Yaskawa Electric Corporation

MEMOBUS SIO Driver

1	System Configuration	3
2	Selection of External Device	
3	Example of Communication Setting	10
4	Setup Items	53
5	Cable Diagram	58
6	Supported Device	90
7	Device Code and Address Code	95
8	Error Messages	97

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	(P 11 Custom Configuration 1 (2000 2)
	This section shows the types of External	"1 System Configuration" (page 3)
	Devices which can be connected and SIO	
	type.	
2	Selection of External Device	
	Select a model (series) of the External	"2 Selection of External Device" (page 9)
	Device to be connected and connection	
	method.	
3	Example of Communication Settings	[©] "3 Example of Communication Setting"
	This section shows setting examples for	
	communicating between the Display and	(page 10)
	the External Device.	
4	Setup Items	~~
.	This section describes communication	🖙 "4 Setup Items" (page 53)
	setup items on the Display.	
	Set communication settings of the Display	
	with GP-Pro EX or in off-line mode.	
5	Cable Diagram	~
	This section shows cables and adapters	"5 Cable Diagram" (page 58)
	for connecting the Display and the	
	External Device.	
	L	
	Operation	

1 System Configuration

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

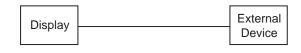
Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
		CN1 on CP217IF	RS232C	"3.1 Setting Example 1" (page 10)	" Cable Diagram 1" (page 58)
	CP-9200SH	CN2 on CP217IF	RS232C	"3.1 Setting Example 1" (page 10)	" Cable Diagram 2" (page 59)
Control Pack		CN3 on CP217IF	RS422/485 (4wire)	"3.2 Setting Example 2" (page 15)	" Cable Diagram 3" (page 60)
	CP-9200 CP-9200H	Port on the CPU unit	RS232C	"3.13 Setting Example 13" (page 49)	" Cable Diagram 12" (page 84)
	MP920	PORT1, PORT2 on the CPU unit	RS232C	"3.3 Setting Example 3" (page 20)	" Cable Diagram 1" (page 58)
		CN1, CN2 on 217IF	RS232C	"3.3 Setting Example 3" (page 20)	" Cable Diagram 9" (page 78)
		CN3 on 217IF	RS422/485 (4wire)	"3.4 Setting Example 4" (page 23)	" Cable Diagram 4" (page 63)
MP900			RS422/485 (2wire)	"3.5 Setting Example 5" (page 26)	" Cable Diagram 5" (page 65)
WP900	MP930	PORT1, PORT2 on the CPU unit	RS232C	"3.3 Setting Example 3" (page 20)	" Cable Diagram 1" (page 58)
	MP940 PORT1 on the CPU unit PORT2 on the CPU unit		RS232C	"3.3 Setting Example 3" (page 20)	" Cable Diagram 6" (page 69)
		PORT2 on the CPU	RS422/485 (4wire)	"3.4 Setting Example 4" (page 23)	" Cable Diagram 7" (page 70)
		unit	RS422/485 (2wire)	"3.5 Setting Example 5" (page 26)	" Cable Diagram 8" (page 73)

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
		Serial port on 218IF-01	RS232C	"3.6 Setting Example 6" (page 29)	" Cable Diagram 1" (page 58)
		Serial port on 218IF-02	RS232C	"3.6 Setting Example 6" (page 29)	" Cable Diagram 1" (page 58)
	MP2300	Serial port on 260IF-01	RS232C	"3.6 Setting Example 6" (page 29)	" Cable Diagram 1" (page 58)
MP2000	MP2200 MP2310 MP2300S	Serial port on 261IF-01	RS232C	"3.6 Setting Example 6" (page 29)	" Cable Diagram 1" (page 58)
	WIF 23003	PORT on 217IF-01	RS232C	"3.6 Setting Example 6" (page 29)	" Cable Diagram 1" (page 58)
		RS422/485 on 217IF-01	RS422/485 (4wire)	"3.7 Setting Example 7" (page 33)	" Cable Diagram 7" (page 70)
			RS422/485 (2wire)	"3.8 Setting Example 8" (page 37)	" Cable Diagram 8" (page 73)
	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 41)	" Cable Diagram10" (page 79)
		JAMSC- 120NOM26100			
MEMOCON GL		JAMSC- 120NOM27100	RS422/485 (4wire)	"3.10 Setting Example 10" (page 43)	" Cable Diagram 11" (page 80)
	MEMOBUS port on the CPU30 unit MEMOBUS port on the CPU35 unitGL130JAMSC- 120NOM26100JAMSC- 120NOM27100	the CPU30 unit MEMOBUS port on	RS232C	"3.9 Setting Example 9" (page 41)	" Cable Diagram10" (page 79)
			(page 19)		
			RS422/485 (4wire)	"3.10 Setting Example 10" (page 43)	" Cable Diagram 11" (page 80)

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
	U84,84J	JAMSC-C8110	RS232C	"3.11 Setting Example 11" (page 45)	" Cable Diagram 12" (page 84)
	U84S	JAMSC-C8610	RS232C	"3.11 Setting Example 11" (page 45)	" Cable Diagram 12" (page 84)
MEMOCON	GL40S	JAMSC-IF61 JAMSC-IF41A	RS232C	"3.11 Setting Example 11" (page 45)	" Cable Diagram 12" (page 84)
SC	GL60H GL70H	JAMSC-IF60 JAMSC-IF61	RS232C	"3.11 Setting Example 11" (page 45)	" Cable Diagram 12" (page 84)
	GL60S	JAMSC-IF60 JAMSC-IF61	RS232C	"3.11 Setting Example 11" (page 45)	" Cable Diagram 12" (page 84)
		JAMSC-IF612	RS422/485 (4wire)	"3.12 Setting Example 12" (page 47)	" Cable Diagram 13" (page 85)
MEMOCON Micro	Micro	Port on the CPU unit	RS232C	"3.14 Setting Example 14" (page 51)	" Cable Diagram 14" (page 89)

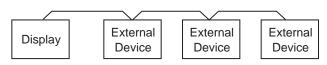
Connection Configuration

• 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			
Ochos	RS-232C	RS-422/485(4 wire)	RS-422/485(2 wire)	
PS-2000B	COM1 ^{*1} , COM2, COM3 ^{*1} , COM4	-	-	
PS-3450A, PS-3451A	COM1, COM2 ^{*1*2}	COM2 ^{*1*2}	COM2 ^{*1*2}	
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}	
PL-3000B	COM1 ^{*1*2} , COM2 ^{*1} , COM3, COM4	COM1 ^{*1*2}	COM1 ^{*1*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 ^{*1}	Reserve (always OFF)	
2	OFF	SIO type: RS-232C	
3	OFF	510 type. K5-252C	
4	OFF	Output mode of SD (TXD) data: Always output	
5	OFF	Terminal resistance (220 Ω) insertion to SD (TXD): None	
6	OFF	Terminal resistance (220 Ω) 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	- KS (K15) Auto control mode. Disable	

*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	510 type. K5-422/485	
4	OFF	Output mode of SD (TXD) data: Always output	
5	OFF	Terminal resistance (220 Ω) insertion to SD (TXD): None	
6	OFF	Terminal resistance (220 Ω) 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	510 type. K5-422/485	
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.

💰 New Project File		×
GP-Pro	Device/PLC	
	Maker YASKAWA Electric Corporat	tion
	Series MEMOBUS SIO	•
	🔲 Use System Area	Refer to the manual of this Device/PLC
	Connection Method	
	Port COM1 💌	
		Go to Device/PLC Manual
Back	(B) Communication Settings N	ew Logic New Screen Cancel

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. Image: "1 System Configuration" (page 3)		
	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 (Direct Access Method)"		
Use System Area	This can be also set with GP-Pro EX or in off-line mode of the Display.		
	Cf. GP-Pro EX Reference Manual "5.17.6 Setting Guide of [System Setting Window], Setting Guide of [Main Unit Settings], System Area Setting"		
	Cf. Maintenance/Troubleshooting "2.15.1 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				
SID Type 💿 RS232C 🔿 RS422/485(2wire) 🔿 RS422/485(4wire)				
Speed 9600 💌				
Data Length 🔿 7 📀 8				
Parity C NONE C EVEN C ODD				
Stop Bit 💿 1 💿 2				
Flow Control O NONE O ER(DTR/CTS) O XON/XOFF				
Timeout 3 📑 (sec)				
Retry 2 📑				
Wait To Send 0 🙀 (ms)				
RI / VCC C RI C 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 I PLC1 Image: Settings Settings				

Device Setting

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

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

💰 Individual	Device Sett	ings 🗙
PLC1		
Series Please reconfirm you are using if y		ettings that
Slave Address	1	*
		Default
)K (<u>D)</u>	Cancel

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].

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

• 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.

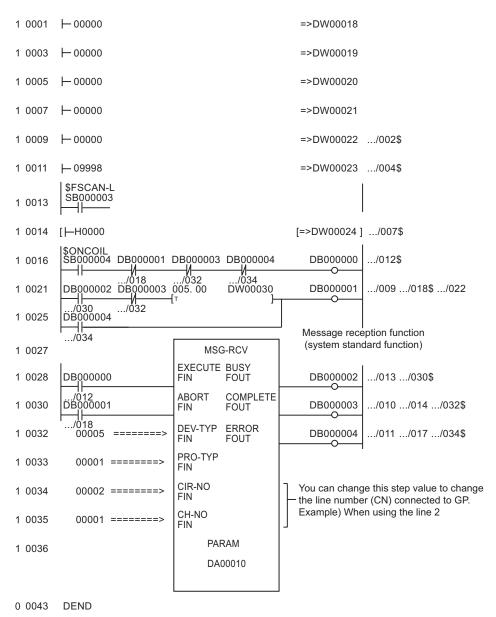
Setup Items	Setup Description
Transmission Protocol	Memobus
Master/Slave	Slave
Device address	Device address of the External Device
Serial I/F	RS-232C
Transmission Mode	RTU
Data Length	8Bit
Parity Bit	even
Stop Bit	1Stop
Baud Rate	19.2K
Send Delay	Not specified

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.

1 0000 "### MSG-RCV ###"



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.

Devic	e/PLC1						
Sum	mary					<u>C</u>	hange Device/PLC
	Maker YASKAWA B	Electric Corporation	Driver MEM	OBUS S	510	Port	COM1
	Text Data Mode	1 <u>Change</u>					
Com	munication Settings						
	SIO Type	C RS232C	C RS422/485(2wire)	6	RS422/485(4wire)		
	Speed	9600	•				
	Data Length	C 7	• 8				
	Parity	C NONE	EVEN	0.00	DD		
	Stop Bit	€ 1	O 2				
	Flow Control	C NONE	ER(DTR/CTS)	() X0)N/XOFF		
	Timeout	3 📫 (s	sec)				
	Retry	2 +					
	Wait To Send	n) 🗧 🛛 🔾	ms)				
	RI / VCC	© RI	O 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							
Dev	ice-Specific Settings						
50.	Allowable No. of Devi	ice/PLCs 16 Unit(s) 📊				
	No. Device Nar	ne	Settings				
	👗 1 PLC1		Series=MPS	300/200	00/CP-9200SH,Slave Addre	ess=1	

Device Setting

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

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

💰 Individual	Device Set	tings 🛛 🗙
PLC1		
Series Please reconfirm you are using if y		settings that
Slave Address	1	•
		Default
)K (<u>D)</u>	Cancel

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].

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

• 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.

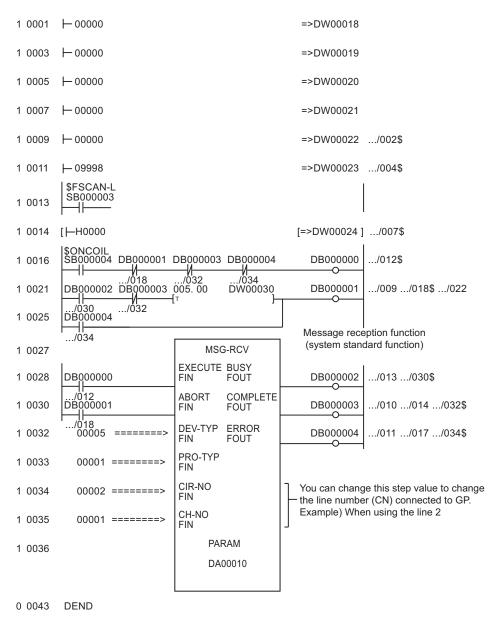
Setup Items	Setup Description
Transmission Protocol	Memobus
Master/Slave	Slave
Device address	Device address of the External Device
Serial I/F	RS-485
Transmission Mode	RTU
Data Length	8Bit
Parity Bit	even
Stop Bit	1Stop
Baud Rate	19.2K
Send Delay	Not specified

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.

1 0000 "### MSG-RCV ###"



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.

Devic	e/PLC 1		
Sumi	mary		Change Device/PLC
	Maker YASKAWA E	lectric Corporation	Driver MEMOBUS SIO Port COM1
	Text Data Mode	1 <u>Change</u>	
Com	munication Settings		
	SIO Type	• R\$232C	O RS422/485(2wire) O RS422/485(4wire)
	Speed	19200	V
	Data Length	O 7	• 8
	Parity	O NONE	EVEN ODD
	Stop Bit	⊙ 1	© 2
	Flow Control	O NONE	ER(DTR/CTS) C XON/XOFF
	Timeout	3 📫 (;	sec)
	Retry	2 🔹	
	Wait To Send	0 🔅 (r	ms)
	RI / VCC	• BI	O VCC
		Supply). If you use	t the 9th pin to RI [Input] the Digital's RS232C Default
Devi	ce-Specific Settings		
	Allowable No. of Devi	ice/PLCs 16 Unit(s) 📊
	No. Device Nar	ne	Settings
	👗 1 PLC1		Series=MP900/2000/CP-9200SH,Slave Address=1

Device Setting

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

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

💰 Individual Device 🗧	Settings 🗙
PLC1	
Series MP900/2 Please reconfirm all of addr you are using if you have c	
Slave Address 1	•
	Default
OK (<u>O</u>)	Cancel

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 ^{*1}	Not specified

*1 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].

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.

1 0000	SFSCAN-L SB000003								
1 0001	IFON								
2 0002		cute only once when oower is turned on.	 ⇒DW00008	Coil offset setting					
2 0004	⊢ 00000 of th	alize the parameter e message reception tion.)	⇒DW00009	Input relay offset setting					
2 0006	⊢ 00000		⇒DW00010	Input register offset setting					
2 0008	⊢ 00000		⇒DW00011	Holding register offset setting					
2 0010	⊢ 00000		⇒DW00012	Write range LO					
2 0012	⊣ 32787		⇒DW00013	Write range HI					
2 0014	⊢ 00000		⇒DW00014	Register for system clear					
2 0016			⇒DW00024	Normal path counter clear …/036@	1 0036 [INC	Normal counter DW00024]		
2 0017			⇒DW00025	Error counter clear	1 0037	Error complet DB00021			
1 0018	IEND	1				/034			
1 0019		MSC-RCV	Messag	e reception function (system standard function)	1 0038		Error counter		
1 0020	SB000004	EXCUTE BUS	÷ L	000210	2 0039	INC	DW00025		Process result save
1 0022	SB000004	ABORT COM	Complete	000211 · · · /035	2 0040	DW0000	0	⇒DW00026	•••/053S Status save
1 0024	00005	FIN FOU DEV-TYP ERR FIN FOU	OR Error	000212 /037	2 0042	DW0000	1	⇒DW00027	
1 0025	00001	PRO-TYP FIN	' <u> </u>		2 0044	DW0000	2	⇒DW00028	Command receiving ST# hold
1 0026	00001	CIR-NO FIN		et 8 to Port1, Port2 on MP930CPU. et 5 when using CN1, CN2, CN3 on CP-217IF.	2 0046	DW00004	4	⇒DW00029	FC save
1 0027	00001	CH-NO FIN			2 0048	DW0000	5	⇒DW00030	Data address hold
1 0028		PARAM DA00000			2 0050	DW0000	6	⇒DW00031	Data size hold
		DA00000] E	nter the number of Port or CN connected to GP.	2 0052	DW0000	7	⇒DW00032	Target CP# save
1 0035	Normal complet DB000211	te			1 0054	IEND		Auto recep	tion function invalid (*1)
					1 0056	SB000	004		SB006940
	1032				1 0058	SB000	004		SB006941
					0 0060	DEND			I
N	DTE	To con	municate	e with the invalid auto recep	otion fur	nction	on port 1 or	port 2 of t	he 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.

Devi	ce/PLC 1		
Sur	nmary		Change Device/PLC
	Maker YASKAWA B	Electric Corporation	n Driver MEMOBUS SIO Port COM1
	Text Data Mode	1 <u>Change</u>	
Con	nmunication Settings		
	SIO Type	C RS232C	C RS422/485(2wire) © RS422/485(4wire)
	Speed	19200	•
	Data Length	C 7	• 8
	Parity	C NONE	EVEN O ODD
	Stop Bit	© 1	C 2
	Flow Control	C NONE	ER(DTR/CTS) O XON/XOFF
	Timeout	3 📫 (s	(sec)
	Retry	2 🔹	
	Wait To Send	0 🔅 (1	(ms)
	RI / VCC	© BI	C VCC
		Supply). If you use	ethe 9th pin to RI (Input) ethe Digital's RS232C
		0 0000011 10 100.	Default
Dev	/ice-Specific Settings		
	Allowable No. of Dev No. Device Na		ISJ Will Settings
	👗 1 PLC1		Series=MP900/2000/CP-9200SH,Slave Address=1

Device Setting

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

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

💰 Individual	Device Sett	ings	×
PLC1			
Series	MP900/2000/	CP-9200SH	•
	n all of address s you have change		
Slave Address	1	1	-
		Default	
	OK (<u>D)</u>	Cancel	

Ladder Software Setting

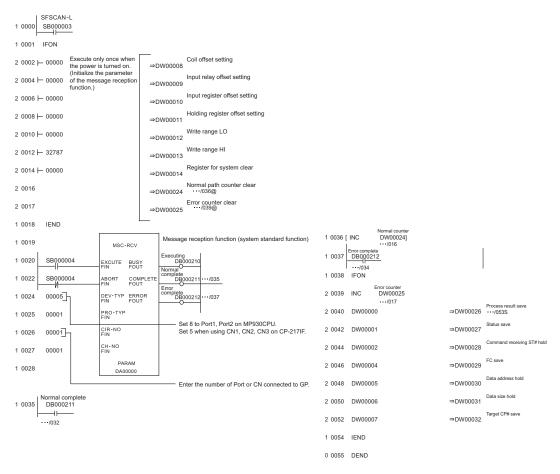
- 1 Right-click [root] in the browser of the ladder software "MPE720" and select [Group Folder] from [New].
- **2** The [New] dialog box is displayed. Enter the optional group name (ex. "GROUP") and click [OK].
- **3** The group folder (ex. "GROUP") is created under the [root] in the browser of "MPE720". 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 ^{*1}	Not specified

*1 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].

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					Cł	ange Device/PLC
Maker YASKAWA Elec	stric Corporation	Driver MEM	OBUS SI	0	Port	COM1
Text Data Mode 1	Change					
Communication Settings						
SIO Type 🔍	D RS232C 🛛 🖲	RS422/485(2wire)	C	RS422/485(4wire)		
Speed	19200	•				
Data Length 🤇	7 0	8				
Parity C	NONE 🔍	EVEN	O 000)		
Stop Bit	01 0	2				
Flow Control	D NONE 💽	ER(DTR/CTS)	O XOM	N/XOFF		
Timeout	3 🕂 (sec)					
Retry 2	2					
Wait To Send) 🕂 (ms)					
RI/VCC @	D RI C					
In the case of RS232C or VCC (5V Power Sup			:)			
Isolation Unit, please s		: Digitalis Hozozo		Default		
Device-Specific Settings						
Allowable No. of Device/	/PLCs 16 Unit(s)	the state				
No. Device Name		Settings				
👗 1 PLC1		Series=MPS	900/2000)/CP-9200SH,Slave Addre	ss=1	

Device Setting

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

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

💰 Individual	Device Sett	ings 🗙
PLC1		
Series	MP900/2000/0	CP-9200SH 💌
	n all of address si you have change	
Slave Address	1	•
		Default
	DK (<u>D)</u>	Cancel

Ladder Software Setting

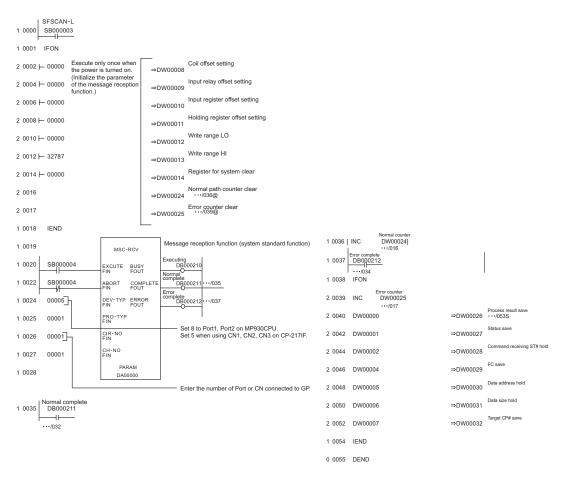
- 1 Right-click [root] in the browser of the ladder software "MPE720" and select [Group Folder] from [New].
- **2** The [New] dialog box is displayed. Enter the optional group name (ex. "GROUP") and click [OK].
- **3** The group folder (ex. "GROUP") is created under the [root] in the browser of "MPE720". 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 ^{*1}	Not specified

*1 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].

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/PLC1	
Summary	Change Device/PLC
Maker VASKAWA Electric Corporation Driver MEMOBUS SID	Port COM1
Text Data Mode 1 Change	
Communication Settings	
SIO Type ③ RS232C	422/485(4wire)
Speed 19200 💌	
Data Length C 7 💿 8	
Parity ONONE OEVEN ODD	
Stop Bit 💿 1 💿 2	
Flow Control C NONE C ER(DTR/CTS) C XON/XO	FF
Timeout 3 📑 (sec)	
Retry 2	
Wait To Send 0 📫 (ms)	
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	9200SH,Slave Address=1
1 PLC1	9200SH,Slave Address=1

Device Setting

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

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

💰 Individual Device Settings 💦 🎽	٢
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	I
OK (<u>0</u>) Cancel	

Ladder Software Setting

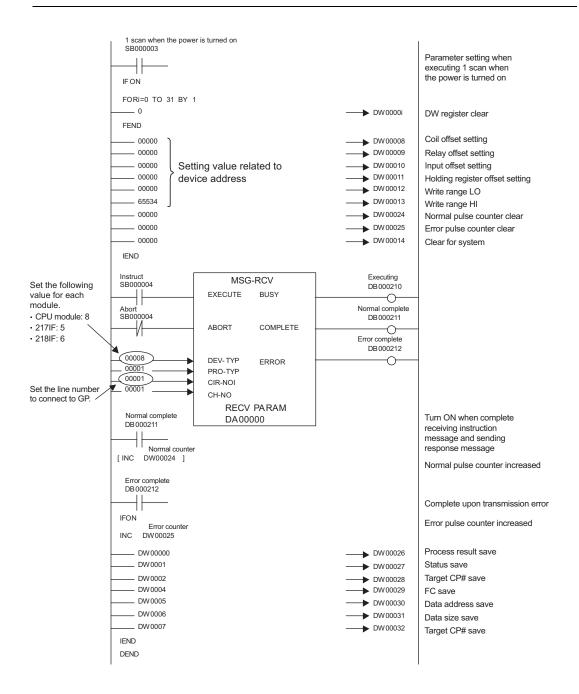
- 1 Right-click [root] in the browser of the ladder software "MPE720" and select [Group Folder] from [New].
- **2** The [New] dialog box is displayed. Enter the optional group name (ex. "GROUP") and click [OK].
- **3** The group folder (ex. "GROUP") is created under the [root] in the browser of "MPE720". 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 ^{*1}	Not specified

*1 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].

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, the RS232C connector on 218IF-01, and the RS232C connector on 218IF-02 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	e/PLC 1		
Sum	mary		Change Device/PLC
	Maker YASKAWA B	lectric Corporation	Driver MEMOBUS SIO Port COM1
	Text Data Mode	1 <u>Change</u>	
Comr	munication Settings		
	SIO Type	C RS232C	O RS422/485(2wire)
	Speed	19200	V
	Data Length	O 7	• 8
	Parity	O NONE	EVEN ODD
	Stop Bit	⊙ 1	© 2
	Flow Control	O NONE	ER(DTR/CTS) C XON/XOFF
	Timeout	3 📫 (;	sec)
	Retry	2 🔹	
	Wait To Send	0 🔅 (r	ms)
	RI / VCC	© BI	O VCC
		Supply). If you use	t the 9th pin to RI (Input) the Digital's RS232C Default
	ce-Specific Settings Allowable No. of Devi		
	Allowable No. or Devi No. Device Nar		sj uig Settings
[👗 1 PLC1		Series=MP900/2000/CP-9200SH,Slave Address=1

Device Setting

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

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

💣 Individual Device Sett	ings 🗙
PLC1	
Series MP900/2000/0 Please reconfirm all of address s you are using if you have change	ettings that
Slave Address 1	-
	Default
OK (<u>0</u>)	Cancel

Ladder Software Setting

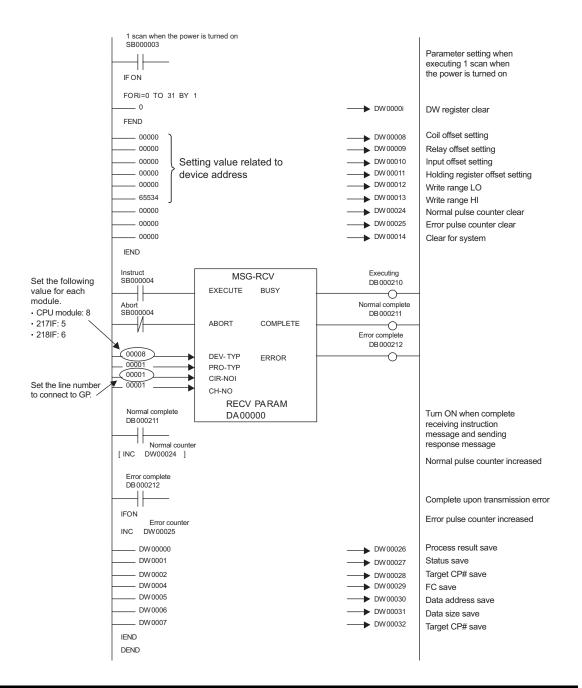
- 1 Right-click [root] in the browser of the ladder software "MPE720" and select [Group Folder] from [New].
- **2** The [New] dialog box is displayed. Enter the optional group name (ex. "GROUP") and click [OK].
- **3** The group folder (ex. "GROUP") is created under the [root] in the browser of "MPE720". 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 ^{*1}	Not specified

*1 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].

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, the RS232C connector on 218IF-01, and the RS232C connector on 218IF-02 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/PLC1	
Summary Change Devic	se/PLC
Maker VASKAWA Electric Corporation Driver MEMOBUS SIO Port COM1	
Text Data Mode 1 Change	
Communication Settings	
SIO Type C RS232C © RS422/485(2wire) C RS422/485(4wire)	
Speed 19200	
Data Length O 7 📀 8	
Parity O NONE O EVEN O ODD	
Stop Bit 💿 1 🔿 2	
Flow Control C NONE C ER(DTR/CTS) C XON/XOFF	
Timeout 3 🚔 (sec)	
Retry 2	
Wait To Send 0 📑 (ms)	
RI/VCC © RI O 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 ISeries=MP900/2000/CP-9200SH,Slave Address=1	

Device Setting

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

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

💰 Individual Device Sett	ings 🗙
PLC1	
Series MP900/2000/C Please reconfirm all of address se you are using if you have change	ettings that
Slave Address 1 	Default 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.

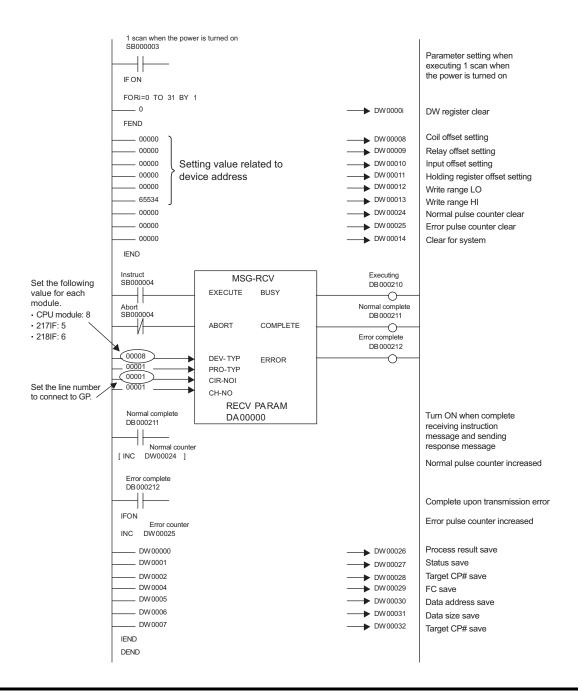
Setup Items	Setup Description
Transmission Protocol	Memobus
Master/Slave	Slave
Device address	Device address of the External Device
Serial I/F	RS-485
Transmission Mode	RTU
Data Length	8Bit
Parity Bit	even
Stop Bit	1Stop
Baud Rate	19.2K
Send Delay	Not specified
Auto Reception ^{*1}	Not specified

*1 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, the RS232C connector on 218IF-01, and the RS232C connector on 218IF-02 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 YASKAWA I	Electric Corporation	Driver MEMOBUS SIO Port COM1
Text Data Mode	1 <u>Change</u>	
Communication Settings		
SIO Type	• R\$232C	C RS422/485(2wire) C RS422/485(4wire)
Speed	19200	×
Data Length	0.7	• 8
Parity	O NONE	C EVEN C ODD
Stop Bit	⊙ 1	O 2
Flow Control	O NONE	ER(DTR/CTS) C XON/XOFF
Timeout	3 📫 (sec)
Retry	2 +	
Wait To Send	0 🕂 (ms)
RI / VCC	• BI	C VCC
In the case of RS2 or VCC (5V Power	32C, you can seled Supply). If you use	st the 9th pin to RI (Input) e the Digital's RS232C
Isolation Unit, pleas	se select it to VCC.	Default
Device-Specific Settings		
Allowable No. of Dev		
No. Device Na	me	Settings

Device Setting

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

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

💰 Individual Device Sett	ings 🗙
PLC1	
Series MEMOCON GL	
Please reconfirm all of address s you are using if you have change	
Slave Address 1	•
	Default
OK (<u>D)</u>	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/PL	<u>c</u>
Maker VASKAWA Electric Corporation Driver MEMOBUS SID Port COM1	
Text Data Mode 1 Change	
Communication Settings	
SID Type C RS232C C RS422/485(2wire) © RS422/485(4wire)	
Speed 19200 💌	
Data Length 🔿 7 📀 8	
Parity C NONE C EVEN C ODD	
Stop Bit	
Flow Control C NONE C ER(DTR/CTS) C XON/XOFF	
Timeout 3 😑 (sec)	
Retry 2 🚔	
Wait To Send 0 🚔 (ms)	
RI/VCC © RI O 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 No. Device Name Image: Plant state st	

Device Setting

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

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

💰 Individual Device Sett	ings 🗙
PLC1	
Series MEMOCON GL	
Please reconfirm all of address s you are using if you have change	
Slave Address 1	•
	Default
OK (<u>D</u>)	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 YASKAWA Electric Corporation	Driver MEMOBUS SIO Port COM1
Text Data Mode 1 Change	
Communication Settings	
SIO Type 💿 RS232C 📿	C RS422/485(2wire) C RS422/485(4wire)
Speed 19200	
Data Length 🔿 7 💽	8
Parity C NONE 🔍	EVEN O ODD
Stop Bit 💿 1 🔿	2
Flow Control C NONE @	ER(DTR/CTS) C XON/XOFF
Timeout 3 📑 (sec))
Retry 2 🗧	
Wait To Send 0 📑 (ms)	
RI / VCC RI / VCC	VCC
In the case of RS232C, you can select the or VCC (5V Power Supply). If you use the	
Isolation Unit, please select it to VCC.	Digital's H32320 Default
Device-Specific Settings	
Allowable No. of Device/PLCs 16 Unit(s)	Rect .
No. Device Name	Settings
👗 1 PLC1	Series=MEMOCON SC,Slave Address=1

Device Setting

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

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

💰 Individual Device Sett	ings 🗙
PLC1	
Series MEMOCON SC	
Please reconfirm all of address s you are using if you have change	
Slave Address 1	-
	Default
OK (<u>D</u>)	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								<u>C</u>	hange Device/PLC
Maker 🗗	YASKAWA Ele	ectric Corporation		Driver N	IEMOE	3US	SIO	Port	COM1
Text Data	a Mode	1 <u>Change</u>							
Communicatio	n Settings								
SIO Type	•	C RS232C	O RS	422/485(2)	wire)		SS422/485(4wire)		
Speed		19200	-						
Data Len	igth	O 7	• 8						
Parity		C NONE	€EV	'EN	(0.0	DDC		
Stop Bit		● 1	C 2						
Flow Con	trol	C NONE	• EF	(DTR/CTS) (•>	KON/XOFF		
Timeout		3 🕂 (s	ec)						
Retry		2 +							
Wait To !	Send	0 🗦 (n	ns)						
RI / VCC		🖲 BI	O VO						
In the c	ase of RS232	C, you can select upply). If you use	t the 9th	n pin to RI (I	Input)				
Isolation	n Unit, please	select it to VCC.	the Dig	jildi sin bizbi	26		Default		
Device-Specif	ic Settings								
	-	e/PLCs 16 Unit(s	:)						
	Device Name	9		Settings					
% 1	PLC1		1	Series=	=MEM0	000	IN SC,Slave Address=1		

Device Setting

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

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

💰 Individual Device Setting	s 🗙				
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 (<u>0</u>) Ca	ncel				

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 🕅	ASKAWA Electric Corporati	ion Driver MEMOBUS SIO Port COM1
Text Data	Mode 1 <u>Change</u>	
Communication	Settings	
SIO Type	RS232C	C RS422/485(2wire) C RS422/485(4wire)
Speed	9600	•
Data Leng	th O 7	• 8
Parity	O NONE	EVEN ODD
Stop Bit	© 1	O 2
Flow Contr	ol C NONE	ER(DTR/CTS) C XON/XOFF C
Timeout	3 ÷	(sec)
Retry	2 🔅	-
Wait To S	end 0 ÷	(ms)
RI / VCC	• RI	© VCC
	se of RS232C, you can sel 5V Power Supply), If you u	lect the 9th pin to RI (Input) use the Digital's RS232C
Isolation	Unit, please select it to VC(C. Default
Device-Specific	Settings	
	No. of Device/PLCs 16 Ur	
	Device Name	
👗 1	PLC1	Series=MEMOCON SC,Slave Address=1

Device Setting

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

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

💰 Individual Device Sett	ings 🗙				
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 (<u>D</u>)	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 🕅	ASKAWA Electric Corporati	ion Driver MEMOBUS SIO Port COM1
Text Data	Mode 1 <u>Change</u>	
Communication	Settings	
SIO Type	RS232C	C RS422/485(2wire) C RS422/485(4wire)
Speed	9600	•
Data Leng	th O 7	• 8
Parity	O NONE	EVEN ODD
Stop Bit	© 1	O 2
Flow Contr	ol C NONE	ER(DTR/CTS) C XON/XOFF C
Timeout	3 ÷	(sec)
Retry	2 🔅	-
Wait To S	end 0 🗧	(ms)
RI / VCC	• RI	© VCC
	se of RS232C, you can sel 5V Power Supply), If you u	lect the 9th pin to RI (Input) use the Digital's RS232C
Isolation	Unit, please select it to VC(C. Default
Device-Specific	Settings	
	No. of Device/PLCs 16 Ur	
	Device Name	
👗 1	PLC1	Series=MEMOCON SC,Slave Address=1

Device Setting

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

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

💰 Individual Device Sett	ings 🗙				
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 (<u>D</u>)	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 10)

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/PLI	<u></u>
Maker	YASKAWA B	lectric Corporation	n Driver MEMOBUS SIO Port COM1	-
Text D	lata Mode	1 <u>Change</u>		
Communica	ition Settings			
SIO T	/pe	• R\$232C	C RS422/485(2wire) C RS422/485(4wire)	
Speed	I	19200	•	
Data L	.ength	0.7	• 8	
Parity		O NONE	EVEN ODD	
Stop E	lit	⊙ 1	© 2	
Flow 0	Control	O NONE	ER(DTR/CTS) C XON/XOFF	
Timeo	ut	3 📫 (s	(sec)	
Retry		2 +		
Wait 1	o Send	0 <u>+</u> (r	(ms)	
BL/V	сс	• BI	O VCC	
or V	CC (5V Power :		ect the 9th pin to RI (Input) ee the Digital's RS232C 	
Device-Spe	ecific Settings			
		ce/PLCs_16Unit(:		
	lo. Device Nar 1 PLC1	ne	Settings Series=MP900/2000/CP-9200SH.Slave Address=1	_
00	1		Nett 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.

53

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

💣 Individual	Device Sett	ings 👂	×
PLC1			
Series	MP900/2000/	CP-9200SH 💌	-
Please reconfirm you are using if y	n all of addressis you have change		
Slave Address	1	-	
		Default	
	DK (<u>D)</u>	Cancel	

Setup Items	Setup Description
Series	Select 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).

4.2 Setup Items in Off-Line Mode



• Refer to the Maintenance/Troubleshooting manual for information on how to enter off-line mode or about the operation.

Cf. Maintenance/Troubleshooting Manual "2.2 Off-line 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
	SID Type Speed Data Length Parity Stop Bit Flow Control Timeout(s) Retry Wait To Send(ms)	RS232C 19200 7 NONE 1 JER(DTR/CTS)	0 2	
	Exit		Back	2008/04/07 21:39:20

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

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].

Comm,	Device	Option		
		5		D 4/4
MEMOBUS SIO			[COM1]	Page 1/1
Device	/PLC Name PLC	:1		
	Series	MP900/2000/	CP-9200SH	
	Slave Address			-ĭ
	STAVE Hodress]	1 🔻 🔺	
				0000/04/07
	Exit		Back	2008/04/07 21:39:24

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].

Comm,	Device	Option		
MEMOBUS SIO			[COM1]	Page 1/1
	In the case of the 9th pin to Power Supply).	 RI f RS232C, you can set o RI(Input) or VCC(5% If you use the Digition Unit, please set 	lect V tal's	
	Exit		Back	2008/04/07 21:39:28

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.

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.

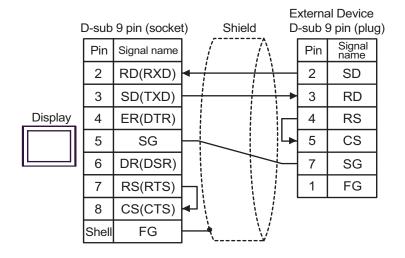
- The FG pin of the main body of the External Device must be D-class grounded. Please refer to the manual of the External Device for more details.
- SG and FG are connected inside the Display. When connecting SG to the External Device, design the system not to form short-circuit loop.
- Connect the isolation 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 7) €



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 7)

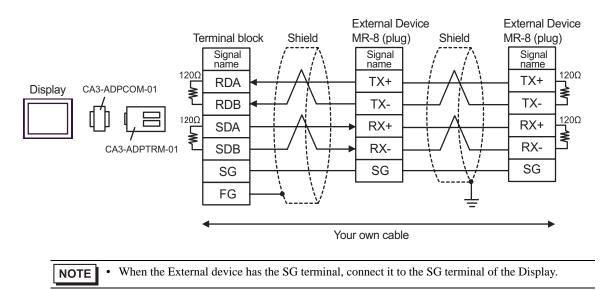
	D-sub	9 pin (socke			al Device 25 pin (plu	lg)
	Pin	Signal name	/	Pin	Signal name	
	1	CD	< <u> </u>	5	CS	
	2	RD(RXD)	<	2	SD	
Display	3	SD(TXD)		3	RD	
	4	ER(DTR)		4	RS	
	5	SG		6	DR	
	6	DR(DSR)	+	7	SG	
	8	CS(CTS)		8	CD	
	7	RS(RTS)		9	ER	
	Shell	FG	<u> </u>	1	FG	

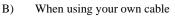
GP-Pro EX Device/PLC Connection Manual

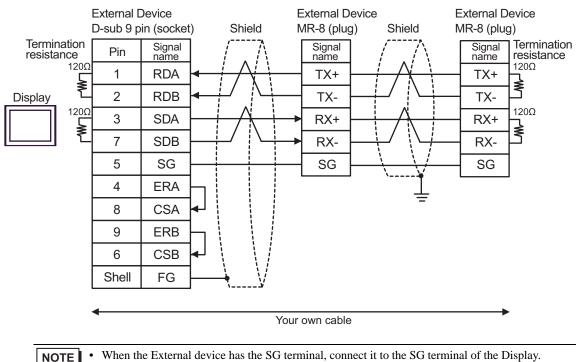
Display (Connection Port)		Cable	Remarks
GP ^{*1} (COM1) AGP-3302B (COM2) ST ^{*2} (COM2) IPC ^{*3}	A Terminal block conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable		
	В	Your own cable	
GP ^{*4} (COM2)	С	Online adapter by Pro-face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

*1 All GP models except AGP-3302B

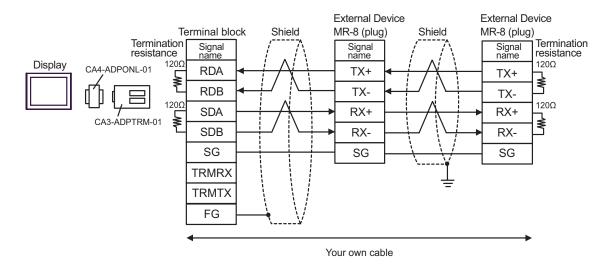
- *2 All ST models except AST-3211A
- *3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used. ^{CP}■ COM Port of IPC (page 7)
- *4 All GP models except GP-3200 series and AGP-3302B
- A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable





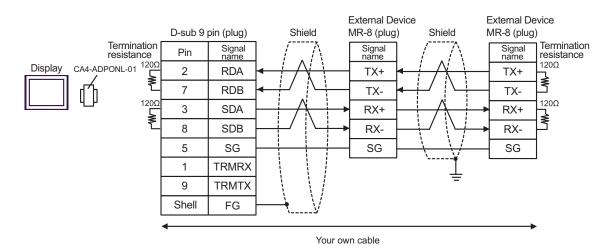


C) When using the online adapter (CA4-ADPPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable



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

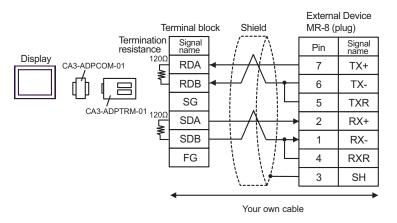
GP-Pro EX Device/PLC Connection Manual

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

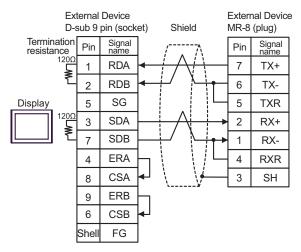
*1 All GP models except AGP-3302B

*2 All ST models except AST-3211A

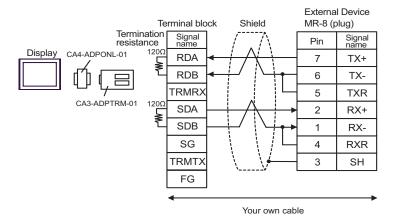
- *4 All GP models except GP-3200 series and AGP-3302B
- A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable



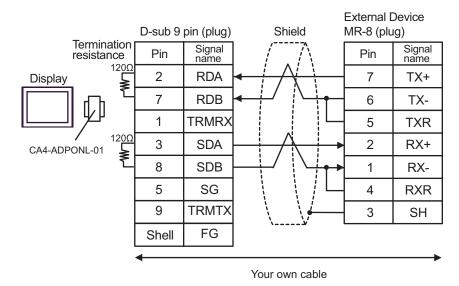
B) When using your own cable



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



Display (Connection Port)	Cable		Remarks
GP ^{*1} (COM1) AGP-3302B (COM2) ST ^{*2} (COM2)	А	Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Your own cable	
	В	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 Online adapter by Pro-face (CA4-ADPONL-01)	The cable length must be 300m or less.
		Your own cable	
IPC ^{*4}	Е	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

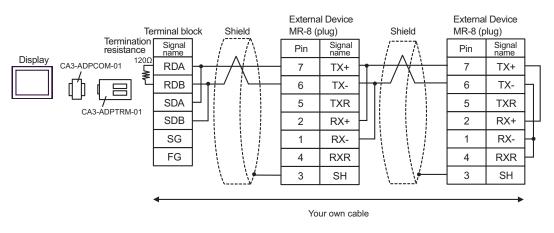
*2 All ST models except AST-3211A

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

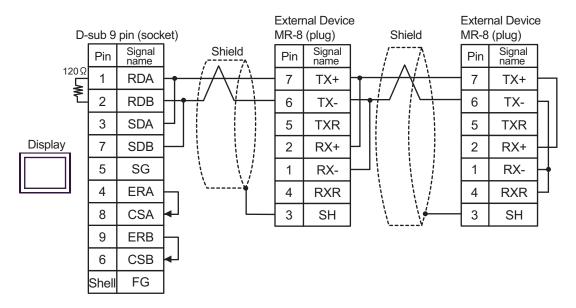
*4 Only the COM port which can communicate by RS-422/485 (2 wire) can be used.

COM Port of IPC (page 7)

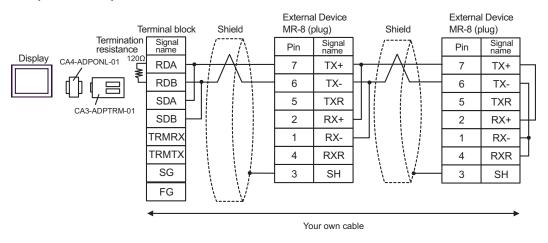
A) When using the terminal block conversion adapter (CA3-ADPTRM-01), the COM port conversion adapter (CA3-ADPCOM-01) by Pro-face and your own cable



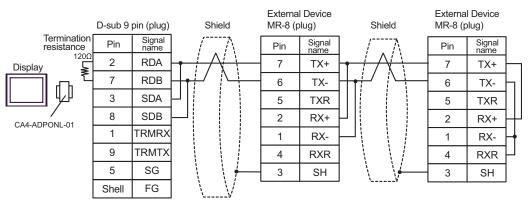
B) When using your own cable



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

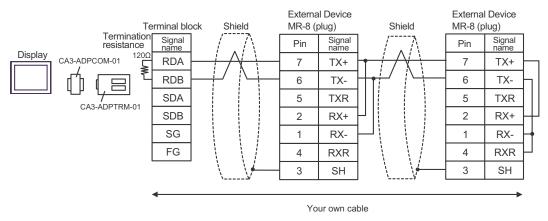


D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

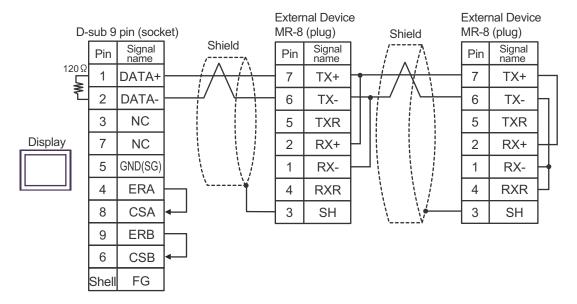


Your own cable

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



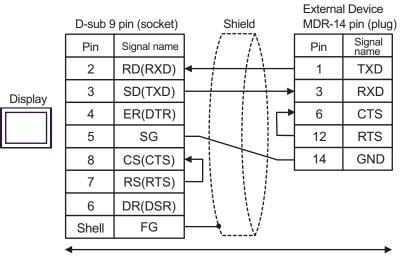
F) When using your own cable



Display (Connection Port)	Cable	Remarks	
GP (COM1) ST (COM1) IPC ^{*1} PC/AT	Your own cable	able 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 7)



Your own cable

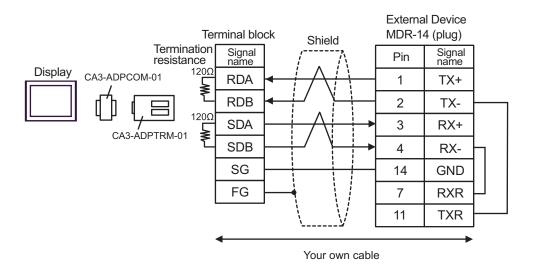
Display (Connection Port)	Cable		Remarks
GP ^{*1} (COM1) AGP-3302B (COM2) ST ^{*2} (COM2) IPC ^{*3}	А	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	В	Your own cable	
GP ^{*4} (COM2)	С	Online adapter by Pro-face (CA4-ADPONL-01)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

*1 All GP models except AGP-3302B

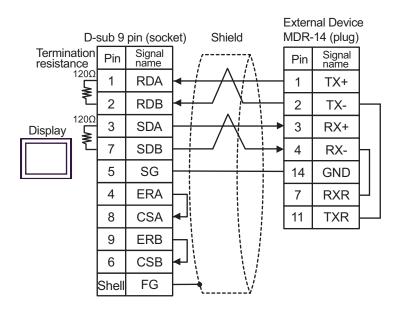
*2 All ST models except AST-3211A

- *3 Only the COM port which can communicate by RS-422/485 (4 wire) can be used. ^{CP}■ COM Port of IPC (page 7)
- *4 All GP models except GP-3200 series and AGP-3302B

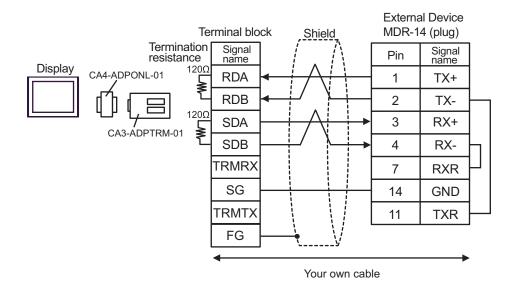
A) When using the COM port conversion adapter (CA3-ADPCOM-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable



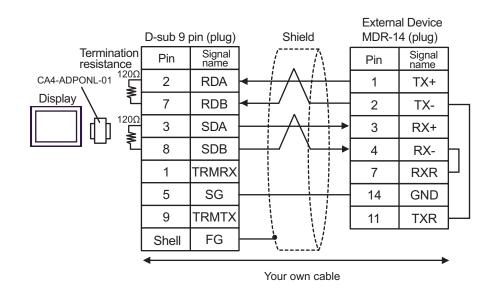
B) When using your own cable



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



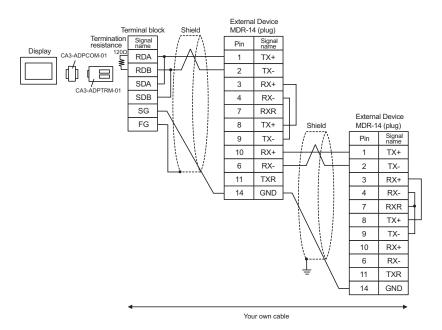
Display (Connection Port)		Cable	Remarks
GP ^{*1} (COM1) AGP-3302B (COM2) ST ^{*2} (COM2)	A	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	В	Your own cable	
GP ^{*3} (COM2)		Online adapter by Pro-face (CA4-ADPONL-01)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

*1 All GP models except AGP-3302B

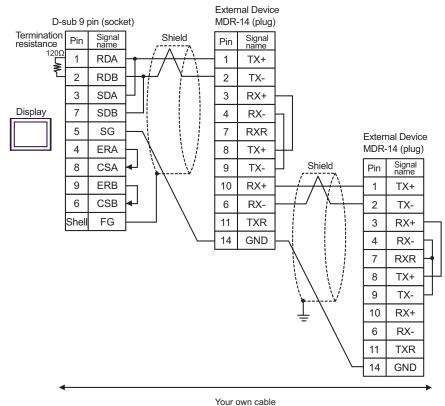
*2 All ST models except AST-3211A

*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 7) 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

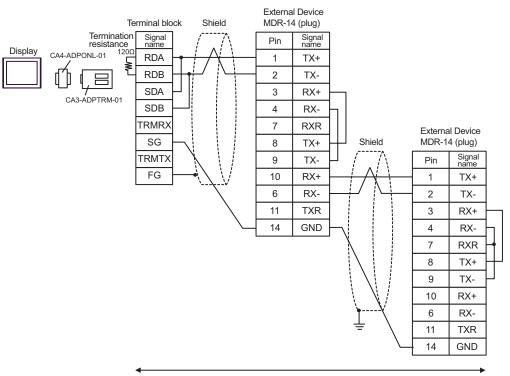


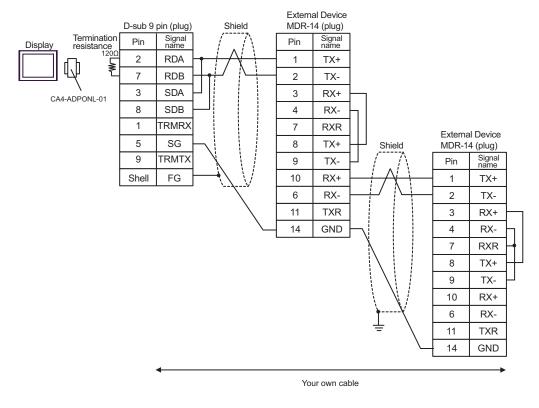
B) When using your own cable



GP-Pro EX Device/PLC Connection Manual

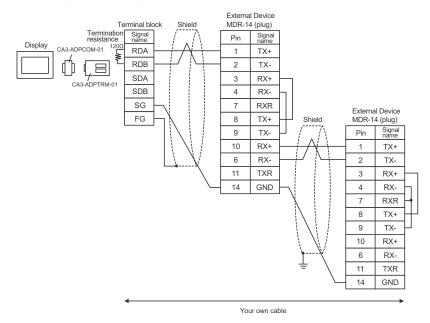
C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable



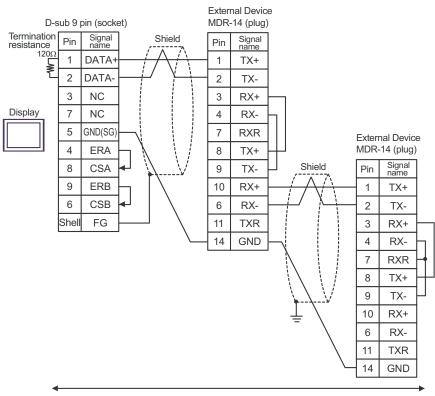


D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable

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



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

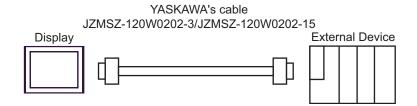
*1 Only the COM port which can communicate by RS-232C can be used. ^{CP}■ COM Port of IPC (page 7)

	D-sub 9	oin (socket)	Shield		External D-sub 9 p	
	Pin	Signal name			Pin	Signal name
	2	RD(RXD)	< / / / /	_	2	SD
Display	3	SD(TXD)		-	3	RD
	4	ER(DTR)		Н	4	RS
	5	SG	+	L	5	CS
	6	DR(DSR)			6	DR
	7	RS(RTS)	\neg / \uparrow	\vdash	7	SG
	8	CS(CTS)	↓ \ /	Ч	9	ER
	Shell	FG		_	1	FG

Display (Connection Port)		Cable	Remarks
GP (COM1) ST (COM1)	А	Cable by YASKAWA Electric Corporation JZMSZ-120W0202-3/JZMSZ-120W0202-15	
IPC ^{*1} PC/AT	В	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. ^C ■ COM Port of IPC (page 7)

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



B) When using your own cable

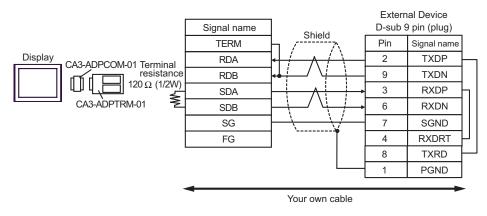
	D-sub 9	External Device D-sub 9 pin (plug)			
	Pin	Signal name	Shield	Pin	Signal name
	2	RD(RXD)		2	TXD
Display	3	SD(TXD)		3	RXD
	4	ER(DTR)		6	DSR
	6	DR(DSR)	▲	9	DTR
	7	RS(RTS)		4	RTS
	8	CS(CTS)	 ₄J L	5	CTS
	5	SG		7	GND
	Shell	FG	`······	1	FG

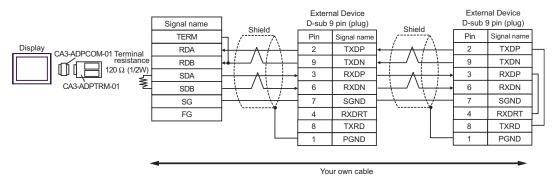
Display (Connection Port)		Cable	Remarks
GP ^{*1} (COM1) AGP-3302B (COM2) ST ^{*2} (COM2) IPC ^{*3}	А	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	В	Your own cable	
GP ^{*4} (COM2)	С	Online adapter by Pro-face CA4-ADPONL-01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

*1 All GP models except AGP-3302B

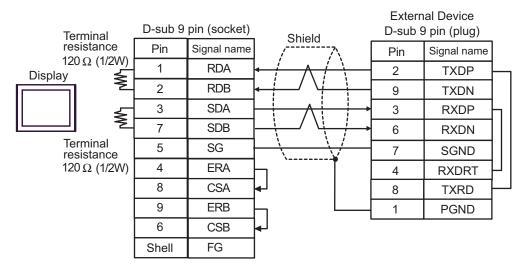
*2 All ST models except AST-3211A

- *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

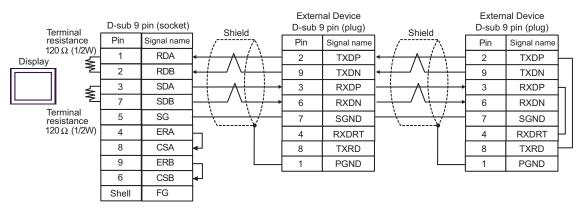




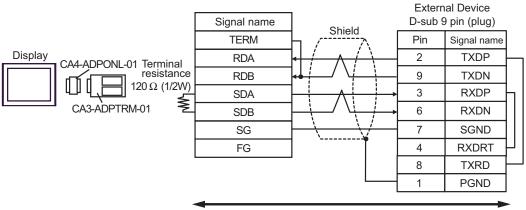
- B) When using your own cable
 - 1:1 Connection



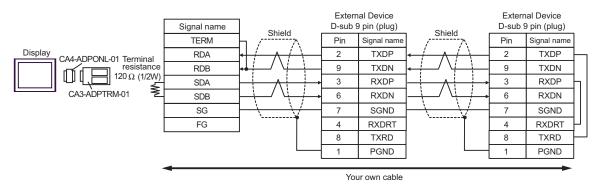
1:n Connection



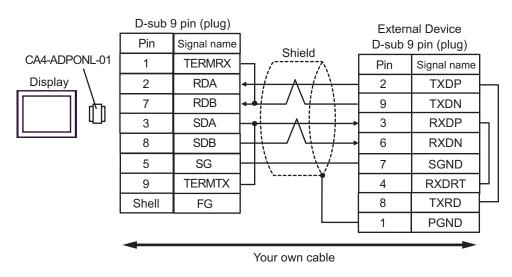
- C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable
 - 1:1 Connection

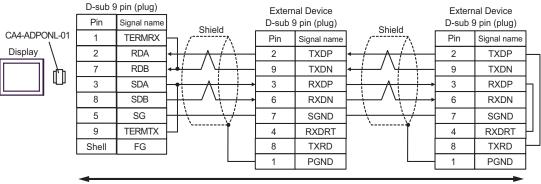


Your own cable



- D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable
 - 1:1 Connection





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. ^{CP}■ COM Port of IPC (page 7)

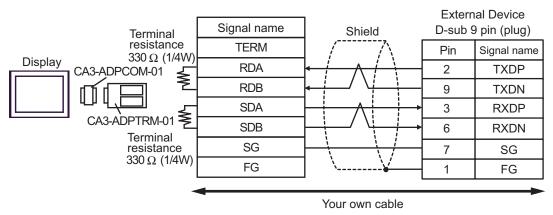
	D-sub 9	oin (socket)	Chield		al Device pin (plug)
	Pin	Signal name	Shield	Pin	Signal name
	2	RD(RXD)		2	TXD
Display	3	SD(TXD)		3	RXD
	6	DR(DSR)		5	CTS
	4	ER(DTR)		6	DSR
	5	SG		7	SG
	7	RS(RTS)		4	RTS
	8	CS(CTS)		9	DTR
	Shell	FG		1	FG

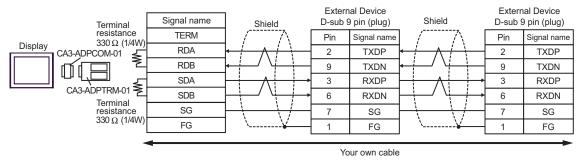
Display (Connection Port)		Cable	Remarks
GP ^{*1} (COM1) AGP-3302B (COM2) ST ^{*2} (COM2) IPC ^{*3}	А	COM port conversion adapter by Pro-face CA3-ADPCOM-01 + Terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	
	В	Your own cable	
GP ^{*4} (COM2)	С	Online adapter by Pro-face CA4-ADPONL-01 + Terminal block conversion adapter by Pro-face CA3- ADPTRM-01 + Your own cable	The cable length must be 500 meters or less.
	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

- *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





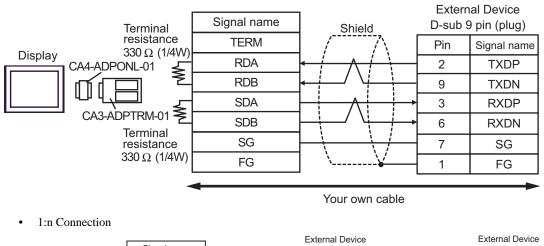
- B) When using your own cable
 - 1:1 Connection

					Extern	al Device
	Terminal	D-sub 9	pin (socket)	Shield	D-sub 9) pin (plug)
	resistance	Pin	Signal name	$ \land \land $	Pin	Signal name
Displ	330 Ω (1/4W) av	1	RDA		2	TXDP
	ay 🔬	2	RDB		9	TXDN
	5	3	SDA	\rightarrow	3	RXDP
		7	SDB		6	RXDN
	Terminal resistance	5	SG		7	SG
	330 Ω (1/4W)	4	ERA	⊣ `¥{	1	FG
		8	CSA	<u>_</u>		
		9	ERB			
		6	CSB	▲ J		
		Shell	FG			

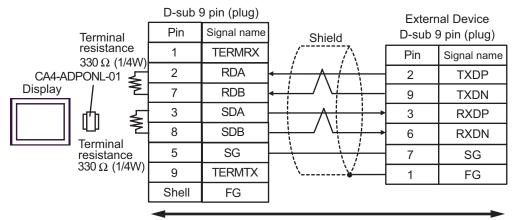
• 1:n Connection

	D-sub 9	pin (socket)	Shield		nal Device 9 pin (plug)	Shield		nal Device 9 pin (plug)
Terminal resistance 330 Ω (1/4W)	Pin	Signal name	1 / 1	Pin	Signal name		Pin	Signal name
· _		RDA		2	TXDP ·		2	TXDP
	2	RDB		9	TXDN		9	TXDN
L §	3	SDA		3	RXDP	\rightarrow	3	RXDP
	7	SDB		6	RXDN		6	RXDN
Terminal resistance	5	SG	$\vdash \backslash - \backslash / -$	7	SG		7	SG
330 Ω (1/4W)	4	ERA	┝ `¥──┤	1	FG	\¥	1	FG
	8	CSA	4					
	9	ERB	Ь					
	6	CSB	 •-]					
	Shell	FG]					

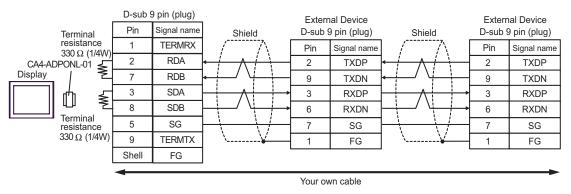
- C) When using the online adapter (CA4-ADPONL-01), the terminal block conversion adapter (CA3-ADPTRM-01) by Pro-face and your own cable
 - 1:1 Connection



- Signal name D-sub 9 pin (plug) Shield D-sub 9 pin (plug) Shield Terminal resistance TERM Pin Pin Signal name Signal name 330 Ω (1/4W) Display RDA 2 TXDP 2 TXDP CA4-ADPONI -01 ≸ RDB 9 TXDN 9 TXDN SDA 3 RXDP 3 RXDP CA3-ADPTRM-01 ≩ SDB 6 RXDN 6 RXDN Terminal SG 7 7 SG SG resistance FG 330 Ω (1/4W) 1 FG 1 FG Your own cable
- D) When using the online adapter (CA4-ADPONL-01) by Pro-face and your own cable
 - 1:1 Connection



1:n Connection



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. ^{CP}■ COM Port of IPC (page 7)

	D-sub 9	pin (socket)			al Device 5 9 pin
	Pin	Signal name	Shield	Pin	Signal name
2	RD(RXD)		3	TXD	
Display	3	SD(TXD)		4	RXD
4	4	ER(DTR)		2	DTR
	7	RS(RTS)		6	RTS
8 5 6	CS(CTS)	┫	7	CTS	
	SG		5	GND	
	DR(DSR)	· · · · · · · · · · · · · · · · · · ·	8	FG	
	Shell	FG			

6 Supported Device

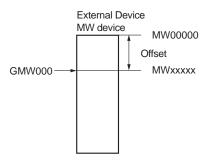
Range of supported device address is shown in the table below. Please note that the actually supported range of the devices varies depending on the External Device to be used. Please check the actual range in the manual of your External Device.

6.1 MP900/2000/CP-9200SH

This address can be specified as system data area.

Device	Display on GP-Pro EX	Supported Address ^{*1}	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 - IW0FFFF + Offset	[L/H]	*2
Input Relay (Word device)	GIB0000-GIB0FFFF	IW0000 + Offset - IW0FFFF + Offset	LIH	*2
Input Register	GIW0000-GIW7FFF	IW0000 + Offset - IW7FFFF + Offset		Bit F *2
Holding Register	GMW00000-GMW65534	MW00000 + Offset - MW65534 + Offset		Bit F

*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 (Direct Access Method)"

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

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		+1B+ 1 *1
Input Relay	100001-101024	100001-101009		(<u>+1B+</u>)*2
Link Coil 1	D10001-D11024	D10001-D11009		(+1B+ 1) *1
Link Coil 2	D20001-D21024	D20001-D21009		+1B+ 1 *1
MC Relay 1	X10001-X10256	X10001-X10241		(<u>+16+</u>]*2
MC Relay 2	X20001-X20256	X20001-X20241		<u>+18+</u>]*2
MC Coil 1	Y10001-Y10256	Y10001-Y10241	-	+1B+ 1 *1
MC Coil 2	Y20001-Y20256	Y2001-Y20241	-	+1B+ 1 *1
MC Cord Relay 1	M10001-M10096	M10001-M10081		(<u>+16+</u>]*2
MCCord Relay 2	M20001-M20096	M20001-M20081		(<u>+16+</u>]*2
MC Control Relay 1	P10001-P10256	P10001-P10241	-	(+1B+ 1) *2
MC Control Relay 2	P20001-P20256	P20001-P20241		(<u>+1B+</u>)*2
MC Control Coil 1	Q10001-Q10256	Q10001-Q10241	-	+1B+ 1 *1
MC Control Coil 2	Q20001-Q20256	Q20001-Q20241	-	+1B+ 1 *1
Input Register	-	300001-300512		<u>ві 1</u> 5 *2
Holding Register	-	400001-409999		_{в і т} 15
Link Register 1	-	R10001-R11024	Ч 	_{в і т} 15
Link Register 2	-	R20001-R21024		<u>вт</u> 15
Constant Register	-	700001-704096		_{в і 1} 15

*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



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

Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (Direct Access Method)"

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

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		+18+ 1) *1
Input Relay	10001-14096	10001-14081		<u>+16+</u>] *2
Link Coil	D0001-D1024	D0001-D1009		+1B+ 1 *1
Input Register	-	30001-30512		<u>ві</u> 15 *2
Constant Register	-	31001-35096	[Н/Ц	<u>ві</u> т 15 *2
Output Register	-	40001-40512		^{₿ ; ,} 15]
Holding Register	-	40513-49999		^{₿ ; ,} 15]
Link Register	-	R0001-R1024	4	B i t 15]
Extension Register	-	A0000-A7FFF	Ĩ	Bit F

*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 (Direct Access Method)"

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

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		+1B+ 1 *1 *2
Output Register	02049-04096	OB00000-OB007FF	[H/L]	+1B+ 1 *1 *2
System Register	10001-12048	SB000000-SB00127F (S Register of CPU#0)		+1B+ 1 *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		_{в і 1} 15
Output Register	49872-49999	OB00000-OB007FF		_{в і т} 15
System Register	30001-30256	SW00000-SW00255 (S Register of CPU#0)	-	<u>₿ ; 1</u> 5] *3
Data Register	31001-33048 (CP-9200H only)	DW00000-DW02047 (D Register of CPU#1)	[H/L]	<u>₿ + t</u> 15] *3
Data Register	40001-42048	DW00000-DW02047 (D Register of CPU#0)		<u>⊪⊤,15</u>]
Common Register	42049-49743	MW00000-MW07694		_{в і t} 15)

*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 (Direct Access Method)"

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

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	-		<u>+1₽+</u> 1 *1 *2
Input Relay	10001-10511	-	[H/L]	+1B+ 1 *1 *2 *3
Input Register	-	30001-30047		ві 15] *3
Output/Holding Register	-	40001-41871		<u>⊪⊤15</u>)

*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 (Direct Access Method)"

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

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	Х	0083	Word Address - 1
MC Coil	Y	0084	Word Address - 1
MC Cord Relay	М	0085	Word Address - 1
MC Control Relay	Р	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	А	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 Dagistar	3	0001	Word Address - 1
Data Register	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	Displays IP address or device address of the External Device where error occurs, or error codes received from the External Device.
	 NOTE IP address is displayed such as "IP address(Decimal): MAC address(Hex)". Device address is diplayed 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[02H])"

NOTE
Refer to your External Device manual for details on received error codes.
Refer to "When an error is displayed (Error Code List)" in "Maintenance/Troubleshooting Manual" for details on the error messages common to the driver.