



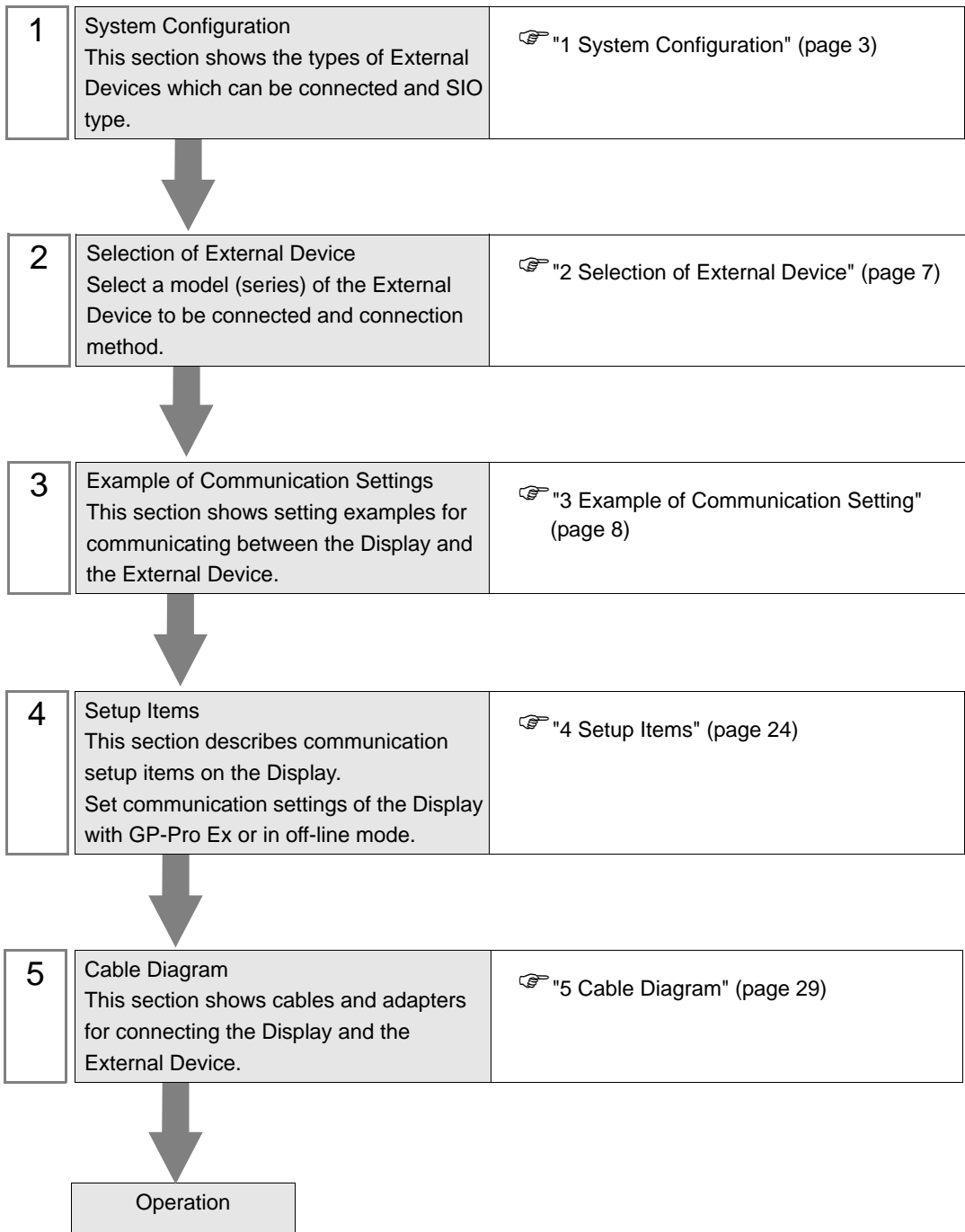
A Series Computer Link Driver

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Introduction

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

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



1 System Configuration

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

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram	
MELSEC AnA Series	A2ACPU A2ACPU-S1 A3ACPU A2UCPU A2UCPU-S1 A3UCPU A4UCPU	AJ71C24-S6 AJ71C24-S8	RS232C	Setting Example 1 (page 8)	Cable Diagram 1 (page 29)	
			RS422/485 (4wire)	Setting Example 5 (page 16)	Cable Diagram 2 (page 30)	
		AJ71UC24	RS232C	Setting Example 2 (page 10)	Cable Diagram 1 (page 29)	
			RS422/485 (4wire)	Setting Example 6 (page 18)	Cable Diagram 2 (page 30)	
	A2USCPU A2USHCPU-S1	A1SJ71C24-R2 A1SJ71UC24-R2	RS232C	Setting Example 3 (page 12)	Cable Diagram 3 (page 34)	
		A1SJ71C24-R4 A1SJ71UC24-R4	RS422/485 (4wire)	Setting Example 7 (page 20)	Cable Diagram 2 (page 30)	
MELSEC AnN Series	A1NCPU A2NCPU A2NCPU-S1 A3NCPU	AJ71C24 AJ71C24-S3 AJ71C24-S6 AJ71C24-S8	RS232C	Setting Example 1 (page 8)	Cable Diagram 1 (page 29)	
			RS422/485 (4wire)	Setting Example 5 (page 16)	Cable Diagram 2 (page 30)	
		AJ71UC24	RS232C	Setting Example 2 (page 10)	Cable Diagram 1 (page 29)	
			RS422/485 (4wire)	Setting Example 6 (page 18)	Cable Diagram 2 (page 30)	
	A1SCPU A1SJCPU A1SJHCPU A1SHCPU A2SHCPU	A1SJ71C24-R2 A1SJ71UC24-R2	RS232C	Setting Example 3 (page 12)	Cable Diagram 3 (page 34)	
		A1SJ71C24-R4 A1SJ71UC24-R4	RS422/485 (4wire)	Setting Example 7 (page 20)	Cable Diagram 2 (page 30)	
	A0J2CPU A0J2HCPU	A0J2-C214-S1	RS422/485 (4wire)	Setting Example 8 (page 22)	Cable Diagram 2 (page 30)	
	A2CCPUC24	Link port on CPU	RS232C	Setting Example 4 (page 14)	Cable Diagram 3 (page 34)	
	MELSEC QnA Series	Q2ACPU Q2ACPU-S1 Q3ACPU Q4ACPU Q4ARCPU	AJ71UC24	RS232C	Setting Example 2 (page 10)	Cable Diagram 1 (page 29)
				RS422/485 (4wire)	Setting Example 6 (page 18)	Cable Diagram 2 (page 30)
Q2ASCPU Q2ASCPU-S1 Q2ASHCPU Q2ASHCPU-S1		A1SJ71UC24-R2 A1SJ71UC24-PRF	RS232C	Setting Example 3 (page 12)	Cable Diagram 3 (page 34)	
		A1SJ71UC24-R4	RS422/485 (4wire)	Setting Example 7 (page 20)	Cable Diagram 2 (page 30)	

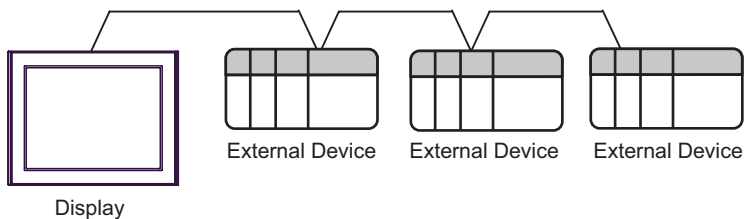
Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
MELSEC Q Series	Q02CPU-A Q02HCPU-A Q06HCPU-A	A1SJ71UC24-R2 A1SJ71UC24-PRF	RS232C	Setting Example 3 (page 12)	Cable Diagram 3 (page 34)
		A1SJ71UC24-R4	RS422/485 (4wire)	Setting Example 7 (page 20)	Cable Diagram 2 (page 30)

■ Connection Configuration

- 1:1 Connection

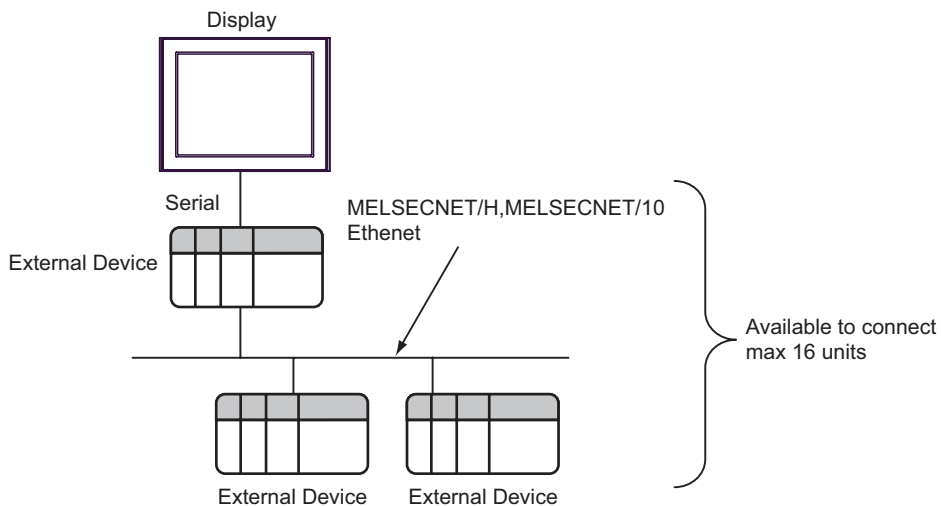


- 1:n Connection



- 1:n Connection (when communicating via network)

You can access other stations via MELSECNET/10, MELSECNET(II), MELSECNET/B.



■ 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 ^{*1} , COM2, COM3 ^{*1} , COM4	-	-
PS-3650A, PS-3651A	COM1 ^{*1}	-	-
PS-3700A (Pentium®4-M) PS-3710A	COM1 ^{*1} , COM2 ^{*1} , COM3 ^{*2} , COM4	COM3 ^{*2}	COM3 ^{*2}
PS-3711A	COM1 ^{*1} , COM2 ^{*2}	COM2 ^{*2}	COM2 ^{*2}

*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	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	

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

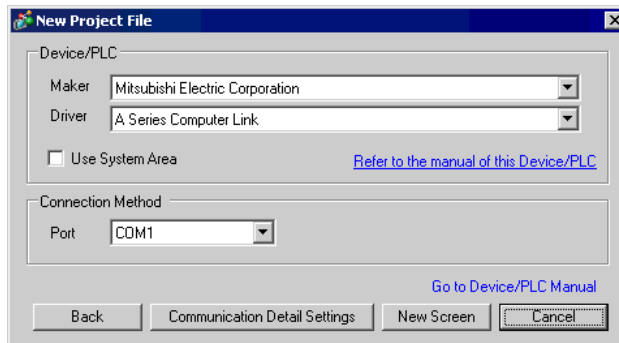
Dip switch	Setting	Description
1	OFF	Reserve (always OFF)
2	ON	SIO type: RS-422/485
3	ON	
4	OFF	Output mode of SD (TXD) data: Always output
5	OFF	Terminal resistance (220Ω) insertion to SD (TXD): None
6	OFF	Terminal resistance (220Ω) insertion to RD (RXD): None
7	OFF	Short-circuit of SDA (TXA) and RDA (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 "Mitsubishi Electric Corporation".
Driver	Select a model (series) of the External Device to be connected and connection method. Select "A Series Computer Link". Check the External Device which can be connected in "A Series Computer Link" in system configuration. ☞ "1 System Configuration" (page 3)
Use System Area	Check this option when you synchronize the system data area of Display and the device (memory) of External Device. When synchronized, you can use the ladder program of External Device to switch the display or display the window on the display. Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)" This can be also set with GP-Pro EX or in off-line mode of Display. Cf. GP-Pro EX Reference Manual " 5.14.6 Setting Guide of [System Setting Window]■[Main Unit Settings] Settings Guide◆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 Pro-face, are shown.

When you use the A Series, use GP-Pro EX and the ladder software to set as below.

3.1 Setting Example 1

■ Settings of GP-Pro EX

◆ Communication Settings

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

Device/PLC 1

Summary [Change Device/PLC](#)

Maker Series Port

Text Data Mode [Change](#)

Communication Settings

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

Speed

Data Length 7 8

Parity NONE EVEN ODD

Stop Bit 1 2

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

Timeout (sec)

Retry

Wait To Send (ms)

RI / VCC RI VCC

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

Default

Device-Specific Settings

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

No.	Device Name	Settings
1	PLC1	Station No.=0,PC No.=255

◆ Device Setting

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

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

Individual Device Settings

PLC1

Station No.

PC No.

Default

OK (O) Cancel

■ Setting of External Device

Use the DIP switch of the Computer Link Unit for setting. Please refer to the manual of the External Device for more details.

◆ Mode Setting Rotary Switch

Settings	Setup Description
4	Protocol mode in Form 4

◆ Communication Setting DIP Switch

DIP Switch	Settings	Setup Description
SW11	OFF	Main channel setting
SW12	OFF	Data bit setting
SW13	OFF	Transmission speed setting
SW14	ON	
SW15	ON	
SW16	ON	Parity bit setting whether enable or disable
SW17	ON	Parity setting whether Even or Odd
SW18	ON	Stop bit setting
SW21	ON	Sum check setting whether enable or disable
SW22	ON	Write setting during RUN whether enable or disable
SW23	OFF	Termination resistance on the sending side whether exist or not exist
SW24	OFF	Termination resistance on the receiving side whether exist or not exist

◆ Station Setting Rotary Switch

Rotary Switch	Settings	Setup Description
X10	0	Station No. setting
X1	0	

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 Series Port

Text Data Mode [Change](#)

Communication Settings

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

Speed

Data Length 7 8

Parity NONE EVEN ODD

Stop Bit 1 2

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

Timeout (sec)

Retry

Wait To Send (ms)

RI / VCC RI VCC

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

Device-Specific Settings

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

No.	Device Name	Settings
<input type="button" value="Add"/> 1	<input type="text" value="PLC1"/>	<input type="button" value="Settings"/> Station No.=0, PC No.=255

◆ Device Setting

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

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

Individual Device Settings

PLC1

Station No.

PC No.

■ Setting of External Device

Use the DIP switch of the Computer Link Unit for setting. Please refer to the manual of the External Device for more details.

◆ Mode Setting Rotary Switch

Settings	Setup Description
4	Protocol mode in Form 4

◆ Communication Setting DIP Switch

DIP Switch	Settings	Setup Description
SW11	OFF	Main channel setting
SW12	OFF	Data bit setting
SW13	OFF	Transmission speed setting
SW14	ON	
SW15	ON	
SW16	ON	Parity bit setting whether enable or disable
SW17	ON	Parity setting whether Even or Odd
SW18	ON	Stop bit setting
SW21	ON	Sum check setting whether enable or disable
SW22	ON	Write setting during RUN whether enable or disable
SW23	ON	Computer link/Multiple drop link selection
SW24	Unused	Unused

◆ Station Setting Rotary Switch

Rotary Switch	Settings	Setup Description
X10	0	Station No. setting
X1	0	

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 Series Port

Text Data Mode [Change](#)

Communication Settings

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

Speed

Data Length 7 8

Parity NONE EVEN ODD

Stop Bit 1 2

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

Timeout (sec)

Retry

Wait To Send (ms)

RI / VCC RI VCC

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

Device-Specific Settings

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

No.	Device Name	Settings
<input type="button" value="Add"/> 1	<input type="text" value="PLC1"/>	<input type="text" value="Station No.=0, PC No.=255"/>

◆ Device Setting

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

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

Individual Device Settings

PLC1

Station No.

PC No.

■ Setting of External Device

Use the DIP switch of the Computer Link Unit for setting. Please refer to the manual of the External Device for more details.

◆ Mode Setting Rotary Switch

Settings	Setup Description
4	Protocol mode in Form 4

◆ Communication Setting DIP Switch

DIP Switch	Settings	Setup Description
SW03	Unused	Unused
SW04	ON	Write setting during RUN whether enable or disable
SW05	OFF	Transmission speed setting
SW06	ON	
SW07	ON	
SW08	OFF	Data bit setting
SW09	ON	Parity bit setting whether enable or disable
SW10	ON	Parity setting whether Even or Odd
SW11	ON	Stop bit setting
SW12	ON	Sum check setting whether enable or disable

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/PLC 1

Summary [Change Device/PLC](#)

Maker Series Port

Text Data Mode [Change](#)

Communication Settings

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

Speed

Data Length 7 8

Parity NONE EVEN ODD

Stop Bit 1 2

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

Timeout (sec)

Retry

Wait To Send (ms)

RI / VCC RI VCC

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

Device-Specific Settings

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

No.	Device Name	Settings
<input type="button" value="Add"/> 1	<input type="text" value="PLC1"/>	<input type="text" value="Station No.=0,PC No.=255"/>

◆ Device Setting

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

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

Individual Device Settings

PLC1

Station No.

PC No.

■ Setting of External Device

Use the DIP switch of the Computer Link Unit for setting. Please refer to the manual of the External Device for more details.

◆ Mode Setting Rotary Switch

Settings	Setup Description
4	Protocol mode in Form 4

◆ Communication Setting DIP Switch

DIP Switch	Settings	Setup Description
SW11	OFF	Transmission speed setting
SW12	ON	
SW13	ON	
SW14	ON	Data bit setting
SW15	ON	Parity bit setting whether enable or disable
SW16	ON	Parity setting whether Even or Odd
SW17	ON	Stop bit setting
SW18	ON	Sum check setting whether enable or disable
SW19	ON	Main channel setting
SW20	OFF	Write setting during RUN whether enable or disable

◆ Station Setting Rotary Switch

Rotary Switch	Settings	Setup Description
X10	0	Station No. setting
X1	0	


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 Setting

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

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

■ Setting of External Device

Use the DIP switch of the Computer Link Unit for setting. Please refer to the manual of the External Device for more details.

◆ Mode Setting Rotary Switch

Settings	Setup Description
8	Protocol mode in Form 4

◆ Communication Setting DIP Switch

DIP Switch	Settings	Setup Description
SW11	ON	Main channel setting
SW12	OFF	Data bit setting
SW13	OFF	Transmission speed setting
SW14	ON	
SW15	ON	
SW16	ON	Parity bit setting whether enable or disable
SW17	ON	Parity setting whether Even or Odd
SW18	ON	Stop bit setting
SW21	ON	Sum check setting whether enable or disable
SW22	ON	Write setting during RUN whether enable or disable
SW23	ON	Termination resistance on the sending side whether exist or not exist
SW24	ON	Termination resistance on the receiving side whether exist or not exist

◆ Station Setting Rotary Switch

Rotary Switch	Settings	Setup Description
X10	0	Station No. setting
X1	0	

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 Series Port

Text Data Mode [Change](#)

Communication Settings

SIQ 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	Station No.=0, PC No.=255

◆ Device Setting

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

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

Individual Device Settings

PLC1

Station No.

PC No.

■ Setting of External Device

Use the DIP switch of the Computer Link Unit for setting. Please refer to the manual of the External Device for more details.

◆ Mode Setting Rotary Switch

Settings	Setup Description
8	Protocol mode in Form 4

◆ Communication Setting DIP Switch

DIP Switch	Settings	Setup Description
SW11	ON	Main channel setting
SW12	OFF	Data bit setting
SW13	OFF	Transmission speed setting
SW14	ON	
SW15	ON	
SW16	ON	Parity bit setting whether enable or disable
SW17	ON	Parity setting whether Even or Odd
SW18	ON	Stop bit setting
SW21	ON	Sum check setting whether enable or disable
SW22	ON	Write setting during RUN whether enable or disable
SW23	ON	Computer link/Multiple drop link selection
SW24	Unused	Unused

◆ Station Setting Rotary Switch

Rotary Switch	Settings	Setup Description
X10	0	Station No. setting
X1	0	


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 Setting

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

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

■ Setting of External Device

Use the DIP switch of the Computer Link Unit for setting. Please refer to the manual of the External Device for more details.

◆ Mode Setting Rotary Switch

Settings	Setup Description
8	Protocol mode in Form 4

◆ Communication Setting DIP Switch

DIP Switch	Settings	Setup Description
SW01	Unused	Unused
SW02	ON	Computer link/Multiple drop link selection
SW03	Unused	Unused
SW04	ON	Write setting during RUN whether enable or disable
SW05	OFF	Transmission speed setting
SW06	ON	
SW07	ON	
SW08	OFF	Data bit setting
SW09	ON	Parity bit setting whether enable or disable
SW10	ON	Parity setting whether Even or Odd
SW11	ON	Stop bit setting
SW12	ON	Sum check setting whether enable or disable

◆ Station Setting Rotary Switch

Rotary Switch	Settings	Setup Description
X10	0	Station No. setting
X1	0	


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 Setting

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

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

■ Setting of External Device

Use the DIP switch of the Computer Link Unit for setting. Please refer to the manual of the External Device for more details.

◆ Mode Setting Rotary Switch

Settings	Setup Description
8	Protocol mode in Form 4

◆ Communication Setting DIP Switch

DIP Switch	Settings	Setup Description
SW10	ON	Computer link/Multiple drop link selection
SW11	ON	Main channel setting
SW12	ON	Write setting during RUN whether enable or disable
SW13	OFF	Transmission speed setting
SW14	ON	
SW15	ON	
SW16	OFF	Data bit setting
SW17	ON	Parity bit setting whether enable or disable
SW18	ON	Parity setting whether Even or Odd
SW19	ON	Stop bit setting
SW20	ON	Sum check setting whether enable or disable

◆ Termination resistance DIP switch

DIP Switch	Settings	Setup Description
SW21	OFF	Unused
SW22	Option	Termination resistance on the sending side
SW23	Option	Termination resistance on the receiving side

◆ Station Setting Rotary Switch

Rotary Switch	Settings	Setup Description
X10	0	Station No. setting
X1	0	

4 Setup Items

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

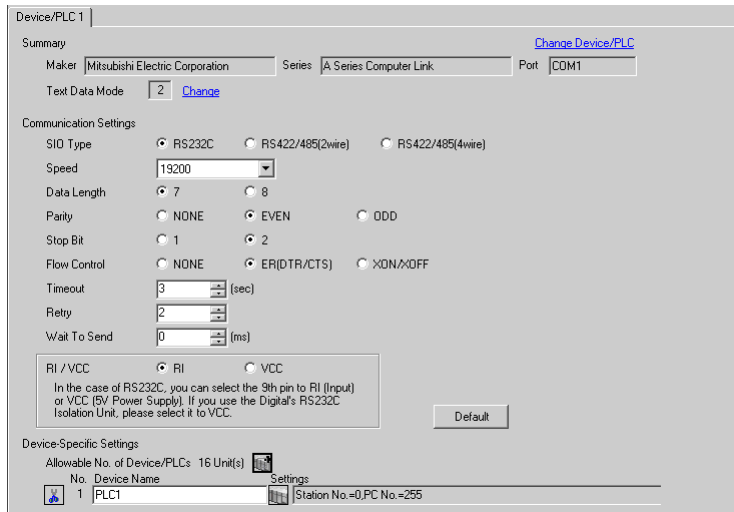
The setting of each parameter must be identical to that of External Device.

☞ "3 Example of Communication Setting" (page 8)

4.1 Setup Items in GP-Pro EX


■ Communication Settings

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

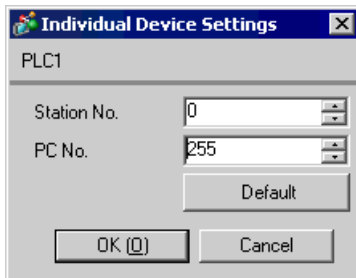


Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device.
Speed	Select speed between the External Device and the Display.
Data Length	Select data length.
Parity	Select how to check parity.
Stop Bit	Select stop bit length.
Flow Control	Select the communication 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. IMPORTANT <ul style="list-style-type: none"> Set the value to 5 seconds or more when you communicate via network.
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

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

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



Setup Items	Setup Description
Station No.	Enter a station number of the External Device, using 0 to 31.
PC No.	Set when you communicate via network. Use an integer from 0 to 64 to enter PC No. of the External Device to communicate. If you do not communicate via network, enter 255.

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

Comm.	Device	Option		
A Series Computer Link [COM1] Page 1/1				
SIO Type	RS232C			
Speed	19200			
Data Length	<input checked="" type="radio"/> 7 <input type="radio"/> 8			
Parity	<input type="radio"/> NONE <input checked="" type="radio"/> EVEN <input type="radio"/> ODD			
Stop Bit	<input type="radio"/> 1 <input checked="" type="radio"/> 2			
Flow Control	ER(DTR/CTS)			
Timeout(s)	3			
Retry	2			
Wait To Send(ms)	0			
Exit			Back	
			2005/09/02 12:31:03	

Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device. IMPORTANT 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.
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. IMPORTANT <ul style="list-style-type: none"> • Set the value to 5 seconds or more when you communicate via network.
Wait To Send (ms)	Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands.

■ Device Setting

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

Comm.	Device	Option		
A Series Computer Link		[COM1]	Page 1/1	
Device/PLC Name		[PLC1] ▼		
Station No.		0	▼	▲
PC No.		255	▼	▲
Exit		Back		2005/09/02 12:31:05

Setup Items	Setup Description
Device/PLC Name	Select the External Device for device setting. Device name is a title of External Device set with GP-Pro EX.(Initial value [PLC1])
Station No.	Enter a station number of the External Device, using 0 to 31.
PC No.	Set when you communicate via network. Use an integer from 0 to 64 to enter PC No. of the External Device to communicate. If you do not communicate via network, enter 255.

■ Option

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

Comm.	Device	Option		
A Series Computer Link		[COM1]	Page 1/1	
RI / VCC <input checked="" type="radio"/> RI <input type="radio"/> 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.				
		Exit	Back	2005/09/02 12:31:07

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 Mitsubishi Electric Corp. Please be assured there is no operational problem in applying the cable diagram shown in this manual.

- The FG pin of the External Device body 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..

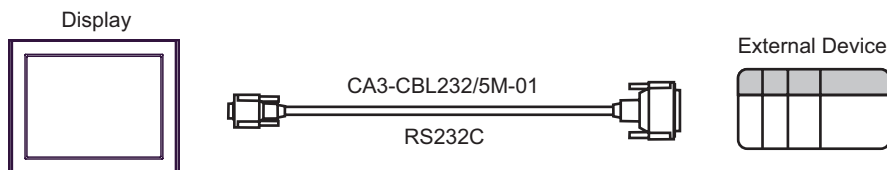
Cable Diagram 1

Display (Connection Port)	Cable		Notes
GP (COM1) IPC*1	A	RS232C cable by Pro-face CA3-CBL232/5M-01 (5m)	
	B	Your own cable	The cable length must be 15m or less.

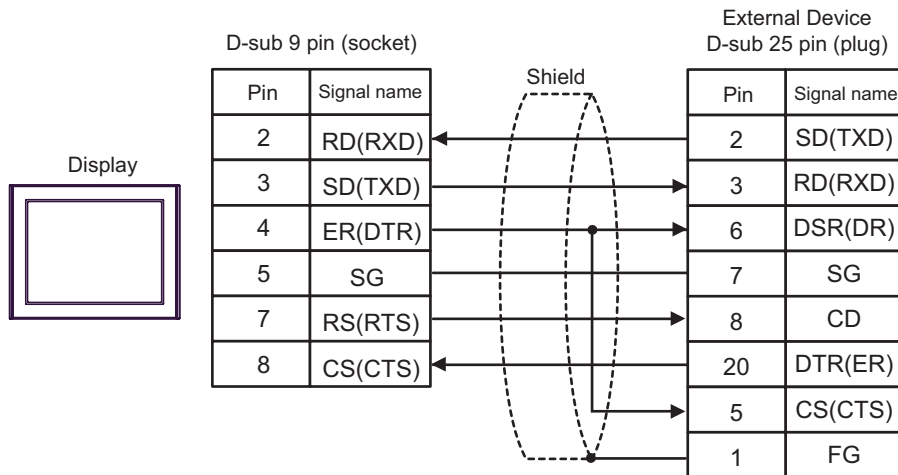
*1 Only the COM port which can communicate by RS-232C can be used.

☞ ■ COM Port of IPC (page 5)

A) When using the RS232C cable (CA3-CBL232/5M-01) by Pro-face



B) When using your own cable



Cable Diagram 2


IMPORTANT

- The termination resistance of $330\Omega/4W$ is required between SDA-SDB and RDA-RDB in the unit on the External Device.
- When the termination resistance is attached to the unit, you can turn ON the switch to load the termination resistance. Please refer to the manual of the External Device for more details.

Display (Connection Port)	Cable		Notes
GP ^{*1} (COM1) AGP-3302B (COM2) IPC ^{*2}	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 500m or less.
	B	Your own cable	
GP ^{*3} (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

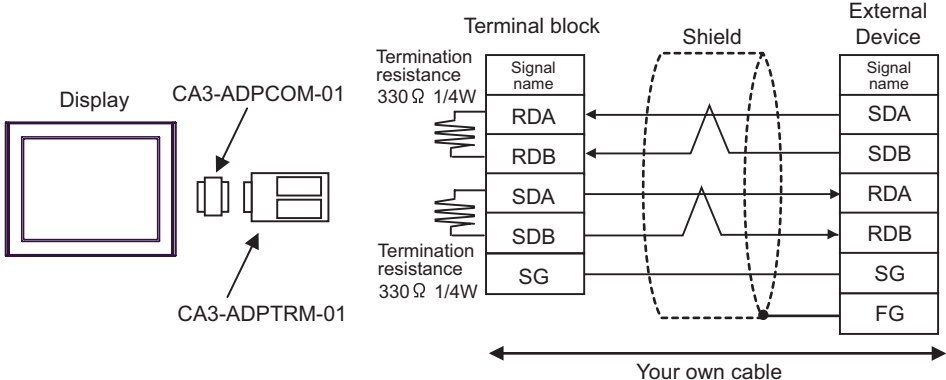
*2 Only the COM port which can communicate by RS-422/485 (4 wire) can be used.

 ■ COM Port of IPC (page 5)

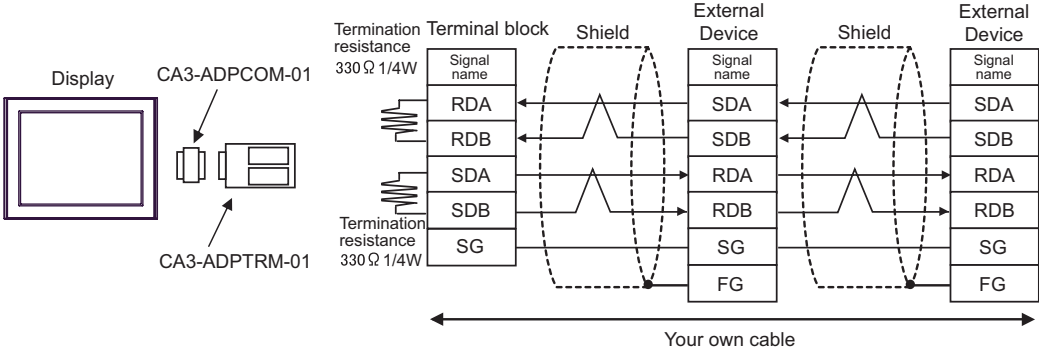
*3 All GP models except GP-3200 series and AGP-3302B

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

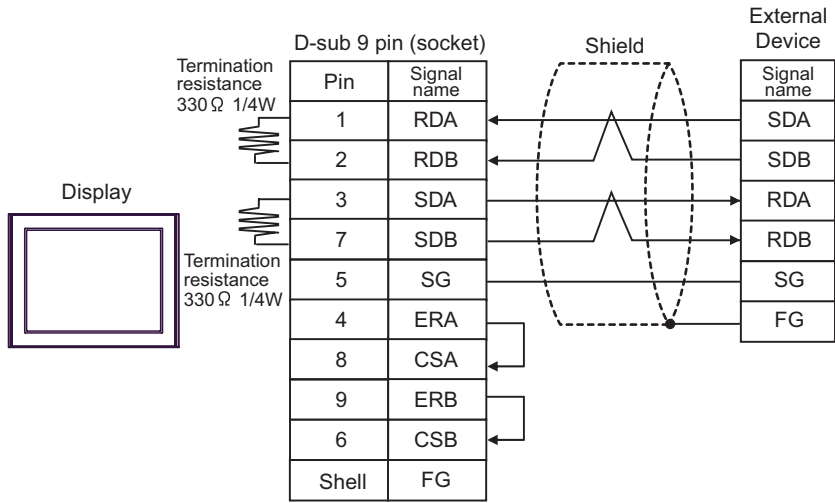


- 1:n Connection

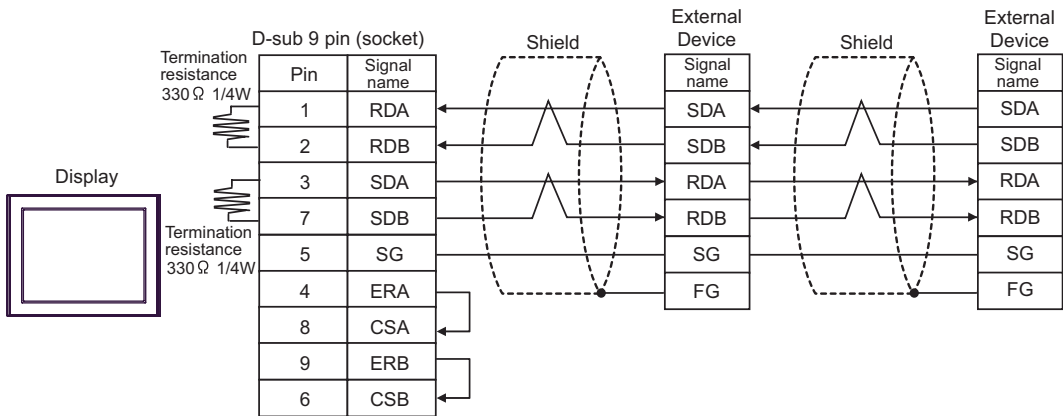


B) When using your own cable

- 1:1 Connection

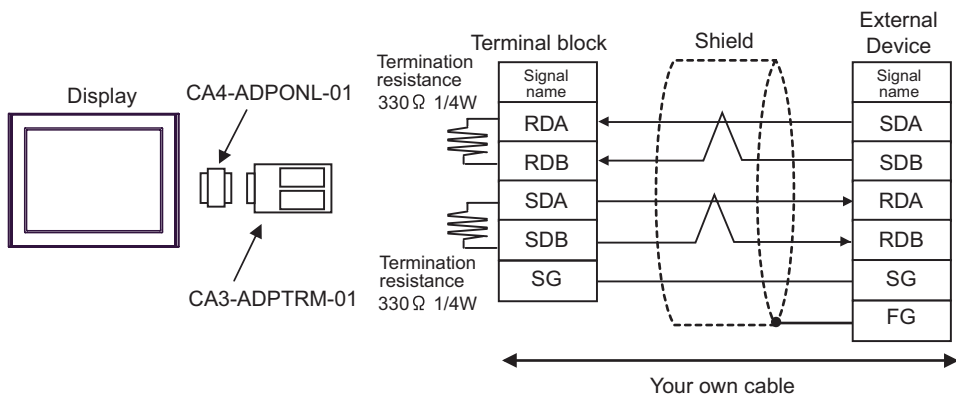


- 1:n Connection

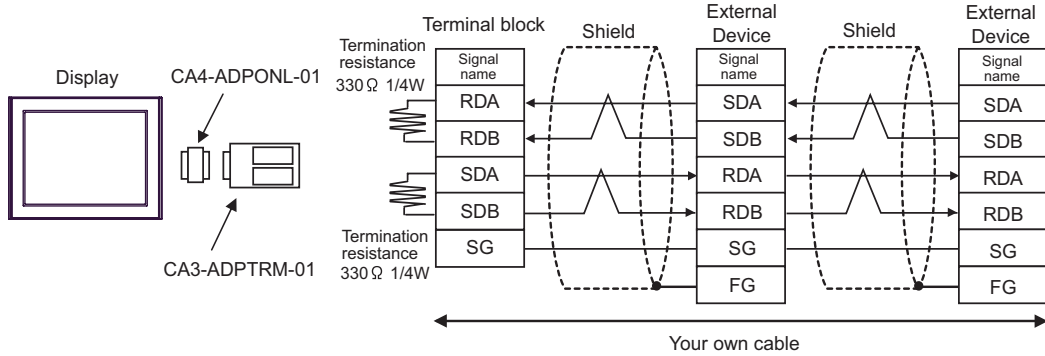


C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face, and your own cable

- 1:1 Connection

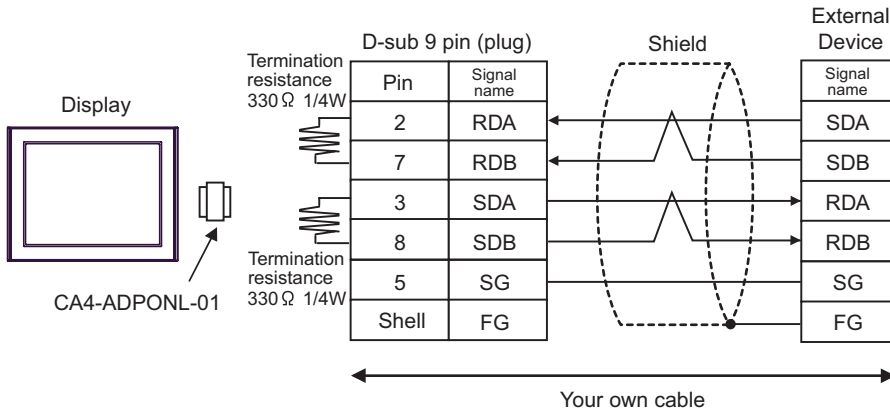


- 1:n Connection

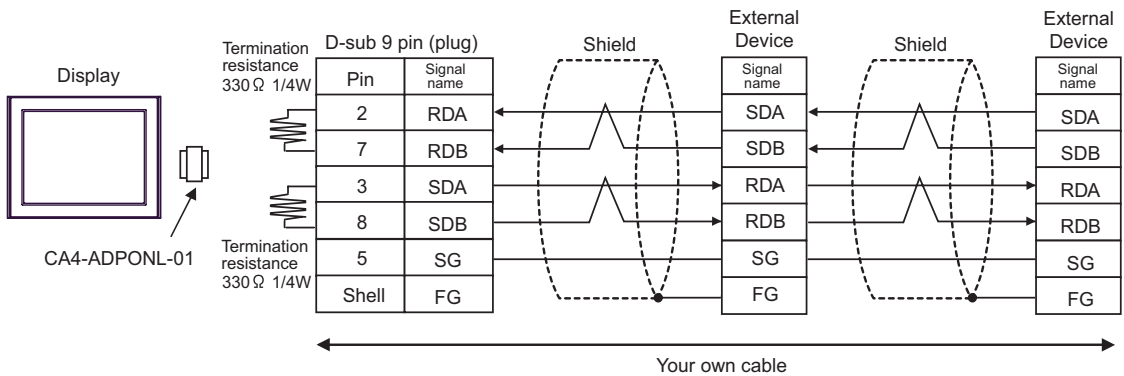


D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

- 1:1 Connection



- 1:n Connection



NOTE • In order to improve noise resistance characteristics, please use a twist pair whole shield cable as a transmission cable and ground the shield line.

Cable Diagram 3

Display (Connection Port)	Cable		Notes
GP (COM1) IPC*1	A	Mitsubishi Q link cable by Pro-face CA3-CBLLNKMQ-01 (5m)	
	B	Your own cable	The cable length must be 15m or less.

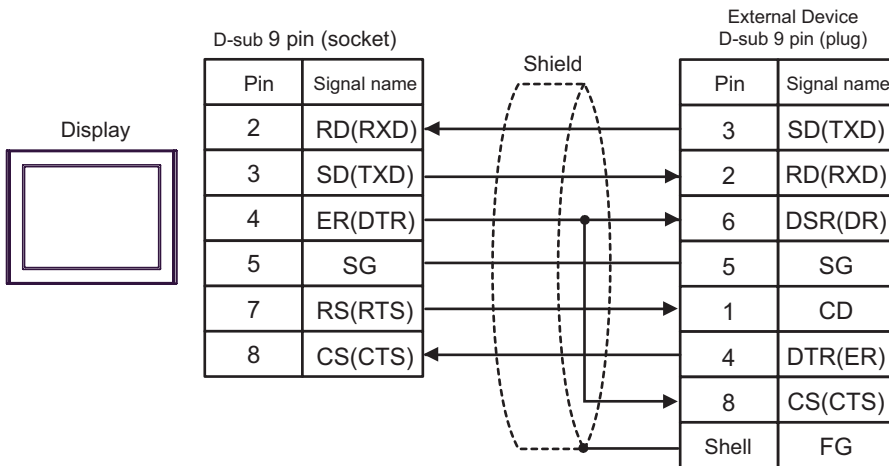
*1 Only the COM port which can communicate by RS-232C can be used.

☞ ■ COM Port of IPC (page 5)

A) When using Mitsubishi Q link cable (CA3-CBLLNKMQ-01) by Pro-face



B) When using your own cable



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 MELSEC AnA Series, Q Series A Mode


 This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Notes
Input	X00000 - X01FFF (X007FF* ¹)	X00000 - X01FF0 (X007F0* ¹)	L/H	***0
Output	Y00000 - Y01FFF (Y007FF* ¹)	Y00000 - Y01FF0 (Y007F0* ¹)		***0
Internal Relay	M0000 - M8191	M0000 - M8176		±16
Latch Relay	L000000 - L008191	L000000 - L008176		±16
Step Relay	S000000 - S008191	S000000 - S008176		±16
Link Relay	B00000 - B01FFF (B00FFF* ¹)	B00000 - B01FF0 (B00FF0* ¹)		***0
Annunciator	F000000 - F002047	F000000 - F002032		±16
Special Relay	M9000 - M9255	M9000 - M9240		±16
Timer (Contact)	TS00000 - TS02047	-----		
Timer (Coil)	TC00000 - TC02047	-----		
Counter (Contact)	CS00000 - CS01023	-----		
Counter (Coil)	CC00000 - CC01023	-----		
Timer (Current Value)	-----	TN00000 - TN02047		
Counter (Current Value)	-----	CN00000 - CN01023		
Data Register	-----	D00000 - D08191 (D06143* ¹)		Bit15
Link Register	-----	W0000 - W1FFF		BitF
File Register	-----	R00000 - R08191	Bit15	
Extension File Register	-----	0R0000 - 0R8191 : 64R0000 - 64R8191	Bit15	
Special Register* ²	-----	D09000 - D09255	Bit15	


*1 Shows the maximum device number that can be specified in the computer link unit except AJ71UC24, A1SJ71UC24 - R2/R4/PRF.









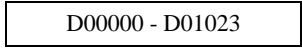





*2 Divided into 3 areas, for read only, for write only, for the system. When you write outside the write enable range, CPU error of the External Device may occur.

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 MELSEC AnN Series

 This address can be specified as system data area.


Device	Bit Address	Word Address	32bits	Notes
Input	X00000 - X007FF	X00000 - X007F0	L/H	
Output	Y00000 - Y007FF	Y00000 - Y007F0		
Internal Relay	M0000 - M2047	M0000 - M2032		
Latch Relay	L000000 - L002047	L000000 - L002032		
Step Relay	S000000 - S002047	S000000 - S002032		
Link Relay	B00000 - B003FF	B00000 - B003F0		
Annunciator	F000000 - F000255	F000000 - F000240		
Special Relay	M9000 - M9255	M9000 - M9240		
Timer (Contact)	TS00000 - TS00255	-----		
Timer (Coil)	TC00000 - TC00255	-----		
Counter (Contact)	CS00000 - CS00255	-----		
Counter (Coil)	CC00000 - CC00255	-----		
Timer (Current Value)	-----	TN00000 - TN00255		
Counter (Current Value)	-----	CN00000 - CN00255		
Data Register	-----	 D00000 - D01023		
Link Register	-----	W0000 - W03FF		
File Register	-----	R00000 - R08191		
Extension File Register	-----	0R0000 - 0R8191 : 28R0000 - 28R8191		
Special Register*1	-----	D09000 - D09255		







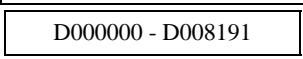



*1 Divided into 3 areas, for read only, for write only, for the system. When you write outside the write enable range, CPU error of the External Device may occur.

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 MELSEC QnA Series

 This address can be specified as system data area.

Device	Bit Address	Word Address	32bits	Notes
Input Relay	X0000 - X1FFF	X0000 - X1FF0	[L / H]	
Output Relay	Y0000 - Y1FFF	Y0000 - Y1FF0		
Internal Relay	M0000 - M8191	M0000 - M8176		
Special Relay	M9000 - M9255 (SM1000 - SM1255)	M9000 - M9240 (SM1000 - SM1240)		
Annunciator	F00000 - F02047	F00000 - F02047		
Link Relay	B00000 - B01FFF	B00000 - B01FF0		
Timer (Contact)	TS00000 - TS02047	-----		
Timer (Coil)	TC00000 - TC02047	-----		
Counter (Contact)	CS00000 - CS01023	-----		
Counter (Coil)	CC00000 - CC01023	-----		
Timer (Current Value)	-----	TN00000 - TN02047		
Counter (Current Value)	-----	CN00000 - CN01023		
Data Register	-----	 D000000 - D008191		
Special Register	-----	D009000 - D009255 (SD1000 - SD1255)		
Link Register	-----	W0000 - W1FFF		

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"

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.

Device	Device Name	Device Code (HEX)	Address Code
Input	X	0080	Value of word address divided by 0x10
Output	Y	0081	Value of word address divided by 0x10
Internal Relay	M (0000 - 8991)	0082	Value of word address divided by 16
Special Relay	M (9000 - 9991)	0083	Value of (word address - 9000) divided by 16
Latch Relay	L	0084	Value of word address divided by 16
Step Relay	S	0087	Value of word address divided by 16
Link Relay	B	0088	Value of word address divided by 0x10
Annunciator	F	0085	Value of word address divided by 16
Timer (Current Value)	TN	0060	Word Address
Counter (Current Value)	CN	0061	Word Address
Data Register Special Register	D	0000	Word Address
Link Register	W	0002	Word Address
File Register	R	000F	Word Address
Extension File Register	0R	0010	Word Address
	:	:	:
	31R	002F	Word Address
	:	:	:
	64R	0050	Word Address

8 Error Messages

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

Item	Description
No.	Error 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> <p>NOTE</p> <ul style="list-style-type: none"> • IP address is displayed such as "IP address(Decimal): MAC address(Hex)". • Device address is displayed such as "Address: Device address". • Received error codes are displayed such as "Decimal[Hex]".

Display Examples of Error Messages

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

-
- 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.
-

