YOKOGAWA Electric Corporation

Personal Computer Link SIO Driver

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Introduction

This manual describes how to connect the Display (GP3000 series) and the External Device (target PLC).

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

1	System Configuration This section shows the types of External Devices which can be connected and SIO type.	"1 System Configuration" (page 3)
2	Selection of External Device Select a model (series) of the External Device to be connected and connection method.	"2 Selection of External Device" (page 4)
	•	
3	Example of Communication Settings This section shows setting examples for communicating between the Display and the External Device.	"3 Example of Communication Setting" (page 5)
4	Communication Settings This section describes communication setup items on the Display. Set communication settings of the Display with GP-Pro EX or in off-line mode.	^{ভেল} "4 Setup Items" (page 17)
5	Cable Diagram This section shows cables and adapters for connecting the Display and the External Device.	^{ক্লে} "5 Cable Diagram" (page 23)
	Operation	
	Operation	

1 System Configuration

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

IMPORTANT • You cannot connect more than 2 Display units simultaneously by using CPU Direct and Personal Computer Link Module.

1.1 CPU Direct

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
FA-M3	F3SP21-0N F3SP25-2N F3SP28-3N F3SP35-5N F3SP38-6N F3SP53-4H F3SP58-6H F3SP28-3S F3SP28-3S F3SP38-6S F3SP53-4S F3SP58-6S F3SP59-7S	PROGRAMMER port on CPU	RS232C	Setting Example 1 (page 5)	Cable Diagram1 (page 23)

1.2 Personal Computer Link Module

Series	CPU	Link I/F	SIO Type	Setting Example	Cable Diagram
	F3SP25-2N F3SP28-3N F3SP35-5N F3SP38-6N F3SP53-4H	F3LC11-1N, F3LC11-1F, RS232C port on F3LC12-1F	RS232C	Setting Example 4 (page 14)	Cable Diagram 3 (page 29)
		RS422/485 (4Wire) port on F3LC11-2N	RS422/485	Setting Example 3 (page 11)	Cable Diagram 2 (page 24)
FA-M3	F3SP58-6H F3SP28-3S F3SP38-6S F3SP53-4S F3SP58-6S F3SP59-7S	RS422/485 (2Wire) port on F3LC11-2N	RS422/485	Setting Example 2 (page 8)	Cable Diagram 4 (page 30)

Connection Configuration

• 1:1 Connection

٠



2 Selection of External Device

Select the External Device to be connected to the Display.

ð	💰 New Project File 🛛 🛛 🗙				
Г	-Device/PL	C	1		
	Maker YOKOGAWA Electric Corporation				
	Driver	Personal Computer Link SIO			
	Use System Area <u>Refer to the manual of this Device/PLC</u>				
	Connection Method				
	Port COM1				
L		Go to Device/PLC Manual]		
	Back	Communication Detail Settings New Screen Cancel]		

Setup Items	Setup Description
Maker	Select the maker of the External Device to be connected. Select "YOKOGAWA Electric Corporation".
Driver	Select a model (series) of the External Device to be connected and connection method. Select "Personal Computer Link SIO". Check the External Device which can be connected in "Personal Computer Link SIO" in system configuration. "" "1 System Configuration" (page 3)
Use System Area	 Check this option when you synchronize the system data area of Display and the device (memory) of External Device. When synchronized, you can use the ladder program of External Device to switch the display or display the window on the display. Cf. GP-Pro EX Reference Manual "Appendix 1.4 LS Area (only for direct access method)" This can be also set with GP-Pro EX or in off-line mode of Display. Cf. GP-Pro EX Reference Manual " 6.13.6 Setting Guide of [System Setting Window]■[Main Unit Settings] Settings Guide ♦ System Area Setting" Cf. GP3000 Series User Manual "4.3.6 System Area Setting"
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

Setting 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 YOKOGAV	WA Electric Corpora	ation Series Personal Computer Link SIO Port COM1	
Text Data Mode	1 <u>Change</u>		
Communication Settings			
SIO Type	RS232C	O RS422/485(2wire) O RS422/485(4wire)	
Speed	19200	•	
Data Length	O 7	• 8	
Parity	NONE	O EVEN O ODD	
Stop Bit	I 1	O 2	
Flow Control	C NONE	ER(DTR/CTS)	
Timeout	3 🕂	(sec)	
Retry	2 ÷		
Wait To Send	0 📑	(ms)	
ExtentionMode =			
🔲 Exist Sum Chec	k		
🔽 Exist Terminato	r		
RI / VCC	BI BI BI C BI C C	O VCC	
In the case of RS or VCC (5V Pow Isolation Unit, ple	3232C, you can sele er Supply). If you u ase select it to VCC	ect the 9th pin to RI (Input) ise the Digital's RS232C C. Default	
Device-Specific Settings			
Allowable No. of D	evice/PLCs 16 Un	nit(s) 🛄	
No. Device No. 1 PLC1	lame	Settings	

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].

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

💰 Individual D	💰 Individual Device Settings 👘 🔀		
PLC1			
Station No	1 📑		
OK (<u>0)</u>	Cancel		

Setting of External Device

Execute [Configuration] from the [Project] menu in the ladder tool and set as below. Please refer to each maker's manual of the External Device for more detail on ladder tool.

Setup Items	Settings
Speed	19200
Data Length	8
Parity	None
Stop Bit	1
Exist Sum Check	None
Exist Terminator	Exists
Protect	None

3.2 Setting Example 2

- Setting of GP-Pro EX
- ♦ Communication Settings

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

Device/PLC 1	Device/PLC1			
Summary		Change Device/PLC		
Maker YOKOGAW	A Electric Corporat	ion Series Personal Computer Link SIO Port COM1		
Text Data Mode	1 <u>Change</u>			
Communication Settings				
SIO Type	C RS232C	RS422/485(2wire)		
Speed	19200	•		
Data Length	0.7	• 8		
Parity	NONE	O EVEN O ODD		
Stop Bit	€ 1	O 2		
Flow Control	C NONE	ER(DTR/CTS) C XDN/XOFF		
Timeout	3	(sec)		
Retry	2			
Wait To Send		(ms)		
ExtentionMode				
Exist Sum Check				
✓ Exist Terminator				
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.				
Derauk				
Device-Specific Settings				
No. Device Na	No. Device Name Settings			
👗 1 PLC1		Station No=1		

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].

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

💰 Individual D	💰 Individual Device Settings 👘 🔀		
PLC1			
Station No	1 ÷		
OK (<u>O)</u>	Cancel		

Setting of External Device

Set the computer link module as below. Please refer to each maker's manual of the External Device for more detail.

Transmission Speed Setting Switch

Setup Items	Settings
Speed	19200

◆ Data Code Setting Switch

DIP Switch	Settings	Setup Description
SW1	ON	Data Length
SW2	OFF	Parity Bit
SW3	OFF	-
SW4	OFF	Stop Bit
SW5	OFF	Exist Sum Check
SW6	ON	Exist Terminator
SW7	OFF	Protect
SW8	OFF	Always OFF

Station No. Setting Switch

Setup Items	Settings
Station No.	No.1 station

NOTE

• Set the termination resistance switch of only the module which terminates the connection to 2-WIRE. Set other switches to OFF.

3.3 Setting Example 3

- Setting 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 YOKOGAWA	Electric Corporation	on Series Personal Computer Link SIO Port COM1
Text Data Mode	1 <u>Change</u>	
Communication Settings		
SIO Type	C RS232C	C RS422/485(2wire) C RS422/485(4wire)
Speed	19200	T
Data Length	C 7	• 8
Parity	NONE	O EVEN O ODD
Stop Bit	● 1	0 2
Flow Control	C NONE	ER(DTR/CTS) O XON/XOFF
Timeout	3 🔅 (s	ec)
Retry	2 🔅	
Wait To Send	0 🕂 (ns)
ExtentionMode		
🔲 Exist Sum Check		
💌 Exist Terminator		
RI / VCC	© BI	O VCC
In the case of RS23	2C, you can selec	t the 9th pin to RI (Input)
or VCC (5V Power S Isolation Unit, please	upply). If you use e select it to VCC.	the Digital's RS232C Default
Device-Specific Settings		
Allowable No. of Devic	ce/PLCs 16 Unit(s) 111
No. Device Nam	ie	Settings
👗 1 PLC1		Station No=1

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].

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

💣 Individual Device Settings		
PLC1		
Station No	1 🗄	
	Default	
OK (<u>0)</u>	Cancel	

Setting of External Device

Set the computer link module as below. Please refer to each maker's manual of the External Device for more detail.

Transmission Speed Setting Switch

Setup Items	Settings
Speed	19200

Data Code Setting Switch

DIP Switch	Settings	Setup Description
SW1	ON	Data Length
SW2	OFF	Parity Bit
SW3	OFF	-
SW4	OFF	Stop Bit
SW5	OFF	Exist Sum Check
SW6	ON	Exist Terminator
SW7	OFF	Protect
SW8	OFF	Always OFF

Station No. Setting Switch

Setup Items	Settings
Station No.	No.1 station



• Set the termination resistance switch of only the module which terminates the connection to 4-WIRE. Set other switches to OFF.

3.4 Setting Example 4

- Setting 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 🛛	OKOGAWA Electric Corpora	ation Series Pe	ersonal Computer Link SIO	Port COM1
Text Data	Mode 1 <u>Change</u>			
Communication	i Settings			
SIO Type	RS232C	C RS422/485(2w	ire) 🔿 RS422/485(4wire)	
Speed	19200	•		
Data Leng	jth O7	• 8		
Parity	NONE	C EVEN	O ODD	
Stop Bit	● 1	0 2		
Flow Cont	rol C NONE	ER(DTR/CTS)	C XON/XOFF	
Timeout	3 +	(sec)		
Retry	2			
- Wait To S	end 0 📑	(ms)		
Extention	/lode			
🔲 Exist S	um Check			
💌 Exist T	erminator			
BL/VCC	© BI			
In the c	ase of RS232C, you can sele	ect the 9th pin to RI (In	iput)	
or VLL Isolation	59 Power Supply). If you us Unit, please select it to VCC	se the Digital's R5232 2.	L Default	
Device-Specifi	c Settings			
Allowable	No. of Device/PLCs 16 Un	iit(s) 📊		
No.	Device Name	Settings	No=1	
			10-1	

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].

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

💣 Individual Device Settings		
PLC1		
Station No	1 🔹	
OK (<u>0)</u>	Cancel	

Setting of External Device

Set the computer link module as below. Please refer to each maker's manual of the External Device for more detail.

Transmission Speed Setting Switch

Setup Items	Settings
Speed	19200

◆ Data Code Setting Switch

DIP Switch	Settings	Setup Description
SW1	ON	Data Length
SW2	OFF	Parity Bit
SW3	OFF	-
SW4	OFF	Stop Bit
SW5	OFF	Exist Sum Check
SW6	ON	Exist Terminator
SW7	OFF	Protect
SW8	OFF	Always OFF

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.

⁽³⁷⁾ "3 Example of Communication Setting" (page 5)

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 VOKOGAWA Electric Corporation Series Personal Computer Link SID Port COM1
Text Data Mode 1 Change
Communication Settings
SID Type 📀 RS232C 🔿 RS422/485(2wire) 🔿 RS422/485(4wire)
Speed 19200 💌
Data Length O 7 💿 8
Parity NONE
Stop Bit
Flow Control O NONE @ ER(DTR/CTS) O XDN/XOFF
Timeout 3 💼 (sec)
Retry 2
Wait To Send 0 👘 (ms)
ExtentionMode
Exist Sum Check
🔽 Exist Terminator
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 HS232C Isolation Unit, please select it to VCC. Default
Allowable No. of Device/PLCs 16 Unit(s)
No. Device Name Settings
Station No=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 an 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.		

continued to next page

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.
Exist Sum Check (Extension Mode)	Set whether you perform the sum check.
Exist Terminator (Extension Mode)	Set whether you specify the data terminator.
RI/VCC	You can switch RI/VCC of the 9th pin when you select RS232C for SIO type.

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].

When [Allowable No. of Device/PLCs] is multiple, click if from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

💰 Individual Device Settings		
PLC1		
Station No	1 📑	
OK (<u>D</u>)	Cancel	

Setup Items	Setup Description
Station No.	Use an integer 0 to 32 to enter the station number of the External Device to communicate.

4.2 Communication Settings in Off-line Mode

NOTE

• Please refer to GP3000 Series User Manual for more information on how to enter off-line mode or about operation.

Cf. GP3000 Series User Manual "Chapter 4 Settings"

Communication Settings

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

Comm.	Device	Option	e e e e e e e e e e e e e e e e e e e	
Personal Comput	er Link SIO		[COM1]	Page 1/1
	SIO Type Speed Data Length Parity Stop Bit Flow Control Timeout(s) Retry Wait To Send(ms) Exist Check Sum Exist Terminator	RS232C 19200 7 • NONE • 1 ER(DTR/C		
	Exit		Back	2005/09/02 12:49:31

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 (sec) for which the Display waits for the response from the External Device.
Retry	In case of no response from the External Device, use an integer from 0 to 255 to enter how many times the Display retransmits the command.
Wait To Send	Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands.
Exist Check Sum	Set whether you perform the check sum.
Exist Terminator	Set whether you specify the data terminator.

Device Setting

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

Comm.	Device		Option		
Personal Comput	er Link SIO			[COM1]	Page 1/1
Devic	e/PLC Name	PLC1			_
	Ctation No.				-1
	Station No.		<u>.</u>	1	
		1		1	0005/00/00
	Exit			Back	12:49:33

Setup Items	Setup Description		
Device/PLC Name	Select the External Device for device setting. Device name is a title of External Device set with GP-Pro EX.(Initial value [PLC1])		
Station No.	Use an integer 0 to 32 to enter the station number of the External Device to communicate.		

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		
	2 2			
Personal Comput	er Link SIO RI / VCC	• RI	[COM1]	Page 1/1
	In the case the 9th pin Power Suppl RS232C Isol it to VCC.	of RS232C, you to RI(Input) or y).If you use th ation Unit, plea	can select VCC(5V e Digital's se select	1
	Exit	2 (1 2)	Back	2005/09/02 12:49:35

Setup Items	Setup Description
RI/VCC	You can switch RI/VCC of the 9th pin when you select RS232C for SIO type.

5 Cable Diagram

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

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

Display (Connection Port)	Cable	Notes
GP (COM1)	RS232C conversion cable by Pro-face, CA3-CBLCBT232-01 + Programming tool cable by YOKOGAWA Electric Corporation KM11-2N*A	The cable length must be 15m or less.

Cable Diagram1



Cable Diagram 2

Display (Connection Port)		Cable	Notes
GP ^{*1} (COM1) AGP-3302B (COM2)	A Connector terminal block conversion adapter by Pro-face CA3-ADPCOM-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable		
	B Your own cable		
GP ^{*1} (COM2)	C Conne	Online adapter by Pro-face CA4-ADPONL-01 + ctor terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	_
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	

*1 All GP models except AGP-3002B

NOTE

• Attach the termination resistance to the devices on both ends.

- Note that pole A and pole B are reversely named for the Display and the External Device.
- When the PA device has SG, connect it.
- Set the last resistance switch of the personal computer link module for the External Device which terminates the connection to 4-WIRE.
- We recommend CO-SPEU-SB(A)3P x 0.5SQ by Hitachi Cable, Ltd. for the connection cable.
- Total cable length is 1000m.
- Set the station No. for the personal computer link module to 2 to 32.
- You must set the different station No. of all PA devices connected to the Display. If there are more than 2 PA devices with the same station No., error occurs.
- Perform the identical communication settings for both the Display (m units) and the PA device (n units).

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





necessary.

B) When using your own cable

[1:1 Connection]





NOTE • When the PA device has SG, connect it.

• Even if the PA device has no SG, SG connection between the Display and the External Device is necessary.

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







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

[1:1 Connection]



[1:n Connection]



• Even if the PA device has no SG, SG connection between the Display and the External Device is necessary.

Cable Diagram 3

Display (Connection Port) Cable		Notes	
GP (COM1)	Your own cable	The cable length must be 15m or less.	



Cable Diagram 4

Display (Connection Port)		Cable	Notes
GP (COM1) ^{*1} AGP-3302B (COM2)	A Connector terminal block conversion adapter by Pro-face CA3-ADPCOM-01 + A Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable		
	В	Your own cable	
GP (COM2) ^{*1}	С	Online adapter by Pro-face CA4-ADPONL-01 + Connector terminal block conversion adapter by Pro-face CA3-ADPTRM-01 + Your own cable	_
	D	Online adapter by Pro-face CA4-ADPONL-01 + Your own cable	

*1 All GP models except AGP-3002B

NOTE

• Note that pole A and pole B are reversely named for the Display and the External Device.

• When the PA device has SG, connect it.

• Set the last resistance switch of the personal computer link module for the External Device which terminates the connection to 2-WIRE.

• We recommend CO-SPEU-SB(A)3P x 0.5SQ by Hitachi Cable, Ltd. for the connection cable.

• Total cable length is 1000m.

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

[1:1 Connection]



[1:n Connection]



B) When using your own cable

[1:1 Connection]



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

[1:1 Connection]



[1:n Connection]



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

[1:1 Connection]





This address can be specified as system data area.

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.

Device	Bit Address	Word Address	32bits	Notes
Input Relay	X00201 - X71664	X00201 - X71649		+1B+ 1] *1*2
Output Relay	Y00201 - Y71664	Y00201 - Y71649		+1 B + 1 * 1
Internal Relay	I00001 - I65535	I00001 - I65521		+1B+ 1
Common Relay	E0001 - E4096	E0001 - E4081		+1B+ 1
Special Relay	M0001 - M9984	M0001 - M9969		(+1B+ 1)
Link Relay	L00001 - L78192	L00001 - L78177		+1B+ 1 *4
Timer (Contact)	TU0001 - TU3072			
Counter (Contact)	CU0001 - CU3072			
Timer (Current Value)		TP0001 - TP3072	[L/H]	
Timer (Setting Value)		TS0001 - TS3072		*2
Counter (Current Value)		CP0001 - CP3072		
Counter (Setting Value)		CS0001 - CS3072		*2
Data Register		D00001 - D65535		_{в і т} 15
File Register		B000001 - B262144	4 	ві t 15] *3
General Register		R0001 - R4096		_{в і т} 15
Special Register		Z0001 - Z1024		_{ві t} 15
Link Register		W00001 - W78192		<u>ві</u> t 15 1*4

Address input area for input relay (X) and output relay (Y) is shown below. When you specify the word address, specify the terminal number with the value of (a multiple of 16) + 1. Example: X002001



*2 Write disable

*1

*3 When using the personal computer link module for connection, you can use up to B99999.

*4 In link relay (L) and link register (W), the upper 1st digit on address input area shows the link number, and lower 4th digit shows the address. Specify the word address for link relay (L) and link register (W) with the value of (a multiple of 16) + 1.

Example: When specifying L71024 of link relay



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

7 Device Code and Address Code

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

Device	Device Name	Device Code (HEX)	Address Code	
	1X	0x0080 ^{*1}	(Module unit No. x $0x40$) + ((Module slot No 1) x $0x4$) + ((Terminal No 1) divided by 16) ^{*5}	
Input Relay	2X	0x0180 ^{*2}		
	3X	0x0280 ^{*3}		
	4X	0x0380 ^{*4}		
	1Y	0x0081 ^{*1}		
	2Y	0x0181 ^{*2}	(Module unit No. x $0x40$) + ((Module slot No 1) x $0x4$) + ((Terminal No 1) divided by 16) ^{*5}	
Output Relay	3Y	0x0281 ^{*3}		
	4Y	0x0381 ^{*4}		
	11	$0x0082^{*1}$		
Internal Roley	21	0x0182 ^{*2}	Value of (word address 1) divided by 16	
internal Relay	31	0x0282 ^{*3}	value of (word address - 1) divided by 16	
	4I	0x0382 ^{*4}		
	1E	0x0084 ^{*1}		
Common Bolov	2E	0x0184 ^{*2}	Value of (word address - 1) divided by 16	
Common Relay	3E	0x0284 ^{*3}		
	4E	0x0384 ^{*4}		
	1 M	0x0083 ^{*1}		
Special Bolov	2M	0x0183 ^{*2}	Value of (word address 1) divided by 16	
Special Relay	3M	0x0283 ^{*3}	Value of (word address - 1) divided by 16	
	4M	0x0383 ^{*4}		
	1L	$0x0088^{*1}$		
Link Dolov	2L	0x0188 ^{*2}	(Link No. x 0x10000) + ((Word Address -	
LINK Relay	3L	0x0288 ^{*3}	1) divided by 16) ^{*6}	
	4L	0x0388 ^{*4}		
	1TP	0x0060 ^{*1}		
Timer (Current	2TP	0x0160 ^{*2}	Ward Address 1	
Value)	3TP	0x0260 ^{*3}	Word Address - 1	
	4TP	0x0360 ^{*4}		

Device	Device Name	Device Code (HEX)	Address Code	
	1TS	$0x0063^{*1}$		
Timer (Setting Value)	2TS	0x0163 ^{*2}	Word Address - 1	
	3TS	0x0263 ^{*3}		
	4TS	0x0363 ^{*4}		
	1CP	0x0061 ^{*1}		
Counter (Current	2CP	0x0161 ^{*2}	Word Address - 1	
Value)	3CP	0x0261 ^{*3}		
	4CP	0x0361 ^{*4}		
	1CS	0x0064 ^{*1}		
Counter (Setting	2CS	0x0164 ^{*2}		
Value)	3CS	0x0264 ^{*3}	word Address - 1	
	4CS	0x0364 ^{*4}		
	1D	$0x0000^{*1}$		
Data Degister	2D	0x0100 ^{*2}	- Word Address - 1	
Dala Register	3D	0x0200 ^{*3}		
	4D	0x0300 ^{*4}		
	1B	$0x0004^{*1}$		
Common Degister	2B	0x0104 ^{*2}	Word Address - 1	
Common Register	3B	0x0204 ^{*3}		
	4B	0x0304 ^{*4}		
	1R	0x0003 ^{*1}		
Conorol Register	2R	0x0103 ^{*2}	Word Address - 1	
General Register	3R	0x0203 ^{*3}		
	4R	0x0303 ^{*4}		
	1Z	0x0001 ^{*1}		
Special Register	2Z	0x0101 ^{*2}	Word Address - 1	
	3Z	0x0201 ^{*3}		
	4Z	0x0301 ^{*4}		
	1W	$0x0002^{*1}$		
Link Register	2W	0x0102 ^{*2}	(Link No. x 0x10000) + ((Word Address -	
	3W	0x0202 ^{*3}	1) divided by 16) ^{*6}	
	4W	0x0302 ^{*4}		

- *1 When CPU number is 1
- *2 When CPU number is 2
- *3 When CPU number is 3
- *4 When CPU number is 4
- *5 Please refer to "6 Supported Device *1" for each name.
- *6 Please refer to "6 Supported Device *4" for each name.

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 External Device where error occurs. Device name is a title of External Device set with GP-Pro EX. (Initial value [PLC1])		
Error Message	Displays messages related to the error which occurs.		
	Displays IP address or device address of External Device where error occurs, or error codes received from External Device.		
Error Occurrence Area	 NOTE Received error codes are displayed such as "Decimal [Hex]". IP address is displayed such as "IP address (Decimal): MAC address (Hex)". 		

Display Examples of Error Messages

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

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