

INTRODUCTION

Thank you for choosing Type SW2D5F-OLEX-E Excel Communication Support Tool.

Before using Type SW2D5F-OLEX-E Excel Communication Support Tool, please read this manual carefully to use the product to its optimum.

A copy of this manual should be forwarded to the end user.

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11. HOW TO USE OLEX

This chapter explains how to use OLEX.

11.1 About Cell Setting

This section provides cell-setting methods.

Cell setting includes four different methods: monitor setting, logging setting, alarm setting and comment setting.

POINT

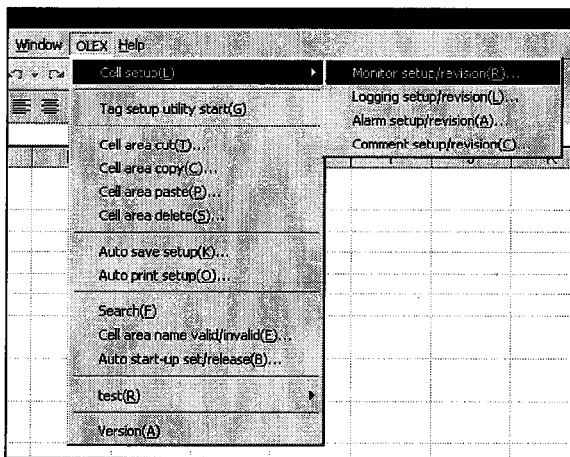
Before starting the correction of cell area setting information, always stop automatic start-up.
This correction cannot be made during automatic execution.

11.1.1 Making Monitor Setting

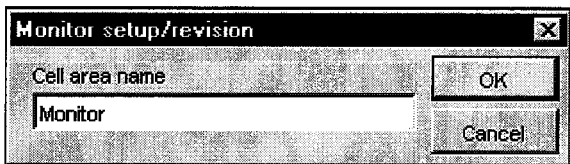
This section describes the setting/editing of information (cell areas, tag name, etc.) required for the monitor function.

POINT

This function is designed to make setting or correction for monitoring.
To make it valid actually, make setting in the Cell area name valid/invalid setup dialog. (Refer to Section 11.4.)



1. Select the area to be monitored and choose [OLEX]-[Cell setup]-[Monitor setup/revision] on the menu bar.



2. As the left screen appears, type any cell area name and click the "OK" button. (You can set the name in up to 32 characters.) Clicking the "Cancel" button suspends the setting and closes the dialog.

- To make correction
Do not enter the cell area name but click the "OK" button and choose the cell area name on the Monitor setup/revision screen

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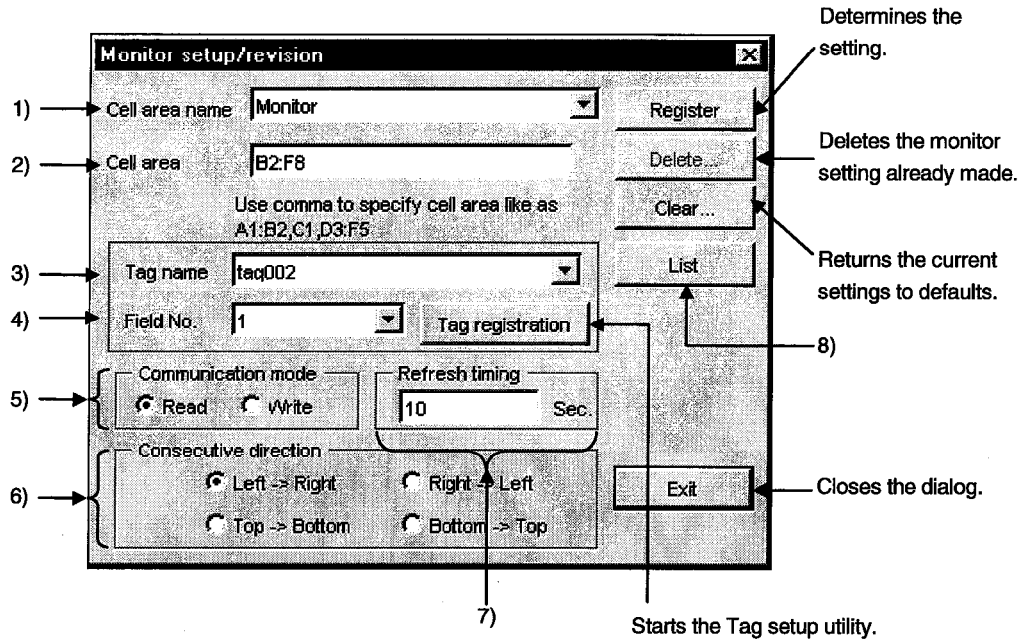
3. Set the tag name, field number and so on and click the "Register" button.

For more information, refer to the next page.

POINT
The cell area name should not be headed by ' (single quotation). If so, proper operation may not be performed.
Example: 'ABCDE: Not allowed '01234: Not allowed ABCDE: Allowed 01234: Allowed

(1) Monitor setup/revision

Set the cell areas and items relative to the cell area name.



1) Cell area name

Shows the set cell area name.

To correct the cell area information already set, choose the corresponding cell area name.

(Note that the current settings are lost.)

POINT

The set data will be lost if you change the cell area name before clicking the Register button.

2) Cell area

Set the cell areas, e.g. "A1: C3, C4: E5". (You can set up to 16 areas.)

Set the cell areas as shown below.

Example: To set A1:E2, G1:H5, A4:E5

	A	B	C	D	E	F	G	H	
1									1) A1:E2
2			1)						2) G1:H5
3							2)		3) A4:E5
4									
5			3)						

Specify in the order of 1), 2) and 3).

POINTS

(1) If you started "Monitor setup/revision" after choosing the cell areas, the cell areas have been entered in advance.

(2) The maximum number of cell areas that may be set is 1000 points.

3) Tag name

Choose the tag name set with the Tag setup utility.

POINT
<p>If you change the tag name and the like on the Tag setup utility during Monitor setup/revision, they will not be reflected on the tag name list.</p> <p>To reflect the tag name changed on the Tag setup utility, close the Monitor setup/revision dialog once, and make Monitor setup/revision again.</p>

4) Field No.

Choose the field number of the tag set in 3).

5) Communication mode

Select the operation for communication from Read and Write.

6) Consecutive direction

Set the sequence in which data area stored.

- Top→Bottom (cell areas: A1:E2, G1:H5, A4:E5)

Cell area moving sequence

	A	B	C	D	E	F	G	H
1	1	3	5	7	9		11	16
2	2	4	6	8	10		12	17
3							13	18
4	21	23	25	27	29		14	19
5	22	24	26	28	30		15	20

- 1) A1:E2
- ↓
- 2) G1:H5
- ↓
- 3) A4:E5

- Left→Right (cell areas: G1:H5, A1:E2, A4:E5)

	A	B	C	D	E	F	G	H
1	11	12	13	14	15		1	2
2	16	17	18	19	20		3	4
3							5	6
4	21	22	23	24	25		7	8
5	26	27	28	29	30		9	10

- 1) G1:H5
- ↓
- 2) A1:E2
- ↓
- 3) A4:E5

- Bottom→Top (cell areas: A1:E2, A4:E5, G1:H5)

	A	B	C	D	E	F	G	H
1	2	4	6	8	10		25	30
2	1	3	5	7	9		24	29
3							23	28
4	12	14	16	18	20		22	27
5	11	13	15	17	19		21	26

- 1) A1:E2
- ↓
- 2) A4:E5
- ↓
- 3) G1:H5

- Right→Left (cell areas: A4:E5, G1:H5, A1:E2)

	A	B	C	D	E	F	G	H
1	25	24	23	22	21		12	11
2	30	29	28	27	26		14	13
3							16	15
4	5	4	3	2	1		18	17
5	10	9	8	7	6		20	19

- 1) A4:E5
- ↓
- 2) G1:H5
- ↓
- 3) A1:E2

7) Refresh timing

Set the intervals of transferring data. (1 to 86400 seconds)

For read: Set the intervals of rereading.

For write: Set the intervals of writing.

8) "List" button

A "list" sheet is created to display the already set data.

	A	B	C	D	E	F
1	Cell area name	Cell area	Sheet name	Tag name	Field No	Communication mode
2	Monitor	E2:FB	Sheet1	tag002	1	Read
3	sample	B10:F19	Sheet1	RANDOM_TAG	2	Read
4						

- [OLEX button] menu
Listing shows the [OLEX button] on the menu bar.
Choose [OLEX button]-[Exit] to end the listing.
- OLEX button toolbar
Listing shows the "OLEX button" toolbar.
Each button has the following function.



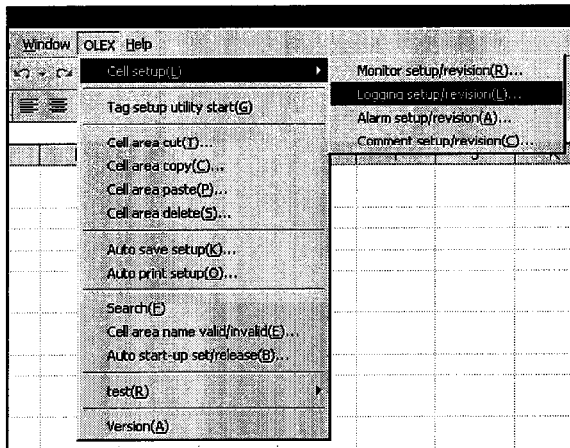
- Ends listing.
- Prints a list.
- Deletes the setting of the selected line.
- Returns to the Monitor setup/revision dialog box.

11.1.2 Making Logging Setting

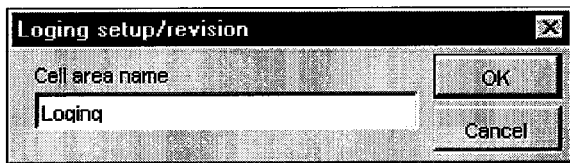
This section describes the setting/editing of information (cell areas, tag name, etc.) required for the logging function.

POINT

This function is designed to make setting or correction for logging.
To make it valid actually, make setting in the Cell area name valid/invalid setup dialog. (Refer to Section 11.4.)



1. Select the area to be logged and choose [OLEX]-[Cell setup]-[Logging setup/revision] on the menu bar.



2. As the left screen appears, type any cell area name and click the "OK" button.
(You can set the name in up to 32 characters.)
Clicking the "Cancel" button suspends the setting and closes the dialog.

- To make correction
Do not enter the cell area name but click the "OK" button and choose the cell area name on the Logging setup/revision screen.

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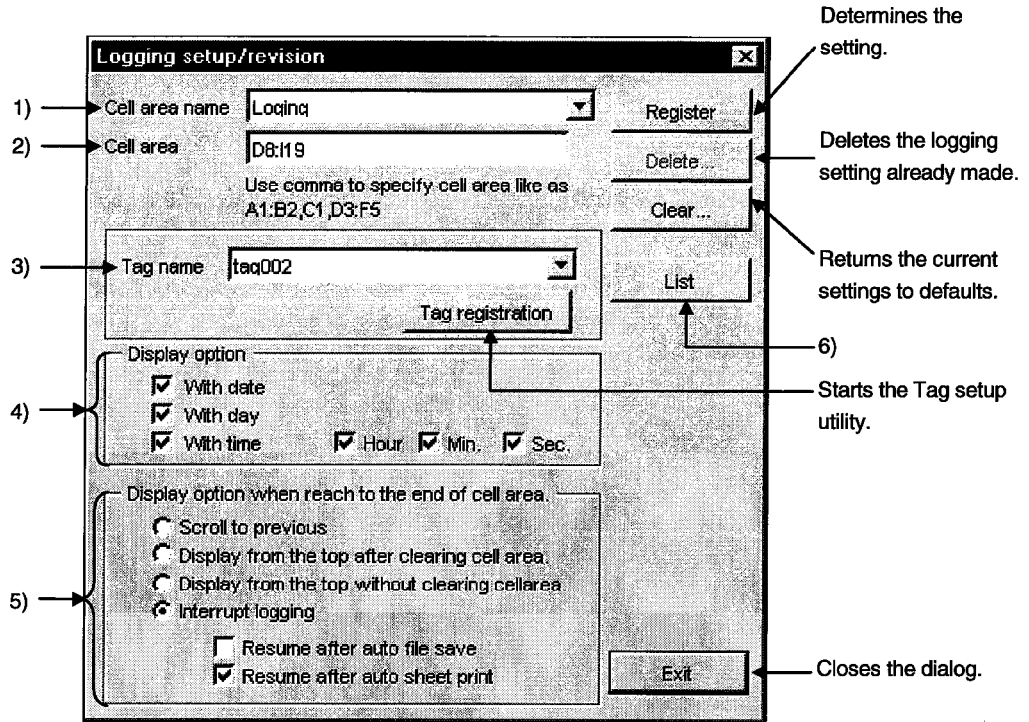
3. Set the tag name, display option and so on and click the "Register" button.

For more information, refer to the next page.

POINT
The cell area name should not be headed by ' (single quotation). If so, proper operation may not be performed.
Example: 'ABCDE: Not allowed '01234: Not allowed ABCDE: Allowed 01234: Allowed

(1) Logging setup/revision

Set the cell areas and items relative to the cell area name.



1) Cell area name

Shows the set cell area name.

To correct the cell area information already set, choose the corresponding cell area name.

(Note that the current settings are lost.)

POINT

The set data will be lost if you change the cell area name before clicking the Register button.

2) Cell area

Set the cell areas, e.g. "A1: C3, C4: E5". (You can set up to 16 areas.) Set the cell areas as shown below.

Example: To set A1:E2, G1:H5, A4:E5

	A	B	C	D	E	F	G	H
1			1)					
2								
3							2)	
4			3)					
5								

- 1) A1:E2
- ↓
- 2) G1:H5
- ↓
- 3) A4:E5

Specify in the order of 1), 2) and 3).

POINT

The maximum number of cell area lines that may be set is 2000 lines.

3) Tag name

Choose the tag name set for logging with the Tag setup utility.

POINTS
<p>(1) If you change the tag name and the like on the Tag setup utility during Logging setup/revision, they will not be reflected on the tag name list. To reflect the tag name changed on the Tag setup utility, close the Logging setup/revision dialog once, and make the Logging setup/revision again.</p> <p>(2) The tag set in Logging setup/revision should be the log-specified tag dedicated to logging.</p> <p>(3) Set the tag collection interval to 1 seconds or longer.</p>

4) Display option

In the leftmost column of the logging data, set the date and time to be displayed when data is acquired. The date and time display format is indicated below.

1997/03/28 Fri 13:30:56

↑ ↑ ↘

Date Day of the week Time

Sunday = Sun	Hours only = 13
Monday = Mon	Minutes only = :30
Tuesday = Tue	Seconds only = :56
Wednesday = Wed	Hours+minutes = 13:30
Thursday = Thu	Hours+seconds = 13:56
Friday = Fri	Minutes+seconds = :30:59
Saturday = Sat	

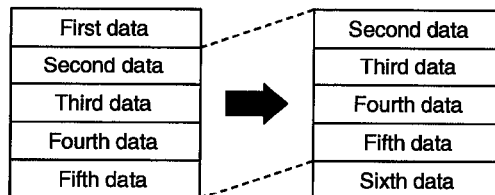
POINT
Depending on the cell format setting, the OLEX display option settings may differ from its indications.

5) Display option when reach to the end of cell area

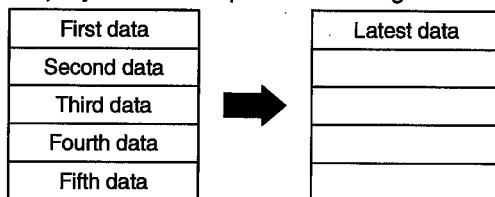
Set the action taken when the logging data has reached the last part of the cell area.

Any of the following operations may be selected when the logging data exceeds the cell area.

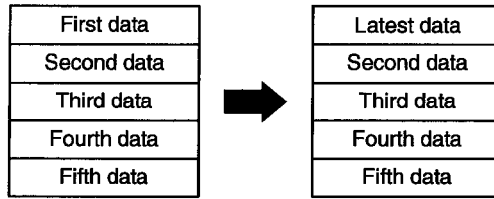
- Scroll to previous



- Display from the top after clearing cell area



- Display from the top without clearing cell area



- Interrupt logging

Note that if automatic saving or automatic printing is not done, logging is aborted and the latest data cannot be displayed.

- Resume after auto file save

The file is saved automatically and logging is resumed.

When logging is resumed, the cell area is cleared and data is displayed from the beginning.

Automatic saving is done at the timing set in Auto save setup.

POINT

Automatic saving is not executed if you did not click the "Auto save" check box on the Auto save setup screen. (Refer to Section 11.7.1.)

- Resume after auto sheet print

Logging is resumed after the sheet of the current setting is printed.

When logging is resumed, the cell area is cleared and data is displayed from the beginning.

Automatic printing is done at the timing set in Auto print setup.

POINT

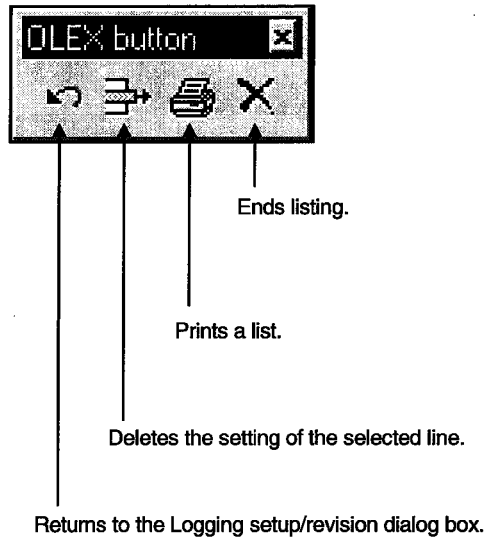
Automatic printing is not executed if you did not click the "Auto print" check box on the Auto print setup screen. (Refer to Section 11.7.2.)

6) "List" button

A "list" sheet is created to display the already set data.

Microsoft Excel - Book1											
File Edit View Insert Format Tools Data Window OLEX OLEX button(M) Help											
G3		= TRUE									
	A	B	C	D	E	F	G	H	I	J	K
1	Cell area name	Cell area	Sheet name	Tag name	Display option(Day)	(Week)	(Time)	(Hour)	(Min)	(Sec)	Resume direction
2	Logging	D8:I19	Sheet1	tag002	TRUE	TRUE	TRUE	TRUE	FALSE	FALSE	Logging abort
3	sample	D4:I6	Sheet1	BATCH_WORD_TAG	TRUE	FALSE	TRUE	TRUE	FALSE	FALSE	Scroll to previous
4											

- [OLEX button] menu
Listing shows the [OLEX button] on the menu bar.
Choose [OLEX button]-[Exit] to end the listing.
- OLEX button toolbar
Listing shows the "OLEX button" toolbar.
Each button has the following function.

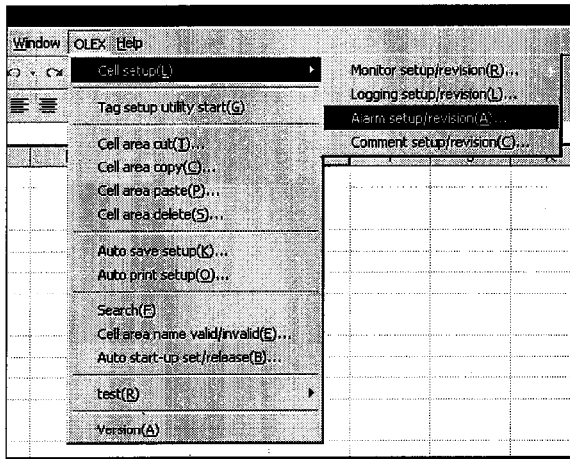


POINTS								
(1) When there are two or more cell areas, logging is executed in the cell area setting order.								
Example: When the cell areas were set as "A4:E5, G1:H5, A1:E2"								
	A	B	C	D	E	F	G	H
1			3)					
2								
3							2)	
4			1)					
5								
1) A4:E5→2) G1:H5→3) A1:E2								
(2) The refresh timing of logging is the same as the communication interval refresh timing of a tag. Refer to the communication interval set for each tag on the Tag setup utility.								

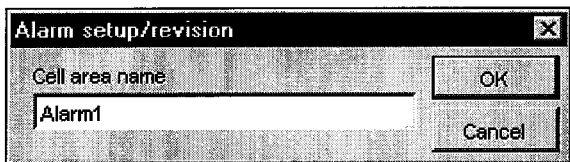
11.1.3 Making Alarm Setting

This section describes the setting/editing of information (cell area, tag name, etc.) required for the alarm summary.

POINTS
<p>(1) This function is designed to set or correct the alarm summary. To make it valid actually, make setting in the Cell area name valid/invalid setup dialog. (Refer to Section 11.4.)</p> <p>(2) When setting the cell area, four or more columns are always required. When setting two or more consecutive areas, four or more columns are also required similarly.</p>



1. Select the area where the alarm summary will be displayed and choose [OLEX]-[Cell setup]-[Alarm setup/revision] on the menu bar.



2. As the left screen appears, type any cell area name and click the "OK" button. (You can set the name in up to 32 characters.) Clicking the "Cancel" button suspends the setting and closes the dialog.

- To make correction
Do not enter the cell area name but click the "OK" button and choose the cell area name on the Monitor setup/revision screen.

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3. Set the tag name, field number and so on and click the "Register" button.
For more information, refer to the next page.

POINT
The cell area name should not be headed by ' (single quotation). If so, proper operation may not be performed.
Example: 'ABCDE: Not allowed '01234: Not allowed ABCDE: Allowed 01234: Allowed

(1) Alarm setup/revision

Set the cell areas and items relative to the cell area name.

The screenshot shows the 'Alarm setup/revision' dialog box with the following elements and callouts:

- 1)** Cell area name: Alarm1 (Dropdown menu)
- 2)** Cell area: C21:J34 (Text field)
- 3)** Tag name: bit (Dropdown menu)
- 4)** Field No: 5 (Dropdown menu)
- 5)** Refresh timing: 10 Sec. (Text field)
- 6)** Display option when rech to the end of cell area:
 - Not interrupt
 - Interrupt
 - Resume after auto file save
 - Resume after auto sheet print
 - Display from the top after clearing of cell area
- 7)** Alarm summary file name: C:\MELSEC\OLEX\sample.alm (Text field)

Buttons and their functions:

- Register:** Determines the setting.
- Delete...:** Deletes the alarm setting already made.
- Clear...:** Returns the current settings to defaults.
- List:** Starts the Tag setup utility.
- File edit:** Starts the Alarm summary setup utility.
- Exit:** Closes the dialog.
- Browse...:** Locates the Alarm summary file.

1) Cell area name

Shows the set cell area name.

To correct the cell area information already set, choose the corresponding cell area name.

(Note that the current settings are lost.)

POINT
The set data will be lost if you change the cell area name before clicking the Register button.

2) Cell area

Set the cell area, e.g. "A1: C3". (You can set only one area.)

Set the cell area as shown below.

Example: To set A1:D4

	A	B	C	D	E	F	G	H
1								
2								
3								
4								
5								

POINT
The maximum number of cell area lines that may be set is 300 lines. Four or more columns are required for the cell area.

3) Tag name

Choose the tag name set with the Tag setup utility.

POINT
<p>If you change the tag name and the like on the Tag setup utility during Alarm setup/revision, they will not be reflected on the tag name list. To reflect the tag name changed on the Tag setup utility, close the Alarm setup/revision dialog once, and make Alarm setup/revision again.</p>

4) Field No.

Choose the field number of the tag set in 3).

5) Refresh timing

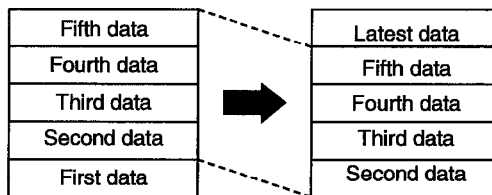
Set the intervals of updating data. (1 to 86400 seconds)

6) Display option when reach to the end of cell area

Set the action taken when the alarm summary has reached the last part of the cell area.

Any of the following operations may be chosen when the alarm summary exceeds the cell area.

- Not interrupt (Default)



- Interrupt

Note that if automatic saving or automatic printing is not done, the alarm summary function is interrupted and the latest data cannot be displayed.

- Resume after auto file save

The file is saved automatically and the alarm summary is resumed.

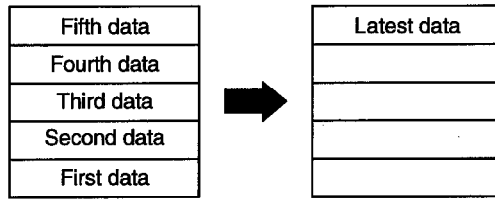
POINT
<p>Automatic saving is not executed if you did not click the "Auto save" check box on the Auto save setup screen. (Refer to Section 11.7.1.)</p>

- Resume after auto sheet print ... The alarm summary is resumed after the sheet of the current setting is printed.

POINT
<p>Automatic printing is not executed if you did not click the "Auto print" check box on the Auto print setup screen. (Refer to Section 11.7.2.)</p>

When the alarm summary is resumed, the cell area is cleared and data is displayed from the beginning.

- Display from the top after clearing of cell area



7) Alarm summary file name

Specify the alarm file set on the Alarm summary setup utility.

8) "List" button

A "list" sheet is created to display the already set data.

Microsoft Excel - Book1								
File Edit View Insert Format Tools Data Window OLEX OLEX button(M) Help								
A1 Cell area name								
	A	B	C	D	E	F	G	H
1	Cell area name	Cell area	Sheet name	Tag name	Field No	Alarm summary file name	Refresh timing	Resume direction
2	Alarm	D12:H16	Sheet1	bit		6 C:\MELSEC\OLEX\sample.alm	10	Not interrupt
3	Alarm1	C21:J34	Sheet1	bit		5 C:\MELSEC\OLEX\sample.alm	10	Interrupt
4								
5								

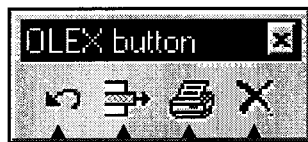
- [OLEX button] menu

Listing shows the [OLEX button] on the menu bar.

Choose [OLEX button]-[Exit] to end the listing.

- OLEX button toolbar

Listing shows the "OLEX button" toolbar. Each button has the following function.



Ends listing.

Prints a list.


Deletes the setting of the selected line.

Returns to the Alarm setup/revision dialog box.

(2) Alarm display example

The display image of the alarm summary is as follows.

	A	B	C	D
1	Type	Time	Alarm Message	Class
2	Restored	1997/03/28 Fri 11:55:00	Valve 3: malfunction	Light trouble
3	Occurred	1997/03/28 Fri 11:49:50	Valve 3: malfunction	Light trouble
4	Occurred	1997/03/28 Fri 11:49:10	Valve 2: malfunction	Light trouble
5	Restored	1997/03/28 Fri 11:20:15	Valve 1: malfunction	Serious error
6	Occurred	1997/03/28 Fri 11:05:01	Machine 5: malfunction	Light trouble
7	Occurred	1997/03/28 Fri 10:25:21	Valve 1: malfunction	Serious error
8				
9				
10				
11				

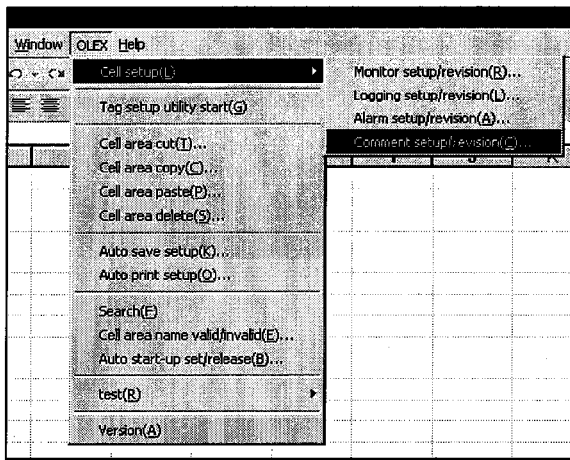
Note: More recent alarms are displayed from top to bottom.  ...Specified cell area

11.1.4 Making Comment Setting

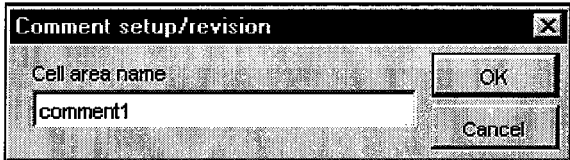
This section describes the setting/editing of information (cell areas, tag name, etc.) required for the comment display function.

POINT

This function is designed to set or correct comments.
 To make it valid actually, make setting in the Cell area name valid/invalid setup dialog.
 (Refer to Section 11.4.)



1. Select the area where a comment will be displayed and choose [OLEX]-[Cell setup]-[Comment setup/revision] on the menu bar.



2. As the left screen appears, type any cell area name and click the "OK" button.
 (You can set the name in up to 32 characters.)
 Clicking the "Cancel" button suspends the setting and closes the dialog.

- To make correction
 Do not enter the cell area name but click the "OK" button and choose the cell area name on the Comment setup/revision screen.

↓
 (To the next page)

(From the preceding page)



3. Set the tag name, field number and so on and click the "Register" button.

For more information, refer to the next page.

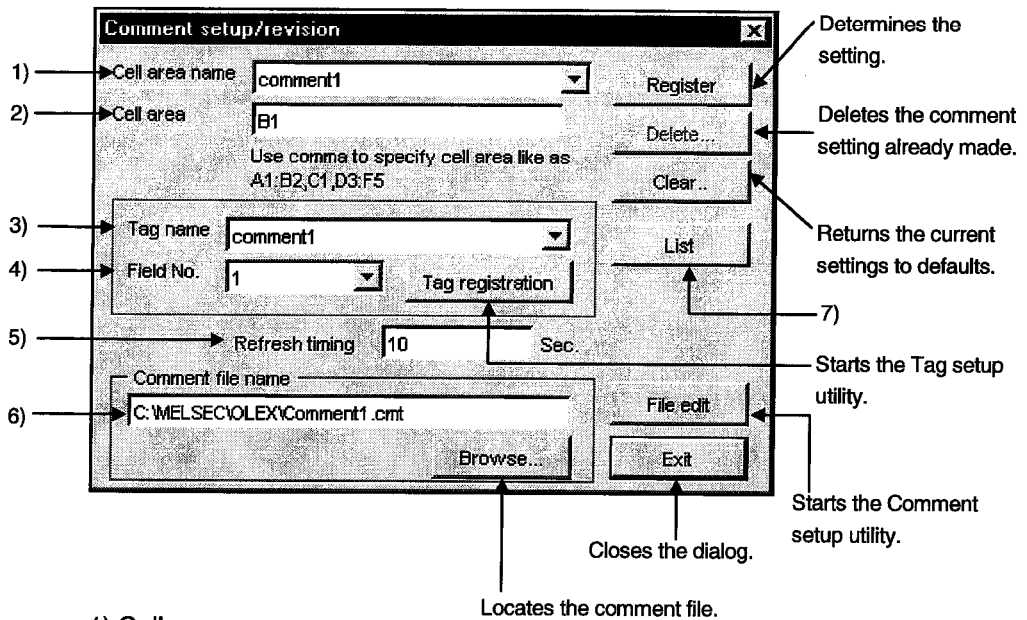
POINT

The cell area name should not be headed by ' (single quotation). If so, proper operation may not be performed.

Example: 'ABCDE: Not allowed	'01234: Not allowed
ABCDE: Allowed	01234: Allowed

(1) Comment setup/revision

Set the cell area and items relative to the cell area name.



1) Cell area name

Shows the set cell area name.

To correct the cell area information already set, choose the corresponding cell area name.

(Note that the current settings are lost.)

POINT

The set data will be lost if you change the cell area name before clicking the Register button.

2) Cell area

Set the cell area for comment display. (You can set up to 16 areas.)
The cell area has only one cell.

3) Tag name

Choose the tag name set with the Tag setup utility.

POINT

If you change the tag name and the like on the Tag setup utility during Comment setup/revision, they will not be reflected on the tag name list.
To reflect the tag name changed on the Tag setup utility, close the Comment setup/revision dialog once, and make Comment setup/revision again.

4) Field No.

Choose the field number of the tag set in 3).

5) Refresh timing

Set the intervals of updating data. (1 to 86400 seconds)

6) Comment file name

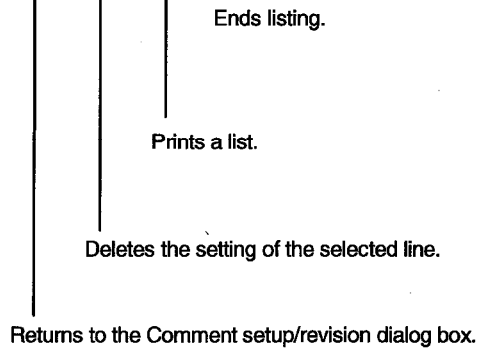
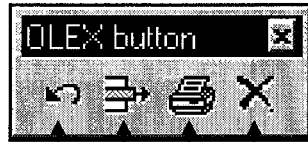
Specify the comment file set with the Comment setup utility.

7) "List" button

A "list" sheet is created to display the already set data.

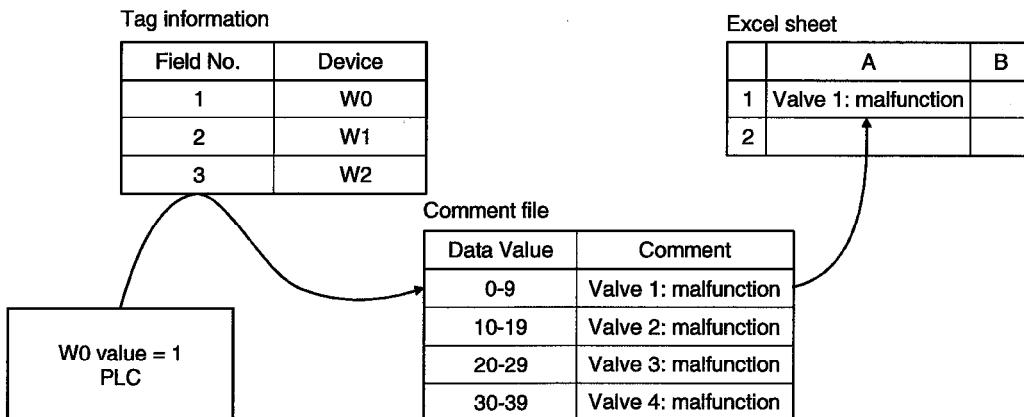
Microsoft Excel - Book1								
File Edit View Insert Format Tools Data Window OLEX OLEX button(M) Help								
Cell area name								
	A	B	C	D	E	F	G	H
1	Cell area name	Cell area	Sheet name	Tag name	Field No	Comment file name	Refresh timing	Cell area name valid/inva
2	comment	C1	Sheet1	bit	5	C:\MELSEC\OLEX\Comment1.cmt	10	Valid
3	comment1	B1	Sheet1	comment1	1	C:\MELSEC\OLEX\Comment1.cmt	10	Valid
4								
5								
6								

- [OLEX button] menu
Listing shows the [OLEX button] on the menu bar.
Choose [OLEX button]-[Exit] to end the listing.
- OLEX button toolbar
Listing shows the "OLEX button" toolbar.
Each button has the following function.



(2) Operation sequence

A comment is displayed in the following sequence.

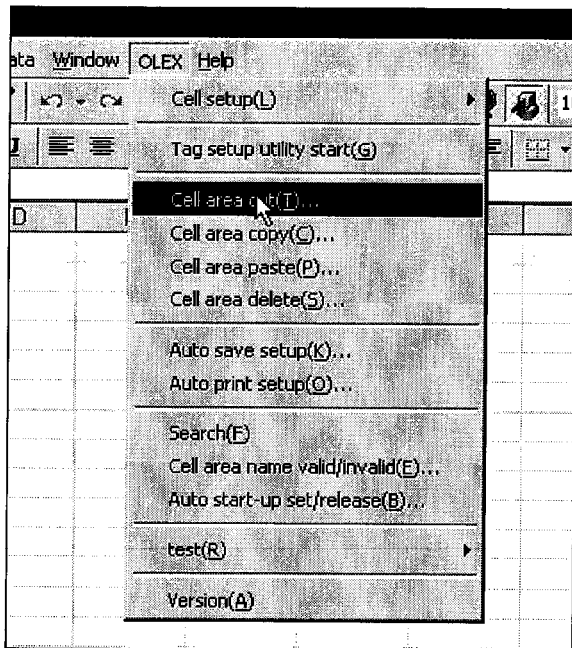


11.2 Editing

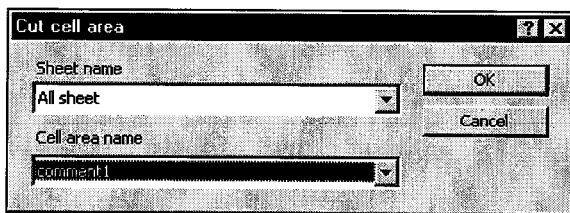
<p>POINT</p> <p>When editing the cell area, always stop automatic start-up. Editing cannot be done during automatic execution.</p>

11.2.1 Cutting the Cell Area Set with OLEX

Cut the cell area set with OLEX.



1. Choose [OLEX]-[Cell area cut] on the menu bar.

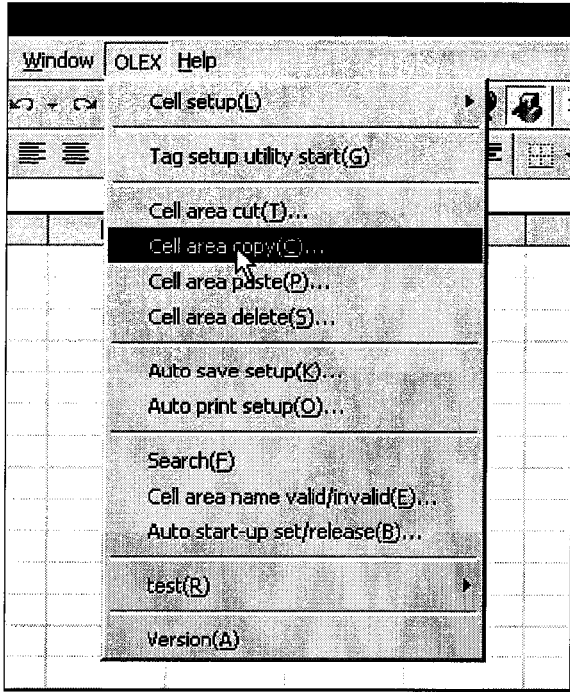


2. As the dialog box shown on the left appears, choose the sheet name and cell area name and click the "OK" button.

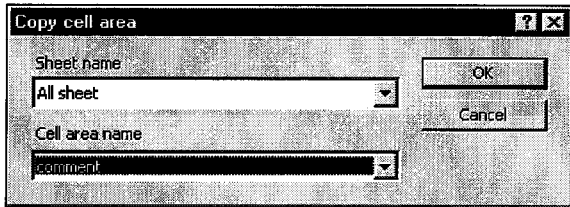
Cell area cutting complete

11.2.2 Copying the Cell Area Set with OLEX

Copy the cell area set with OLEX.



1. Choose [OLEX]-[Cell area copy] on the menu bar.



2. As the dialog box shown on the left appears, choose the sheet name and cell area name and click the "OK" button.

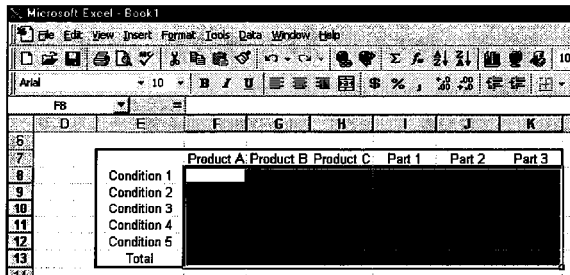


Cell area copying complete

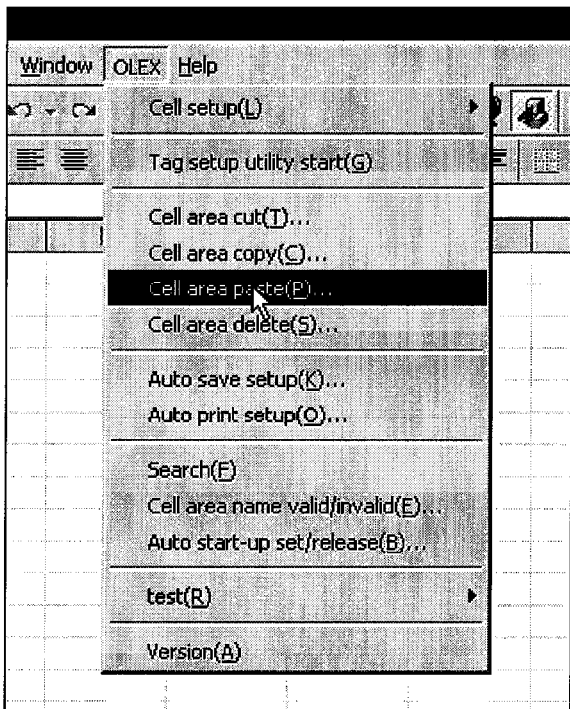
11.2.3 Pasting the Cell Area Set with OLEX

Paste the cut/copied cell area to any sheet.

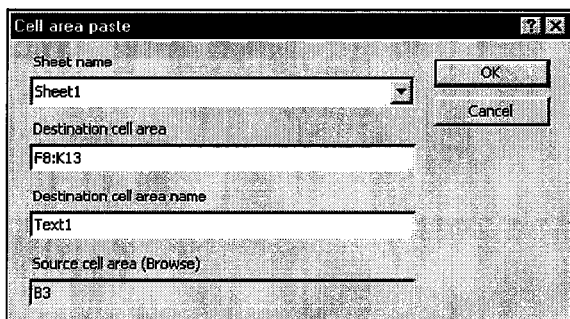
Refer to Section 11.2.1 for cutting the cell area, and to Section 11.2.2 for copying.



1. Specify the cell area to be pasted. (May be omitted.)



2. Choose [OLEX]-[Cell area paste] on the menu bar.



3. As the dialog box shown on the left appears, set the sheet name, cell area name, etc. and click the "OK" button.

For details, refer to the next page.



Cell area pasting complete

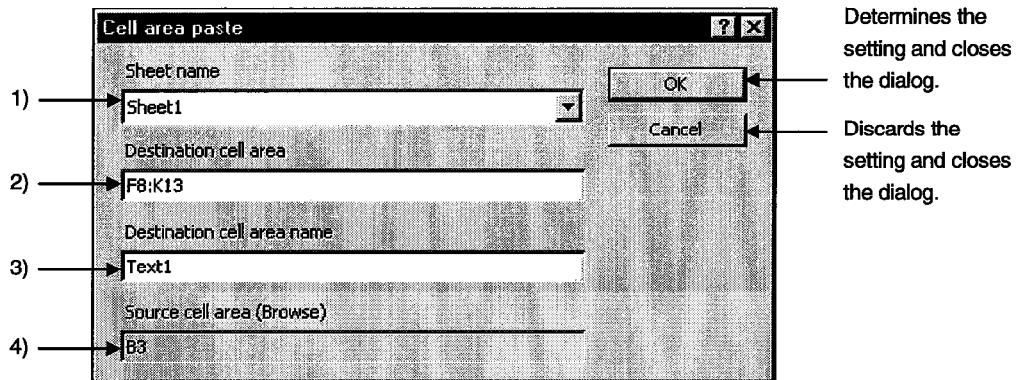
POINT

The cell area of pasting destination to be set should be the same as the cell area cut or copied.

Example: When copying and pasting 3 vertical × 4 horizontal cells, specify "3 vertical × 4 horizontal" cells similarly. (4 vertical × 3 horizontal is not allowed.)

(1) Cell area paste

Set the cell area of paste destination.

**1) Sheet name**

Choose the sheet name of paste destination.

2) Destination cell area

Set the cell area of paste destination.

(This cell area has been set if you have already selected the cell area.)

3) Destination cell area name

Set any name to the cell area of paste destination.

(You can set a name of up to 32 characters.)

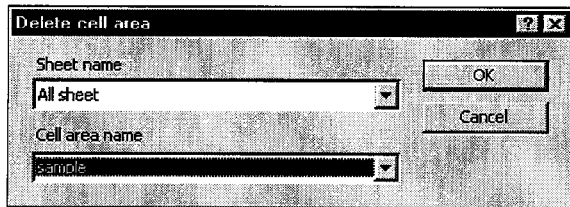
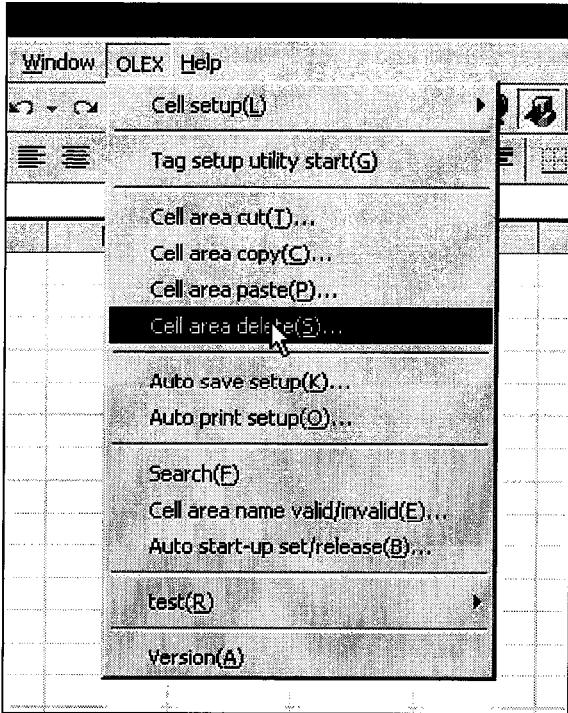
4) Source cell area (Browse)

Represents the cell area of paste source. (You cannot edit this.)

11.2.4 Deleting the Cell Area Set with OLEX

Delete the cell area set with OLEX.

1. Choose [OLEX]-[Cell area delete] on the menu bar.



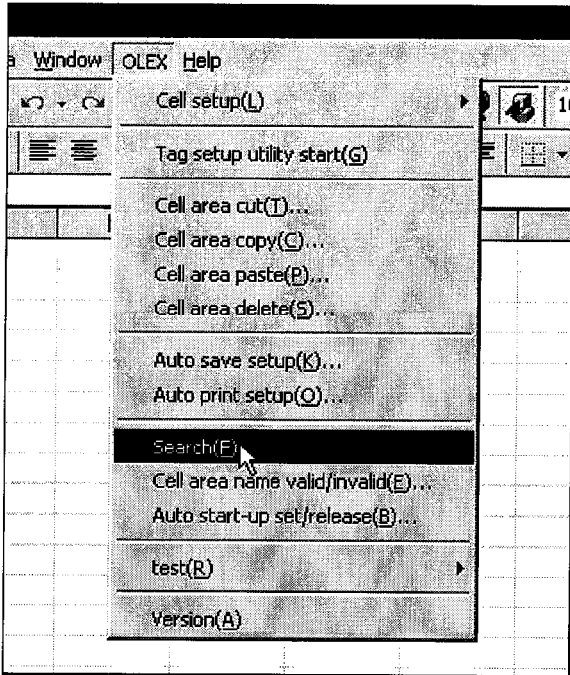
Cell area deletion complete

2. As the dialog box shown on the left appears, set the sheet name and cell area name and click the "OK" button.

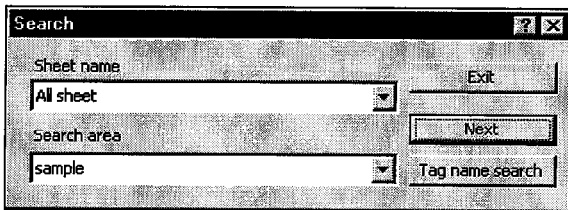
POINT
The deleted cell area name information is lost.

11.2.5 Searching for the Cell Area Set with OLEX

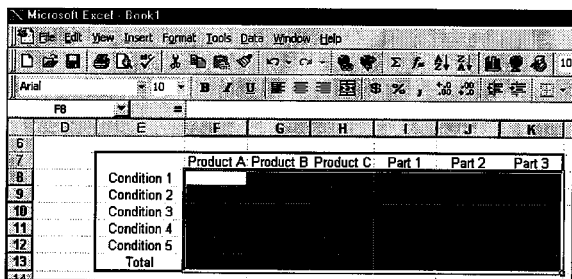
This function searches for the cell area name or tag name to which monitor, logging, alarm or comment setting has been made, and makes the corresponding cell area active.



1. Choose [OLEX]-[Search] on the menu bar.



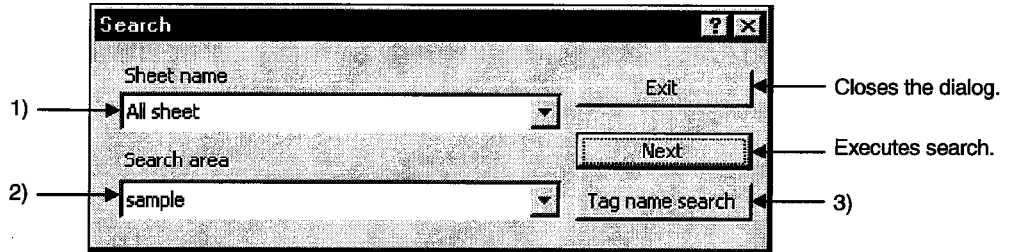
2. As the dialog box shown on the left appears, set the sheet name, the name to be searched for, etc. and click the "Next" button.
For details, refer to the next page.



3. When the name to be searched for is found, the corresponding area is highlighted.

(1) Search

Set the name to be searched for.



1) Sheet name

Set the sheet name to be searched for.

2) Search area

Set the cell area name or tag name to be searched for.

Use either of the "searched name changing" buttons to set the name to be searched for.

3) Searched name-changing buttons

By clicking either button, set whether the cell area name or tag name is used to make search.

"Cell name search" button The cell area name is searched for.

"Tag name search" button The tag name is searched for.

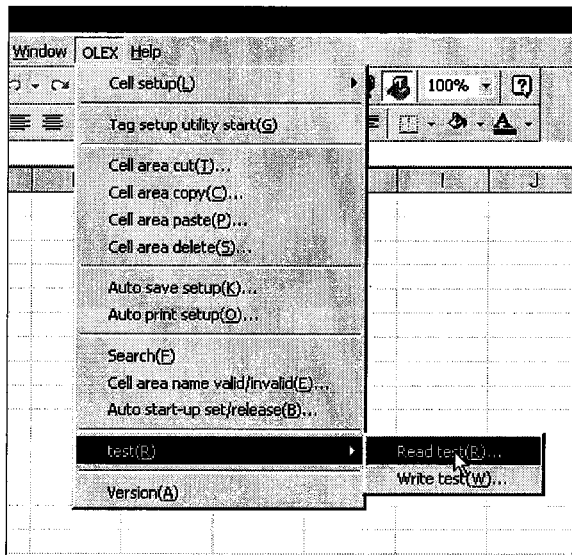
POINT	If the lines/columns of Excel are deleted or added, the cell area set with OLEX does not change.
--------------	--

11.3 Making Communication Tests

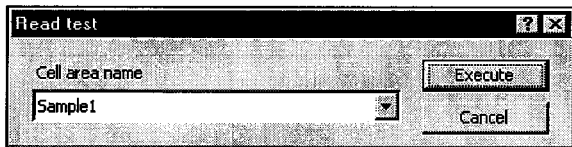
POINTS
(1) When conducting a cell area communication test, always stop automatic start-up. Communication tests cannot be done during automatic execution.
(2) If the Tag management process error (-13) occurs during test execution, do the test again.

11.3.1 Making a Read Test

Specify the cell area name to which monitor or logging setting has been made, and conduct a read test.



1. Choose [OLEX]-[test]-[Read test] on the menu bar.



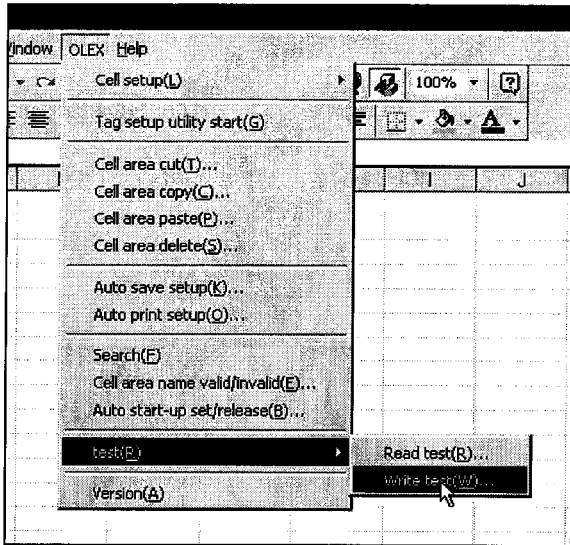
2. As the dialog box shown on the left appears, choose the cell area name and click the "Execute" button.

Read test execution

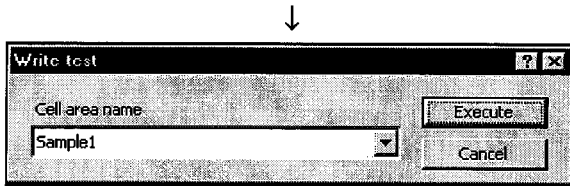
POINTS
(1) When the read test is done on the cell area to which monitor setting has been made, read data appears in the set cell area.
(2) When the read test is made on the cell area to which logging setting has been made, logged data appears in the top line of the set cell area.
(3) Data is displayed according to the data type set with the Tag setup utility.
(4) Bit data is displayed as follows. When the bit is ON ... TRUE When the bit is OFF ... FALSE

11.3.2 Making a Write Test

Specify the cell area name to which monitor setting has been made, and conduct a write test.



1. Choose [OLEX]-[test]-[Write test] on the menu bar.



2. As the dialog box shown on the left appears, choose the cell area name and click the "Execute" button.

Write test execution

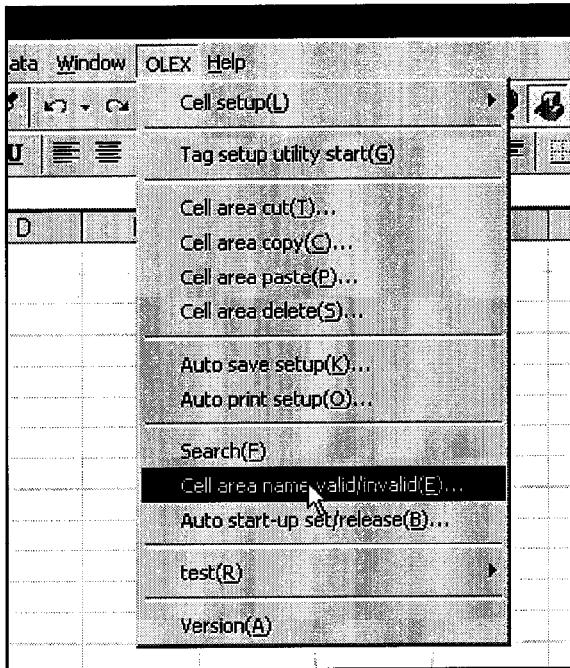
POINTS
(1) Numerals or characters must have been entered in the cell area where data will be written. If there is any blank cell that has no entry, the write test cannot be executed.
(2) Data is displayed according to the data type set with the Tag setup utility.
(3) Enter bit data as follows. When the bit is ON ... TRUE When the bit is OFF ... FALSE
(4) Character string data written should be headed by ' (single quotation) as indicated below. Example: 'ABCDEF
(5) Set values in decimal.

11.4 Setting Whether the Cell Area Is Made Valid or Invalid

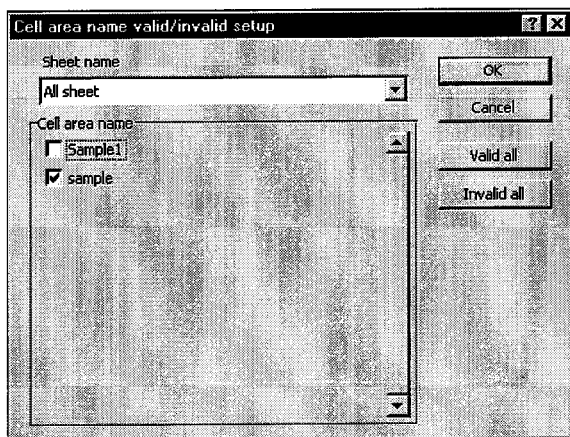
The cell area to which monitor, logging, alarm or comment setting has been made is set to an executable status.

POINT

When setting whether the cell area is made valid or invalid, always stop automatic start-up.
 This setting cannot be made during automatic execution.



1. Choose [OLEX]-[Cell area name valid/invalid] on the menu bar.

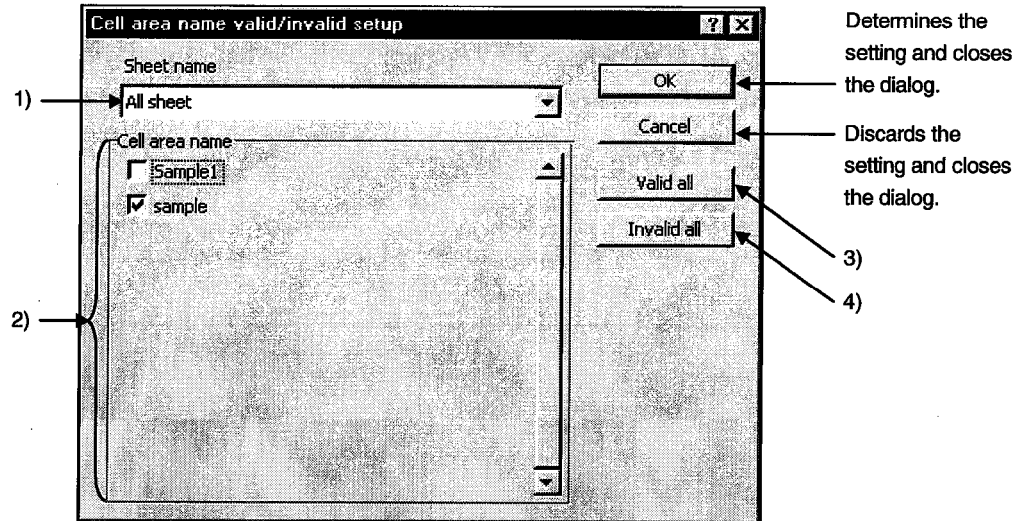


2. As the dialog box shown on the left appears, check the cell area name you will make valid, and click the "OK" button.

For more information, refer to the next page.
 (Defaults to the checked (valid) status.)

(1) Cell area name valid/invalid

Set whether the set cell area is made valid or invalid.



1) Sheet name

Set the sheet name where the cell area for valid/invalid setting exists.

2) Cell area name

Shows all cell area names set to the specified sheet.

Also, turning on the check box sets the corresponding cell area "valid".
(Defaults to the checked (valid) status.)

3) "Valid all" button

Sets all cell areas of the specified sheet "valid".

4) "Invalid all" button

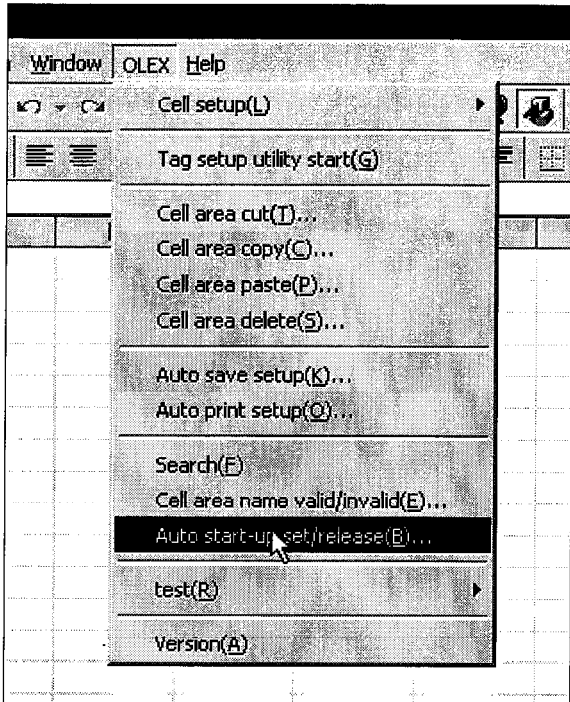
Sets all cell areas of the specified sheet "invalid".

11.5 Setting/Releasing Automatic Start-Up

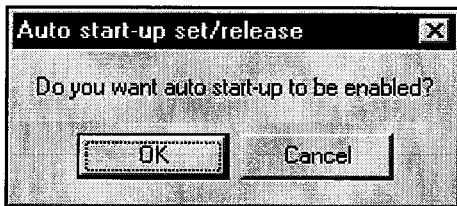
This section explains how to set/release automatic start-up of OLEX.

11.5.1 Setting Automatic Start-Up

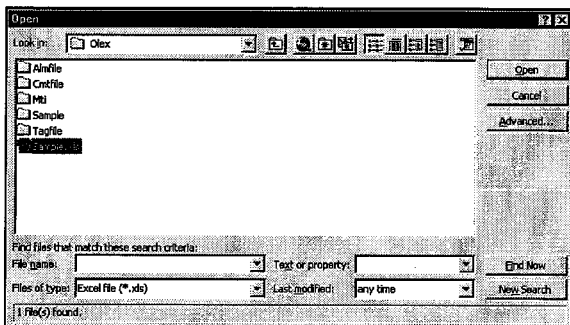
Set the automatic start-up of the OLEX function.



1. Choose [OLEX]-[Auto start-up set/release] on the menu bar.



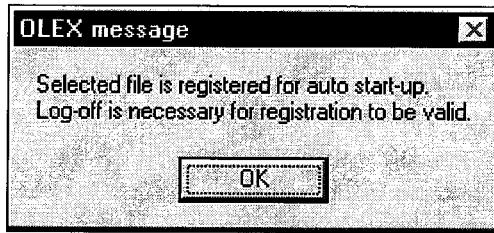
2. As the dialog box shown on the left appears, click the "OK" button.



3. Choose the file name to which automatic start-up setting will be made.

(To the next page)

(From the preceding page)



Logoff/restart execution



Tag management process start



OLEX automatic execution start

4. After confirming the message, click the "OK" button to execute logoff or restart.

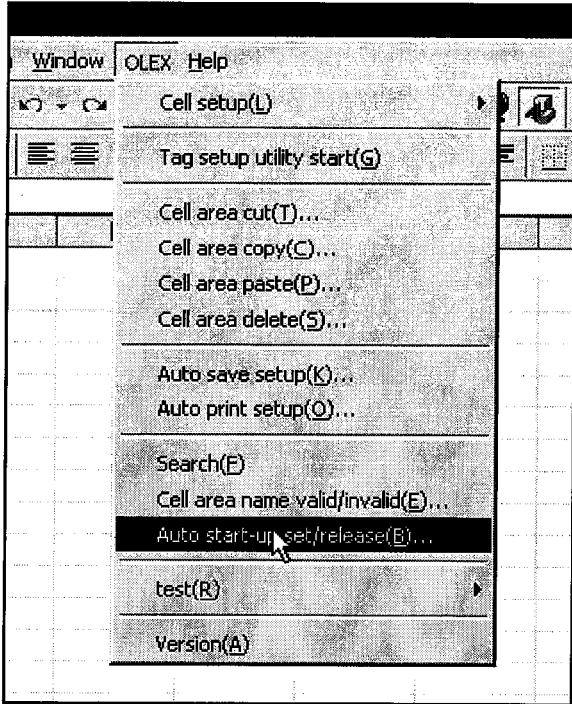
After completion of logoff or restart, starting the Tag management process starts Excel automatically and starts access to the PLC CPU.

POINTS

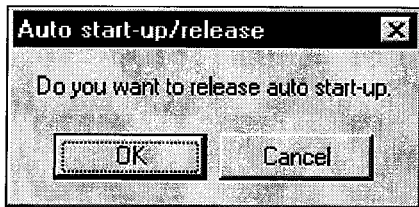
- (1) Only the existing files may be registered for automatic start-up.
To register the currently edited file for automatic start-up, you need to save it in advance.
- (2) Only one file may be set for automatic start-up.
To make an automatic start-up with the other file, stop the started file once, set the corresponding file for automatic start-up again, and execute logoff or restart.

11.5.2 Releasing Automatic Start-Up

Release the automatic start-up of started OLEX.



1. Choose [OLEX]-[Auto start-up set/release] on the menu bar.



2. As the dialog box shown on the left appears, click the "OK" button.



OLEX automatic start-up release complete

POINT

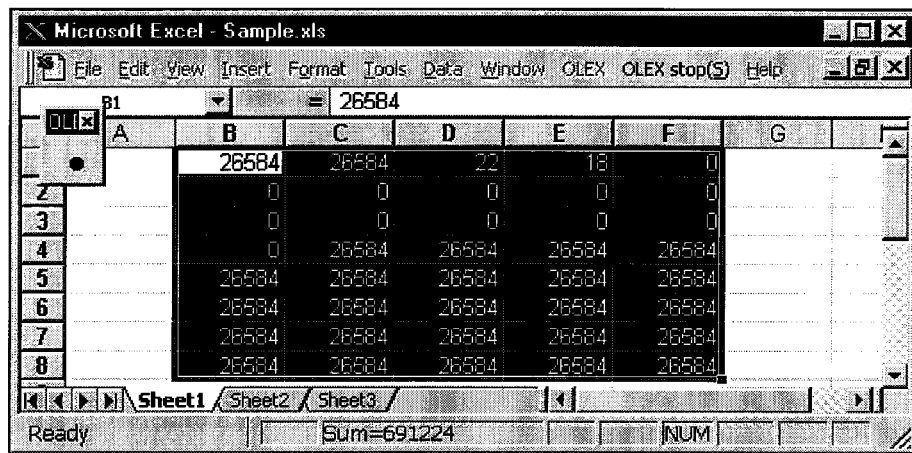
If you have released automatic start-up by clicking the "OK" button, starting the Tag management process after logoff or restart will not start automatic execution.

11.6 About Automatic Execution

11.6.1 About the Status During Automatic Execution

When you perform operations in the sequence of "Auto start-up setting", "Logoff/restart", "Logon/restart completion" and "Tag management process start", Excel will start in several seconds with OLEX in the automatic execution status as shown below.

Example: When there is monitor setting registration in the cell area "B1: F8" of the "Sample.xls" file



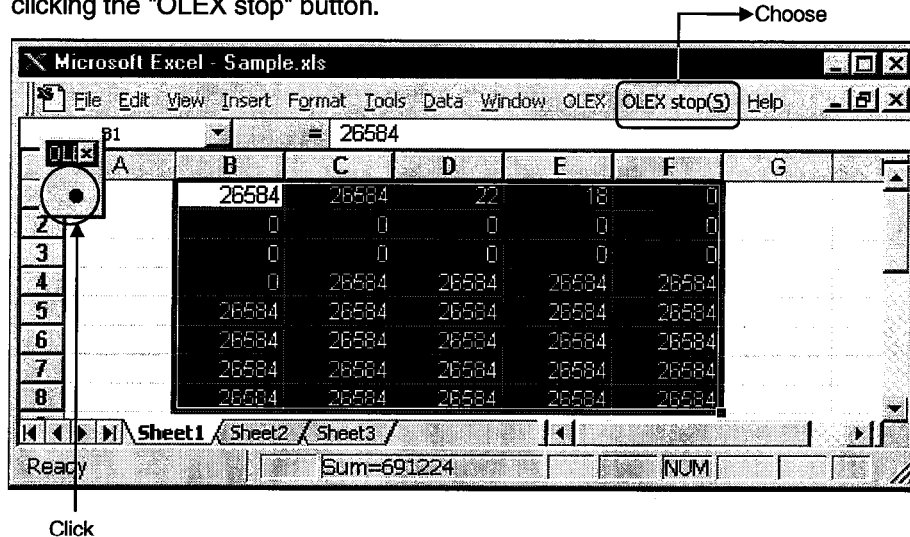
A monitor, logging, alarm summary or comment display is provided in automatically executed Excel according to the information set to one or more cell areas. If this display is not provided, an error definition and corrective action are registered to the error viewer. Remove the error according to the instructions. If you set automatic saving/printing, automatic saving/printing is performed at the specified timing.

POINTS

- (1) During automatic execution, any menu other than "OLEX stop" cannot be selected and normal Excel operation cannot be performed.
If you attempt to enter a value in any cell during automatic execution, an error takes place and is registered to the error viewer.
To perform these operations, stop automatic execution.
- (2) During automatic execution, cell values cannot be changed.
When writing values, enter them in the sheet in advance.

11.6.2 Stopping Automatic Execution

Automatic execution may either be stopped by clicking the "OLEX stop" menu or by clicking the "OLEX stop" button.



POINTS

- (1) If you click the stop button, the automatic start-up setting is not released.
When releasing the automatic start-up setting, refer to Section 11.5.2.
- (2) To resume automatic execution after setting it once, perform operation in the following procedure.

"Logoff/restart" → "Logon/restart completion" → "Tag management process start"
- (3) Before making logoff, always stop OLEX.
- (4) When "Show window contents while dragging" has not been checked in Visual settings within the "Plus!" tab on the Display Properties screen, moving the window of Excel during OLEX automatic execution may leave the after-image of the Excel window frame on the screen.
(Only when Windows NT 4.0 is used)
In this case, display the full screen to avoid moving Excel or check "Show window contents while dragging" in Visual settings within the "Plus!" tab on the Display Properties screen.

11.7 Other Operations

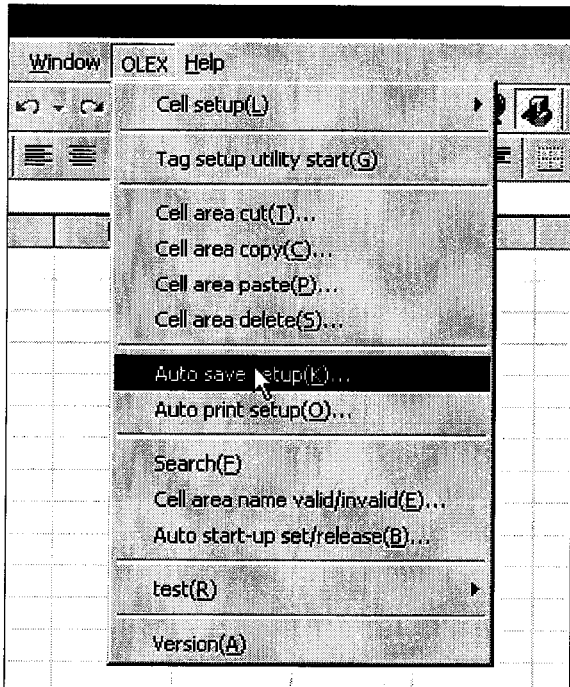
POINT

Before making any settings described in this chapter, always stop automatic start-up.
Correction cannot be made during automatic execution.

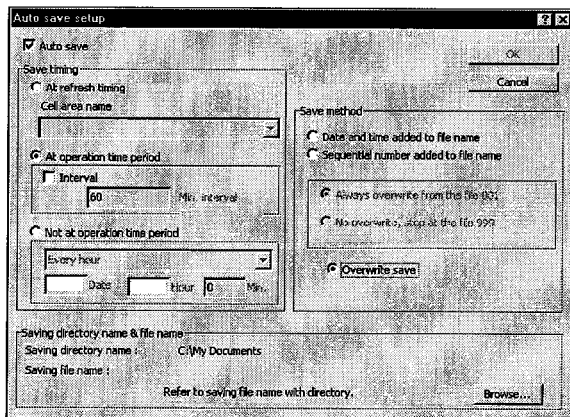
11.7.1 Making Setting to Save Collected Data Automatically

Make setting when saving a file automatically.

When automatic saving is set during logging or alarm setting, a file is also saved according to this setting.



1. Choose [OLEX]-[Auto save setup] on the menu bar.

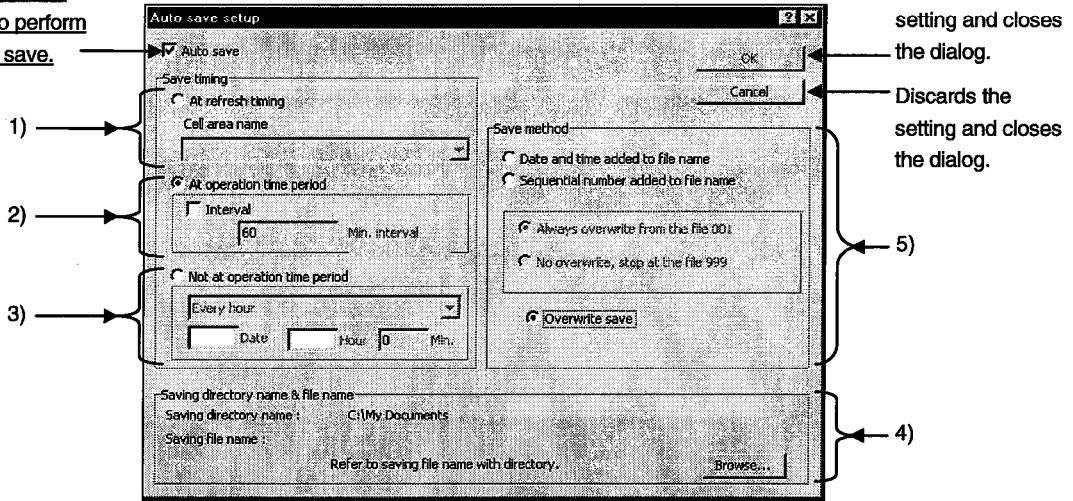


2. As the dialog box shown on the left appears, set each item and click the "OK" button.
For details, refer to the next page.

(1) Auto save setup

Set the timing of automatic saving.

This box must be checked to perform automatic save.



1) At refresh timing (Save timing)

Executes automatic saving according to the refresh timing set to the cell area.
Always set the selected cell area name valid.

POINT

Note that the refresh timing of the cell area to which logging setting has been made is the same as the communication interval of the tag.

2) At operation time period (Save timing)

Executes automatic saving according to the starting and end times in "Logging time" set with the Environment setup utility.

POINT

If the starting and end times in "Logging time" have not been set, this error is registered to the error viewer.

• Interval

By turning on the check box, the user can set the automatic saving interval to any time.

(1 minute to 24 hours)

Refer to Section 10.1 for the way of setting the Environment setup utility.

3) Not at operation time period (Save timing)

Set the date and time when automatic save is to be executed.

4) Saving directory name & file name

Set the file name for automatic saving.

(Extension XLS is added automatically.)

Click the "Browse" button to locate the folder and file.

POINT

When the entire folder name and file name are not displayed, click the folder name and file name.

The entire folder and file names are displayed.

5) Save method

Set the way of saving.

• Date and time added to file name

Adds the date and time to a place after the save destination file name.

Example: When the save destination file name is "Book1.XLS"

Book1970408 121635.XLS
 ↑ ↑
 April 8, '97 12 hours 16 minutes 35 seconds

• Sequential number added to file name

Inserts a three-digit serial number in a place after the save destination file name.

Example: When the save destination file name is "Sample.XLS"

Sample001.XLS
 ↑
 3-digit serial number

* Always overwrite from the file 001

Overwrites file 001 and later if data is saved in up to file 999.

* No overwrite, stop at the file 999

Ends automatic saving when data is saved in up to file 999.

To resume automatic saving,

1. Change the file name and re-save data.

2. Delete the file.

• Overwrite save

Overwrites the file set to the save destination file name.

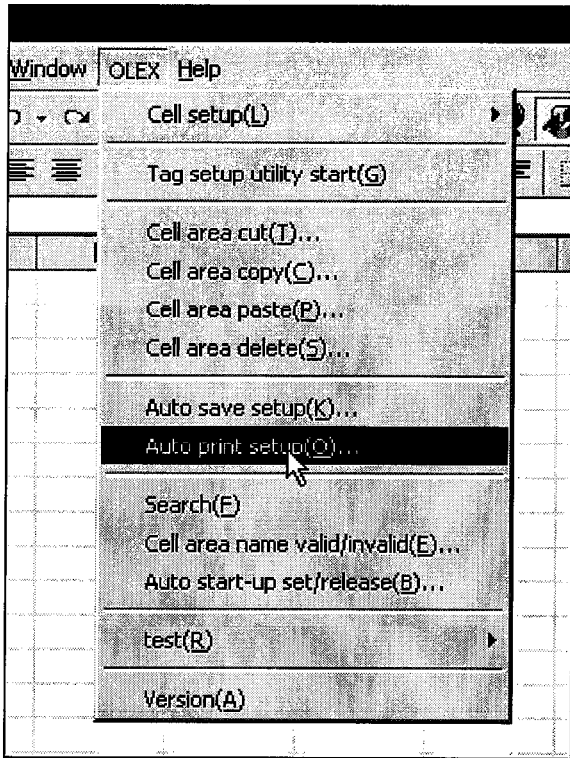
POINT

If "OLEX stop" is made during automatic execution, data is saved independently of the save timing.

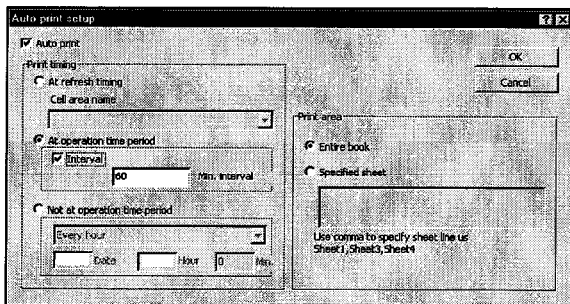
11.7.2 Setting Automatic Printing

Make setting when printing the specified sheet automatically.

When automatic printing is specified during logging or alarm setting, printing is also done according to this setting.



1. Choose [OLEX]-[Auto print setup] on the menu bar.

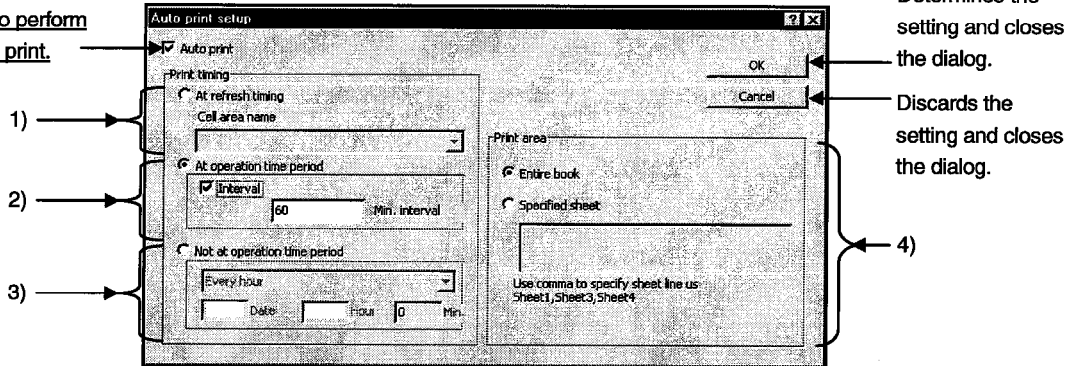


2. As the dialog box shown on the left appears, set each item and click the "OK" button.
For details, refer to the next page.

(1) Auto print setup

Set the timing of automatic printing.

This box must be checked to perform automatic print.



1) At refresh timing (Print timing)

Executes automatic printing according to the refresh timing set to the cell area.
Always set the selected cell area name valid.

POINT

Note that the refresh timing of the cell area to which logging setting has been made is the same as the communication interval of the tag.

2) At operation time period (Print timing)

Executes automatic printing according to the starting and end times in "Logging time" set with the Environment setup utility.

POINT

If the starting and end times in "Logging time" have not been set, this error is registered to the error viewer.

- Interval
By turning on the check box, the user can set the automatic printing interval to any time.
(1 minute to 24 hours)

Refer to Section 10.1 for the way of setting the Environment setup utility.

3) Not at operation time period (Print timing)

Set the date and time when automatic print is to be executed.

4) Print area

Set the area of printing.

- Entire book

Prints the entire book.

The sheets shown are all printed.

- Specified sheet

Specify the sheets for printing.

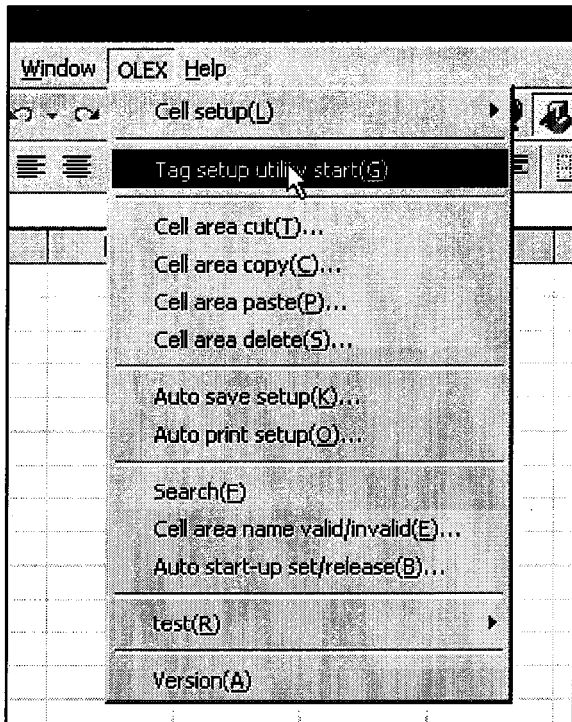
The specified sheets are printed independently of whether they are being displayed or not.

POINTS
(1) If "OLEX stop" is made during automatic execution, data is printed independently of the print timing.
(2) When the print area is "Entire book", delete unnecessary sheets in advance.

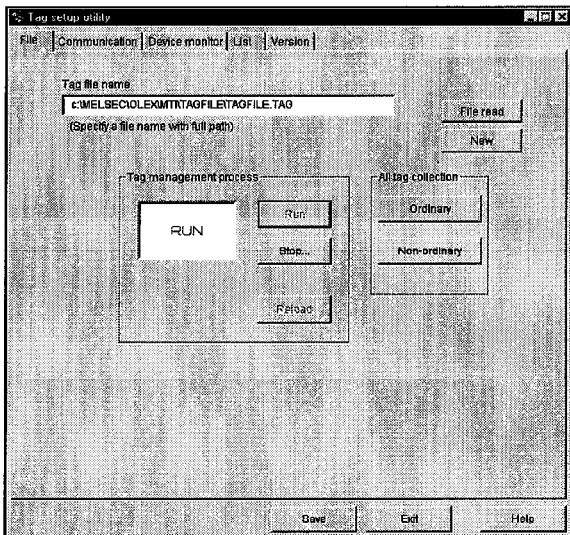
11.7.3 Starting the Tag Setup Utility

Start the Tag setup utility.

Refer to Section 10.2 for the way of operating the Tag setup utility.



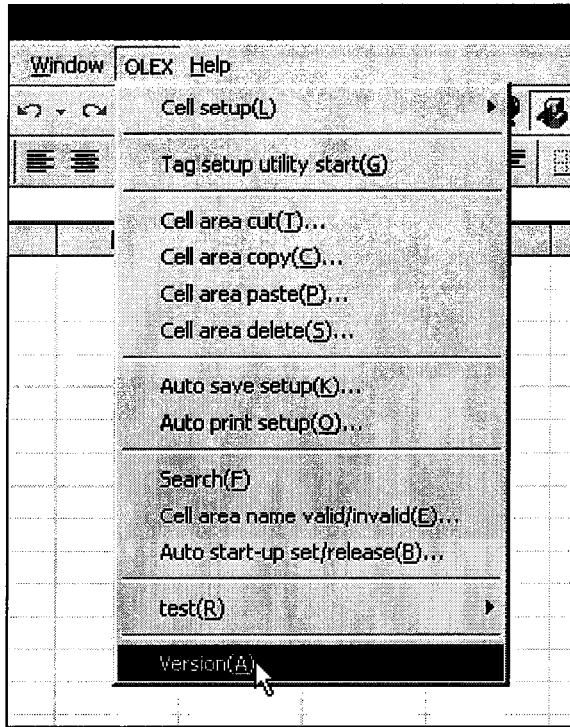
1. Choose [OLEX]-[Tag setup utility start] on the menu bar.



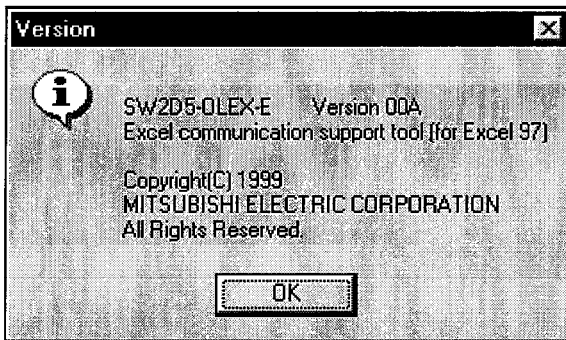
2. The Tag setup utility starts.

11.7.4 Displaying the Version Information

Display the version information of OLEX.



1. Choose [OLEX]-[Version] on the menu bar.



2. The version information appears.

12. OLEX FUNCTIONS

OLEX provides functions available for Visual Basic for Application.

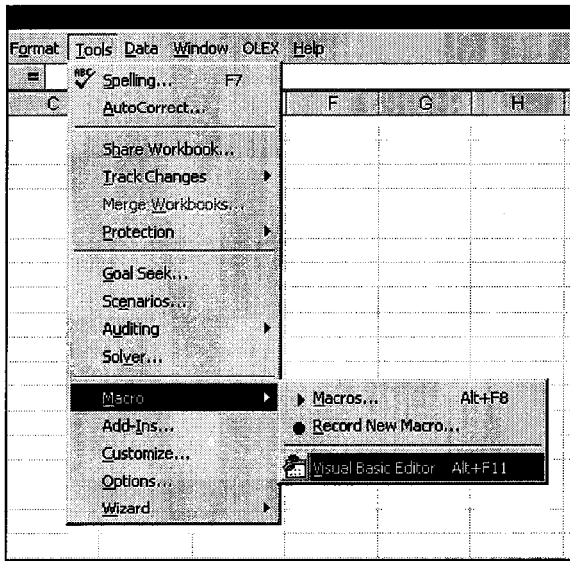
By providing functions with the preset cell area names as arguments using the setting functions of OLEX, data can be read to the corresponding cell areas and the data in the corresponding cell areas can be written.

POINT
 If OLEX is executed automatically in Ethernet communication, the read/write function cannot be executed.

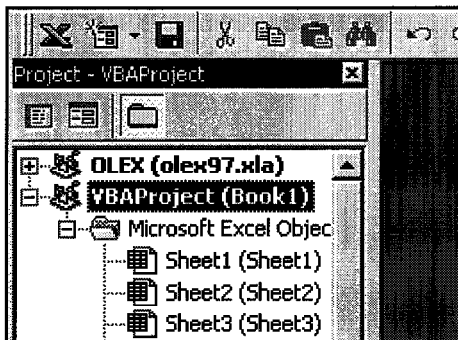
12.1 Setting References to Macro File

To use the OLEX functions in Excel, it is necessary to set references to the macro file to connect a calling file and the file, which includes functions to be called.

The following procedure sets references to the macro file using Excel 97.



1. Choose [Tools]-[Macro]-[Visual Basic Editor] on the menu bar.

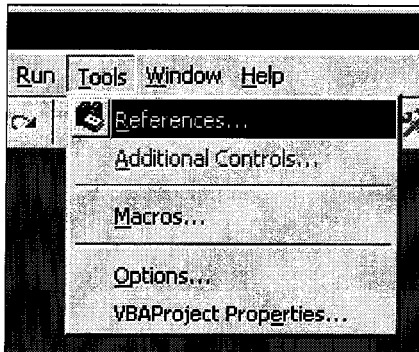


2. Choose the object being edited.

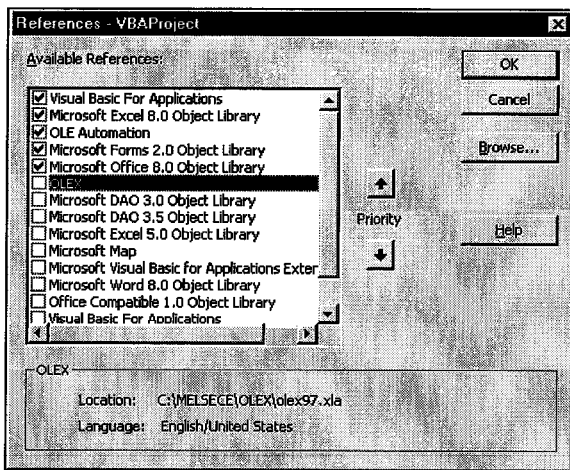


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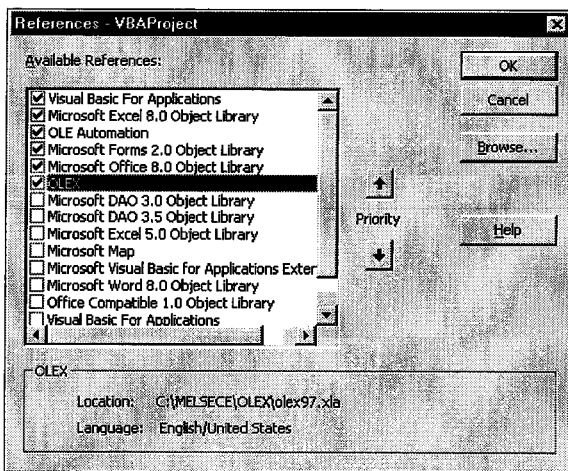
3. Choose [Tools]-[References...] on the menu bar.



4. Choose "OLEX" in the Available References library file list in the "References" dialog box.

If "OLEX" is not displayed in the list, click the "Browse..." button and add "OLEX97.XLA".

By default, "OLEX97.XLA" is stored in C:\MELSEC\OLEX.



5. Click the "OLEX" check box.

6. Click the "OK" button.

12.2 Instructions for Use of the OLEX Functions

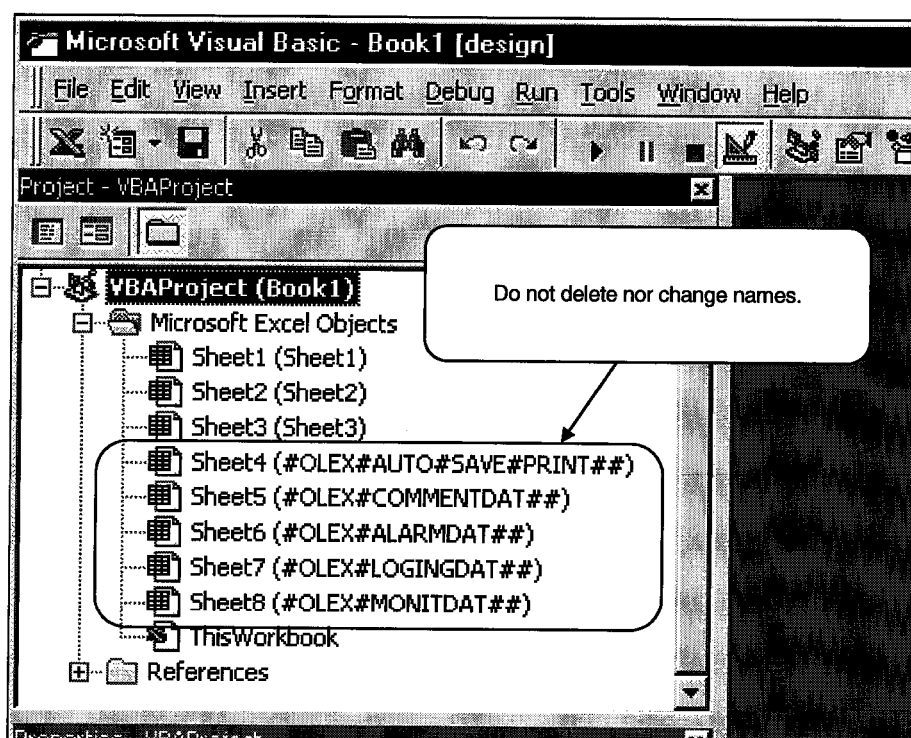
OLEX saves five hidden sheets such as cell setting information.

When editing sheets, for example, do not delete these sheets or change their names.

In addition, do not change their settings.

There are the following OLEX information setting sheets.

- (1) #OLEX#AUTO#SAVE#PRINT##
- (2) #OLEX#COMMENTDAT##
- (3) #OLEX#ALARMDAT##
- (4) #OLEX#LOGINGDAT##
- (5) #OLEX#MONITDAT##



12.3 OLEXRead

The OLEXRead function is a cell area reading function included in the OLEX macro file.

When you give an argument the cell area name to which monitor or logging setting has been made and call the function, values are displayed in the corresponding cell area.

If errors occur, error codes appear in the cells.

In that case, refer to the error list and remove the errors or make a read test to check the error definitions.

(1) Syntax

String [OLEX]. OLEXRead (cellname)

(2) Argument

String cellname Cell area name to be read

(3) Makeup

[OLEX] : File name (book name) where the function is registered

OLEXRead : Function name

Cellname : Specify the cell area name passed to the function.

Specify a character string type variable.

When specifying two or more cell names, separate them by a comma (.). You can specify up to 16 names.

The cell area names you can specify are limited to the cell area names to which monitor setting has been made and the cell area names to which logging setting has been made.

(4) Return value

On normal termination, the function returns NULL ("").

If an error occurs, the cell area name in error is enclosed by parentheses and returned.

The return value is a string type character string.

If two or more areas result in error, the cell area names resulting in error are returned consecutively, e.g. (Cell area name 1)(Cell area name 2).

(5) Example of use

- (a) The following example assumes that the cell area name "Monitor read 1" is passed to the OLEXRead function as an argument.

```
result = [OLEX]. OLEXRead ("Monitor read 1")
```

- (b) Enter the following program into a subprocedure to execute the macro.

```
Sub Test1 ()  
    result = [OLEX]. OLEXRead ("Monitor read 1")  
End Sub
```

- (c) The return value appears if an error occurs in the above example.
MsgBox result "(Monitor read 1)" appears in the message box.

- (d) Two or more cell area names can be passed simultaneously as arguments.
In this case, separate the cell area names by a comma (,).
The following example assumes that the cell area names "Monitor read 1" and "Monitor read 2" are passed to the OLEXRead function as two arguments.

```
Sub Test2 ()  
    result = [OLEX]. OLEXRead ("Monitor read 1","Monitor read 2")  
End Sub
```

(6) Explanation

The cell area names in error are registered to the return value of the OLEXRead function, but the error codes and error definitions are not registered. The error codes and error definitions are displayed in the reading cell areas. Since the preset cell values and format may be cleared, execute the OLEXRead function after making sure that the cell format and values may be changed.

Example 1: "B2: B4" area was given as an argument and resulted in error

	A	B	C
1			
2		Communication error: Error code 102(66H)	
3		Communication error: Error code 102(66H)	
4		Communication error: Error code 102(66H)	
5			

Example 2: "B2: B3, B5: B6" and "D2: D3, D5: 6" areas were given as arguments and "D2: D3, D5: 6" resulted in error

	A	B	C	D	E
1					
2		100		Communication error: Error code 102(66H)	
3		200		Communication error: Error code 102(66H)	
4					
5		300		Communication error: Error code 102(66H)	
6		400		Communication error: Error code 102(66H)	
7					

(7) Instructions

An error may occur if you call the OLEX function from the event procedure of the object.

In this case, first register the macro to the standard module sheet, and then assign the macro to a command button.

Example: Assigning the macro, which calls the OLEX function to a command button

- 1) Register the macro to the standard module. Specify any procedure name.

```
Sub OLEX_READ ()
    result = [OLEX]. OLEXRead ("Monitor read 1")
End Sub
```

- 2) Display the "Forms" toolbar (choose "Forms" from [View]-[Toolbars]), choose "Buttons", and paste it to the worksheet. As the "Assign Macro" dialog box appears at this time, assign the macro created.

12.4 OLEXWrite

The OLEXWrite function is a cell area writing function included in the OLEX macro file. When you give an argument the cell area name to which monitor setting has been made and call the function, values are written to the corresponding cell area. If errors occur, error codes appear in the cells. In that case, refer to the error list and remove the errors or make a write test to check the error definitions.

(1) Syntax

String [OLEX]. OLEXWrite (cellname)

(2) Argument

String cellname Cell area name where data will be written

(3) Makeup

[OLEX] : File name (book name) where the function is registered

OLEXWrite : Function name

cellname : Specify the cell area name passed to the function.

Specify a character string type variable.

When specifying two or more cell names, separate them by a comma (.). You can specify up to 16 names.

The cell area names you can specify are limited to the cell area names to which monitor setting has been made.

(4) Return value

On normal termination, the function returns NULL ("").

If an error occurs, the cell area name in error is enclosed by parentheses and returned.

The return value is a string type character string.

If two or more areas result in error, the cell area names resulting in error are returned consecutively, e.g. (Cell area name 1)(Cell area name 2).

(5) Example of use

- (a) The following example assumes that the cell area name "Monitor write 1" is passed to the OLEXWrite function as an argument.

```
result = [OLEX]. OLEXWrite ("Monitor write 1")
```

- (b) Enter the following program into a subprocedure to execute the macro.

```
Sub Test1 ()  
    result = [OLEX]. OLEXWrite ("Monitor write 1")  
End Sub
```

- (c) The return value appears if an error occurs in the above example.
MsgBox result "(Monitor write 1)" appears in the message box.

- (d) Two or more cell area names can be passed simultaneously as arguments.
In this case, separate the cell area names by a comma (.).
The following example assumes that the cell area names "Monitor write 1" and "Monitor write 2" are passed to the OLEXWrite function as two arguments.

```
Sub Test2 ()  
    result = [OLEX]. OLEXWrite ("Monitor write 1","Monitor write 2")  
End Sub
```

(6) Explanation

The cell area names in error are registered to the return value of the OLEXWrite function, but the error codes and error definitions are not registered.

The error codes and error definitions are displayed in the writing cell areas.

Since the preset cell values and format may be cleared, execute the OLEXWrite function after making sure that the cell format and values may be changed.

Example 1: "B2: B4" area was given as an argument and resulted in error

	A	B	C
1			
2		Communication error: Error code 102(66H)	
3		Communication error: Error code 102(66H)	
4		Communication error: Error code 102(66H)	
5			

Example 2: "B2: B3, B5: B6" and "D2: D3, D5: 6" areas were given as arguments and "D2: D3, D5: 6" resulted in error

	A	B	C	D	E
1					
2		100	Communication error: Error code 102(66H)		
3		200	Communication error: Error code 102(66H)		
4					
5		300	Communication error: Error code 102(66H)		
6		400	Communication error: Error code 102(66H)		
7					

(7) Instructions

An error may occur if you call the OLEX function from the event procedure of the object.

In this case, first register the macro to the standard module sheet, and then assign the macro to a command button.

Example: Assigning the macro, which calls the OLEX function, to a command button

- 1) Register the macro to the standard module. Specify any procedure name.

```
Sub OLEX_WRITE ()
    result = [OLEX]. OLEXWrite ("Monitor write 1")
End Sub
```

- 2) Display the "Forms" toolbar (choose "Forms" from [View]-[Toolbars]), choose "Buttons", and paste it to the worksheet.

As the "Assign Macro" dialog box appears at this time, assign the macro created.

APPENDICES

APPENDIX 1 Specifications

The following is the OLEX specifications.

Item	Description
Number of Excel sheets	You can set up to 250 sheets.
Number of monitor cell areas	You can set up to 1000 areas.
Size of single monitor cell area	You can set up to 1000 points.
Number of logging cell areas	You can set up to 100 areas.
Number of logging times	You can set up to 2000 lines and 256 columns.
Number of comment cell areas	You can set up to 500 areas.
Size of comment cell area	You can set only 1 point.
Number of alarm cell areas	You can set up to 100 areas.
Size of alarm cell area	You can set four or more columns and up to 300 lines.

App.

APPENDIX 2 About the Automatic Save/Print Timing

When you have selected "At operation time period" as the automatic save/print timing, you have to specify the Start time and Stop time in "Logging time" set on the Environment setup utility.

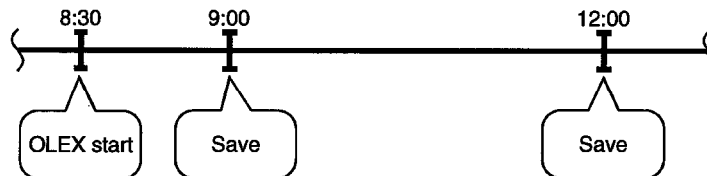
An error occurs if there are no settings of the Start time and Stop time in "Logging time".

When you have turned on the interval designation check box, automatic save/print is performed automatically at the specified intervals between the Start time and Stop time.

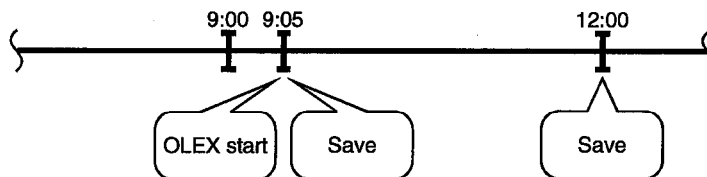
If OLEX is stopped before the Stop time in "Logging time", saving/printing is done at a stop.

(1) The Start time is set to 9:00 and the Stop time to 12:00

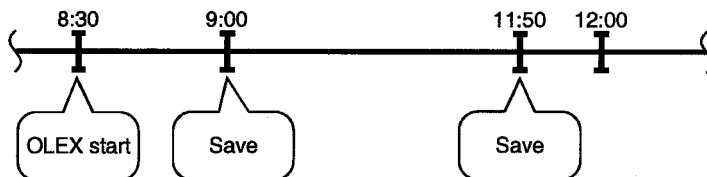
(a) When OLEX is started at 8:30



(b) When OLEX is started at 9:05

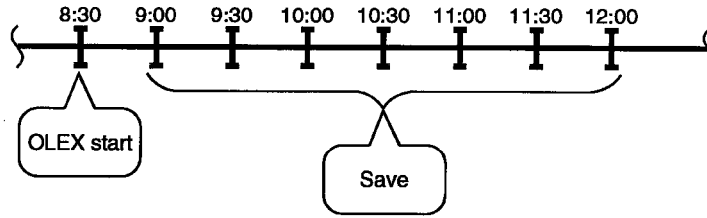


(c) When OLEX is stopped at 11:50

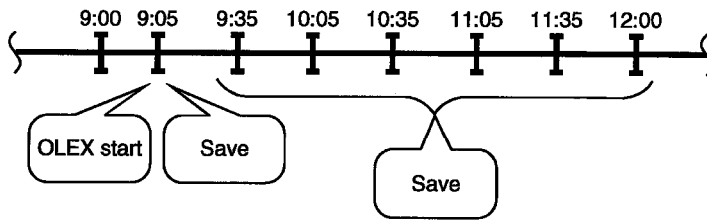


(2) The starting time is set to 9:00, the end time to 12:00, and the specified interval to 30 minutes

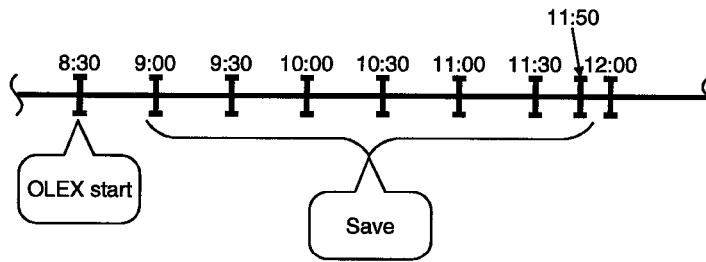
(a) When OLEX is started at 8:30



(b) When OLEX is started at 9:05



(c) When OLEX is stopped at 11:50



APPENDIX 3 Tag Error Codes

The following table lists the error codes displayed when tags are used.

Error Code		Error Definition	Corrective Action
Identifier	Number		
1	-1	Specified tag file is abnormal.	Choose the tag file created using the Tag setup utility.
1	-2	Failure to acquire shared memory. Memory for operation cannot be acquired due to memory shortage.	Execute after closing other running applications.
1	-3	Failure to acquire local memory. Memory for operation cannot be acquired due to memory shortage.	
1	-4	Failure to acquire resources. Acquirement of resources failed.	Since memory may be short, execute after closing other running applications.
1	-5	Tag name is wrong.	Specify the tag name registered as a valid tag in the specified tag file.
1	-6	Thread creation failed.	Since memory may be short, execute after closing other running applications.
1	-7	Registry contents are wrong. Registry information is corrupted.	Reinstall software.
1	-8	Timing of registration to user event is wrong.	As the set user timing is 0, set a proper value.
1	-9	Specified log timing is abnormal.	In a log-specified tag, log collection cannot be done at the timing of less than 1 second. Correct the collection timing.
1	-10	Collection condition is wrong.	Set a correct collection condition.
1	-11	Hand shake time out error	Make setting to make Hand shake established.
1	-12	Tag management process status is wrong.	Make tag information correct.
1	-13	Reload occurred in Tag management process.	Perform reload-related processing since reload occurred in Tag management process.
1	-14	Specified buffer size is wrong.	Specify proper buffer size.
1	-15	Tag not specified for logging was handled as a logged tag.	Choose a log-specified tag.
1	-16	Specified field number exceeds the number of tag fields.	Specify a proper field number.
1	-17	Number of fields is wrong.	Specify a proper field number and number of read/write fields.
1	-18	Number of read/write fields is wrong.	Specify a proper number of read/write fields.
1	-19	Event of a tag, which is not normally read, was awaited.	Specify the tag normally read.
1	-20	Specified tag is not normally collected.	Specify the tag normally collected.
1	-21	Error event occurred.	
1	-23	Data specified to wait for event is wrong.	
1	-24	Clock reading was attempted by specifying the CPU, which does not have the clock reading function.	Specify the CPU having the clock function.
1	-25	Log data saving failed.	Free space of hard disk may be small. Increase the free space of hard disk.
1	-27	Time-out occurred during clock data write.	Check that the special devices used to write clock data are in write-ready status.
1	-30	Request device is not set.	For Hand shake read, set the request device.

Type SW2D5F-OLEX-E Excel Communication Support Tool Operating Manual

MODEL	SW2D5F-OLEX-E-O-E
MODEL CODE	1LMS45
IB(NA)66897-A(9903)MEE	

 **MITSUBISHI ELECTRIC CORPORATION**

HEAD OFFICE : MITSUBISHI DENKI BLDG MARUNOUCHI TOKYO 100-8310 TELEX : J24532 CABLE MELCO TOKYO
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