

28



Simply Confirming On-site Status

28.1	This chapter describes available monitoring tools.	28-2
28.2	Monitoring Operational Status.....	28-5
28.3	Monitoring Device Values.....	28-11
28.4	Monitoring Symbol Values.....	28-19
28.5	Monitoring System Event Logs	28-27
28.6	Monitoring Using Excel Graphs.....	28-35

28.1 This chapter describes available monitoring tools.

■ Monitoring Operational Status

This feature allows you to monitor the current status of any display unit or Device/PLC registered in a network project file under operation.

☞ "28.2 Monitoring Operational Status"

■ Monitoring Device Values

This feature allows you to display the current values of specified devices all at once.

☞ "28.3 Monitoring Device Values"

■ Monitoring Symbol Values

This feature allows you to display the current values of device addresses by each registered symbol.

☞ "28.4 Monitoring Symbol Values"

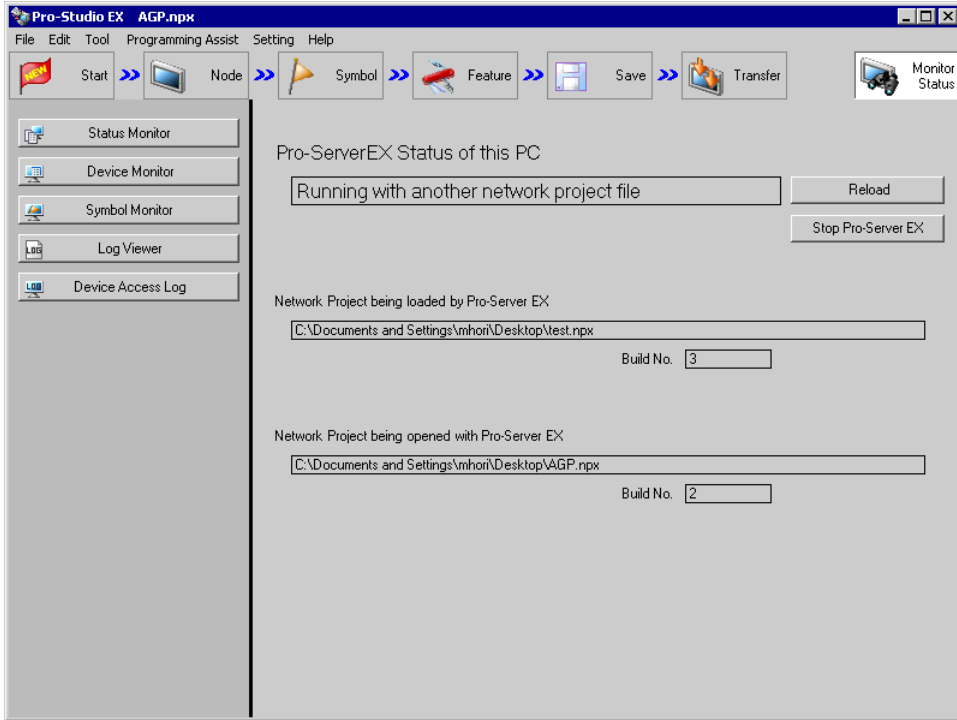
■ Monitoring System Event Logs

This feature allows you to display a list of various information (logs) occurred during operation.

☞ "28.5 Monitoring System Event Logs"

■ Setting Guide

The following explains the displayed contents of the status monitor screen.



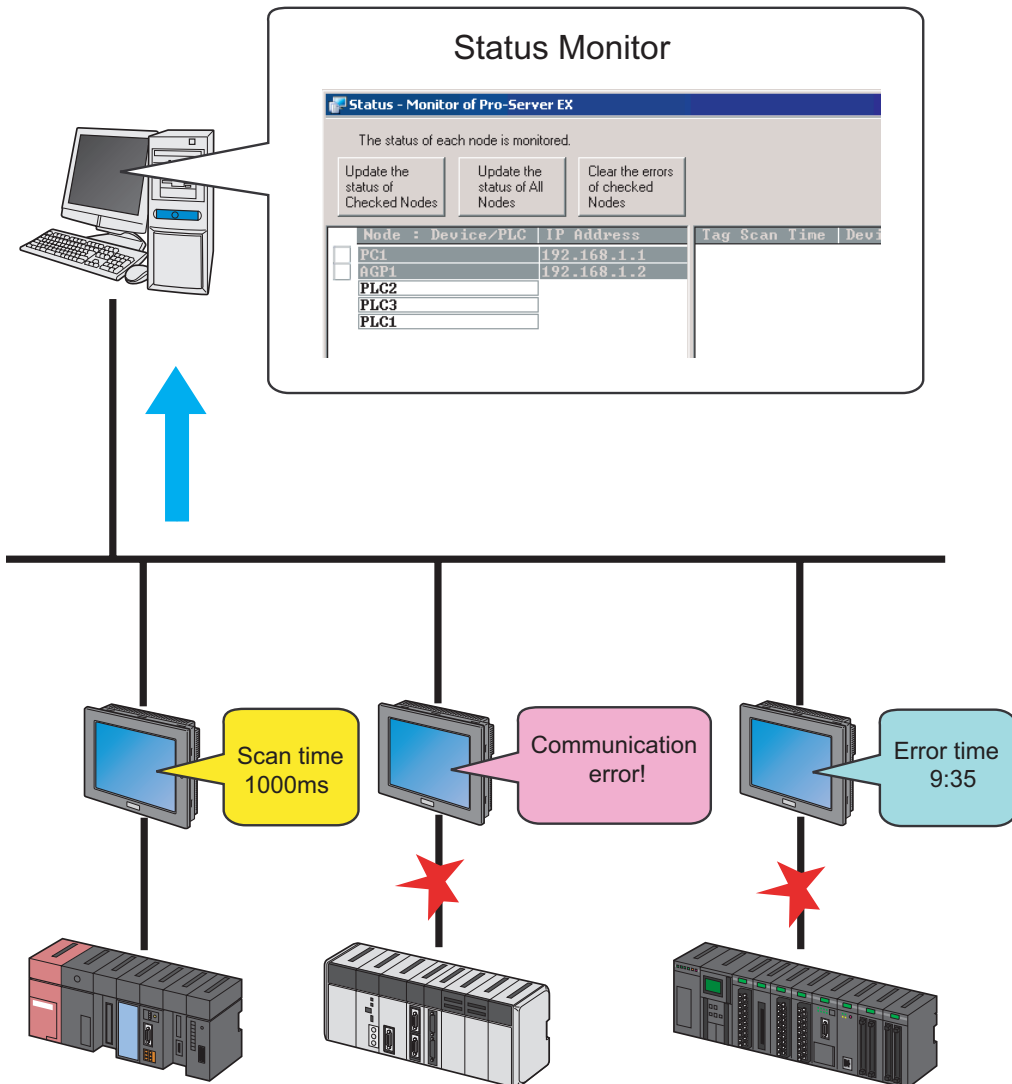
Setting item	Setting content
Status Monitor	Perform status monitoring. ☞ "28.2 Monitoring Operational Status"
Device Monitor	Perform device monitoring. ☞ "28.3 Monitoring Device Values"
Symbol Monitor	Perform symbol monitoring. ☞ "28.4 Monitoring Symbol Values"
Log Viewer	Perform log viewing. ☞ "28.5 Monitoring System Event Logs"
Device Access Log	Perform device access logs. ☞ "29.6 Device Access Log"
Pro-Server EX Status of this PC	The ongoing operational status of 'Pro-Server EX' is displayed. <ul style="list-style-type: none"> • "Under suspension" • 'Pro-Server EX' is out of operation. • "In operation with a blank network project" • The network project is not loaded in 'Pro-Server EX'. • "In operation with a read network project file" • 'Pro-Server EX' is run by a loaded network project.
Reload	Reload the network project file under editing in 'Pro-Server EX'. NOTE <ul style="list-style-type: none"> • Editing is to be invalid if the network project file is not saved.

Setting item	Setting content
Stop Pro-Server EX	Stop 'Pro-Server EX'. IMPORTANT <ul style="list-style-type: none">• Please exit all applications using 'Pro-Server EX' before exiting 'Pro-Server EX', if any.
Network Project being loaded by Pro-Server EX	Displays the name of the network project file loaded by 'Pro-Server EX'.
Network Project being opened with Pro-Studio EX	Displays the name of the network project file opened with 'Pro-Studio EX'.
Build No.	Displays the build. No of the network project file.

28.2 Monitoring Operational Status

28.2.1 Monitoring Status

This feature allows you to monitor the current status of any display unit or Device/PLC registered in a network project file under operation.


NOTE

- Refer to "36 Error Information" for details about errors occurring in 'Pro-Server EX'.

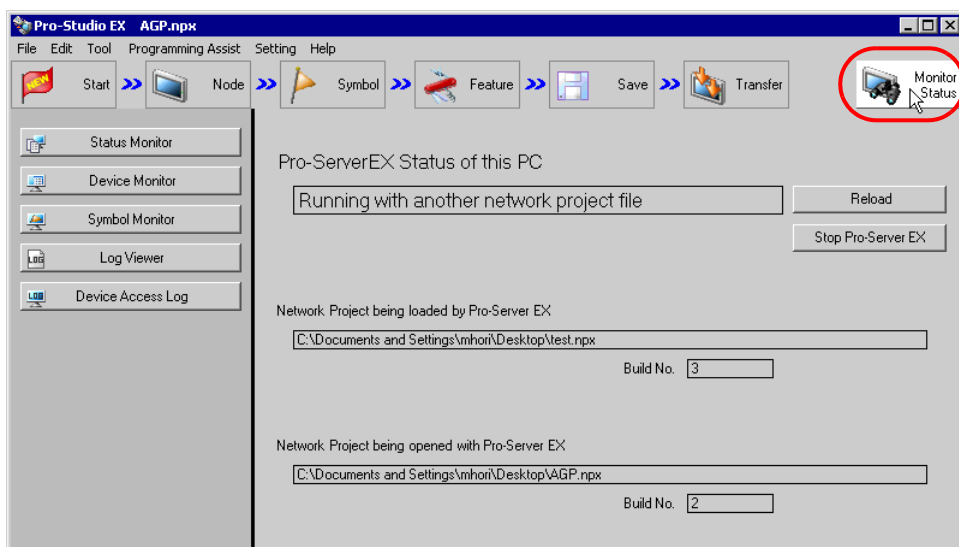
The displayed items and contents on the status monitor are as follows: (The contents differ according to the type of entry node.)

Display item	Type of entry node			
	GP4000/LT4000 Series / GP3000 Series / WinGP / LT3000	Device/PLC of GP4000/LT4000 Series / GP3000 Series / WinGP / LT3000	GP Series	Pro-Server EX
Tag Scan Time	---	---	○	---
Device/PLC Communication Cycle Time	---	○	○	---
Device/PLC Communication Error Count	---	○	---	---
Device/PLC Communication Error No.	---	○	○	---
Device/PLC Communication Error No. (Extended)	---	---	○	---
Error Time	---	○	---	---
2Way Error No.	○	---	○	---
System Version	○	○	○	○
2Way Version	---	---	○	---
Protocol Version	---	○	○	---
Model	○	---	○	○

○: Displayed ---: Not displayed

- 1 Click the [Monitor Status] icon on the status bar.

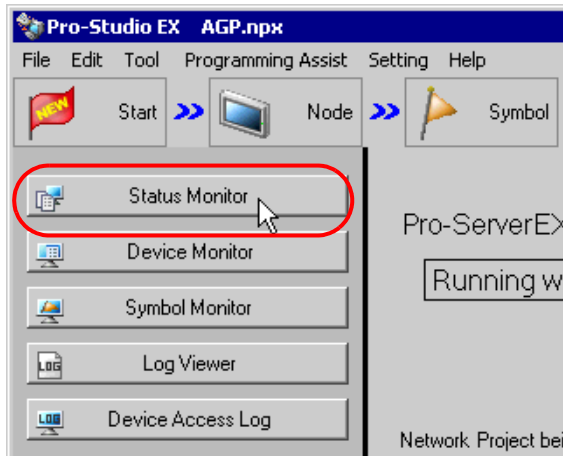
The status monitor screen appears to indicate the ongoing status of 'Pro-Server EX'.



Refer to "28.2.2 Setting Guide" for more details about the screen.

2 Click the [Status Monitor] button.

If you click the [Status Monitor] button without 'Pro-Server EX' running, 'Pro-Studio EX' once saves the network project currently opened and starts based on the network project.

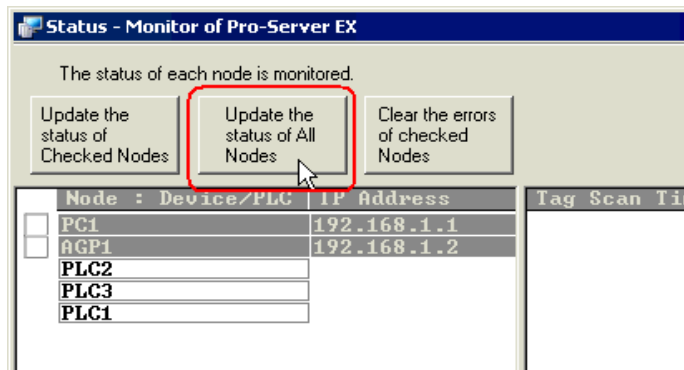


NOTE

- Refer to "28.2.3 Displayed Messages" for details about the messages displayed when starting the status monitor.

The status monitor screen appears to indicate the entry node(s) registered in the network project file under operation.

- 3 Click the [Update the status of All Nodes] button. Or, click the [Update the status of Checked Nodes] button after checking the entry node(s) to be confirmed.

**NOTE**

- The status is updated in 3-second cycles with each button pressed.
- It takes some time before the status appears.

The status of entry nodes is indicated on the right of the screen. Scroll the screen to check the status of the entry nodes. When the status monitoring is updated, the status is indicated in light blue.

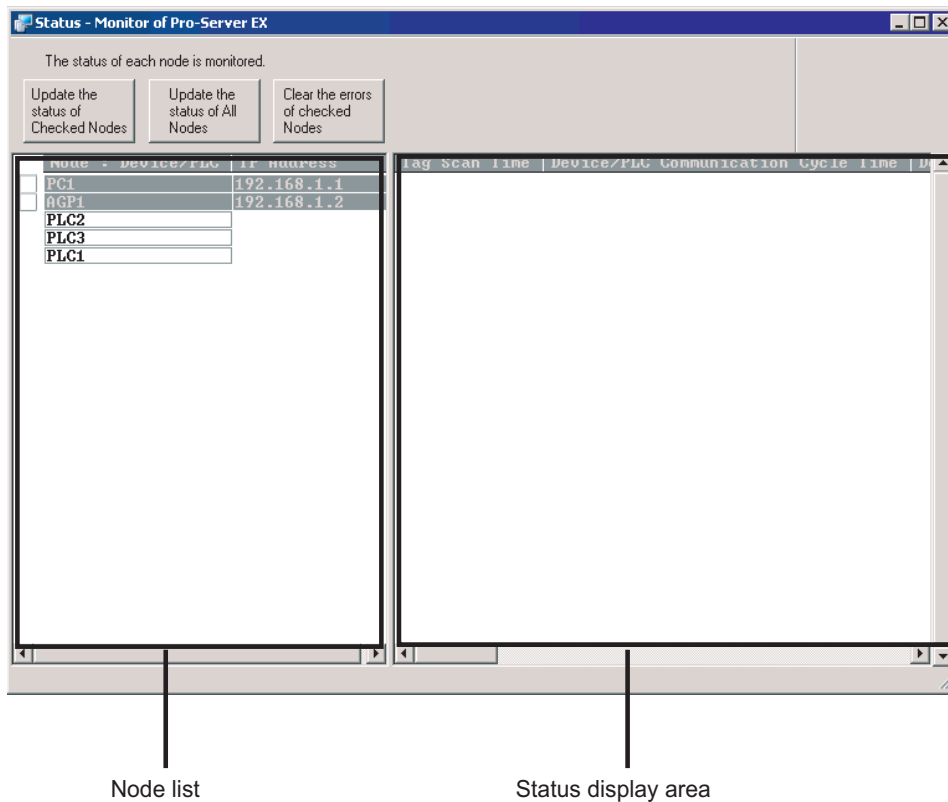
Refer to "28.2.2 Setting Guide" for more details about the screen.

NOTE

- Status monitoring is performed for the checked entry nodes in order. When no communication with the entry nodes is established in such a situation as the display unit is OFF, it takes time for processing. As for the node with which communication is not available, clear the check to monitor the status.

28.2.2 Setting Guide

The following explains the displayed contents of the status monitor screen.



Setting item	Setting content
Node List	Displays the entry node(s) and Device/PLC(s) registered in the network project file that is under operation. The node status is displayed by clicking the check box and then the status update button.
Status display area	Displays the status of the entry node(s) and Device/PLC(s) checked in the node list.
Update the status of Checked Nodes	The entry nodes checked in the node list are updated in 3-second cycles. The status update will finish by clicking this button again.
Update the status of All Nodes	All the entry nodes in the node list are automatically checked, and will be updated in 3-second cycles. The status update will finish by clicking this button again.
Clear the errors of checked Nodes	Each operation will be performed according to the type of entry nodes. <ul style="list-style-type: none"> In the case of GP4000/LT4000 Series nodes, GP3000 Series nodes, WinGP nodes and LT3000 nodes Set the 2way error No. (Value of internal device "LS2075") to zero. In the case of GP Series nodes Set the error No. ("LS2039"), error No. (Extended) ("LS2070") and 2way error No. ("SYS0073") to zero. In the case of Pro-Server EX nodes No operation will be performed.

28.2.3 Displayed Messages

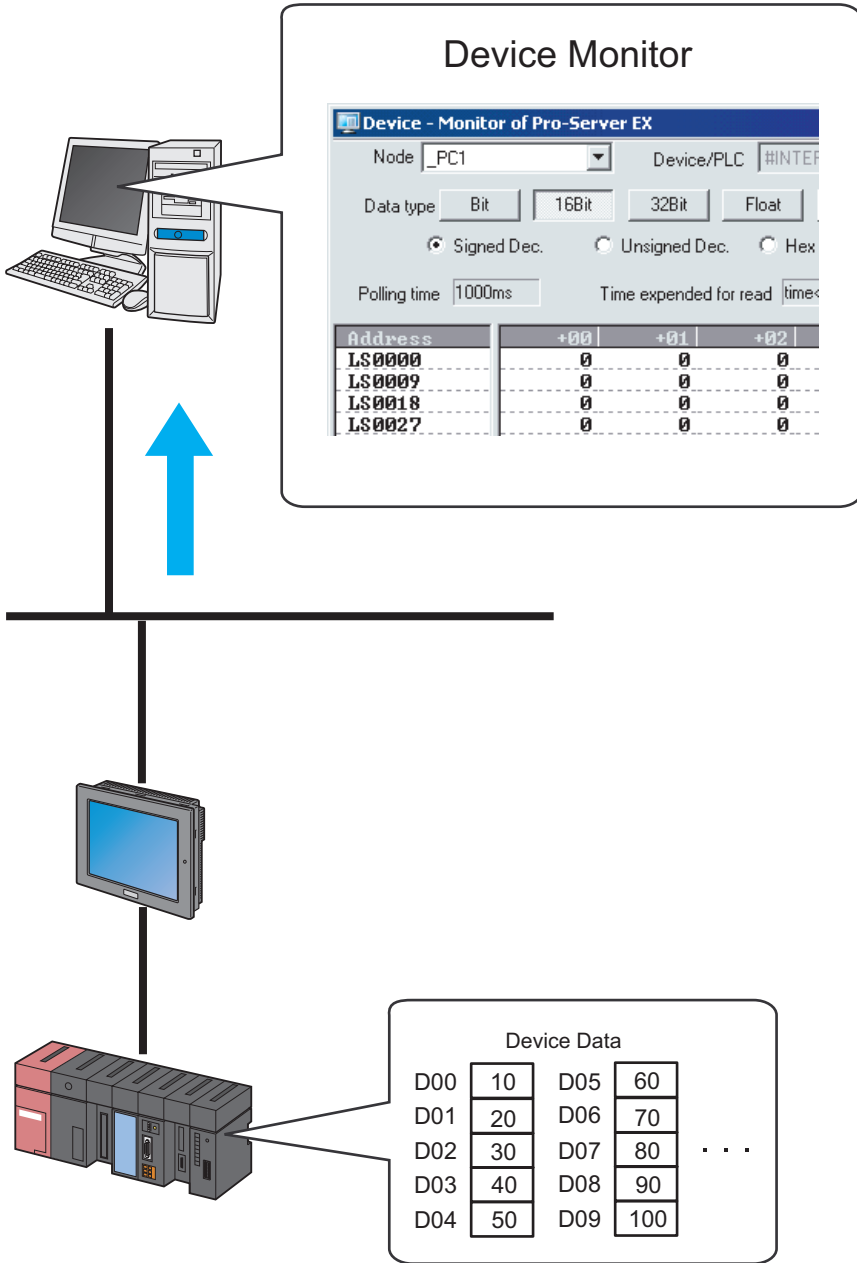
The following explains the contents of the messages.

Message	Status of 'Pro-Server EX'
"Pro-Server EX is to be started to communicate with an entry node. Continue?"	Pro-Server EX is under suspension. To execute various monitors, it is required to start 'Pro-Server EX'.
"The network project file is being edited. To communicate with entry nodes, it is required to save the network project file under editing and reload to 'Pro-Server EX'. Continue to save and reload?"	The network project file is not reloaded in 'Pro-Server EX'. Or, the same network project file that is reloaded in 'Pro-Server EX' is opened but is being edited by 'Pro-Studio EX'. It is required to save and reload the file.
"Pro-Server EX is running by a different network project file. To communicate with entry nodes, the network project file that is being edited needs to be reloaded to Pro-Server EX. Continue to reload?"	A network project file other than the one reloaded in 'Pro-Server EX' is opened. It is required to save and reload the network project file being opened.
"Pro-Server EX is running by a different network project file. To communicate with entry nodes, the network project file that is being edited needs to be saved and reloaded to Pro-Server EX. Continue to save and reload?"	A network project file other than the one reloaded in 'Pro-Server EX' is opened and edited by 'Pro-Studio EX'. It is required to save and reload the file.

28.3 Monitoring Device Values

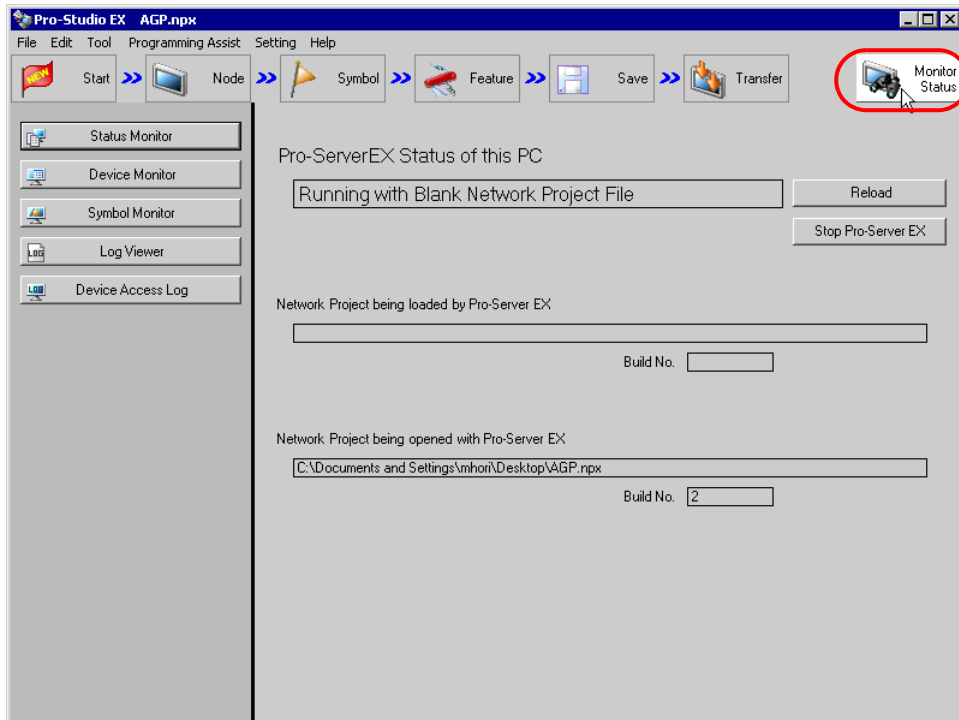
28.3.1 Monitoring Devices

This feature allows you to display the whole current device values sequentially starting with the specified device address.



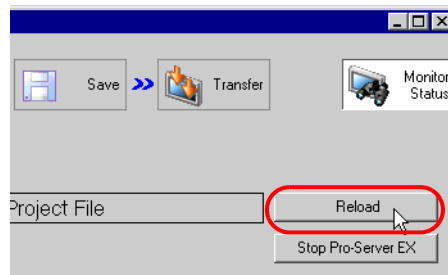
1 Click the [Monitor Status] icon on the status bar.

The status monitor screen appears to indicate the ongoing status of 'Pro-Server EX'.

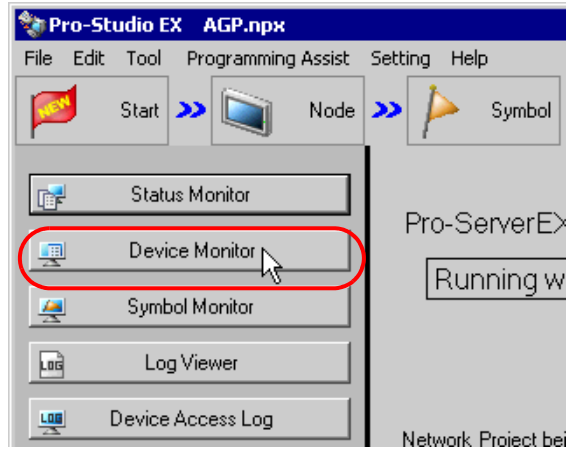


NOTE

- To perform device monitoring, 'Pro-Server EX' should be operating. When 'Pro-Server EX' is under suspension, click the [Reload] button to start the operation.



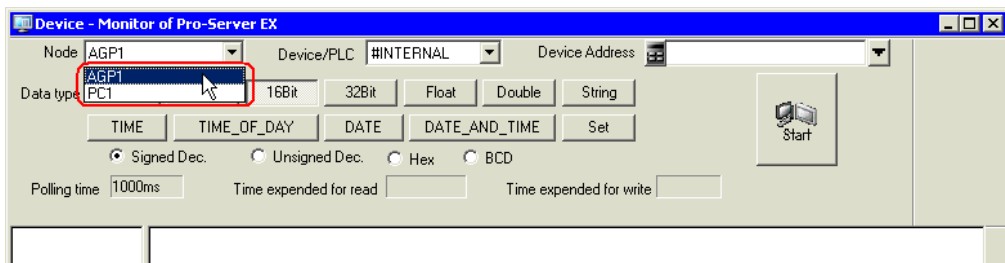
2 Click the [Device Monitor] button.



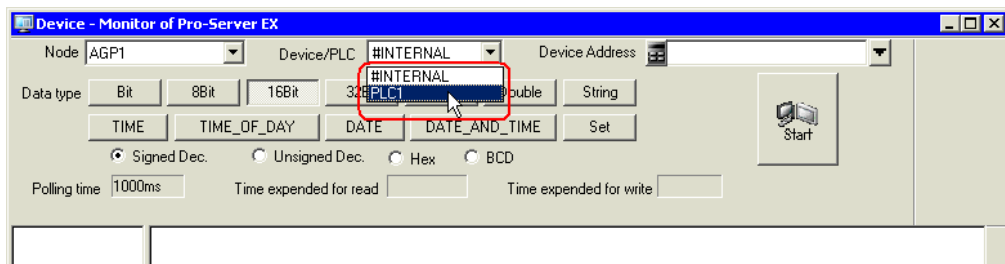
NOTE • Refer to "28.2.3 Displayed Messages" for details about the messages displayed when starting the device monitor.

The device monitor screen appears.

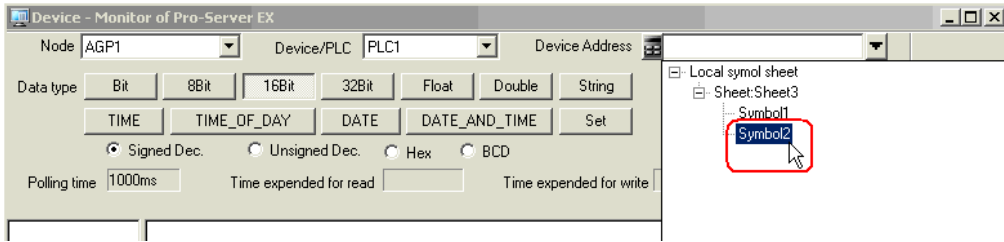
3 Click the list button of [Node] and select a node having a monitoring device.



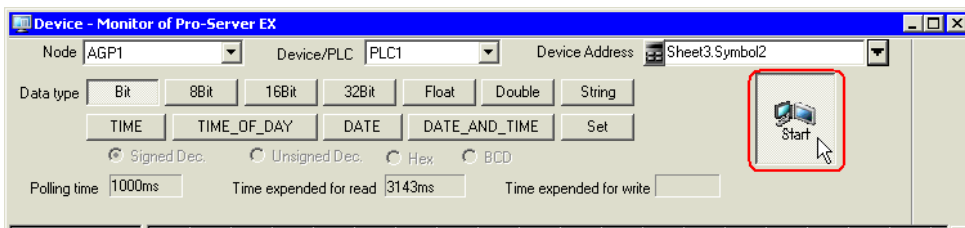
4 Click the list button of [Device/PLC] and select a Device/PLC having a monitoring device.



- Input directly the address of the monitoring device in [Device Address], or click the list button to select the symbol.



- Select the data type and format to be displayed and click the [Start] button.



Device values are displayed according to the screen size with the specified device address (symbol) at the top.

Address	+00	+01	+02	+03	+04	+05	+06	+07	+08
DM0050	60	70	80	90	100	105	1	1	1
DM0059	1	0	0	0	0	0	0	0	0
DM0068	0	0	100	200	300	0	0	0	0
DM0077	0	0	0	23	223	521	345	0	0
DM0086	0	0	0	0	23	223	521	345	0
DM0095	0	0	0	0	0	133	149	0	69
DM0104	96	0	0	0	0	0	142	23	23
DM0113	23	0	0	0	0	0	0	0	0
DM0122	0	0	0	0	0	35	0	0	0
DM0131	0	0	0	0	0	0	0	0	0
DM0140	0	0	0	0	0	0	0	0	0
DM0149	0	6	6	36	22	45	0	0	0
DM0158	0	0	0	0	0	0	0	0	0
DM0167	0	0	0	0	0	0	0	0	0
DM0176	0	0	0	0	0	0	0	0	0
DM0185	0	0	0	0	0	0	0	0	0
DM0194	0	0	0	0	0	0	17	13	18

NOTE • Data type and format can be changed while device values are displayed.

Refer to "28.3.3 Setting Guide" for more details about the screen.

28.3.2 Writing Device Data

This feature allows you to write device data on the device monitor screen.

- 1 On the device monitor screen, double-click the device to write data in.

Address	+00	+01	+02	+03	+04
DM0050	60	70	80	90	100
DM0059	1	0	0	0	0
DM0068	0	0	100	200	300
DM0077	0	0	0	23	223
DM0086	0	0	0	0	23

The device data write screen appears.

Address	+00	+01	+02	+03	+04
DM0050	60		90	100	
DM0059	1	0	0	0	0
DM0068	0	0	100	200	300
DM0077	0	0	0	23	223
DM0086	0	0	0	0	23

DM0060

1 0 Address Hold

- 2 Enter a value in the text box, and press the ENTER key to fix the value.

Address	+00	+01	+02	+03	+04
DM0050	60		90	100	
DM0059	1	0	0	0	0
DM0068	0	0	100	200	300
DM0077	0	0	0	23	223
DM0086	0	0	0	0	23

DM0060

1 0 Address Hold

10

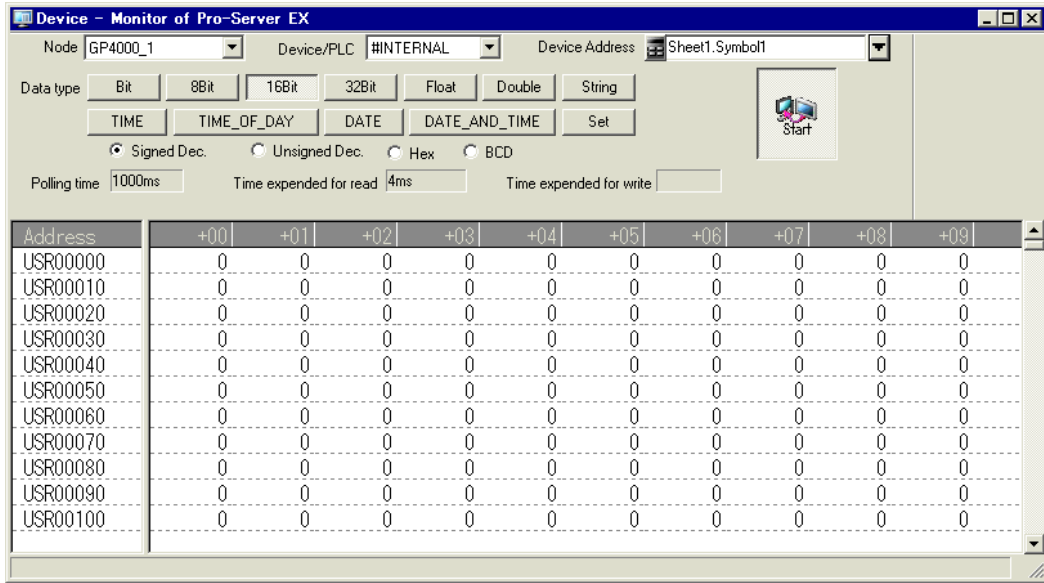
After pressing it, the write screen switches to that of the next device for continuous writing.

NOTE

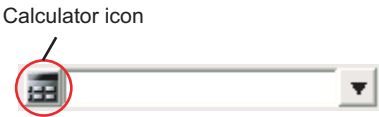

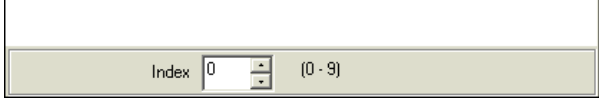
- Click the [Address Hold] button to continue to write data to the same device.
- To write data collectively to sequential devices, separate each value with a space when entering values.
Data of input number will be written into the device.
(Example) If you enter "1 2 3", then "1", "2" and "3" are written to the sequential devices.
- Enclose a character string using the bracket [] to specify the characters with hexadecimal code.
(Example) abc[0D] is handled equally as 0x61,0x62,0x63,0x0D specified in binary code.
Specify [by enclosing it in square brackets [[]].
(Example) To specify the string "[ABC]", type [[]ABC[]]

28.3.3 Setting Guide

The following explains the displayed contents of the device monitor screen.



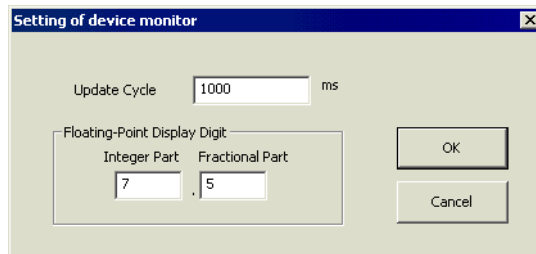
Name	Description
Node	Select an entry node having a monitoring device.
Device/PLC	Select a Device/PLC having a monitoring device. <div style="border: 1px solid black; padding: 2px; display: inline-block; margin-bottom: 5px;">NOTE</div> <ul style="list-style-type: none"> It is not necessary to set when the entry node is GP Series or Pro-Server EX.

Name	Description
Device Address	<p>Set up the device address or symbol.</p> <ul style="list-style-type: none"> When specifying a device address: Enter directly from the Calculator icon.  <ul style="list-style-type: none"> When specifying a symbol: Select the symbol by clicking the list button.  <p>NOTE</p> <ul style="list-style-type: none"> Enter [Index] when you have selected Group Alignment from the symbol sheet list. 
Data type	<p>Change the type of displayed data of device values.</p> <p>NOTE</p> <ul style="list-style-type: none"> If you select "32Bit" for [Data type] and "Hex" for [Data Format], a value exceeding 8 digits entered during device data writing would be rounded off to the last 8 digits. If you select "Float" for [Data type], a value beyond the range of 1.175494351e-38F to 3.402823466e+38 entered during device data writing would cause the error "1.#INFO" to appear. If you select "Double" for [Data type], a value beyond the range of 2.2250738585072014e-308 to 1.7976931348623158e+308 entered during device data writing would cause the error "1.#INFO" to appear.
Data Format ((Signed decimal) to [BCD])	<p>Change the format of displayed data of device values. Set up is possible when [Data type] is 8 bits, 16 bits, or 32 bits.</p> <p>NOTE</p> <ul style="list-style-type: none"> If you select "32Bit" for [Data type] and "Hex" for [Data Format], a value exceeding 8 digits entered during device data writing would be rounded off to the last 8 digits.
Set	<p>Clicking this button displays the "Setting of device monitor". Refer to "■ "Setting of device monitor" Screen" for more details.</p>
Polling time	<p>Displays the update interval which is set on the "Setting of device monitor" screen.</p>
Time expended for read	<p>Displays the time taken to read 1-screen device data of a device monitor.</p>
Time expended for write	<p>Displays the time taken to write device data.</p>

Name	Description
Start	Start device data polling. Click again to finish polling.
Device Monitor Display Area	Device values are displayed according to the screen size with the specified device address at the top. Click a device value to display the device write screen for data writing.

■ "Setting of device monitor" Screen

The following items are set on this screen.

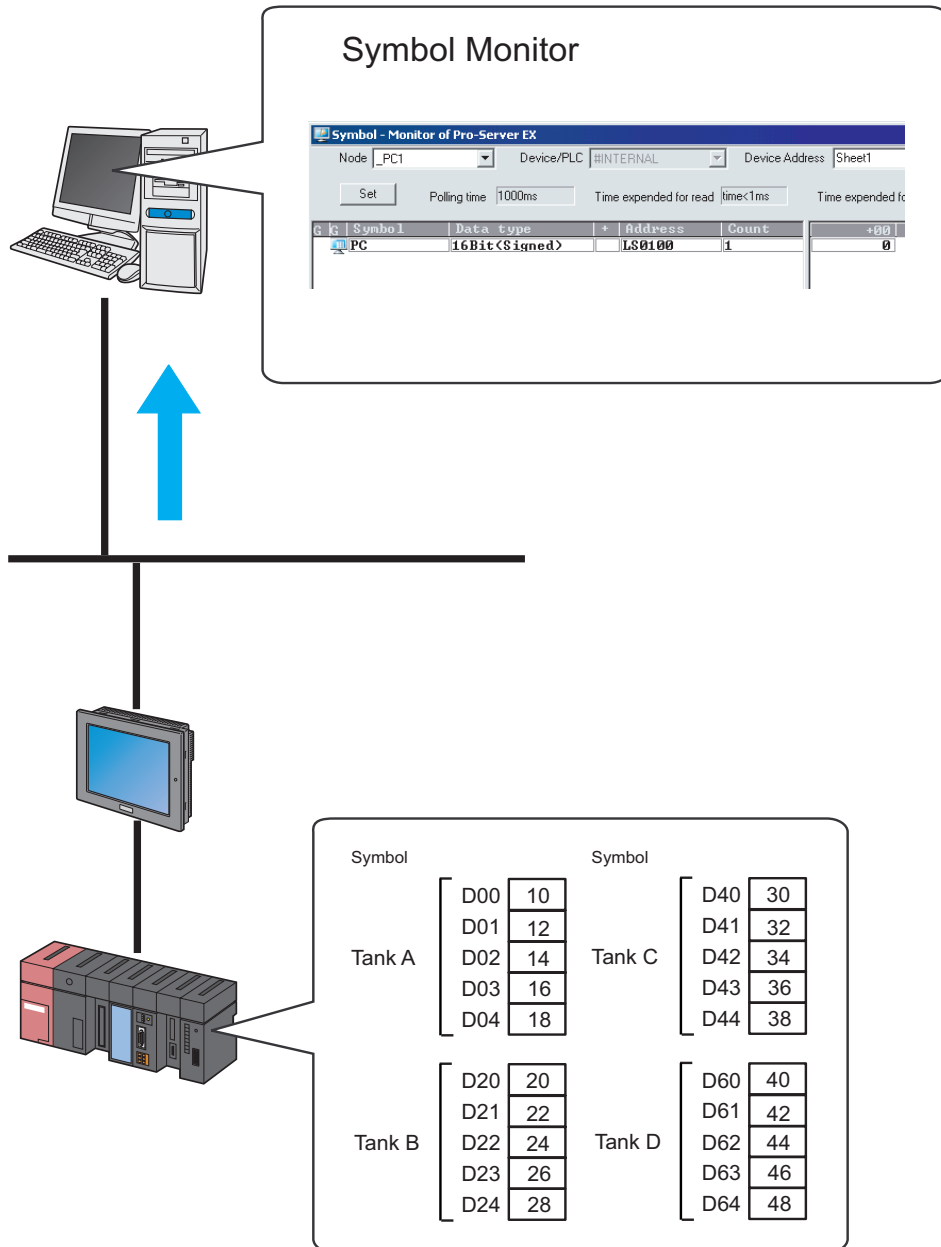


Setting item	Setting content
Update Cycle	Set a polling interval (ms) of status monitoring. NOTE <ul style="list-style-type: none"> Set the interval in the range of 0 to 1000000 ms.
Floating-Point Display Digit	When "Single precision" or "Double precision" is selected as a data type, set each digit number of the integer and fractional portions of a floating point number. NOTE <ul style="list-style-type: none"> Maximum digit number of each integer and exponential portion of a floating point number is 15.


28.4 Monitoring Symbol Values

28.4.1 Monitoring Symbols

This feature allows you to display the current values of device addresses by each registered symbol. In addition, you can display the current values of non-sequential devices collectively.

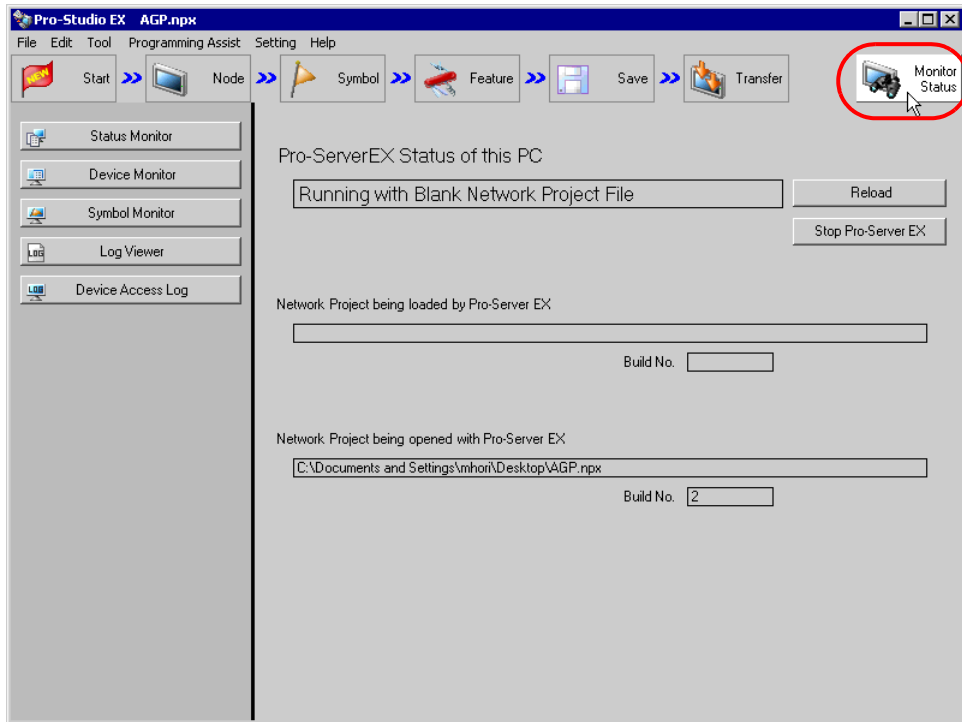


The following explains the items and contents displayed on the symbol monitor.

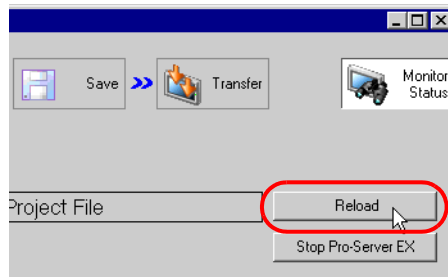
Name	Description
G	<p>Click "+" to display the symbols in the lower hierarchy if they are grouped.</p> <p>NOTE</p> <ul style="list-style-type: none"> • The symbol monitor displays 1 line per 1 symbol. • Click the [Device Monitor] icon if the number of displayed data exceeds the maximum capacity of 256. This shows the "Device Monitor" screen, displaying on it the data with the device address of the symbol as the first address.
Symbol	<p>Displays the symbol name(s) in a selected symbol sheet.</p> <p>NOTE</p> <ul style="list-style-type: none"> • To change the element No. of group alignment, click the group name and enter an element No. on the element No. entry screen. 
Data type	Symbol data type is displayed.
+	Displays "+" which indicates sequence if sequential device addresses are specified.
Address	Displays the first device address of a symbol.
Count	Displays the device number that a symbol holds.

1 Click the [Monitor Status] icon on the status bar.

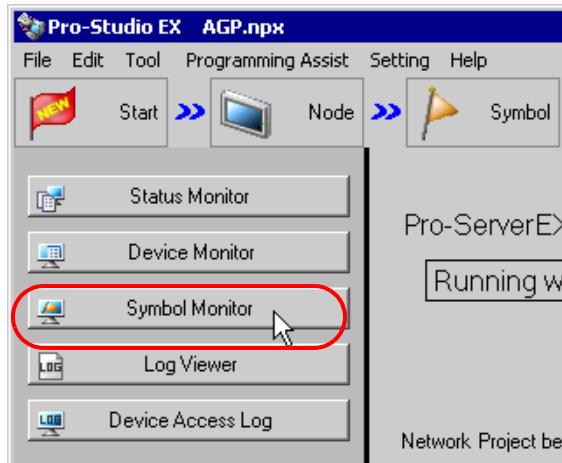
The status monitor screen appears to indicate the ongoing status of 'Pro-Server EX'.



- NOTE** • To perform symbol monitoring, 'Pro-Server EX' should be operating. When 'Pro-Server EX' is under suspension, click the [Reload] button to start the operation.



2 Click the [Symbol Monitor] button.



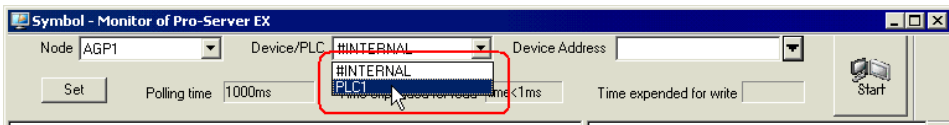
NOTE • Refer to "28.2.3 Displayed Messages" for details about the messages displayed when starting the symbol monitor.

The symbol monitor screen appears.

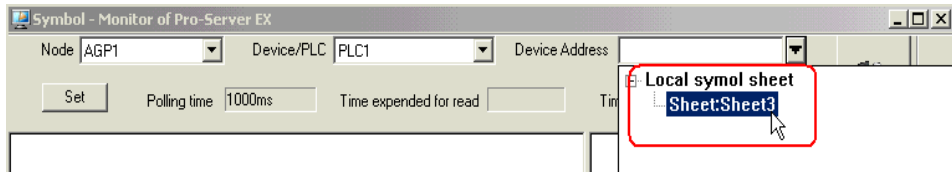
3 Click the list button of [Node] and select a node having a monitoring device.



4 Click the list button of [Device/PLC] and select a Device/PLC having a monitoring device.

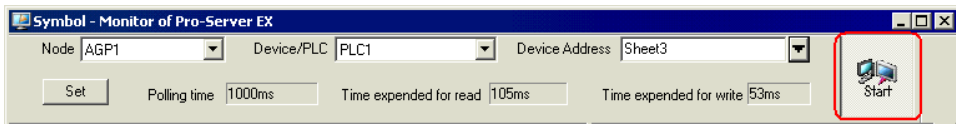


- Input directly the symbol sheet name to be monitored in [Symbol Sheet], or click the list button to select the symbol sheet.



NOTE • Please make sure to specify a symbol sheet. You cannot specify any device address, symbol and group symbol.

- Click the [Start] button in the case that the symbol sheet name is directly entered.



The symbols in the specified symbol sheet are displayed, and the device values are displayed from the first device address according to the screen size.

G	G	Symbol	Data type	+	Address	Count	+00	+01	+02
		Symbol1	Bit		0000.00	1	0		
		Symbol2	16Bit (Signed)		DM0050	1	60		

Refer to "28.4.3 Setting Guide" for more details about the screen.

28.4.2 Writing Device Data

This feature allows you to write device data on the symbol monitor screen.

- 1 On the symbol monitor screen, double-click the device to write data in.

G	Symbol	Data type	+	Address	Count	+00	+01	+02
	Symbol1	Bit		0000.00	1	0		
	Symbol2	16Bit (Signed)		DM0050	5	60	70	80

The device data write screen appears.

- 2 Enter a value in the text box, and press the ENTER key to fix the value.

G	Symbol	Data type	+	Address	Count	+00	+01	+02
	Symbol1	Bit		0000.00	1			
	Symbol2	16Bit (Signed)		DM0050	5	60	70	80

DM0050

1 0 Address Hold

40

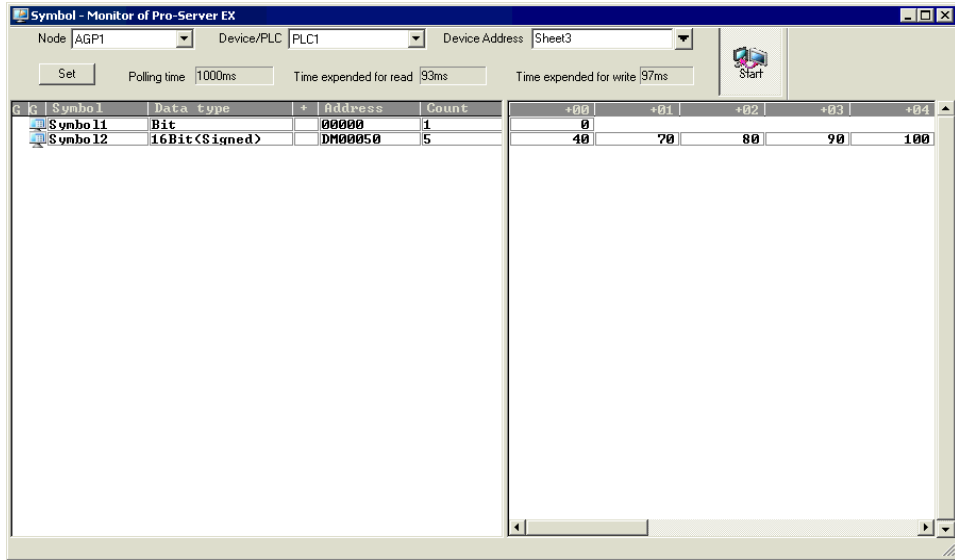
After pressing it, the write screen switches to that of the next device for continuous writing.

NOTE

- Click the [Address Hold] button to continue to write data to the same device.
- Writing a block of data to consecutive device addresses is done in 1 symbol units (data set up on a single row). Separate each value in the block write operation with a space.
(Example) If you enter "1 2 3", then "1", "2" and "3" are written to the sequential devices.
- Enclose a character string using square brackets [] to specify the characters in hexadecimal code.
(Example) abc[0D] is handled equally as 0x61,0x62,0x63,0x0D specified in binary code.
Specify [by enclosing it in square brackets [[]].
(Example) To specify the string "[ABC]", type [[]ABC[]]

28.4.3 Setting Guide

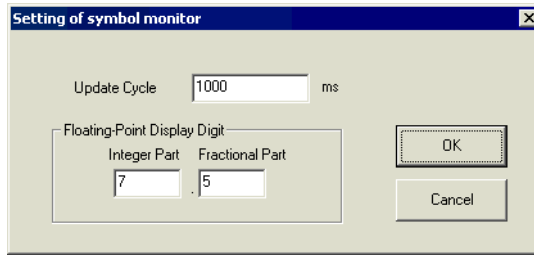
The following explains the displayed items and contents of the symbol monitor screen.



Setting item	Setting content
Node	Select an entry node having a symbol sheet that performs monitoring.
Device/PLC	Select a Device/PLC having a symbol sheet that performs monitoring. NOTE • It is not necessary to set when the entry node is GP Series or Pro-Server EX.
Device Address	Select a sheet name having a symbol that performs monitoring from the symbol sheet list. It is not possible to set any device address, symbol and group symbol.
Set	The "Setting of symbol monitor" screen appears. Refer to "■ "Setting of symbol monitor" Screen" for more details.
Polling time	Displays the update interval which is set on the "Detailed Settings of Symbol Monitor" screen.
Time expended for read	Displays the time taken to read 1-screen device data.
Time expended for write	Displays the time taken to write device data.
Start	Start device data polling. Click again to finish polling.
Symbol Monitor Display Area	Device values are displayed according to the screen size by the specified symbol sheet. Click a device value to display the device write screen for data writing.

■ "Setting of symbol monitor" Screen

The following items are set on this screen.

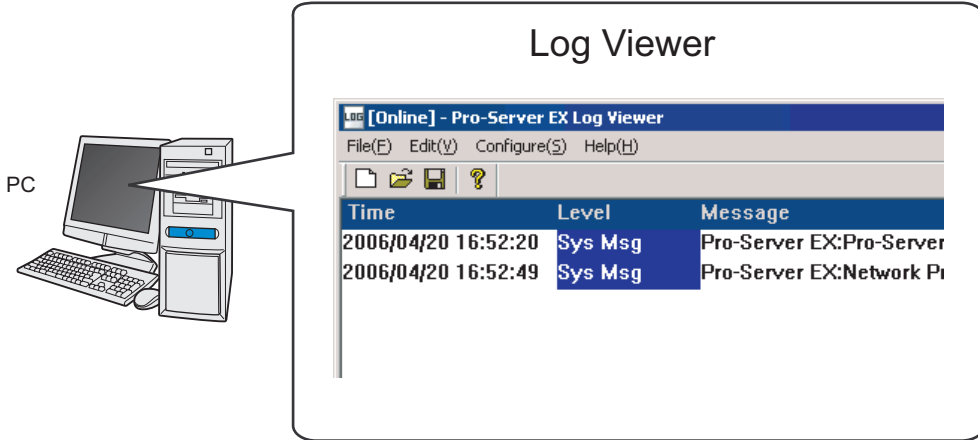


Setting item	Setting content
Update Cycle	<p>Set a polling interval (ms) of status monitoring.</p> <p>NOTE</p> <ul style="list-style-type: none"> Set the interval in the range of 0 to 1000000 ms.
Floating-Point Display Digit	<p>When "Single precision" or "Double precision" is selected as a data type, set each digit number of the integer and fractional portions of a floating point number.</p> <p>NOTE</p> <ul style="list-style-type: none"> Maximum digit number of each integer and exponential portion of a floating point number is 15.

28.5 Monitoring System Event Logs

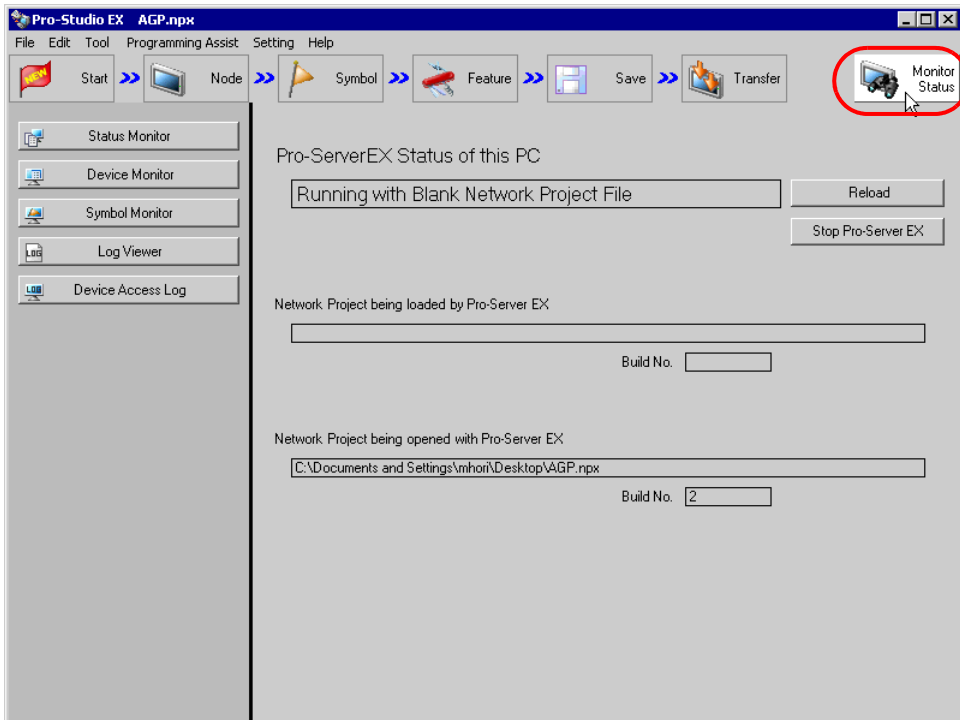
28.5.1 Monitoring Logs

This feature allows you to display a list of various information (logs) occurred during operation.

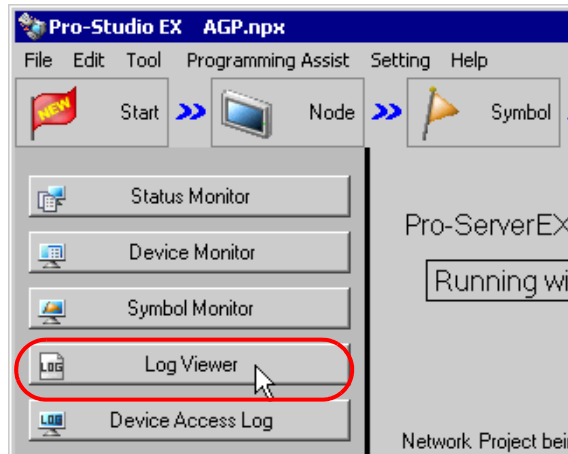


- 1 Click the [Monitor Status] icon on the status bar.

The status monitor screen appears to indicate the ongoing status of 'Pro-Server EX'.



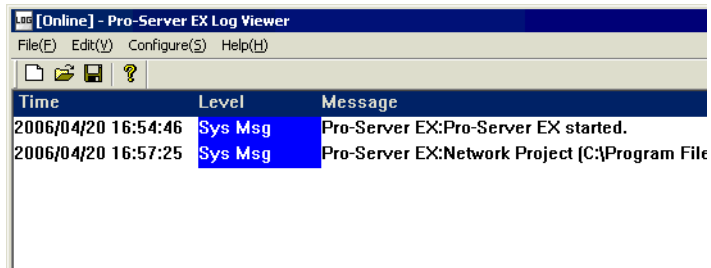
2 Click the [Log Viewer] button.



NOTE

- Refer to "28.2.3 Displayed Messages" for details about the messages displayed when starting the log viewer.

The "Pro-Server EX Log Viewer" screen appears, displaying a list of logs.



NOTE

- The log viewer can hold up to 200 single-byte characters in 1 line. Also, it can hold 500 messages at maximum. When the number of messages exceeds 500, the oldest message will be automatically overwritten in turn.
- To hide the tool bar or status bar on the log viewer screen, clear the check of [Tool Bar] or [Status Bar] from [Display] on the menu bar.
- You can open previously saved log data on the log viewer screen.

☞ "28.5.3 Confirming Previously Saved Logs"

■ Clearing Log Data

Click [Clear online log] from [Setting] on the menu bar.

The "Clear online log?" message appears. Then click the [Yes] button.

■ Saving Log Data

To save log data as a new file, click [Save As] from [File] on the menu bar, and specify a file name and its saving destination on the "Save As" screen, and then save it.

For overwriting, click [Overwrite Save].

Auto saving is available each time new log data occurs. (☞ "28.5.4 Setting Guide")

NOTE

- The log viewer can hold up to 256 single-byte characters for a file path name to be specified. Note that a double-byte character is regarded as 2 single-byte characters.
-

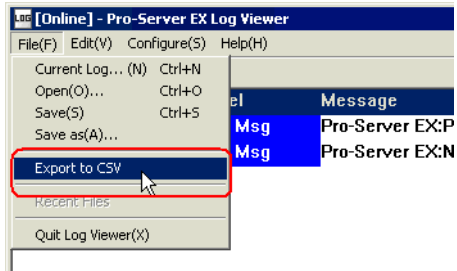
■ Exiting Log Viewer

Click [Exit Application] from [File] on the menu bar.

28.5.2 Outputting Log Data to CSV File

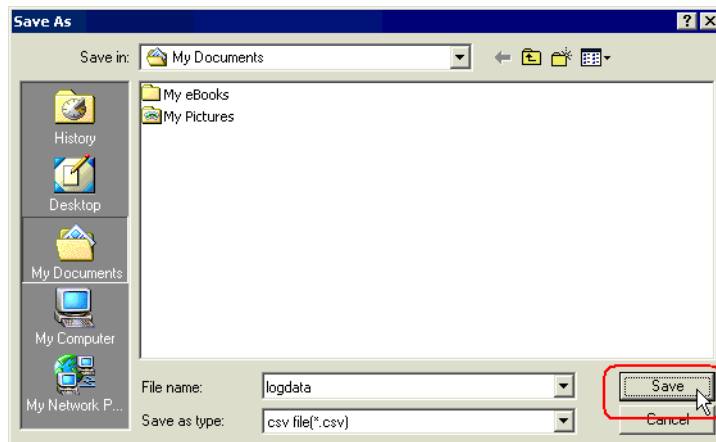
This feature allows you to output displayed log data as a CSV file.

- 1 Click [Export to CSV] on the menu bar.



The "Save As" screen appears.

- 2 Set the folder and file name to which data is output and click the [Save] button.



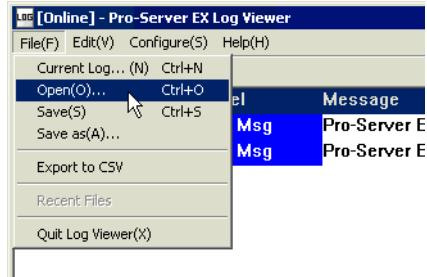
The displayed log data is output as a CSV file.

Data is output in comma-delimited format in order of "Time", "Level" and "Message".

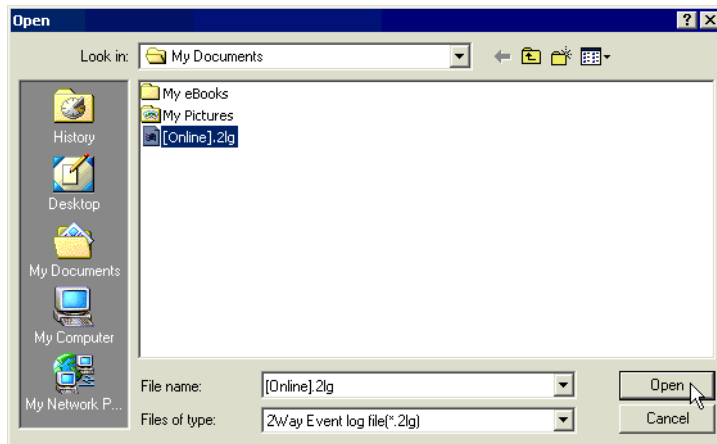
28.5.3 Confirming Previously Saved Logs

The log viewer displays real-time log status (in online mode), and on the other hand, it can also display a previously saved log file (*.2lg) by opening it and changing its screen from online to offline mode.

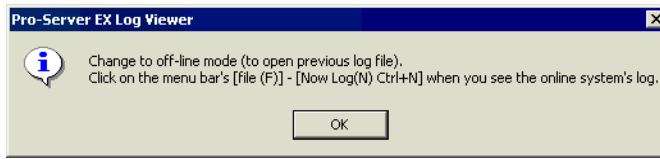
- 1 Click [Open] from [File] on the menu bar.



- 2 Specify a file name and click the [Open] button.

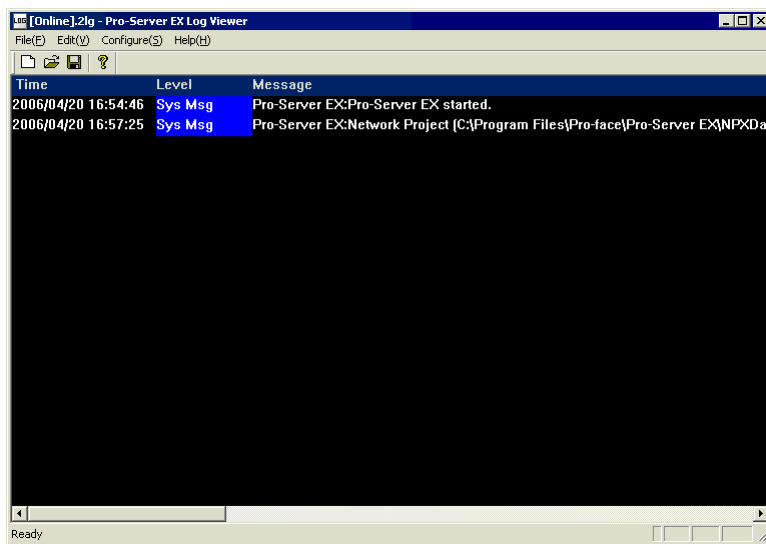


The message appears informing of change to offline mode.



3 Click the [OK] button.

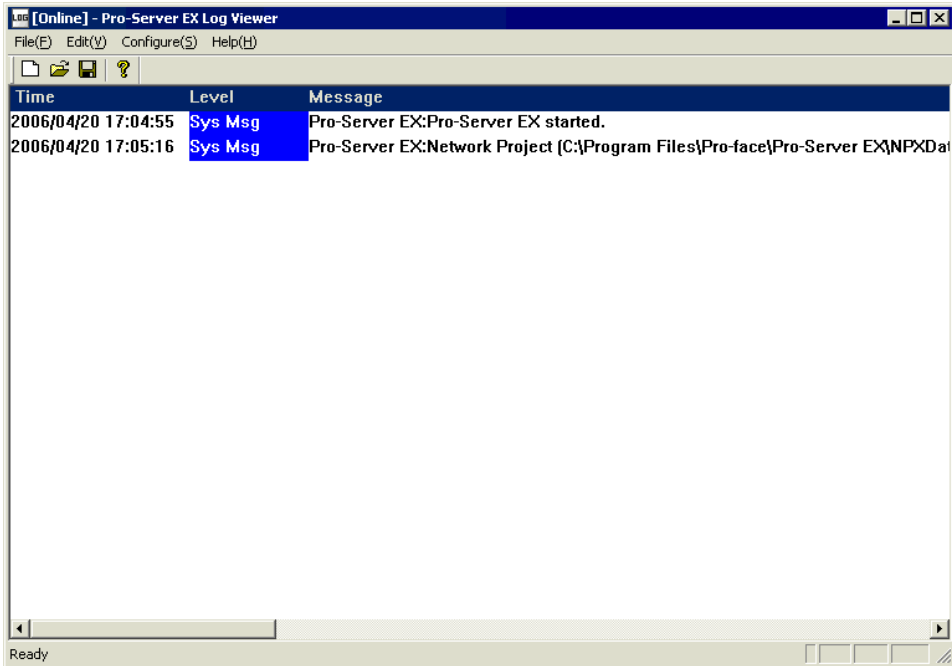
The log viewer screen is changed to offline mode and displays the contents of the selected log file. (In offline mode, the background of the log viewer becomes black.)



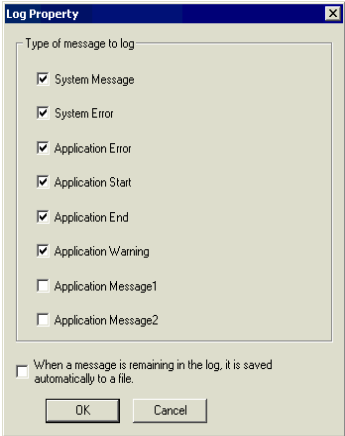
NOTE • To return to online mode, select [Current Log] from [File] on the menu bar.

28.5.4 Setting Guide

The following explains the displayed items and contents of the log viewer screen.



Setting item	Setting content
Title Bar	Displays the name of an opened log file (*.2lg).
Menu Bar	Displays the menus for operating the log viewer. Clicking one of the items displays each pull-down menu.
Tool Bar	Displays the icons of frequently used commands. Clicking one of the icons executes each command.
Status Bar	Displays messages related to operations.

Setting item		Setting content																		
Log Display Area	Time	Displays the dates and times when logs occurred.																		
	Level	<p>Displays log levels. There are 8 kinds of log levels as shown below.</p> <table border="1"> <thead> <tr> <th>Level</th> <th>Message</th> </tr> </thead> <tbody> <tr> <td>Sys Msg</td> <td>System message</td> </tr> <tr> <td>Sys Err</td> <td>System error message</td> </tr> <tr> <td>Error</td> <td>Error messages of user-defined programs</td> </tr> <tr> <td>Start</td> <td>Starting messages of user-defined programs</td> </tr> <tr> <td>End</td> <td>Ending messages of user-defined programs</td> </tr> <tr> <td>Warning</td> <td>Warning messages of user-defined programs</td> </tr> <tr> <td>Message1</td> <td>Detailed messages 1 of user-defined programs</td> </tr> <tr> <td>Message2</td> <td>Detailed messages 2 of user-defined programs</td> </tr> </tbody> </table> <p>NOTE</p> <ul style="list-style-type: none"> You can select which items to be displayed in the log viewer. Click [Log Setting] from [Setting] on the menu, and select the items on the "Log Setting" screen.  <p>When [When a message is remaining in the log, it is saved automatically to a file] is checked, the online log will be overwritten every time a new log message occurs.</p> <ul style="list-style-type: none"> When a System Err or Error displays, refer to the following. 36.3 'Pro-Server EX' Error 	Level	Message	Sys Msg	System message	Sys Err	System error message	Error	Error messages of user-defined programs	Start	Starting messages of user-defined programs	End	Ending messages of user-defined programs	Warning	Warning messages of user-defined programs	Message1	Detailed messages 1 of user-defined programs	Message2	Detailed messages 2 of user-defined programs
	Level	Message																		
Sys Msg	System message																			
Sys Err	System error message																			
Error	Error messages of user-defined programs																			
Start	Starting messages of user-defined programs																			
End	Ending messages of user-defined programs																			
Warning	Warning messages of user-defined programs																			
Message1	Detailed messages 1 of user-defined programs																			
Message2	Detailed messages 2 of user-defined programs																			
Message	Displays log messages. In addition, the ACTION names set by 'Pro-Studio EX' are simultaneously displayed.																			

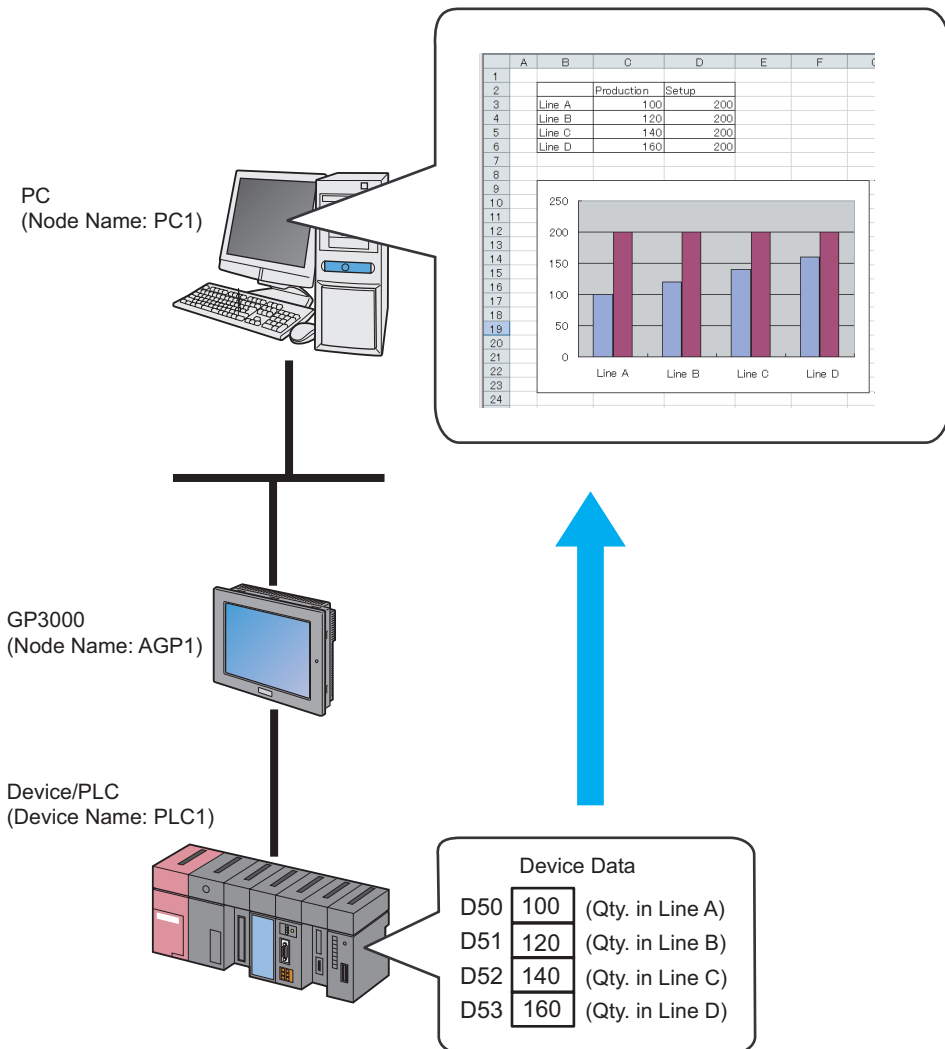
28.6 Monitoring Using Excel Graphs

28.6.1 Try to Display Using Excel Graphs

'Pro-Server EX' incorporates the DDE server function and enables the data transfer with an application including the DDE client function.

This feature allows you to read device data of Device/PLC to a sheet created by Excel with simple operation. You can create a monitor sheet in various formats by using features, such as the Excel graph wizard and functions.

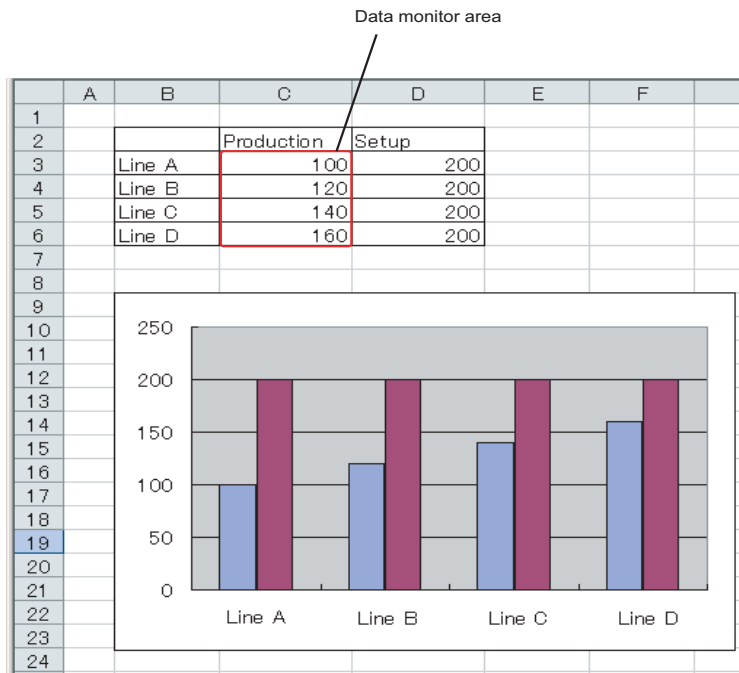
Monitor 4 device values of Device/PLC device addresses (word device: "D50" to "D53") on an Excel sheet and show them in a graph.



(1) Creating an Excel Sheet

This step creates a sheet for monitoring device data.

[Creation Example]



Leave the file open after creating.

NOTE

- As for a graph to be shown on the Excel sheet, create it by using Excel features like the graph wizard or functions.

(2) Registering Entry Nodes

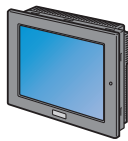
This step registers as entry nodes the PC and the display units which serve as trigger conditions (trigger).

Refer to "31 Node Registration" for details about entry nodes.



Node Name :PC1

IP Address :192.168.0.1



Node Name :AGP1

IP Address :192.168.0.100

Device/PLC Information

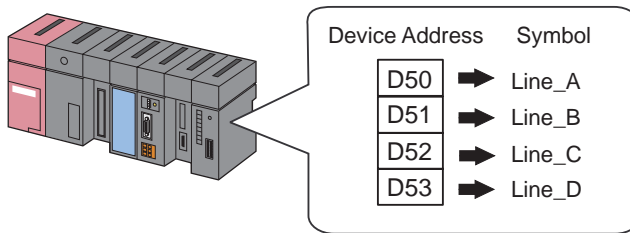
Ex.

Entry node	Setting item	Setting example
PC	Node Name	PC1
	IP Address	192.168.0.1
Display Unit	Type	GP3000 series
	Node Name	AGP1
	IP Address	192.168.0.100

(3) Registering Symbols

This step registers as a symbol the device address from which data is read.

Refer to "32 Symbol Registration" for details about symbols.



Setting item	Setting content			
Symbol Name	Line_A	Line_B	Line_C	Line_D
Data Type	16Bit (Signed)			
Device address for symbol registration	"D50" of Device/PLC (PLC1)	"D51" of Device/PLC (PLC1)	"D52" of Device/PLC (PLC1)	"D53" of Device/PLC (PLC1)
No. of Devices	1	1	1	1

(4) Saving a Network Project File

This step saves the current settings as a network project file and reloads to 'Pro-Server EX'.

Refer to "25 Saving" for details about saving a network project file.

IMPORTANT

- 'Pro-Server EX' reads a created network project file, and then executes ACTION according to the settings in the file. The settings therefore need be saved in the network project file.
- Be sure to reload the network project file to 'Pro-Server EX'. If not, ACTION will not work.

(5) Transferring a Network Project File

This step transfers a saved network project file to entry nodes.

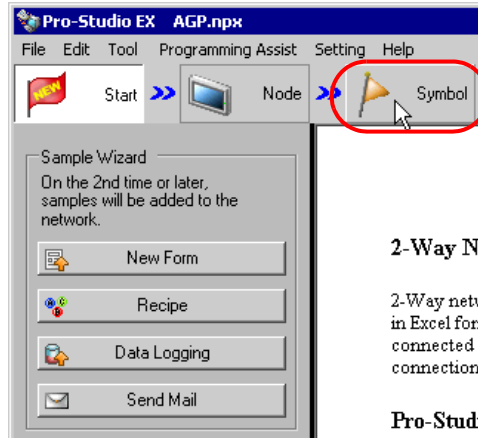
Refer to "26 Transferring" for details about transferring a network project file.

NOTE

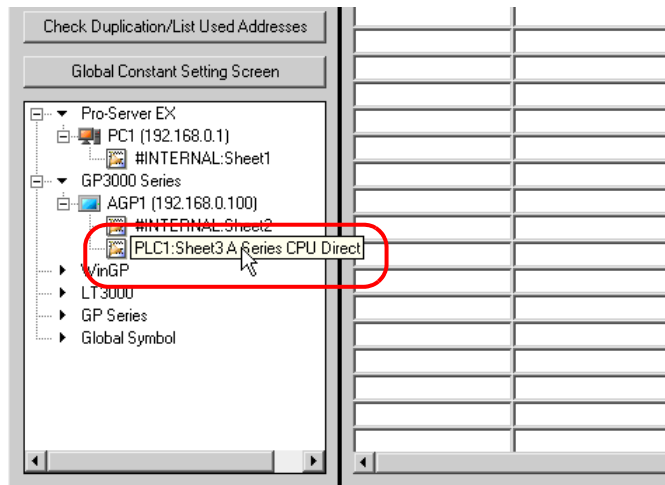
- Be sure to transfer a network project file. If not, ACTION will not work.

(6) Copying Data to an Excel Table

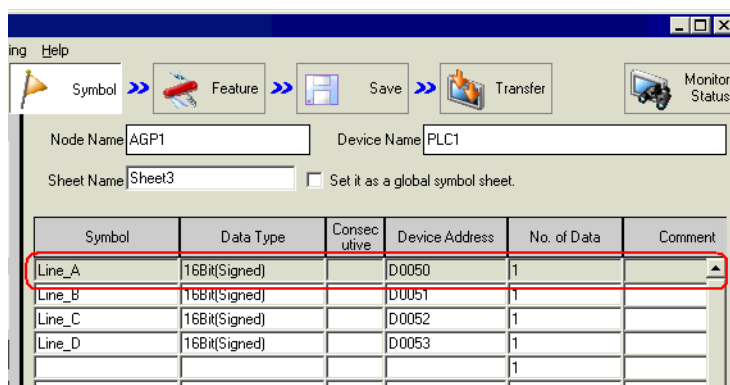
1 Click the [Symbol] icon on the status bar.



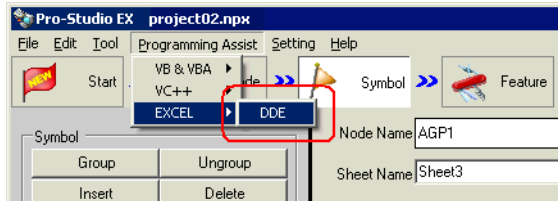
2 Click the symbol sheet where the symbol(s) to be monitored are registered.



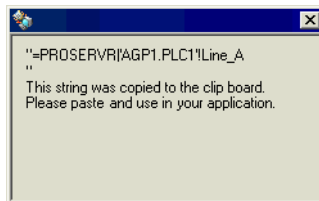
3 Select "Line_A".



4 From [Programming Assist] on the menu bar, select [Excel] - [DDE].



A pop-up message appears.



The DDE server uses information which consists of 3 parts, including [Application Name], [Topic Name], [Item Name] shown below, to communicate with an application.

[Application Name]

Name of the DDE server. Specify PROSERVR when accessing the 'Pro-Server EX' data. Corresponds to the leading PROSERVR in the above dialog box.

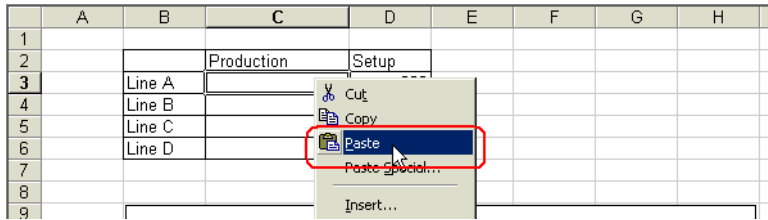
[Topic Name]

Name of the data group on the DDE server. In 'Pro-Server EX', specify the node name of display unit which joins the network, including the Device/PLC name, if necessary. Corresponds to AGP1.PLC1 in the above dialog box.

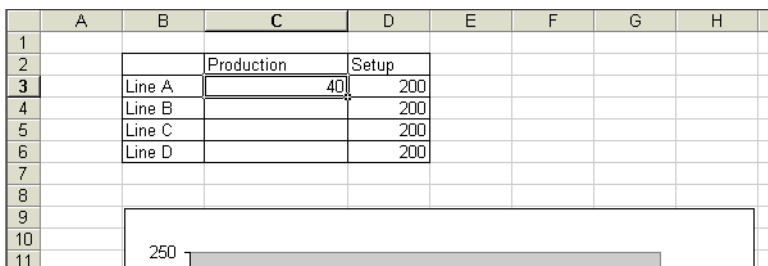
[Item Name]

Name of the individual data in the data group on the DDE server. In 'Pro-Server EX', specify the device address of PLC which connects to display unit. The symbol name defined with 'Pro-Studio EX' can be used as it is. Corresponds to Qty. in Line A in the above dialog box.

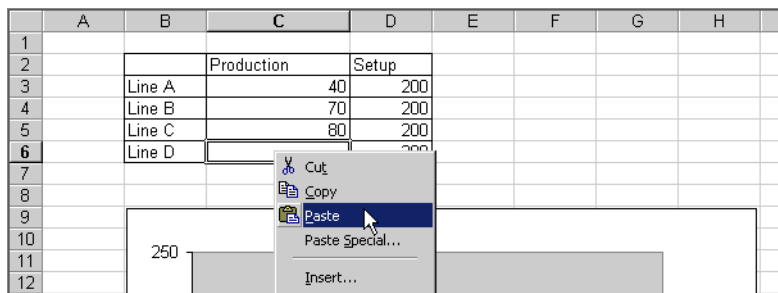
- 5 Display the Excel sheet, right-click the cell of the "Production" column in the "Line A" row, and then select [Paste].



The device data of "Line_A" is pasted into the cell.



- 6 Repeat the procedures above to paste the device data of from "Line B" to "Line D" into the corresponding cells.



The device data will be read out in real time to the cells on the Excel sheet.

NOTE

- You cannot save the device data under monitoring. Use "Excel Report ACTION" etc for data saving.

