

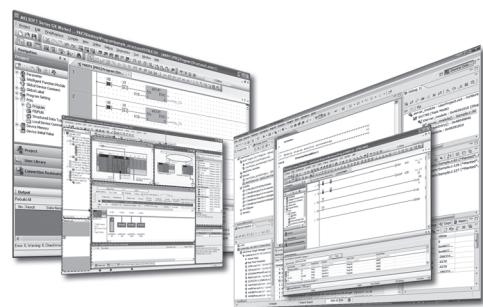


MELSOFT

Engineering Software

MX Sheet Version 2 Operating Manual (Introduction)

-SW2DNC-SHEET-E



●SAFETY PRECAUTIONS●

(Read these precautions before using this product.)

Before using this product, please read this manual and the relevant manuals carefully and pay full attention to safety to handle the product correctly.

The precautions given in this manual are concerned with this product. For the safety precautions of the programmable controller system, refer to the User's Manual for the CPU module.

In this manual, the safety precautions are classified into two levels: " WARNING" and " CAUTION".

WARNING

Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury.

CAUTION

Indicates that incorrect handling may cause hazardous conditions, resulting in minor or moderate injury or property damage.

Under some circumstances, failure to observe the precautions given under " CAUTION" may lead to serious consequences.

Make sure that the end users read this manual and then keep the manual in a safe place for future reference.

[Design Instructions]

WARNING

- When data change, program change, or status control is performed from a personal computer to a running programmable controller, create an interlock circuit outside the programmable controller to ensure that the whole system always operates safely.
Furthermore, for the online operations performed from a personal computer to a programmable controller CPU, the corrective actions against a communication error due to such as a cable connection fault should be predetermined as a system.

CAUTION

- The online operations performed from a personal computer to a running programmable controller CPU (forced output and operating status changes) must be executed after the manual has been carefully read and the safety has been ensured.
The operation failure may cause the injury or machine damage.

●CONDITIONS OF USE FOR THE PRODUCT●

(1) Mitsubishi programmable controller ("the PRODUCT") shall be used in conditions;

- i) where any problem, fault or failure occurring in the PRODUCT, if any, shall not lead to any major or serious accident; and
- ii) where the backup and fail-safe function are systematically or automatically provided outside of the PRODUCT for the case of any problem, fault or failure occurring in the PRODUCT.

(2) The PRODUCT has been designed and manufactured for the purpose of being used in general industries.

MITSUBISHI SHALL HAVE NO RESPONSIBILITY OR LIABILITY (INCLUDING, BUT NOT LIMITED TO ANY AND ALL RESPONSIBILITY OR LIABILITY BASED ON CONTRACT, WARRANTY, TORT, PRODUCT LIABILITY) FOR ANY INJURY OR DEATH TO PERSONS OR LOSS OR DAMAGE TO PROPERTY CAUSED BY the PRODUCT THAT ARE OPERATED OR USED IN APPLICATION NOT INTENDED OR EXCLUDED BY INSTRUCTIONS, PRECAUTIONS, OR WARNING CONTAINED IN MITSUBISHI'S USER, INSTRUCTION AND/OR SAFETY MANUALS, TECHNICAL BULLETINS AND GUIDELINES FOR the PRODUCT.

("Prohibited Application")

Prohibited Applications include, but not limited to, the use of the PRODUCT in;

- Nuclear Power Plants and any other power plants operated by Power companies, and/or any other cases in which the public could be affected if any problem or fault occurs in the PRODUCT.
- Railway companies or Public service purposes, and/or any other cases in which establishment of a special quality assurance system is required by the Purchaser or End User.
- Aircraft or Aerospace, Medical applications, Train equipment, transport equipment such as Elevator and Escalator, Incineration and Fuel devices, Vehicles, Manned transportation, Equipment for Recreation and Amusement, and Safety devices, handling of Nuclear or Hazardous Materials or Chemicals, Mining and Drilling, and/or other applications where there is a significant risk of injury to the public or property.

Notwithstanding the above, restrictions Mitsubishi may in its sole discretion, authorize use of the PRODUCT in one or more of the Prohibited Applications, provided that the usage of the PRODUCT is limited only for the specific applications agreed to by Mitsubishi and provided further that no special quality assurance or fail-safe, redundant or other safety features which exceed the general specifications of the PRODUCTs are required. For details, please contact the Mitsubishi representative in your region.

INTRODUCTION

Thank you for your patronage. We appreciate your purchase of the engineering software, MELSOFT. This manual is designed for users to understand operations of MX Component.

Before using the product, thoroughly read this manual and related manuals to develop full familiarity with the functions and performance of MX Component and supported modules to ensure correct use.

RELATED MANUALS

The manuals related to this product are shown below.

Refer to the following tables when ordering required manuals.

Manual name < Manual number, model code >	Description
MX Sheet Version 2 Operating Manual <SH-081080ENG, 13JU73>	Explains the operation procedures, setting and operation methods of MX Sheet. (Sold separately)
MX Component Version 4 Operating Manual <SH-081084ENG, 13JU75>	Explains the setting and operation methods of each utility on MX Component. (Sold separately)
MX Component Version 4 Programming Manual <SH-081085ENG, 13JW12>	Explains the programming procedures, details and error codes for ACT control. (Sold separately)

Note: MX Sheet Version 2 Operating Manual is included on the CD-ROM of the software package in a PDF file format.

Manuals in printed form are sold separately for single purchase. Order a manual by quoting the manual number (model code) listed in the table above.

Remark

- Mitsubishi Electric Corporation does not guarantee the commercially-available Microsoft® Windows® Operating System-based software products that are introduced in this manual.
- The copyright of this software package is owned by Mitsubishi Electric Corporation.
- Reprinting or reproducing the part of or entire this manual without prior permission of Mitsubishi Electric Corporation is prohibited.
- Although we have made the utmost effort to follow the revisions of the software and hardware, in some cases, unsynchronized matter may occur.
- The software license must be purchased per personal computer.
- This software package (including this manual) must be used under the Software License Agreement only.
- Mitsubishi shall have no responsibility or liability for any defects caused by operating this software package (including this manual).
- The descriptions in this manual may be subject to change without prior notice.

CONTENTS

SAFETY PRECAUTIONS	1
CONDITIONS OF USE FOR THE PRODUCT	2
INTRODUCTION	3
RELATED MANUALS	3
HOW TO READ THIS MANUAL	5
TERMS	7
DEFINITIONS OF TERMS	8

CHAPTER 1 OVERVIEW	9
--------------------------	---

1.1 What is MX Sheet?	9
1.2 Functions Explained in This Manual	10

CHAPTER 2 OPERATING ENVIRONMENT	11
---------------------------------------	----

CHAPTER 3 INSTALLATION AND UNINSTALLATION	14
---	----

3.1 Installation	14
3.1.1 Before installing MX Sheet	14
3.1.2 Installation	17
3.1.3 Installation Check	24
3.1.4 Manual add-in registration	25
3.2 Uninstallation	28

CHAPTER 4 SYSTEM CONFIGURATION USED IN THIS MANUAL	30
--	----

CHAPTER 5 MX Sheet OPERATION PROCEDURE	31
--	----

CHAPTER 6 OPERATING MX Sheet	32
------------------------------------	----

6.1 Logging	32
6.2 Monitoring	40
6.3 Writing Data	44
6.4 Automatic Saving	48
6.5 Automatic Printing	52
6.6 Creating/Using button	54

APPENDIX	55
----------------	----

Appendix 1 Useful Functions of MX Sheet	55
Appendix 1.1 Alarm summary	55
Appendix 1.2 Comment display	56
Appendix 1.3 Device trigger	56
Appendix 1.4 Handshake	57
Appendix 1.5 CSV logging	58
Appendix 1.6 Automatic Communication Startup Setting	58
Appendix 1.7 Protect the MX Sheet Setting	59
Appendix 1.8 Error log setting	60

REVISIONS	61
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HOW TO READ THIS MANUAL

The following explains the page composition and symbols in this manual.

The contents of the example page used here are different from the actual contents for the intention of explaining how to read this manual.

Operating procedure describes the operating procedure of the function.

Point indicates the particular attention.

Remark indicates the useful tip.

CHAPTER 6 OPERATING MX Sheet

6.5 Automatic Printing

This section explains a setting procedure for automatically saving the Excel book during MX Sheet operation.

(1) Setting example
Automatic print condition: Printed at 17:00 every day.
Print area : Sheet 1 and Sheet 3 are printed.

(2) Setting automatic print
This section explains an Excel spreadsheet automatic print setting procedure.

Operating procedure

6

1. Selecting automatic save setting
Start Excel and select the <<Add-Ins>> tab ⇔ [MX Sheet] ⇔ [Automatic Print Setting] to display the Automatic Save screen.

2. Creating new automatic print conditions
Click the [Create New] button to create new automatic print conditions.

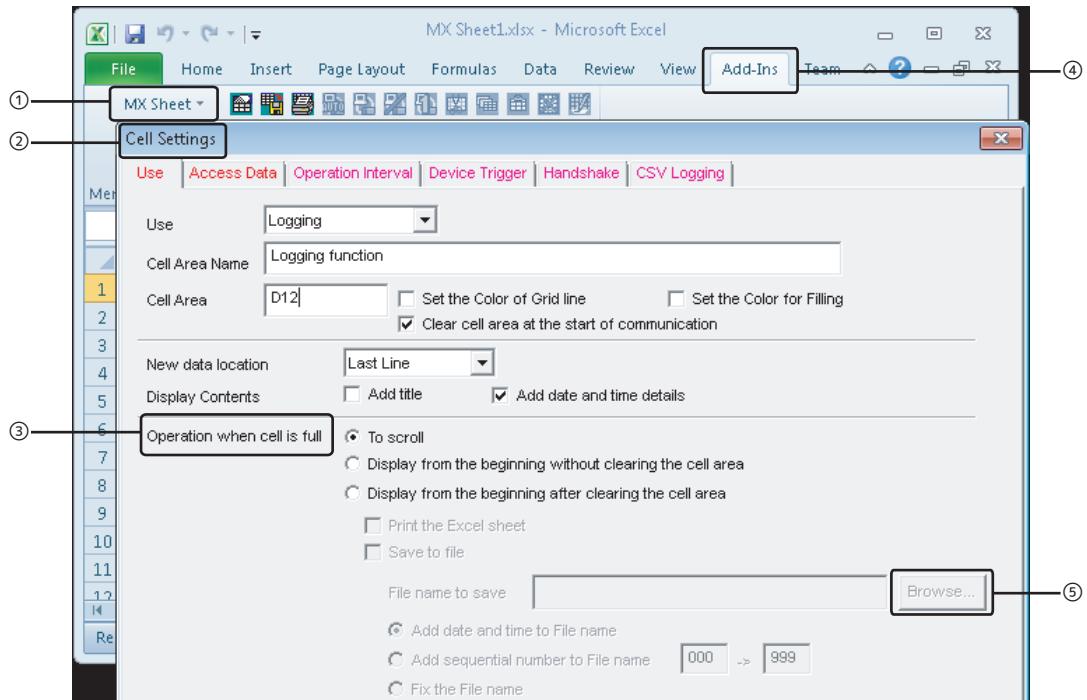
6.5 Automatic Printing

Indicates the chapter of currently open page.

Indicates the section of currently open page.

- Symbols used in this manual

The following shows the symbols used in this manual with descriptions and examples.



No.	Notation	Description	Example
①	[]	Menu name on a menu bar	[MX Sheet]⇒[Cell Setting]
②	<u>(Underline)</u>	Screen name	<u>Cell Settings</u> screen
③	" "	Item name in a screen	"Operation when cell is full"
④	<>	Tab name in a screen	<>Add-Ins>> tab
⑤		Button in a screen	 button
-		Keyboard key	 key

TERMS

This manual uses the terms listed in the following table unless otherwise noted.

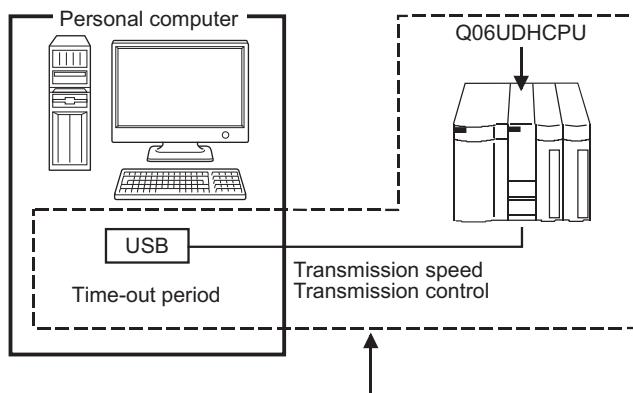
Term	Description
MX Sheet	Generic product name for SWnDNC-SHEET-E and SWnDNC-SHEET-EA (n: version) -EA indicates a volume license product.
Personal computer	Generic term for personal computers on which Windows® operates
PC CPU module	Abbreviation for MELSEC-Q series compatible PC CPU module (CONTEC CO., LTD.product)
MX Component	Generic product name for SWnDNC-ACT-E and SWnDNC-ACT-EA (n: version) -EA indicates a volume-license product.
Windows® 7 or later	Generic term for Windows® 7, Windows® 8, Windows® 8.1, and Windows® 10.
Excel	Generic term for Microsoft® Excel® 2003, Microsoft® Excel® 2007, Microsoft® Excel® 2010 (32-bit version), Microsoft® Excel® 2013 (32-bit version), and Microsoft® Excel® 2016 (32-bit version)
System label	Generic term for label names assigned to each device It can be used instead of devices in programs.

DEFINITIONS OF TERMS

The following are the definitions of terms used in this manual.

(1) Logical station number

A number assigned to the group of data that is integrated from the connection target information required for communication within the communication setup utility.



Connection target information on up to CPU to communicate with is combined into one data, to which logical station number is assigned.

(2) 1 shot communication

This function executes the function set to the selected cell area at any timing.

CHAPTER 1 OVERVIEW

1.1 What is MX Sheet?

MX Sheet is a communication support software package that enables device data collection by simple program-less setting using Excel.

For details, refer to the following manual.

 MX Sheet Version 2 Operating Manual

Logging function, monitor function				
Logging				
Date	D0	D1	D2	D3
2012/06/28 Thu 20:41:07	1	2	3	4
2012/06/28 Thu 20:41:12	11	12	13	14
2012/06/28 Thu 20:41:17	21	22	23	24
2012/06/28 Thu 20:41:22	31	32	33	34
2012/06/28 Thu 20:41:27	41	42	43	44
2012/06/28 Thu 20:41:32	51	52	53	54
2012/06/28 Thu 20:41:37	61	62	63	64
2012/06/28 Thu 20:41:42	71	72	73	74

Monitor			
D0	D1	D2	D3
1	2	3	4

Alarm summary function			
Generation	2012/06/28 Thu 20:41:17	Material storage	Minor failure
Restoration	2012/06/28 Thu 20:43:53	Material storage	Minor failure

A	B	C	D	E
1 Kind	Date	Cell Area Name	ErrorNo	Contents
2 Information	2012/06/29 Fri 15:21:47		00000000	Communication was started.
3 Warning	2012/06/29 Fri 15:21:49 est		e1000001	Communication error has occurred in the open/close of communication. <00100001>[Hex]<101000502>[Hex]>
4 Information	2012/06/29 Fri 15:21:57		00000002	USB driver connect error Connection of the USB driver failed. The corrective action is as follows: Exit the program and restart the IBM-PC/AT compatible. Reinstall MX Component. Check USB driver installation. <ErrorCode:1000002>[Hex]>

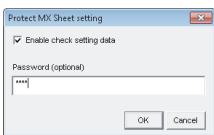
Write function			
Write			
D0	D1	D2	D3
101	102	103	104

Automatic print function			
			

Comment display function			
[Temperature] within the normal range			
[Temperature] over the upper limit			

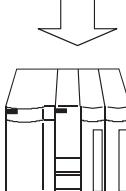
Automatic save function			
			

Excel book file
HTML file
CSV file

Protect MX Sheet setting function			
			

Create button function			
			

MX Sheet			
			

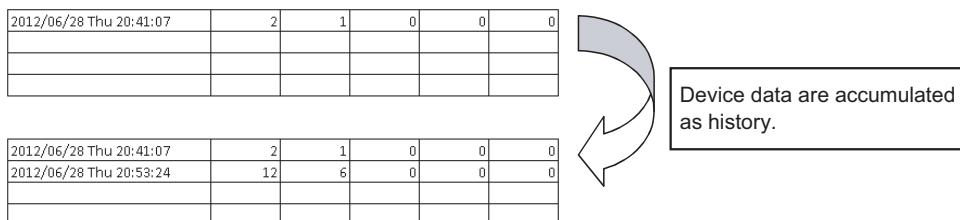
Programmable controller CPU			
			

1.2 Functions Explained in This Manual

This manual explains the following MX Sheet functions.

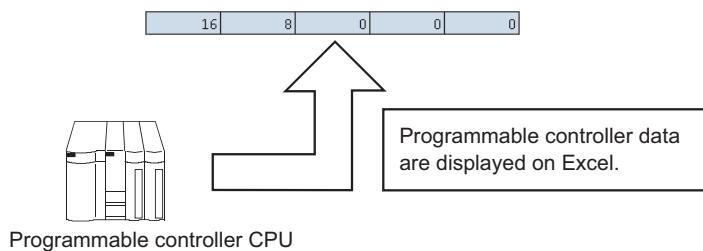
(1) Logging function (☞ Page 32, Section 6.1)

This function accumulates the device data collected from the programmable controller as a history in the cell area selected on an Excel spreadsheet.



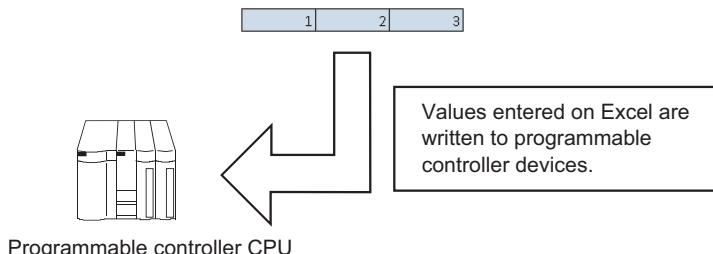
(2) Monitor function (☞ Page 40, Section 6.2)

This function displays the device data collected from the programmable controller in the cell area selected on an Excel spreadsheet.



(3) Write function (☞ Page 44, Section 6.3)

This function writes the values entered on an Excel spreadsheet to programmable controller devices.



(4) Automatic save function (☞ Page 48, Section 6.4)

This function saves the Excel book automatically, when the specified device is triggered at the specified time.

(5) Automatic print function (☞ Page 52, Section 6.5)

This function prints the Excel book or specified Excel spreadsheets automatically, when the specified device is triggered at the specified time.

(6) Create button function (☞ Page 54, Section 6.6)

This function executes each of the Start Communication, End Communication and 1 Shot Communication by clicking the created button.

CHAPTER 2 OPERATING ENVIRONMENT

The following table indicates the operating environment of MX Sheet.

Item	Description
Personal computer	Microsoft® Windows® supported personal computer
CPU	Intel® Core™2 Duo 2GHz or higher is recommended.
Required memory	Recommended 1GB or more *1
PC CPU module	MELSEC-Q series-compatible PC CPU module (CONTEC CO., LTD.product)*2
Available hard disk capacity	At installation: 300MB or more. *3, *4 At operation: Virtual memory available capacity is 512MB or more.
Display	Resolution 1024 × 768 dots or more
Operating system *5, *6, *7, *8 (32-bit/64-bit)	Microsoft® Windows XP® Professional Operating System (English version) SP3 or later Microsoft® Windows XP® Home Edition Operating System (English version) SP3 or later Microsoft® Windows Vista® Home Basic Operating System (English version) SP2 or later Microsoft® Windows Vista® Home Premium Operating System (English version) SP2 or later Microsoft® Windows Vista® Business Operating System (English version) SP2 or later Microsoft® Windows Vista® Ultimate Operating System (English version) SP2 or later Microsoft® Windows Vista® Enterprise Operating System (English version) SP2 or later Microsoft® Windows® 7 Starter Operating System (English version) Microsoft® Windows® 7 Home Premium Operating System (English version) Microsoft® Windows® 7 Professional Operating System (English version) Microsoft® Windows® 7 Ultimate Operating System (English version) Microsoft® Windows® 7 Enterprise Operating System (English version) Microsoft® Windows® 8 Operating System (English version) Microsoft® Windows® 8 Pro Operating System (English version) Microsoft® Windows® 8 Enterprise Operating System (English version) Microsoft® Windows® 8.1 Operating System (English version) Microsoft® Windows® 8.1 Pro Operating System (English version) Microsoft® Windows® 8.1 Enterprise Operating System (English version) Microsoft® Windows® 10 Home Operating System (English version) Microsoft® Windows® 10 Pro Operating System (English version) Microsoft® Windows® 10 Enterprise Operating System (English version) Microsoft® Windows® 10 Education Operating System (English version)

Item	Description
Required software	-
Excel ^{*9}	Microsoft® Excel® 2003 (English version), Microsoft® Excel® 2007 (English version) ^{*10} , Microsoft® Excel® 2010 (32-bit version) (English version) ^{*11} , Microsoft® Excel® 2013 (32-bit version) (English version) ^{*12} , or Microsoft® Excel® 2016 (32-bit version) (English version) ^{*13}
MX Component	MX Component Version 4 or later

*1 : For 64-bit Windows® 7 or later, 2GB or more memory is required.

*2 : Production of the PC CPU module was discontinued in March, 2011.

*3 : When installing .NET Framework, at least 1GB of free space is required.

*4 : This includes the required free space for installation of MX Component.

*5 : Windows XP® Professional (64-bit version) and Windows Vista® (64-bit version) cannot be used.

*6 : .NET Framework 2.0 and .NET Framework 2.0 English Language Pack installation is required.

*7 : When the following functions are used, this product may not run properly.

- Application start-up in Windows compatibility mode
- Fast user switching
- Remote desktop
- Windows XP Mode
- Windows Touch or Touch
- Modern UI
- Client Hyper-V
- Virtual Desktops
- Tablet mode
- Windows® Hibernate and Standby

*8 : In the following case, the screen of this product may not work properly.

- The size of the text and/or other items on the screen are changed to values other than default values (such as 96 DPI, 100%, and 9 pt).

*9 : Excel spreadsheets created in the English environment are applicable to the English environment only, cannot be used in the other environment.

*10 : When using Microsoft® Excel® 2007, Microsoft® Windows XP® Service Pack 2 or later is required.

*11 : When using Microsoft® Excel® 2010 (32-bit version), Microsoft Windows XP® Service Pack 3, Microsoft® Windows Vista® Service Pack 1, Microsoft® Windows® 7 or later is required.

Microsoft® Excel® 2010 (64-bit version) is not supported.

*12 : When using Microsoft® Excel® 2013 (32-bit version), Windows® 7 or later is required. Microsoft® Excel® 2013 (64-bit version) is not supported.

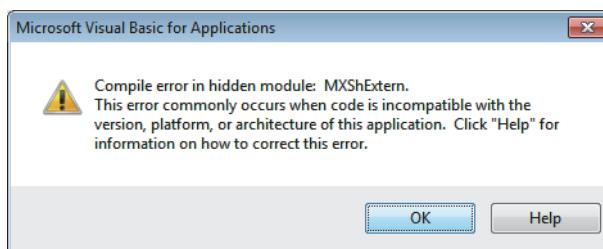
*13 : When using Microsoft® Excel® 2016 (32-bit version), Windows® 7 or later is required. Microsoft® Excel® 2016 (64-bit version) is not supported.

Point

- Considerations when using Microsoft® Excel® 2010 or later
In order to use MX Sheet, install 32-bit version.
When installing MX Sheet on the personal computer where 64-bit version is installed, the following error message is displayed.



After MX Sheet is installed, 64-bit Microsoft® Excel® 2010 or later is installed and started, then an add-in is installed, the following error message is displayed.



CHAPTER 3 INSTALLATION AND UNINSTALLATION

This chapter explains the installation and uninstallation procedures of MX Sheet.

3.1 Installation

This section explains MX Sheet installation. Screens from Windows® 7 are used except for different operations required in other operating systems.

3.1.1 Before installing MX Sheet

(1) Considerations when installing MX Sheet

- Before installing MX Sheet, close any other applications running on Windows®.
- The installer may not work normally because of the operating system's or other companies' update programs, such as Windows® Update or the Java update program, start automatically. Install MX Sheet after configuring those update programs not to start automatically.
- When installing MX Sheet, log on as a user with the Administrator authority.
- For the required personal computer operating environment to install MX Sheet, refer to the following chapter.

☞ Page 11, CHAPTER 2

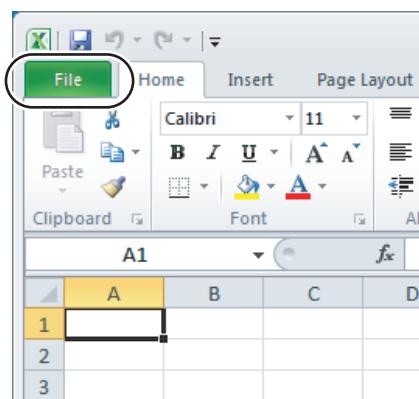
Point

- When the screen is not displayed (installation does not start) at start of the installer, start the installer by the following methods.
 - Copy the installer to a directory in a shallow layer such as "C:\temp", and start it.
 - Right-click SETUP.EXE, select [Run as administrator], and start the installer.
 - Exit the resident software for a keyboard/mouse, and restart the installer.
- If the problem cannot be solved by the above methods, check whether the personal computer used applies to the following conditions.
 - "ntvdm.exe" is high load in the task manager (the usage rate of one CPU core is the maximum).
 - The personal computer is equipped with the 6th generation Intel® Core™ processor.
 - An image is output by using the on-board video (CPU built-in).
 - Any of edition of 32-bit version Microsoft® Windows® 7 is used.If any of the above conditions are applied, the Windows system module "ntvdm.exe" may be executed abnormally due to an incomplete BIOS code on the personal computer side, which causes failure to install correctly. Please contact the used personal computer manufacturer, and obtain the corrected BIOS and apply it.

(2) Security Setting of Excel

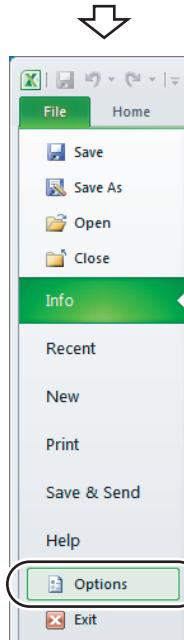
The following explains the setting procedure of required Trust Center when using MX Sheet.

Operating procedure



1. Select the <<File>> tab.

When using Microsoft® Excel® 2007, click the Office button.

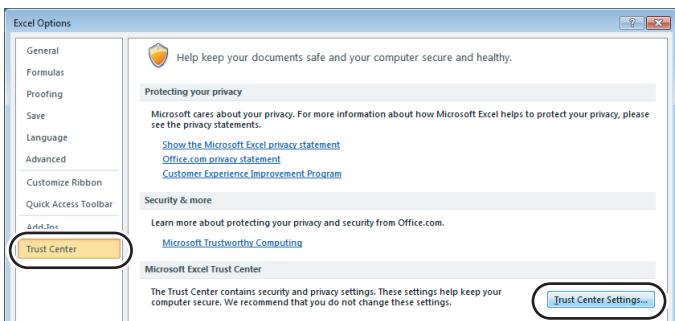


2. Select [Options].

When using Microsoft® Excel® 2007, click the **Excel Options** button.

To the next page

From the previous page



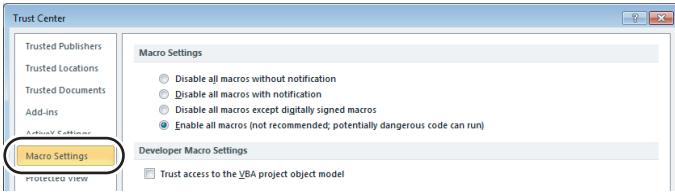
3. Select "Trust Center" from the list on the left and click the **Trust Center Settings...** button.



4. Select "Add-ins" from the list on the left, and clear the items when they have the check marks.



5. Select "ActiveX Settings" from the list on the left, and select any item other than "Disable all controls without notification".



6. Select "Macro Settings" from the list on the left, and select "Enable all macros (not recommended; potentially dangerous code can run)".



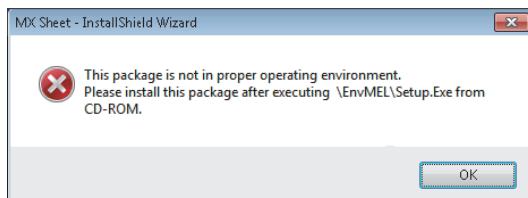
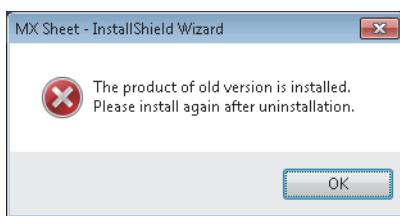
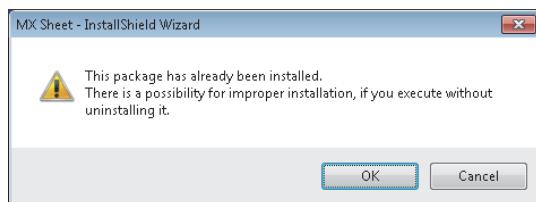
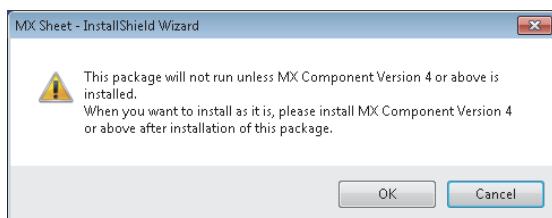
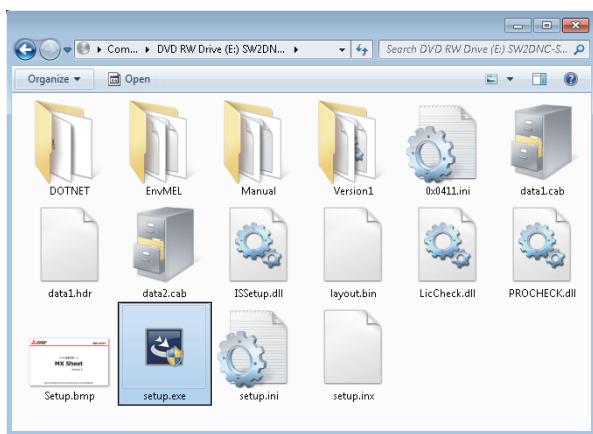
Complete!

7. After configuring the above settings, click the **OK** button, and exit Excel.

3.1.2 Installation

(1) Installing the product

Operating procedure



Continued on next page

1. Right-click [Start] and select [Explorer].

Click the drive in which the disk is inserted, and double-click "SETUP.EXE".

When user account control is enabled, the following screen is displayed.

Click the **Yes** button.



If the message on the left is displayed, click the

OK button to install MX Sheet, and then install MX Component.

If the message on the left is displayed, click the

Cancel button to uninstall MX Sheet, then reinstall it.

If the message on the left is displayed, click the

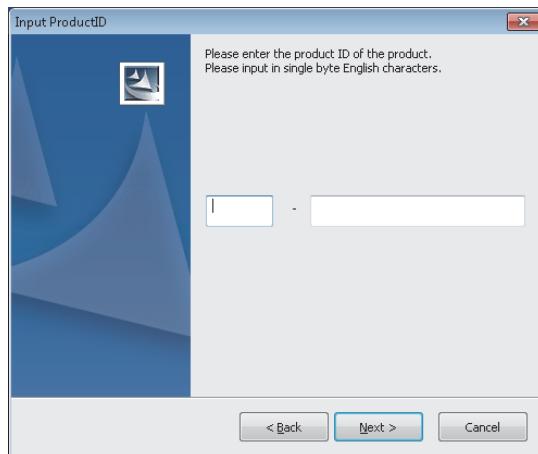
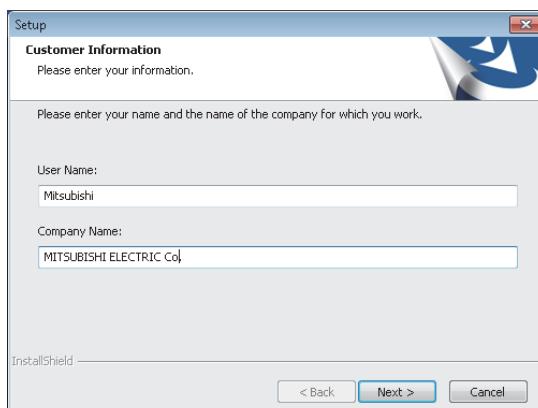
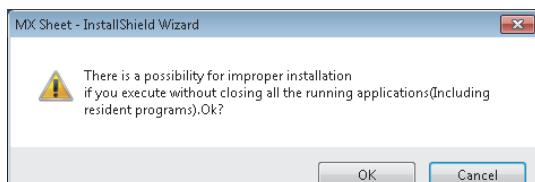
OK button to uninstall MX Sheet, then reinstall it.

(Message on the left is displayed if "SETUP.EXE" of MX Sheet Version 2.08J or later is executed when MX Sheet Version 2.07H or earlier is installed.)

If the message on the left is displayed, install EnvMEL (☞ Page 22, (2) in this section).

After the operation is complete, restart installation operation.

From the previous page



To the next page

2. Check that all applications is closed and click the



button.

If the applications are running, close all running applications.

3. Starting setup.

Enter the name and company name, and click the



button.

4. Check the registered name and company name.

Check if the registered content is correct, and click the



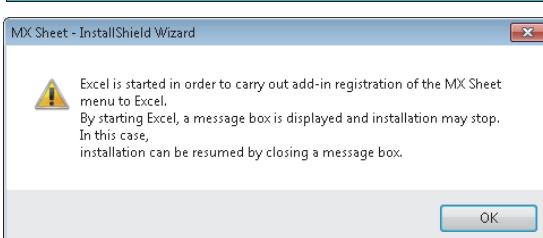
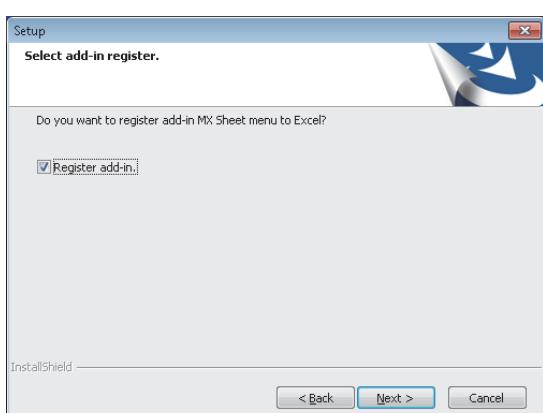
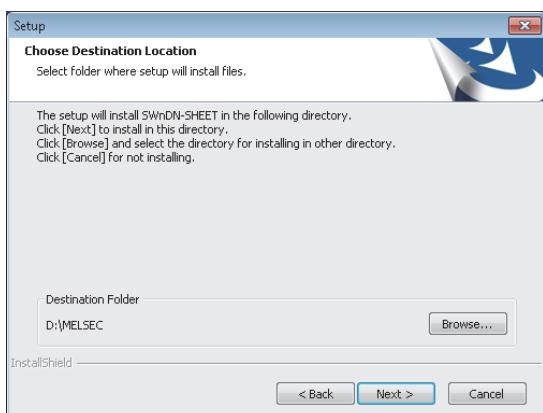
In order to change the information, click the button to return to the previous screen.

5. Register the product ID.

Enter the product ID and click the button.

The product ID is printed on the license certificate included with the product.

From the previous page



To the next page

6. Specify the installation destination folder.

If do not change the destination folder, click the

Next > button.

In order to change the destination folder, click the

Browse... button and specify a new drive and folder.

3

7. Register the MX Sheet to Excel as an add-in software.

Select the check box when registering an add-in.

(The check box is selected by default.)

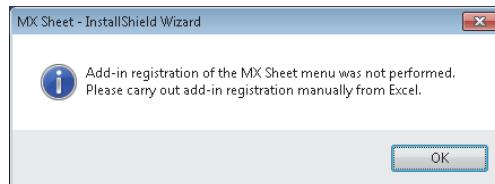
Click the **Next >** button.

For confirmation, the message on the left is displayed.

Click the **OK** button.

Point

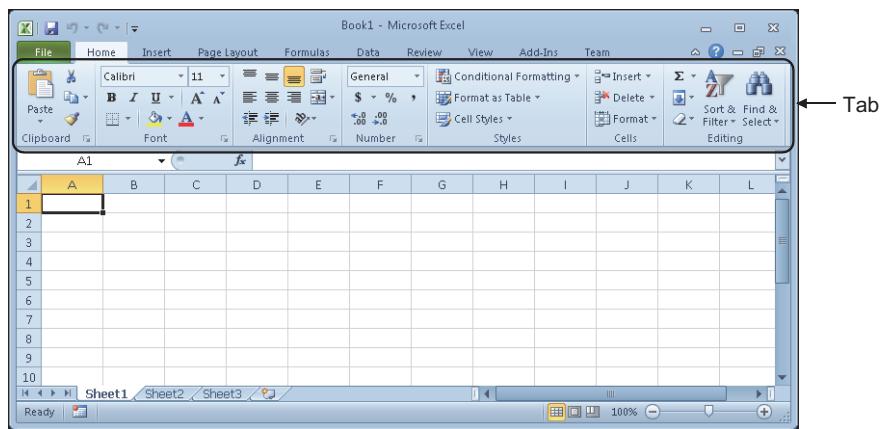
- In order to allow MX Sheet available, register MX Sheet menu to Excel as an add-in software. Normally, register an add-in software as instructed in step 7. If the "Register add-in check box" is cleared in step 7, the following message is displayed after the installation.



For the manual MX Sheet add-in registration method, refer to the following section.

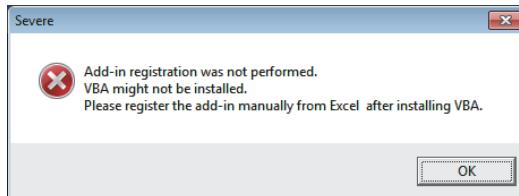
☞ Page 25, Section 3.1.4

When installing an add-in for Excel, the add-in that hides the tabs is automatically installed for the Excel.



- If VBA is not installed when an add-in is installed for Excel, the following error message is displayed, and MX Sheet cannot be used.

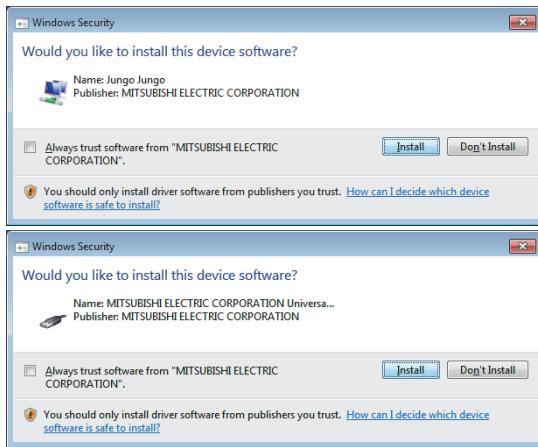
Register add-in manually after installing VBA.



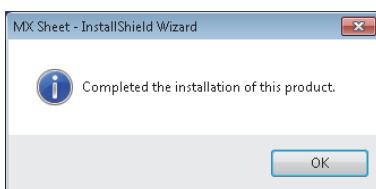
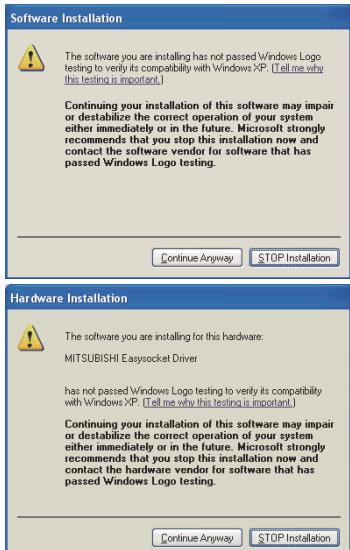
From the previous page



<The screen of Windows Vista® and Windows® 7 or later>



<The screen of Windows XP®>



Complete!

8. When installing a MELSOFT product, the message on the left may be displayed. Click the **Install button to continue the installation.**

When using Windows XP®, click the **Continue Anyway** button.

(The screen display may be different partially depending on the used operating system. This does not affect the operation.)

(We have checked the operation and confirmed that no error occurs after the installation.)

3

When the message on the left is displayed, installation is complete.

9. Click the **OK button to close the screen.**

When the following screen is displayed, select "Yes, I want to restart my computer now.".



(2) When message is displayed at start of installation

The following explains the countermeasures when the message is displayed at start of installation.

(a) When starting the installation of this product, the "This package is not in proper operating environment" message is displayed, disabling normal completion of installation. In such a case, close all applications and perform the following operation.

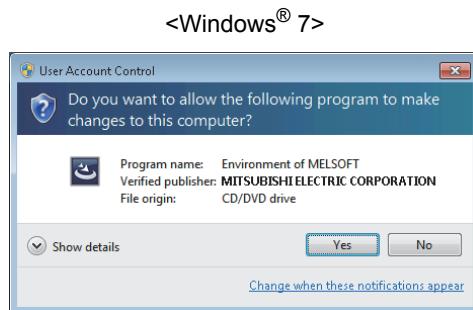
Operating procedure

1. Execute SETUP.EXE in the "EnvMEL" folder on the CD-ROM of this product.

After executing "SETUP.EXE", install the product.

When user account control is enabled, the following screen is displayed.

Click the **Yes** button.



Point

When using any of the following operating systems, refer to the corresponding technical bulletin.

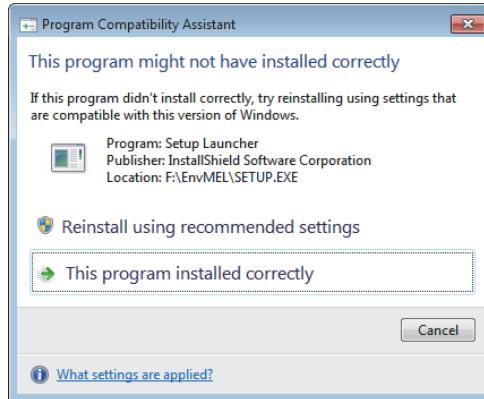
- When using Windows® Vista®
TECHNICAL BULLETIN No.FA-A-0008
- When using Windows® 7
TECHNICAL BULLETIN No.FA-A-0091
- When using Windows® 8 and 8.1
TECHNICAL BULLETIN No.FA-A-0153
- When using Windows® 10
TECHNICAL BULLETIN No.FA-A-0207

2. Install the product again.

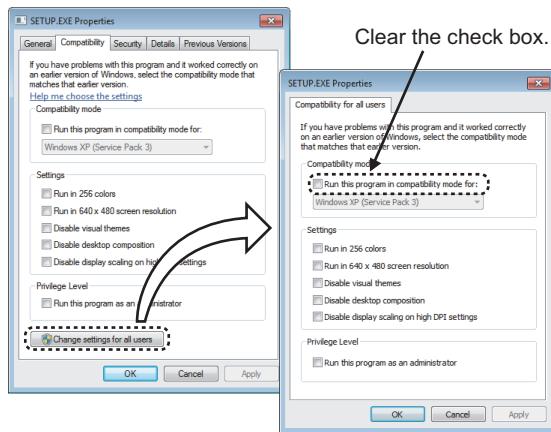
If this product is not installed properly at this time, restart the personal computer.

(b) The Program Compatibility Assistant screen may be displayed after installation.

Select "This program installed correctly" and restart the personal computer.



If "Reinstall using recommended settings" is selected, the "Windows XP SP2 compatibility mode" is automatically set. Disable the "Windows XP SP2 compatibility mode" by the following procedure, and install the product again.



1. Right-click on the setup.exe icon of the installation target in the Windows explorer, and open the **SETUP.EXE Properties** screen.
2. Select the <<Compatibility>> tab and click the **Show settings for all users** button.
3. Clear the "Run this program in compatibility mode for:" check box of compatibility mode in the <<Compatibility for all users>> tab, and click the **OK** button.
4. Click the **OK** button on the **SETUP.EXE Properties** screen.
5. Install the product again. (☞ Page 17, (1) in this section)

3.1.3 Installation Check

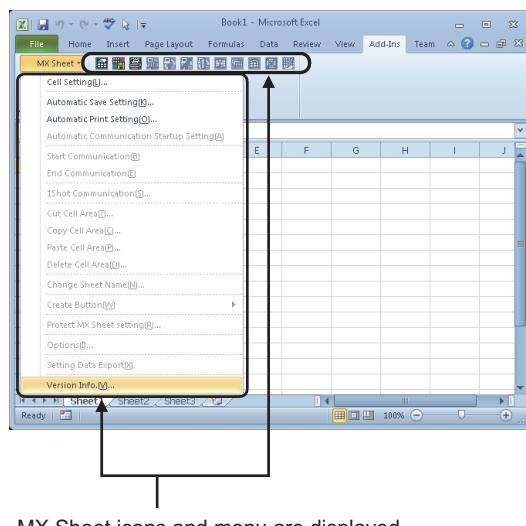
Check whether MX Sheet is installed normally or not as follows.

Operating procedure

(1) Start Excel.

(2) Confirm if the <<Add-Ins>> tab is added, and the icons and the menu of MX Sheet are added.

When using Microsoft® Excel® 2003, [MX Sheet] is added to the menu bar.



MX Sheet icons and menu are displayed.

Point

If the "Register add-in" is not selected on the Select add-in register screen in step 7 (☞ Page 17, Section 3.1.2), the icons and the menu of MX Sheet are not registered.

Register MX Sheet as an add-in software manually after installation.

For the manual add-in registration method, refer to the following section.

☞ Page 25, Section 3.1.4

3.1.4 Manual add-in registration

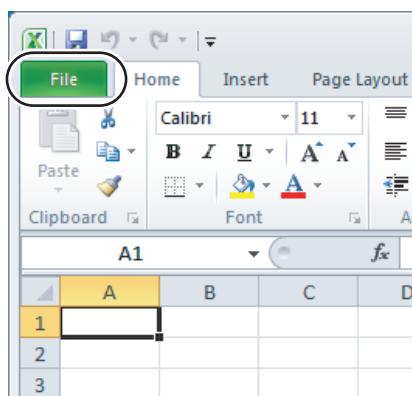
[MX Sheet] menu is not registered to the <<Add-Ins>> tab if "Register add-in" is not selected on the [Select add-in register](#) screen in step 7 (Page 17, Section 3.1.2) during installation.

Add-in registration is required to use MX Sheet.

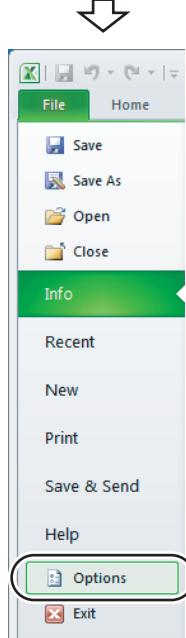
Register MX Sheet as an add-in software in the following procedure.

3

Operating procedure



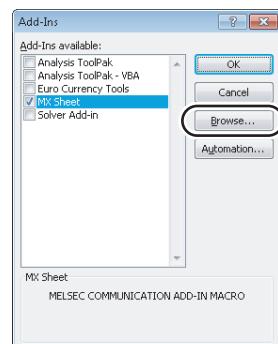
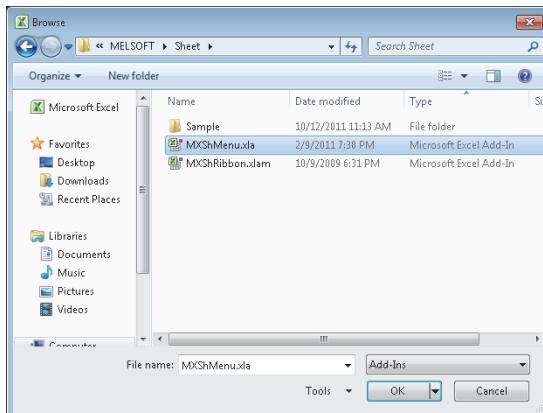
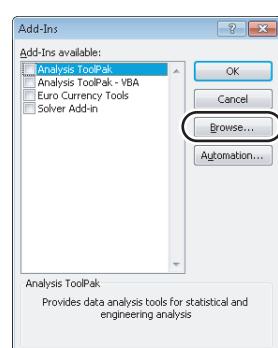
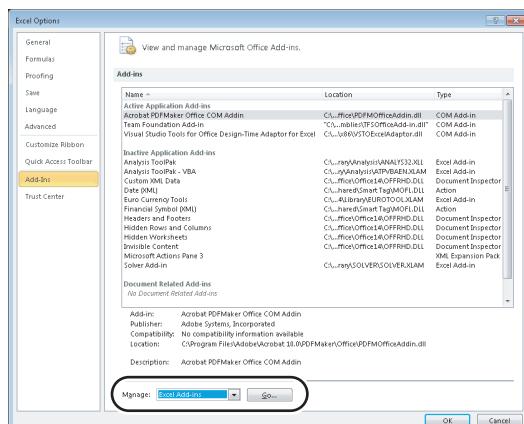
1. Start Excel and click the <<File>> tab.



2. Select [Option].

To the next page

From the previous page



To the next page

3. Excel Options screen is displayed.

Select "Add-Ins" and select "Excel Add-Ins" from "Manage", and then click the **Go...** button.

<Microsoft® Excel® 2003>

Select [Tool] ⇨ [Add-Ins] from the menu bar to display the Add-Ins screen.

<Microsoft® Excel® 2007>

Select the Office button and click the **Excel Options** button.

4. The Add-Ins screen is displayed.

Click the **Browse...** button.

5. The Browse screen is displayed.

Select "MXShMenu.xlsa" in "File name" and click the **OK** button.

"MXShMenu.xlsa" is stored into [User specified folder] ⇨ [Sheet] at installation.

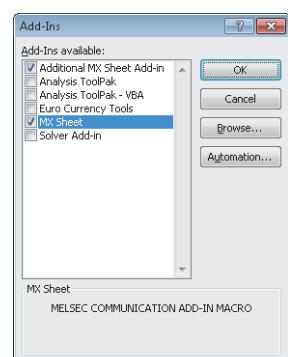
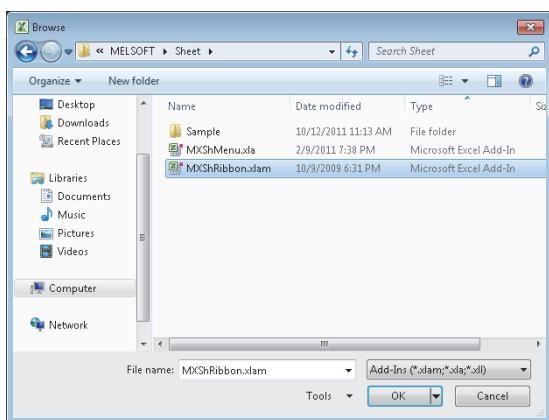
*1 : The installation destination folder is "C:\Melsec\Sheet" if it is not changed at installation.

6. The Add-Ins screen is displayed.

Check that the "MX Sheet" check box is selected, and click the **Browse...** button again.

Install the add-in that hides the tabs to Excel as instructed in step 6 and step 7.

From the previous page



Complete!



In case VBA is not installed when registering the add-in, MX Sheet cannot be used.
After installing VBA, register the add-in manually.

7. The Browse screen is displayed.

Select "MXShRibbon.xlam" in "File name", and click the button.

3

8. The Add-Ins screen is displayed.

Check that "Additional MX Sheet Add-in" is selected, and click the button.

9. Check that [MX Sheet] is added to the <<Add-Ins>> tab.

The icon buttons are also displayed.

The manual add-in registration is complete.

3.2 Uninstallation

This section explains MX Sheet unistallation.

Screens from Windows® 7 are used except for different operations required in other operating systems.

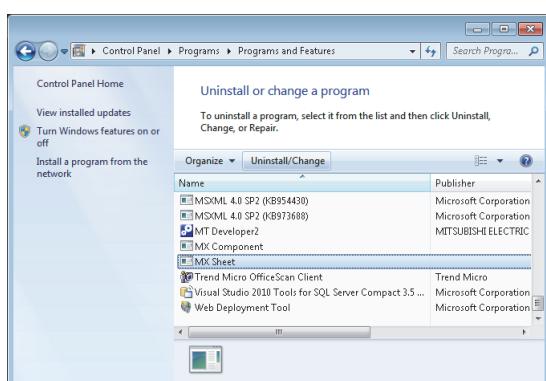
Operating procedure



1. Select [Start] ▷ [Control Panel] ▷ "Uninstall a program".

<Windows XP®>

[Start] ▷ [Control Panel] ▷ "Add/Remove Programs"



2. Select "MX Sheet" from the list of programs and select "Uninstall/Change".

<Windows XP®>

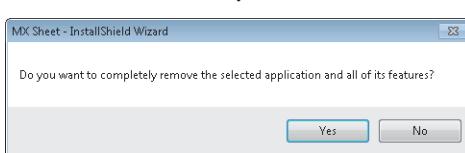
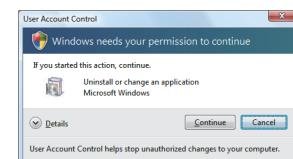
Select "MX Sheet" from the list of programs and click the "Change/Remove".

When user account control is enabled, the following screen is displayed.

Click the **Yes** button or the **Continue** button.

<Windows® 7>

<Windows Vista®>



3. Click the **Yes** button.

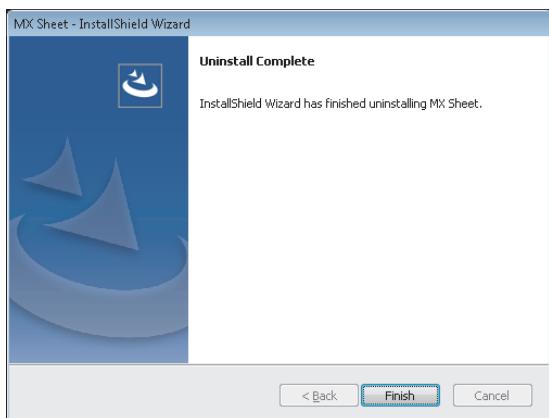
When not uninstalling MX Sheet, click the **No** button to return to the preceding screen.

Components indicate the installed icons and files.



To the next page

From the previous page



When the screen on the left is displayed, uninstall is complete.

3

4. Click the **Finish button to close the screen.**

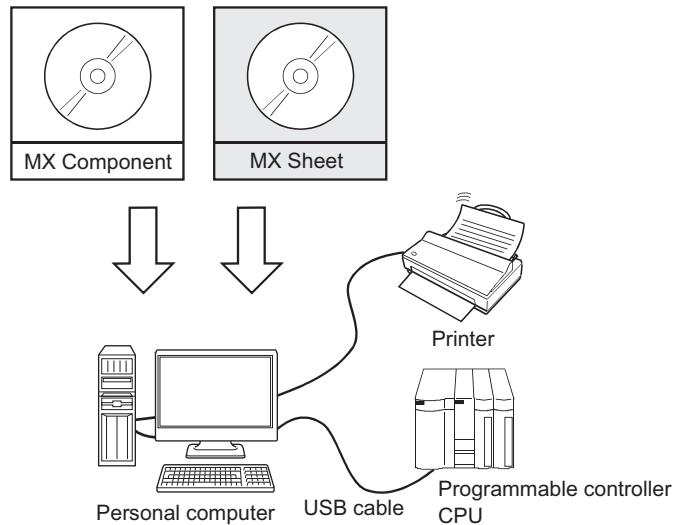
5. Restart the personal computer.



Complete!

CHAPTER 4 SYSTEM CONFIGURATION USED IN THIS MANUAL

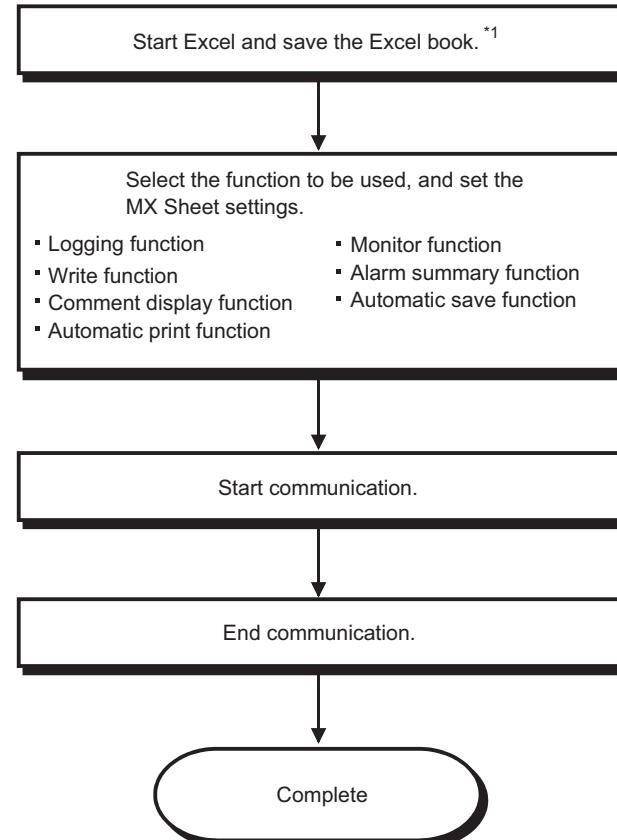
This manual explains system configuration as follows.



System Equipment	Description
Personal computer	Personal computer that satisfies the operating environment of MX Sheet. For details, refer to the following chapter. ☞ Page 11, CHAPTER 2.
Software	Operating system
	MX Sheet Version 2
	MX Component Version 4
	Excel
Programmable controller CPU	Q06UDHCPU
USB cable	MR-J3USBCBL3M
Printer	Printer compliant with the personal computer specifications.

CHAPTER 5 MX Sheet OPERATION PROCEDURE

This chapter explains the MX Sheet operation procedure.



5

*1 : Be sure to save the Excel book before performing the MX Sheet settings. MX Sheet cannot be set unless the Excel book is saved.

Remark

Refer to the Excel manual for Excel operation.

CHAPTER 6 OPERATING MX Sheet

This chapter explains the following functions with examples.

Function	Reference Section
Logging function	Page 32, Section 6.1
Monitor function	Page 40, Section 6.2
Write function	Page 44, Section 6.3
Automatic save function	Page 48, Section 6.4
Automatic print function	Page 52, Section 6.5
Create button function	Page 54, Section 6.6

6.1 Logging

This section provides an example of creating an Excel spreadsheet using the logging function.

(1) Creation example

Set the following Excel spreadsheet.

Book1 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Add-Ins Team

MX Sheet

Custom Toolbars

B2 2012/06/28 Thu 20:41:07

	A	B	C	D	E	F	G	H
1								
2		2012/06/28 Thu 20:41:07	42	50	0	0	0	
3		2012/06/28 Thu 20:41:12	47	55	0	0	0	
4		2012/06/28 Thu 20:41:17	52	60	0	0	0	
5		2012/06/28 Thu 20:41:22	57	65	0	0	0	
6		2012/06/28 Thu 20:41:27	62	70	0	0	0	
7		2012/06/28 Thu 20:41:32	67	75	0	0	0	
8		2012/06/28 Thu 20:41:37	72	80	0	0	0	
9		2012/06/28 Thu 20:41:42	77	85	0	0	0	
10		2012/06/28 Thu 20:41:47	83	91	0	0	0	
11		2012/06/28 Thu 20:41:52	88	96	0	0	0	
12								
13								
14								

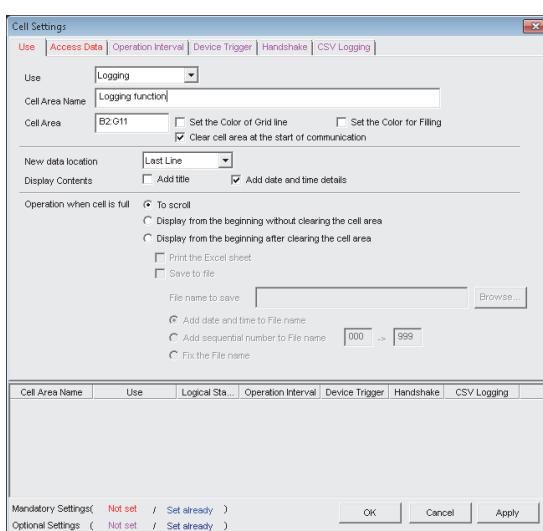
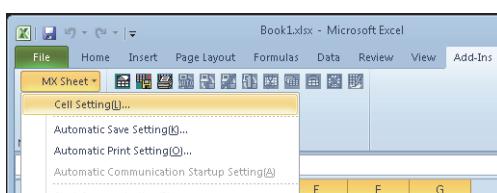
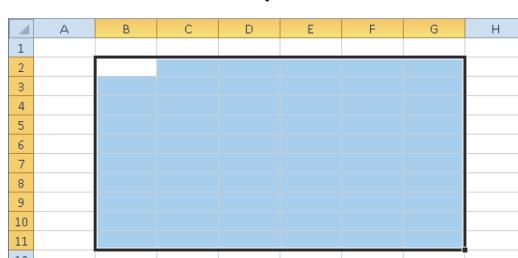
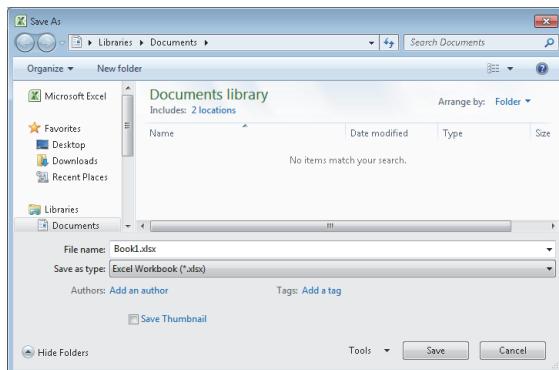
Sheet1 Sheet2 Sheet3

Logging times are displayed.
Content of D0 to D4 are displayed in order from left to right.
10 logging data are displayed.
The latest logging data is displayed on the last line.
Scrolled up in order.

(2) Setting MX Sheet

This section explains the procedure of creating an Excel spreadsheet for logging function.

Operating procedure



To the next page

1. Saving the Excel book

Start Excel and save the Excel book.

6

2. Specifying the cell area

Drag the cell (B2 to G11 in this example) on the left screen to specify the cell area in which logging data is displayed.

6.1
Logging

3. Displaying the Cell Settings screen

Select the <<Add-Ins>> tab ⇨ [MX Sheet] ⇨ [Cell Setting] to display the Cell Settings screen.

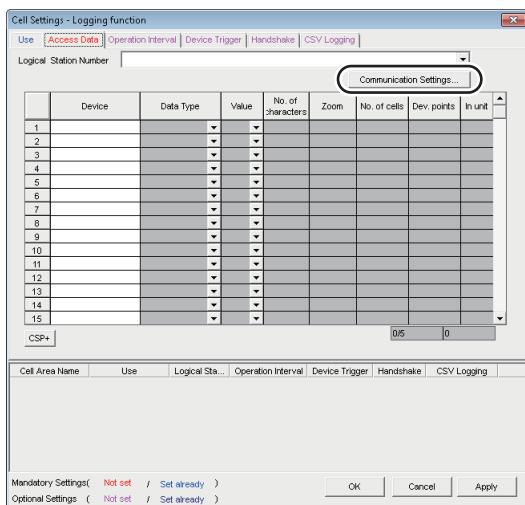
4. Setting the <<Use>> tab

Set the following items of the <<Use>> tab.

After setting, select the <<Access Data>> tab.

- Use : Logging
- Cell Area Name : Logging function
- Cell Area : B2:G11
- New data location : Last Line
- Display Contents : Add date and time details
- Operation when cell is full: To scroll

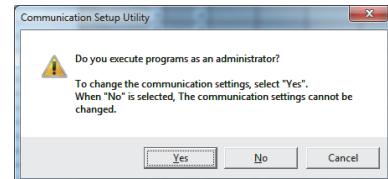
From the previous page



5. Setting the logical station number on the <<Access Data>> tab.

Click the **Communication Settings...** button to start the communication setup utility for setting the logical station number.

When the following screen is displayed, click the **Yes** button.



When logging on without administrator authority, the password input screen is displayed as follows.

<Windows® 7 or later>



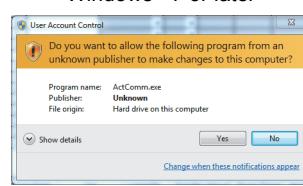
<Windows Vista®>



After inputting the password, click the **Yes** button or the **OK** button.

The privilege escalation allowance screen on User Account Control screen is displayed as follows.*1

<Windows® 7 or later>



<Windows Vista®>



*1 : In order to disable the appearance of the message above, refer to the following manual.

MX Sheet Version 2 Operating Manual

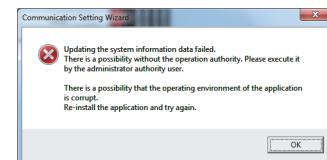
To the next page



From the previous page



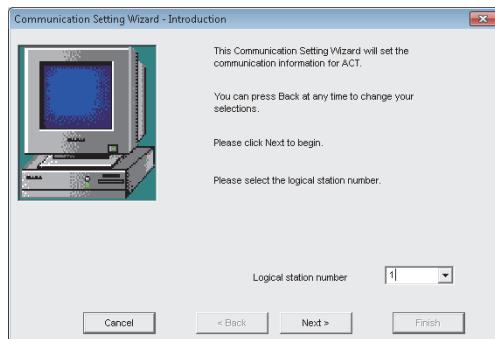
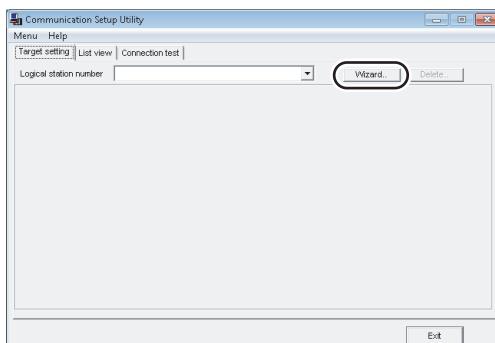
Clicking the button or "Allow" executes the communication setup utility with administrator authority. When executing without administrator authority, the communication setup data can be checked, however, when clicking the button on the Communication Setting Wizard screen, the error occurs as follow.



6. Starting the Communication Setting Wizard

After starting the communication setup utility, select the <<Target Setting>> tab and click the button.

6



To the next page

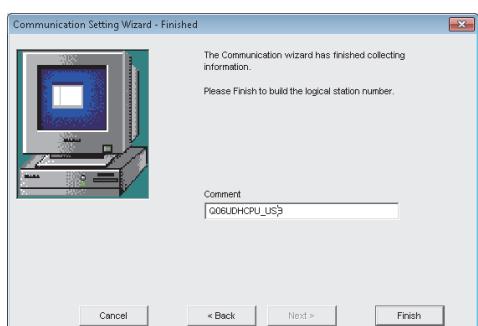
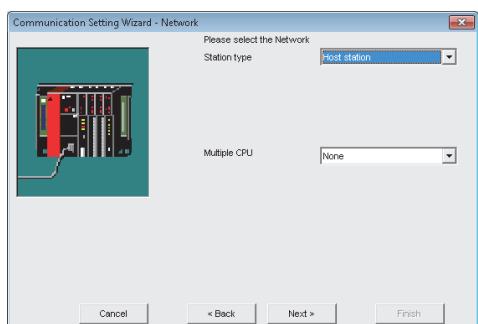
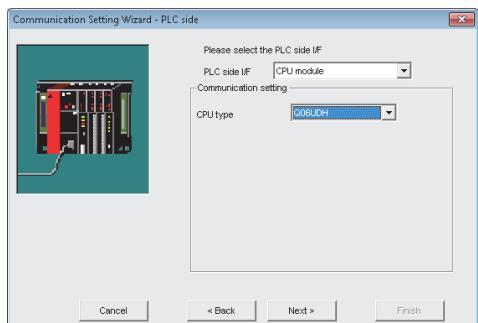
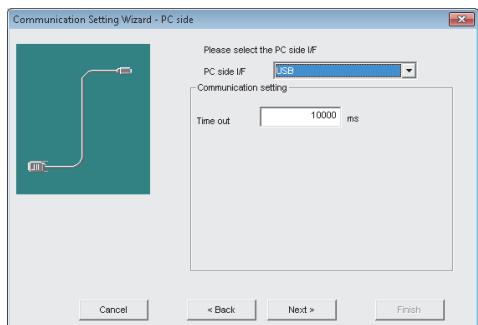
6.1 Logging

7. Setting the logical station number

Set "1" in "Logical station number" and click the button.

Next >

From the previous page



To the next page

8. Setting the personal computer side interface

Set the following items and click the button.

- PC side I/F : USB
- Time out : 10000

9. Setting the programmable controller side interface

Set the following items and click the button.

- PLC side I/F : CPU module
- CPU type : Q06UDH

10. Selecting the communication path

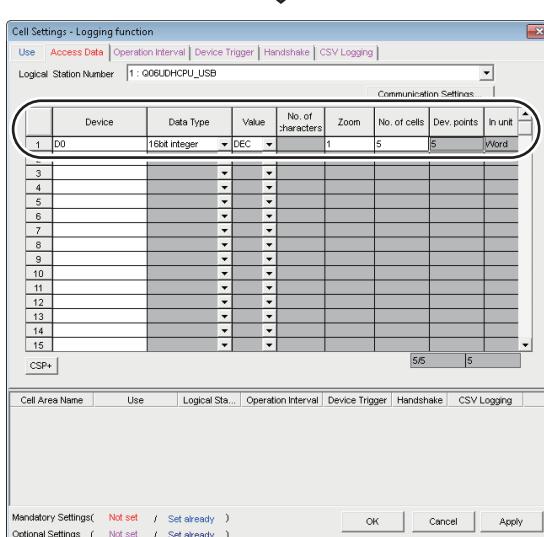
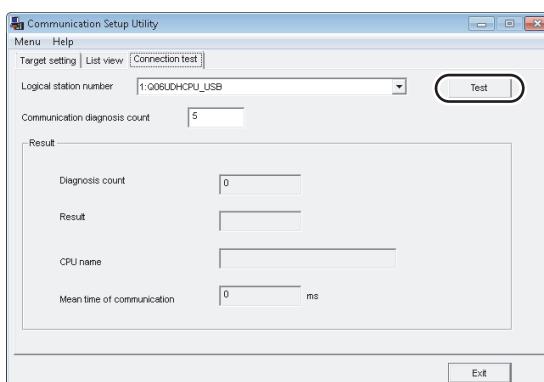
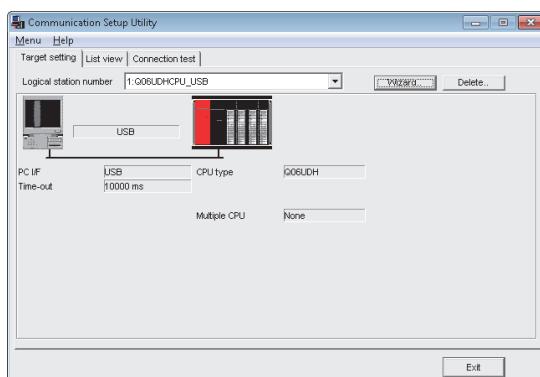
Set the following items and click the button.

- Station type : Host station
- Multiple CPU : None

11. Enter any word (Q06UDHCPU_USB in this example)

and click the button

From the previous page



To the next page

12. Checking the settings

Check if the logical station number settings displayed on the <<Target setting>> tab of the Communication Setup Utility screen are correct.

After checking, select the <<Connection test>> tab.

13. Connection test

Click the **Test** button to check that the programmable controller and personal computer are normally communicating.

After confirmation, click the **Exit** button to close the communication setup utility.

An error message is displayed if they are not communicating normally.

Check the error definition and remove the error.

6

6.1 Logging

14. Setting the <<Access Data>> tab

Set the device to be logged as follows.

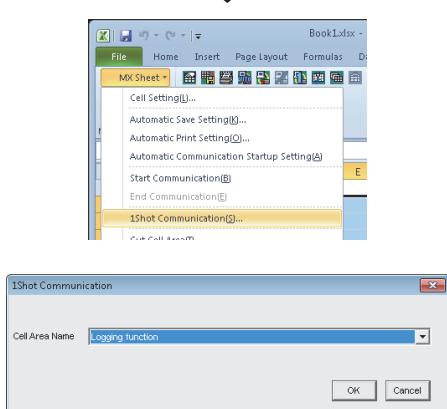
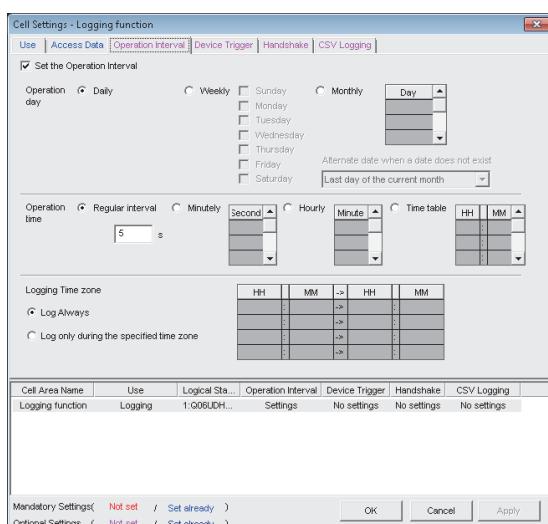
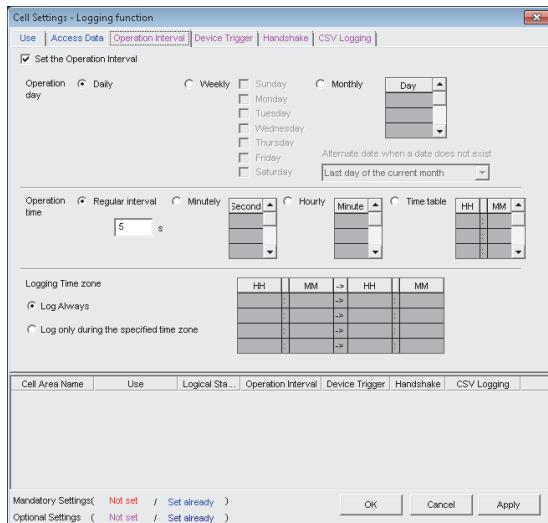
After setting, click the <<Operation time>> tab.

- Logical Station Number : 1
- Device^{*1} : D0
- Data type : 16bit integer
- Value : DEC
- Zoom : 1
- No. of cells^{*2} : 5

*1 : The labels can be set to "Device".

*2 : When the system label is set to "Device", "1" is displayed to "No. of cells" and cannot be changed.

From the previous page



To the next page

15. Setting the <<Operation Interval>> tab

Set the logging operation interval as follows.

- Set the Operation Interval : Selected
- Operation day : Daily
- Operation time : Regular interval (5 seconds)
- Logging Time Zone : Log Always

16. Applying the settings

Click the **Apply** button to enable the settings of the Cell Settings screen.

Check that the cell area is registered as shown on the left screen, and click the **OK** button.

17. Checking the settings

Check if the settings from step 1 to 16 are correct by using the 1 shot communication function of MX Sheet. Perform 1 shot communication in the following procedure.

1. Select the <<Add-Ins>> tab \Rightarrow [MX Sheet] \Rightarrow [1Shot Communication].
2. As the 1Shot Communication screen is displayed, select the cell area name set in step 4 ("Logging function" in this example) as the "Cell Area Name".
3. Click the **OK** button to start 1 shot communication.

From the previous page

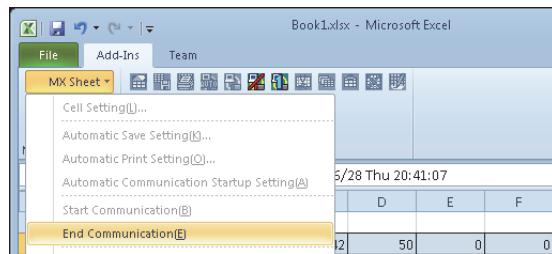
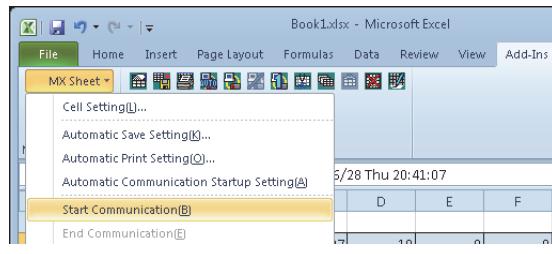


<Before adjustment>

	A	B	C	D	E	F	G	H
1		#####	42	50	0	0	0	
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								

<After adjustment>

	A	B	C	D	E	F	G	H
1		2012/06/28 Thu 20:41:07	42	50	0	0	0	
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								



Complete!

6

18. Adjusting the display

After 1 shot communication, "#####" is displayed in the date/time cell as shown on the left screen.

Adjust the cell width of Column B so that the date and time can be displayed.

19. Starting communication

Select the <<Add-Ins>> tab \Rightarrow [MX Sheet] \Rightarrow [Start Communication] to start logging.

As the message is displayed, click the button.

6.1 Logging

20. Ending communication

Select the <<Add-Ins>> tab \Rightarrow [MX Sheet] \Rightarrow [End Communication] to end logging.

The Excel spreadsheet for logging function is now completed.

6.2 Monitoring

This section provides an example of creating an Excel spreadsheet using the monitor function.

(1) Creation example

Set the following Excel spreadsheet.

MX Sheet1.xlsx - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Add-Ins Team

MX Sheet

Custom Toolbars

B2 f 1

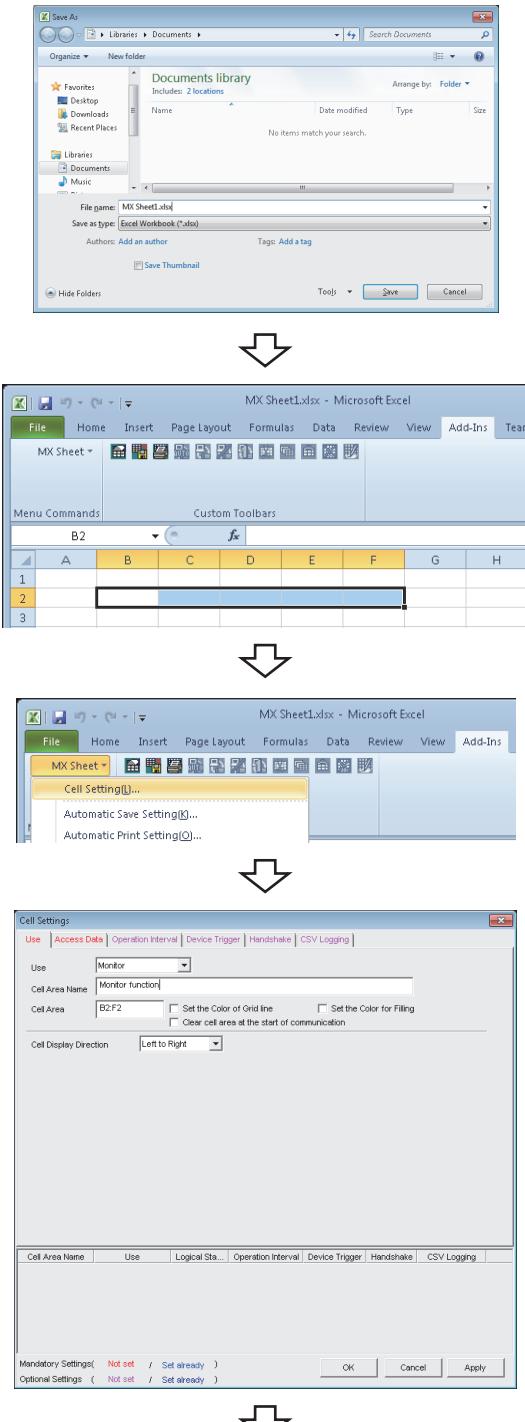
	A	B	C	D	E	F	G	H
1								
2		1	0	36	0	0		
3								

Access data D0 to D4 are displayed in order from left to right.

(2) Setting MX Sheet

This section explains the procedure of creating an Excel spreadsheet for monitor function.

Operating procedure



To the next page

1. Saving the Excel book

Start Excel and save the Excel book.

2. Specifying the cell area

Drag the cell (B2 to F2 in this example) on the left screen to specify the cell area in which monitor data is displayed.

3. Displaying the Cell Settings screen

Select the <<Add-Ins>> tab \Rightarrow [MX Sheet] \Rightarrow [Cell Setting] to display the Cell Settings screen.

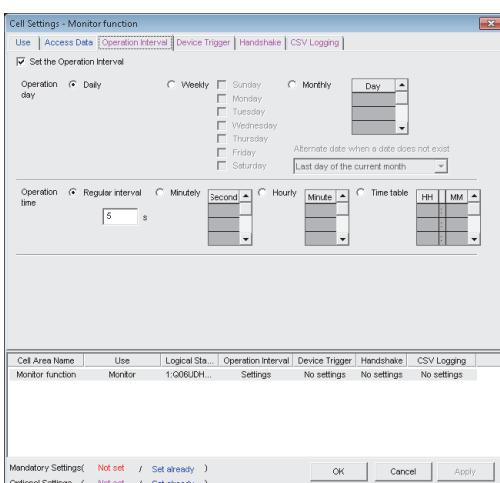
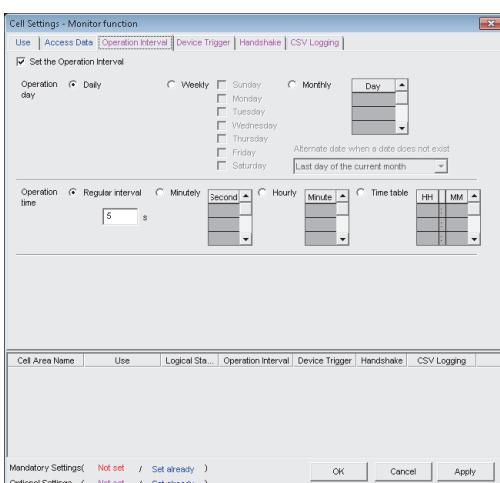
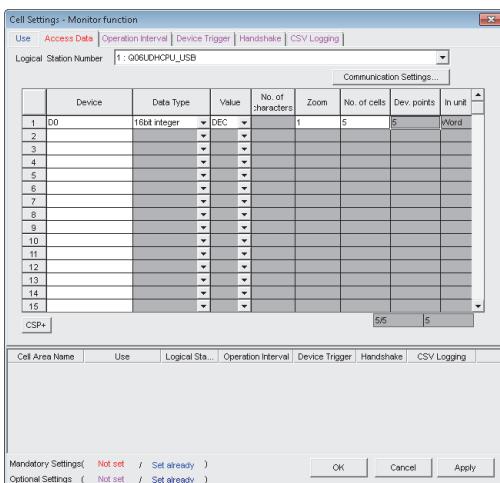
4. Setting the <<Use>> tab

Set the following items on the <<Use>> tab.

After setting, select the <<Access Data>> tab.

- Use : Monitor
- Cell Area Name : Monitor function
- Cell Area : B2:F2
- Cell Display Direction : Left to Right

From the previous page



To the next page

5. Setting the <<Access Data>> tab

Set the device to be monitored as follows.

After setting, select the <<Operation Interval>> tab.

- Logical Station Number^{*1} : 1
- Device^{*2} : D0
- Data type : 16bit integer
- Value : DEC
- Zoom : 1
- No. of cells^{*3} : 5

*1 : For the logical station number setting method, refer to the following section.

Page 32, Section 6.1

*2 : The labels can be set to "Device".

*3 : When the system label is set to "Device", "1" is displayed to "No. of cells" and cannot be changed.

6. Setting the <<Operation Interval>> tab

Set the monitor operation interval as follows.

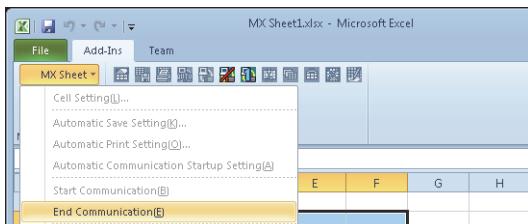
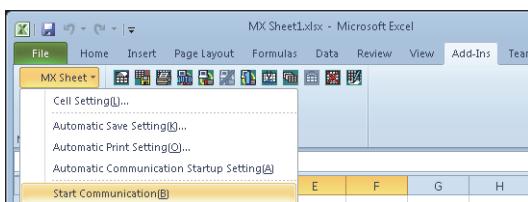
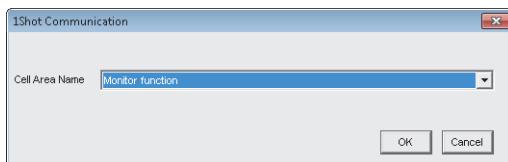
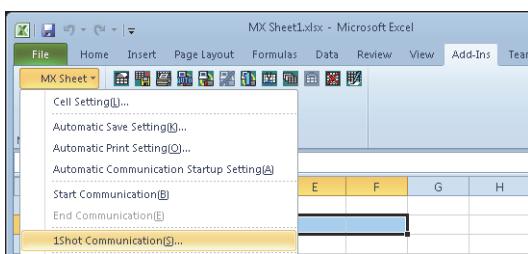
- Set the Operation Interval : Selected
- Operation day : Daily
- Operation time : Regular interval (5 seconds)

7. Applying the settings

Click the button to enable the settings of the Cell Settings screen.

Check that the cell area is registered as shown on the left screen, and click the button.

From the previous page



Complete!

8. Checking the settings

Check if the settings in steps 1 to 7 are correct by using the 1 shot communication function of MX Sheet.

Perform 1 shot communication in the following procedure.

1. Select the <<Add-Ins>> tab \Rightarrow [MX Sheet] \Rightarrow [1Shot Communication].
2. 1Shot Communication screen is displayed. Select the cell area name set in step 4 (monitor function in this example) as the "Cell Area Name".
3. Click the button to start 1 shot communication.

9. Starting communication

Select the <<Add-Ins>> tab \Rightarrow [MX Sheet] \Rightarrow [Start Communication] to start monitor.

As the message is displayed, click the button.

6

6.2 Monitoring

10. Ending communication

Select the <<Add-Ins>> tab \Rightarrow [MX Sheet] \Rightarrow [End Communication] to exit monitor.

After ending the communication, delete the monitor data.

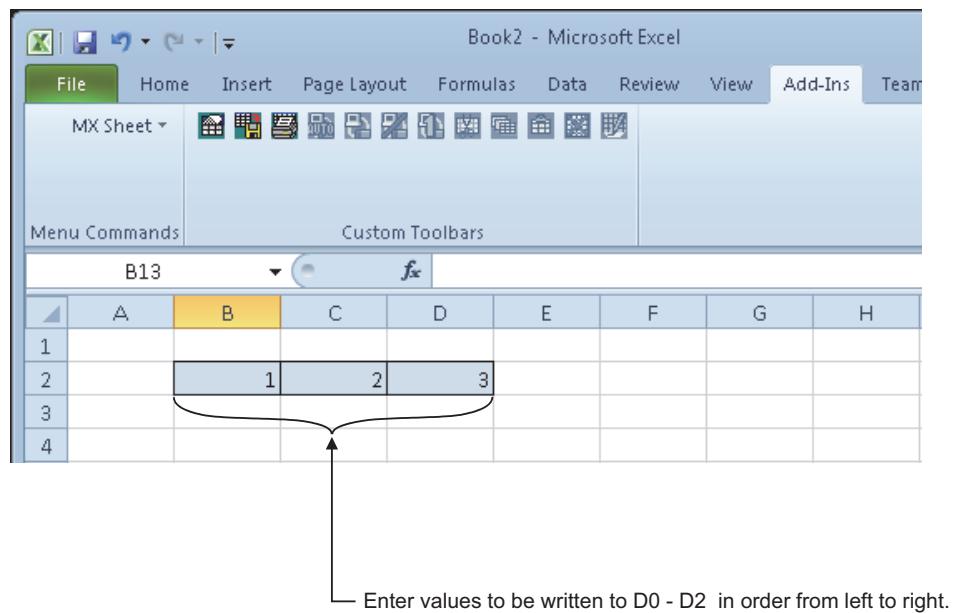
The Excel spreadsheet for monitor function is now completed.

6.3 Writing Data

This section provides an example of creating an Excel spreadsheet using the write function.

(1) Creation example

Set the following Excel spreadsheet.



Book2 - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Add-Ins Team

MX Sheet ▾

Custom Toolbars

B13

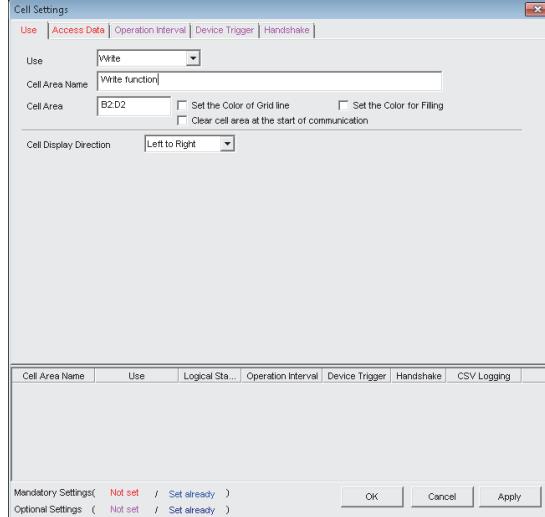
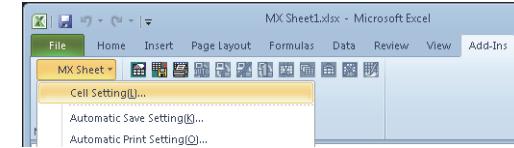
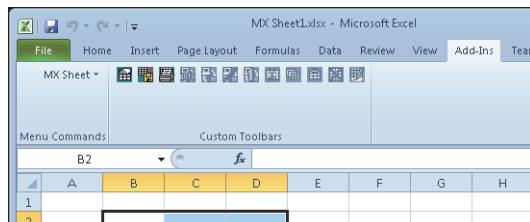
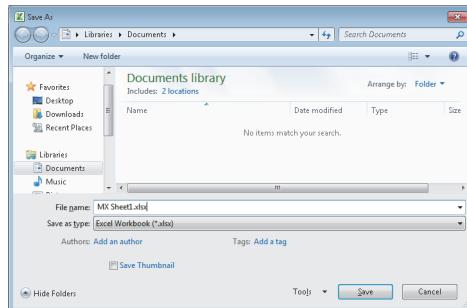
1 2 3

Enter values to be written to D0 - D2 in order from left to right.

(2) Setting MX Sheet

This section explains the procedure of creating an Excel spreadsheet for monitor function.

Operating procedure



To the next page

1. Saving the Excel book

Start Excel and save the Excel book.

6

2. Specifying the cell area

Drag the cell (B2 to D2 in this example) on the left screen to specify the cell area in which monitor data is displayed.

3. Displaying the Cell Settings screen

Select the <<Add-Ins>> tab \Rightarrow [MX Sheet] \Rightarrow [Cell Setting] to display the Cell Settings screen.

6.3 Writing Data

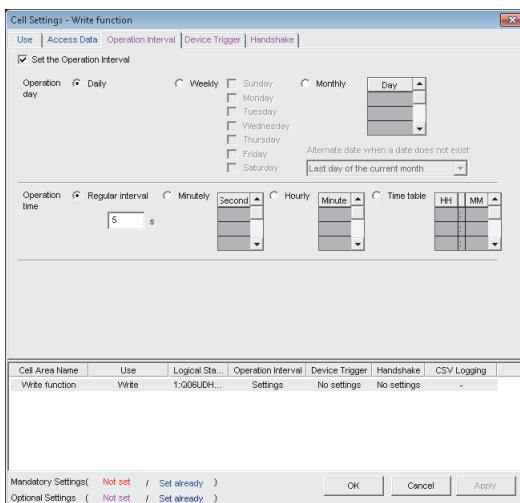
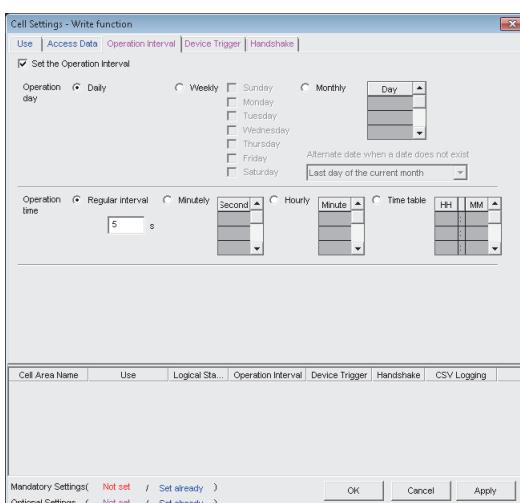
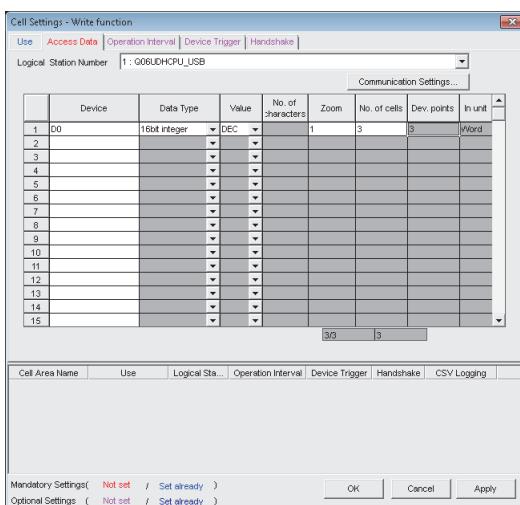
4. Setting the <<Use>> tab

Set the following items on the <<Use>> tab.

After setting, select the <<Access Data>> tab.

- Use : Write
- Cell Area Name : Write function
- Cell Area : B2:D2
- Cell Display Direction : Left to Right

From the previous page



To the next page

5. Setting the <<Access Data>> tab

Set the device to be written as follows.

After setting, select the <<Operation Interval>> tab.

- Logical Station Number^{*1} : 1
- Device^{*2} : D0
- Data type : 16bit integer
- Value : DEC
- Zoom : 1
- No. of cells^{*3} : 3

*1 : For the logical station number setting method, refer to the following section.

Page 32, Section 6.1

*2 : The labels can be set to "Device".

*3 : When the system label is set to "Device", "1" is displayed to "No. of cells" and cannot be changed.

6. Setting the <<Operation Interval>> tab

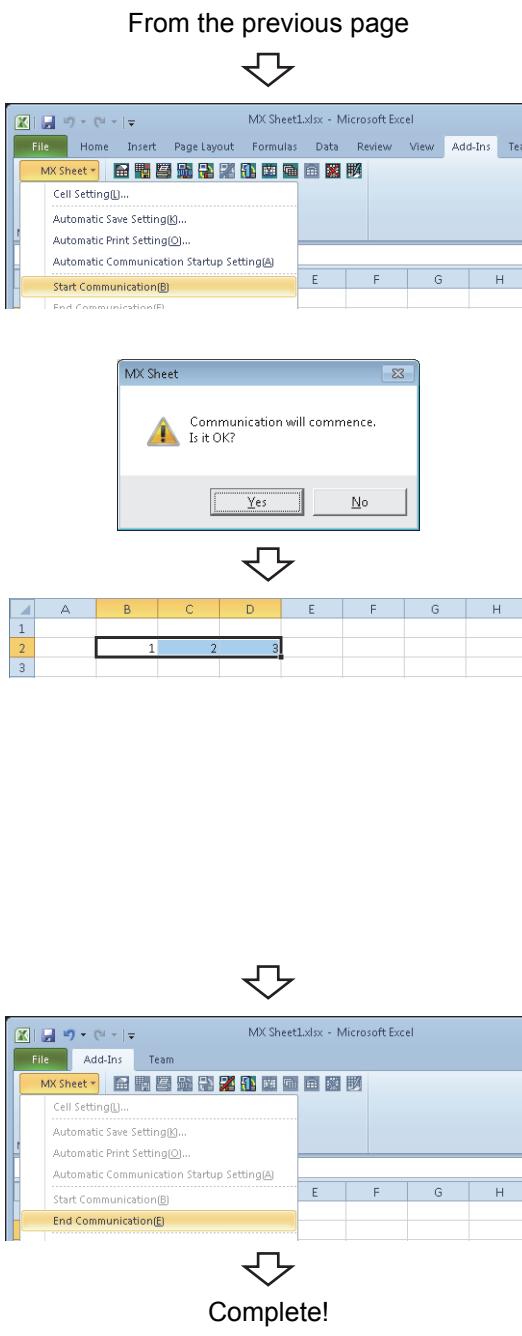
Set the monitor operation interval as follows.

- Set the Operation Interval: Selected
- Operation day : Daily
- Operation time : Regular interval (5 seconds)

7. Applying the settings

Click the button to enable the settings of the Cell Settings screen.

Check that the cell area is registered as shown on the left screen, and click the button.



8. Starting communication

Select the <<Add-Ins>> tab ⇨ [MX Sheet] ⇨ [Start Communication] to start monitor.

As the message is displayed, click the button.

9. Entering the written values

Enter the values to be written to devices into the cell area specified in step 2.

- Cell B2 : 1 (value to be written to D0)
- Cell C2 : 2 (value to be written to D1)
- Cell D2 : 3 (value to be written to D2)

Check that the data on Excel are written to the programmable controller devices.

10. Ending communication

Select the <<Add-Ins>> tab ⇨ [MX Sheet] ⇨ [End Communication] to end writing.

The Excel spreadsheet for write function is now completed.

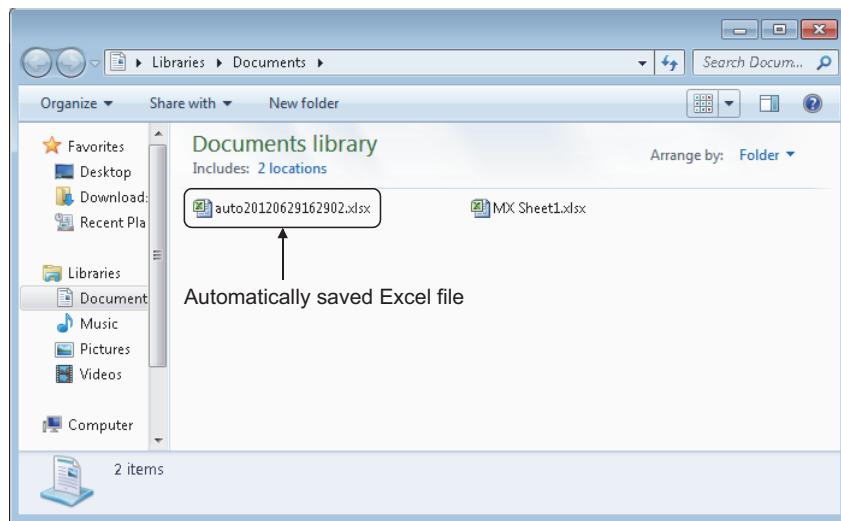
6.4 Automatic Saving

This section explains a setting procedure for automatically saving the Excel book during MX Sheet operation.

(1) Setting example

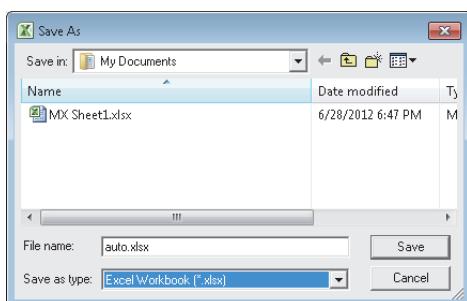
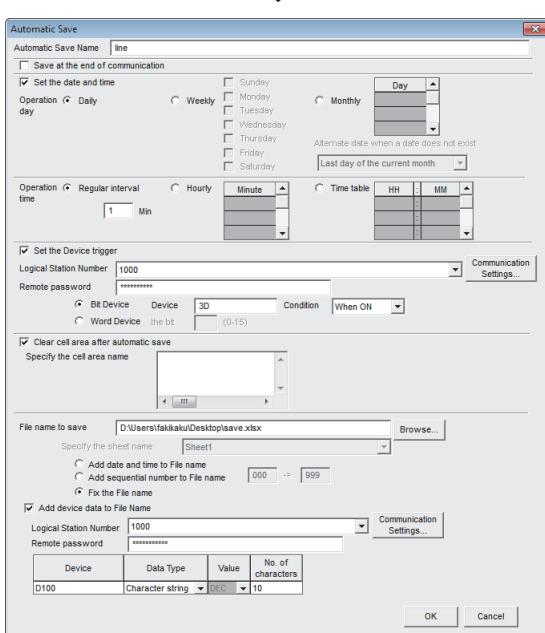
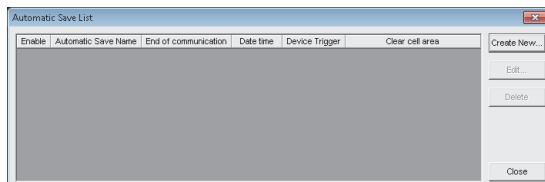
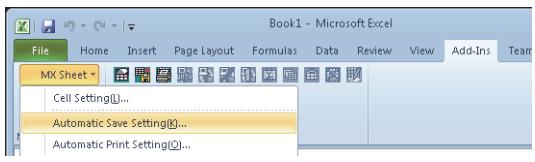
Automatic save condition : Save when the device (Y0) turns on.

Automatically saved file name: Add date and time to the file auto.xlsx.



(2) Setting automatic save

This section explains an Excel book automatic save setting procedure.



To the next page

1. Selecting automatic save setting

Start Excel and select the <<Add-Ins>> tab ⇒ [MX Sheet] ⇒ [Automatic Save Setting] to display the Automatic Save List screen.

2. Creating new automatic save conditions

Click the Create New... button to create new automatic save conditions.

3. Setting the automatic save conditions

Set the automatic save conditions as follows.

- Automatic Save Name : Line 1
(Lot completion)
- Set the Device trigger : Selected
- Logical Station Number^{*1} : 1
- Bit device : Selected
- Device^{*2} : Y0
- Condition : When ON
- Add date and time to File name: Selected

*1 : For the logical station number setting method, refer to the following section.

☞ Page 32, Section 6.1

*2 : The labels can be set to "Device".

Set the file name to be saved automatically.

Clicking the Browse... button displays the Save As screen.

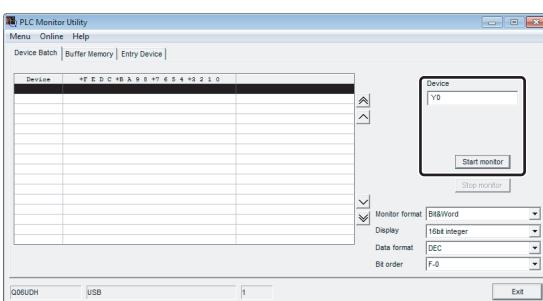
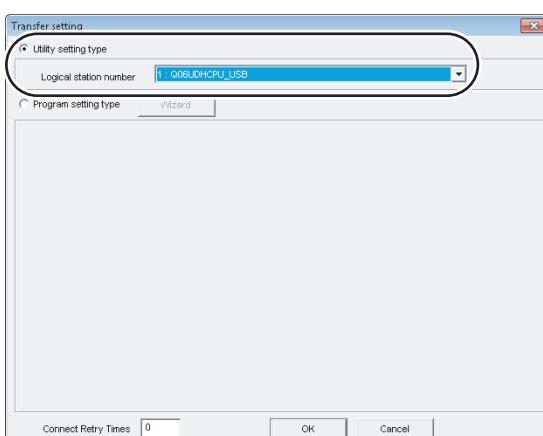
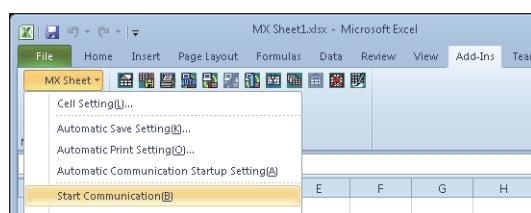
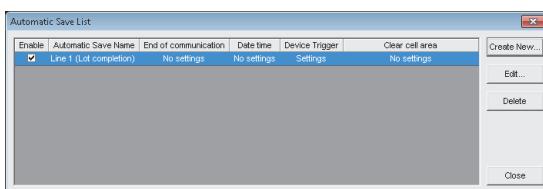
Specify any save place and file name.

- File name : auto.xlsx
- Save as type : Excel Workbook[*.xlsx]

After specifying the file name, click the Save button.

After completing the settings, click the OK button.

From the previous page



To the next page

4. Specifying the automatic save conditions

The automatic save name is added to the list. Check that the check box of "Enable" is selected, click the **Close** button to close the Automatic Save List screen.

5. Starting communication

Select the <<Add-Ins>> tab \Rightarrow [MX Sheet] \Rightarrow [Start Communication] to start communication.

As the message is displayed, click the **Yes** button.

Yes

6. Starting the programmable monitor utility

Start the PLC controller monitor utility.

As the Transfer setting screen is displayed, set the following items.

- Utility setting type : Selected
- Logical station number : 1

After completing the above settings, click the **OK** button.

OK

7. Specifying the monitor device

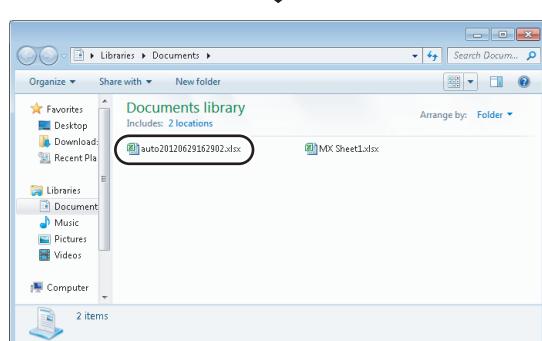
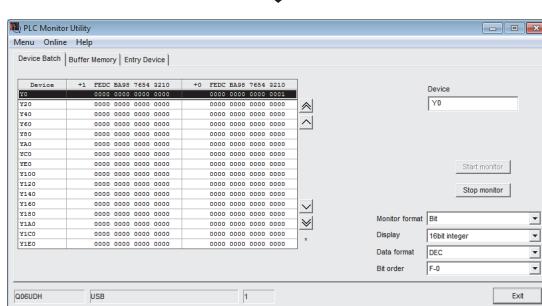
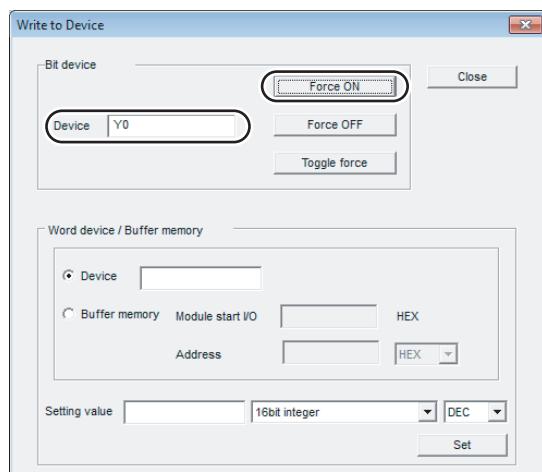
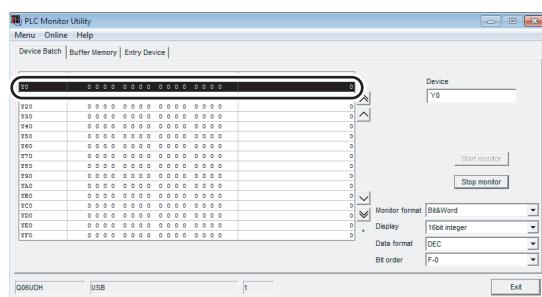
Select the <<Device Batch>> tab of the PLC Monitor Utility screen and set the following items.

- Device : Y0

After completing the settings, click the **Start monitor** button.

Start monitor

From the previous page



Complete!

8. Writing to device

Change the Y0 device status.

Double-click the monitor display area of the <<Device Batch>> tab to display the Write to Device screen.

Forcibly turn on Y0 in the following procedure.

1. Enter "Y0" in "Device" in "Bit Device".
2. Click the button.

After completing the above settings, click the button.

6

9. Checking the device status

Check that Y0 is turned on as set in step 8.

After checking, click the button and then the button.

6.4 Automatic Saving

10. Checking the saved file

The operation in step 8 activates the automatic save setting function, and saves the Excel book automatically.

Start Explorer and check if the file specified in step 3 is saved correctly.

After checking the file, select the <<Add-Ins>> tab \Rightarrow [MX Sheet] \Rightarrow [End Communication] to end communication.

The automatic save setting is now completed.

6.5 Automatic Printing

This section explains a setting procedure for automatically printing the whole Excel book or specified Excel sheets during the MX Sheet operation.

(1) Setting example

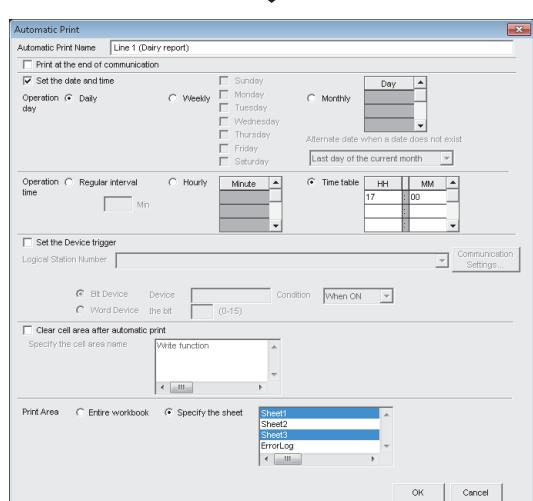
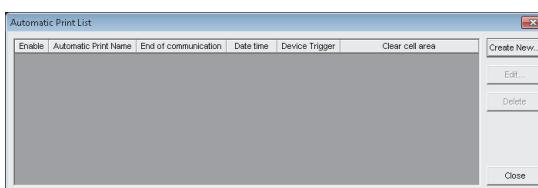
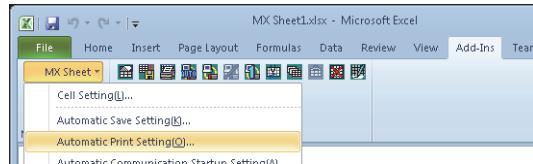
Automatic print condition: Printed at 17:00 every day.

Print area : Sheet 1 and Sheet 3 are printed.

(2) Setting automatic print

This section explains an Excel spreadsheet automatic print setting procedure.

Operating procedure



To the next page

1. Selecting automatic print setting

Start Excel and select the <<Add-Ins>> tab \Rightarrow [MX Sheet] \Rightarrow [Automatic Print Setting] to display the Automatic Print List screen.

2. Creating new automatic print conditions

Click the **Create New...** button to create new automatic print conditions.

3. Setting the automatic print conditions

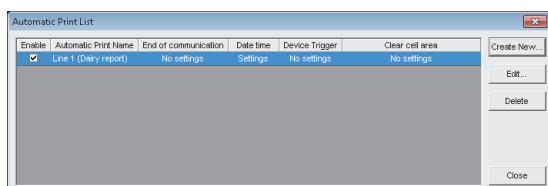
Set the automatic print conditions as follows.

- Automatic Print Name : Line 1 (Daily report)
- Set the date and time : Selected
- Operation day : Daily
- Operation time : Time table (17:00)
- Print Area^{*1} : Specify the sheet (Sheet 1 and Sheet 3)

After the settings, click the **OK** button.

*1 : Multiple spreadsheets can be selected.

From the previous page



Complete!

4. Specifying the automatic print conditions

The automatic print name is added to the list.

Check that the check box of "Enable" is selected, click the **Close** button to close the Automatic Print List screen.

The automatic print setting is now completed.



If multiple printers are set within the personal computer, the default printer (set within [Start] ⇔ [Control Panel] ⇔ [Hardware and Sound] ⇔ [Devices and Printers]) is used to print the Excel spreadsheet, when "Automatic Print" setting is selected.

6.6 Creating/Using button

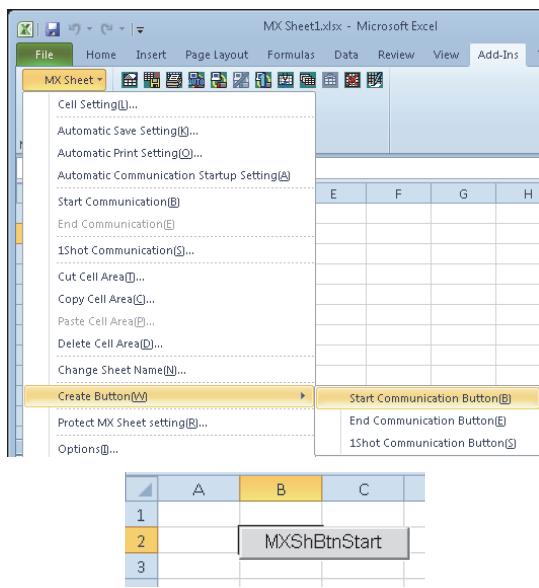
This section explains a convenient communication starting method by Create Button.

(1) Setting example

Button type : Start Communication button
MX Sheet setting condition : Logging setting ([Page 32, Section 6.1](#))

(2) Creating the button and starting communication

The following describes a procedure from button creation to a communication start using the button.



1. Selecting [Create Button]

Start Excel and specify the cell where the button is placed.

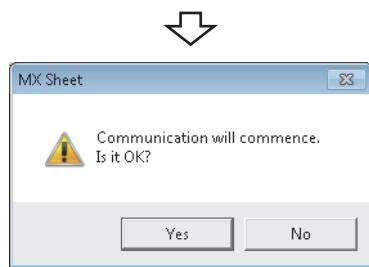
Select the <>Add-Ins>> tab ⇒ [MX Sheet] ⇒ [Create Button] ⇒ [Start Communication Button].

The start communication button is placed in the specified cell position.*1

*1 : The display characters and character font of the created button can be changed.

For details, refer to the following manual.

[MX Sheet Version 2 Operating Manual](#)



2. Starting communication

Click the start communication button created in step 1.

As the message is displayed, click the button.

Complete!

APPENDIX

Appendix 1 Useful Functions of MX Sheet

In addition to the functions explained in this manual (☞ Page 32, CHAPTER 6), MX Sheet has useful functions.

This section provides the outlines and brief explanations of the functions.

For more details, refer to the following manual.

☞ MX Sheet Version 2 Operating Manual

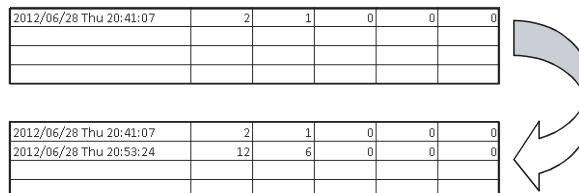
Appendix 1.1 Alarm summary

The alarm summary function converts the ON/OFF information into the corresponding alarm comment character strings and accumulates them on an Excel spreadsheet as an alarm history.

The following are available by specifying in advance when the alarm history reaches the last line.

- Scrolling
- Printing Excel spreadsheet
- Saving Excel book

The line operation ratio and other conditions can be checked easily by accumulating the alarm data history.



2012/06/28 Thu 20:41:07	2	1	0	0	0

2012/06/28 Thu 20:41:07	2	1	0	0	0
2012/06/28 Thu 20:53:24	12	6	0	0	0

Alarm data are accumulated as bit devices turn on/off.

A

Appendix 1.2 Comment display

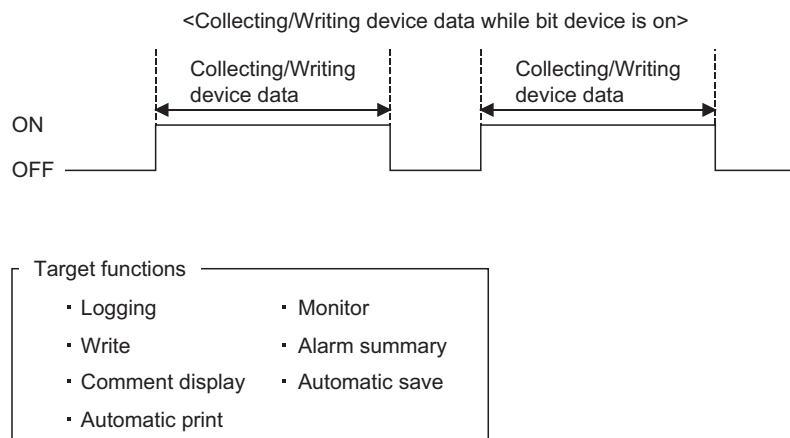
The comment display function converts a bit device value or word device value into the corresponding comment character strings and displays them on an Excel spreadsheet. (A comment is displayed according to the change of device value.)

In the following example, the upper and lower limit values are set for a device so that the corresponding warning message is displayed when the device value falls outside the range.



Appendix 1.3 Device trigger

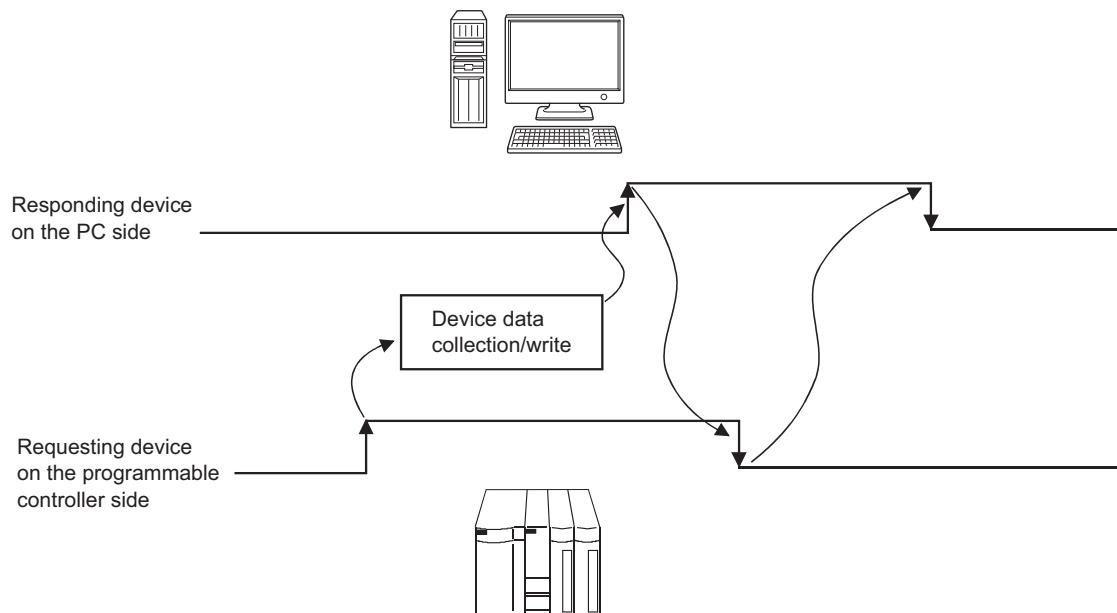
The device trigger function sets the device condition for device data collection/write, and collects or writes the device data when the set device condition holds.



Appendix 1.4 Handshake

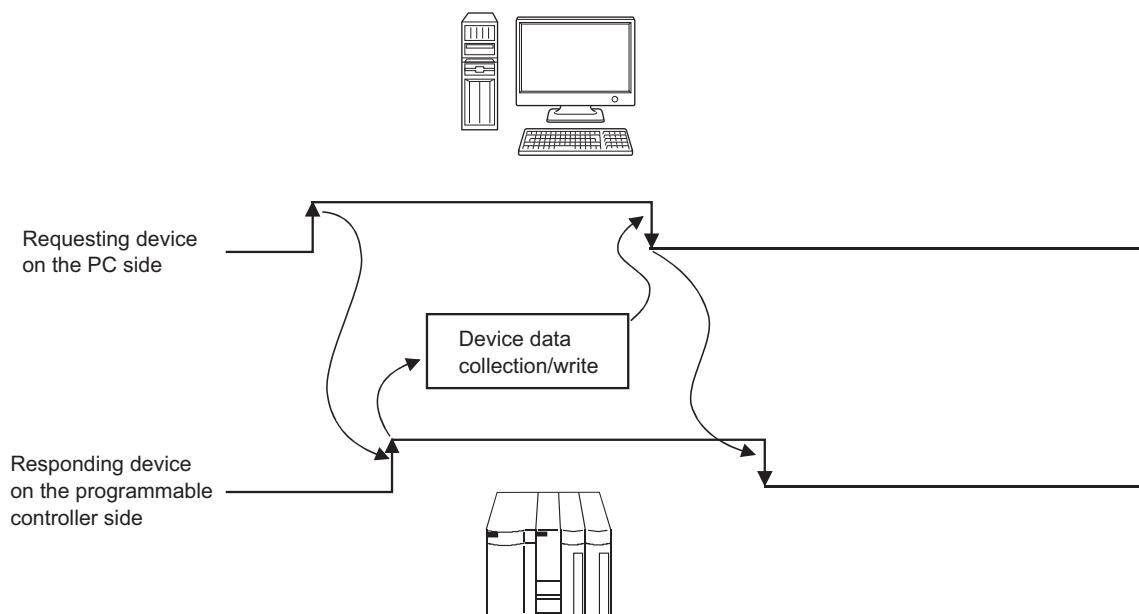
Setting a handshake between the programmable and personal computer ensures the device data collection/write. The handshake function determines whether to send data or not, based on the send request and receive response signals exchanged between the personal computer and programmable controller, before data updating.

When handshake begins with programmable controller side request



A

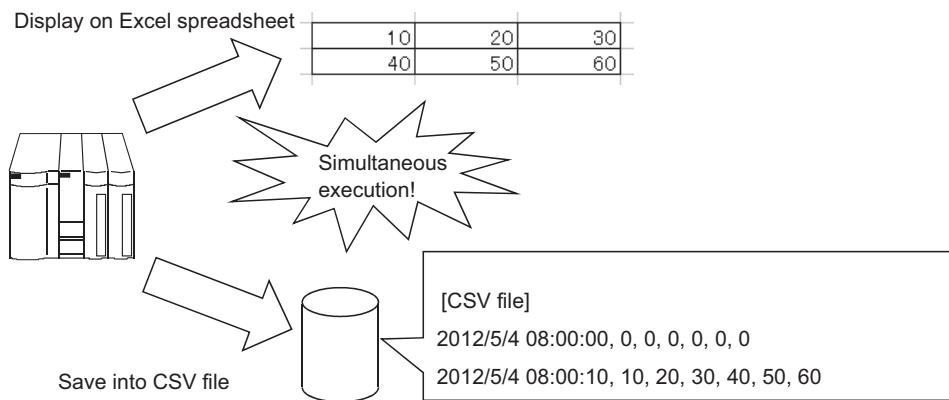
When handshake begins with PC side request



Appendix 1.5 csv logging

The CSV logging function simultaneously displays device data on an Excel spreadsheet using the logging or monitor function, and saves collected data as a CSV file.

Using a single CSV file enables long-term data collection file.



Appendix 1.6 Automatic Communication Startup Setting

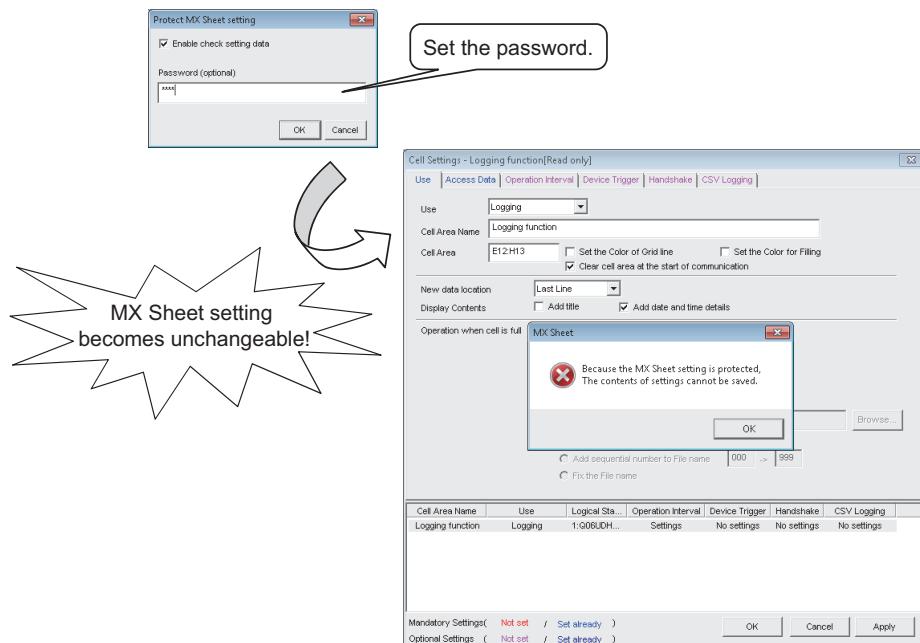
Automatic Communication Startup Setting automatically starts communication with the programmable controller when the Excel book where MX Sheet settings have been set is started.

This setting eliminates the need of selecting [Start Communication] from the MX Sheet menu.

Appendix 1.7 Protect the MX Sheet Setting

The MX Sheet setting can be protected by a password.*1

The user settings can be set to unchangeable.



*1 : The password can be set or canceled by selecting the <<Add-Ins>> tab ⇒ [MX Sheet] ⇒ [Protect MX Sheet setting]/[Unprotect MX Sheet setting]

A

Appendix 1.8 Error log setting

When communication is started, an Error Log sheet that indicates the communication status of MX Sheet is created, and the communication status, error information and corrective actions are output.

To this Error Log sheet, the following error log setting can be set by Option setting.

(1) Setting the error log types to be output

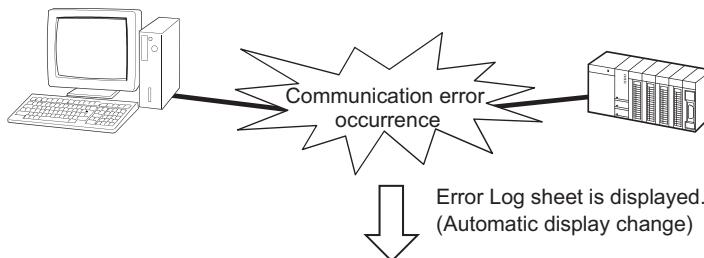
The error log types (Information, Warning, Error) to be output can be specified.

(Setting for outputting all error log)

A	B	C	D	E
Kind	Date	Cell Area Name	ErrorNo	Contents
1 Information	2012/06/29 Fri 15:21:47		00000000	Communication was started.
2 Warning	2012/06/29 Fri 15:21:49	est	e1000021	Communication error has occurred in the open/close of communication. <00010003[Hex],01808502[Hex]> USB driver connect error Connection of the USB driver failed. The corrective action is as follows: Exit the program and restart the IBM-PC/AT compatible. Reinstall MX Component. Check USB driver installation. <ErrorCode:1808502[Hex]>
3				
4 Information	2012/06/29 Fri 15:21:57		00000002	Communication was completed.

(2) Automatic Error Log sheet display change setting

At error occurrence, the Error Log sheet displayed can be automatically changed.



A	B	C	D	E
Kind	Date	Cell Area Name	ErrorNo	Contents
1 Information	2012/06/29 Fri 15:21:47		00000000	Communication was started.
2 Warning	2012/06/29 Fri 15:21:49	est	e1000021	Communication error has occurred in the open/close of communication. <00010003[Hex],01808502[Hex]> USB driver connect error Connection of the USB driver failed. The corrective action is as follows: Exit the program and restart the IBM-PC/AT compatible. Reinstall MX Component. Check USB driver installation. <ErrorCode:1808502[Hex]>
3				
4 Information	2012/06/29 Fri 15:21:57		00000002	Communication was completed.

(3) Error log clear setting at communication start

At the start of communication, the error log can be cleared.

REVISIONS

*The manual number is written at the bottom left of the back cover.

Print date	*Manual number	Revision
Jul., 2012	SH-081081ENG-A	First edition
Aug., 2013	SH-081081ENG-B	Correction TERMS, Chapter 2, Section 3.1.2, Section 3.2, Section 6.1, Section 6.2
Dec., 2013	SH-081081ENG-C	Correction TERMS, Chapter 2
May, 2014	SH-081081ENG-D	Correction TERMS, Chapter 2, Chapter 3
Jan., 2016	SH-081081ENG-E	Correction INTRODUCTION, Section 3.1.2, Section 6.4
Jul., 2016	SH-081081ENG-F	Correction TERMS, Chapter 2, Section 3.1.2
Jan., 2017	SH-081081ENG-G	Correction Section 3.1.1, Section 6.4
Sep., 2018	SH-081081ENG-H	Correction Section 3.1.2, Section 3.2, Section 6.1, Section 6.2

Japanese Manual Version SH-081079-H

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