Rockwell Automation, Inc.

DF1 Driver

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Introduction

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

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

	Questions Questions	
1	System Configuration	"1 System Configuration" (page 3)
	This section shows the types of External	
	bevices which can be connected and SIO	
	type.	
2	Selection of External Device	
Z	Selection of External Device	"2 Selection of External Device" (page 6)
	Device to be connected and connection	
	method	
2	Example of Communication Settings	_
5	This section shows setting examples for	"3 Example of Communication Setting" (page
	communicating between the Display and	7)
	the External Device.	
4	Communication Settings	
4	This section describes communication	🐨 "4 Setup Items" (page 23)
	setup items on the Display	
	Set communication settings of the Display.	
	with GP-Pro EX or in off-line mode	
	with SI -1 to EX of in on-line mode.	
E	Communication Settings	
J	This section shows cables and adapters	🌮 "5 Cable Diagram" (page 29)
	for connecting the Display and the	
	External Device	
	Operation	

1 System Configuration

The system configuration in the case when the External Device of Rockwell Automation, Inc. and the Display are connected is shown.

Series	CPU Module	Link I/F	SIO Type	Setting Example	Cable Diagram
		Channel 0	RS232C	Setting Example 1 (page 7)	Cable Diagram 1 (page 29)
SLC500	SLC 5/03 SLC 5/04 SLC 5/05	1770-KF3 2760-RB 1775-KA 5130-RM	RS232C		Cable Diagram 2 (page 31)
		1771-KGM	RS232C		Cable Diagram 3 (page 32)
	PLC-5/11 PLC-5/20		RS232C	Setting Example 2 (page 10)	Cable Diagram 2 (page 31)
PLC-5	PLC-5/30 PLC-5/40 PLC-5/40L PLC-5/60 PLC-5/60L	Channel 0	RS422/485 (4wire)	Setting Example 3 (page 13)	Cable Diagram 6 (page 35)
ControlLogix	Logix5550	CPU Direct	RS232C	Setting Example 4 (page 16)	Cable Diagram 1 (page 29)
	MicroLogix 1500 (1764-LRP)	Channel 1	RS232C	Setting Example 5 (page 20)	Cable Diagram 1 (page 29)
Minnel a vice	MicroLogix 1000 MicroLogix 1200 MicroLogix 1500 (1764-LSP,1764- LRP)	Channel 0	RS232C		Cable Diagram 4 (page 33)
MICroLogix		AIC + Advanced Interface Converter 1761-NET-AIC	RS232C		Cable Diagram 5 (page 34)
CompactLogix	1769-L20 1769-L30 1769-L31 1769-L32E 1769-L32E 1769-L35E	Channel 0	RS232C	Setting Example 4 (page 16)	Cable Diagram 1 (page 29)

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

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

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

Dip switch setting: RS-232C

Dip switch	Setting	Description	
1	OFF	Reserve (always OFF)	
2	OFF	SIO type: PS-232C	
3	OFF	510 type. K5-252e	
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 (4 wire)

Dip switch	Setting	Description	
1	OFF	Reserve (always OFF)	
2	ON	SIO type: RS-422/485	
3	ON	510 type. K5-422/405	
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: P.S. 422/485	
3	ON	510 type. K5-422/465	
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	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.

ð	New Proje	ct File
Г	-Device/PL	C
	Maker	Rockwell Automation, Inc.
	Driver	DF1
	🗖 Use S	ystem Area <u>Refer to the manual of this Device/PLC</u>
	Connection Port	Method COM1
		Go to Device/PLC Manual
	Back	Communication Detail Settings Cancel

Setup Items	Setup Description	
Maker	Select the maker of the External Device to be connected. Select "Rockwell Automation, Inc.".	
Driver	Select a model (series) of the External Device to be connected and connection method. Select "DF1". Check the External Device which can be connected in "DF1" in system configuration.	
Use System Area	 Check this option when you synchronize the system data area of the Display and the devict (memory) of the External Device. When synchronized, you can use the ladder program of the External Device to switch the display or display the window on the Display. Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)" This can be also set with GP-Pro EX or in off-line mode of the Display. Cf. GP-Pro EX Reference Manual "System Area Setting, 5.14.6 Setting Guide of [System Setting Window]" Cf. Maintenance/Troubleshooting "2.14.1 Settings common to all Display models ♦ System Area Settings" 	
Port	Select the Display port to be connected to the External Device.	

3 Example of Communication Setting

Examples of communication settings of the Display and the External Device, recommended by Pro-face, are shown.

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.

Maker Bockwell 4	utomation Inc.	Series D	F1	
Text Data Mode	1 <u>Change</u>			
Communication Settings				
SIO Type	RS232C	C RS422/485(2v	vire) 🔿 RS422/485(4w	ire)
Speed	19200	•		
Data Length	0.7	© 8		
Parity	NONE	C EVEN	C ODD	
Stop Bit	© 1	O 2		
Flow Control	C NONE	ER(DTR/CTS)	C XON/XOFF	
Timeout	3 🐳	(sec)		
Retry	2 ÷			
Wait To Send	0 ÷	(ms)		
DF1 Protocol				
DF1 Mode	Full Duplex	-		
Error Detection	CRC 💌			
Source ID				
	,			
RI / VCC	RI	O VCC		
In the case of RS or VCC (5V Powe	232C, you can sele r Supply). If you u	ect the 9th pin to RI (I se the Digital's RS232	nput) IC	
Isolation Unit, plea	ase select it to VCC	2	De	fault
evice-Specific Settings		_		
Allowable No. of De	vice/PLCs 16 Un	it(s)		

NOTE

• For [DF1 Mode], select [Full Duplex] or [Half Duplex Mster] according to your driver.

♦ Device Setting

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

💣 Individual Dev	ice Settings		×
PLC1			
Series	SLC500 Serie	es 💌	
(Please reconfirm are using if you ha	all address se ave changed t	ettings that you he series.)	
Destination ID (Re	emote)	0 📫	
Destination ID (Lo	cal)	0 🗧	
		Default	
	OK (<u>D</u>)	Cancel	

NOTE

• For Full Duplex, "Destination ID (Local)" is not used.

Settings of External Device

Use the ladder software "RSLogix 500" for communication settings. Open "Channel Configuration" of "RSLogix 500" to perform the settings in the "Chan. 0 - System" tab.

◆ For Full Duplex

Setup Items	Setup Description
Driver	DF1 Full Duplex
Baud	19200
Parity	NONE
Stop Bits	1
Control Line	No Handshaking
Error Detection	CRC
Embedded Responses	Auto-detect
Duplicate Packet Detect	Disabled
ACK Timeout	50
NAK Retries	3
ENQ Retries	3
Source ID	0

◆ For Half Duplex

Setup Items	Setup Description
Driver	DF1 Half Duplex Slave
Baud	19200
Parity	NONE
Stop Bits	1
Control Line	No Handshaking
Error Detection	CRC
EOT Suppression	Disabled
Duplicate Packet Detect	Disabled
Poll Timeout	3000
Message Retries	3
Pre Transmit Delay	0
Node Address	0

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.

Maker Rockwell A	Automation, Inc.	Series DF	1	Port COM	41
Text Data Mode	1 <u>Change</u>				
communication Settings					
SIO Type	RS232C	O RS422/485(2wi	ire) 🔿 RS422/48	5(4wire)	
Speed	19200	-			
Data Length	O 7	© 8			
Parity	NONE	O EVEN	O ODD		
Stop Bit	© 1	O 2			
Flow Control	C NONE	 ER(DTR/CTS) 	C XON/XOFF		
Timeout	3	(sec)			
Retry	2 ÷]			
Wait To Send	0 ÷	(ms)			
DF1 Protocol					
DF1 Mode	Full Duplex	-			
Error Detection	CRC 💌	1			
Source ID	0 🕂]			
RI / VCC	● RI	C VCC			
In the case of RS or VCC (5V Powe Isolation Unit, ple	232C, you can se er Supply). If you u ase select it to VC	lect the 9th pin to RI (In use the Digital's RS2320 C.	put) C	Default	
evice-Specific Settings					
Allowable No. of De	evice/PLCs_16 U	nit(s)			

NOTE

• For [DF1 Mode], select [Full Duplex] or [Half Duplex Mster] according to your driver.

♦ Device Setting

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

💰 Individual Dev	ice Settings		×
PLC1			
Series	PLC-5 Series		•
(Please reconfirm are using if you ha	all address se ave changed t	ttings that he series.)	you
Destination ID (Re	emote)	0	*
Destination ID (Lo	cal)	0 De	÷ fault
	OK (<u>D</u>)	Cano	el

NOTE

• For Full Duplex, "Destination ID (Local)" is not used.

Settings of External Device

Use the ladder software "RSLogix 5" for communication settings. Open "Channel Configuration" of "RSLogix 5" to perform the settings in the "Chan. 0" tab.

◆ For Full Duplex

Setup Items	Setup Description
Communication Mode	System (Point-To-Point)
Baud Rate	19200
Parity	NONE
Bits per Char	8
Stop Bits	1
Control Line	No Handshaking
Error Detection	CRC
Embedded Responses	Auto-detect
Detect Duplicate Messages	Disabled
ACK Timeout	50
NAK Receive	3
DF1 ENQs	3
MSG Application Timeout	30 seconds
Station Address	0

♦ For Half Duplex

Setup Items	Setup Description
Communication Mode	System (Slave)
Baud Rate	19200
Parity	NONE
Bits per Char	8
Stop Bits	1
Control Line	No Handshaking
Error Detection	CRC
Detect Duplicate Messages	Disabled
RTS Send Delay	0
RTS Off Delay	0
ACK Timeout	50
DF1 Retries	3
MSG Application Timeout	30 seconds
Station Address	0

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.

Text Data Mode I Change Communication Settings SIO Type RS232C RS422/485(2wire) RS422/485(4wire) Speed 19200 Image Data Length 7 Image Data Length 7 Image Image Data Length 7 Image Data Length 7 Image Image Image Image Image Stop Bit 1 0 2 Image Image Image Image Stop Bit 1 0 2 Image Image Image Image Image	Summary Maker Rockwell/	Automation, Inc.	Series DF1		Change Device/PLC Port COM1
SID Type C RS232C C RS422/485(2wire) C RS422/485(4wire) Speed 19200 Image: Communication Settings C RS422/485(4wire) Data Length 0 Image: Communication Settings C RDD Stop Bit 0 1 0 C RC Flow Control NDNE C ER[DTR/CTS] XON/XOFF Timeout 3 (sec) Retry 2 Image: Communication Setting DF1 Protocol 0 Image: C RC Image: C RC <td>Text Data Mode</td> <td>1 <u>Change</u></td> <td></td> <td></td> <td></td>	Text Data Mode	1 <u>Change</u>			
SID Type C RS232C C RS422/485(4wire) Speed 19200 Image: Control Contrector Contrector Control Control Control Control Contr	Communication Settings				
Speed 19200 Data Length 7 6 Data Length 7 6 Parity NONE EVEN ODDD Stop Bit 6 1 0 2 Flow Control NONE ER[DTR/CTS] X0N/X0FF Timeout 3 (sec) Retry 2	SIO Type	C RS232C	C RS422/485(2win	e) • RS422/485(4wire)	
Data Length 0 7 6 8 Parity • NONE EVEN 0 000 Stop Bit 0 1 0 2 Flow Control • NONE • ER(DTR/CTS) • X0N/X0FF Timeout 3 • [sec] Retry 2 • Wait To Send 0 • (ms) DF1 Protocol DF1 Protocol Bit / VCC Fil Ri / VCC Fil Default Device-Specific Settings Default No. Device Name Settings Default 10 10	Speed	19200	•		
Parity NONE EVEN ODD Stop Bit 1 2 Flow Control NONE ER(DTR/CTS) XGN/X0FF Timeout 3 (sec) Retry 2 Wait To Send (ms) DF1 Protocol DF1 Protocol DF1 Protocol Full Duplex Error Detection CRC Source ID 3 (vCC RI / VCC Bit / VCC In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (Iso Power Supply) If you use the Digital's RS232C Default Device Name Settings No. Device Name Settings Setings<td>Data Length</td><td>O 7</td><td>© 8</td><td></td><td></td>	Data Length	O 7	© 8		
Stop Bit © 1 © 2 Flow Control NONE © ER(DTR/CTS) © XON/X0FF Timeout 3 (sec) Retry 2	Parity	NONE	C EVEN	C ODD	
Flow Control NONE ER[DTR/CTS] XON/XOFF Timeout 3 (sec) Retry 2	Stop Bit	© 1	C 2		
Timeout 3 isc) Retry 2 isc) Wait To Send 0 isc) DF1 Protocol 0 isc) DF1 Mode Full Duplex isc) Error Detection CRC isc) Source ID 0 isc) RI /VCC C RI C VCC In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (SV Power Supply). If you use the Digital's RS232C Default Device-Specific Settings Allowable No. of Device/PLCs 16 Unit(s) Settings No. Device Name Settings Settings	Flow Control	O NONE	ER(DTR/CTS)	C XON/XOFF	
Retry 2 Wait To Send 0 DF1 Protocol DF1 Protocol DF1 Mode Full Duplex Error Detection CRC Source ID 0 RI / VCC Fit VICC Fit In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (BV Power Supply). If you use the Digital's RS232C Isolation Unit, please select it to VCC. Device-Specific Settings Allowable No. of Device/PLCs 16 Unit(s) Settings No. Device Name Settings Settings Settings	Timeout	3 .	(sec)		
Wait To Send 0 (ms) DF1 Protocol DF1 Mode Full Duplex Error Detection CRC (ms) Source ID 0 (ms) RI / VCC Fil VCC In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (SV 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) Settings No. Device Name Settings VI CIUM Settings	Retry	2 ÷			
DF1 Protocol DF1 Protocol DF1 Mode Full Duplex Error Detection CRC Source ID D RI / VCC RI No case of RS232C, you can select the 9th pin to RI (input) or VCC (SV 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 Settings I D I D D D D D D D D D D D D D	Wait To Send	0 ÷	(ms)		
DF1 Mode Full Duplex Error Detection CRC Source ID 0 BI / VCC FI VCC (SV Power Supply) 1 you can select the 9th pin to FII (input) or VCC (SV Power Supply) or VCC (SV Power Supply) 1 you use the Digital's R5232C Device-Specific Settings Allowable No. of Device/PLCs 16 Unit(s) No. Device Name Settings VI 10 UT	DF1 Protocol				
Error Detection CRC Image: Constraint of the second se	DE1 Mode	Full Dupley	T		
Endo Decedarin CHC Source ID Image: Choice of the set of th	Error Detection				
Bit / VCC P RI / VCC P II In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (SV 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) Default No. Device Name Settings VIC In the Case of ICE00 Series Destination Un (Repeated 1 Publication Un (Repeated 1 Publicati	Source ID				
RI /VCC RI VCC In the case of R5232C, you can select the 9th pin to RI (Input) or VCC (5V Power Supply). If you use the Digital's R5232C Isolation Unit, please select it to VCC. Default Device-Specific Settings Allowable No. of Device/PLCs 16 Unit(s) Settings No. Device Name Settings VIII 1 Finite SECEDES Setting Destination Un (Repeated 1 Publication Unit)	Source ib	•			
In the case of RS232C, you can select the 9th pin to RI (Input) or VCC (SV 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 Settings Interface SET CERD Series Destination UD (Remets) 1 Duting the UD (Level 1)	RI / VCC	🖲 RI	C VCC		
Device-Specific Settings Allowable No. of Device/PLCs 16 Unit(s) No. Device Name Settings U Default Device Settings No. Device Name Settings U Default Device Settings No. Device Name Settings U Default Device Settings Settings U Default D	In the case of RS	232C, you can sel	ect the 9th pin to RI (Inp	ut)	
Device-Specific Settings Allowable No. of Device/PLCs 16 Unit(s) No. Device Name Settings U. Device Name Settings U. Device State Settings U. Device Settings U. Device Settings U. Device Setting	Isolation Unit, ple	ase select it to VC(se trie Digitalis Nozozo. 2.	Default	
Allowable No. of Device/PLCs 16 Unit(s)	Device-Specific Settings				
No. Device Name Settings	Allowable No. of De	evice/PLCs 16 Ur	nit(s) 📷		
	No. Device N	lame	Settings	CE00 Series Destination ID (De	moto)=1 Destination ID (Los - 0, 1

NOTE • For [DF1 Mode], select [Full Duplex] or [Half Duplex Mster] according to your driver.

♦ Device Setting

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

💰 Individual Dev	ice Settings		×
PLC1			
Series	PLC-5 Series		•
(Please reconfirm are using if you ha	all address se ave changed t	ttings that he series.)	you
Destination ID (Re	emote)	0	*
Destination ID (Lo	cal)	0 De	÷ fault
	OK (<u>D</u>)	Cano	el

NOTE

• For Full Duplex, "Destination ID (Local)" is not used.

Settings of External Device

Use the ladder software "RSLogix 5" for communication settings. Open "Channel Configuration" of "RSLogix 5" to perform the settings in the "Chan. 0" tab.

◆ For Full Duplex

Setup Items	Setup Description
Communication Mode	System (Point-To-Point)
Baud Rate	19200
Parity	NONE
Bits per Char	8
Stop Bits	1
Control Line	No Handshaking
Error Detection	CRC
Embedded Responses	Auto-detect
Detect Duplicate Messages	Disabled
ACK Timeout	50
NAK Receive	3
DF1 ENQs	3
MSG Application Timeout	30 seconds
Station Address	0

♦ For Half Duplex

Setup Items	Setup Description
Communication Mode	System (Slave)
Baud Rate	19200
Parity	NONE
Bits per Char	8
Stop Bits	1
Control Line	No Handshaking
Error Detection	CRC
Detect Duplicate Messages	Disabled
RTS Send Delay	0
RTS Off Delay	0
ACK Timeout	50
DF1 Retries	3
MSG Application Timeout	30 seconds
Station Address	0

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.

Summary Maker Rockwell	Automation, Inc.	Series DF	1	Change Port COI	<u>e Device/PLC</u> M1
Text Data Mode	1 <u>Change</u>			,	
Communication Settings					
SIO Type	RS232C	C RS422/485(2wir	e) C RS422/485(4wire)	
Speed	19200	•			
Data Length	O 7	© 8			
Parity	NONE	C EVEN	C ODD		
Stop Bit	© 1	C 2			
Flow Control	O NONE	ER(DTR/CTS)	C XON/XOFF		
Timeout	3	(sec)			
Retry	2	1			
Wait To Send	0 ÷	(ms)			
DF1 Protocol					
DF1 Mode	Full Duplex	-			
Error Detection	CBC T	1			
Source ID		1			
	- <u>-</u>	1			
RI / VCC	RI	O VCC			
In the case of RS or VCC (5V Powe	(232C, you can se er Supplu) If you i	lect the 9th pin to RI (Inp use the Digital's BS232C	iut)		
Isolation Unit, ple	ase select it to VC	C.		Default	
Device-Specific Settings	;				
Allowable No. of D	evice/PLCs 16 U	nit(s) 📷			
No. Device N	lame	Settings			

NOTE • For [DF1 Mode], select [Full Duplex] or [Half Duplex Mster] according to your driver.

♦ Device Setting

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

💕 Individ	lual Device Settings	×
PLC1		
Series (Please	ControlLogix/CompactLo	ogix Series 💌
are usin Destinatio	g if you have changed th on ID (Remote)	e series.)
Destination ID (Local)		0 📑 Default
	OK (<u>0)</u>	Cancel

NOTE

• For Full Duplex, "Destination ID (Local)" is not used.

Settings of External Device

Use the ladder software "RSLogix 5000" for communication settings. Open "Channel Configuration" of "RSLogix 5000" to perform the settings in the "Serial Port Protocol" tab.

♦ For Full Duplex

Setup Items	Setup Description
Protocol	Point to Point
Baud	19200
Parity	NONE
Data Bits	8
Stop Bits	1
Control Line	No Handshaking
RTS Send Delay	0
RTS Off Delay	0
Error Detection	CRC
Embedded Response	Autodetect
Enable Duplicate Detection	Disabled
ACK Timeout	50
NAK Receive Limit	3
ENQ Transmit Limit	3
Station Address	0

◆ For Half Duplex

Setup Items	Setup Description
Protocol	DF1 Slave
Baud	19200
Parity	NONE
Data Bits	8
Stop Bits	1
Control Line	No Handshaking
RTS Send Delay	0
RTS Off Delay	0
Error Detection	CRC
EOT Suppression	Disabled
Enable Duplicate Detection	Disabled
Transmit Retries	3
Slave Poll Timeout	3000
Station Address	0

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.

Maker Rockwell A	Automation, Inc.	Series DF	-1	Port COM	11
Text Data Mode	1 Change				
communication Settings					
SIO Type	• RS232C	C RS422/485(2w	ire) 🔿 RS422/48	95(4wire)	
Speed	19200	-			
Data Length	O 7	© 8			
Parity	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 ÷	I			
Wait To Send	0 ÷	(ms)			
DF1 Protocol					
DF1 Mode	Full Duplex	•			
Error Detection	CRC 💌	[
Source ID	0 :	Í			
RI / VCC	• RI	O VCC			
In the case of RS or VCC (5V Powe Isolation Unit, ple	232C, you can sel er Supply). If you u ase select it to VCI	ect the 9th pin to RI(In ise the Digital's RS2321 C.	nput) C	Default	
evice-Specific Settings					
Allowable No. of De	evice/PLCs 16 Ur	nit(s)			

NOTE

• For [DF1 Mode], select [Full Duplex] or [Half Duplex Mster] according to your driver.

♦ Device Setting

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

💣 Individual Dev	ice Settings		>	<
PLC1				
Series (Places reconfirm	MicroLogix S	eries	• that you	
ere using if you ha	ail address se ave changed t	he se	s that you eries.)	
Destination ID (Re	emote)	1	*	
Destination ID (Lo	cal)	1	÷ Default	
	OK (<u>D</u>)		Cancel	

NOTE

• For Full Duplex, "Destination ID (Local)" is not used.

Settings of External Device

Use the ladder software "RSLogix 500" for communication settings. Open "Channel Configuration" of "RSLogix 500" to perform the settings in the "Chan. 0 - System" tab.

♦ For Full Duplex

Setup Items	Setup Description
Primary Protocol	DF1 Full Duplex
Baud	19200
Parity	NONE (Fixed)
Stop Bits	1 (Fixed)
Control Line	No Handshaking (Fixed)
Error Detection	CRC
Embedded Responses	Auto-detect
Enable Duplicate Detection	Disabled
ACK Timeout	50
DLE NAK Retries	3
DLE ENQ Retries	3
Node Address	1

◆ For Half Duplex

Setup Items	Setup Description
Primary Protocol	DF1 Half Duplex Slave
Baud	19200
Parity	NONE (Fixed)
Stop Bits	1 (Fixed)
Control Line	No Handshaking (Fixed)
Error Detection	CRC
EOT Suppression	Disabled
Poll Timeout	3000
RTS On Delay	0
RTS Send Delay	0
Message Retries	3
Pre-Transmit Delay	0
Node Address	1

Notes

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

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 7)

4.1 Communication Setting with 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 Rockwell Autor	mation, Inc.	Series DF1	Port COM1
Text Data Mode	1 Change		
Communication Settings			
SIO Type	RS232C	O RS422/485(2wire) O RS422/4	185(4wire)
Speed	19200	•	
Data Length (O 7	© 8	
Parity (NONE	O EVEN O ODD	
Stop Bit (© 1	O 2	
Flow Control	O NONE	• ER(DTR/CTS) O XON/XOFF	
Timeout	3 📑 (s	ec)	
Retry	2 🔹		
Wait To Send	n) 🗧 🛛	ns)	
DF1 Protocol			
DF1 Mode	Full Duplex	T	
Error Detection	CRC 🔻	_	
Source ID			
,			
RI / VCC (⊙ RI	O VCC	
or VCC (5V Power Su	C, you can selec upply). If you use	the 9th pin to RI (Input) the Digital's RS232C	
Isolation Unit, please :	select it to VCC.		Default
Device-Specific Settings		. 🖂	
Allowable No. of Device No. Device Name	e/PLCs 16 Unit(: e	s) 🛄 Settings	
👗 1 PLC1		Series=SLC500 Series,Destina	tion ID (Remote)=1,Destination ID (Local)=1

Setup Items	Setup Description
SIO Type	Select the SIO type to communicate with the External Device.
Speed	Select speed (bps) 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	Enter the number of seconds (sec) before the reception timeout error occurs in the Display when communicating with the External Device, using "an integer from 1 to 127".
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.

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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.
DF1 Mode	Set the type of DF1 protocol. Select either "Full Duplex" or "Half Duplex Master".
Error Detection	Set how to check error. Select either "CRC" or "BCC".
Source ID	Set the Display ID.
RI/VCC	You can switch RI/VCC of the 9th pin when you select RS232C for SIO type. It is necessary to change RI/5V by changeover switch of IPC when connect with IPC. Please refer to the manual of the IPC for more detail.

Device Setting

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

When [Allowable No. of Device/PLCs] is multiple, you can click **m** from [Device-Specific Settings] of [Device/PLC Settings] to add the External Device which is available to set.

Individual Dev	ice Settings	
PLC1		
Series	SLC500 Seri	es 💌
(Please reconfirm are using if you ha	all address se ave changed t	ettings that you he series.)
Destination ID (Re	emote)	0 🗧
Destination ID (Lo	cal)	0 📑
	OK (<u>0)</u>	Cancel

Setup Items	Setup Description
Series	Select any of "SLC500 Series", "PLC-5 Series", "ControlLogix Series", "MicroLogix Series" and "CompactLogix Series" for the driver series name.
Destination ID (Remote)	Use an integer from 0 to 254 to enter the Destination ID.
Destination ID (Local)	Use an integer from 0 to 254 to enter the Destination (local) ID.

4.2 Setting on Off-line Screen

NOTE

 Please refer to Maintenance/Troubleshooting for more information on how to enter off-line mode or about operation.
 Cf. Maintenance/Troubleshooting "2.2 Offline Mode"

Communication Settings

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

(Page 1/2)



Setup Items	Setup Description
	Select the SIO type to communicate with the External Device.
SIO Type	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 (bps) 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	Enter the number of seconds (sec) before the reception timeout error occurs in the Display when communicating with the External Device, using "an integer from 1 to 127".
Retry	In case of no response from the External Device, use an integer from 0 to 255 to enter how many times the Display retransmits the command.
Wait To Send	Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands.

(Page 2/2)



Setup Items	Setup Description
DF1 Mode	Set the type of DF1 protocol. Select either "Full Duplex" or "Half Duplex Master".
Error Detection	Set how to check error.
Source ID	Set the Display ID.

Device Setting

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

Comm.	Device	Option		
DF1 Devid	ce/PLC Name [P		[COM1]	Page 1/1
	Series Destination ID Destination ID	SLC500 Series (Remote) (Local)	_	
	Exit		Back	2005/09/02 13:08:25

Setup Items	Setup Description
Device/PLC Name	Select the External Device for device setting. Device name is a title of External Device set with GP-Pro EX.(Initial value [PLC1])
Series	Select any of "SLC500 Series", "PLC-5 Series", "ControlLogix Series", "MicroLogix Series" and "CompactLogix Series" for the driver series name.
Destination ID (Remote)	Use an integer from 0 to 254 to enter the recipient ID.
Destination ID (Local)	Use an integer from 0 to 254 to enter the recipient (local) ID.

Option

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

Touch the External Device you want to set from the displayed list, and touch [Option].

Comm.	Device	Option		
DF1	RI / VCC In the case the 9th pin Power Suppl RS232C Isol it to VCC.	 ● RI of RS232C, you to RI(Input) or y). If you use th ation Unit, pleation 	[COM1] VCC can select VCC(5V ie Digital's ise select	Page 1/1
	Exit		Back	2005/09/02 13:08:27

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 Rockwell Automation, Inc. 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)	A RS232C cable by Pro-face CA3-CBL232/5M-01 (5m)	9/25 pin conversion adapter is required.	
IPC ^{*1}	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 4)

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





9/25 pin conversion adapter

B) When using your own cable

	D-sub 9 pin (socket)			Shield				External Device D-sub 9 pin (socket		
	Pin	Signal name]	/				Pin	Signal name	
	1	CD		ļ	$\{ \}$	Г	->	1	DCD	
Display	2	RD(RXD)	┥—	<u> </u>		+	_	3	TXD	
	3	SD(TXD)		 			-•	2	RXD	
	4	ER(DTR)				•	-	4	DTR	
	5	SG					-	5	COM	
	6	DR(DSR)]	1		L	->	6	DSR	
	7	RS(RTS)				Г	-	7	RTS	
	8	CS(CTS)	┝╾┛			L	-▶	8	CTS	
	Shell	FG]	-ie 	<u> </u>					

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

*1 Only the COM port which can communicate by RS-232C can be used. ☞ ■ COM Port of IPC (page 4)

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



B) When using your own cable

	D-sub 9 p	oin (socket)		Shiel	d			Extern D-sub 2	al Device 5 pin (plug)
	Pin	Signal name]	/				Pin	Signal name
	1	CD		ļ	$\{ \}$	Г	►	8	DCD
Display	2	RD(RXD)	┣━━━	<u> </u>		+	_	2	TXD
	3	SD(TXD)	<u>}</u>	 			►	3	RXD
	4	ER(DTR)				-	-	20	DTR
	5	SG	<u> </u>				_	7	COM
	6	DR(DSR)				L	►	6	DSR
	7	RS(RTS)					-[4	RTS
	8	CS(CTS)	┝╾┛			L	►	5	CTS
				\ 	. ¥		_	1	GND

Display (Connection Port)	Cable	Remarks
GP (COM1) ST (COM1) IPC ^{*1}	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 4)

	D-sub 9 p	oin (socket)		Shie	ld		Extern D-sub 15	al Device pin (socket)
	Pin	Signal name		/			Pin	Signal name
	1	CD		ļ	$\left \right\rangle$		8	DCD
Display	2	RD(RXD)	┥──	<u> </u>		-	2	TXD
	3	SD(TXD)		 		┼►	3	RXD
	4	ER(DTR)				-	11	DTR
	5	SG				-	7	СОМ
	6	DR(DSR)					6	DSR
	7	RS(RTS)					4	RTS
	8	CS(CTS)	◀				5	CTS
			-		\/-		1	GND

Display (Connection Port)	Cable	Remarks
GP (COM1) ST (COM1) IPC ^{*1}	Your own cable + RS232C cable by Rockwell Automation 1761-CBL-PM02	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 4)



Display (Connection Port)	Cable	Remarks
GP (COM1) ST (COM1) IPC ^{*1}	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 4)



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	
	B Your own cable	
GP ^{*4} (COM2)	C 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 61m 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.
 I COM Port of IPC (page 4)
- *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 your own cable



6 Supported Device

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

Γ

6.1 SLC500 Series

This address can be specified as system data area.

Device		Bit Address ^{*1}		Word Address		32bits	Remarks
Input File		I:00.000/00 - I:63.255/15		I:00.000 - I63.255			
Outp	out File	O:00.000/00 - O:63.2	255/15	O:00.000 - O:63.	255		
Stat	us File	S:0/0 - S:163/15	5	S:0 - S:163			
Bit File		B3:0/0 - B3:255/15 B9:0/0 - B255:255/15		B3:0 - B3:255 B9:0 - B255:255			
	Enable		EN		-		
	Timing		TT	T4:0 T4:255. T9:0 T255:255.	-		
Timer File	Done	T4:0/ - T4:255/ T9:0/ - T255:255/	DN		-	· <u>[L / H]</u>	
	Preset		-		PRE		
	Accumulated		-		ACC		
	Up Enable		CU		-		
	Down Enable		CD		-		
	Done		DN		-		
Counter	Overflow	C5:0/ - C5:255/	OV	C5:0 C5:255.	-		
File	Underflow	C9:0/ - C255:255/	UN	C9:0 C255:255.	-		
	Update Acc		UA		-		
	Preset		-		PRE		
	Accumulated		-		ACC		

De	vice	Bit Address ^{*1}		Word Address		32bits	Remarks
	Enable		EN		-		
	Enable Unload		EU		-		
	Done		DN		-		
	Empty		EM		-		
Control File	Error	R6:0/ - R6:255/	ER	R6:0 R6:255.	-		
Control File	Unload	R9:0/ - R255:255/	UL	R9:0 R255:255.	-	<u>[L/H</u>]	
	Inhibit Comp.		IN		-		
	Found		FD		-		
	Length		-		LEN		
	Position		-		POS		
Integer File		N7:0/0 - N7:255/15 N9:0/0 - N255:255/15		N7:0 - N7:255 N9:0 - N255:255			
Floating Point File				F8:0 - F8:255 F9:0 - F255:255			32-bit address only
Strin	g File			ST9:0 - ST255:255			
ASC	II File	A9:0/0 - A255:255	5/15	A9:0 - A255:255			

*1 When you write the bit address, the Display reads the word address corresponding to that of the External Device first. Change only the target bit address among the word data once read, and write the word data to the External Device.

Note that the correct data may not be written if you change the word address value in the ladder program while the Display reads the data of the External Device and writes it to the External Device.

NOTE

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

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

"Manual Symbols and Terminology"

6.2 PLC-5 Series

This address can be specified as system data area.

Device		Bit Address		Word Address		32bits	Remarks
Input File		I:0/0 - I:377/17	,	I:0 - I:377			ост 8]
Output File		O:0/0 - I:377/17		O:0 - I:377		-	0cT 8
Status File		S:0/0 - S:163/15	5	S:0 - S:163		-	
Bit File		B3:0/0 - B3:999/	15	B3:0 - B3:999			
	Enable		EN		-		
	Timing		TT		-		
Timer File	Done	T3:0/ - T999:999/	DN	T3:0 T999:999.	-		
	Preset		-		PRE		
	Accumulated		-		ACC		
	Up Enable		CU		-		
	Down Enable		CD		-		
Counter File	Done		DN	C3:0 C999:999.	-	- - - - -	
	Overflow	C3:0/ - C999:999/	OV		-		
	Underflow		UN		-		
	Update Acc		UA		-		
	Preset		-		PRE		
	Accumulated		-		ACC		
	Enable		EN		-		
	Enable Unload		EU		-	-	
	Done		DN		-		
	Empty		EM		-		
Control	Error	R3:0/ - R999:999/	ER	R3:0 R999:999.	-		
File	Unload		UL		-		
	Inhibit Comp.		IN		-		
	Found		FD		-		
	Length		-		LEN		
	Position		-		POS		
Integer File		N3:0/0 - N999:999	9/15	N3:0 - N999:99	9		

Device	Bit Address	Word Address	32bits	Remarks
Floating Point File		F3:0 - F999:999		32-bit address only
String File		ST3:0 - ST999:999	[L/H]	
ASCII File	A3:0/0 - A999:999/15	A3:0 - A999:999		
BCD File	D3:0/0 - D999:999/15	D3:0 - D999:999		

NOTE

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

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

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

"Manual Symbols and Terminology"

6.3 MicroLogix Series

This address can be specified as system data area.

Dev	vice	Bit Address ^{*1}		Word Address	S	32bits	Remarks
Input File		I:00.000/00 - I:08.25	55/15	I:00.000 - I08.2:	55		
Output File		O:00.000/00 - O:08.255/15		O:00.000 - O:08.2	255		
Status File		S:0/0 - S:163/15	5	S:0 - S:163			
Bit File		B3:0/0 - B3:255/ B9:0/0 - B255:255	15 /15	B3:0 - B3:255 B9:0 - B255:25	5		
Timer File	Enable		EN		-		
	Timing		TT		-		
	Done	T4:0/ - T4:255/ T9:0/ - T255:255/	DN	T4:0 T4:255. T9:0 T255:255.	-		
	Preset		-		PRE		
	Accumulated		-		ACC		
	Up Enable		CU		-		
Counter File	Down Enable		CD	C5:0 C5:255. C9:0 C255:255.	-	- - - - - -	
	Done		DN		-		
	Overflow	C5:0/ - C5:255/	OV		-		
	Underflow		UN		-		
	Update Acc		UA		-		
	Preset		-		PRE		
	Accumulated		-		ACC		
	Enable		EN		-		
	Enable Unload		EU		-		
	Done		DN		-		
	Empty		EM		-		
Control File	Error	R6:0/ - R6:255/	ER	R6:0 R6:255.	-		
	Unload	R9:0/ - R255:255/	UL	R9:0 R255:255.	-		
	Inhibit Comp.		IN		-		
	Found		FD		-		
	Length		-		LEN		
	Position		-		POS		
Integer File		N7:0/0 - N7:255/ N9:0/0 - N255:255	15 5/15	N7:0 - N7:255 N9:0 - N255:25	5		

Device	Bit Address ^{*1}	Word Address	32bits	Remarks
Floating Point File		F8:0 - F8:255 F9:0 - F255:255	[L / H]	32-bit address only
String File		ST9:0 - ST255:255		
Long Word File	L9:0/0 - A255:255/31	L9:0 - L255:255		

*1 When you write the bit address, the Display reads the word address corresponding to that of the External Device first. Change only the target bit address among the word data once read, and write the word data to the External Device.

Note that the correct data may not be written if you change the word address value in the ladder program while the Display reads the data of the External Device and writes it to the External Device.

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

"Manual Symbols and Terminology"

6.4 ControlLogix/CompactLogix Series

This address can be specified as system data area.

Device	Bit Address ^{*1}	Word Address	32bits	Remarks
BOOL	BOOL0:0/0 - BOOL999:999/31	BOOL0:000 - BOOL999:999		*2
INT	INT0:0/0 - INT999:999/15	INT0:000 - INT999:999		*2
REAL		REAL0:000 - REAL999:999	<u>[L / H</u>]	*2
DINT	DINT0:0/0 - DINT999:999/31	DINT0:000 - DINT999:999		*2
SINT	SINT0:0/0 - SINT999:999/7	SINT0:000 - SINT999:998		<u>₿ ; </u> 7] ÷2] *2

E

*1 When you write the bit address, the Display reads the word address corresponding to that of the External Device first. Change only the target bit address among the word data once read, and write the word data to the External Device.

Note that the correct data may not be written if you change the word address value in the ladder program while the Display reads the data of the External Device and writes it to the External Device.

*2 To access those addresses and use them in the program of the External Device, you need to set the External Device first.

The following procedure shows how to assign the device in the RSLogix5000 software and specify the address in GP-Pro EX.

1) Tag setting of External Device Create the Tag Name in the RSLogix5000 software, and set the Type. Map the created Tag Name to a File Number.

Tag Name	:Set optionally.
Туре	:Select the data type among below to set the Element. Match the device name of GP-Pro EX BOOT(32bit data type) INT(word data type) DINT(dword data type) SINT(byte data type) REAL(float data type)

Set the range used in GP-Pro EX for the Element. Maximum Element GP-Pro EX can access is 999.

When you do not define the Element, only one item is available to use.

(Example) Tag Name: N8, Type: When INT is set, only one word of N8 can be used.

<Example 1> Tag Name Type N7 INT[200] DINT1 DINT[100] DATA2 SINT[50]

1st line: Tag Name"N7" is INT data type with Element 200 2nd line:Tag Name "DINT1" is DINT data type with Element 100 3rd line: Tag Name "DATA2" is SINT data type with Element 50

File Number : Assign the Tag Name created by RSLogix5000 to the optional File Number. You can not assign different Tag Names to the same File Number.

<example2></example2>	File Number	Name
	2	DATA2
	1	DINT1
	7	N7

2) Address Specification in GP-Pro EX

When you access the External Device from GP-Pro EX, specify Type, File Number and Element.

📙 In	put	Addr	ess (Wor	d)		>	×
Dev	ice/F	LC	PLC1		_	•	
N	•	7	• : 0			7	
Ba	ick				C	lr	
Α	В	С		7	8	9	
D	Е	F		4	5	6	
				1	2	3	
				0	E	nt	

<Example of address mapping of GP-Pro EX and External Device> Address of GP-Pro EX File No.1 Memory of the External Device





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

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

7 Device Code and Address Code

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

7.1 SLC500 Series

Device	Device Name		Device Code (HEX)	Address Code
Integer File	Ν		0000	(FileNumber x 0x10000) + Word Address
Floating Point File	F		0001	(FileNumber x 0x10000) + Word Address
String File	ST		0002	(FileNumber x 0x10000) + (Word Address x 0x40)
ASCII File	А		0003	(FileNumber x 0x10000) + Word Address
Input File	Ι		0080	0x10000 + (Slot Number x 0x100) + Word Address
Output File	0		0081	(SlotNumber x 0x100) + Word Address
Bit File	В		0082	(FileNumber x 0x10000) + Word Address
Status File	S		0083	0x20000 + Word Address
	Т	EN	00E0	(FileNumber x 0x10000) + Word Address
		ТТ	00E1	(FileNumber x 0x10000) + Word Address
Timer File		DN	00E2	(FileNumber x 0x10000) + Word Address
		PRE	0060	(FileNumber x 0x10000) + Word Address
		ACC	0061	(FileNumber x 0x10000) + Word Address
		CU	00E3	(FileNumber x 0x10000) + Word Address
		CD	00E4	(FileNumber x 0x10000) + Word Address
		DN	00E5	(FileNumber x 0x10000) + Word Address
Counter File	C	OV	00E6	(FileNumber x 0x10000) + Word Address
	C	UN	00E7	(FileNumber x 0x10000) + Word Address
		UA	00E8	(FileNumber x 0x10000) + Word Address
		PRE	0062	(FileNumber x 0x10000) + Word Address
		ACC	0063	(FileNumber x 0x10000) + Word Address

DF1 Driver

Device	Device Name		Device Code (HEX)	Address Code
		EN	00F0	(FileNumber x 0x10000) + Word Address
Control File	R	EU	00F1	(FileNumber x 0x10000) + Word Address
		DN	00F2	(FileNumber x 0x10000) + Word Address
		EM	00F3	(FileNumber x 0x10000) + Word Address
		ER	00F4	(FileNumber x 0x10000) + Word Address
		UL	00F5	(FileNumber x 0x10000) + Word Address
		IN	00F6	(FileNumber x 0x10000) + Word Address
		FD	00F7	(FileNumber x 0x10000) + Word Address
		LEN	0064	(FileNumber x 0x10000) + Word Address
		POS	0065	(FileNumber x 0x10000) + Word Address

7.2 PLC-5 Series

Device	Device Name		Device Code (HEX)	Address Code
Integer File	N		0000	(FileNumber x 0x10000) + Word Address
Floating Point File	F		0001	(FileNumber x 0x10000) + Word Address
String File	ST		0002	(FileNumber x 0x10000) + (Word Address x 0x40)
ASCII File	А		0003	(FileNumber x 0x10000) + Word Address
BCD File	D		0004	(FileNumber x 0x10000) + Word Address
Input File	Ι		0080	0x10000 + (Slot Number x 0x100) + Word Address
Output File	0		0081	(SlotNumber x 0x100) + Word Address
Bit File	В		0082	(FileNumber x 0x10000) + Word Address
Status File	S		0083	0x20000 + Word Address
	Т	EN	00E0	(FileNumber x 0x10000) + Word Address
		TT	00E1	(FileNumber x 0x10000) + Word Address
Timer File		DN	00E2	(FileNumber x 0x10000) + Word Address
		PRE	0060	(FileNumber x 0x10000) + Word Address
		ACC	0061	(FileNumber x 0x10000) + Word Address
	С	CU	00E3	(FileNumber x 0x10000) + Word Address
Counter File		CD	00E4	(FileNumber x 0x10000) + Word Address
		DN	00E5	(FileNumber x 0x10000) + Word Address
		OV	00E6	(FileNumber x 0x10000) + Word Address
		UN	00E7	(FileNumber x 0x10000) + Word Address
		UA	00E8	(FileNumber x 0x10000) + Word Address
		PRE	0062	(FileNumber x 0x10000) + Word Address
		ACC	0063	(FileNumber x 0x10000) + Word Address

DF1 Driver

Device	Device Name		Device Code (HEX)	Address Code
		EN	00F0	(FileNumber x 0x10000) + Word Address
	R	EU	00F1	(FileNumber x 0x10000) + Word Address
Control File		DN	00F2	(FileNumber x 0x10000) + Word Address
		EM	00F3	(FileNumber x 0x10000) + Word Address
		ER	00F4	(FileNumber x 0x10000) + Word Address
		UL	00F5	(FileNumber x 0x10000) + Word Address
		IN	00F6	(FileNumber x 0x10000) + Word Address
		FD	00F7	(FileNumber x 0x10000) + Word Address
		LEN	0064	(FileNumber x 0x10000) + Word Address
		POS	0065	(FileNumber x 0x10000) + Word Address

7.3 ControlLogix Series

Device	Device Name	Device Code (HEX)	Address Code
INT	INT	0010	(FileNumber x 0x10000) + Word Address
REAL	REAL	0011	(FileNumber x 0x10000) + Word Address
DINT	DINT	0012	(FileNumber x 0x10000) + Word Address
SINT	SINT	0013	(FileNumber x 0x10000) + (Address divided by 2)
BOOL	BOOL	0090	(FileNumber x 0x10000) + Word Address

7.4 MicroLogix Series

Device	Device Name		Device Code (HEX)	Address Code
Integer File	N		0000	(FileNumber x 0x10000) + Word Address
Floating Point File	F		0001	(FileNumber x 0x10000) + Word Address
String File	ST		0002	(FileNumber x 0x10000) + (Word Address x 0x40)
Long Word File	L		0005	(FileNumber x 0x10000) + Word Address
Input File	Ι		0080	0x10000 + (Slot Number x 0x100) + Word Address
Output File	0		0081	(SlotNumber x 0x100) + Word Address
Bit File	В		0082	(FileNumber x 0x10000) + Word Address
Status File	S		0083	0x20000 + Word Address
	Т	EN	00E0	(FileNumber x 0x10000) + Word Address
		TT	00E1	(FileNumber x 0x10000) + Word Address
Timer File		DN	00E2	(FileNumber x 0x10000) + Word Address
		PRE	0060	(FileNumber x 0x10000) + Word Address
		ACC	0061	(FileNumber x 0x10000) + Word Address
		CU	00E3	(FileNumber x 0x10000) + Word Address
		CD	00E4	(FileNumber x 0x10000) + Word Address
Counter File		DN	00E5	(FileNumber x 0x10000) + Word Address
	С	OV	00E6	(FileNumber x 0x10000) + Word Address
		UN	00E7	(FileNumber x 0x10000) + Word Address
		UA	00E8	(FileNumber x 0x10000) + Word Address
		PRE	0062	(FileNumber x 0x10000) + Word Address
		ACC	0063	(FileNumber x 0x10000) + Word Address

DF1 Driver

Device	Device Name		Device Code (HEX)	Address Code
		EN	00F0	(FileNumber x 0x10000) + Word Address
	R	EU	00F1	(FileNumber x 0x10000) + Word Address
Control File		DN	00F2	(FileNumber x 0x10000) + Word Address
		EM	00F3	(FileNumber x 0x10000) + Word Address
		ER	00F4	(FileNumber x 0x10000) + Word Address
		UL	00F5	(FileNumber x 0x10000) + Word Address
		IN	00F6	(FileNumber x 0x10000) + Word Address
		FD	00F7	(FileNumber x 0x10000) + Word Address
		LEN	0064	(FileNumber x 0x10000) + Word Address
		POS	0065	(FileNumber x 0x10000) + Word Address

7.5 CompactLogix Series

Device	Device Name	Device Code (HEX)	Address Code
INT	INT	0010	(FileNumber x 0x10000) + Word Address
REAL	REAL	0011	(FileNumber x 0x10000) + Word Address
DINT	DINT	0012	(FileNumber x 0x10000) + Word Address
SINT	SINT	0013	(FileNumber x 0x10000) + (Address divided by 2)
BOOL	BOOL	0090	(FileNumber x 0x10000) + Word Address

8 Error Messages

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

Item	Description
No.	Error No.
Device Name	Name of the External Device where error occurs. Device name is a title of the External Device set with GP-Pro EX. (Initial value [PLC1])
Error Message	Displays messages related to the error which occurs.
Error Occurrence Area	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 [02])"



• Please refer to the manual of the External Device for more detail of received error codes.

• Please refer to "When an error message is displayed (Error code list)" of "Maintenance/ Troubleshooting" for a common error message to the driver.