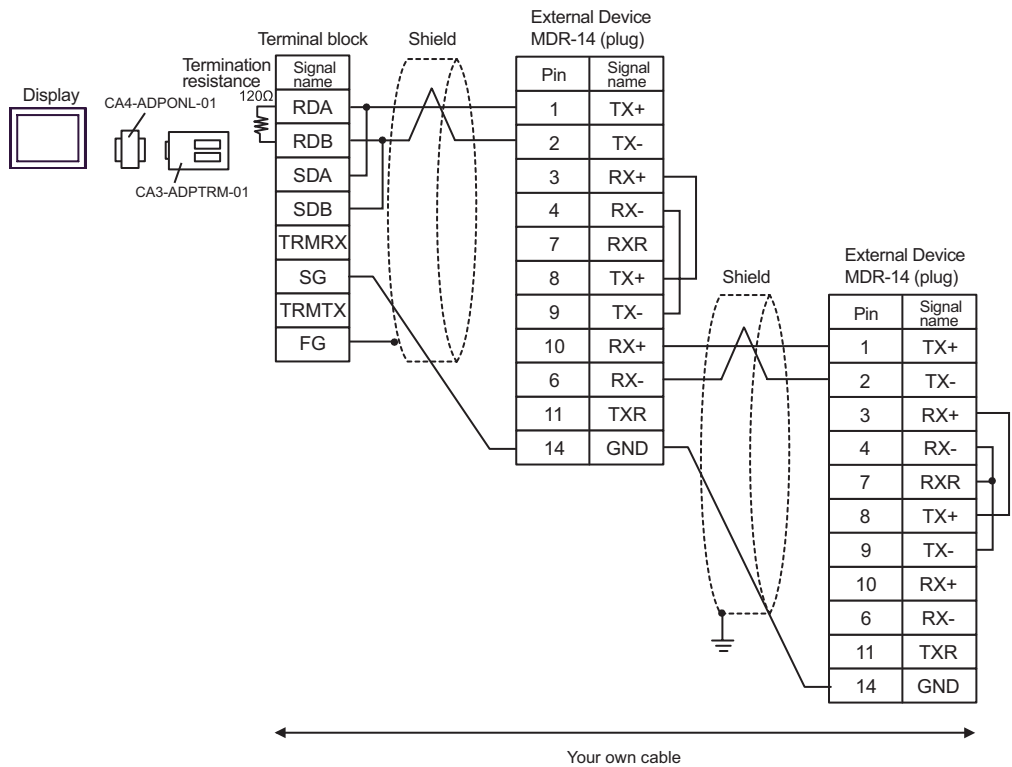
- A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable



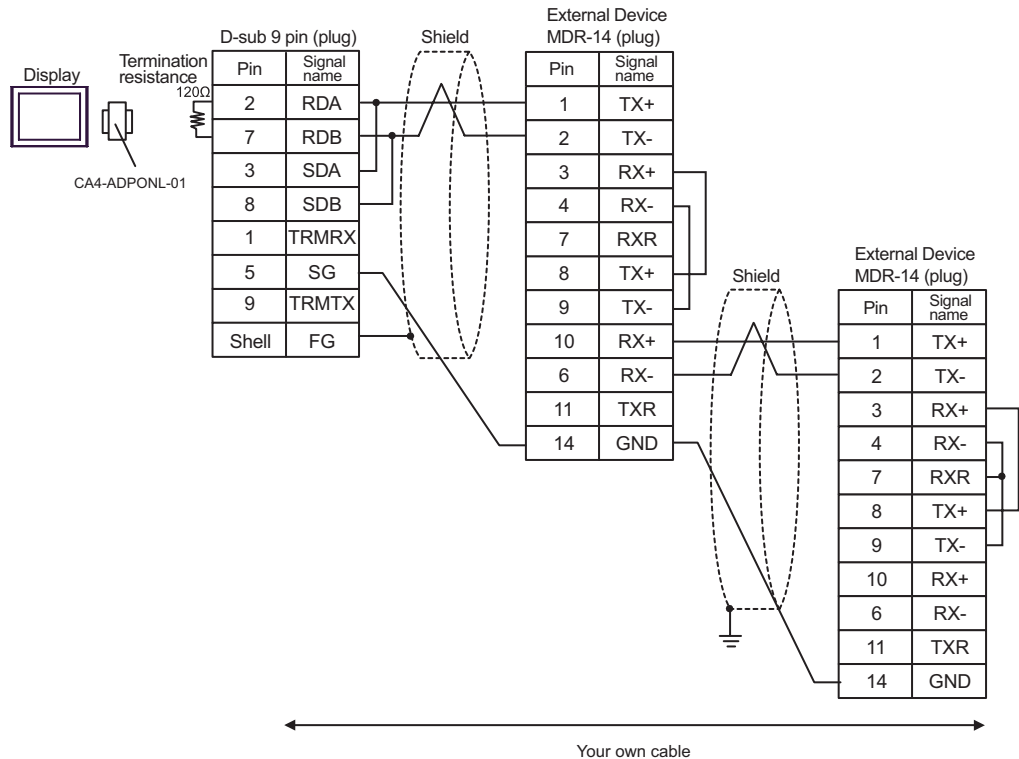
- B) When using your own cable



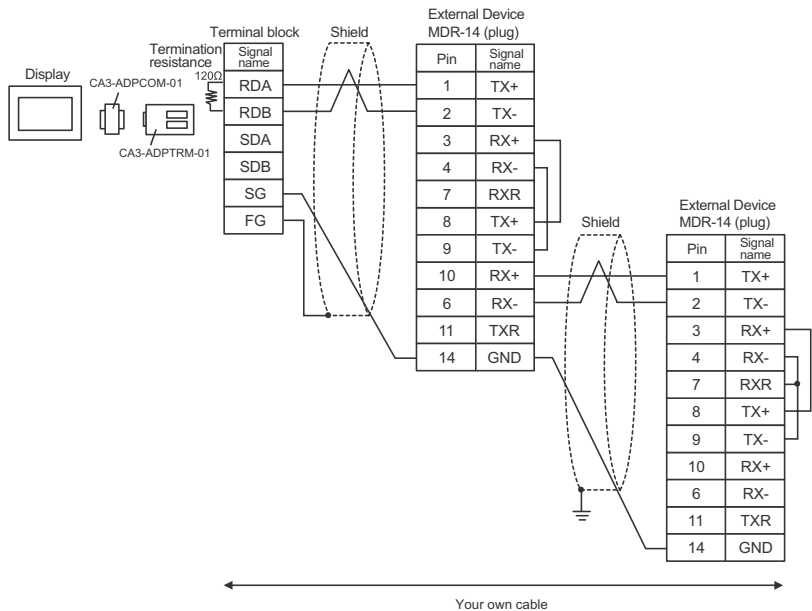
- C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable



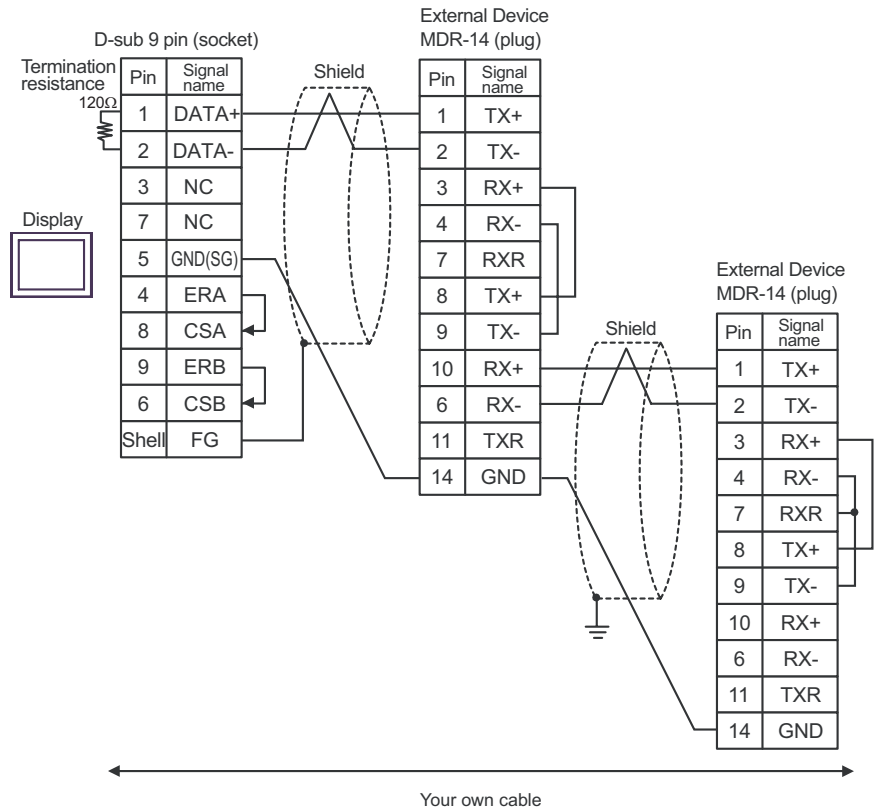
D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable



E) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable




F) When using your own cable

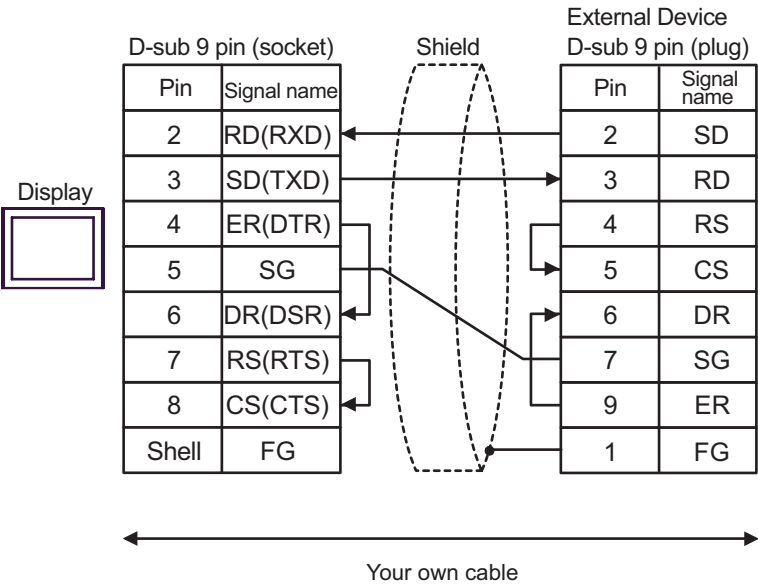


Cable Diagram 9

Display (Connection Port)	Cable	Remarks
GP (COM1) ST (COM1) IPC*1 PC/AT	Your own cable	The cable length must be 15m or less.

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


 ■ COM Port of IPC (page 6)



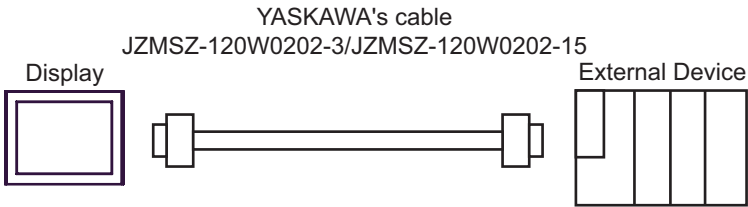
Cable Diagram10

Display (Connection Port)	Cable		Remarks
GP (COM1) ST (COM1) IPC*1 PC/AT	A	Cable by YASKAWA Electric Corporation JZMSZ-120W0202-3/JZMSZ-120W0202-15	
	B	Your own cable	The cable length must be 15m or less.

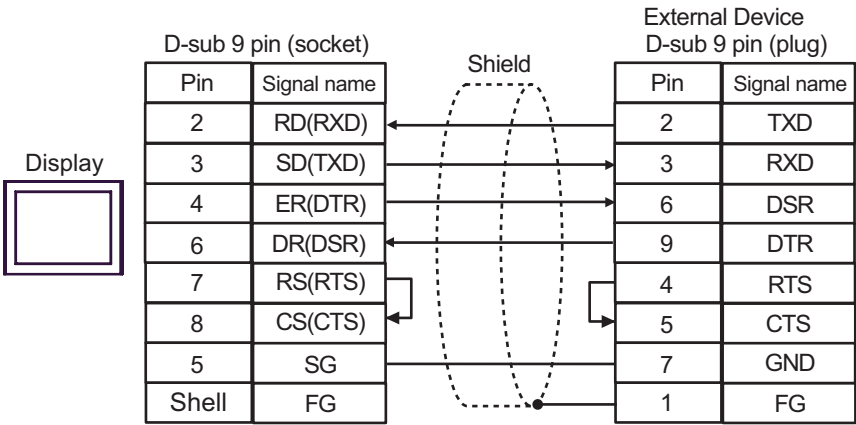
\*1 Only the COM port which can communicate by RS-232C can be used.

 ■ COM Port of IPC (page 6)

A) When using the cable by YASKAWA Electric Corporation (JZMSZ-120W0202-3/JZMSZ-120W0202-15)



B) When using your own cable

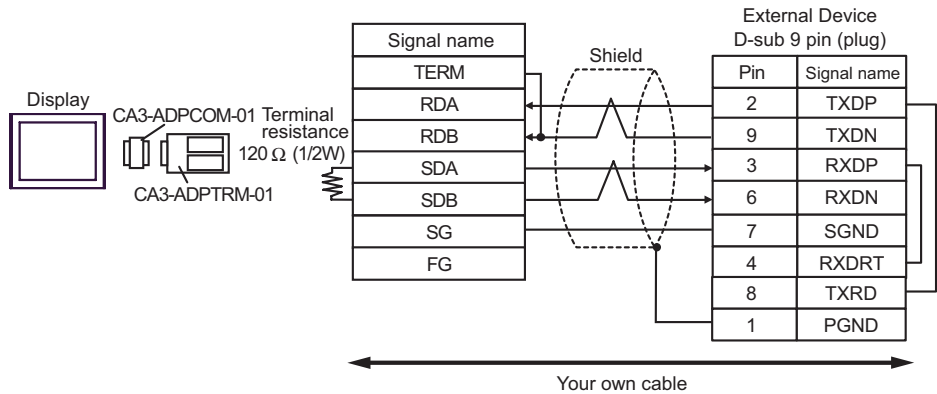


Cable Diagram 11

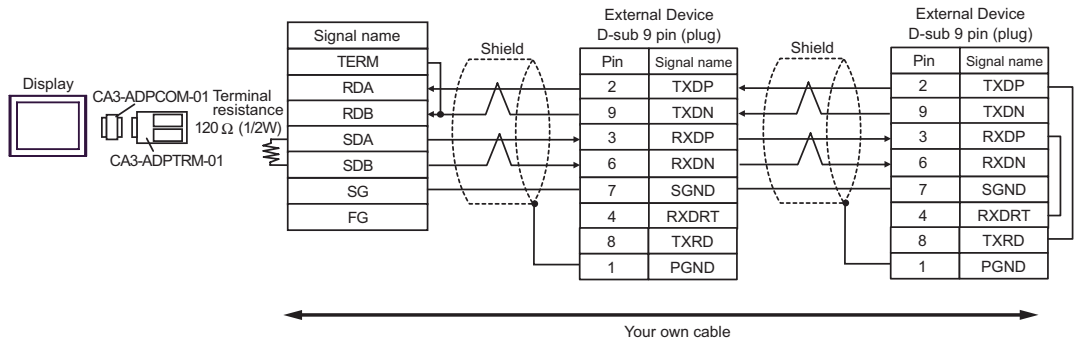
Display (Connection Port)	Cable		Remarks
GP <sup>*1</sup> (COM1) AGP-3302B (COM2) ST <sup>*2</sup> (COM2) IPC <sup>*3</sup>	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	The cable length must be 500 meters or less.
	B	Your own cable	
GP <sup>*4</sup> (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3- ADPTRM-01 + Your own cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	

- \*1 All GP models except AGP-3302B
- \*2 All ST models except AST-3211A
- \*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.  
☞ ■ COM Port of IPC (page 6)
- \*4 All GP models except GP-3200 series and AGP-3302B

- A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable
- 1:1 Connection

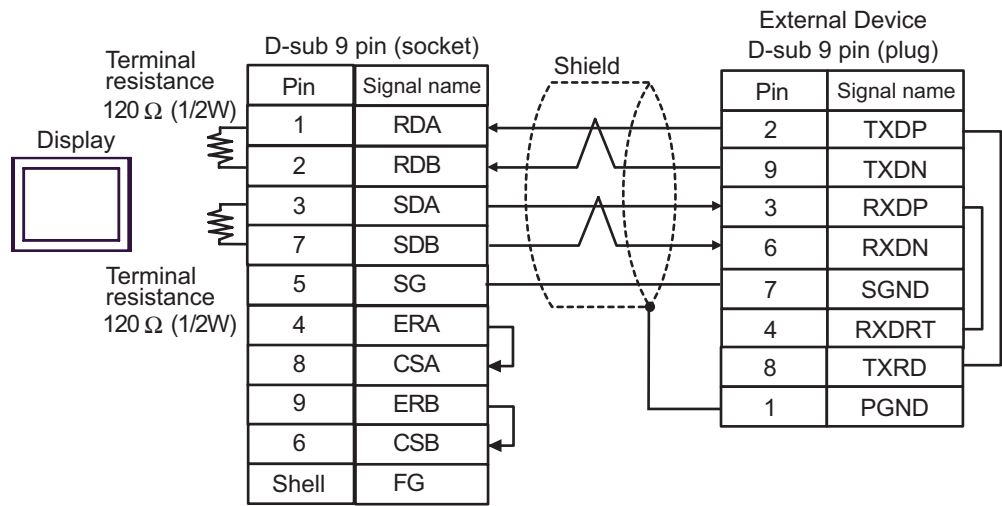


• 1:n Connection

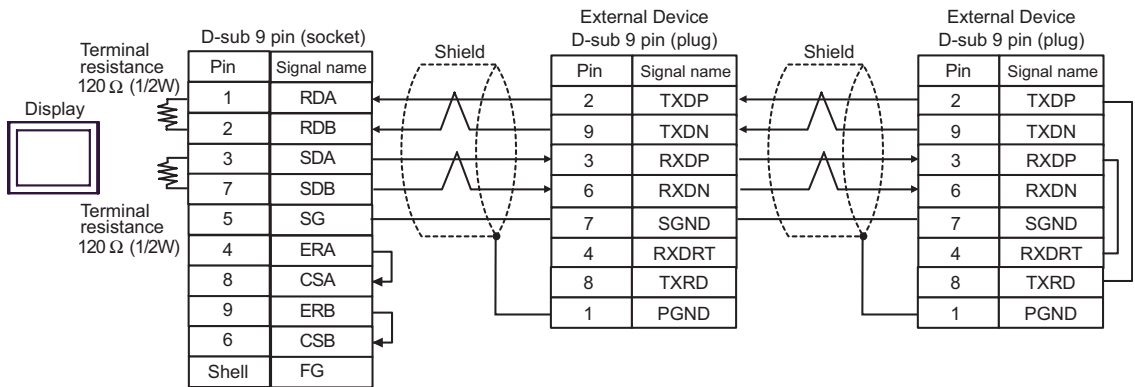


B) When using your own cable

• 1:1 Connection



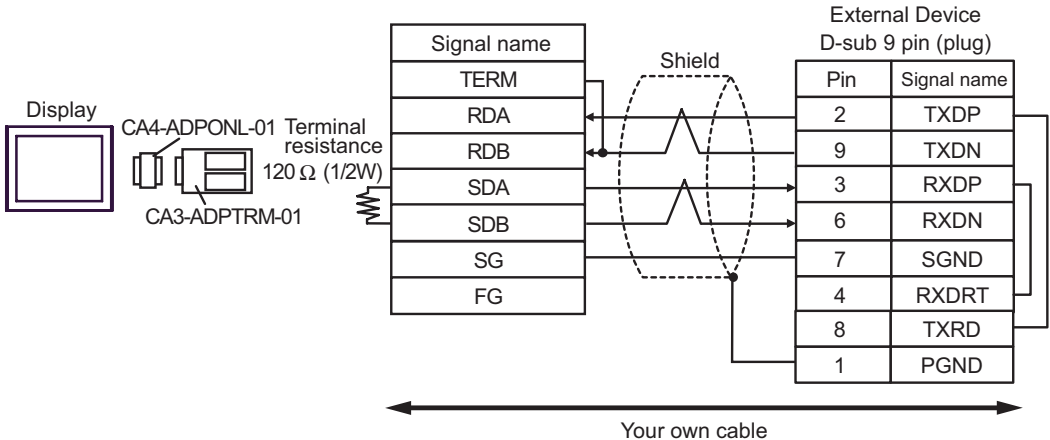
• 1:n Connection



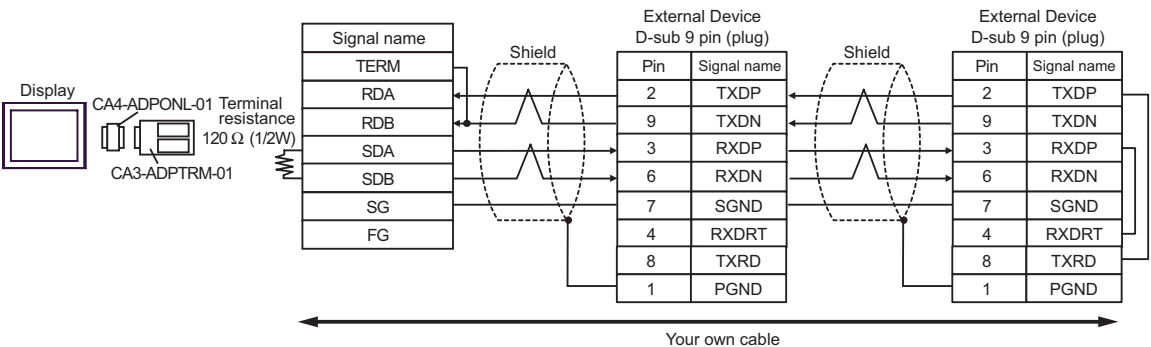


C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

- 1:1 Connection

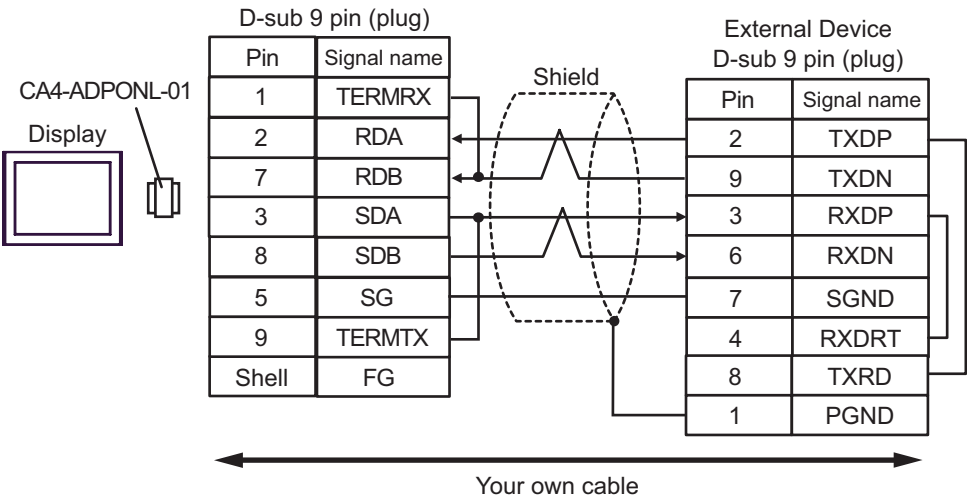


- 1:n Connection

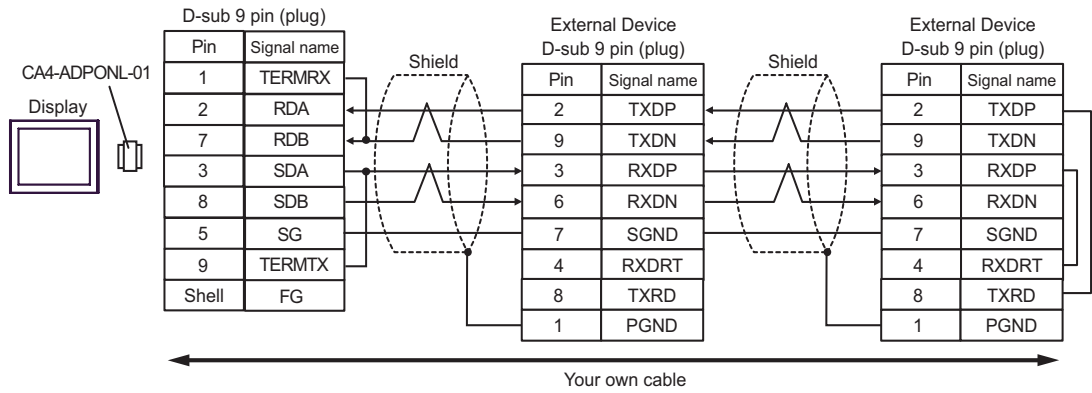


D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

- 1:1 Connection




• 1:n Connection

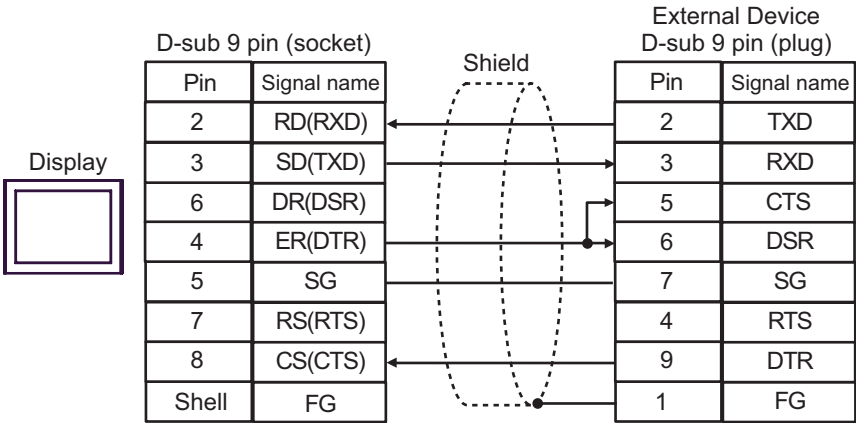


Cable Diagram 12

Display (Connection Port)	Cable	Remarks
GP (COM1) ST (COM1) IPC*1 PC/AT	Your own cable	The cable length must be 15m or less.

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

 ■ COM Port of IPC (page 6)

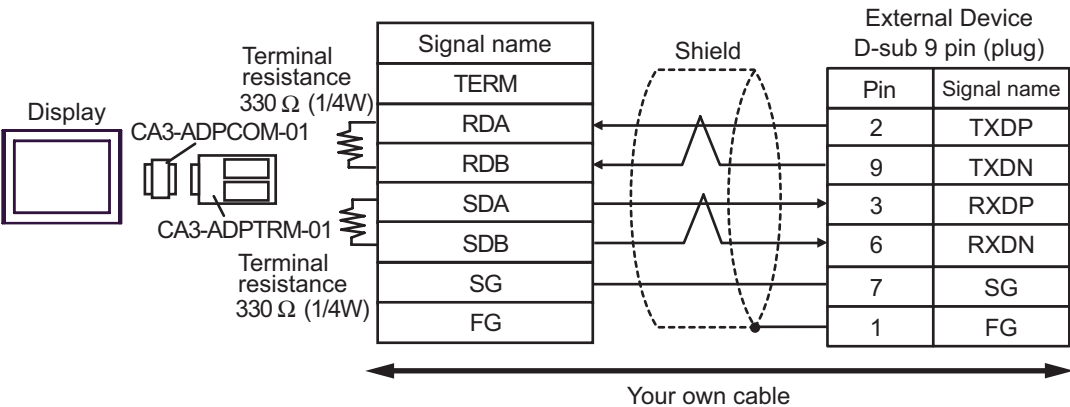


Cable Diagram 13

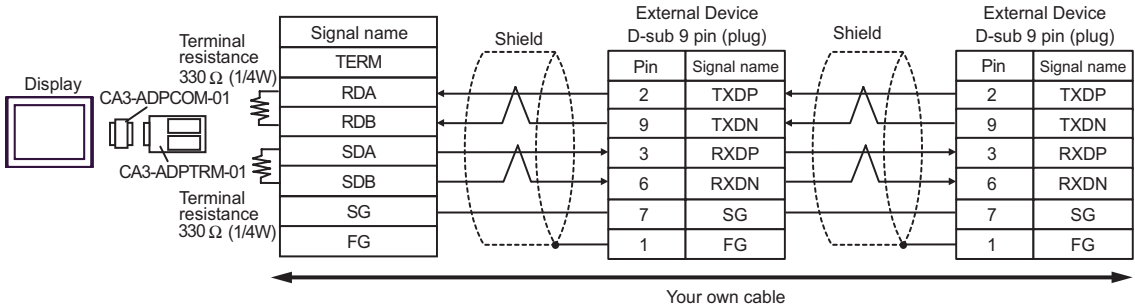
Display (Connection Port)	Cable		Remarks
GP <sup>*1</sup> (COM1) AGP-3302B (COM2) ST <sup>*2</sup> (COM2) IPC <sup>*3</sup>	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	The cable length must be 500 meters or less.
	B	Your own cable	
GP <sup>*4</sup> (COM2)	C	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3- ADPTRM-01 + Your own cable	
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	

- \*1 All GP models except AGP-3302B
- \*2 All ST models except AST-3211A
- \*3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.  
☞ ■ COM Port of IPC (page 6)
- \*4 All GP models except GP-3200 series and AGP-3302B

- A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable
- 1:1 Connection

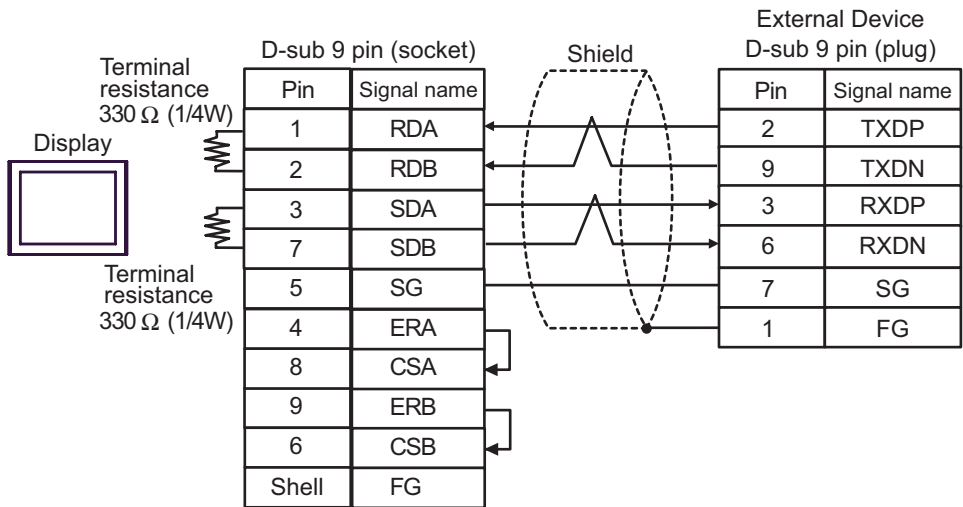


• 1:n Connection

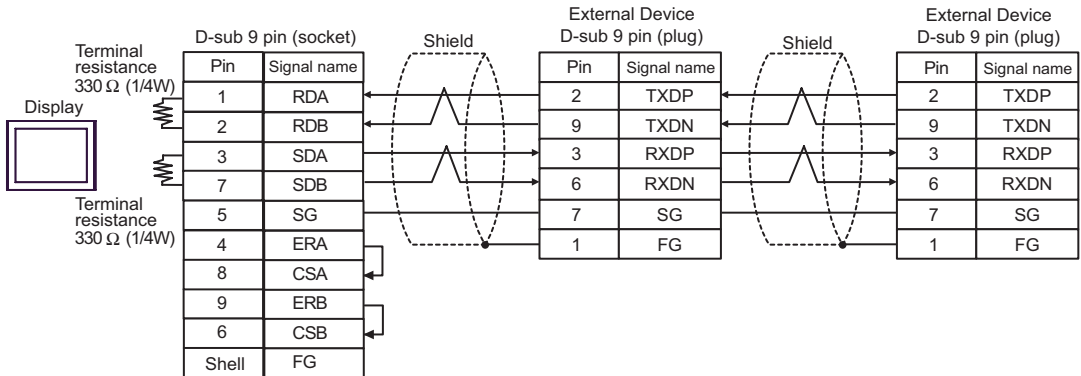


B) When using your own cable

• 1:1 Connection

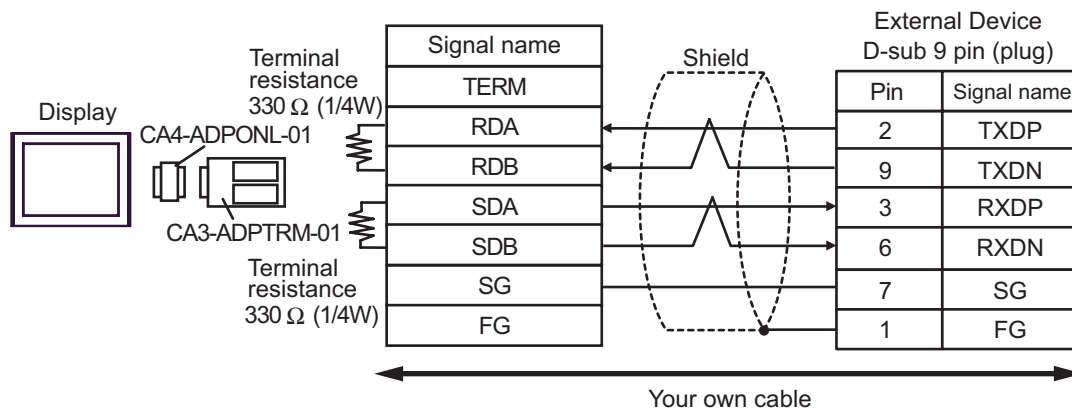


• 1:n Connection

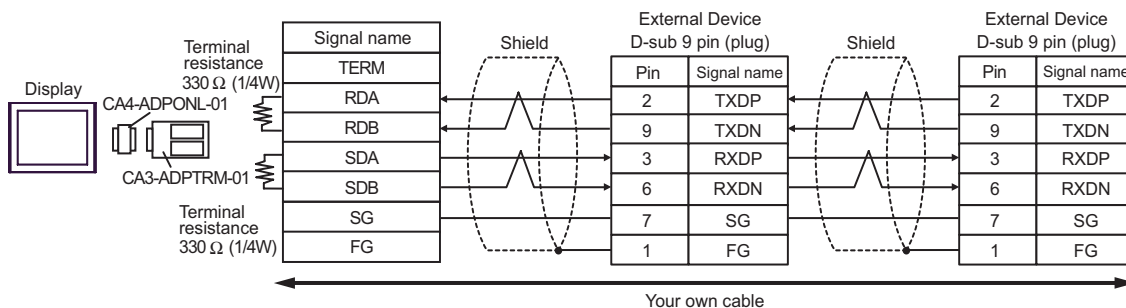


- C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable

- 1:1 Connection

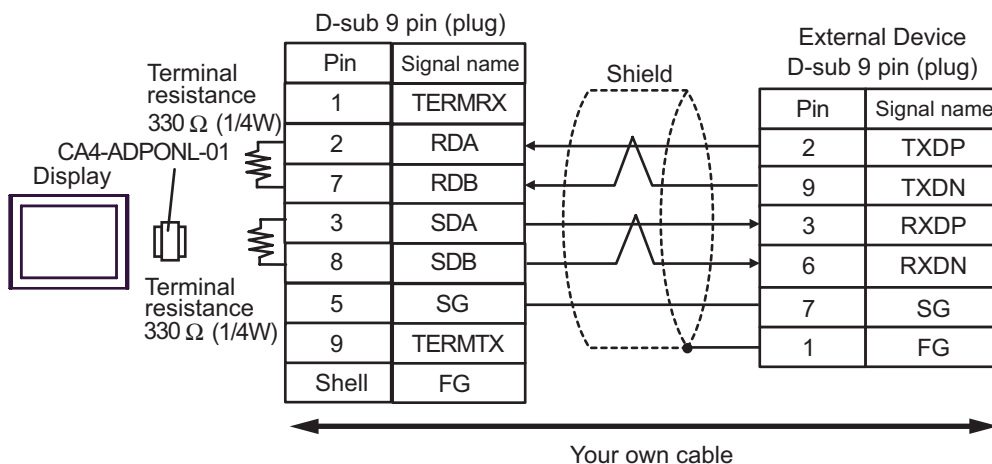


- 1:n Connection

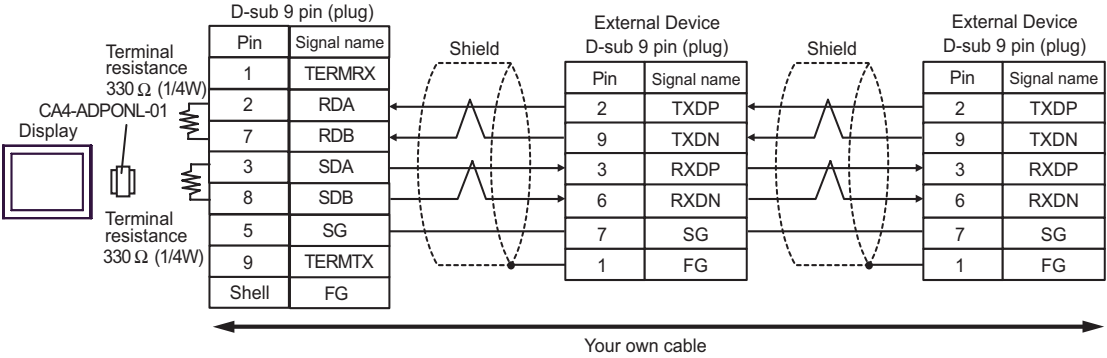


- D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

- 1:1 Connection




1:n Connection

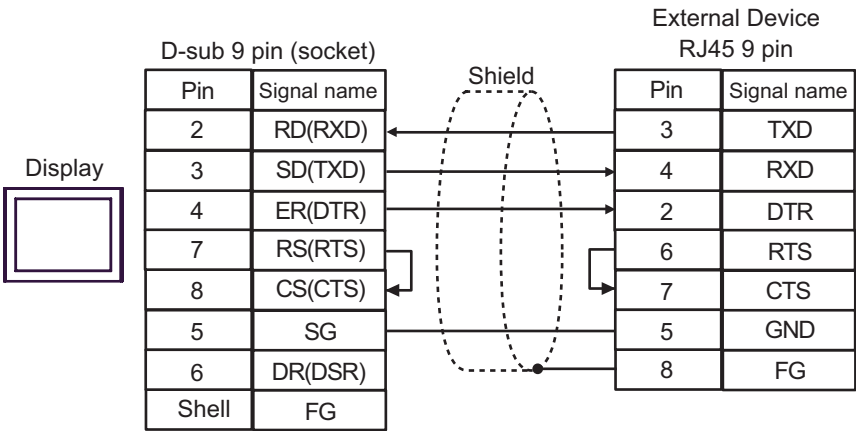


Cable Diagram 14

Display (Connection Port)	Cable	Remarks
GP (COM1) ST (COM1) IPC*1 PC/AT	Your own cable	The cable length must be 15m or less.

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

 ■ COM Port of IPC (page 6)









## 6 Supported Device

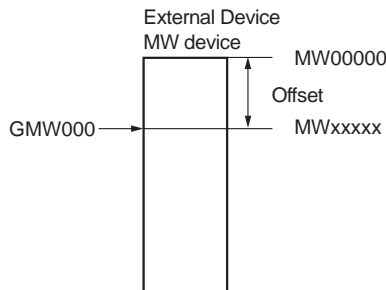
Range of supported device address is shown in the table below. Please note that the actually supported range of the devices varies depending on the External Device to be used. Please check the actual range in the manual of your External Device.

### 6.1 MP900/2000/CP-9200SH

 This address can be specified as system data area.


Device	Display on GP-Pro EX	Supported Address <sup>*1</sup>	32 bits	Remarks
Coil (Bit device)	GMB0000.0-GMB4095.F	MW00000 + Offset - MW4095F + Offset		
Coil (Word device)	GMB0000-GMB4095	MW0000 + Offset - MW4095 + Offset		
Input Relay (Bit device)	GIB0000.0-GIB0FFF.F	IW00000 + Offset - IW0FFF + Offset		*2
Input Relay (Word device)	GIB0000-GIB0FFFF	IW0000 + Offset - IW0FFFF + Offset		*2
Input Register	GIW0000-GIW7FFF	IW0000 + Offset - IW7FFF + Offset		 *2
Holding Register	GMW00000-GMW65534	MW00000 + Offset - MW65534 + Offset		

\*1 When you specify "GMW00000" in GP-Pro EX, the address of "MW00000" to which offset value is added, is specified as the actual address in the External Device. Offset value is described as "Head REG" in the ladder software.




















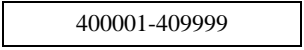




\*2 Write disable

#### NOTE

- Please refer to the GP-Pro EX Reference Manual for system data area.  
Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"
- Please refer to the precautions on manual notation for icons in the table.  
 "Manual Symbols and Terminology"

## 6.2 MEMOCON GL

 This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Coil (Output/Internal)	000001-008192	000001-008177		 *1
Input Relay	100001-101024	100001-101009		 *2
Link Coil 1	D10001-D11024	D10001-D11009		 *1
Link Coil 2	D20001-D21024	D20001-D21009		 *1
MC Relay 1	X10001-X10256	X10001-X10241		 *2
MC Relay 2	X20001-X20256	X20001-X20241		 *2
MC Coil 1	Y10001-Y10256	Y10001-Y10241		 *1
MC Coil 2	Y20001-Y20256	Y20001-Y20241		 *1
MC Cord Relay 1	M10001-M10096	M10001-M10081		 *2
MCCord Relay 2	M20001-M20096	M20001-M20081		 *2
MC Control Relay 1	P10001-P10256	P10001-P10241		 *2
MC Control Relay 2	P20001-P20256	P20001-P20241		 *2
MC Control Coil 1	Q10001-Q10256	Q10001-Q10241		 *1
MC Control Coil 2	Q20001-Q20256	Q20001-Q20241		 *1
Input Register	-	300001-300512		 *2
Holding Register	-	 400001-409999		
Link Register 1	-	R10001-R11024		
Link Register 2	-	R20001-R21024		
Constant Register	-	700001-704096		

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

\*2 Write disable

**NOTE**


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







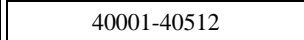

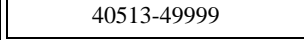



Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"

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

 "Manual Symbols and Terminology"

## 6.3 MEMOCON SC (U84/84J/U84S/GL40S/GL60H/GL70H/GL60S)

 This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Coil (Output/Internal)	00001-08192	00001-08177		 *1
Input Relay	10001-14096	10001-14081		 *2
Link Coil	D0001-D1024	D0001-D1009		 *1
Input Register	-	30001-30512		 *2
Constant Register	-	31001-35096		 *2
Output Register	-	 40001-40512		
Holding Register	-	 40513-49999		
Link Register	-	R0001-R1024		
Extension Register	-	A0000-A7FFF		

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

\*2 Write disable

**NOTE**


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





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






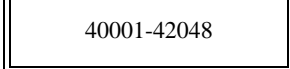


- Please refer to the precautions on manual notation for icons in the table.

 "Manual Symbols and Terminology"

## 6.4 Control Pack (CP-9200/CP-9200H)

 This address can be specified as system data area.

Device	Bit Address	Register No of CP-9200/CP-9200H (equivalent to the address)	32 bits	Remarks
Input Register	00001-02048	IB00000-IB007FF		 *1 *2
Output Register	02049-04096	OB00000-OB007FF		 *1 *2
System Register	10001-12048	SB000000-SB00127F (S Register of CPU#0)		 *1 *2 *3

Device	Word Address	Register No of CP-9200/CP-9200H (equivalent to the address)	32 bits	Remarks
Input Register	49744-49871	IB00000-IB007FF		
Output Register	49872-49999	OB00000-OB007FF		
System Register	30001-30256	SW00000-SW00255 (S Register of CPU#0)		 *3
Data Register	31001-33048 (CP-9200H only)	DW00000-DW02047 (D Register of CPU#1)		 *3
	 40001-42048	DW00000-DW02047 (D Register of CPU#0)		
Common Register	42049-49743	MW00000-MW07694		

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

\*2Specification using the word address is also available.

\*3Write disable

**NOTE**


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





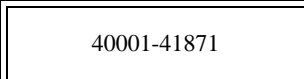

Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"

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


 "Manual Symbols and Terminology"

6.5 MEMOCON Micro

 This address can be specified as system data area.

Device	Bit Address	Word Address	32 bits	Remarks
Coil (Output/Internal)	00001-01531	-		 *1 *2
Input Relay	10001-10511	-		 *1 *2 *3
Input Register	-	30001-30047		 *3
Output/Holding Register	-	 40001-41871		

- \*1 When you write the bit address, the Display reads the word address corresponding to that of the External Device first. Then, it changes the target bit address among the word data once read and returns the word data to the External Device. Note that the correct data may not be read if you change the word address value in the ladder program while the Display reads the data of the External Device and returns it to the External Device.
- \*2 Specification using the word address is also available.
- \*3 Write disable

- 
- NOTE**
- Please refer to the GP-Pro EX Reference Manual for system data area.
- Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)"
- Please refer to the precautions on manual notation for icons in the table.  
 "Manual Symbols and Terminology"
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## 7 Device Code and Address Code

Use device code and address code when you select "Device Type & Address" for the address type in data displays.

### 7.1 MP900/2000/CP-9200SH

Device	Device Name	Device Code (HEX)	Address Code
Coil	GMB	0080	Word Address
Input Relay	GIB	0081	Word Address
Input Register	GIW	0001	Word Address
Holding Register	GMW	0000	Word Address

### 7.2 MEMOCON GL

Device	Device Name	Device Code (HEX)	Address Code
Coil (Output/Internal)	0	0080	Word Address - 1
Input Relay	1	0081	Word Address - 1
Link Coil	D	0082	Word Address - 1
MC Relay	X	0083	Word Address - 1
MC Coil	Y	0084	Word Address - 1
MC Cord Relay	M	0085	Word Address - 1
MC Control Relay	P	0086	Word Address - 1
MC Control Coil	Q	0087	Word Address - 1
Input Register	3	0001	Word Address - 1
Holding Register	4	0000	Word Address - 1
Link Register	R	0002	Word Address - 1
Constant Register	7	0003	Word Address - 1

### 7.3 MEMOCON SC (U84/84J/U84S/GL40S/GL60H/GL70H/GL60S)

Device	Device Name	Device Code (HEX)	Address Code
Coil (Output/Internal)	0	0080	Word Address - 1
Input Relay	1	0081	Word Address - 1
Link Coil	D	0082	Word Address - 1
Input Register	3	0001	Word Address - 1
Constant Register	3	0001	Word Address - 1
Output Register	4	0000	Word Address - 1
Holding Register	4	0000	Word Address - 1
Link Register	R	0002	Word Address - 1
Extension Register	A	0004	Word Address

### 7.4 Control Pack (CP-9200/CP-9200H)

Device	Device Name	Device Code (HEX)	Address Code
Input Register	0	0080	Word Address - 1
Output Register	0	0080	Word Address - 1
System Register	1	0081	Word Address - 1
Input Register	4	0000	Word Address - 1
Output Register	4	0000	Word Address - 1
System Register	3	0001	Word Address - 1
Data Register	3	0001	Word Address - 1
	4	0000	Word Address - 1
Common Register	4	0000	Word Address - 1

### 7.5 MEMOCON Micro

Device	Device Name	Device Code (HEX)	Address Code
Coil (Output/Internal)	0	0080	Word Address - 1
Input Relay	1	0081	Word Address - 1
Input Register	3	0001	Word Address - 1
Output/Holding Register	4	0000	Word Address - 1

## 8 Error Messages

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

Item	Description
No.	Error No.
Device Name	Name of the External Device where error occurs. Device name is a title of the External Device set with GP-Pro EX.((Initial value[PLC1])
Error Message	Displays messages related to the error which occurs.
Error Occurrence Area	<p>Displays IP address or device address of the External Device where error occurs, or error codes received from the External Device.</p> <div style="border: 1px solid black; padding: 2px; display: inline-block;"><b>NOTE</b></div> <ul style="list-style-type: none"> <li>• IP address is displayed such as "IP address(Decimal): MAC address( Hex)".</li> <li>• Device address is displayed such as "Address: Device address".</li> <li>• Received error codes are displayed such as "Decimal[Hex]".</li> </ul>

Display Examples of Error Messages

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

**NOTE**

- Please refer to the manual of the External Device for more detail of received error codes.
- Please refer to "When an error message is displayed (Error code list)" of "Maintenance/Troubleshooting" for a common error message to the driver.