# 32 Symbol Registration

32.1	Symbol and Symbol Sheet	
32.2	Registering Symbols on a Symbol Sheet	
32.3	Sharing Symbols on the Entire Network	
32.4	Copying to a Symbol Sheet in Another Network Project File	
32.5	Checking Registered Symbols	
32.6	Setting Guide	
32.7	Restrictions	

# 32.1 Symbol and Symbol Sheet

## 32.1.1 What is a Symbol?

You can collectively register each device data used inside the display unit and Device/PLC, or variable information used in the logic program as "Symbol".

A symbol is a "Variable" to control all data at once such as device address and data type, etc. and 'Pro-Server EX' reads and writes each device data through the registered symbol.

Since you can set the device address directly on 'Pro-Studio EX', symbol registration is not essential. When you wish to change all device data at once, however, it is recommended to use symbols as much as possible for easier maintenance.

The data included in a symbol are: Symbol name, Device address, Data type, Number of data etc.

**NOTE** • The contents can be confirmed easily if a symbol has a concrete symbol name ("Maximum number of rotation", "Minimum number of rotation", etc.)



• You can use the system variables (HMI system variables and logic system variables) that is predefined in 'GP-Pro EX'. For details, refer to the GP-Pro EX Reference Manual.

## 'GP-Pro EX' Variables

- Variables created with a logic program
  - Variable format

Variables registered by a user with optional names. To use these variables, import a screen project file (\*.PRX) created with 'GP-Pro EX'.

For details on importing, refer to "31.3 Getting Data from a Screen Project File (PRX)".

Address format

Variables automatically assigned to a device in the 'GP-Pro EX'. You do not need to import a screen project file (\*.PRX) of 'GP-Pro EX', because 'Pro-Server EX' prepares these variables in advance.

• When defining logic addresses, in 'GP-Pro EX' you would set [Device/PLC] to [#LOGIC], however, in 'Pro-Server EX' you set [Device Name] to [#INTERNAL].

For restrictions of the variables created with the logic program, refer to "32.7 Restrictions".

## System variables

Variables having the predefined functions on the 'GP-Pro EX'. You do not need to import a screen project file (\*.PRX) of 'GP-Pro EX', because 'Pro-Server EX' prepared these variables in advance.

When setting up ACTION or trigger condition, system variables on 'GP-Pro EX' are displayed when you select "#INTERNAL", which is the internal device of a display unit, in [Device Name] and click the list button of [Device Address].

Device Name	The OFF the Constitution Address (for
#INTERNAL	Turn UFF the Specified Device Address after Processing.
Device Address	
<b>H</b>	▼ Local:Sheet2
Data Type [16Bit(Signed)	Global:#HML_SYSTEM     Global:#LOGIC_SYSTEM

NOTE		
------	--	--

For details about variables on the 'GP-Pro EX', refer to the "GP-Pro EX Reference Manual".
In Pro-Server EX, you cannot use 'GP-Pro EX' system variables with names that begin with "[PLC\*]H#\_".

## 32.1.2 What is a Symbol Sheet?

Symbols are controlled collectively on each Device/PLC. This control unit is called a "Symbol Sheet". You can create more than one symbol sheet, and symbol control is possible per sheet in accordance with the intended use.



NOTE

You can register 1500 symbols at maximum, in one symbol sheet. When the number of symbols exceed 1500, add a new symbol sheet to register.

"32.2.5 Adding Symbol Sheets"

# 32.2 Registering Symbols on a Symbol Sheet

# 32.2.1 Registering Symbols



This section describes how to register symbols taking the above case as an example.

1 Click the [Symbol] icon on the status bar.

💱 Pro-Studio EX 🛛 ?.npx		
<u>File</u> <u>Edit</u> <u>T</u> ool <u>P</u> rogramming Assist <u>S</u> et	ing <u>H</u> elp	
Start >> 🯹 Node >>	녿 Symbol 🂫 ≷ Feature 🔉 📑	Save

2 Select the Device/PLC in which you want to register symbols, from the tree display on the left of the screen.

The symbol registration screen of the selected Device/PLC appears on the right of the screen. The area surrounded by red line is a "Symbol sheet" where symbols are registered.

物 Pro-Studio EX 🛛 ?.npx						_ 🗆 🗡	¢
Eile Edit Tool Programming Assist Setting	) <u>H</u> elp						
Start >> 🔪 Node >>	≽ Symbol <b>&gt;</b> 🦂	Feature ≫ [	Save > 🕻	Transfer Transfer	M S	onitor Status	
Symbol	Node Name AGP1		Device Name PLC	1			
Insert Delete	Sheet Name Sheet3		□ s	Get it as a global syn	mbol sheet.		
Copy Cut Paste	Symbol	Data Type	Consecutive	Device Address	No. of Data	Comment	)
Symbol Sheet					1	<b>^</b>	
Add Delete					1		
					1		
Check Duplication/List Used Addresses					1		
					1		
Global Constant Setting Screen					1		
E RosSenver EV					1		
E - ₽ PC1 (192,168,0,1)					1		
#INTERNAL:Sheet1					1		
SP-5B40/WinGP					1		
► SP-5B10					1		
GP4000/L14000 Series					1		
Grup AGP1 (192,168.0,100)				<u> </u>	1		
#INTERNAL:Sheet2					1		
PLC1:Sheet3 Q Series CPU I					1		
→ LT3000					1		
GP Series					1		
Ciobal Symbol					1		
					1		
					1		
	l l			1	11		1

**3** Enter "Temperature 1" as a symbol name in the [Symbol] field on the symbol sheet.

A										
💸 Pro-Stud	lio EX	test.npx								
<u>File E</u> dit <u>T</u>	[ool Pr	ogrammin	g Assist	<u>S</u> etti	ng <u>H</u>	elp				
💋 si	tart >>		Node	»		Symbol	<b>&gt;&gt;</b>	1	Feature	» 📑
Symbol -	Symbol					Node Name AGP1				
Gro	Group		Ungroup			Sheet Name Sheet3				
Ins	ert	Delete					-1			
Сору	Copy Cut Paste				Symb	ol		Data T	уре	
Symbol St	heet				Te	mperature1	$\supset$			
Ad	bb		)elete		Ŀ			_ _		

4 Click the [Data Type] field and select the data type from the displayed list.

🔌 Symbol ン 🧹	Feature ン	Sav	re 💙 [	🔰 Transfer	Stat			
Node Name AGP1		Device N	lame PLC1					
Sheet Name Sheet3		E Set it as a global symbol sheet.						
Symbol Data Type		Consec utive	Device Ad	ata Commen				
Temperature1		Data Type						
		Deselect		2	2000 B			
				22DWC:	D'			
		16Bit(Sigr	ned) N	32Bit(Signed)	Bit			
		16Bit(Sign	ned) signed)	32Bit(Signea) 32Bit(Unsigned)	Float			
		16Bit(Sign 16Bit(Uns 16Bit(HE)	ned) signed) K)	32Bit(Unsigned) 32Bit(HEX)	Float Double			

5 Click the button that appears by clicking the [Device Address] field, and enter "D50" as a device address to be registered as a symbol. Then click the [Ent] button.

Node Name AGP	1	Device	Name PLC1						Ξ
Sheet Name Shee	ət3	Set it	t as a global symbol :	sheet.					
Symbol	Data Type	Consec utive	Device Address	No	. of D	ata	Con	nmen	
Temperature1	16Bit(Signed)			Input	Ado	ress			
		_		D		- 50	1		
				Ba	ick			C	lr
				A	В	С	7	8	0
		_		D	Е	F	4	5	6
	<u></u>			1			1	2	1
							0	E	nt

**NOTE** • You can also enter the device address directly.

When the variable created with a logic program (#I\_\*\*\*\*, #Q\_\*\*\*\*) it inputs, after selecting "#internal" sheet of Device/PLC which uses variable in tree indication on the right screen input.

**6** Repeat the above steps (Step 1 to 5) to register the symbol "Valve 1" in the same way.

						_ 🗆 ×
ng	Help					
ŀ	> Symbol >> 🪄	≷ Feature ン 📑	Sa Sa	ave 🔉 🆄 Ti	ransfer	Monitor Status
L	Node Name AGP1		Device	Name PLC1		
L	Sheet Name Sheet3		Set it as	a global symbol shee	et.	
L	Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment
	Temperature1	16Bit(Signed)		D0050	1	
	Valve1	Bit		M0050	1	
					1	
L					1	
					1	

This is the end of the symbol registration to the symbol sheet.

• You can edit the contents of the registered symbols. Click [Symbol], [Consecutive] or [Device Address] and edit the contents on the "Edit Symbol" screen.

<sup>(37)</sup> "32.6.2 "Edit Symbol" Screen"

## 32.2.2 Registering Sequential Devices

## Registering sequential addresses individually as symbols

To perform symbol registration continuously for sequential device addresses, you can register these addresses together without specifying each address individually.



This section describes how to register the symbols of sequential addresses taking the above case as an example.

**1** Register the device address "D50" with the symbol name "Temperature 1".

ng	Help							
1	🍐 Symbol 🌺 🍦	Feature ン 📑	- Sa	ave ᠉ 🆄 T	ransfer	Monitor Status		
I	Node Name AGP1 Device Name PLC1							
	Sheet Name Sheet3							
	Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment		
U	Temperature1	16Bit(Signed)		D0050	1	<u> </u>		
I					1			
I					1			
I					1			
	ļ				1			
					1			

For the detailed procedure, please refer to Step 1 to 5 in "32.2.1 Registering Symbols".

**2** Then, register the device address "D51" as a symbol.

Click the [Symbol] field in the next row of "Temperature 1", and enter "Temperature 2" as a symbol name.

						_ 🗆 ×		
ing	Help							
	🍐 Symbol 🌺	Feature ン 📔	- Sa	ave 🔉 🆄 Ti	ransfer	Monitor Status		
	Node Name AGP1 Device Name PLC1							
	Sheet Name Sheet3							
	Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment		
Å	Temperature1	16Bit(Signed)		D0050	1			
U	Temperature2				1			
I					1			
					1			
					1			
					11			

**3** Click the [Consecutive] field.

A panel to specify the continuous attribute appears.

The next device address "D0051" to the symbol "Temperature 1" is indicated on the left of this panel.

Symbol ン	≷ Feature ン	Sa Sa	ave 🔉 🆄 T	ransfer	Monito Statu
Node Name AGP	1	Device	Name PLC1		
Sheet Name Shee	et3	🗌 🗖 Set i	t as a global symbol	sheet.	
Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment
emperature1	16Bit(Signed)		D0050	1	
emperature2			Consecutive Release + D0051 Cancel	0 D0050.00 1 D0050.01 2 D0050.02 3 D0050.03 1 4 D0050.04 5 D0050.05 1 6 D0050.06	

4 Select [+ D0051] as a sequential device address.

Node Name AGP	1	Device	Name PLC1		
Sheet Name Shee	et3	🗌 🗖 Seti	t as a global symbol	sheet.	
Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment
emperature1	16Bit(Signed)		D0050	1	
emperature2	16Bit(Signed)		Consecutive		×
			Release + D0051 Cancel	0 D0050.00 1 D0050.01 2 D0050.02 3 D0050.03 4 D0050.04 5 D0050.05 1 6 D0050.06	

"+", indicating the device continuance, appears in the [Consecutive] field and the device address "D51" is displayed in gray.

ng	Help					
1	> Symbol >> 🦂	≷ Feature ン 📑	- Sa	ave 🔉 🆄 Tr	ansfer	Monitor Status
	Node Name AGP1		Device	Name PLC1		
l	Sheet Name Sheet3		Set it as	a global symbol shee	t.	
L	Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment
L	Temperature1	16Bit(Signed)		D0050	1	▲
L	Temperature2	16Bit(Signed)	+	D0051	<b>j</b>	
L					1	
	,					
					1	
					1	
					1 1 1	

• When symbols are continuously registered, the symbol data type specified at the first setting is automatically input in the [Data Type] field.

NOTE

**5** Repeat Step 2 to 4 to set the next symbol.

						_ 🗆 ×
ng	Help					
1	> Symbol >> 🐳	Feature ≫ 📑	- Sa	ave ➤ 🆄 Ti	ransfer	Monitor Status
L	Node Name AGP1		Device	Name PLC1		
L	Sheet Name Sheet3		Set it as	a global symbol shee	et.	
	Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment
	Temperature1	16Bit(Signed)		D0050	1	
	Temperature2	16Bit(Signed)	+	D0051	1	
	Temperature3	16Bit(Signed)	+	D0052	1	
					1	
					1	
					1	
					1	
					1	

Now, the sequential devices addressed "D50", "D51" and "D52" have been registered individually as symbols.

## Registering sequential addresses collectively as a symbol

You can register sequential device addresses as one symbol by specifying the number of devices.



This section describes how to register the symbols of sequential addresses taking the above case as an example.

1 Enter "Temperature Data" as a symbol name in the [Symbol] field on the symbol sheet.

						_ 🗆 ×
ng	Help					
1	🍐 Symbol 🌺 🦂	Feature ン [	- Sa	we > 🆄 T	ransfer	Monitor Status
I	Node Name AGP1		Device	Name PLC1		
l	Sheet Name Sheet3		Set it as	a global symbol shee	et.	
	Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment
	TemperatureData				1	
Y					1	
I					1	
I					1	
I					1	
1					1	
					1	

2 Click the [Data Type] field and select the data type from the displayed list.

🕨 Symbol ン 襗	Feature ン 🛛	Sa	ive 渊 🔖	Transfer	Monito Statu
Node Name AGP1		Device	Name PLC1		He with the
Sheet Name Sheet3		🗌 🗖 Set it	as a global syml	ool sheet.	
Symbol	Data Type	Consec	Device Addres	s No. of Da	ata Comment
12 Mar 1997					
TemperatureData		Data T	уре		
TemperatureData		Data T Deselec	ype t	1	
TemperatureData		Data T Deselec 16Bit(Sig	ype t gned) N 32	Bit(Signed)	Bit
TemperatureData		Data T Deselec 16Bit(Sig 16Bit(Ur	ype t gned) 32 nsigned) 32	Bit(Signed) Bit(Unsigned)	Bit Float
TemperatureData		Data T Deselec 16Bit(Sit 16Bit(Ur 16Bit(HB	ype t gned) 32 nsigned) 32 X) 32	Bit(Signed) Bit(Unsigned) Bit(HEX)	Bit Float Double

**3** Click the button that appears by clicking the [Device Address] field, and enter "D50" as a start device address to be registered as a symbol. Then click the [Ent] button.

Feature 🔊	Sa	we ≫ 🄖 Tr	ransfer	Monitor Status
	Device	Name PLC1		1 <del>1. (111)</del>
13	Set it	as a global symbol :	sheet.	
Data Type	Consec utive	Device Address	No. of Data	Comment
16Bit(Signed)			Input Address	
			D	50
			Back	Clr
			A B C	7 8 9
	_	<u>.</u>	D E F	4 5 6
		2 (2)	1.	1 2 3
the second se				10
	Feature >> [ 13 13 14 16Bit(Signed) 16Bit(Signed) 16Bit(Signed) 16Bit(Signed)	Feature Sa Device 3 Consec 13 Consec 146Bit(Signed) 16Bit(Sign	Feature       Save       Image: Consect of the sector of the sect	Feature       Save       Transfer         Device Name       PLC1         13       Set it as a global symbol sheet.         Data Type       Consec utive       Device Address       No. of Data         16Bit(Signed)       Input Address       D       Input Address         Data Type       D       Back       A       B       C         D       D       D       E       F       D       E       F

4 Enter the number of sequential device addresses "3" in [No. of Data].



Now, the sequential devices addressed "D50", "D51" and "D52" have been registered collectively as one symbol.

When you register the next symbol, the address following the last address input in Step 4 (in this case, "+D0053") is displayed on the continuous attribute panel that is displayed by clicking the [Consecutive] field.

Symbol ン	Feature 🔉	Sa	ave 渊 🆄 T	ransfer	Moni Stat
Node Name AGP1		Device	Name PLC1		
Sheet Name Sheet	3	🗌 🗖 Seti	t as a global symbol	sheet.	
Symbol	Data Type	Consec utive	Device Address	No. of Data	Commen
iemperatureData	16Bit(Signed)		D0050	1	
			Consecutive Release + D0051 Cancel	0 D0050.00 1 D0050.01 2 D0050.02 3 D0050.03 4 D0050.04 5 D0050.05 1 6 D0050.05	

## 32.2.3 Registering Bit Offset Symbols

When "Word type" is specified as a symbol data type, you may find a symbol of which word device is specified as a word-type symbol first, and the bit of the particular position among such word devices is specified with the offset number beginning with 0. This symbol is called "Bit offset symbol".

For instance, the device address "D50" in the figure below has the error information of Line A. (This device address is the "Parent device".) When the first bit has the "Speed Error" information and the 11th bit has the "Abnormal Temperature" information as further information, you can symbolize particular bits by specifying the bit offset.





• When you specify the bit offset, the symbol data type is "Bit" type.
• 32-bit device (Integer\_Variables) can be accessed in bit unit. Add "single space + Xm" following the variable to allow you to access it in bit unit. Example) When accessing the 7th bit of Integer\_Variables Integer\_Variables .X6
• When the data type of the parent device is BCD or String type, bit offset symbols cannot be used.

This section describes how to register bit offset symbols taking the above case as an example.

1 Specify "Line A\_Error Information" as a device address of "Parent Device".

					_ 🗆 ×
; Help					
≽ Symbol ≫ 퐂	Feature ⋗ [	- Sa	ive 🔉 🆄 Ti	ansfer	Monitor Status
Node Name AGP1		Device	Name PLC1		
Sheet Name Sheet3		Set it as	a global symbol shee	et.	
Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment
LineAErrorInformation	16Bit(Signed)		D0050	1	▲
				1	
				1	
				1	
				1	
				1	
				1	

For the detailed procedure, please refer to Step 1 to 5 in "32.2.1 Registering Symbols".

**2** Enter the bit offset symbol name "Speed Error" in the [Symbol] field.

						_ 🗆 ×
-	Help					
	🍐 Symbol ≫ 🊄	Feature ン 📑	Sa Sa	ave 😕 🆄 Ti	ransfer	Monitor Status
	Node Name AGP1		Device	Name PLC1		
	Sheet Name Sheet3		Set it as	a global symbol shee	et.	
	Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment
	LineAErrorInformation	16Bit(Signed)		D0050	1	
(	SpeedErron				1	
٦					1	
					1	
					1	
					1	
					1	
					1	

 $\mathbf{3}$  Click the [Consecutive] field.

A panel to specify the continuous attribute appears.

Symbol >> Node Name AGP1	Feature 20	Device	Name PLC1	ranster	Statu
Sheet Name Sheet3		Γ Seti	t as a global symbol :	sheet.	
Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment
LineAErrorInformation	16Bit(Signed)		D0050	1	
SpeedError			Consecutive Release + D0051 Cancel	0 D0050.00 1 D0050.01 2 D0050.02 3 D0050.03 1 4 D0050.04 5 D0050.05 1 6 D0050.06	

4 Double-click the target offset (in this case "D0050.01") from the list on the right of the continuous attribute panel.

Help Symbol 🔉	Feature 🔉	Sa	ive 💙 🄖 T	ransfer	Monitor Status
Node Name AGP1		Device	Name PLC1		
Sheet Name Sheet3		🗖 🗖 Set il	t as a global symbol	sheet.	
Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment
LineAErrorInformation	16Bit(Signed)		D0050	1	
SpeedError			Consecutive Release + D0051 Cancel	0 0050.00 1 00050.01 2 00050.02 0 3 00050.02 1 00050.04 5 00050.05	
				1 6 D0050.06	

"01" indicating "Offset" is entered in the [Consecutive] field.

) Help Symbol >> 🛃	Feature 🔊 📔	- Sa	ave 🔉 🏠 Ti	ransfer	Monitor Status		
Node Name AGP1	Node Name AGP1 Device Name PLC1						
Sheet Name Sheet3	Sheet Name Sheet3						
Symbol Data Type Consec Device Address No. of Data				Comment			
LineAErrorInformation	16Bit(Signed)		D0050	1			
LineAErrorInformation SpeedError	16Bit(Signed) Bit	01	D0050 D0050.01	1			
LineAErrorInformation SpeedError	16Bit(Signed) Bit	01	D0050 D0050.01	1 1 1	<u> </u>		
LineAErrorInformation SpeedError	16Bit(Signed) Bit	01	D0050 D0050.01	1 1 1 1			
LineAErrorInformation SpeedError	16Bit(Signed) Bit		D0050 D0050.01	1 1 1 1 1 1			
LineAE rorInformation SpeedError	16Bit(Signed) Bit		D0050 D0050.01	1 1 1 1 1 1 1			
LineAE rrorInformation SpeedError	16Bit(Signed) Bit		D0050 D0050.01	1 1 1 1 1 1 1 1			

5 Repeat the above steps (Step 2 to 4) to register the symbol "Abnormal Temperature" in the same way.

						_ 🗆 ×
1	Help					
ŀ	🕨 Symbol 🌺 🧳	Feature ⋗ 📑	- Sa	ave 😕 🆄 T	ransfer	Monitor Status
	Node Name AGP1		Device	Name PLC1		
	Sheet Name Sheet3 🔽 Set it as a global symbol sheet.					
	Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment
	LineAErrorInformation	16Bit(Signed)		D0050	1	
	SpeedError	Bit	01	D0050.01	1	
	AbnormalTemperature	Bit	11	D 0050.11	1	
					1	
					1	
					1	
					1 1 1	

This is the end of the registration of bit offset symbols into the symbol sheet.

## 32.2.4 Inserting and Deleting Rows on a Symbol Sheet

## Row Insertion

1 Select the row just below the place where you want the new one inserted.

						_ 🗆 🗡	
3	Help						
Þ	Symbol >> ≷ Feature >> 📄 Save >> 🖄 Transfer						
	Node Name AGP1 Device Name PLC1						
	Sheet Name Sheet3 🔽 Set it as a global symbol sheet.						
	Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment	
	Temperature1	16Bit(Signed)		D0050	1		
	Temperature2	16Bit(Signed)	+	D0051	1		
	Temperature3	16Bit(Signed)	+	D0052	1		
					1		
					1		
					1		
					1		



• To insert more than one row, select the number of rows you want to insert by dragging the mouse.

2 Click [Insert] button in [Symbol].

物 Pro-Studio EX 🛛 te	est.npx	
<u>File Edit T</u> ool <u>I</u>	Programming Assist	<u>S</u> etting <u>H</u> elp
对 Start ン	Node >	Symbol 2
Symbol		Node Name
Group	Ungroup	Sheet Name
Insert	Delete	onectivane
Copy 1/5 C	et Paste	Symbol
Symbol Sheet		LineAErrorInfor
Add	Delete	SpeedError
Check Duplication/	List Used Addresses	
Global Constan	t Setting Screen	

The selected row(s) is displaced by the newly inserted row(s) and shifted down.

1	Help Symbol 🍑	Feature ⋗ [	Sa	ave ນ 🔖 Ti	ransfer	L I X Monitor Status	
	Node Name AGP1 Device Name PLC1						
	Sheet Name Sheet3		Set it as	a global symbol shee	et.		
	Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment	
	Temperature1	16Bit(Signed)		D0050	1		
	Temperature2	16Bit(Signed)	+	D0051	1		
(					1		
	Temperature3	16Bit(Signed)	+	D0052	1		
					1		
					1		
					1		
					1		

- Deleting Specified Rows on a Symbol Sheet
- 1 Select the row you wish to delete.

, 	Help       Symbol       Feature       Save       Save						
Node Name ALE1 Device Name PLC1							
	Sheet Name Sheet3						
	Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment	
A	l emperature1	16Bit(Signed)		00050	1		
Ų	Temperature2	16Bit(Signed)	+	D0051	1		
ſ	Temperature3	16Bit(Signed)	+	D0052	1		
ſ					1		
					1		
					1		
					1		

2 Click [Delete] button in [Symbol].

物 Pro-Studio EX 🛛 te	est.npx				
<u>File E</u> dit <u>T</u> ool	Programming Assist	<u>S</u> etting <u>H</u> elp			
对 Start ン	Node >	Symbol 2			
Symbol		Node Name			
Group	Unaroup	Sheet Name			
Insert	Insert Delete				
Сору	Copy Cut Paste				
Symbol Sheet		LineAErrorInfom			
Add	Delete	SpeedError			
Check Duplication/	List Used Addresses				
Global Constan	t Setting Screen				

 ${\bf 3}\,$  The "Delete Symbol" screen appears. Click [Yes] button.

Delete Symbol 🛛 🛛 🔀				
?	Temperature2 will be deleted. Is that OK?			
Yes	No No			

The specified row is deleted.

; Help						
≽ Symbol ᆇ 葇	Feature ≫ [	Sa	ave 🔉 🆄 T	ransfer	Monitor Status	
Node Name AGP1	Node Name AGP1 Device Name PLC1					
Sheet Name Sheet3	Sheet Name Sheet3 Set it as a global symbol sheet.					
Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment	
Temperature1	16Bit(Signed)		D0050	1		
Temperature3	16Bit(Signed)	+	D0051	1		
				1		
				1		
				1		
				1		
				1		
				1		

## 32.2.5 Adding Symbol Sheets

You can create multiple symbol sheets for one entry node.

Registering symbols for purposes allows you to smooth the handling of symbol information.

This section describes addition of symbol sheets.

1 Click [Add] button in [Symbol Sheet].

Au					
🏹 Pro-Studio E	X test.np>	<			
<u>File E</u> dit <u>T</u> o	ol <u>P</u> rogra	mming Assist	<u>S</u> etting	<u>H</u> elp	
Start	»	Node 🔉	1	Symbol 🔉	
Symbol			No	de Name 🖌	
Group		Ungroup	She		
Insert		Delete	5110	ocritane je	
Сору	Cut	Paste		Symbol	
Cymbol Sheet	Symbol Sheet				
Check Duplic					
Global Co	onstant Settin	ig Screen	피는		

2 The "Add Symbol Sheet" screen appears. Click the list button of [Node Name] or [Device Name] to select the node or device where you want to add a symbol sheet.

Add Symbol She	eet				×	
	ACD1			-	ı I	
Node Name	Adri					
Device Name	PLC1 #INTEBNAL			•		١
Sheet Name	PLC1	2				Ϊ
			OK	Cancel		

**3** Enter a symbol sheet name to be added in [Sheet Name]. (By default, the sheet name is "Sheet [No.]").

Add Symbol Sheet		×
Node Name AGP1		•
Device Name PLC1		•
Sheet Name Sheet4		
	ОК	Cancel

## 4 Click [OK] button.

A new symbol sheet is now added with its sheet name displayed in the list on the left of the screen.

🏷 Pro-Studio EX ?.npx						
Elle Edit 1001 Programming Assist Setting Start >> Node >>	g <u>H</u> elp Symbol <b>»</b>	💦 Feature ン 📄	Save 渊	Transfer 1	M S	onitor Status
Symbol Group Ungroup	Node Name AGP1 Sheet Name Sheet4		Device Name PLC	1 Set it as a global syn	nbol sheet.	
Copy Cut Paste	Symbol	Data Type	Consecutive	Device Address	No. of Data	Comment
Symbol Sheet					1 1 1	<b>^</b>
Check Duplication/List Used Addresses					1	
Global Constant Setting Screen					1 1 1	
Imit #INTERNAL:Sheet1     SP-5B40/WinGP     SP-5B10     GP4000/LT4000 Series					1	
					1 1 1	
LT3000     GP Series					1 1 1	
Global Symbol					1	

## Deleting Symbol Sheets

1 Select the symbol sheet you wish to delete from the list on the left of the screen.



2 Click [Delete] button in [Symbol Sheet].

物 Pro-Studio E	X test.r	ıрх			
<u>File Edit Tool Programming Assist Setting H</u> elp					
对 Start	<b>»</b>	🗻 Node >	> 🕨 Symbol		
Symbol			Node Name		
Group		Ungroup	Sheet Name		
Insert		Delete			
Сору	Cut	Paste	Symbol		
- ⊂Symbol Sheet			LineAErrorInform		
Add	f f	Delete N	SpeedError		
Check Duplication/List Used Addresses					
Global C	onstant Sel	tting Screen			

The selected symbol sheet is now deleted.

#### Sharing Symbols on the Entire Network 32.3

#### 32.3.1 What is a Global Symbol?

'Pro-Server EX' allows the same type of Device/PLC to share a symbol. This symbol is called a "Global symbol". Also, a symbol sheet consisting of such global symbols is called a "Global symbol sheet". You can commonly use a same global symbol sheet in all the registered Device/PLCs.

When you register the symbol sheet "Error Information" of "Manufacturer A Device/PLC 1" as a global symbol sheet, for instance, this "Error Information" symbol is also registered for multiple same Device/PLCs. Thus, even if many entry nodes are registered on the network, preparing one global symbol sheet saves you creating new symbol sheets as long as the contents are the same.



Global symbols should be registered per symbol sheet.

You can use global symbols commonly between different entry nodes, but the Device/PLCs should be of the same type.

## 32.3.2 Registering as a Global Symbol

This section describes how to register a global symbol.

- **1** Register a symbol on the symbol sheet.
- 2 Check [Set it as a global symbol sheet] on the right of the screen.

g Help					
녿 Symbol ⋗ 葇	Feature ⋗ 📑	- Sa	ave ➤ 🆄 T	ansfer	Monitor Status
Node Name AGP1		Device	Name PLC1		
Sheet Name Sheet3		Set it as	a global symbol shee	d.	
Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment
Temperature1	16Bit(Signed)		D0050	1	
Temperature2	16Bit(Signed) D0051 1				
Temperature3	16Bit(Signed)		D0052	1	
				1	

The created symbol sheet is now registered as a global symbol sheet, with the name displayed in "Global symbol" in the tree display on the left of the screen.

Symbol Sheet			
Add	Delete		
Check Duplication/I	List Used Addresses		
Global Constan	t Setting Screen		
Pro-Server EX	4		
□ PC1 (192	168.0.1)		
	ERNAL:Sheet1		
▶ SP-5B40/Win	GP		
> SP-5B10			
	000 Series		
	s		
📥 🖂 AGP1 (19	2.168.0.100)		
🎦 #INTE	ERNAL:Sheet2		
PLC1:Sheet3 A Series CPU [			
• LT3000			
GP Series			
🖻 👻 Global Symbol			
Sheet3 A	Series CPU Direct		

NOTE

٠

To cancel the registration of the global symbol sheet, uncheck [Set it as a global symbol sheet].

# 32.4 Copying to a Symbol Sheet in Another Network Project File

You can copy the contents of the created symbol sheet to the symbol sheet in another network project file. This section describes how to copy all the symbols registered in the symbol sheet.

1 Move the mouse pointer on the symbol sheet, and press the [Ctrl] and [A] keys to select the copy-source symbol sheet.

					_ 🗆 ×
i Help					
🍐 Symbol 🌺	Feature 🔉 📑	- Sa	ave 🔉 🆄 Tr	ansfer	Monitor Status
Node Name AGP1		Device	Name PLC1		
Sheet Name Sheet3		Set it as	a global symbol shee	t.	
Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment
Temperature1	16Bit(Signed)		D0051	1	<u> </u>
Temperature2	16Bit(Signed)		D0052	1	
Temperature3	16Bit(Signed)		D0053	1	
				1	
				1	
				1	
				1	
				1	
				1	
				1	
				1	
		<u> </u>		1	
		<u> </u>		1	
		<u> </u>		1	
		<u> </u>		1	
		<u> </u>		1	
		<u> </u>		1	
		<u> </u>		1	
		<u> </u>		1	
				11	

**NOTE** • You can also select symbols partially by dragging the mouse.

2 Click the [Copy] button in [Symbol].

🎕 Pro-Studio EX 📑	?.npx				
File Edit Tool Pr	ogramming Assist	Setting Help			
对 Start ン	Node	» 🌔 Symbol			
Symbol	,	Node Name			
Group	Ungroup	Sheet Name			
Insert	Delete				
Copy	Cut Paste	Symbo			
Symbol Sheet		Temperature1			
Add	Delete	Temperature2			
Temperature					
Check Duplication/List Used Addresses					
Global Consta	Global Constant Setting Screen				

**NOTE** • You can also select it from the menu list displayed by right-clicking the mouse.

**3** Select [Open] from [File] menu.

🎕 Pro-Studio EX 🛛 ?.npx							_ 🗆 🗵
File Edit Tool Programming A	Assist Settin	g Help					
Open	ode >	≽ Symbol ≫ 葇	Feature ン 📑	Sa	ive ≫ 🄖 Ti	ransfer	Monitor Status
Save Save As		Node Name AGP1		Device	Name PLC1		
Input History at Save Time	te	Sheet Name Sheet3	<b>V</b>	Set it as	a global symbol shee	et.	
Export Nodes and Symbols	Paste	Symbol	Data Type	Consec utive	Device Address	No. of Data	Comment
Import Nodes and Symbols		Temperature1	16Bit(Signed)		D0050	1	▲
2.npx	te	Temperature2	16Bit(Signed)		D0051	1	
ProductManagemant.npx		Temperature3	16Bit(Signed)		D0052	1	
Exit	Idresses					1	

The "Open File" screen appears.

Si	ive As					? ×
	Save in:	🔁 NPXD ataBase		•	(† 🔁 🖶	
I		Name	Size	Туре		Modified
	<b>2</b>	😻1.npx	316 KB	NPX File		4/3/2006 11:36 AM
	History	2.npx	316 KB	NPX File		4/3/2006 11:36 AM
	7/1	😻 004.npx	316 KB	NPX File		4/3/2006 11:36 AM
		😻 003.npx	316 KB	NPX File		4/3/2006 11:36 AM
	Desktop					
	My Documents					
I						
	My Computer					
		File name: 00	3.npx		•	<u>O</u> pen
	My Network P	Save as type: Ne	stwork Project File (*.nj	px)	•	Cancel

4 Select a copy-destination network project file, and click the [Open] button.

Save As				? ×
Save in:	🔁 NPXDataBase		•	⇔ 🗈 📸 🎟 -
	Name	Size	Туре	Modified
	Stinpx 1.npx	316 KB	NPX File	4/3/2006 11:36 AM
History	💱 2.npx	316 KB	NPX File	4/3/2006 11:36 AM
<b>7</b>	1003.npx	316 KB	NPX File	4/3/2006 11:36 AM
Desktop	1004.npx	316 KB	NPX File	4/3/2006 11:36 AM
My Documents				
My Computer	•			
	File name: 004.	npx		▼ <u>O</u> pen
My Network P	Save as type: Netw	vork Project File (*.np	(ж	Cancel

The selected network project file opens.

5 Click [Symbol] on the status bar.

🏶 Pro-Studio EX 🛛 ?.npx		
<u>File Edit Tool Programming Assist</u>	Se <mark>tting Help</mark>	
Start 🔉 🔪 Node	🍑 🥕 Symbol 🎾 ≷ Feature 🔉 📄 Save 🔉 🔖 Tra	nsfer

6 Select the copy-destination symbol sheet.

Symbol Sheet	
Add	Delete
l	
Check Duplication/L	ist Used Addresses
Global Constan	t Setting Screen
🖂 📼 Pro Sonyor EV	
E	168.0.1)
	RNAL:Sheet1
<ul> <li>SP-5B40/Win</li> </ul>	GP
→ SP-5B10	
	00 Series
GP3000 Series	s
🖻 🔄 AGP1 (19)	2.168.0.100)
📈 #INTE	RNAL:Sheet2
PLC1:	Sheet3 A Series CPU [
► L13000	
GP Series	
Sheet3 A	Series CPU Direct

7 Click the [Paste] button in [Symbol].

File Edit Tool	Programming	) Assist – Setting	g Help
💋 Start	»	Node ン	Symbol
Symbol			Node Name
Group	Un	ngroup	Sheet Name
Insert		elete	Chisteriane
Сору	Cut	Paste	Symb
Symbol Sheet			
Add	D	elete	
Check Duplica	ation/List Used	Addresses	
Global Co	nstant Setting S	Screen	

**NOTE** • You can also select it from the menu list displayed by right-clicking the mouse.

The symbol sheet or symbols selected in Step 1 are now pasted.

Help > Symbol >>	Feature ⋗	- Sav	re ➤ 🄖 Tra	ansfer	- 🗆
Node Name AGP Sheet Name Shee	1 x2 [	Device Setitasa	Name PLC1 global symbol sheet		
Symbol	Data Type	Consec utive	Device Address	No. of Data	Commer
Temperature1	16Bit(Signed)		D0050	1	A
Temperature2	16Bit(Signed)		D0051	1	
Temperature3	16Bit(Signed)		D0052	1	
				1	
				1	
				1	
				1	
				1	
				1	
				1	
Í				1	
				1	
	-i	- <u> </u>		1	
, 				1	
,	-i	-i		1	
,	_ <u></u>	-i		1	
	- <u> </u>	-i		1	
	_	-i		1	
	_	-i		1	
		-i		1	
4	1	1		r. 1	

NOTE

When the Device/PLCs are not of the same type, error may occur due to the difference of their device addresses. (Error will be displayed in red.)
 In this case, please change device addresses after copying.

# 32.5 Checking Registered Symbols

When many symbols are registered in a symbol sheet, you might register the symbol names or device addresses mistakenly in duplication. In this case, 'Pro-Server EX' does not operate properly.

Thus 'Pro-Studio EX' has a function to check the registration duplication in advance. This function also displays/ outputs the results of duplication check in a CSV file.

This section describes how to check duplication of symbol names or device addresses.

1 Display the symbol sheet you wish to check.

2 Click [Check Duplication/List Used Addresses] button.

🎕 Pro-Studio EX 🛛 (	)04.npx			
File Edit Tool Pro	ogramming Assist	t Setting Help		
对 Start ン	Node	e ン 卢 Symb	ol	
Symbol	,	Node Na	me	
Group	Ungroup	Sheet Na		
Insert	Delete		moj	
Сору	Cut Paste	te Syr	nbol	
Symbol Sheet				
Add Delete		Temperatu	re2	
Temperature3				
Check Duplication/List Used Addresses				
Global Constant Setting Screen				

The "Check Duplication/List Used Addresses" screen appears.



**3** Specify the storage location and enter the file name to which the results are output. Then click [Save] button.



The check results are now displayed and saved as a CSV file into the specified storage location.



The check results are output in the following format:

[Node Name] and [Device/PLC]

Displays the names of the entry node and Device/PLC having the symbol sheet that has been checked.

[Symbol Duplication Check]

Displays the overlapped symbol names.

Will be blank if there is no name overlapped.

[Duplication Mark], [Start Address], [End Address], [Symbol Sheet Name], [Data Type] and [Symbol Name] Symbol check data is displayed in the order above. The symbols are sorted by [Start Address]. The overlapped symbols are indicated in [Duplication Mark] as "ERR".

# 32.6 Setting Guide

# 32.6.1 Symbol Registration Screen

🎕 Pro-Studio EX 🛛 ?.npx						
Eile Edit Tool Programming Assist Settin	ng <u>H</u> elp					
Start >> 🔪 Node >>	≽ Symbol ≫	Feature 🔉 📔	Save > [	Transfer 🔪		lonitor Status
Symbol	Node Name PC1		Device Name #INT	FERNAL		
Group Ungroup	Chart Name Sheet1			Catile and a shekal are	a balla basat	
Insert Delete	Sheet Name Jondot I			bet it as a giobai syi	mbor sneet.	
Copy Cut Paste	Symbol	Data Type	Consecutive	Device Address	No. of Data	Comment
Symbol Sheet					1	
Add Delete					1	
					1	
Check Duplication/List Used Addresses					1	
Glabal Constant Satting Sereen		 			1	
Giobal Constant Setting Screen					1	
Pro-Server EX					1	
PC1 (192.168.0.1)					1	
→ SP-5B40/WinGP					1	
• SP-5B10					1	
• GP4000/LT4000 Series					1	
GP3000 Series					1	
AGP1 (192.168.0.100)					1	
PLC1:Sheet3 A Series CPU I					1	
• LT3000					1	
GP Series					1	
Global Symbol					1	
					1	
					1	
					1	

Setting item		Setting content
	Group	Group registered symbols. Refer to "29.3 Grouping Symbols" for more details.
	Ungroup	Ungroup grouped symbols.
	Insert	Insert a row directly above a selected row on a symbol sheet.
Ourseland	Delete	Delete selected rows on a symbol sheet.
Symbol	Сору	Copy selected rows on a symbol sheet.
	Cut	Cut selected rows on a symbol sheet.
Paste	Paste to a symbol sheet the contents being copied or cut. When one row is selected, the copied or cut contents are inserted in the row directly above the specified row. When multiple rows are selected, the copied or cut contents are displaced with the selected cells deleted.	
Symbol Sheet	Add	Add symbol sheets to the registered Device/PLCs. Clicking this button displays the "Add symbol sheet" dialog box. Specify [Node Name], [Device Name] and [Sheet Name].
	Delete	Delete a specified symbol sheet.
Check Duplication/List Used Addresses		Check duplication of symbol names and device addresses. Refer to "32.5 Checking Registered Symbols" for more details.
Global Constant Setting Screen		Displays the "Global Constant Setting" screen. Refer to "32.6.3 Global Constant Setting" for more details.

Setting item	Setting content			
Node Name	Displays the node name holding the symbol sheet currently displayed.			
Device Name	Displays the device name holding the symbol sheet currently displayed.			
Sheet Name	Displays the name of the symbol sheet currently displayed. You can change the sheet name.			
Set it as a global symbol sheet	Regard the symbol sheet currently displayed as a global symbol sheet. Refer to "32.3 Sharing Symbols on the Entire Network" for more details.			
	Enter the symbol you wish to register.			
Symbol	<ul> <li>NOTE</li> <li>Must be entered at maximum 32 Unicode characters.</li> <li>Cannot begin with a number.</li> </ul>			
Data Type	<ul> <li>Select the type of the symbol to be registered. Clicking the [Data Type] field displays a data type list. The following data types are available.</li> <li>Bit</li> <li>8 bits (Signed decimal, unsigned decimal, hexadecimal, BCD)</li> <li>16 bits (Signed decimal, unsigned decimal, hexadecimal, BCD)</li> <li>32 bits (Signed decimal, unsigned decimal, hexadecimal, BCD)</li> <li>Single-precision floating point</li> <li>Double-precision floating point</li> <li>Character string</li> <li>TIME</li> <li>TIME_OF_DAY</li> <li>DATE</li> <li>DATE_AND_TIME</li> <li>NOTE</li> <li>You can set 8 bits, TIME, TIME_OF_DAY, or DATE when using tags.</li> <li>When using a tag, when you select a [Device Address], the [Data Type] is automatically set.</li> <li>When using a tag, you cannot specify the data type.</li> </ul>			
Consecutive	Displays a continuous attribute panel if symbols have been already set. Select a sequential device address or offset of bit type.         When a sequential device address is selected, "+" appears indicating the device continuance; when the offset is selected, offset value appears.         • Sequential specification <u>Symbol Data Type Consec Device Address No. of Data Type Information 11         <u>Temperature1 116Bit(Signed) 100050 1         <u>Temperature2 116Bit(Signed) 1         10051 1         1         • Offset specification             • Offset specification    </u></u></u>			

Setting item	Setting content
Device Address	Specify the start address of the device to be specified as a symbol. When [Consecutive] is selected, the address is automatically displayed.
No. of Data	Specify the number of devices to be specified as symbols. (The default value is "1".) You can enter the preset global constant by clicking the list button. Refer to "32.6.3 Global Constant Setting" about global constants. NOTE • You can set the number of data up to 2040.
Comment	You can enter necessary information like the meanings of symbols as comments, if any.

# 32.6.2 "Edit Symbol" Screen

Edit Symbol	×
Temperature1	Symbolize Address
Address D0050	
Bit 8 Bit 16 B	it 32 Bit
Single-Precision Double-Precision Floating Point Floating Point	String
TIME TIME_OF_DAY DATE	DATE_AND_TIME
G Signed C Unsigned C Hexac Decimal C Decimal C Hexac	lecimal C BCD
Consecutive Offset	-
No.]1	
Continuous 0	K Cancel

Setting item	Setting content
Symbol Name	<ul> <li>Enter the symbol name you wish to register.</li> <li>NOTE</li> <li>Must be entered at maximum 32 Unicode characters.</li> <li>Cannot begin with a number.</li> </ul>
Symbolize Address	Input a symbol name automatically from the device address and data type. A symbol name is to be input as follows: Ex.) In the case of the device address "D50" and the data type "Word": _D50_WORD
Address	Enter the (start) device address.
Data Type	<ul> <li>Select the data type of device: If [8 bits],[16 bits] or [32 bits] is selected, specify the attribute: [Signed Decimal], [Unsigned Decimal], [Hexadecimal], [BCD].</li> <li>NOTE <ul> <li>You can set 8 bits, TIME, TIME_OF_DAY, or DATE when using tags.</li> <li>When using a tag, when you select a [Device Address], the [Data Type] is automatically set.</li> <li>When using a tag, you cannot specify the data type.</li> <li>You cannot register text string tags as a symbol.</li> </ul> </li> </ul>
Consecutive	Check this if the device addresses are sequential.
Offset	Select an offset value by clicking the list button. 16 bits: from 0 to 15 32 bits: from 0 to 31
No.	Specify the number of devices to be specified as symbols. (The default value is "1".) You can enter the preset global constant by clicking the list button. Refer to "32.6.3 Global Constant Setting" about global constants. NOTE • You can set the number up to 2040.

Setting item	Setting content
<	Displays the symbol setting of the upper row.
>	Displays the symbol setting of the lower row.
Continuous Insertion	<ul> <li>Set the sequential device address or offset address-added symbol in the next row of the symbol sheet with the current set contents.</li> <li>NOTE</li> <li>When the symbol name is specified in [Symbolization of Address], the values following the device address and data type are automatically changed.</li> <li>"+" appears in the [Consecutive] field on the symbol sheet.</li> </ul>

## 32.6.3 Global Constant Setting

By registering the data number of symbols as a "Global constant", you can change all the data numbers at once by changing the constant when such a change has been made to the system as changing a symbol data number.



To set a global constant, click the [Global Constant Setting Screem] button on the symbol registration screen.

Global Constant Setting				×
Сору		Liet		
Cut	Giubai Coristanti	LIST		
Paste	Constant Name	Value	Comment	
Insert				
Delete				
The constants defined in this list can be used as the No. of data or arrays in a symbol sheet.			OK	Cancel

Setting item	Setting content
Constant Name	Enter the name of the constant to be set.
	Enter a constant.
Value	NOTE
	• The valid values range from 1 to 4096.
Comment	You can enter necessary information like the meanings of constants as comments, if any.
Сору	Copy the global constant in a selected row.
Cut	Cut the global constant in a selected row.
Paste	Insert a copied or cut global constant to the row directly above a selected one.
Insert	Insert a row directly above a selected row on a symbol sheet.
Delete	Delete a selected row.

# 32.7 Restrictions

## Symbol whose data type is undefined

When you import a screen project file of 'GP-Pro EX' or 'GP-PRO/PBIII for Windows', the word symbols in the project file are to be imported as an undefined data type of symbol.

• Use with 'Pro-Studio EX'

To use an undefined data type of symbol with 'Pro-Studio EX', you are requested to input the data type. (When you use a defined symbol, data type entry is not available.)

• Use with Pro-Server API

There are 2 types of Pro-Server API: API requiring separate specification of data type and that requiring no specification.

API type	Description
With separate specification	This API prioritizes the data type separately specified over the symbol data type.
Without specification	When the specified symbol is a 16-bit device, the symbol becomes 16-bit signed; when the specified symbol is a 32-bit device, it becomes 32-bit signed.

## • When MES ACTION is specified

If you select a symbol where the data type is undefined when MES ACTION is specified, the data type and the number of data are fixed to [16Bit(Signed)] and [No.: 1], respectively.

## Maximum number of data

The following table shows the maximum number of data settable according to the symbol type.

Symbol type	No. of data
Bit symbol	255
Bit offset symbol	1
8-bit signed symbol	1020
8-bit unsigned symbol	1020
8-bit BCD symbol	1020
8-bit HEX symbol	1020
16-bit signed symbol	1020
16-bit unsigned symbol	1020
16-bit BCD symbol	1020
16-bit HEX symbol	1020
32-bit signed symbol	510
32-bit unsigned symbol	510
32-bit BCD symbol	510
32-bit HEX symbol	510
Single-precision floating point symbol	510
Double-precision floating point symbol	255
Character string symbol	255
TIME	510
TIME_OF_DAY	510
DATE	510
DATE_AND_TIME	255
(Data type is "Undefined")	1

## Symbol whose data number is undefined

The data number of the following symbols is regarded as "Undefined".

- Symbols created by importing a screen project file of 'GP-Pro EX' or 'GP-PRO/PBIII for Windows'.
- Symbols created by converting a network project file made by the old version of 'Pro-Server'.
- Symbols whose data number has not been specified in the symbol setting.
- Use with 'Pro-Studio EX'

To use an undefined data type of symbol with 'Pro-Studio EX', you are requested to input the data type. (When you use a defined symbol, data type entry is not available.)

• Use with Pro-Server EX API

Such symbols are regarded as a symbol of which data number is "1".

## ■ About the system variables of "GP-Pro EX"

The device quantity of one system variable of 'GP-Pro EX' basically as 1 is handled even with 'Pro-Server EX', but "#L\_IOInfo" and "#L\_IOStatus" is handled as 4.

## Global Symbol Sheets Settings

If you specify any of the following protocol devices in a global symbol sheet, the project file specified on the entry nodes setting screen for the node must meet the requirements below:

- Manufacture: Rockwell Automation, Inc
- Device Type: EtherNet/IP
- Device Setting: ControlLogix/CompactLogix Series Native

### \*Requirements

The same IOI file (Data tag definition file) must be set for both the node where the global symbol sheet is specified and the node that references that global symbol sheet. You specify the IOI file in the 'GP-Pro EX' Device/PLC setting.