11 Writing Excel Data in Device/PLC

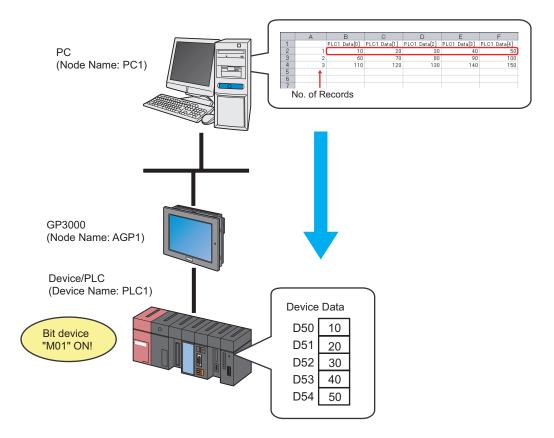
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11.1 Try to Write Recipe Data in Device/PLC

[Action Example]

Detect the rising of the trigger device (bit device: "M01") of Device/PLC and write recipe sheet data created in Excel into 5 devices (word device: address "D50" to "D54") of Device/PLC.

(Example) Writing the data of record No. "1" of a recipe sheet.



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

[Setting Procedure]

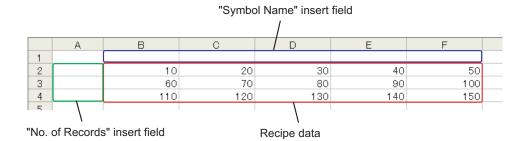
Creating a Recipe Sheet	This step creates a recipe sheet in 'Microsoft Excel' to write in Device/PLC.
Starting 'Pro-Studio EX'	This step starts 'Pro-Studio EX'.
+	
Registering Entry Nodes	This step registers the PC and the GPs as entry nodes.
Registering Symbols	This step registers as a symbol the device of Device/ PLC to write data in.
Specifying a Recipe Sheet and its Output File	This step sets the following items:Specify a recipe sheetSpecify an output file
Setting the Contents of a Recipe Sheet	This step sets the following items:Set a writing deviceSet the area to read out
+	
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.
Verifying Setting Result	This step verifies setting results on the setting content list screen.
+	
Saving a Network Project File	This step saves the current settings as a network project file and reloads.
+	
Transferring a Network Project File	This step transfers a saved network project file to the GP.
+	
Executing ACTION	This step verifies that recipe data is written in the specified area of Device/PLC when the preset trigger condition has become effective.
	Starting 'Pro-Studio EX' Registering Entry Nodes Registering Symbols Specifying a Recipe Sheet and its Output File Setting the Contents of a Recipe Sheet Setting ACTION Node/Process Completion Notification Verifying Setting Result Saving a Network Project File Transferring a Network Project File

11.1.1 Creating a Recipe Sheet

This step creates a recipe sheet where data to write in Device/PLC exists.

1 Start 'Microsoft Excel' and create the recipe sheet below in Sheet 1.

[Creation Example]



Leave both spaces for "Symbol Name" (Cells B1 to F1) and those for "Record No." (Cells A2 to A4) blank for these will be automatically allotted and filled in after completing the setting.

• You can prepare multiple recipe data on Excel. Allot a record No. for each recipe to specify data to write in Device/PLC. For details, refer to "11.1.6 Setting the Contents of a Recipe Sheet" mentioned later.

- **2** Save the recipe sheet with the file name "recipe.xls" on PC desktop after creating.
 - NOTE

You can create a recipe sheet in the direction (horizontal) as shown below.



11.1.2 Starting 'Pro-Studio EX'

This step starts 'Pro-Studio EX'.

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

11.1.3 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



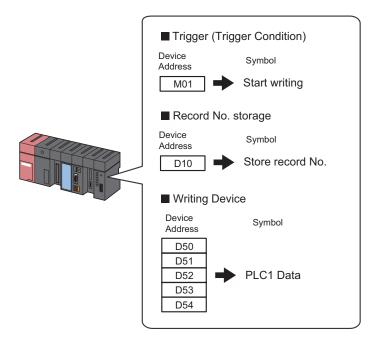
Node Name	:AGP1		
IP Address	:192.168.0.100		
Device/PLC Information			



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

11.1.4 Registering Symbols

This step registers as a symbol the device address of Device/PLC to which 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	"01" of Device/PLC (PLC1)
No. of Devices	1

Record No. storage

Setting item	Setting content
Symbol Name	Record No. Storage
Data Type	16Bit (Unsigned)
Device address for symbol registration	"10" 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

11.1.5 Specifying a Recipe Sheet and its Output File

This step specifies the pre-created recipe sheet and its output file. Refer to "11.3 Setting Guide" for more details.

Ex.

Setting item		Setting content
Specify a Template	Template File	C:\Documents and Settings\Administrator\Desktop\recipe.xls
	Folder Name	C:\Documents and Settings\Administrator\Desktop
Output File	File Name	Recipe write.xls
	Start with the output file displayed	Not checked

1 Click the [Feature] icon on the toolbar.

🂱 Pro-Studio EX 🛛 ?.npx					
File Edit Tool Pro	ogramming Assist – Settin	ng Help			
对 Start >	Node ≫	Symbol Symbol	Save 2		
Symbol		Node Name AGP1	Device Name		
Group	Ungroup	Sheet Name Sheet3	Set it as a glob		
Insert	Delete		<u>-</u>		

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

📚 Pro-Studio EX	test.npx	
	Programming Assist	Setting Help
对 Start 🔉	Node	🔊 🔑 Symbol
Add	Import	
Edit	Delete	ACTION
ACTION Trigger Cor Data Trans Device Cad	In addition using appli- using Acce In the Pro-S referred to a	

 ${\bf 3}$ 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 "Recipe Write".

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

Set ACTION Name/	/Parameter		×
Add a new ACTION Specify an ACTION	Iname, and set its parame	ter.	
ACTION Type	Create form using Excel.		•
ACTION Name	Create form using Excel. Writes Data to CSV file. Upload of GP JPEG Data. Upload of GP JPEG Data. Writes Data to E-Mail. Upload to the database. Download from the databa	ase.	
)		
		Next	Cancel

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

ACTION Type Create form using Excel.
ACTION Name RecipeWrite
Click here to set the ACTION parameter.

- **5** Make settings regarding an Excel template and its output file.
 - 1) Click the [Reference] button of [Template File] to set the template file "templete.xlt" which you created.

- Template Designation -	Version 1.10
When you use the wi	me 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	ss setting info. The actual output result will be displayed in the following file.
The template his store	s setting into. The decide output result will be displayed in the following rife.
Folder Name	E:Program Files'Pro-face'Pro-Server EX'NPXDataBase Reference
File Name	Report_%Y%M%D.xls Return to Default Settings
🔽 Start from Display	ed State
	utput file when ACTION runs. ave or Auto-save function of Excel.)
	OK Cancel

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

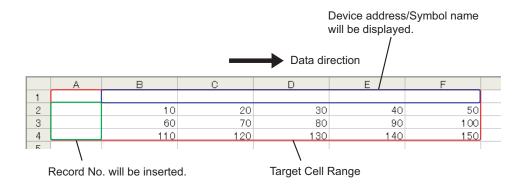
Output File The template file sto	res setting info. The actual output result will be displa	yed in the following file.
Folder Name	E:\Documents and Settings\Owner\Desktop	Reference
File Name	Report_%Y%M%D.xls	Return to Default Settings
🔽 Start from Displa	yed State	
	output file when ACTION runs. Save or Auto-save function of Excel.)	
		OK Cancel

3) Set the file name "Recipe Write.xls" in the [File Name] field for the output file to set.

Output File The template file st	ores setting info. The actual output result will be disp	played in the fol	lowing file.
Folder Name	E: Documents and Settings\Owner\Desktop		Reference
File Name	RecipeWriteļxIs	Return to	Default Settings
✓ Start from Displ Do not save the (Please use the	ayed State soutput file when ACTION runs. Save or Auto-save function of Excel.)		
		ок	Cancel

11.1.6 Setting the Contents of a Recipe Sheet

This step sets the contents of a recipe sheet for writing data to Device/PLC. The example below shows the setting of data write area (recipe area) of a recipe sheet. Refer to "11.3 Setting Guide" for more details.



/ Ex. /

Setting item	Setting content
Entry Node	AGP1
Device Name	PLC1
Device Address/Symbol Group	PLC1 data
Add Device Address/ Symbol Name	Checked
Target Cell Range	A1 to F4
Data Direction	Specify the direction of record No.s as "Vertical".
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 E	cel 🛛	
		Version 1.10
E Template Designation	٦	
When you use the	name of Excel template file that is the source of forms. wizard, the theme template file is copied to a file with this name. .new template, please specify the file name.	
Template File	C:1Documents and Settings1Administrator1Desktop1exceltable	Reference
	Edit Template	

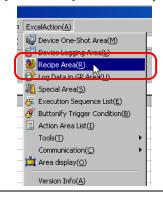
The recipe sheet appears.

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

M	Microsoft Excel - template.xlt											
	Eile Edit View Insert Format Iools Data Window Help ExcelAction(A)											
	🖻 🖬 🔒) () ()	🗠 + 🍓	$\Sigma f_{s} \stackrel{A}{\geq}$	l 🛍 🛛	💝 🛛 Arial		▼ 10	• B I	Ū ≡ ∃	E 🛛 •	🕭 - >
	😭 💭 🔽	Z 🖬 🗖 🤇	•		Α 🗟 🕇	≈						
	6	° 🍇 🧖 🤞	9" 🛱 🖪	ሃ 💣 🛓								
	J 7 K		-									
	A Recip	e Area	С	D	E	F	G	Н		J	K	-
1												
2		10	20	30	40	50						
3		60	70	80	90	100						
4		110	120	130	140	150						
5												
6												



• Selecting "Recipe Area" from [Excel Action] of the menu displays the same screen.



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

🛞 Recipe	_ 🗆 🗙
Action Settings Record No. Settings Trigger Condition Settings	
Device Settings	
Node Trigger-Source Node Device	
Device Address/Symbol Group No. of Devices 1	
Data Type 16Bit(Signed)	
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.

🖗 Recipe		-	. 🗆 ×
Action Settings Rec	cord No. Settings 🛛 Trigger Conditi	on Settings	
Device Setting Node Device Addres Group	e AGP1		
Data Ty		Note: When specifying inconcecutive	
IV Add Devic	ce Address/Symbol Name	wore: when specifying inconcecutive memory data, please use a group symbol.	

 Click the list button of [Device Address/Symbol Group] and select "PLC1 data" as a symbol of the data to write in.

Necipe 🕺						_ 🗆 🗙
Action Settings Record No. Se	ettings Trigger Condition Settir	ngs				
Device Settings	AGP1]]	Device Name	PLC1	•	
Device Address/Symbol Group		V =	- Local:She Writes			
Data Type	16Bit(Signed)			rdNoStorage		
Add Device Address	/Symbol Name		PLC10			

The device number "1" will be automatically entered in [No. of Devices], and "16Bit(Signed)" in [Data Type].

👹 Recipe			_ 🗆 X
Action Settings	Record No. Se	ttings Trigger Condition Settings	
Device 9	ettings Node	AGP1 Device PLC1 V	
Device	Address/Symbol Group	PLC1data No. of Devices	
D	ata Type (16Bit(Signed)	
Mada Ada	I Device Address	/Symbol Name Note: When specifying inconcecutive memory data, please use a group symbol.	

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

👺 Recipe					_ 🗆 X
Action Settings Record No.	Settings Trigger Condition Set	tings			
Device Settings Node	AGP1	•	Device Name	PLC1	
Device Address/Symb Group	pol 🗾 PLC1data	•	No. of Devices	1 🗄	
Data Type	16Bit(Signed)				
Add Device Addr	ess/Symbol Name		nory data, p	pecifying inconcecutive please use a group	

- After the procedure of "11.1.9 Saving a Network Project File" described later, open the template again, and open the recipe setting dialog box. After confirming that the "Add Device Address/ Symbol Name" checkbox has been checked, click the [OK] button. Then, the device address/ symbol name will be reflected in the template.
- 6) Click the cell range specify button of [Target Cell Range].

Layout Settings Target Cell Range Device Record	Sample An image of writing to a cell is shown below. The arrow points in the direction of arranging recipe data.
No. of Records	D101 D102 D103 D104 1 25 25 25 25 2 50 20 10
Note: The layout of a group symbol is fixed.	3 20 20 30 30 4 10 10 10 70

7) Drag the mouse to specify the data write area (cells A1 to F4). Then click the [OK] button.

	A	В	С	D	E	F	G	Н	- 1	J	K	
1	}											
2		10	20	30	40	50)						
3		60	70	80	90	100)						
4		110	120	130	140	150						
5				Specify F	tange			? ×				
6				Dia and an	:C bb							
7				Please sp	ecify the rang	je.						
8												
9												
10												
11				\$A\$1:\$F	\$4							
12				,								
13						OK,	Ca	ncel				
14							~					
15												
16												

NOTE

• When specifying the area, cover the cells to insert record No.s and Device Address/Symbol Names.

8) Select "Vertical" of [Data Direction].

Layout Settings	
Target Cell 🛛 👫 式 🛼	Sample
Data Direction	An image of writing to a cell is shown below. The arrow points in the direction of arranging recipe data.
Dev	DI01 DI02 DI03 DI04
No. of Records 3 📑	1 25 25 25 25 2 50 20 20 10
Note: The layout of a group symbol is fixed.	3 20 20 30 30
	4 10 10 10 70

9) Click [Allot Record No. from 1 to Cell Range].

Layout Settings Target Cell \$A\$1:\$F\$4	Sample
Data Direction	The arrow points in the direction of arranging recipe data.
No. of Records Note: The layout of a group symbol is fixed.	D101 D102 D103 D104 1 25 25 25 25 2 50 20 20 10 3 20 20 30 30 4 10 10 10 70
	Allot Record No. from 1 to Cell Range

• Specify the recipe data to write in Device/PLC with record No.s. This example allots record No.s to the recipe data.

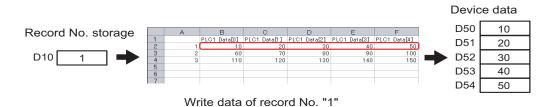
Record No.s and ruled lines are automatically added on the recipe sheet.

	A	В	С	D	E	F
1		PLC1data[0]	PLC1data[1]	PLC1data[2]	PLC1data[3]	PLC1data[4]
2	1	10	20	30	40	50
3	2	60	70	80	90	100
4	3	110	120	130	140	150

3 Specify a record No.

Specify the recipe data by entering a record No. in the symbol "Record No. storage" from GP or Device/PLC.

(Example) In case of storing device data "1" in the device "Record No. storage".



1) Click the [Record No. Settings] tab.

👹 Recipe			_ 🗆 🗙
Action Settings Record No. Settings rigger Condition Settings			
Device Settings			1
Node AGP1	Device Name	PLC1 💌	
Device Address/Symbol IPLC1data	No. of Devices	5	

2) Click "Specify by device/symbol values" in [Record No. at Write Recipe].

📽 Recipe	- 🗆 ×								
Action Settings Record No. Settings Trigger Condition Settings									
The recipe has two or more records. Please configure the specification method of them.									
Record No. at Write Recipe									
Specify by device/symbol value									
Node [[Ingger-Source Node] Name									
Device Data Type 16Bit(Signed)									
No. of Characters									
C Specify by cell value									
\$4\$1									
100 200 300 400 From Cell to PLC									

• If you select [Specify by cell value], specify any cell on Excel. The number entered in the cell is recognized as the record No.

Refer to "11.3 Setting Guide" for more details.

 Click the list button of [Node] and select the node name "AGP1" which has the Device/PLC to store the record No.

8	Recipe					_ 🗆 🗙
1	Action Settings	Record No. Settings	Trigger Condition Settings			
	The recip	e has two or more rec	ords. Please configure the s	pecification m	ethod of them.	
	Record No. a	it Write Recipe				
	Spece	ify by device/symbol v	alue			
	Node	rigge	er-Source Node) 💌 📖	Device Name		
	Device Address	/Symbol	1 geNSource Node)	Data Type	16Bit(Signed)	
				No. of Chara	cters 1 📑	

4) Click the list button of [Device Name] and select the Device/PLC "PLC1" to store the record No.

👸 Recipe	_ 🗆 X
Action Settings Record No. Settings Trigger Condition Settings	
The recipe has two or more records. Please configure the specification method of them.	
Record No. at Write Recipe	1
Specify by device/symbol value	
Node AGP1 Device HINTERNAL .	
Device Address/Symbol	
No. of Characters	

5) Click the list button of [Device Address/Symbol] and select the symbol name "Record NoStorage" of the device to store the record No.

*	Recipe					_ 🗆 🗙
	Action Settings Record N	o. Settings Trigger Co	ndition Settings			
	The recipe has two	or more records. Please	e configure the specificati	on method of them.		
	Record No. at Write Rec	sipe				1
	Specify by device	e/symbol value				
	Node	AGP1	Device	PLC1	•	
	Device Address/Symbol		💌 🖃 Local:			
				riteStart ecordNoStorage		
	C Specify by cell v	alue		LTdata 🔓		
		\$A\$1				

The device data type "16Bit(Unsigned)" will be automatically entered in [Data Type].

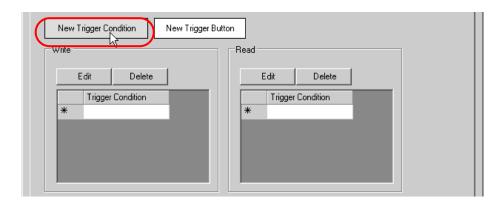
- 4 Set trigger conditions.
 - 1) Click the [Trigger Condition Settings] tab.

👹 Recipe						_ 🗆 🗙		
Action Settings Record N	No. Settings Trigger Condition	on Settings						
The recipe has two	The recipe has two or more records. Please configure the specification method of them.							
Record No. at Write Re	cipe							
Specify by devi	ce/symbol value							
Node	AGP1	•	Device Name	PLC1	•			
Device Address/Symbol	RecordNoStorage	•	Data Type	16Bit(Signed)				

The "Trigger Condition Settings" screen will appear.

🖗 Recipe	
Recipe Action Settings Record No. Settings Action Area No. Image: Condition Settings When the specified trigger type (under-condition button) is satisfied, this area is executed. Please specify a trigger type. New Trigger Condition Write 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

2) Click the [New Trigger Condition] button.



• You can also activate ACTION by placing a button on Excel from [New Trigger Button] and clicking it. Refer to "11.3 Setting Guide" for more details.

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

			×
Trigger Condition Name	TumOnWriteStartBit	r-Q	Find Node
Node Name	PC1 Add Node		Find Node
(AGP1		
			•

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

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		
Device Name #INTERNAL Turn OFF the Specified Device Address after #INTERNAL Processing. Data Type 16Bit(Signed)				
Limited Time Offer Check Cycle Always				
	Detail Settings	BOK Cancel		

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

Device Name		
PLC1	Turn OFF the Specified Device Address after Local Sheet3	
Device Address	WriteStart	
	- Recordiviziorage	
Data Type 16Bit(Signed)	····· PLC I data	
Limited Time Offer		
0 ★ hour 0 ★ min - 0 ★ hou		
		el

[Data Type] automatically appears after selection, too.

7) Click the [OK] button.

Device Name PLC1	 Turn OFF the Specified Device Address after Processing.
Device Address	i locossing.
WriteStart	
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	1
New Trigger Condition	
TurnOnWriteStartBit Edit	
Node AGP1	
When WriteStart of Node AGP1 is Turned ON	
	J
Close	D

9) Click the blank line of [Write] and select "TurnOnWriteStartBit" as a trigger condition.

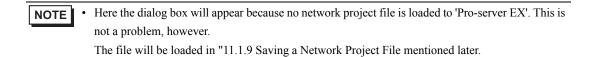
New Trigger Condition New Trigger But	ton
Edit Delete	ReadEdit
Trigger Condition	Trigger Condition

10) 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	

11) Click the [OK] button.

Excel Rep	port Action - Info X
٩	Cannot perform Test Read. Please confirm the followings. - The network project file (npx) has been correctly loaded into Pro-Server EX. - The target node is participating. - The cable is not broken.
	OK



This is the end of the content settings of a recipe sheet.

NOTE

• Can display Data/Time on an Excel sheet.

"5.2 Writing Date/Time in a Form"

- Can display arrows on an Excel sheet.
 "5.3 Writing Arrows in a Form"
- Can display a trigger source node on an Excel sheet.

"5.4 Writing Trigger Source Node Names in a Form"

5 Close 'Excel'.

Microsoft Excel - template.xlt	
File Edit View Insert Format Tools Data	Window Help ExcelAction(A)
Ctrl+N	🛃 🛍 🕐 🐥 Arial 🔹 10 🗸 B 🖌 🗓 📰 🗸 🦄 🗸 💥
Ctrl+O	LA 🖾 🕅 -
Liose	
Gave Ctrl+S	
🛁 🙀 Save as Web Page	
1 Web Page Preview	
2 web Page Preview	- 30 40 50
3 Page Setup	80 90 100
4 Print Area	▶ <u>130</u> 140 150
5 🐧 Print Preview	
6	
8 Send To	• · · · · · · · · · · · · · · · · · · ·
9	
10 <u>1</u> \Documents and Se\exceltablexis.xis	
11 2 \Documents and Settings\A\Book1.xls	
12 <u>3</u> \Documents and Settings\m\aaaa.xls	
13 <u>4</u> \Documents and Settings\mh\test.xls	
14 15 Exit	
16 ×	
17	
18	
H I H Sheet1	
	1
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 edition					
	Yes 💦	No	Cancel		

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

Output File The template file st	ores setting info. The actual output result will be disp	played in the following file.				
Folder Name	E:\Documents and Settings\Owner\Desktop	Reference				
File Name	RecipeWrite.xls	Return to Default Settings				
Start from Displayed State Do not save the output file when ACTION runs.						
	Save or Auto-save function of Excel.)					
		OK Cancel				

11.1.7 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.

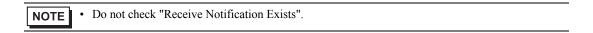
Set ACTION Name/Parameter
Add a new ACTION. Specify an ACTION name, and set its parameter.
ACTION Type Create form using Excel.
Display the Actions of the old version of Pro-Server
ACTION Name RecipeWrite
Click here to set the ACTION parameter.
Next Cancel

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 RecipeWrite	
Specify an action node (Windows PC) where the ACTION works practical	y.
PC1 PC1 Pkšoire Netification 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.	

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

ACTION Node	
PC1	
Please sp the execu	tification Exists ecify the notified device that will be informed of tion of the ACTION. After the execution of the t will be is turned on.
	Device Name
	#INTERNAL
	Notified Device
	Ξ
	Data Type Bit



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.

Device Name	
#INTERNAL	
Notified Device	
Data Type Bit	
Back Complete Cancel	

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

11.1.8 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 "Recipe Write" from the tree display on the left of the screen.

牧 P	ro-St	udio E	X 3	.npx		
File	Edit	Tool	Pro	ogrammin	g Assist	S
P	1	Start	>>		Node	2
	Ad	d		Impo	ort	l
	Edit			Dele	te	l
		CTION rigger (Turr ata Tra evice (ipeW Cond hOnW ansfe	riteStartE r	3 it	

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	RecipeWrite
Trigger When WriteStart of Node AGP1 is Tu Condition Data	Rename
Completion TurnOn TurnOn	Create form using Excel.
	Set Parameter
L	ACTION Node
	PC1

2 Select the trigger condition name "TurnOnWriteStartBit" 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 » 襓 Feature	» 🗄	Save 🔉		🤰 Transfei		Monitor Status
Trigger Condition	Sec	luence D	iag	ram by Ti	rigger Condition	
		Collapse		Tra	insfer ACTION/Data	
TurnOnWrit Edit	Feature	Source		Destinat	Receive/Process Co.	
Node AGP1	RecipeW	AGP1.#	->	PC1.Re		
When WriteStart of Node AGP1						

This is the end of the verification of the settings.

11.1.9 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.



11.1.10 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 "11.1.11 Transferring a Network Project File".
IMPORTANT	 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.

M	licrosoft Ex	cel - templa	ite3.xlt								_	
	<u>File E</u> dit <u>V</u> i	ew <u>I</u> nsert	F <u>o</u> rmat <u>T</u> ool	s <u>D</u> ata <u>W</u> ir	ndow <u>H</u> elp	ExcelAction(A)				_	Ð×
	🖻 🖬 🔒) 🖨 🖪	🌮 🕺 🖻		- 🍓 Σ	f* 🛓 🛍	2 ¥		-	• B	1 <u>U</u>	» ▼
6		Window	•	Ī								
🚚	6 🖗 🗗	• 🍇 🥳 -	🖋 📃 🛍	S 🔊	Ľ							
		-	= =EMBE	D("Pro	Write	.FormRang	elnfo.1","")					
	A	В	С	D	E	F	G	Н		J	K	
1				-								
2	1											
3	2											
4	3						_					
5	J						-					
6												
7												

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

- You can check that data is being written on the "Symbol Monitor" screen of "Status Monitor". For more details, refer to "27 Simply Confirming On-site Status".
 - Refer to "11.4 Restrictions" for details about the restrictions on test writes.

11.1.11 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.

11.1.12 Executing ACTION

This step verifies that enabling a trigger condition activates ACTION and writes the data of the recipe sheet (File name: "Recipe write.xls") to the specified device of Device/PLC.

Symbol - Monitor of Pro-Server EX							
Node AGP1 Device/PLC Set Polling time 1000ms	PLC1 Time expended for re	Device Ar ead 3047ms	ddress Sheet3 Time expended for wri	te	Start		
G G Symbol Data type	+ Address	Count	+00	+01	+02	+03	+04
WriteStart Bit	M0001	1	1				
RecordNoStor16Bit(Signed)	D0010	1	1				
PLC1data 16Bit(Signed)	D0050	5	10	20	30	40	50

NOTE

You can check the write/read status using the symbol or device monitor. For more details, refer to "27 Simply Confirming On-site Status".

• If error occurs, you can check the log in the Log Viewer. For more details, refer to "27.5 Monitoring System Event Logs".

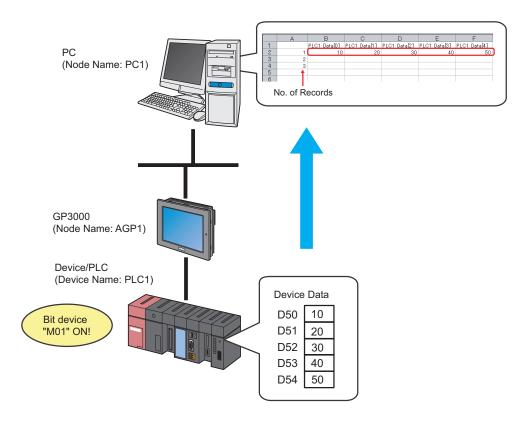
This is the end of the explanation of this ACTION.

11.2 Modifying Recipe Data from the Actual Values

[Action Example]

Detect the rising of the trigger device (bit device: "M01") of Device/PLC and read out the data of 5 devices (word device: address "D50" to "D54") of Device/PLC to an Excel recipe sheet.

(Example) Reading out the data to record No. "1" of a recipe sheet.



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

[Setting	Procedure]

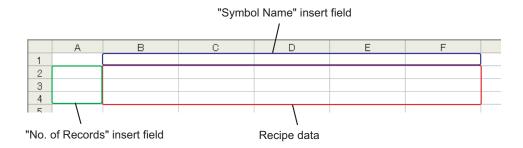
cungr	locedulej			
1	Creating a Recipe Sheet	This step creates a recipe sheet in 'Microsoft Excel' to write the data read from Device/PLC.		
2	Starting 'Pro-Studio EX'	This step starts 'Pro-Studio EX'.		
	+			
3	Registering Entry Nodes	This step registers the PC and the GPs as entry nodes.		
4	Registering Symbols	This step registers as a symbol the device of Device/ PLC from which data is read.		
5	Specifying a Recipe Sheet and its Output File	This step sets the following items:Specify a recipe sheetSpecify an output file		
	+			
6	Setting the Contents of a Recipe Sheet	This step sets the following items:Set a device to readSet a recipe write range		
	+			
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 saves the current settings as a network project file and reloads.		
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 a recipe sheet when the preset trigger condition has become effective.		

11.2.1 Creating a Recipe Sheet

This step creates a recipe sheet to write the data read from Device/PLC.

1 Start 'Microsoft Excel' and create the recipe sheet below in Sheet 1.

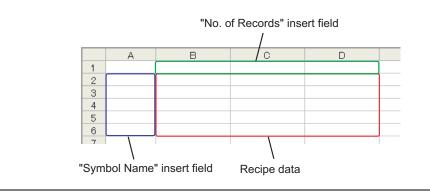
[Creation Example]



Leave both spaces for "Symbol Name" (Cells B1 to F1) and those for "Record No." (Cells A2 to A4) blank for these will be automatically allotted and filled in after completing the setting.

2 Save the recipe sheet with the file name "recipe.xls" on PC desktop after creating.

NOTE • You can create a recipe sheet in the direction (horizontal) as shown below.



11.2.2 Starting 'Pro-Studio EX'

This step starts 'Pro-Studio EX'.

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

11.2.3 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



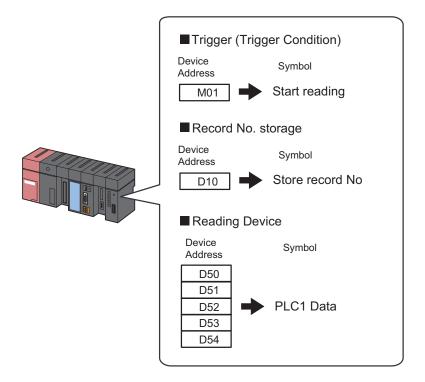
Node Name	:AGP1	
IP Address	:192.168.0.100	
Device/PLC Information		



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

11.2.4 Registering Symbols

This step registers as a symbol the device address of Device/PLC to which device data is written. 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

Record No. Storage

Setting item	Setting content
Symbol Name	Record No. Storage
Data Type	16Bit (Unsigned)
Device address for symbol registration	"10" 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

11.2.5 Specifying a Recipe Sheet and its Output File

This step specifies the pre-created recipe sheet and its output file. Refer to "11.3 Setting Guide" for more details.

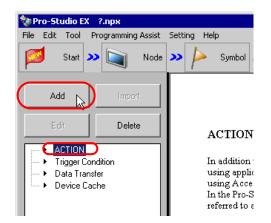
Ex.

Setting item		Setting content
Specify a Template	Template File	C:\Documents and Settings\Administrator\Desktop\recipe.xls
	Folder Name	C:\Documents and Settings\Administrator\Desktop
Output File	File Name	Recipe read.xls
	Start with the output file displayed	Checked

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

🂱 Pro-Studio EX 🛛 ?.npx			
File Edit Tool Pro	gramming Assist – Sett	ing Help	
Start >	Node >>	Symbol Symbol Save 2	
Symbol		Node Name AGP1 Device Name	
Group	Ungroup	Sheet Name Sheet3 🔲 Set it as a glob	
Insert	Delete		

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 "Recipe Read".

NOTE	[ACTION 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.	ſ
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.	
OK Cancel	J

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 RecipeRead	
Click here to set the ACTION parameter.	

- **5** Make settings regarding an Excel template and its output file.
 - 1) Click the [Reference] button of [Template File] to set the template file "templete.xlt" which you created.

Create form using Excel	
	Version 1.10
- 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	C:/Documents and Settings\Administrator\Desktop\Recipe.xtt
	Edit Template

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

Output File The template file store	s setting info. The actual output result w	ill be displayed in the following f	ile.
Folder Name	E:\Documents and Settings\Owner	Desktop	Reference
File Name	Report_%Y%M%D.xls	Return to Default	Settings
✓ Start from Display ☐ Do not save the of (Please use the Start)	ed State utput file when ACTION runs. ave or Auto-save function of Excel.)	Ŗ	
		ок	Cancel

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

Output File The template file st	ores setting info. The actual output result will be displayed in	the following file.
Folder Name File Name	E:\Documents and Settings\Owner\Desktop	Reference urn to Default Settings
	layed State e output file when ACTION runs. s Save or Auto-save function of Excel.)	
	ок	Cancel

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

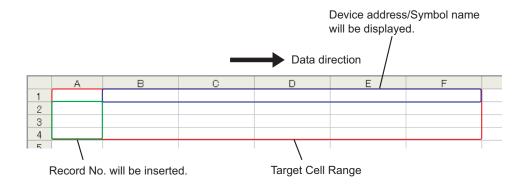
Output File The template file st	ores setting info. The actual output result will be displa	yed in the following file.
Folder Name	E:\Documents and Settings\Owner\Desktop	Reference
File Name	RecipeRead.xls	Return to Default Settings
		DK Cancel

NOTE

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

11.2.6 Setting the Contents of a Recipe Sheet

This step sets the contents of a recipe sheet to write the data read from Device/PLC. The example below shows the setting of data read area (recipe area) of a recipe sheet. Refer to "11.3 Setting Guide" for more details.



Ex.

Setting item	Setting content
Entry Node	AGP1
Device Name	PLC1
Device Address/Symbol Group	PLC1 data
Add Device Address/ Symbol Name	Checked
Target Cell Range	A1 to F4
Data Direction	Specify the direction of record No.s as "Vertical".
Trigger Condition Name	Turn on write start bit
Trigger Condition	When "Start writing" (M01) is ON

1 Click the [Edit Template] button.

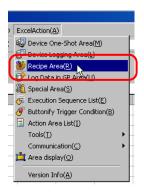
Create form using Ex	cel
	Version 1.10
-Template Designation	
When you use the v	name of Excel template file that is the source of forms. vizard, the theme template file is copied to a file with this name. new template, please specify the file name.
Template File	C:\Documents and Settings\Administrator\Desktop\Recipe.xtt
	Edit Template

- 2 Set a data read area.
 - 1) Click the [Recipe Area] icon on Excel.

Microsoft Excel - Recipe.	xlt								-	
Eile Edit View Insert f	= <u>o</u> rmat <u>T</u> ool	s <u>D</u> ata <u>W</u> ir	ndow <u>H</u> elp I	ExcelAction(A)				_	B×
] D 🛩 🖬 🔒 🎒 🖻	K) y 🤮	₀ Σ <i>f</i> * <mark>2</mark>	1 🛍 🛛	∛ Arial		v 10	• B <i>I</i>	U ≣ ≣	E 🛛 🕶 🖌	🄈 - 🐥
🔛 🖻 📃 🔽 🖬 🗆 🕬	• == ==		Α 🖾 🕇	≫						
- se di 😻 🌶 🛍 🕫 d	9° 🗰 🛛	🖆 🧐 🤘								
	=									
A Recipe Area	С	D	E	F	G	Н		J	K	
1										
2										
3										
4										
5										

NOTE

• Selecting "Recipe Area" from [Excel Action] of the menu displays the same screen.



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

Recipe	_ 🗆 X
Action Settings Record No. Settings Trigger Condition Settings	
Device Settings Node Trigger-Source Node) Mame Device Address/Symbol AGP1 Group No. of 1 Devices	
Data Type 16Bit(Signed) Image: 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.

🐝 Reci	ipe				_ 🗆 X
Action	n Settings Record No. Se	ttings 🛛 Trigger Condition Setting	gs		
	-Device Settings Node	AGP1		Device HINTERNAL	1
	Device Address/Symbol Group	a	•	No. of PLC1	D
	Data Type	16Bit(Signed)			
	Add Device Address	/Symbol Name	me	ote: When specifying inconcecutive emory data, please use a group mbol.	

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

🔆 Recipe							- 🗆 🗵
Action Settings	Record No. Se	ettings Trigger Condition Se	ettings				
Device S	ettings Node	AGP1	•	Device Name	PLC1	•	
	\ddress/Symbol Group	H	•	Local:She			
D	ata Type	16Bit(Signed)			rdNoStorage		
Add	Device Address	s/Symbol Name		PLC1			

The device number "1" will be automatically entered in [No. of Devices], and "16Bit(Signed)" in [Data Type].

📽 Recipe	. 🗆 X
Action Settings Record No. Settings Trigger Condition Settings	
Device Settings	
Device Address/Symbol Planta No. of	
Group Devices Devices	
Add Device Address/Symbol Name Note: When specifying inconcecutive memory data, please use a group	
symbol.	

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

Recipe						_ 🗆 X
Action Settings Record No. Se	ettings Trigger Condition Settin	gs				
Device Settings Node	AGP1		Device Name	PLC1	•	
Device Address/Symbol Group	📻 PLC1 data	•	No. of Devices	1	•	
Data Type	16Bit(Signed)					
	:/Symbol Name	me	te: When sp mory data, p nbol.	ecifying inconce Ilease use a grou	ecutive Jp	

- After the procedure of "11.2.9 Saving a Network Project File" described later, open the template again, and open the recipe setting dialog box. After confirming that the "Add Device Address/ Symbol Name" checkbox has been checked, click the [OK] button. Then, the device address/ symbol name will be reflected in the template.
- 6) Click the cell range specify button of [Target Cell Range].

Layout Settings Target Cell Range SF\$10 Record Record	Sample An image of writing to a cell is shown below. The arrow points in the direction of arranging
Data Direction	recipe data.
No. of Records 1 芸	1 25 25 25 25 2 50 20 20 10
Note: The layout of a group symbol is fixed.	3 20 20 30 30 4 10 10 10 70

7) Drag the mouse to specify the data read area (cells A1 to F4). Then click the [OK] button.

	Α	В	С	D	E	F	G	Н		J	K
1											
2											
3											
4											
5									_		
6				Spe	cify Range			? ×	1		
7				Plea	ise specify the	e range					
8				1100	so specify the	orango.					
9											
10											
11				_							
12				\$A:	\$1:\$F\$4						
13											
14							ок 🌓	Cancel			
15				_				1			
16											
17											
18											

NOTE • When specifying the area, cover the cells to insert record No.s and Device Address/Symbol Names.

8) Select "Vertical" of [Data Direction].

Layout Settings	Sample
Target Cell \$4\$1:\$F\$4	An image of writing to a cell is shown below.
Range	The arrow points in the direction of arranging
Data Direction	recipe data.
No. of Records 3	D101 D102 D103 D104 1 25 25 25 2 50 20 20 10 3 20 20 30 30 4 10 10 10 70

9) Click [Allot Record No. from 1 to Cell Range].

Layout Settings Target Cell SA\$1:\$F\$4	Sample
Data Direction	The arrow points in the direction of arranging recipe data.
No. of Records 3	D101 D102 D103 D104 1 25 25 25 2 50 20 20 10 3 20 20 30 30 4 10 10 10 70
	Allot Record No. from 1 to Cell Range

• Specify the recipe data to write in Device/PLC with record No.s This example allots record No.s to the recipe data.

Record No.s and ruled lines are automatically added on the recipe sheet.

	А	В	С	D	E	F	G
1							
2	1						
3	2						
4	3						
5							
-							

3 Specify a record No.

Specify the recipe data area by entering a record No. in the symbol "Record No. storage" from GP or Device/PLC.

(Example) In case of storing device data "1" in the device "Record No. storage".



1) Click the [Record No. Settings] tab.

👹 Recipe			_ 🗆 🗙
Action Settings Record No. Settings Trigger Condition Settings			
Device Settings			1
Node AGP1	Device Name	PLC1 💌	
Device Address/Symbol #PLC1data	No. of Devices	5	

2) Click "Specify by device/symbol value" in [Record No. at Write Recipe].

Record No. at Write Recipe			
Specify by device/sym	(Trigger-Source Node	Device 📃	
Device		Name Data Type 16Bit(Signed)	
Address/Symbol -		No. of Characters	
C Specify by cell value			
	\$4\$1		
100 200 300 400	From Cell to PLC		

NOTE

If you select [Specify by cell value], specify any cell on Excel. The number entered in the cell is recognized as the record No. Refer to "11.3 Setting Guide" for more details.

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3) Click the list button of [Node] and select the node name "AGP1" which has the Device/PLC to store the record No.

Record No. at Write Recipe		
Specify by device/symbol value		
Node rigger-Sc	ource Node) 💌 🔐 Device Name	
Device Address/Symbol	yource Node)	16Bit(Signed)
	No. of Char	acters
C Specify by cell value		
\$4.\$	1 🔣	(27mm
100 200 300 400	From Cell to PLC	

4) Click the list button of [Device Name] and select the Device/PLC "PLC1" to store the record No.

Record No. at Write Recipe	
Specify by device/symbol value	
Node AGP1	Device Mame
Device Address/Symbol	
	No. of Characters
Specify by cell value	
\$A\$1	
100 200 300 400	From Cell to PLC

5) Click the list button of [Device Address/Symbol] and select the symbol name "Record NoStorage" of the device to store the record No.

Record No. at Write Recipe	
Specify by device/symbol value	
Node AGP1 Device PLC1 Name	
Device Address/Symbol	
C Specify by cell value	
24421	
100 200 300 400 From Cell to PLC	

The device data type "16Bit(Unsigned)" will be automatically entered in [Data Type].

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

🏶 Recipe					
Action Settings Record No. S	etting Trigger Condition Setting:				
The recipe has two or m	ore records. Please configure the	specification m	nethod of them.		
Record No. at Write Recipe				1 II	
Specify by device/sy	Specify by device/symbol value				
Node	AGP1	Device Name	PLC1		
Device Address/Symbol	RecordNoStorage	Data Type	16Bit(Signed)		

2) Click the [New Trigger Condition] button.

New Trigger Condition New Trigger B	Button
Edit Delete	Edit Delete Trigger Condition
*	*

• You can also activate ACTION by placing a button on Excel from [New Trigger Button] and clicking it. Refer to "11.3 Setting Guide" for more details.

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	TurnOnReadStartBit	1
Node Name	PC1 Add Node	Find Node
	AGP1	
		•

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

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					
Device Name #INTERNAL Implementation #INTERNAL Processing. Implementation Data Type						
Limited Time Offer Check Cycle Always						
	Detail Settings OK Cancel					

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

Device Name PLC1	Turn OFF the Specified Device Address after Processing.	
Device Address		
📻 WriteStart	▼ ⊡- Local Sheet3	
Data Type 16Bit(Signed)	Read Start Record V Storage	
	PLC1data	
🔲 Limited Time Offer		
0 <u>→</u> hour 0 <u>→</u> min · 0 <u>→</u>	hou	
	pel	:

[Data Type] automatically appears after selection, too.

7) Click the [OK] button.

Condition 1						
👫 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					
Device Name PLC1 Image: Constraint of the specified Device Address after Processing. Device Address Image: Constraint of the specified Device Address after Processing. Image: Constraint of the specified Device Address after of the specified Device Address after Processing. Data Type 16Bit(Signed)						
Limited Time Offer Check Cycle Always						
	Detail SettingsOK Cancel					

8) Click the [Close] button.

Set Trigger Condition
Specify a trigger condition of the ACTION.
Trigger Condition
New Trigger Condition
TurnOnReadStartBit
Node AGP1
When WriteStart of Node AGP1 is Turned ON

9) Click the blank line of [Clear Cel when the following condition is satisfied] and select "TurnOnReadStartBit" as a trigger condition.

New Trigger Condition New Trigg	er Button Clear Cell when the following condition is satisfied.
Edit Delete	Edit Delete Trigger Condition
*	

10) 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.			

11) Click the [OK] button.



• Here the dialog box will appear because no network project file is loaded to 'Pro-server EX'. This is not a problem, however. The file will be loaded in "11.2.9 Saving a Network Project File" mentioned later.

This is the end of the content settings of a recipe sheet.

- Can display Data/Time on an Excel sheet.
 - Can display arrows on an Excel sheet.
 - "5.3 Writing Arrows in a Form"
 - Can display a trigger source node on an Excel sheet.
 - "5.4 Writing Trigger Source Node Names in a Form"

5 Close 'Excel'.

Microsoft Excel - Book1.xls			
Eile Edit View Insert Format Tools Data W	indow Help ExcelAction(A)		_ 8 ×
Ctrl+N		• • B I	u 🗉 🗐 - 🕭 - 🔋
📊 🚰 Open Ctrl+O	1 A 🖾 🞘 -		
Save Ctrl+S	1		
Save as Web Page	celFormOcx.FormRangeInfo.1","")		
	E F G	H I	J K 🛓
2 Web Page Preview			
3 Page Setup	<u>р</u>		
4 Prin <u>t</u> Area			
5 Q Print Preview			
6			
8 Send To			
9			
10 <u>1</u> \Documents and Settings\A\Book1.xls			
11 2 \Documents and Settings\Ad\test.csv			
12 <u>3</u> \Documents and Settin\FlingData.xls			
13 <u>4</u> \Documents and Se\mailmessage.xls			
15 Exit			
16 *			
17			
18			_
H + H Sheet1 / Sheet2 Sheet3 /	1		•
] 🔚 🖬 🛈 🔍 ्रं 斗 🚽 🗮 🦻 🖉 👔	•		
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						

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

Folder Name	E: Documents and Settings\Owner\Desktop	Reference						
File Name	RecipeRead.xls	Return to Default Settings						
Start from Displayed State								
- '	e output file when ACTION runs.							
	e Save or Auto-save function of Excel.)							

11.2.7 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.

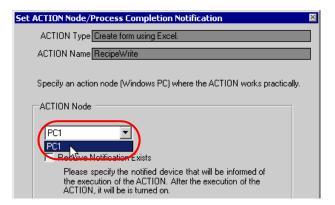


- ACTION Node : PC1
- Receive Notification: OFF

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

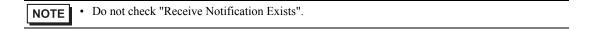
Set ACTION Name/Parameter	×
Add a new ACTION. Specify an ACTION name, and set its parameter.	
ACTION Type Create form using Excel.]
Display the Actions of the old version of Pro-Server	
ACTION Name RecipeRead	1
Click here to set the ACTION parameter.	
Next Cancel	

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



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

ACTION Node	
PC1	
the execu	otification Exists ecity the potitied device that will be informed of ition of the ACTION. After the execution of the it will be is turned on.
	Device Name
	#INTERNAL
	Notified Device
	Data Type Bit
, l <u>.</u>	



4 Click the [Complete] button.

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

	Device Name
	Notified Device
	Data Type Bit
Ba	ck Complete Cancel

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

11.2.8 Verifying Setting Result

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

NOTE	•	In case of the "Excel Report" ACTION, you cannot add, edit or delete trigger conditions from
		"Trigger Condition/Process List per ACTION". To change the settings, click the [Parameters
		Settings] button and change the settings in [Edit Template] on Excel.

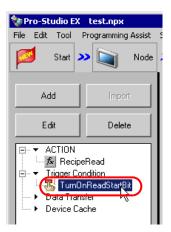
1 Select the ACTION name "RecipeRead" from the tree display on the left of the screen.

牧 P	ro-St	udio E>	()	est.npx			
File	Edit	Tool	Pro	ogramming) Assist		
	1	Start	>>		Node	•	
	Ac	ld		Impo	rt		
	Ed	dit		Delet	e		
ACTION RecipeRead TurnOnReadStartBit Data Transfer Device Cache							

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	RecipeRead
Trigger When WriteStart of Node AGP1 is Tu Data	Rename
Completion TurnOn TurnOn	Create form using Excel.
	Set Parameter
	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 🔉	Ľ	🤰 Transfe	r Monitor Status
Trigger Condition	Sec	juence D	iag	ram by Ti	rigger Condition
	•	Collapse		Tra	ansfer ACTION/Data
TurnOnRea 💌 🗕 Edit	Feature	Source		Destinat	Receive/Process Co
Node AGP1	 RecipeR 	AGP1.#	->	PC1.Re	
When WriteStart of Node AGP1					

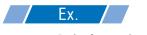
This is the end of the verification of the settings.

11.2.9 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

11.2.10 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 "11.2.11 Transferring a Network Project File".

• 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 Ex	cel - templa	ite3.xlt								-	
Eile Edit Vi	ew <u>I</u> nsert	F <u>o</u> rmat <u>T</u> ools	: <u>D</u> ata <u>W</u> in	idow <u>H</u> elp I	ExcelAction(<u>A</u>)					_	Ъ×
] 🗅 😂 🖬 🔒) 🖨 🖪	🌮 🐰 🖻		- 🝓 Σ ,	f* 🛓 🛍	2 ×		-	• B	I U E	» ▼
🖾 SnagIt 😭	Window	•									
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	•	= =EMBE	D("Pro <mark>Test</mark>	Write mOcx	FormRange	Info.1","")					
A	В	С	D	E	F	G	Н		J	K	
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2, 1											
3 2											
4 3		_									
5					O						
6											
								-			

The setup contents will be read in the template.

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

11.2.11 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.

11.2.12 Executing ACTION

This step verifies that enabling a trigger condition activates ACTION, opens a recipe sheet (file name: "recipe read.xls"), and then writes the device data in the specified location on the sheet.

	A	В	С	D	E	F	G
1		PLC1data[0]	PLC1data[1]	PLC1data[2]	PLC1data[3]	PLC1data[4]	
2	1	10	20	30	40	50	
3	2						
4	3						
5							
6							
7							

NOTE

If error occurs, you can check the log in the Log Viewer. For more details, refer to "27.5 Monitoring System Event Logs".

This is the end of the explanation of this ACTION.

11.3 Setting Guide

This section explains how to set each screen in detail.

- 11.3.1 "Creating form using Excel" Screen
 - ⁽ **]** "Creating form using Excel" Screen"
- 11.3.2 "Recipe" Screen
 - "Action Settings" Tab

Device Settings Node (Trigger-Source Node) Device Address/Symbol Group Data Type 16Bit(Signed) I Add Device Address/Symbol Name	Device Name No. of Devices No. of Devices Note: When specifying inconcecutive memory data, please use a group symbol.
Layout Settings Target Cell \$B\$1:\$F\$1 Data Direction No. of Records Note: The layout of a group symbol is fixed.	Sample An image of writing to a cell is shown below. The arrow points in the direction of arranging recipe data. DI 01 DI 02 DI 03 DI 04 1 25 25 25 25 25 2 50 20 20 30 30 4 10 10 10 10 70 Allot Record No. from 1 to Cell Range
	OK Cancel

Setting item		Setting content		
	Node	 Selects a node which has 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. 		
	Device Name	 Selects a node which has 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	Set 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 Comparison Device Address/Symbol Comparison NOTE • When setting non-sequential devices, be sure to specify a group symbol.		
	Data Type	 When specifying a device address: Specify the data type. Data Type Deselect 16Bit(Signed) 32Bit(Signed) Bit 16Bit(Unsigned) 732Bit(Unsigned) Float 16Bit(HEX) 32Bit(HEX) Double When specifying a symbol: Data type automatically appears. 		

Setting item		Setting content
	No. of Devices	Displays the number of devices to read/write, automatically calculating it from the selected cell range. NOTE If a group symbol has been selected, the number will be "1".
Device Settings	Add Device Address/ Symbol Name	Displays Device Address, Symbol Name, and/or Group Symbol Name above or on the left of the cells where the data is written, serving as a guide to identify the data. For the display location, specify above or left in "Data Direction" mentioned later. NOTE Refer to the image figure shown in the lower right of the dialog box. • Vertical • Horizontal • Horizontal

Setting item		Setting content	
Lavour Seminos	Target Cell Range	Specifies the cell range to which data will be written/read. Clicking the button can select the cell range on Excel. Drag the mouse to select the cell range. INOTE • 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. \$\symplemetric{\symplemet	

Setting item		Setting content	
Layout Settings	Data Direction	Sets the data write direction when selecting multiple cells. Device Bog • (Vertical) Sequentially from top to bottom. Bog • (Horizontal) Sequentially from left to right . NOTE • The write image of the content set in "Layout Settings" appears in [Sample].	
	No. of Records	Sets and displays the number of records used for a recipe, automatically calculating it from the specified cell range.	
Allot Record No. from 1 to Cell Range		 Automatically inserts record No.s in the area specified in [Data Direction] of [Target Cell Range]. It is possible to enter record No.s directly on Excel, but this could cause erroneous operation due to typing error. For this, we recommend entering with the [Allot Record No. from 1 to Cell Range] button. NOTE Clicking this button also inserts ruled lines in [Target Cell Range] automatically. 	

"Record No. Settings" Tab

🖗 Recipe
Action Settings Record No. Settings Trigger Condition Settings
The recipe has two or more records. Please configure the specification method of them.
Record No. at Write Recipe
Specify by device/symbol value
Node (Trigger-Source Node Device Name
Device Data Type 16Bit(Signed)
No. of Characters
O Specify by cell value
\$A\$1
100 200 300 400 From Cell to PLC
Record No. at Read Actual Value
Specify by device/symbol value
Node (Trigger-Source Node Device Name
Device Data Type 16Bit(Signed)
No. of Characters
O Specify by cell value
\$A\$1 100 200 300 400 From PLC to Cell
OK Cancel

Setting item			Setting content
Describle of		~	he recipe data by entering a record No. in the device or symbol specified Device/PLC.
Record No. at Write Recipe / Record No. at Read Actual Value	Specify by device/ symbol value	Node	 Selects a node which has the device where a recipe record No. exists. NOTE Clicking the [] button can retrieve or add entry nodes. Selecting "(Trigger-Source Node)" will select the entry node that has triggered the action.

Setting item			Setting content
			Selects a Device/PLC which has the device where recipe record No.s exist. NOTE • It is not necessary to set when the entry nodes are GP Series nodes and Pro-Server EX nodes.
Record No. at Write Recipe / Record No. at Read Actual Value	Specify by device/ symbol value	Device Address /Symbol	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 • NOTE • When setting non-sequential devices, be sure to specify a group symbol. • When specifying a device address:
		Data Type	When specifying a device address. Specify the data type Deselect <u>16Bit(Signed) 32Bit(Signed) Bit 16Bit(Unsigned) 32Bit(Unsigned) Float 16Bit(HEX) 32Bit(HEX) Double When specifying a symbol: Data type automatically appears. </u>
		No. of Charact- ers	Specifies the number of readable characters of a record No. when the specified data type of the record No. is "character string".
	Specify by cell value		 Recognizes the entered value or character string in any specified cell on Excel, as a record No. Therefore, you can select [Specify by cell value] on condition that you use recipe data in such environment as the office having PCs. NOTE Be sure to place cells to specify record No.s on the same sheet as recipe data.

"Trigger Condition Settings" tab

📽 Recipe	X
Action Settings Record No. Settings Trigger Condition Settings	
Action Area No. Action Area No. When the specified trigger type (under-condition button) is satisfied, this area is executed. New Trigger Condition Write Image: Trigger Condition Write Image: Trigger Condition Write Image: Trigger Condition Ima	
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" for more details.		
	Selects a trigger condition to write recipe data. Click the blank line of [Trigger Condition] and then the list button to display the registered trigger condition.		
Write	 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		
	Selects a trigger condition to read recipe 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. 		

11.4 Restrictions

■ Using 'Microsoft Excel 2002' or later

When using these features with 'Microsoft Excel 2002' or later, turn on the following check box of the window.

- (1) On the menu bar, select [Tools] [Macro] [Security].
- (2) On the security screen, click the [Reliable Issuer] tab.
- (3) Check the [Trust Access to the Visual Basic Project] check box.

Security		? 🛛
Security Level	Irusted Sources	
		<u> </u>
1		<u></u>
		Remove
_	alled add-ins and templates	
	s to <u>V</u> isual Basic Project)	
No virus scanner	installed.	
	ОК	Cancel

If not checked, an error may occur while using the following features.

- [Tool] [QC Chart]
- Tools of Pareto graph, etc. cannot be used.
- [Tool] [Insert Sample]

Form templates cannot be used.

Combined Cells

Do not set an ACTION area on combined cells.

For example, if you set an ACTION area in the cells as shown below, correct operation cannot be guaranteed.

	A	В	С	D
1	D1 00	D1 01	D1 02	D1 03
2				
3				
4				
5				
6				
7				

Over-pasted ACTION Areas

When you over-paste plural ACTION areas of different size, read/write will be executed in the pasted order.

Writing Data of Excel in the Device/PLCs

When the data type is "Character string", write null characters (NULL) in empty cells in Excel, and in the other cases write "0".

Writing Character String Data

When writing "Character string" data in Excel, format the cell(s) to write data in as "Character string".

Excel Window

If the setting screen is hidden behind the Excel window, the screen and task tray windows will blink and notify the user. Blinking will stop automatically when the setting screen comes forward.

Operation in ACTION area when error occurs

When you actually write/read in all the functions, such as "Device One-Shot" and "Device Logging", 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'.

■ 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.

Microsoft	Excel
į	Report_20060415.xls is already open. Reopening will cause any changes you made to be discarded. Do you want to reopen Report_20060415.xls?
	<u>Yes</u> <u>N</u> o

Receive notification

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

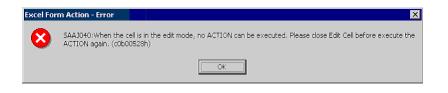
When setting "Trigger-Source Node"

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 Exc	el	
		Version 1.10
F Template 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.xtt	Reference
	Edit Template	
-Output File		
	es setting info. The actual output result will be displayed in the follow	wing file.
Folder Name	E:\Documents and Settings\Owner\Desktop	Reference
File Name	Report_%Y%M%D.xls Return to D	efault Settings
🔽 Start from Display	/ed State	
	output file when ACTION runs. ave or Auto-save function of Excel.)	
	ок	Cancel

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

lt					
t	<u>T</u> ools <u>D</u> ata <u>W</u> indow <u>H</u> elp	ExcelAction(<u>A</u>)			
¥	🗸 Spelling F7	f∗ ĝ↓ 🛄	? * A	rial	•
	<u>A</u> utoCorrect				
	S <u>h</u> are Workbook				
	<u>T</u> rack Changes				
c	Merge <u>W</u> orkbooks	F	G	Н	1
	Protection •				
_	Online Collaboration				
-	<u>G</u> oal Seek				
	Sc <u>e</u> narios				
	Auditing •				
	Macro	<u> Macros</u>		Alti	F0
_	Add- <u>I</u> ns	<u>R</u> ecord New	Macro		
	ustomize	Security	Ч	2	
_	Options	者 Yisual Basic	Editor	Alt+F	11
		👀 Microsoft So	sript Editor	Alt+Shift+F	11

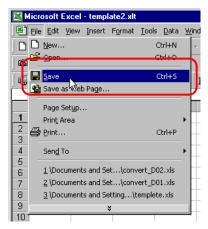
3 Enter the macro name "Macro1" and click the [OK] button.

Recording the macro starts.

Record Macro	? ×
Macro name: Macro1	
Shortcut <u>k</u> ey: Ctrl+	Store macro in: This Workbook
Description: Macro recorde	d */*/200* by ******r
	OK Cancel

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

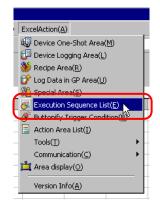
"Macro1" is recorded in the macro.



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

	ols <u>D</u> ata <u>W</u> indow <u>H</u> i	ExcelAction(<u>A</u>)	
X 🔧	Spelling F7	🖅 🛃 🛍 🐼 💥 Arial	
	S <u>h</u> are Workbook		
1	Protection		
1	Online Collaboration		
	<u>M</u> acro	Macros	Altiro
	Customize	Stop Recording	
	Options	Security	
_	×	👌 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				<u> </u>
Execute when Trigger Condition satisfie	ed Execute when Trigger Button clicked Execute	from another applicatio	n]	
W	/hen Trigger Condition is satisfie	d, Action is ex	ecuted.	
New Trigger Condition Edit Insert Clear	Please place actions to execute or EXCEL oper	ation commands in ord	er of execution.	
Trigger Condition 1	2 3	4	5	6
CreateForm	Excel Operation Function			
7				in the second
•				
			ОК	Cancel

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

Exe	cel	Operation Fun	cti	on			×
		New Sheet New Book	0	Print Sheet	Sheet Name she	eet1	
		Show Book	0	Hide Book			
	C	Print Book	C	Close Excel			
(۲	Execute Macro		Macro1			
	С	Export					
		File Name		Report_%	/%M%D%n.csv	Default	
		Saving Folde	r				
		Saving		CSV(.c	sv]		
		Format		Export Report	only the last page ex	cept Action	
				O 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.