6 Writing Device/PLC Data in Excel File

6.1	Monitoring Device Value on Excel	6-2
6.2	Correcting and Restoring Once Read Data	6-34
6.3	Setting Guide	6-62
6.4	Restrictions	6-68

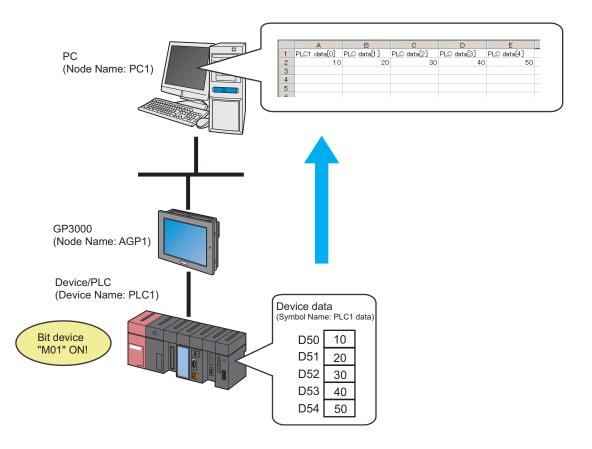
6.1 Monitoring Device Value on Excel



To read next data while keeping data read on Excel, refer to "5 Creating a Form Using Excel". Since this function is One-Shot action, data is overwritten in the next capturing action.

[Action Example]

Detect the rising of the trigger device (Bit device: "M01") of Device/PLC, write 5 device values of device address (Word device: address "D50" to "D54") onto an Excel file, and monitor.



This section describes the setting procedures for executing the above action (ACTION) as an example.

- **NOTE** Use only sequential address to write on an Excel file. If you specify non-sequential address, use a group symbol.
 - For more details about a group symbol, refer to "29.3 Grouping Symbols".

[Setting Procedure]

1	Creating a Template	This step creates a template to write device data of Device/PLC on.
	+	
2	Starting 'Pro-Studio EX'	This step starts 'Pro-Studio EX'.
	+	
3	Registering Entry Nodes	This step registers the PC and the GPs as entry nodes.
	+	
4	Registering Symbols	This step registers as a symbol the device of Device/ PLC from which data is read.
	+	
5	Specifying an Excel Template and its Output Book	This step sets the following items:Specify a template bookSpecify an output book
6	Setting Content of an Excel Template	This step sets the following items:Set device to readSet write layout
	+	
7	Setting ACTION Node/Process Completion Notification	This step sets the name of an ACTION node and the alert setting whether it should be tuned on or off when the ACTION is completed.
8	Verifying Setting Result	This step verifies setting results on the setting content list screen.
	+	
9	Saving a Network Project File	This step saves the current settings as a network project file and reloads.
	+	
10	Transferring a Network Project File	This step transfers a saved network project file to the GP.
	•	·]
11	Executing ACTION	This step verifies that the data of Device/PLC is written in the specified area of Excel when the preset trigger condition has become effective.

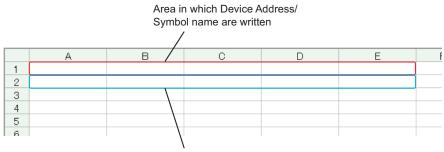
6.1.1 Creating a Template

This step creates a template to write device data of Device/PLC on.

1 Start 'Microsoft Excel'.

Leave the template blank to write data in.

You can write each data on space below when executing action.



Area in which the device data is written

2 Save the file on PC desktop naming "template.xlt".

6.1.2 Starting 'Pro-Studio EX'

This step starts 'Pro-Studio EX'.

Refer to "3 Trial of Pro-Server EX" for details about starting method.

6.1.3 Registering Entry Nodes

This step registers the PC and the GP connected with network as nodes. Refer to "31 Node Registration" for details about entry nodes.



Node Name : PC1 IP Address : 192.168.0.1



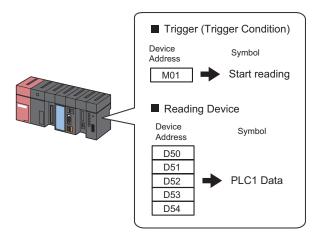
Node Name : AGP1 IP Address : 192.168.0.100 Device/PLC Information



Entry node	Setting item	Setting example		
PC	Node Name	PC1		
	IP Address	192.168.0.1		
	Туре	GP3000 series		
GP	Node Name	AGP1		
	IP Address	192.168.0.100		

6.1.4 Registering Symbols

This step registers as a symbol the device address of Device/PLC from which data is read. Refer to "32 Symbol Registration" for details about symbols.





• Trigger (Trigger Condition)

Setting item	Setting content
Symbol Name	Start reading
Data Type	Bit
Device address for symbol registration	"01" of Device/PLC (PLC1)
No. of Devices	1

Reading Device

Setting item	Setting content
Symbol Name	PLC1 data
Data Type	16Bit (Signed)
Device address for symbol registration	"D50" to "D54" of Device/PLC (PLC1)
No. of Devices	5

6.1.5 Specifying an Excel Template and its Output Book

Specify the form template and output book created in (1). Refer to "6.3 Setting Guide" for more details.

Ex.

Settin	g item	Setting content
Specify a Template Template Book		C:\Documents and Settings\Administrator\Desktop\templete.xlt
	Folder Name	C:\Documents and Settings\Administrator\Desktop
	File Name	monitor.xls
Output Book	Start with the output book displayed	Checked
	Do not save the output file when ACTION runs.	Not checked

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

Ŷ	p Pi	o-St	udio E	X n	nonitor.	прх									
Fi	ile	Edit	Tool	Pro	gramming	g Assist	Setti	ng H	elp			_			
ļ	WEY	1	Start	»		Node	»	Þ	Symbol	×	*	Feature)>>	.2	Save
Г	-Sy	mbol							Node Name	AGP	1			De	vice Nam
		0	àroup		U	ngroup			Sheet Name	Shee	et2			— ∏ Set	it as a glo
		I	nsert		D)elete									

2 Select [ACTION] from the tree display on the left of the screen, then click the [Add] button.

🂱 Pro-Studio EX 🛛 ?.npx	
File Edit Tool Programming Assist	Setting Help
Start 🍛 🯹 Node	🔉 눧 Symbol 2
Add Import Edit Delete • ACTION • Trigger Condition • Data Transfer • Device Cache	ACTION In addition t using applic using Acces In the Pro-Si referred to a

3 Click the [ACTION Type] list button, and select "Create form using Excel".

Then, enter the name of ACTION to set in the [ACTION Name] field. In this example, enter "Monitor".

NOTE	• [ACTION Name] can be an arbitrary name.

Set ACTION Name	/Parameter	×
Add a new ACTION Specify an ACTION	N. N name, and set its parameter.	
ACTION Type	Create form using Excel.	-
(Create form using Excel. Writes Data to CSV file.	
ACTION Name	Writes Data from CSV file. Upload of GP JPEG Data. Upload of GP Log Data. Writes Data to E-Mail. Upload to the database. Download from the database.	-

4 Click the [Click here to set the ACTION parameter] button.

ACTION Type Create form using Excel.
Display the Actions of the old version of Pro-Server
ACTION Name Monitor
Click here to set the ACTION parameter.
Next: Cancel

- 5 Set an Excel template and its output book.
 - 1) Click the [Reference] button of [Template File] to set the Excel file "template.xls" which you created.

Create form using Excel		
		Version 1.22
┌─Template Designation ——		
When you use the wizard	of Excel template file that is the source of forms. , the theme template file is copied to a file with this name. emplate, please specify the file name.	
Template File	l	Reference
	Edit Template	
Output Filo		

Select File				? ×
Look in:	🔁 Desktop	v	+ 🗈 💣 🗉	
History Desktop My Documents My Computer My Network P	File name: Files of type:	template.xlt Microsoft Excel Template or Book (*.X Open as read-only	T.T. *XLS	Open Cancel

2) Click the [Reference] button of [Folder Name] and specify "Desktop" as a folder to save the output book.

-Output File The template file stores setting info. The actual output result will be displayed in the following file.									
Folder Name	E: Program Files Pro-face Pro-Server EXW	PXDataBase Reference							
File Name	Report_%Y%M%D.xls	Report_%Y%M%D.xls Return to Default Settings							
 Start from Displayed State Do not save the output file when ACTION runs. (Please use the Save or Save by Macro of Excel.) 									
		OK Cancel							

Browse for Folder	? ×
Select the file output folder.	
Desktop	
🖃 🗹 Desktop	_
🗈 🚔 My Documents	
📄 😓 My Computer	
⊕	
Documents and Settings	
🕀 💼 Default User	
ОК Са	ancel

3) Set the file name "monitor.xls" for the output book to set.

Cutput File									
The template file stores setting info. The actual output result will be displayed in the following file.									
Folder Name	C:VDocuments and SettingsVAdministrator								
File Name	Monitor.xis	Return to Default Settings							
🔽 Start from Disp	Start from Displayed State								
Do not save the Do not save the	e output file when ACTION runs. e Save or Save by Macro of Excel.)								
		OK Cancel							

NOTE

• "%Y%M%D" is preset as "Year/Month/Date". For more details, refer to "37.1 Restrictions on Names".

4) Check the [Start from Displayed State] check box.

Output File The template file stores setting info. The actual output result will be displayed in the following file.									
Folder Name	C: Documents and Settings Administrator/Desktop								
File Name	File Name Monitor.xls Return to Default Settings								
Start from Displayed State Po not save the subput file when ACTION runs. (Please use the Save or Save by Macro of Excel.)									
		ок	Cancel						

NOTE • If you check [Start from Displayed State], you can read/write data with an output book displayed. This is useful if you need to confirm data immediately.

6.1.6 Setting Content of an Excel Template

Set the content of an Excel template to monitor data on Excel.

The example below shows the setting of data write area (Device one-shot area) in a template.

Refer to "6.3 Setting Guide" for more details.

Target Cell Range								
	A	В	С	D	E			
1								
2								
3								
4								
5								
6								



Setting item	Setting content
Entry Node	AGP1
Device Name	PLC1
Device Address/Symbol Group	PLC1 data
Add Device Address/ Symbol Group	Checked
Target Cell Range	1 to E2
Pattern	Z type
Trigger Condition Name	Turn on read start bit
Trigger Condition	When "Start reading" (M01) is ON

1 Click the [Edit Template] button.

Create form using Exc	el de la companya de	
		Version 1.22
Femplate Designation		
When you use the w	ame of Excel template file that is the source of forms. izard, the theme template file is copied to a file with this name. iew template, please specify the file name.	
Template File	C:\Documents and Settings\Administrator\Desktop\template.xl	Reference
	Edit Template	

The Excel template will appear.

Microsoft Excel - template.xlt					_ 🗆 ×
File Edit View Insert Format Tools	Data Window Help E>	celAction(A)			_ 8 ×
D 🛎 🛛 👌 🎒 🗛 🖤 🖪 B			≫ Arial	• 10 •	B <i>I</i> <u>U</u> ≣ ≣ ;
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A B C	DE	F	G H		J K 🗖
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4 5					
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11					
12					
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15					
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17					
18					
H + F Sheet1					
🐚 🖬 🖉 🔍 क्षे 🔍 🕂 = 🏷	2 1 -				
Ready					

- 2 Set a data write area.
 - 1) Click the [Device One-Shot Area] icon on Excel.

	M	licro	soft I	Excel	- ter	npla	ite.)	dt			
		Eile	<u>E</u> dit	⊻iew	Inse	ert	For	nat	Tools	: <u>D</u> ata	Win
] 🗅	2	H	8	s	ð,	ABC			K)	-
		P	Ş		abl .		۲	<u>۽ ۽</u>		≓ ≜	
(🤬	P	86	6 🕄	<u>6</u>	<u>F</u>	ð	ii)	F 🖪	¢ و	Å
Ņ	4	A	1	-			=				
	De	evice	One-:	Shot A	rea			С		D	
	1			_							
	2										
	3										

The "Device OneShot" screen will appear.

🖟 Device OneShot
Action Settings Trigger Condition Settings
Device Settings Node (Trigger-Source Node) Device Name Device Address/Symbol Group No. of Devices
Data Type 16Bit(Signed)
Add Device Address/Symbol Name Note: When specifying inconcecutive memory data, please use a group symbol.
Layout Settings
Target Cell \$A\$1 \$\$ Pattern Image Image Image An image of writing to a cell is shown below. Note: When using a group symbol, please select its layout from the followings. Image Image Image D101 Image Image Image Image Image
S1 S2(0) S2(1) S2(0) S2
No. of Blank Cells to insert between Cells Row 0 🚊 Column 0 🚎
Convert device value to certain text at Read In creating a sheet, clear the specified cell range and then start.
OK Cancel

• Selecting "Device One-Shot Area" from [Excel Action] of the menu displays the same set	creen.
ExcelAction(A)	
の の の の の の の の の の の の の の の の の の	
👋 Recipe Area(<u>R</u>)	
🗊 Log Data in GP Area(U)	
🎉 Special Area(<u>5</u>)	
🥳 Execution Sequence List(E)	
🔗 Buttonify Trigger Condition(<u>B</u>)	
🔤 Action Area List(I)	
- Tools(<u>I</u>) ►	
Communication(<u>C</u>)	
Version Info(A)	

2) Click the list button of [Node] and select "AGP1" as a data transfer source node.

Bevice OneShot
Action Settings Trigger Condition Settings
Device Settings Node
Group (Trigger-Soul & Node) Devices Devices Devices
Add Device Address/Symbol Name Note: When specifying inconcecutive memory data, please use a group symbol.

3) Click the list button of [Device Name] and select "PLC1" as a data transfer source device.

🕮 Device OneShot							_ 🗆 X
Action Settings Tri	igger Conditi	on Settings					
Device Settin Noc	-	AGP1	•		Device Name	PLC1	•
Device Addre Grou			_	V	No. of Devices		
Data 1	уре	16Bit(Signed)					
🔽 Add Dev	ice Address	/Symbol Name		Not mer sym	nory data, p	pecifying inconcecutiv please use a group	'e

4) Click the list button of [Device Address/Symbol Group] and select "PLC1 data" as a symbol of the data to read out.

<mark>倡</mark> De	vice OneShot					
Acti	on Settings Trigger Con	dition Settings				
	Device Settings	AGP1	.	Device Name	PLC1	_
	Device Address/Symb Group		•		reading	
	Data Type Add Device Addre	16Bit(Signed)			l data	

The device number "5" will be automatically entered in [No. of Devices], and "16Bit(Signed)" in [Data Type].

癮 Der	vice OneShot					
Actio	on Settings Trigger Conditi	on Settings				
	Device Settings Node	AGP1	.	Device Name	PLC1	•
	Device Address/Symbol Group	PLC1 data		No. of Devices	5	÷
	Data Type	16Bit(Signed)				
	Add Device Address	/Symbol Name	n	lote: When sp nemory data, p ymbol.		

5) Check [Add Device Address/Symbol Name].

4 Device OneShot	
Action Settings Trigger Condition Settings	5
Device Settings Node AGP1	▼ Device PLC1 ▼
Device Address/Symbol EFLC10 Group	Idate No. of 5
Data Type 16Bit(Sign	ned)
Add Device Address/Symbol Na	ame Note: When specifying inconcecutive memory data, please use a group symbol.

• Device Address/Symbol Name is to appear in the right or upper cell of the data read in Excel. Refer to [Sample] on screen.

6) Click the cell range specify button of [Target Cell Range].

Layout Setting Target Cell Range Pattern	s \$4\$1:\$4\$2 ©	Sample An image	of writing to a cell is shown b	pelow.
Note: When select its laye	using a group symbol, please but from the followings.			
©] C <u>s2[0] s2[1] s2[2]</u>	D101 D102 D103		
No. of Blank	Cells to insert between Cells	Row 0	🗧 Column 🛛 🕂	
_	ce value to certain text at Read sheet, clear the specified cell r	,		
			ОК	Cancel

7) Drag the mouse to specify the data write area (cells A1 to E2). Then click the [OK] button.

Microsoft Excel - template.xlt					_ 🗆 🗵
Eile Edit View Insert Format Tool	s <u>D</u> ata <u>W</u> indow <u>H</u> elp	ExcelAction(<u>A</u>)			_ & ×
C 📽 🖬 🖨 🖨 🗟 🖤 🖪 🛱	🖍 • 🍓 Σ fs	24 🛍 🝳 义	Arial	▼ 10 ▼ B	IU≣≣₹
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🤀 🗗 😻 🝞 🍇 🖉 🌾 👔 👔	솯 📩				
A1 =					
A B C	D E	F G	Н	l J	К
2					
4					
5					
6	Specify Range		? ×		
7	Please specify the	e range,	_		
8		2			
10			-		
11			-		
12	\$A\$1:\$F\$2				
13					
14		ОК	Cancel		
15					
16					
17					
K () N Sheet1		1	•		
]'m ■ 01 01 %t %t ≠ = %					
Point				NUM	

8) Select "Z type" of [Pattern].

Layout Setting Target Cell Range	s \$4\$1:\$G\$1	Sample		
Pattern	$\circ \square \bigcirc \square$	An image of writing	to a cell is shown b	elow.
select its lay	using a group symbol, please out from the followings. [s2[0][s2[1]][s2[2][s3] <u>s1 [s2[0][s3]</u> <u>s2[1] [s2[2]</u>	1 D104 C 4	D102 D103 2 3 0105 D106 5 6 0108 D109 8 9	
No. of Blank	Cells to insert between Cells	Row 0 🗧 C	Column 🛛 📑	
_	ice value to certain text at Read I sheet, clear the specified cell rang	and then start.		
			ОК	Cancel

3 Set trigger conditions.

1) Click the [Trigger Condition Settings] tab.

48 Device OneShot				
Action Settings Trigger Condition Settings				
Node AGP1		Device Name	PLC1	•
Device Address/Symbol	▼	No. of Devices	1	÷
Data Type 16Bit(Signed)				
Add Device Address/Symbol Name	mei		ecifying inconced lease use a grou	

The "Trigger Condition Settings" screen will appear.

標 Device OneShot	_ 🗆 ×
Action Settings Trigger Condition Settings	
Action Area No. When the specified trigger type (under-condition button) is satisfied, this area is executed. Please specify a trigger type. New Trigger Condition New Trigger Button	
Edit Delete Trigger Condition *	
If two or more are specified, the Action is executed when any of them is satisfied. For more complicated operation, please configure from [Excel Action]-[Execution Sequence List] in the menu.	
OK Car	ncel

2) Click the [New Trigger Condition] button.

Action Area No.	
When the specified trigger type (under-condition b Please specify a trigger type.	utton) is satisfied, this area is executed.
New Trigger Condition New Trigger Butte	on Wite
Edit Delete	Edit Delete
Trigger Condition	Trigger Condition

3) Click the [New Trigger Condition] button.

Set Trigger Condition
Specify a trigger condition of the ACTION.
Trigger Condition
New Trigger Condition
Edit
Node
Close

 Enter the trigger condition name "TurnOnReadStartBit" in [Trigger Condition Name], and select "AGP1" in [Node Name] as a name of the data transfer source.

Trigger Condition	(D)			×
Name Tumon eadstar Node Name PC1	'tBit	💌 📑 Add N	lode	🖙 Find Node
PC1 AGP1	.2	dition		
	IC.		_	•
Condition 1				
Specify the Trigger Condition.				
👫 When Turned ON		While Device is ON	\$	While Condition Satisfied
G Specified Time		While Device is OFF	%	When Condition Satisfied
Constant Cycle		When Device ON		When Partner Node ON
When Device Changes		When Device OFF	甖	When Partner Node OFF
		Detail Settings		OK Cancel

5) Click the [When Device ON] button in the [Condition 1] tab and select "PLC1" for the device name.

Condition 1				
Specify th	e Trigger Condition.			
F	When Turned ON	While Device is ON		While Condition Satisfied
Ġ	Specified Time	While Device is OFF		When Condition Satisfied
0	Constant Cycle	When Device ON		When Partner Node ON
	When Device Changes	When Device OFF	8	When Partner Node OFF
	IAL	Turn OFF the Specified Processing.	l Device	Address after
Data Type	e 16Bit(Signed)			

6) Click the [Device Address] list button and select "Start reading" for the device symbol name which serves as a trigger.

Device Name	Turn OFF the Specified Device Address after
PLC1	Processing.
Device Address	
	Local:Sheet2
Data Type 16Bit(Signed)	PLC1data
Limited Time Offer	
0 - + hour 0 - + min - 0 - + hou	
	el

[Data Type] automatically appears after selection, too.

Device Name
PLC1
Device Address
💼 Startreading 🔍 🔻
Data Type Bit
Limited Time Offer
0 芸 hour 🛛 🔁 min - 🛛 🔁 hour

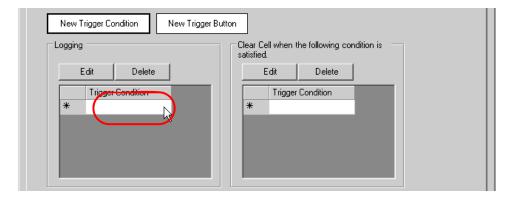
7) Click the [OK] button.

Device Name
PLC1 I I I I I I I I I I I I I I I I I I I
Device Address
ReadStartBit
Data Type Bit
🗖 Limited Time Offer Check Cycle 🗖 Always
0 → hour 0 → min · 0 → hour 0 → min 500 → ms
Detail Settings OK Cancel

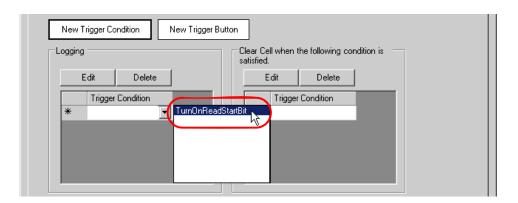
8) Click the [Close] button.

Set Trigger Condition
Specify a trigger condition of the ACTION.
Trigger Condition
New Trigger Condition
TurnOnReadStartBitEdit
Node AGP1
When ReadStartBit of Node AGP1 is Turned ON
Close

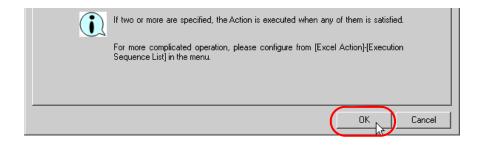
9) Click the blank line of [Trigger Condition] of [Logging].



10) Click the list button and select "TurnOnReadStartBit" as a trigger condition.



11) Click the [OK] button.



This is the end of the content settings of an Excel template.

4 Close "Excel".

Microsoft Excel - template.xlt	
File Edit View Insert Format Tools Data	Window Help ExcelAction(A)
Ctrl+N	🍓 Σ f* ĝ↓ 🛍 🕄 👋 🔹 🔹 🔹
Ctrl+O Ctrl+O	🗄 A 🖾 🕅 -
∫ ₩# Save Ctrl+S	celFormOcx.FormRangeInfo.1","")
📥 🙀 Save as Web Page	
1 Web Page Preview	
2	
3 Page Setup 4 Print Area	
5 Q Print Preview	
6 Brint Ctrl+P	
C Song to	
9 10 <u>1</u> \Documents and Settings\mh\test.xls	
1 Exit	
13	
14	
15	
16 17	
18	
I I M Sheet1	
Ready	

The following dialog box will appear, asking you if you want to save changes before closing. Click the [Yes] button.



5 On the "Create form using Excel" screen, click the [OK] button.

Output File The template file stor	es setting info. The actual output result w	vill be displayed in the following file.
Folder Name	C:\Documents and Settings\Adminis	strator/Desktop Reference
File Name	Monitor.xls	Return to Default Settings
🔽 Start from Displa	yed State	
	output file when ACTION runs. Save or Save by Macro of Excel.)	
	(
		OK Cancel

6.1.7 Setting ACTION Node/Process Completion Notification

This step sets the name of an ACTION node and the alert setting whether it should be tuned on or off when the ACTION is completed.



- ACTION Node : PC1
- Receive Notification: OFF

1 On the "Set ACTION Name/Parameter" screen, click the [Next] button.

Set ACTION Name/Parameter 🛛 🛛 🕅
Add a new ACTION. Specify an ACTION name, and set its parameter.
ACTION Type Create form using Excel.
Display the Actions of the old version of Pro-Server
ACTION Name Monitor
Click here to set the ACTION parameter.
Next Cancel

2 Click the list button of [ACTION Node] and select "PC1" as a node where ACTION operates.

Set ACTION Node/Proce	ess Completion Notification 🛛 🛛 🛛 🛛
ACTION Type Crea	te form using Excel.
ACTION Name Moni	tor
Specify an action not	e (Windows PC) where the ACTION works practically.
ACTION Node	
PC1	•
PC1	
Receive Notific	
	y the notified device that will be informed of of the ACTION. After the execution of the
ACTION, it wi	II be is turned on.
D	evice Name
#	INTERNAL
N	otified Device
33	T
D	ata Type Bit
Back	Complete Cancel

3 Turn off the check box of [Receive Notification Exists], if checked.

	CTION Node	
ſ	PC1	
C	Receive Notification Exists Please specify the notified device that will be informed of the execution of the ACTION. After the execution of the ACTION, it will be is turned on.	
	Device Name	
	#INTERNAL	
	Notified Device	
	<u> </u>	
	Data Type Bit	

NOTE	
------	--

• Do not check "Receive Notification Exists".

4 Click the [End] button.

The "Set ACTION Node/Process Completion Notification" screen will disappear. On the left of the screen, the name of ACTION you set will appear.



This is the end of the settings of the ACTION node and process completion notification.

6.1.8 Verifying Setting Result

This step verifies setting results on the setting content list screen.

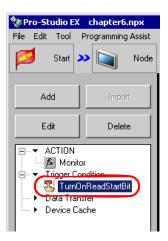
1 Select the ACTION name "Monitor" from the tree display on the left of the screen.



Confirm that the setting content appears on the right of the screen.

Setting Help	
» ≽ Symbol » ≷ Feature » 📄 Save » 🆄	Transfer Monitor Status
ACTION-Specific Trigger Condition/Process List	ACTION
Add Edit Release	Delete ACTION
Data Source Node AGP1	Monitor
Trigger When Startreading of Node AGP1 is	Rename
Condition Data Completion TurnOn	Create form using Excel.
	Set Parameter
L	ACTION Node
	PC1

2 Select the trigger condition name "TurnOnReadStartBit" from the tree display on the left of the screen.



Confirm that the setting content appears on the right of the screen.

					_	. 🗆 🗙
Setting Help						
🍑 🕨 ≽ Symbol 😕 🗼 Feature	» 🔡	Save 🔉		🧃 Transfe	r 😽	Monitor Status
Trigger Condition	Se			-	rigger Condition	
		Collapse		Tra	ansfer ACTION/Data	
TurnOnRea 💌 🗕 Edit	Feature	Source		Destinat	Receive/Process Co.	
Node AGP1	 Monitor 	AGP1.#	->	PC1.Mo		
When Startreading of Node AG						
When statedaing of Hode Ad						
	<u> </u>					
	-					
Process Co						
Processing						
Error Code						

This is the end of the verification of the settings.

6.1.9 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.

- '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.



- Path of network project file
- Title

- : Desktop\monitor.npx
- : EXCEL Report ACTION

6.1.10 Test Read

You can check if the settings are correct before transferring a created network project file to entry nodes. When executing ACTION, the setting data is output to an output file. However, when executing a test read, it is reflected in a template file.

NOTE	•	You do not necessarily have to perform a test read.
-	l	If you skip this, proceed to "6.1.11 Transferring a Network Project File".

MPORTANT • To perform a test read, it is necessary that 'Pro-Server EX', to which a created network project file has been loaded, is running.

- **1** Click the [Feature] button.
- 2 Click "ACTION" from the tree display on the left of the screen, then click the [Edit] button.
- 3 On the "Set ACTION Name/Parameter" screen, click the [Click here to set the ACTION parameter] button.
- **4** On the "Create form using Excel" screen, click the [Edit Template] button.

5 With the ACTION area selected, click the [Test Read] icon.

Microsoft Excel	- template	slt					
Eile Edit View	Insert For	mat <u>T</u> ools	<u>D</u> ata <u>V</u>	<u>V</u> indow <u>H</u> elp	ExcelAction(<u>A</u>)		
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🛛 🖾 😭 🔽	abl 🗆 💿		-	🗄 A 🖾	* .		
] 🤀 🗗 👋 🞷 🎖	🛍 🖉 🔗	iii 💕		Ľ			
Object 2 💌	=	=EMBED	🖗 mEs	GelFormOc	x.FormRangel	Info.1","")	
A	В	C.	Test Rea	d E	F	G	Н
3			U				
4							
Ξ							

The setup contents will be read in the template.

NOTE • Refer to "6.4 Restrictions" for details about the restrictions on test reads.

6.1.11 Transferring a Network Project File

This step loads a saved network project file to 'Pro-Server EX' and then transfers 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.

6.1.12 Executing ACTION

This step verifies that enabling trigger conditions activates ACTION, opens an Excel book (file name: "Monitor.xls"), and then writes the device data in the specified location in Excel.

	licrosoft l	Excel	- Book1										_ 🗆 🗙
	볼 Eile Edit View Insert Format Iools Data Window Help _ [문 ×]												
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	J28		-	=									
	A		В		С	D	E	F	G	Н	1	J	
1	PLC dat	a[0]	PLC date	a[1]	PLC data[2]	PLC data[3]	PLC data[4]						
2		10		20	30	40	50						
3													_
4													
5													
7													
8													
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15													
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21													
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Rea			,,								NUM		

This is the end of the explanation of this ACTION.

• If you want to achieve faster communication during ACTION, refer to "29 Tips for Faster Communication".

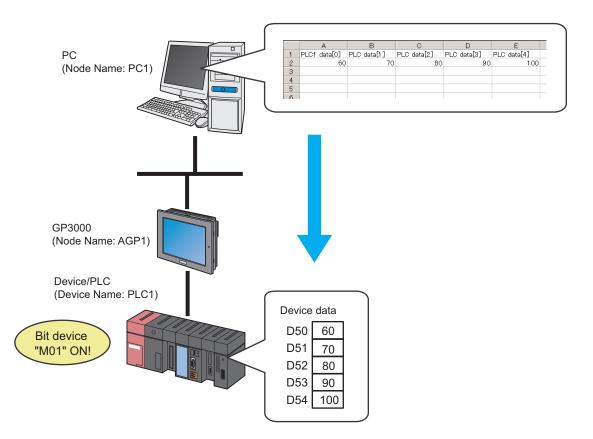
6.2 Correcting and Restoring Once Read Data



If you want to select data case by case among several recipe data on Excel, refer to "12 Writing Excel Data in Device/PLC".
 This function, which is One-Shot action, is fixed to 1 recipe.

[Action Example]

Restore data to Device/PLC after correcting device address value of Device/PLC (word device: address "D50" to "D54") from which data was read into Excel and detecting the rising of trigger device (bit device: "M01") of Device/PLC.



This section describes the setting procedures for executing the above action (ACTION) as an example.

[Settin	g Procedure]					
1	Starting 'Pro-Studio EX'	This step starts 'Pro-Studio EX'.				
	•					
2	Registering Entry Nodes	This step registers the PC and the GPs as entry nodes.				
	+					
3	Registering Symbols	This step registers as a symbol the device of Device/ PLC to write data in.				
	+					
4	Specifying an Excel Template and its Output Book	This step sets the following items:Specify a template bookSpecify an output book				
	+					
5	Setting the Area to Read Out an Excel File	This step sets the following items:Set a writing deviceSet the area to read out				
	+					
6	Setting ACTION Node/Process Completion Notification	This step sets the name of an ACTION node and the alert setting whether it should be tuned on or off when the ACTION is completed.				
7	Verifying Setting Result	This step verifies setting results on the setting content list screen.				
	+					
8	Saving a Network Project File	This step saves the current settings as a network project file and reloads.				
	+					
9	Transferring a Network Project File	This step transfers a saved network project file to the GP.				
	+					
10	Executing ACTION	This step verifies that Excel file data is written in the specified device of Device/PLC when the preset trigger condition has become effective.				

6.2.1 Starting 'Pro-Studio EX'

This step starts 'Pro-Studio EX'.

Refer to "3 Trial of Pro-Server EX" for details about starting method.

6.2.2 Registering Entry Nodes

This step registers the PC and the GP connected with network as nodes. Refer to "31 Node Registration" for details about entry nodes.



Node Name : PC1

IP Address : 192.168.0.1



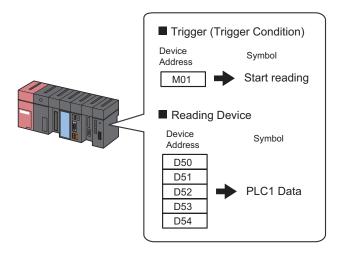
Node Name : AGP1 IP Address : 192.168.0.100 Device/PLC Information



Entry Node	Setting item	Setting example		
PC	Node Name	PC1		
	IP Address	192.168.0.1		
	Туре	GP3000 series		
GP	Node Name	AGP1		
	IP Address	192.168.0.100		

6.2.3 Registering Symbols

This step registers as a symbol the device address of Device/PLC to which Excel device data is written. Refer to "32 Symbol Registration" for details about symbols.





Trigger (Trigger Condition)

Setting item	Setting content
Symbol Name	Start writing
Data Type	Bit
Device address for symbol registration	"M01" of Device/PLC (PLC1)
No. of Devices	1

Writing Device

Setting item	Setting content
Symbol Name	PLC1 data
Data Type	16Bit (Signed)
Device address for symbol registration	"D50" to "D54" of Device/PLC (PLC1)
No. of Devices	5

6.2.4 Specifying an Excel Template and its Output Book

This step specifies an Excel file and an output book where device data has been written. Refer to "6.3 Setting Guide" for more details.

Ex.

Settin	g item	Setting content			
Specify a Template	Template Book	C:\Documents and Settings\Administrator\Desktop\monitor.xls			
	Folder Name	C:\Documents and Settings\Administrator\Desktop			
	File Name	Device data modification.xls			
Output Book	Start with the output book displayed	Not checked			
	Do not save the output file when ACTION runs.	Not checked			

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

-	Pro-St	udio E	Хc	haptert	і.прх									
Fi	le Edit	Tool	Pro	grammin	g Assist	Setti	ng He	lp			_			
I	<u>_</u>	Start	>>		Node	»		Symbol	> {	Ż	Feature) »	3	Save
Г	Symbol						N	lode Name	AGP	1	h		Dev	rice Nam
	(Group		U	ngroup		s	heet Name	Shee	et2			Setit	as a glol
		nsert)elete									21 3 gioi

2 Select [ACTION] from the tree display on the left of the screen, then click the [Add] button.

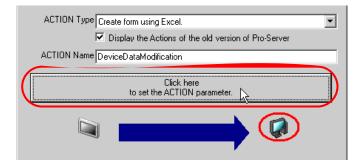
🂱 Pro-Studio EX 🛛 ?.npx	
File Edit Tool Programming Assist	Setting Help
Start 🌺 🟹 Node	🔉 눧 Symbol 2
Add Import Edit Delete	ACTION
ACTION Trigger Condition Data Transfer Device Cache	In addition t using applic using Acces In the Pro-S referred to a

3 Click the [ACTION Type] list button, and select "Create form using Excel".

Then, enter the name of ACTION to set in the [ACTION name] field. In this example, enter "DeviceData Modification".

Add a new ACTION.	
Specify an ACTION name, and set its parameter.	
ACTION Type Create form using Excel.	1
ACTION Name Writes Data to CSV file. ACTION Name Writes Data from CSV file. Upload of GP JPEG Data. Upload of GP Log Data. Writes Data to E-Mail. Upload to the database. Download from the database.	

4 Click the [Click here to set the ACTION parameter] button.



- 5 Set an Excel template and its output book.
 - 1) Click the [Reference] button of [Template File] to set the Excel file "monitor.xls" where device data has been written.

Create form using	Excel	
		Version 1.22
⊢Template Designati	on	
When you use the	e name of Excel template file that is the source of forms. a wizard, the theme template file is copied to a file with this name. a new template, please specify the file name.	
Template File	C: Documents and Settings\Administrator Desktop template.x	Reference
	Edit Template	

2) Click the [Reference] button of [Folder Name] and specify "Desktop" as a folder to save the output book.

Output File The template file sto	pres setting info. The actual output result will be disp	played in the following file.
Folder Name	C: Documents and Settings\AdministratorDo	esktop
File Name	Report_%Y%M%D.xls	Return to Default Settings
	ayed State :output file when ACTION runs. Save or Save bu Macroof Excel.)	
() 10000 000 010		
		OK Cancel

"%Y%M%D" is preset as "Year/Month/Date". For more details, refer to "37 Restrictions". NOTE

3) Set the file name "DeviceDataModification.xls" in the [File Name] field, for the output book to set.

Output File The template file stores setting info. The actual output resul	t will be displayed in the following file.
Folder Name C:\Documents and Settings\Admi	nistrator/Desktop Reference
File Name	Return to Default Settings
✓ Start from Displayed State	
Do not save the output file when ACTION runs. (Please use the Save or Save by Macro of Excel.)	
	OK Cancel

6.2.5 Setting Data Read Range of Excel File

This step sets data read range on Excel file to write in Device/PLC. The example below shows the setting of data read area (Device One-Shot Area) of Excel file.

Refer to "6.3 Setting Guide" for more details.

	Target C	Cell Range	Pattern		
	A	В	С	D	E
1	PLC1 data[0]	PLC1_data[1]	PLC1_data[2]	PLC1_data[3]	PLC1 data[4]
2	60	70	80	90	100
3					
4					
5					
6					



Setting item	Setting content
Entry Node	AGP1
Device Name	PLC1
Device Address/ Symbol Group	PLC1 data
Add Device Address/ Symbol Name	Not checked
Target Cell Range	A1 to E2
Pattern	Z type
Trigger Condition Name	Turn on write start bit
Trigger Condition	When "Start writing" (M01) is ON

1 Click the [Edit Template] button.

Create form using Exc	el
	Version 1.22
Femplate Designation -	
When you use the wi	me of Excel template file that is the source of forms. zard, the theme template file is copied to a file with this name. ew template, please specify the file name.
Template File	E:Documents and Settings\Owner/Desktop\template.xt
	Edit Template
-Output File	

The Excel file contents will appear.

Microsoft Excel - monitor.xlt					_ 🗆 ×
Eile Edit View Insert Format Iools Data Window Help	ExcelAction(A)				_ 8 ×
		>> Autol	10		
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	*				
🕼 🗗 🐝 🜮 🍇 🖉 🗳 🖼 💕 🖆					
E3 - =					
A B C D	E	F	G H	I	J
1 PLC data[0] PLC data[1] PLC data[2] PLC data[3]	PLC data[4]				
2 60 70 80 90	100				
3					
4 5					
6					
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8					
9					
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Ready				NUM	
			, ,		

2 Set a data read area.

1) Click the [Device One-Shot Area] icon on Excel.

	M	licro	soft I	Ехсе	l - m	onit	or.xlt		
		<u>F</u> ile	<u>E</u> dit	⊻iev	v <u>I</u> ns	ert	Form	at	<u>T</u> ools
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Y		E:	3		Area		=		C
	1		3 e One	-Shot	- : Area	в	=		
	1		3 e One	-Shot	- : Area	в	=		С
	1		3 e One	- <mark>Shot</mark> a[0]	- : Area	в	= ta[1]		С
Y	1		3 e One	- <mark>Shot</mark> a[0]	- : Area	в	= ta[1]		С

The "Device OneShot" screen will appear.

Device OneShot
Action Settings Trigger Condition Settings
Device Settings Node (Trigger-Source Node) United Settings Device Address/Symbol No. of 1
Device Address/Symbol Group Data Type 16Bit(Signed)
Add Device Address/Symbol Name Note: When specifying inconcecutive memory data, please use a group symbol.
Layout Settings
Target Cell \$E\$3 Range \$E\$3 Pattern Image of writing to a cell is shown below.
Note: When using a group symbol, please select its layout from the followings.
S1 S1 D101 D104 4 D107 7 D102 2 D106 5 D108 8 D103 3 D106 6 D103 9
No. of Blank Cells to insert between Cells Row 0 🚊 Column 0 🚔
Convert device value to certain text at Read In creating a sheet, clear the specified cell range and then start.
OK Cancel

NOTE	•	Selecting "Device One-Shot Area" from [Excel Action] of the menu displays the same screen.
		ExcelArtion(A) 版题 Device One-Shot Area(M)



2) Click the list button of [Node] and select "AGP1" as a data transfer destination node.

欄Device OneShot	
Action Settings Trigger Condition Settings	
Device Settings Node PC1 Device Address/Symbol Group Data Type 16Bit(Signed)	Device #INTERNAL ▼ No. of Devices
Add Device Address/Symbol Name	Note: When specifying inconcecutive memory data, please use a group symbol.

3) Click the list button of [Device Name] and select "PLC1" as a data transfer destination device.

標 Device OneShot 📃 🗆 🔀
Action Settings Trigger Condition Settings
Device Settings Node AGP1 Device UNTERNAL V
Device Address/Symbol Comp
Data Type 16Bit(Signed)
Add Device Address/Symbol Name Note: When specifying inconcecutive memory data, please use a group symbol.

4) Click the list button of [Device Address/Symbol Group] and select "PLC1 data" as a symbol of the data to read out.

(B De	vice OneShot					
Acti	on Settings Trigger Condit	ion Settings				
	Device Settings	AGP1	-	Device	PLC1	
	Device Address/Symbol	1		Name - Local:Sh		
	Group	16Bit(Signed)		- Start	reading	
	Data Type Add Device Address	,				
		,				

The device number "5" will be automatically entered in [No. of Devices], and "16Bit(Signed)" in [Data Type].

1	De	vice OneShot					
	Acti	on Settings Trigger Conditi	on Settings				
		Device Settings Node	AGP1	 .	Device Name	PLC1	_
		Device Address/Symbol Group	PLC1data	•	No. of Devices	5	\exists
		Data Type	16Bit(Signed))		
		Add Device Address	/Symbol Name	r	Note: When sp memory data, p symbol.		

5) Click the cell range specify button of [Target Cell Range].

Layout Settings Target Cell \$J\$21 Range Sample
Pattern • 🗸 o An image of writing to a cell is shown below.
Note: When using a group symbol, please select its layout from the followings.
S1 S1 D101 D104 4 D107 7 S2[0] S2[1] S2[0] S2[1] S2[2] S3 S3 D103 D106 6 D109 9
No. of Blank Cells to insert between Cells Row O 😴 Column O 🛫
Convert device value to certain text at Read
In creating a sheet, clear the specified cell range and then start.
OK Cancel

6) Drag the mouse to specify the data read area (cells A1 to E2). Then click the [OK] button.

Microsoft Excel - monitor.xlt				- 0 >	×1
File Edit View Insert Format Tools	Data Window Help ExcelAction(A)				_
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			• 10 •		-
	- 🗄 🗄 A 🖾 🗞 🗸				
🤀 🗗 👹 👉 🍇 🖉 🛱 💕	😰 🚊				
A2 - =	·				
A B C	D E	F G	H I	J	
1 (PLC data[0] PLC data[1] PLC dat 2 60 70					
2 60 70 3	80 90 100				
4					
5	Specify Range	? ×			
6	Please specify the range.				
7	Please specirly the range.				
8		_			
9					
	\$A\$1:\$E\$2				
12	Jamai:acaz				
13	ОК	Cancel			
14					
15					
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17					
IO I I I I I Sheet1					•
	A 4			• • • •	
] 🔄 🖬 Of OL 🕸 🏨 🗗 🗮 🦅					
Point			NU	M .	11.

7) Select "Z type" of [Pattern].

Layout Settings Target Cell \$A\$1:\$E\$2	
Pattern C A C A c a cell is	s shown below.
Note: When using a group symbol, please select its layout from the followings. D1 01 D1 02 D1 © S1 S2[0]S2[1]S2[2]S3 D1 04 D1 05 D1 O S1 S2[0]S3 D1 04 D1 08 D1 S1 S2[0]S3 D1 04 D1 08 D1 S2[1] S2[1] S2[2] S1 S2[2]	06
No. of Blank Cells to insert between Cells Row 0 🚊 Column 🖸	
Convert device value to certain text at Read In creating a sheet, clear the specified cell range and then start.	
	OK Cancel

- **3** Set trigger conditions.
 - 1) Click the [Trigger Condition Settings] tab.

levice	OneShot							х
Action S	ettings Trigger Conditi	on Settings						_
D	evice Settings							
	Node	AGP1	•		Device Name	PLC1	-	
D	evice Address/Symbol Group	PLC1data		▼	No. of Devices	1	÷	
	Data Type	16Bit(Signed)						
F	Add Device Address	/Symbol Name		me		ecifying inco blease use a		

The "Device OneShot" screen will appear.

欄Device OneShot
Action Settings Trigger Condition Settings
Action Area No. O When the specified trigger type (under-condition button) is satisfied, this area is executed. Please specify a trigger type. New Trigger Condition New Trigger Button Read Vrite Edit Delete Trigger Condition Trigger Condition
If two or more are specified, the Action is executed when any of them is satisfied. For more complicated operation, please configure from [Excel Action]-[Execution Sequence List] in the menu.
OK Cancel

2) Click the [New Trigger Condition] button.

New Trigger Condition New Tr	rigger Button Clear Cell when the following condition is satisfied.
Edit Delete Trigger Condition	Edit Delete Trigger Condition

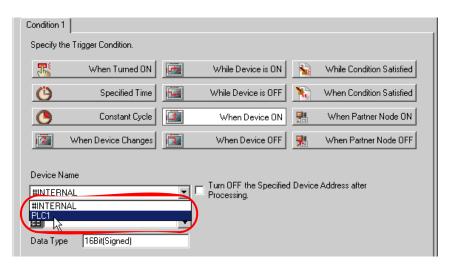
3) Click the [New Trigger Condition] button.

Set Trigger Condition 🛛 🛛 🛛
Specify a trigger condition of the ACTION.
Trigger Condition
New Trigger Condition
Edit
Node
Close

 Enter the trigger condition name "TurnOnWritesStartBit" in [Trigger Condition Name], and select "AGP1" in [Node Name] as a name of the data transfer source.

Condition 1 Specify the Trigger Condition. When Turned ON While Device is ON Specified Time While Device is OFF Constant Cycle When Device ON When Device Changes When Device OFF	Trigger Condition Name TurnOnWritesSta Node Name PC1 PC1 AGP1	artBit	ode Find Node
	Specify the Trigger Condition. When Turned DN Specified Time Constant Cycle	While Device is OFF	When Condition Satisfied When Partner Node ON

5) Click the [When Device ON] button in the [Condition 1] tab and select "PLC1" for the device name.



6) Click the [Device Address] list button and select "Start writing" for the device symbol name which serves as a trigger.

Device Name	
PLC1 Turn OFF the Specified Device Address after Processing.	
Device Address	
Data Type 16Bit(Signed)	
Limited Time Offer	
hour nin · O + hou	
	el

[Data Type] automatically appears after selection, too.

Device Name	
PLC1	- □
Device Address	
Startwriting	T
Data Type Bit	
Limited Time Offer	hour

7) Click the [OK] button.

Device Name
PLC1 Turn OFF the Specified Device Address after Processing.
Device Address
Startwriting
Data Type Bit
Limited Time Offer Check Cycle 🗖 Always
0 + hour 0 + min · 0 + hour 0 + min 500 m ms
Detail Settings OK Cancel

8) Click the [Close] button.

Set Trigger Condition	×
Specify a trigger condition of the ACTION.	
Trigger Condition	
New Trigger Condition	
TumOnWritesStartBit Edit	
Node AGP1	
When Startreading of Node AGP1 is Turned ON	
Close	

9) Click the blank line of [Trigger Condition] of [Write].

	igger Button
Read Edit Delete Trigger Condition *	Edit Delete

10) Click the list button and select "TurnOnWritesStartBit" as a trigger condition.

New Trigger Condition	New Trigger Button		
Edit Delete Trigger Condition		Edit Delete Trigger Condition	TurnOnWritesStartBit

11) Click the [OK] button.

()	If two or more are specified, the Action is executed when any of them is satisfied.
	For more complicated operation, please configure from [Excel Action]-[Execution Sequence List] in the menu.
	OK Cancel

This is the end of the content settings of an Excel template.

4 Close 'Excel'.

Microsoft Excel - monitor.xlt	
File Edit View Insert Format Tools Data	Window Help ExcelAction(A)
Ctrl+N	🍓 Σ fe 💱 🛄 🕄 🐥 🔹 🔹 🔹 🔹 🔹
📊 🚰 Open Ctrl+O	🗄 A 🖾 🔭 -
Cose	
ting Save Ctrl+S	s Francisco Francisco († 1900)
📑 Save as Web Page	CelFormOcx.FormRangeInfo.1","") D E F G H I J 🗍
1 Web Page Preview	
2	90 100
4 Print_Area 5 🗟 Print Preview	
6 Brint Ctrl+P	
7	
8 Sen <u>d</u> To	
10 <u>1</u> \Documents and Settings\mh\test.xls	
1 Exit	
12 4	
13¥	
15	
16	
17	
10 (()) Sheet1	
Reduy	

The following dialog box will appear, asking you if you want to save changes before closing. Click the [Yes] button.

Excel Rep	oort Action ·	- Completion	Confirmation	×
?	Save chang	jes to the templ	late and finish ed	iting?
	Yes	No	Cancel	

5 On the "Create form using Excel" screen, click the [OK] button.

-Output File The template file sto	ores setting info. The actual output result will be d	splayed in the following file.
Folder Name	C:\Documents and Settings\Administrator\L	Desktop Reference
File Name	DeviceDataModification.xls	Return to Default Settings
	ayed State : output file when ACTION runs. Save or Save by Macro of Excel.)	
		OK Cancel

6.2.6 Setting ACTION Node/Process Completion Notification

This step sets the name of an ACTION node and the alert setting whether it should be tuned on or off when the ACTION is completed.



- ACTION Node : PC1
- Receive Notification: OFF

1 On the "Set ACTION Name/Parameter" screen, click the [Next] button.

Set ACTION Name/Parameter 🛛 🛛 🕅
Add a new ACTION. Specify an ACTION name, and set its parameter.
ACTION Type Create form using Excel.
Display the Actions of the old version of Pro-Server
ACTION Name DeviceDataModification
Click here to set the ACTION parameter.

2 Click the list button of [ACTION Node] and select "PC1" as a node where ACTION operates.

et ACTION Node/Process Completion Notification
ACTION Type Create form using Excel.
ACTION Name DeviceDataModification
Specify an action node (Windows PC) where the ACTION works practically.
ACTION Node
Recirc Natification Exists
Please specify the notified device that will be informed of
the execution of the ACTION. After the execution of the ACTION, it will be is turned on.
Device Name
#INTERNAL
Notified Device
Data Type Bit
Back Complete Cancel

3 Turn off the check box of [Receive Notification Exists], if checked.

ACTION Node	
PC1 V	
Receive Notification Exists	
Please specify the notified device that will be informed the execution of the ACTION. After the execution of the	
ACTION, it will be is turned on.	
Device Name	
#INTERNAL 💌	
Notified Device	
Data Type Bit	

NOTE	•	Do not check "Receive Notification Exists"	•

4 Click the [Complete] button.

The "Set ACTION Node/Process Completion Notification" screen will disappear. On the left of the screen, the name of ACTION you set will appear.



This is the end of the settings of the ACTION node and process completion notification.

6.2.7 Verifying Setting Result

This step verifies setting results on the setting content list screen.

• With the "Excel Report" ACTION, you cannot add, edit or delete a trigger condition in "ACTIONspecific Trigger Condition/Process List". To change a preset condition, click the [Set Parameter] button, and select [Edit Template] to change data on Excel.

1 Select the ACTION name "DeviceDataModification" from the tree display on the left of the screen.

牧 P	ro-St	udio E>	X chapter6.npx	
File	Edit	Tool	Programming Assist	
	1	Start	» Node	
	Ac	ld	Import	
	Ed	dit	Delete	
		rigger C		

Confirm that the setting content appears on the right of the screen.

Setting Help	
🍌 Symbol 🔉 ≷ Feature 🍛 📄 Save 🔉 🆄	Transfer Monitor
ACTION-Specific Trigger Condition/Process List	ACTION
Add Edit Release	Delete ACTION
Data Source Node AGP1	DeviceDataModification
Trigger When Startwriting of Node AGP1 is Data	Rename
Completion TurnOn TurnOn	Create form using Excel.
	Set Parameter
L	ACTION Node
	PC1

2 Select the trigger condition name "TurnOnWritesStartBit" from the tree display on the left of the screen.

牧 P	ro-St	udio EX	6	hapter6:	.прх
File	Edit	Tool	Pro	ogramming	Assist
	1	Start	»		Node
	Ac	ld		Impo	t
Edit			Delete		
ACTION ACTION DeviceDataModification Trigger Condition TurnOnWritesStartBit Date Transfer Device Cache					

Confirm that the setting content appears on the right of the screen.

Setting Help Symbol Symbol Feature Save Transfer Moni Sequence Diagram by Trigger Condition Transfer ACTION/Data Feature Source Destinat Receive/Process Co [DeviceD AGP1.# > PC1.De
Trigger Condition Save Iransfer Stal Trigger Condition Sequence Diagram by Trigger Condition Image: Collapse Transfer ACTION/Data TumOnWrite Edit Feature
▲ ✓ Collapse Transfer ACTION/Data TurnOnWrity ✓ Edit Feature Source Destinat Receive/Process Co
TumOnWitk Edit Feature Source Destinat Receive/Process Co
Node AGP1 DeviceD AGP1.#> PC1.De
When Startwriting of Node AG
Process Co
Processing From Code
IP Address

This is the end of the verification of the settings.

6.2.8 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.

- '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.



- Path of network project file
- : Desktop\monitor_write.npx

Title

: EXCEL Report ACTION

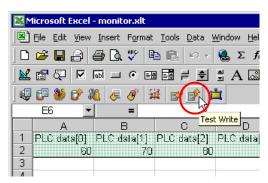
6.2.9 Test Write

You can check if the settings are correct before transferring a created network project file to entry nodes.

NOTE	• You do not necessarily have to perform a test write. If you skip this, proceed to "6.2.10 Transferring a Network Project File".
	 Note that the data will be actually written in the Device/PLC when you specify the device of Device/PLC as a write destination. To perform a test write, it is necessary that 'Pro-Server EX', to which a created network project file has been loaded, is running.

- **1** Click the [Feature] button.
- 2 Click "ACTION" from the tree display on the left of the screen, then click the [Edit] button.
- 3 On the "Set ACTION Name/Parameter" screen, click the [Click here to set the ACTION parameter] button.
- **4** On the "Create form using Excel" screen, click the [Edit Template] button.

5 With the ACTION area selected, click the [Test Write] icon.



At this point, data is written in the Device/PLC.

- **NOTE** You can check that data is being written in the "Symbol Monitor" screen of "Status Monitor". For more details, see "28 Simply Confirming On-site Status".
 - Refer to "6.4 Restrictions" for details about the restrictions on test writes.

6.2.10 Transferring a Network Project File

This step loads a saved network project file to 'Pro-Server EX' and then transfers 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.

6.2.11 Executing ACTION

This step verifies that enabling trigger conditions activates ACTION and writes Excel data to the specified device of Device/PLC.

🕎 Symbol - Mon	itor of Pro-Ser	ver EX							_ 🗆 ×	1
Node AGP1	•	Device/PLC	2LC1	▼ Device Ac	ddress Sheet3	-				
Set		1000 -		. 2000		× 101	Start			
	Polling time	TUUUMS	ime expended for re	ead 3009ms	Time expended for wri	ite 481ms	Sidii			
G G Symbol	Data	type	+ Address	Count	+00	+01	+02	+03	+04	
PLC1Data		(Signed)	M0001 D0050	<u>1</u> 5	60	70	80	90	100	I.
FLGIDAL	LODIC.	(Signeu)	שכששע			70	80	70	100	I.
										I.

NOTE
Check actually written value with such function as monitor of rudder creation software.
If you want to achieve faster communication during ACTION, refer to "29 Tips for Faster Communication".

This is the end of the explanation of this ACTION.

6.3 Setting Guide

This section explains how to set each screen in detail.

6.3.1 "Create form using Excel" Screen ^C "■ "Creating form using Excel" Screen"

6.3.2 "Device OneShot" Screen

"Action Settings" Tab

Action Settings Trigger Condition Settings
Device Settings Node (Trigger-Source Node) Mame Device Address/Symbol Group No. of 1 Devices 1 Data Type 16Bit(Signed)
Add Device Address/Symbol Name Note: When specifying inconcecutive memory data, please use a group symbol.
Layout Settings Target Cell \$B\$6 Pattern Image Note: When using a group symbol, please select its layout from the followings. Image: State of S2(1) S1 S2(2) S1 S2(2) S3
No. of Blank Cells to insert between Cells Row Column End Convert device value to certain text at Read In creating a sheet, clear the specified cell range and then start.
OK Cancel

Setting item		Setting content		
	Node	Selects nodes which have a device to read/write data NOTE • Clicking the [] button can retrieve or add entry nodes. • Selecting "(Trigger-Source Node)" will select the entry node that has triggered the action. Trigger Cause Target Entry Node		
		The trigger condition satisfied The trigger button clicked Started directly from the user program	Trigger condition node Pro-Server EX node on which you clicked the button Pro-Server EX node on which the user program is operated	
	Device Name	Selects nodes which have a device to read/write data NOTE • It is not necessary to set when the entry nodes are GP Series nodes and Pro-Server EX nodes.		
Device Settings	Device Address/ Symbol Group	Sets the device address or symbol to • When specifying a device address Enter directly from the Calculator in Calcul Device Address/Symbol Group • When specifying a symbol: Select the symbol by clicking the list Device Address/Symbol Group	s: con. ator icon	
	Data Type		(Signed) Bit ((Unsigned) Float	
	No. of Devices	Sets the number of devices to read/v Enabled only when the device addre NOTE • When the symbol or group symbol		

Setting item		Setting content			
		Displays the device address, symbol name, or group symbol name in the Excel cells next to the cells in which data have been written. In this case, depending on the data write pattern, the device address, symbol name, or group symbol name will be written in the different cells as follows.			
		Write Pattern	Disp	lay Cell Position	
		N type		On the left of the value	
		Z type	Above the	Above the value	
Device Settings	Add Device Address/Symbol Name	Example) • Device address "D100"	', No. of devices "3", W	rite pattern "N type"	
		D100	(Value of D	0100)	
		D101	(Value of D	0101)	
		D102	(Value of D	0102)	
		• Device address "D100", No. of devices "3", Write pattern "Z type"			
		D100	D101	D102	
		(Value of D100)	(Value of D101)	(Value of D102)	
	Target Cell Range	Specifies the cell range to Clicking the button can se NOTE • For the process on how Settings" in "5.1.2 Sett • The useful function is a (Action area). Refer to	elect the cell range on E w to select cell ranges, r ing Guide". available to check the sp	efer to "∎ Action Area	
Layout Settings Settings Settings Settings Settings Settings Settings Sequentially from top to bottom. Sequentially from left to right. NOTE • The write/read image of the content set in "Layout Settings" [Sample].			-		

Se	etting item	Setting content
Layout Settings	Layout to Cell	Specifies write/read layout of symbols making up a group if group symbols have been specified. (Example) • N type Aligns symbols from up to bottom to write/read. Aligns symbols from left to right to write/read. • Z type Aligns symbols from left to right to write/read. Aligns symbols from left to right to write/read.
	No. of Blank Cells to insert between Cells	Sets the number of blank cells to insert (blank cells to insert between data and data) when writing data in plural cells. You can use different settings for columns and rows, respectively.
Convert device value to certain text at Read		Converts the read device values into text. Turning on this check box will display "Text Substitution Table Settings" screen. Refer to "■ "Text Substitution Table Settings" Screen" for more details. NOTE • If checked, the data write function is not available.
In creating a sheet, clear the specified cell range and then start.		Before copying a sheet from the template file, if data are written in the cell range of the sheet, clears the data and starts copying.

"Trigger Condition Settigs" tab

🥼 Device OneShot	X
Action Settings Trigger Condition Settings Action Area No. 1 When the specified trigger type (under-condition button) is satisfied, this area is executed. Please specify a trigger type. New Trigger Condition New Trigger Condition New Trigger Condition Vite Edit Delete Trigger Condition *	×
If two or more are specified, the Action is executed when any of them is satisfied. For more complicated operation, please configure from [Excel Action]-[Execution Sequence List] in the menu.	
OK Cancel	

Setting item	Setting content		
Action Area No.	Displays No. allocated to each ACTION area by template.		
New Trigger Condition	Displays the "Trigger Condition Settings" dialog box. Click here to set a new trigger condition.		
New Trigger Button	Displays the "Create Trigger Button" dialog box. Refer to "5.6.2 Setting Guide" Screen" for more details.		
Read	 Selects a trigger condition to read data. Click the blank line of [Trigger Condition] and then the list button to display the registered trigger condition. NOTE When plural trigger conditions have been specified, satisfying at least one of those conditions executes ACTION. 		
	Clicking the [Edit] button can edit the specified trigger conditions.Clicking the [Delete] button deletes the specified trigger conditions.		

Setting item	Setting content
Write	 Selects a trigger condition for writing data. Click the blank line of [Trigger Condition] and then the list button to display the registered trigger condition. NOTE When plural trigger conditions have been specified, satisfying at least one of those conditions executes ACTION. Clicking the [Edit] button can edit the specified trigger conditions. Clicking the [Delete] button deletes the specified trigger conditions.

■ "Text Substitution Table Settings" Screen

Text Substitution Table Settings				
To convert a device value to a certain text, a conversion table specifuing the replacement rule is required. Please specify the storage location of the table.				
EXCEL book storing the table				
Cell storing the table (top-left cell)				
Sheet1 A1				
OK Cancel				

Setting item	Setting content		
Excel book storing the table	Specifies the Excel book in which the text substitution table is stored. Click the [] button, and then specify the file on the "Open File" screen.		
Cell storing the table	Specifies the book name in which the text substitution table is stored and then the cell number of the top-left of the table. On the "Specify Cell" screen, click the button and enter the cell number of the top-left of the table. Specify cell ? Please specify the topleft cell of the conversion table specifying the replacement rule. OK Cancel		

Refer to "■ About Text Substitution of Data" for more details about a text substitution table.

6.4 Restrictions

Writing data of Excel in the Device/PLCs

When writing the cell value and the cell is empty, 0 will be written for the numeral type, blank will be written for the character string type.

Also, when the data type is the character string, but you do not set the target cell format to "character string", you sometimes fail to write correctly.

In this case, you need to change the cell format to "character string" in advance.

Operation in ACTION area when error occurs

When you actually write/read in "Device One-Shot" function and exceed the ACTION area, perform the common operation as follows:

1) When performing a test read/ a test write

Error screen is displayed.

2) When executing ACTION in runtime

It will be recorded as ACTION error in the Log Viewer of the 'Pro-Server EX'.

Functions which are not executed by a Test Write/Read

The following function is not executed by a Test Read/Write.

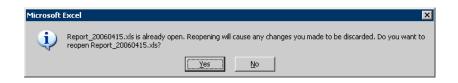
"Clear the cell range specified in creating a sheet to start"

In the case of closing the displayed output book

If you have mistakenly closed an output book of Excel Report ACTION, follow these steps to open it again: Dragging and dropping the book to open will make it read-only and the start button etc. invalid.

1. Double-click the output book.

2. When the following dialog box appears, select "No" to open it.



Receive notification

You cannot set the receive notification which indicates the completion of ACTION.

When setting "Trigger-Source Node"

When setting "Trigger-Source Node" at node in Excel Report action, node type and device are uncertain. Therefore, the device address is displayed in red.But, it is no problem.

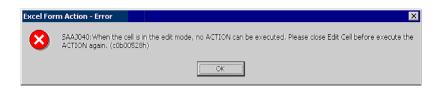
■ About the 1500 row limit for Action Area settings

Exceeding 1500 rows for the Action Area could cause the action to run longer. If you use Device One Shot or Device Logging's text conversion, the action could take even longer.

Edit the output file

While Excel Report Action is executing, you can not edit the output file.

Therefore, it becomes very difficult to operate Excel at the setting in which the Trigger condition satisfies at a short cycle. Moreover, the following error message is displayed when the Action is executed during editing the output file.



Restrictions on Copying or Cutting and Pasting the Action Area

When you paste the Action area using Ctrl+C & Ctrl+V or Ctrl+X & Ctrl+V, specify [Target Cell Range] for the copied Action area.

The Action area just after pasting remains the same [Target Cell Range] as that for the original Action area.

	A	В	С	D
1				
2				
3				
4				
5				
6				
7				

When the trigger button does not function nomally

After the security patch of Microsoft Office is applied, the trigger button may not function normally. For details, refer to "■When the trigger button in Excel Report does not function normally" of "37.2 Restrictions on Pro-Server EX".

Excel Auto Save Function

The Excel auto save function does not operate due to the Excel restrictions. To save automatically, create the Excel save macro using the following procedure and execute the created save macro by Action.

1 Open a template you want to save automatically using 'Pro-Studio EX'.

Create form using Excel						
		Version 1.22				
Template Designation						
Please specify the name of Excel template file that is the source of forms. When you use the wizard, the theme template file is copied to a file with this name. When you create a new template, please specify the file name.						
Template File	C:\Documents and Settings\Administrator\De	esktopitemplate.xl Reference				
	Edit Template					
-Output File						
	etting info. The actual output result will be dis	played in the following file.				
Folder Name	C:\Documents and Settings\Administrator\De	esktop				
File Name	Report_%Y%M%D.xls	Return to Default Settings				
Start from Displayed	State					
Do not save the outp (Please use the Save	ut file when ACTION runs. or Save by Macro of Excel.)					
		OK Cancel				

2 Select "Macro" and "Record New Macro" from the "Tools" menu.

t						
<u> </u>	ls <u>D</u> ata <u>W</u> indow	<u>H</u> elp	ExcelAction(A	Ŋ		
ŧ¥	Spelling	F7	f≈ 2↓ 10	ļ 🛛 🙄 A	rial	
	<u>A</u> utoCorrect					
	Share Workbook					
]	<u>T</u> rack Changes	•				
5	Merge <u>W</u> orkbooks.		F	G	Н	
	Protection	•				
	O <u>n</u> line Collaboratio	n 🕨				
	<u>G</u> oal Seek	_				
	Sc <u>e</u> narios					
	Auditing	+				
-	<u>M</u> acro		→ <u>M</u> acros			
	Add-Ins		Record Ne	ew Macro		
	⊆ustomize		Security	. ^V	5	
	Options		者 Visual Bas	ic Editor	Alt+F	11
			AD Microsoft	Script Editor	Alt+Shift+F	-11

3 Enter the macro name "Macro1" and click the [OK] button.

Recording the macro starts.

Record Macro		? ×
Macro name: Macro1		
Shortcut <u>k</u> ey: Ctrl+	Store macro in: This Workbook	
<u>D</u> escription:		
Macro recorde	l */*/200* by ******r	
	ОК Д	Cancel

4 Select "Save" from the "File" menu.

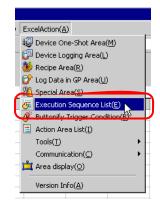
"Macro1" is recorded in the macro.

🔣 Mi	rosoft Excel - template2.xlt					
E E	e <u>E</u> dit <u>V</u> iew Insert F <u>o</u> rmat <u>T</u> ools <u>D</u> ata	<u>W</u> ine				
0	New Ctrl+N	÷				
	2 Open Chili O	-				
Tra I	Save Ctrl+S					
	Save as Web Page	J				
Ъ	Page Setup					
1	Print_Area	•				
2 €	Print Ctrl+P					
4	Send To	•				
5	-					
6	<u>1</u> \Documents and Set\convert_D02.xls 2 \Documents and Set\convert_D01.xls					
8	3 (Documents and Setting)templete.xls					
9	*					
10						

5 Select "Macro" and "Stop Recording" from the "Tools" menu. Recording the macro is complete.

4							
Ī	ools <u>D</u> ata <u>W</u> indow <u>H</u>	elp E	xcelAct	ion(<u>A</u>)			
X 💙	Spelling F7	ţ,	¥ ₽↓	🛍 🕺	* /	Arial	
	S <u>h</u> are Workbook						
1	Protection	•					
4	Online Collaboration	•					
5	Macro		Macro				
	Customize	ſ	_	lecording	<u> </u>		
	Options	E	Securi		N		
	×						
_		_		Basic Edito		Alt+F11	
		2	Micros	oft Script [ditor	Alt+Shift+F11	L

 $6 \ {\rm Select} \ {\rm "Execution} \ {\rm Sequence} \ {\rm List"} \ {\rm from \ the} \ {\rm "Excel} \ {\rm Action"} \ {\rm menu}.$



- 7 Create the trigger condition save automatically.
- 8 Select the created trigger condition and "Excel Operation Function".

Execution Sequence List								
Execute when Trigger Condition satisfied Execute when Trigger Button clicked Execute from another application								
When Trigger Condition is satisfied, Action is executed.								
New Trigger Condition Please place actions to execute or EXCEL operation commands in orde Edit Insert Clear	er of execution.							
Trigger Condition 1 2 3 4	5	6						
CreateForm CreateForm Excel Operation Function								
	ОК	Cancel						

9 Select "Execute Macro" and enter the macro name "Macro1".

Excel	Operation Fur	nction 📃 🗖	×
C	New Sheet	C Print Sheet Sheet Name sheet1	
0	New Book		
0	Show Book	C Hide Book	
0	Print Book	C Close Excel	
0	Execute Macro	Macro1	
0	Export		
	File Name	Report_%Y%M%D%n.csv Default	
	Saving Folde	er	
Saving Format		 CSV(:csv) Export only the last page except Action Report. 	
		C HTML(.htm)	
		OK Cancel	

- 10 Click the [OK] button.
- **11** Finish editing the template.
- 12 Save/Reload the setting contents.

According to the created trigger condition, the template is automatically saved.