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	6-69

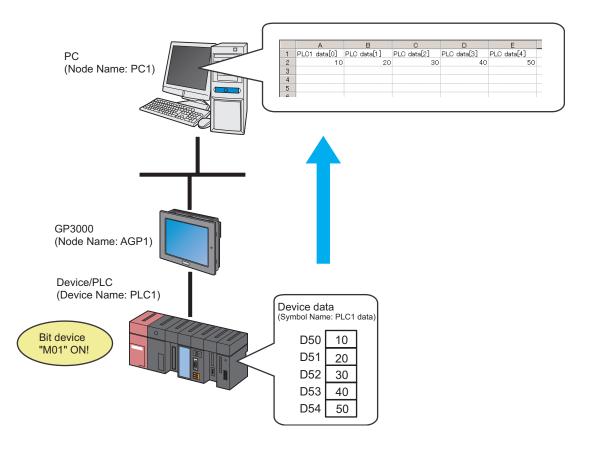
6.1 Monitoring Device Value on Excel

NOTE

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.

- 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 "28.2 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.

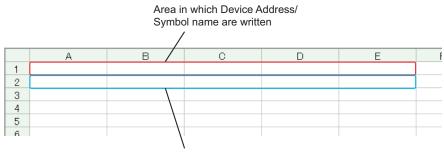
6.1.1 Creating a Template

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 "30 Node Registration" for details about entry nodes.



Node Name : PC1 IP Address : 192.168.0.1



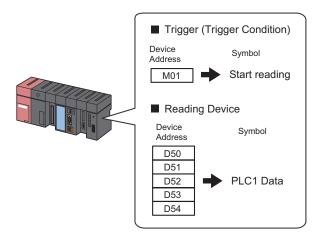
Node Name : AGP1 IP Address : 192.168.0.100 Device/PLC Information



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 "31 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.

-	🂱 Pro-Studio EX monitor.npx												
Fil	e Edit To	ol Pr	ogrammin	g Assist	Settir	ng He	lp		_	_			
F	🗾 Sta	art 🔉		Node	>>	Þ	Symbol	× .	1	Feature)>>		Save
Г	Symbol —					N	lode Name	AGP1				De	vice Nam
	Grou	ιp	U	ngroup		s	heet Name	Sheet	2			— □ Seti	tasa qlo
	Inse	rt)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 🍑 🟹 Node	🔉 눧 Symbol 2
Add Import Edit Delete ACTION ACTION ACTION ACTION 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 • [AC	TION Name] can be an arbitrary name.
	Set ACTION Name/Parameter 🛛 🛛 🛛
	Add a new ACTION. Specify an ACTION 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 Monito	ł			
	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. I, the theme template file is copied to a file with this name. remplate, please specify the file name.	
Template File		Reference
	Edit Template	
Output Eilo		

Select File			? ×
Look in:	🔁 Desktop	- E 😁	
History Desktop My Documents My Computer	Tile name:	template.xlt	Open
My Network P	, and an opport	Open as read-only	· //

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

Output File					
Folder Name	E: Program Files Pro-face Pro-Server EXW	PXDataBase	Reference		
File Name	Report_%Y%M%D.xls	Return to De	fault Settings		
 ✓ Start from Displayed State □ Do not save the output file when ACTION runs. (Please use the Save or Save by Macro of Excel.) 					
		ок	Cancel		

Browse for Folder	? ×
Select the file output folder.	
Desktop	
🖃 🚮 Desktop	
🗄 🔆 My Documents	
📄 😓 My Computer	
B → B 3½ Floppy (A:) C-DRIVEENG (C:)	
Documents and Settings	
🕀 🗋 Default User	
ОК Са	ncel

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 File Name	C:VDocuments and SettingsVAdministrator/Desktop				
 ✓ 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				

NOTE	
------	--

 "%Y%M%D" is preset as "Year/Month/Date". For more details, refer to "36.1 Restrictions on Names". 4) Check the [Start from Displayed State] check box.

Folder Name	C:\Documents and Settings\Administrate	onDesktop
File Name	Monitor.xls	Return to Default Settings
E. Start from Dia	played State	
Do not save I	he output file when ACTION runs. he Save or Save by Macro of Excel.)	

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 Ex	cel	
		Version 1.22
F Template Designation		
When you use the v	ame of Excel template file that is the source of forms. vizard, the theme template file is copied to a file with this name. new template, please specify the file name.	
Template File	C:\Documents and Settings\Administrator\Desktop\template.xl	Reference
	Edit Template	

The Excel template will appear.

IN IN	6	Excel - temp	late off									
												_
			Format <u>T</u> oo									ÐN
	🖻 📙	2 4 🗅	. 🖤 🖻 🖷	L 10 - 🤅	Σ f _*	24 🛍 🕄	🙄 🕹 Arial		v 10	• B I	<u>u</u> ≣ :	≣ "
	🗗 🖓			₽ € ₿	A 🗟 🖞	× .						
					X 1 6223	· •						
		😰 🍇 🌾		9 🔗 岸								
	A1	<u> </u>	=									
	<u>A</u>	В	С	D	E	F	G	Н		J	K	
2		_!										
3												- 1
4												
5												
6												
7												
8												
9												
10												_
11												- 1
12												- 1
13												- 1
14												+
16												
17												
18												-
Rea	ady									NUM		

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

Microsoft Excel - template.xlt	
Eile Edit View Insert Format Tools Data	<u>W</u> ir
D 🚅 🖬 🔒 🎒 🔂 🖤 🖻 🖻 🗠 🕫	Q
₩ 🛱 🖓 🔽 🖬 🗆 • 🖽 🖬 ≓ 🗲	▼
📲 🎙 😻 🔗 🍇 🗸 🔗 🛱 💕 鹶 🗄	Ľ,
A1 =	
Device One-Shot Area C D	
1	
2	

The "Device OneShot" screen will appear.

Pevice OneShot
Action Settings Trigger Condition Settings
Device Settings Node [Trigger-Source Node] Device Name
Device Address/Symbol 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 Sample
Pattern Pattern Note: When using a group symbol, please select its layout from the followings.
S1 S2 S2 S2 S2 S2 S3 S3 D101 D104 4 D107 7 D102 2 D106 5 D108 8 D103 3 D106 6 D109 9
No. of Blank Cells to insert between Cells Row Column
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 [Exce	cel Action] of the menu displays the same screen.
	ExcelAction(A)	
	B Device One-S	Shot Area(<u>M</u>)
	🗧 Device Loggin	ing Area(L)
	👋 Recipe Area(E	(R)
	😰 Log Data in Gi	GP Area(<u>U</u>)
	💥 Special Area((5)
	🖉 🥳 Execution Sec	equence List(<u>E</u>)
	🧬 Buttonify Trig	igger Condition(<u>B</u>)
	📃 📃 Action Area Li	List(<u>I</u>)
	- Tools(<u>T</u>)	► -
	- Communicatio	ion(<u>C</u>) +
	- 📩 Area display(((O)
	Version Info(£	(A)

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

欄 Device OneShot	
Action Settings Trigger Condition Settings	
Device Settings Node Device Address/Symbol Group Data Type 16Bit(Signed)	Device Name 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 source device.

倡De	vice OneShot					_ 🗆 X
Acti	on Settings Trigger Conditi	on Settings				
	Device Settings	AGP1	•	Device Name	PLC1	•
	Device Address/Symbol Group			No. of Devices	FLC1	
	Data Type	16Bit(Signed)				
	Add Device Address	/Symbol Name	me		pecifying inconcecutive please use a group	•

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

4	De	vice OneSh	ot					_ 🗆 X	
Í	Acti	on Settings	Trigger Cor	ndition Settings					
		Device Se	ettings Node	AGP1	.	Device Name	PLC1	_	
			ddress/Syml Group	bol 🔳		⊡-Local:Sh			
		Da	ta Type	16Bit(Signed)		PLC1	data		
		🔽 Add (Device Addr	ess/Symbol Name			4		

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

個Dev	vice OneShot					
Actio	on Settings Trigger Conditi	on Settings				
	Device Settings Node	AGP1		Device Name	PLC1	•
	Device Address/Symbol Group	PLC1data	•	No. of Devices	5	÷
	Data Type	16Bit(Signed)) —		
	Add Device Address	/Symbol Name		Note: When sp memory data, p symbol.	becifying inc blease use a	oncecutive I group

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

倡Dev	vice OneShot					_ 🗆 🗙
Actio	on Settings Trigger Conditi	on Settings				
	Device Settings	AGP1	.	Device Name	PLC1	•
	Device Address/Symbol Group	PLC1 data	•	No. of Devices	5	
	Data Type	16Bit(Signed)				
	Add Device Address	/Symbol Name		Note: When sj memory data, j symbol.	pecifying inco please use a	procecutive group

NOTE • 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	s \$4\$1:\$4\$2 \$3 Sample
Pattern	• 🚺 • Ž ^k An image of writing to a cell is shown below.
Note: When select its layo	using a group symbol, please out from the followings.
() () () () () () () () () ()	1 C S2[0] S2[1] S2[2]
No. of Blank	Cells to insert between Cells Row 0 👻 Column 0 😴
	ice value to certain text at Read
	OK 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 Tools	Data Window Help ExcelAction(A)		_ & ×
D 🖬 🖬 🖨 🖪 🖤 🖪 🖻	🗤 🛛 🚷 Σ 🏂 🛃 🏙 😰 💙	Arial	• 10 • B I U = = *
	÷ ±		
- 🤀 🕼 👹 😭 🍇 🖉 🛱 💕			
A1 =			
A B C	D E F G	Н	I J K 🗖
2 2			
4			
5			
6	Specify Range	? ×	
7	Please specify the range.		
8	Flease specify the range.		
9			
10			
12	\$A\$1:\$F\$2		
13	[\$M\$1.9 \$2]		
14	ОК	Cancel	
15			
16			
17			
K + M Sheet1		•	
] 🔄 🖬 이 이 対 🕸 🕂 🕂 🐄			
Point			

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

Layout Settings Target Cell \$A: Range	\$1:\$G\$1	Sar	nple			
Pattern C	NRZ	An	image of writi	ng to a cell is sho	wn below.	
select its layout from <u>select its layout from</u> <u>st strong</u>	a group symbol, please m the followings. [s2[1][s2[2][S3 [s2[1]] [s2[2]] [s2[2]]		D1 01 1 D1 04 4 D1 07 7	D102 D103 2 3 D105 D106 5 6 D108 D109 8 9		
No. of Blank Cells t	to insert between Cells	Row	0 *	Column 0	3	
Convert device valu	ue to certain text at Read	Γ				
In creating a sheet,	, clear the specified cell rar	ige and the	en start.			
				ОК	Car	ncel

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

嗯Device OneShot	
Action Settings	1
Node AGP1 Device PLC1	•
Device Address/Symbol PLC1data No. of Devices	<u>÷</u>
Data Type 16Bit(Signed)	
Add Device Address/Symbol Name Note: When specifying memory data, please us symbol.	

The "Trigger Condition Settings" screen will appear.

Action Settings Trigger Condition Settings
Action Area No. Image: Condition Sector Condition Sector Condition Sector Condition Sector Condition Sector Condition New Trigger Condition New Trigger Button Read Edit Delete Trigger Condition Write 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.

Action Area No.	
When the specified trigger type (under-condition Please specify a trigger type.	on button) is satisfied, this area is executed.
New Trigger Condition New Trigger	Button
Read	Write
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 Name TurnOnReadStar	tBit	
Name Funiorin Eddotta	.o.c	, 🖙 Find Node
Node Name PC1	- Pi /	Add Node
PC1		
AGP1	dition	
		.
1		
Condition 1		
		1
Specify the Trigger Condition.		
👫 When Turned ON	While Device is	ON 🛐 While Condition Satisfied
G Specified Time	While Device is (DFF 🛛 🐘 When Condition Satisfied
Constant Cycle	When Device	ON 🛛 🔠 When Partner Node ON
When Device Changes	When Device (0FF 🧏 When Partner Node OFF
	Detail Se	ttings 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.				
Ŀ	When Turned ON		While Device is ON		While Condition Satisfied
Ġ	Specified Time	1	While Device is OFF	1	When Condition Satisfied
0	Constant Cycle		When Device ON		When Partner Node ON
	When Device Changes		When Device OFF	影	When Partner Node OFF
Device N #INTERN #INTERN PLC1 Data Type	IAL		Turn OFF the Specified Processing.	l Device	Address after

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

Device Name PLC1 Turn OFF the Specified Device Address a PLC1	fter
Processing. Device Address	
Image: Data Type 16Bit(Signed)	
Limited Time Offer	
	pel

[Data Type] automatically appears after selection, too.

Device Name	
PLC1	1
Device Address	
😑 Startreading 🔍 🔻	
Data Type Bit	
Limited Time Offer	
0 + hour 0 + min · 0 + hour	

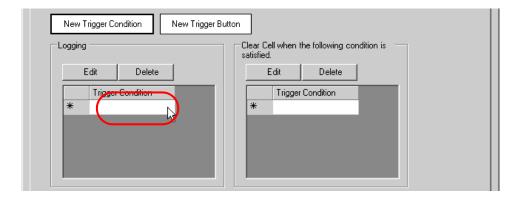
7) Click the [OK] button.

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

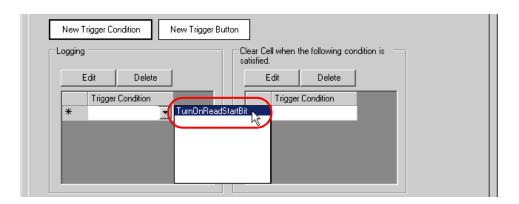
8) Click the [Close] button.

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

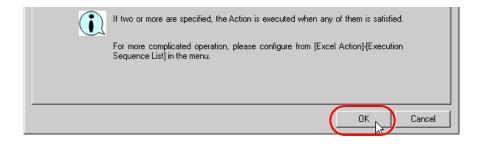
9) Click the blank line of [Trigger Condition] of [Logging].



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	
Ctrl+N	🍓 Σ 🌾 🐉 🏙 🗶 🐥 🔹 🔹 🔹 🔹 🔹
Ctrl+O	🗄 A 📾 🕅 -
Ctrl+S	celFormOcx.FormRangeInfo.1","")
🛁 😭 Save as Web Page	
1 Web Page Preview	
2	
3 Page Setup 4 Print Area	
4 Print_Area 5 🐧 Print Preview	
6 Brint Ctrl+P	
8 Send To 9	
10 1 \Documents and Settings\mh\test.xls	
1 Exit	
1	
13.	
15	
16	
17	
Iĕ Iſ ſ ▶ ▶ Sheet1	
	1_11
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 stores setting info. The actual output result will be displayed in the following file.			
Folder Name	C:\Documents and Settings\Administrator\Do	esktop Reference	
File Name	Monitor.xIs	Return to Default Settings	
	red State utput file when ACTION runs. ave 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/Pr	rocess Completion Notification
ACTION Type	Create form using Excel.
ACTION Name	fonitor
ACTION Node -	node (Windows PC) where the ACTION works practically.
	tion of the ACTION. After the execution of the it will be is turned on.
	Device Name
	#INTERNAL 💌
	Notified Device
	T
	Data Type Bit
Bac	k Complete Cancel

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

Γ	ACTION Node	
	PC1	
	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	
	T	
	Data Type Bit	

• 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.

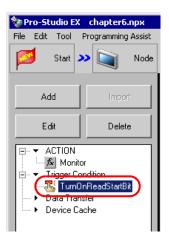
1 Select the ACTION name "Monitor" from the tree display on the left of the screen.



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 >> 촩 Feature .	» 🔒	Save 🔉		🤰 Transfe	r 😽	Monitor Status		
Trigger Condition	See	quence D Collapse		-	rigger Condition			
		Collapse		1 fe	ansrer ACHUN/Data			
TurnOnRea 💌 🗕 Edit	Feature	Source		Destinat	Receive/Process Co.			
Node AGP1	 Monitor 	AGP1.#	->	PC1.Mo				
	<u> </u>							
When Startreading of Node AG								
	L							
	-							
	L							
Process Co								
Processing								
IP Address								
· · · · · · · · · · · · · · · · · · ·								

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 "24 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

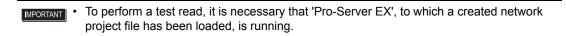
- : Desktop\monitor.npx
- : EXCEL Report ACTION

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.
	If you skip this, proceed to "6.1.11 Transferring a Network Project File".



- **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.

Kicrosoft Excel - template.xlt								
Eile Edit Vie	ew <u>I</u> nsert	Format <u>T</u> ools	; <u>D</u> ata <u>W</u> ind	low <u>H</u> elp I	ExcelAction(<u>A</u>)			
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] 🤀 🗊 👋 🞷	* 🍇 🥳	0° 🗰 🖪						
Object 2	•	= =EMBE	ProFixce	IFormOcx.	FormRangel	Info.1","")		
A	В	С	Test Read	E	F	G	Н	
11								
3			U			U		
4								
Ε								

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 "25 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.

M	icrosoft Ex	cel - Bo	ok1										_ 🗆	×
	Eile Edit Yiew Insert Format Tools Data Window Help													
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	A	<u> </u>	в –	С	D	E		F	G	Н		J		-
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2		10	20		40		50							
3														
4		_												
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Rea	dv		nouz A	Sheets y							NUM			

This is the end of the explanation of this ACTION.

NOTE • If you want to achieve faster communication during ACTION, refer to "28 Tips for Faster Communication".

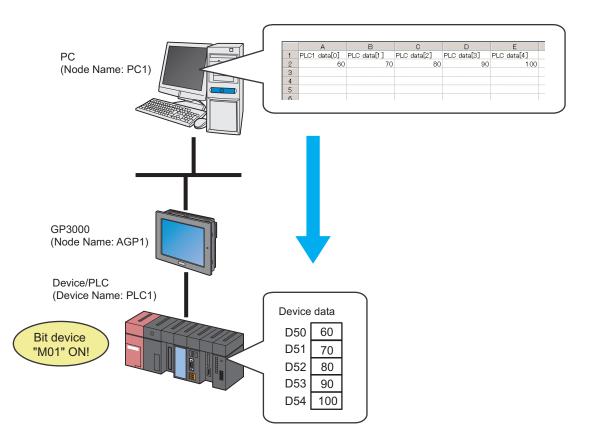
6.2 Correcting and Restoring Once Read Data



If you want to select data case by case among several recipe data on Excel, refer to "11 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.

[Setting 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 "30 Node Registration" for details about entry nodes.



Node Name : PC1

IP Address : 192.168.0.1



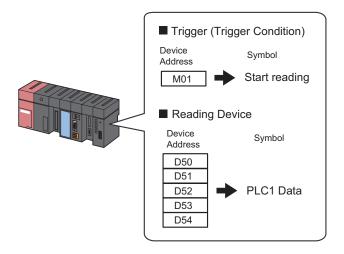
Node Name : AGP1 IP Address : 192.168.0.100 Device/PLC Information



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 "31 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.

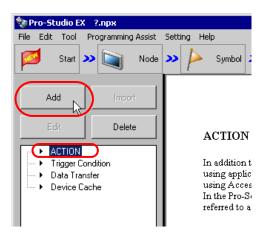
Ex.

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.

*	P	o-St	udio E	Хc	hapter6	пря								
Fi	le	Edit	Tool	Pro	grammine	g Assist	Settir	ng Hel	lp			_		
ļ	JE*	1	Start	»		Node	»		Symbol	26	e 1	eature	» 🗄	Save
Г	Sy	mbol						N	ode Name	AGP	1		D	evice Nam
		(grong		Ur	ngroup		S	neet Name	Shee	et2			:it as a glol
		I	nsert		C)elete			1001110	1				

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



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".

NOTE · [A	CTION Name] can be an arbitrary name.	
	Set ACTION Name/Parameter	
	Add a new ACTION. Specify an ACTION 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.	

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

	ACTION Type Create form using Excel.	•
	ACTION Name DeviceDataModification	
(Click here to set the ACTION parameter.	

- 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 st	ores setting info. The actual output result will be o	displayed in the following file.
Folder Name	C:\Documents and Settings\Administrator	Desktop Reference
File Name	Report_%Y%M%D.xls	Return to Default Settings
	,	
Start from Disp	layed State	
	e output file when ACTION runs. a Save or Save by Macro of Excel.)	
		OK Cancel

- **NOTE** "%Y%M%D" is preset as "Year/Month/Date". For more details, refer to "36.1 Restrictions on Names".
- 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	inistrator/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

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	Ce	ell Range		Pattern				
	A	7	В		С		D		Е
1	PLC1 data[0]	/	PLC1_data[1]	PLC1	data[2]	PLC1	data[3]	PLC1	data[4]
2	6	0	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	A2 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 Exce	
	Version 1.22
┌─Template Designation —	
When you use the wiz	ne of Excel template file that is the source of forms. ard, the theme template file is copied to a file with this name. w template, please specify the file name.
Template File	E:\Documents and Settings\Owner\Desktop\template.xtt Reference
	Edit Template
-Output File	

The Excel file contents will appear.

M	licrosoft Exce	l - monitor.xl	t										
	<u>File E</u> dit <u>V</u> iev	v <u>I</u> nsert F <u>o</u> rn	nat <u>T</u> ools <u>D</u> ata	<u>W</u> indow <u>H</u> elj	p ExcelAction(<u>4</u>	Ð				_	ð×		
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	E3 _	<u> </u>	-	-			-						
	A DLO dete[0]	B	C DLO data[2]	D D	E E	F	G	Н		J			
1	PLC data[U] 60	PLC data[1] 70	PLC data[2] 80	PLC data[3] 90	PLC data[4] 100								
3	00		, 00	50	100								
4													
5													
6											_		
7											- 11		
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2 Set a data read area.

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

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De	evice	One	-Shot	Area	ĽВ				С
1 F	PLC	dat	a[O]	PL() da	ta[1]	PL	C	dat
2			60			70			
-			- 00						
3			00						

The "Device OneShot" screen will appear.

4週Device OneShot
Action Settings Trigger Condition Settings
Device Settings
Node ((mgger-Source Node) Name
Device Address/Symbol
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 Sample
Pattern Pattern Note: When using a group symbol, please select its layout from the followings.
S1 S2[0] S1 S2[1] S2[1]
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" f	rom [Excel Action] of	f the menu displays the same screen.
	-	_		_



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

🖷 Device OneShot	
Action Settings Trigger Condition Settings	
Device Settings Node Device Address/Symbol Group Data Type 16Bit(Signed)	■ Name ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■
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.

體 Device OneShot	_ 🗆 X
Action Settings Trigger Condition Settings	
Device Settings	
Node AGP1 Device HINTERNAL	•
Device Address/Symbol I No. of Group	
Data Type 16Bit(Signed)	
Add Device Address/Symbol Name Note: When specifying inconcecutive memory data, please use a group symbol.	e

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

🏭 De	vice OneShot					
Acti	on Settings Trigger Condi	tion Settings				
	Device Settings	AGP1	▼	Device Name	PLC1	
	Device Address/Symbol Group			- Local:Sh	eet2 reading	
	Data Type	16Bit(Signed)			data	
	🔽 Add Device Addres	s/Symbol Name		$\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $	45	

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

橋	De	vice OneShot							ĸ
	Acti	on Settings Trigger Conditi	on Settings						
		Device Settings Node	AGP1	T		Device Name	PLC1	•	
		Device Address/Symbol Group	PLC1data		_ (No. of Devices	5	÷	
		Data Type	16Bit(Signed)						
		Add Device Address	/Symbol Name			mory data, p	becifying inc blease use a		

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

Layout Settings Target Cell \$J\$21	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.	
	D101 1 D104 4 D107 7 D102 2 D105 5 D108 8 D103 3 D106 6 D109 9
No. of Blank Cells to insert between Cells	Row 0 🛨 Column 0 📫
Convert device value to certain text at Read	inge and then start.
	OK Cancel

6) Drag the mouse to specify the data read area (cells A2 to E2). Then click the [OK] button.

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j ₩ 2 U P A2		<u> 🍇 🖉</u>	-	#		14							
	A	B		С		D	E	F	G	Н		J	
1 PLC					a[2]		PLC data[4]						-
2	60		70		80	90							
3													- 1
4					Spe	cify Range			? ×				
6													
7					Plea	ise specify the	range.						
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Point											NUM		

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

Layout Settings
Target Cell \$4\$2:\$F\$2 Sample
Pattern C
Note: When using a group symbol, please select its layout from the followings.
51 52[0][52[1][52[2]][53 51 52[0][52[1][52[2]][53
C S2[1] S2[2] S3 D107 D108 D109 7 8 9 7 8 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

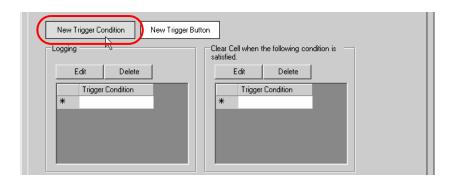
- **3** Set trigger conditions.
 - 1) Click the [Trigger Condition Settings] tab.

癮De	vice OneShot					
Acti	on Setting: Trigger Conditi	on Settings				
	Device Settings					
	Node	AGP1	•	Device Name	PLC1	•
	Device Address/Symbol Group	📰 PLC1data	•	No. of Devices	1	
	Data Type	16Bit(Signed)				
	Add Device Address	/Symbol Name	m		becifying incon blease use a g	

The "Device OneShot" screen will appear.

# 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 Read Write	
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.



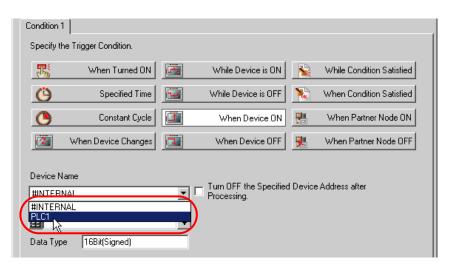
3) Click the [New Trigger Condition] button.

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.

Trigger Condition Name TurnOnWritesSta Node Name PC1 PC1 AGP1	artBit	Iode Find Node
	C. C	_
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	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.



 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		
	⊡- Local:Sheet2	
Data Type [16Bit(Signed)	PLC1data	
Limited Time Offer		
0 🔹 hour 🛛 🛨 min · 🖉 🕂 hou		
		el

[Data Type] automatically appears after selection, too.

Device Name
PLC1
Device Address
Startwriting 💌
Data Type Bit
Limited Time Offer

7) Click the [OK] button.

Device Name
PLC1 Processing.
Device Address
E Startwriting
Data Type Bit
🗖 Limited Time Offer Check Cycle 🗖 Always
0 💑 hour 0 💑 min - 0 🙀 hour 0 ฐ min 500 😴 ms
Detail Settings OK Cancel

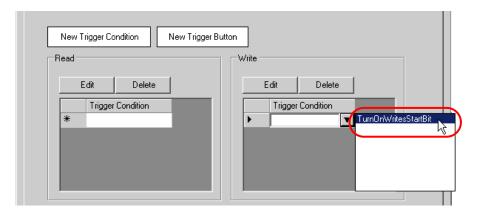
8) Click the [Close] button.

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

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

New Trigger Condition New Trigger Button	
Edit Delete Trigger Condition *	

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



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 Wi	indow Help ExcelAction(A)
Ctrl+N Ctrl+N	🍓 Σ f* ĝ↓ 🛍 🕄 💙 🔹 🔹 🔹 🔹
Ctrl+0 Ctrl+0	
🛁 🙀 Save as Web Page	celFormOcx.FormRangeInfo.1","") D E F G H I J —
1 Web Page Preview	
2	90 100 L
3 Page Setup	
4 Print Area ►	
5 🛕 Print Pre⊻iew 6 🚭 Print Ctrl+P	
7	
8 Send To	
9 10 <u>1</u> \Documents and Settings\mh\test.xls	
Exit	
12	
13 ×	
15	
16	
17	
18	
I I Sheet1	
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Ready	

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

Excel Report Action - Completion Confirmation 🛛 🗙				
Save changes to the template and finish editing?				
	Yes	No	Cancel	

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

- 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 Reference		
File Name	DeviceDataModification.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.)			
	\sim		
		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.
Next Cancel

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

Set 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					
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
(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 [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.

饕 Pro	o-Studio	EX (hapter6	.прх
File	Edit Too	Pre	ogramming	g Assist
	Start	»		Node
	Add		Impo	rt
	Edit		Delet	e
ACTION DeviceDataModification Ligger Condition				

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

Setting Help	
» ≽ Symbol » ≷ Feature » 📄 Save » 🆄 T	ransfer Monitor Status
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	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.

铃 P	ro-St	udio EX	X chapter6.npx		
File	Edit	Tool	Programming Assist		
	1	Start .	» 🥥 Node		
	Ac	Id	Import		
	Ed	dit	Delete		
ACTION DeviceDataModification Trigger Condition TurnOnWritesStartBit Data Transfor Device Cache					

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

Setting Help				
>> 🔑 Symbol >> ≷ Feature	» 🔡	Save ン	🄖 Transfe	r Monitor Status
Trigger Condition	Sec		agram by T	rigger Condition
		Collapse	Tra	ansfer ACTION/Data
TumOnWrite Edit	Feature	Source	Destinat	Receive/Process Co
Node AGP1	DeviceD	AGP1.#	-> PC1.De	
When Startwriting of Node AG				
Process Co				
Processing	1			
Error Code				
IP Address				
L	J L		1	

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 "24 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

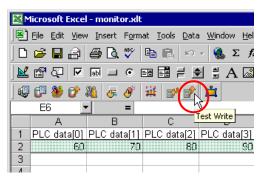
- : Desktop\monitor_write.npx
- : EXCEL Report ACTION

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".
MPORTANT	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.

- You can check that data is being written in the "Symbol Monitor" screen of "Status Monitor". For more details, see "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 "25 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 - Monitor	of Pro-Server EX							_ 🗆	×
Node AGP1	 Device/PLC 	PLC1	 Device Ad 	dress Sheet3	-				
Set P	II	T : 1.17	1 2000	T . 1.17	401	Start			
P	olling time 1000ms	Time expended for rea	ad loonaus	Time expended for wri	te 401ms	olari			
G G Symbol	Data type	+ Address	Count	+00	+01	+02	+03	+04	
🛄 StartRead	Bit	M0001	1	0					
💷 PLC1Data	16Bit(Signed)	D0050	5	60	70	80	90	100	
-									
1									

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 "28 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

Pevice OneShot
Action Settings Trigger Condition Settings
Device Settings
Node (Trigger-Source Node) Mame
Device Address/Symbol
Data Type 16Bit(Signed)
Add Device Address/Symbol Name Note: When specifying inconcecutive memory data, please use a group symbol.
Layout Settings
Target Cell \$8\$6 Sample
Pattern • 🗸 · An image of writing to a cell is shown below.
Note: When using a group symbol, please select its layout from the followings.
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

Setting item		Setting content				
		 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. 				
	Node	Trigger Cause The trigger condition satisfied The trigger button clicked Started directly from the user program	Target Entry NodeTrigger condition nodePro-Server EX node on which you clicked the buttonPro-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 be used. • When specifying a device address: Enter directly from the Calculator icon. Calculator icon Device Address/Symbol Group • When specifying a symbol: Select the symbol by clicking the list button. List button Device Address/Symbol Group • When specifying a device address: Specify the data type. • When specifying a symbol: Select IbBit(Gined) 32Bit(Gined) Bit IbBit(Unsigned) 32Bit(Signed) Bit Bit type automatically appears. Sets the number of devices to read/write. Enabled only when the device address has been directly input. INOTE • When the symbol or group symbol is specified, this is set automatically.				
	Data Type					
	No. of Devices					

	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	Display Cell Position			
		N type	On the left of the value			
		Z type	Above the value			
Device Settings	Add Device Address/Symbol Name	Example) • Device address "D100 D100	", No. of devices "3", Write pattern "N type" (Value of D100)			
		D101	(Value of D101)			
		D102	(Value of D102)			
		Device address "D100 D100 (Value of D100)	", No. of devices "3", Write pattern "Z type" D101 D102 (Value of D101) (Value of D102)			

Setting item		Setting content		
		Specifies the cell range to which data will be written. Clicking the button can select the cell range on Excel. Drag the mouse to select the cell range. NOTE • Setting range of cells: Rows 1 to 65536, Columns 1 to 256 • Instead of using the mouse, you can type the cell range. Click the Excel screen, enter the cell range on the "Specify Range" screen, and then click the [OK] button.		
Layout Settings	Target Cell Range	 Please specify the range. \$A\$1 OK Cancel • When you specify the cell range including 1501 lines or more, only the 		
		 When you specify the cell range including 1501 lines or more, only the top-left cell of the selected range seems to be specified on the display. A B C I O A Management Board C O A A B C C O A A A B C C O A A A A B C A A A B A A A B C A A A A B A A A A A A A A A A A A A A A		

Setting item		Setting content		
		Sets the data write/read direction when selecting multiple cells.		
	Pattern	 (N type) Sequentially from top to bottom. (Z type) Sequentially from left to right. NOTE The write/read image of the content set in "Layout Settings" appears in [Sample]. 		
		Specifies write/read layout of symbols making up a group if group symbols have been specified.		
		(Example) • N type		
Layout Settings		S1 S2[0] S2[1] S2[2] S3		
		Aligns symbols from up to bottom to write/read.		
	Layout to Cell	<u>\$1</u> <u>\$2[0]</u> \$2[1][\$2[2]] \$3		
		Aligns symbols from left to right to write/read.		
		• Z type		
		<u>\$1 [\$2[0][\$2[1][\$2[2]]\$3]</u>		
		Aligns symbols from left to right to write/read.		
		S1 S2[0]S3 S2[1] S2[2]		
		Aligns symbols from up to bottom 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.		
		 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

體 Device OneShot
Action Settings Trigger Condition Settings
Action Area No. 1 When the specified trigger type (under-condition button) is satisfied, this area is executed. Bear specify a trigger type. New Trigger Condition New Trigger Button Read Image Condition Image Condition New Trigger Button Image Condition New Trigger Condition Image Condition Image Condition Im
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.			
	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.			
Read	 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

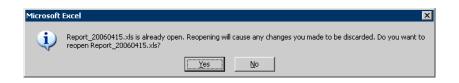
The following function is not executed by a Test Read/Write.

"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.

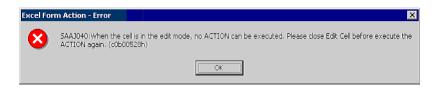
When setting "Trigger-Source Node"

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.

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				

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							
When you use the wizar	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 The template file stores	setting info. The actual output result will be disp	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	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					

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

lt										
t	Tool	s <u>D</u> ata <u>W</u>	indow	Help	Excel	Action(¿	Ð			
Ж	🐰 💞 Spelling F7				f× 2	↓ µ	, 🕐	Arial		-
-		<u>A</u> utoCorrect								
-		Share Workt								
		 Track Chang	jes	Þ						
c		Merge <u>W</u> ork	books,			F	G		Н	
		Protection		•				_		
		O <u>n</u> line Collat	poration	n ▶						
		<u>G</u> oal Seek								
		Sc <u>e</u> narios								
		A <u>u</u> diting		►						
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-		Add- <u>I</u> ns			• R	ecord N	ew Macro	N		
	ļ	<u>C</u> ustomize			<u>5</u> 6	ecurity.		Νζ		
_	!	Options			الا 🛜	sual Ba:	sic Editor		Alt+F	=11
					OD M	icrosoft	Script Edi	tor A	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:	Store macro in:	
Ctrl+	This Workbook	•
Description:		
Macro recorded	i */*/200* by ******r	
	ОК Д	Cancel

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

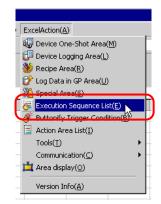
"Macro1" is recorded in the macro.

	E h	licr	osoft Ex	cel	- templ	ate2.xlt				
		Eile	<u>E</u> dit <u>V</u>	jew	Insert	F <u>o</u> rmat	<u>T</u> ools	<u>D</u> ata	W	/inc
			<u>N</u> ew				0	Itrl+N		-
		2	Open					Tel±O		
	C C C	_								η
	6	H	<u>S</u> ave					Itrl+S		1
I	1	È	Save as	₩Ŷet	Page					V
l			Page Se	tup.						
	1		Print Are	ea -					F	
	2	9	Print				(Etrl+P		
	1 2 3 4 5		Sen <u>d</u> To						•	
	5	1 \Documents and Set\convert_D02.xls								
	7		2 \Docu	ment	s and Se	et\conv	ert_D0	1.xls		
	8	<u>3</u> \Documents and Setting\templete.xls								
9 *					¥					
1	10									·

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

<u>.</u>		
Tools Data Window H	elp ExcelAction(<u>A</u>)	
¥ 🎸 Spelling F7	🗜 🛃 🛍 🐼 😤 Ar	ial -
Share Workbook		
Protection	•	
Online Collaboration	•	
Macro	Macros	AILTO
<u>C</u> ustomize	Stop <u>R</u> ecording	
Options	Security N	
*	— 취 Visual Basic Editor	Alt+F11
	Microsoft Script Editor	Alt+Shift+F11

6 Select "Execution Sequence List" from the "Excel Action" 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	1	
When Trigger Condition is satisfied, Action is exe	cuted.	
New Trigger Condition Please place actions to execute or EXCEL operation commands in orde Edit Insert Clear	r of execution.	
Trigger Condition 1 4	5	6
CreateForm Excel Operation Function K		
		•
	0K	Cancel

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

Excel Operation Func	tion 📃 🗆 🗙
C New Sheet C C New Book	Print Sheet Sheet Name sheet1
C Show Book 🤇	D Hide Book
C Print Book	Close Excel
Execute Macro	Macro1
C Export	
File Name	Report_%Y%M%D%n.csv Default
Saving Folder	
Saving Format	CGV(.csv) Export only the last page except Action Report. ((Tht)(.chan))
	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.