



**Engineering Software** 

# MX Sheet Version 2 Operating Manual (Introduction)

-SW2DNC-SHEET-E



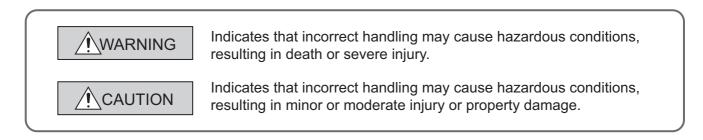


(Read these precautions before using this product.)

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: "<u>\</u> WARNING" and "<u>\</u> CAUTION".



Under some circumstances, failure to observe the precautions given under "<u>CAUTION</u>" 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]

## 

• 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.

# 

 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	Explains the operation procedures, setting and operation methods of				
<sh-081080eng, 13ju73=""></sh-081080eng,>	MX Sheet. (Sold separately)				
MX Component Version 4 Operating Manual	Explains the setting and operation methods of each utility on MX				
<sh-081084eng, 13ju75=""></sh-081084eng,>	Component. (Sold separately)				
MX Component Version 4 Programming Manual	Explains the programming procedures, details and error codes for				
<sh-081085eng, 13jw12=""></sh-081085eng,>	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.



- Mitsubishi Electric Corporation does not guarantee the commercially-available Microsoft<sup>®</sup> Windows<sup>®</sup> Operating Systembased 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.

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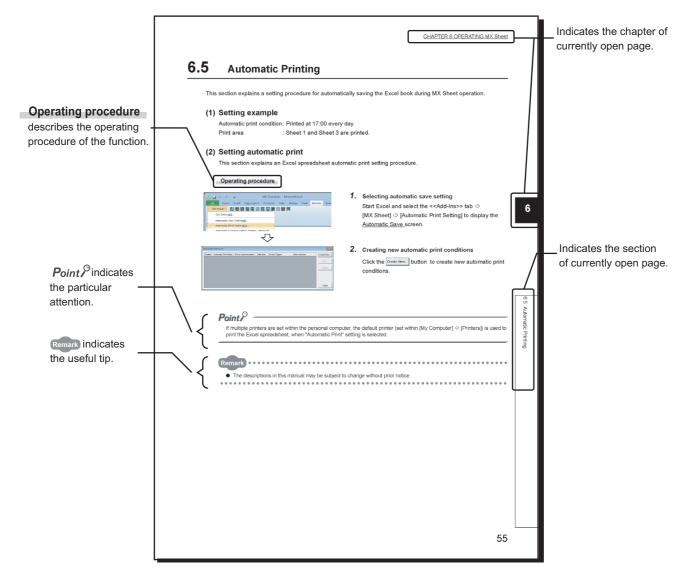
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# HOW TO READ THIS MANUAL

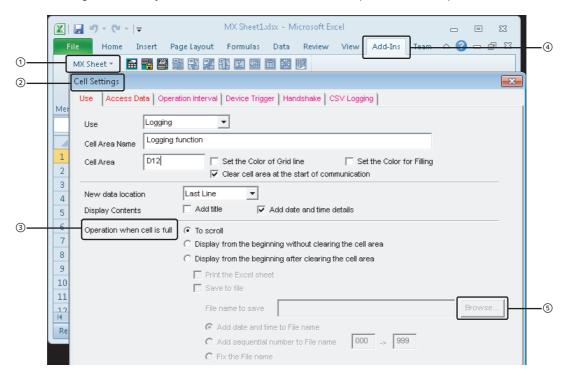
The following explains the page composition and symbols in this manual.

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



· 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 Sett						
2	(Underline)	Screen name	Cell Settings screen					
3		Item name in a screen	"Operation when cell is full"					
4	<< >>	Tab name in a screen	< <add-ins>&gt; tab</add-ins>					
5		Button in a screen	Browse button					
-		Keyboard key	Enter key					

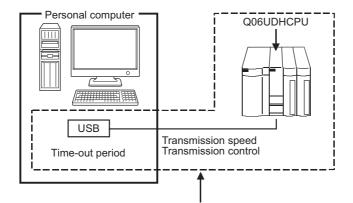
This manual uses the terms listed in the following table unless otherwise noted.

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 <sup>®</sup> 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 <sup>®</sup> 7 or later	Generic term for Windows <sup>®</sup> 7, Windows <sup>®</sup> 8, Windows <sup>®</sup> 8.1, and Windows <sup>®</sup> 10.					
Excel	Generic term for Microsoft <sup>®</sup> Excel <sup>®</sup> 2003, Microsoft <sup>®</sup> Excel <sup>®</sup> 2007, Microsoft <sup>®</sup> Excel <sup>®</sup> 2010 (32-bit version), Microsoft <sup>®</sup> Excel <sup>®</sup> 2013 (32-bit version), Microsoft <sup>®</sup> Excel <sup>®</sup> 2016 (32-bit version), and Microsoft <sup>®</sup> Excel <sup>®</sup> 2019 (32-bit version)					
System label	Generic term for label names assigned to each device It can be used instead of devices in programs.					

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.

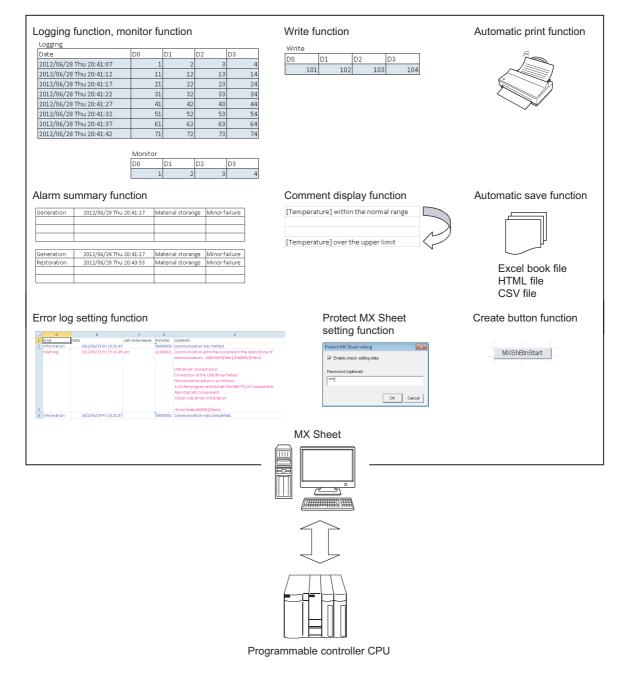
# CHAPTER 1 OVERVIEW

# **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

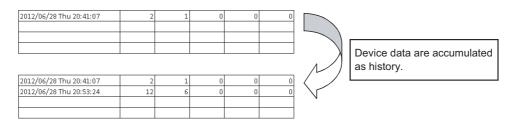


# **1.2** Functions Explained in This Manual

This manual explains the following MX Sheet functions.

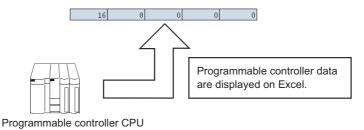
#### (1) Logging function ( Page 32, Section 6.1)

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



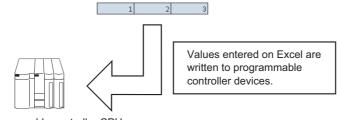
#### (2) Monitor function ( Page 40, Section 6.2)

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.



Programmable controller CPU

#### (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 <sup>®</sup> Windows <sup>®</sup> supported personal computer							
CPU	Intel <sup>®</sup> 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) <sup>*2</sup>							
Available hard disk capacity	At installation: 300MB or more. <sup>*3, *4</sup> At operation: Virtual memory available capacity is 512MB or more.							
Display	Resolution 1024 × 768 dots or more							
Operating system <sup>*5, *6, *7, *8</sup> (32-bit/64-bit)	Microsoft <sup>®</sup> Windows XP <sup>®</sup> Professional Operating System (English version) SP3 or later Microsoft <sup>®</sup> Windows XP <sup>®</sup> Home Edition Operating System (English version) SP2 or later Microsoft <sup>®</sup> Windows Vista <sup>®</sup> Home Pasic Operating System (English version) SP2 or later Microsoft <sup>®</sup> Windows Vista <sup>®</sup> Home Premium Operating System (English version) SP2 or later Microsoft <sup>®</sup> Windows Vista <sup>®</sup> Business Operating System (English version) SP2 or later Microsoft <sup>®</sup> Windows Vista <sup>®</sup> Ultimate Operating System (English version) SP2 or later Microsoft <sup>®</sup> Windows Vista <sup>®</sup> Enterprise Operating System (English version) SP2 or later Microsoft <sup>®</sup> Windows Vista <sup>®</sup> Enterprise Operating System (English version) SP2 or later Microsoft <sup>®</sup> Windows <sup>®</sup> 7 Starter Operating System (English version) Microsoft <sup>®</sup> Windows <sup>®</sup> 7 Home Premium Operating System (English version) Microsoft <sup>®</sup> Windows <sup>®</sup> 7 Professional Operating System (English version) Microsoft <sup>®</sup> Windows <sup>®</sup> 7 Interprise Operating System (English version) Microsoft <sup>®</sup> Windows <sup>®</sup> 7 Enterprise Operating System (English version) Microsoft <sup>®</sup> Windows <sup>®</sup> 8 Operating System (English version) Microsoft <sup>®</sup> Windows <sup>®</sup> 8 Pro Operating System (English version) Microsoft <sup>®</sup> Windows <sup>®</sup> 8 Pro Operating System (English version) Microsoft <sup>®</sup> Windows <sup>®</sup> 8.1 Operating System (English version) Microsoft <sup>®</sup> Windows <sup>®</sup> 8.1 Pro Operating System (English version) Microsoft <sup>®</sup> Windows <sup>®</sup> 8.1 Enterprise Operating System (English version) Microsoft <sup>®</sup> Windows <sup>®</sup> 10 Home Operating System (English version) Microsoft <sup>®</sup> Windows <sup>®</sup> 10 Pro Operating System (English version) Microsoft <sup>®</sup> Windows <sup>®</sup> 10 Home Operating System (English version) Microsoft <sup>®</sup> Windows <sup>®</sup> 10 Enterprise Operating System (English version) Microsoft <sup>®</sup> Windows <sup>®</sup> 10 Enterprise Operating System (English version) Microsoft <sup>®</sup> Windows <sup>®</sup> 10 Enterprise Operating System (English version) Microsoft <sup>®</sup> Windows <sup>®</sup> 10 Enterprise Operating System (English version)							

ltem	Description					
Required software	-					
	Microsoft <sup>®</sup> Excel <sup>®</sup> 2003 (English version), Microsoft <sup>®</sup> Excel <sup>®</sup> 2007 (English version) <sup>*10</sup> , Microsoft <sup>®</sup> Excel <sup>®</sup> 2010 (32-bit version) (English version) <sup>*11</sup> ,					
Excel <sup>*9</sup>	Microsoft <sup>®</sup> Excel <sup>®</sup> 2013 (32-bit version) (English version) <sup>*12</sup> ,					
	$Microsoft^{ emtirese}$ Excel <sup>®</sup> 2016 (32-bit version) (English version) <sup>*13</sup> , or					
	Microsoft <sup>®</sup> Excel <sup>®</sup> 2019 (32-bit version) (English version) <sup>*14</sup>					
MX Component	MX Component Version 4 or later					

- \*1: For 64-bit Windows<sup>®</sup> 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<sup>®</sup> Professional (64-bit version) and Windows Vista<sup>®</sup> (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

\*8 :

- Windows<sup>®</sup> Hibernate and Standby
- 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<sup>®</sup> Excel<sup>®</sup> 2007, Microsoft<sup>®</sup> Windows XP<sup>®</sup> Service Pack 2 or later is required.
- \*11: When using Microsoft<sup>®</sup> Excel<sup>®</sup> 2010 (32-bit version), Microsoft Windows XP<sup>®</sup> Service Pack 3, Microsoft<sup>®</sup> Windows Vista<sup>®</sup> Service Pack 1, Microsoft<sup>®</sup> Windows<sup>®</sup> 7 or later is required. Microsoft<sup>®</sup> Excel<sup>®</sup> 2010 (64-bit version) is not supported.
- \*12 : When using Microsoft<sup>®</sup> Excel<sup>®</sup> 2013 (32-bit version), Windows<sup>®</sup> 7 or later is required. Microsoft<sup>®</sup> Excel<sup>®</sup> 2013 (64-bit version) is not supported.
- \*13 : When using Microsoft<sup>®</sup> Excel<sup>®</sup> 2016 (32-bit version), Windows<sup>®</sup> 7 or later is required. Microsoft<sup>®</sup> Excel<sup>®</sup> 2016 (64-bit version) is not supported.
- \*14 : When using Microsoft<sup>®</sup> Excel<sup>®</sup> 2019 (32-bit version), Windows<sup>®</sup> 10 or later is required. Microsoft<sup>®</sup> Excel<sup>®</sup> 2019 (64-bit version) is not supported.

#### Point P

 Considerations when using Microsoft<sup>®</sup> Excel<sup>®</sup> 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<sup>®</sup> Excel<sup>®</sup> 2010 or later is installed and started, then an add-in is installed, the following error message is displayed.

Microsoft	Visual Basic for Applications	×
<u>^</u>	Compile error in hidden module: MXShExtern. This error commonly occurs when code is incompatible with the version, platform, or architecture of this application. Click "Help" for information on how to correct this error.	
	ОК Неір	

# 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<sup>®</sup> 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<sup>®</sup>.
- · The installer may not work normally because of the operating system's or other companies' update
- programs, such as Windows<sup>®</sup> 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.

Point *P* 

- 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.

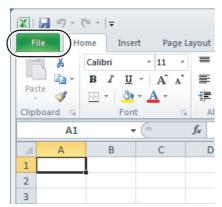
- "ntvdm.exe" is high load in the task manager (the usage rate of one CPU core is the maximum).
- The personal computer is equipped with the 6th generation  $\mathsf{Intel}^{\texttt{®}}$   $\mathsf{Core}^{\,\texttt{TM}}$  processor.
- An image is output by using the on-board video (CPU built-in).
- Any of edition of 32-bit version  $Microsoft^{\ensuremath{\mathbb{R}}}$  Windows  $\ensuremath{\mathbb{R}}$  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





To the next page

#### **1.** Select the <<File>> tab.

When using  $\mathsf{Microsoft}^{\$}\mathsf{Excel}^{\$}$  2007, click the Office button.

#### 2. Select [Options].

When using Microsoft<sup>®</sup> Excel<sup>®</sup> 2007, click the

#### From the previous page ᠊ᡘᠵ ? × cel Opti 🔴 Help keep your do Proofing Protecting your privacy Save Microsoft cares about your privacy. For more information about how Microsoft Excel helps to protect your privacy, please the privacy statements. Languag Show the Microsoft Excel privacy state Office.com privacy statement Customer Experience Improvement Pro Advanced nent Program Customize ity & more Ouick Access Toolb Learn more about protecting your privacy and security from Office.com Microsoft Trustworthy Computing Frust Center oft Excel Trust Center The Trust Center contains security and privacy settings. These settings help keep your computer secure. We recommend that you do not change these settings. Irust Center Settings. $\mathbf{\nabla}$ ? X ust Cente Trusted Publishers Add-ins Trusted Locat Requ ire Application Add-ins to be signed by Trusted Publis <u>D</u>isable all Application Add-ins (may impair functionality) $\mathbf{\nabla}$ Trust Center ? X Trusted Publisher ActiveX Settings for all Office Applicat Trusted Location: Disable all controls without notification Prompt me before enabling Unsafe for Initia Initialization (SFI) controls with minimal rest 0 Trusted Document Prompt me before enabling all controls with minimal restrict Enable all controls without restrictions and without prompting (not can run) 0 ActiveX Settings Safe mode (helps limit the control's access to your computer Protected View $\mathcal{P}$ ? 🗙 Trust Center Trusted Pu Macro Setting Trusted Location Trusted Document Add

 Trusted Publishers
 Macro Settings

 Disable al macros without notification
 Disable al macros without notification

 Disable al macros wethout notification
 Disable al macros wethout notification

 Add-ins
 Add-ins

 Add-ins
 Enable al macros wethout notification

 Disable al macros creating is project object model



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

- **4.** Select "Add-ins" from the list on the left, and clear the items when they have the check marks.
- Select "ActiveX Settings" from the list on the left, and select any item other than "Disable all controls without notification".
- Select "Macro Settings" from the list on the left, and select "Enable all macros (not recommended; potentially dangerous code can run)".
- 7. After configuring the above settings, click the ok button, and exit Excel.

# 3.1.2 Installation

#### (1) Installing the product

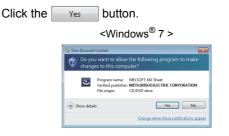
#### Operating procedure



Continued on next page

 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.



If the message on the left is displayed, click the

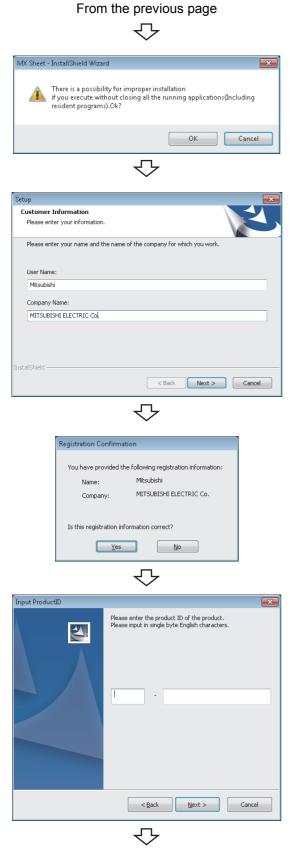
button to install MX Sheet, and then install MX Component.

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
DK 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.



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 Next > button.

Check the registered name and company name.
 Check if the registered content is correct, and click the
 Yes button.

In order to change the information, click the **No** button to return to the previous screen.

#### **5.** Register the product ID.

Enter the product ID and click the Next > button. The product ID is printed on the license certificate included with the product.



 $\nabla$ To the next page If do not change the destination folder, click the

For confirmation, the message on the left is displayed.

#### Point P

- 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.



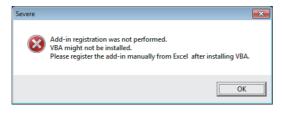
For the manual MX Sheet add-in registration method, refer to the following section.  $\bowtie$  Page 25, Section 3.1.4

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

Paste E	e Insert P alibri • 11		Formulas	General \$ → % .00 →.0	Review	View Ad Inditional For rmat as Table Il Styles ≠ Styles	matting *	Team Insert ▼ Delete ▼ Delete ▼ Cells	Σ · A · Z · So · Filt		<b>←</b> Tat
A A 1 2 3	ВС	D	E	F	G	Н		J	К		
4 5 6 7											
8 9 10 ! ◆ ▶ ► Shee	et1 Sheet2 /	Chaot? /93								<b>▼</b>	

• 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

 $\nabla$ 

<The screen of Windows  $\mathsf{Vista}^{\texttt{R}}$  and  $\mathsf{Windows}^{\texttt{R}}$  7 or later>

💽 Windows Security
Would you like to install this device software?
Always trust software from "MITSUBISHI ELECTRIC     CORPORATION".
You should only install driver software from publishers you trust. How can I decide which device software is safe to install?
Windows Security
Windows Security  Would you like to install this device software?  Name: MITSUBISHI ELECTRIC CORPORATION Universa  Publisher: MITSUBISHI ELECTRIC CORPORATION
Would you like to install this device software? Name: MTSUBISHI ELECTRIC CORPORATION Universa



<The screen of Windows XP®>

#### **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<sup>®</sup>, click the <u>Continue Anyway</u> 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.".

Restarting Windows
Setup has finished copying files to your computer. Before you can use the program, you must restart your computer.
Select one of the following options and click OK to finish setup.
Yes, I want to restart my computer now.
No, I will restart my computer later.
ОК



OK

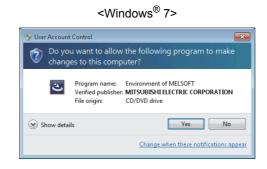
#### (2) When message is displayed at start of installation

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

 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 *P* 

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

- When using Windows<sup>®</sup> Vista<sup>®</sup>
- TECHNICAL BULLETIN No.FA-A-0008 • When using Windows<sup>®</sup> 7
- TECHNICAL BULLETIN No.FA-A-0091
- When using Windows<sup>®</sup> 8 and 8.1 TECHNICAL BULLETIN No.FA-A-0153
- When using Windows<sup>®</sup> 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 <u>Program Compatibility Assistant</u> screen may be displayed after installation. Select "This program installed correctly" and restart the personal computer.

💀 Program Compatibility Assistant
This program might not have installed correctly
If this program didn't install correctly, try reinstalling using settings that are compatible with this version of Windows.
Program: Setup Launcher Publisher: InstallShield Software Corporation Location: F:\EnvMEL\SETUP.EXE
Reinstall using recommended settings
This program installed correctly
Cancel
What settings are applied?

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.

SETUP.EXE Properties     General Compatibility Security Details Previous Versions     You have problems with this program and it worked correctly on	Clear the check box.
an earlier version of Windows, select the compatibility mode that matches that earlier version. Help me choose the settings	SETUP.EXE Properties
Compatibility mode Run this program in compatibility mode for: Windows XP (Service Pack 3)	If you have problems with this program and it worked correctly on an earlier version of/windows, select the compatibility mode that matches that earlier version.
Settings Run in 255 colors Run in 5402 400 screen resolution Daskle vaual theres Daskle vaual theres Daskle decisico composition Daskle decisico composition Daskle decisico composition	Compatibility mode The second
Privilege Level	Clisabe disktop composition     Disable display scaling on high DP1 settings
Change settings for all uses	Privilege Level
	OK Cancel Apply

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

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<sup>®</sup> Excel<sup>®</sup> 2003, [MX Sheet] is added to the menu bar.

cell strung]         Automatic Swe 5 setting[]         Automatic Swe 5 setting[]         Automatic Swe 5 setting[]         Start Communication[]         Start Communication[]         Informatic Communication[]         Start Communication[]         Core cell Area[]         Charge Sheat Name[]         Crash Button[2]         Protect MX Sheat setting[2]         Options[]         Start Core Core Sheat 2 (Sheat 2 (S				C		_		
Automatic Print Setting(Q)         Line         Line <thline< th="">         Line         Line</thline<>		] 4						
Advance: Communication Startup Setting(s)     E     F     G     H     I       Start: Communication(s)     E     F     G     H     I       End Communication(s)     E     F     G     H     I       Start: Communication(s)     E     F     G     H     I       Start: Communication(s)     E     F     G     H     I       Start: Communication(s)     E     F     G     H     I       Cut cell Area(s)     E     F     G     H     I       Detet: Cell Area(s)     E     F     G     H     I       Detet: Starting(s)     E     E     F     G     H       Create Button(fg)     E     E     F     G     H       Poteter: MS theet stating(s)     E     E     F     G       Static port(s)     E     E     E     E       Static port(s)     E     E     E     E								
Start Communication[])     E     F     G     H     I     J       Ind Communication[]     I     I     I     I       Ishet Communication[]     I     I     I       Ishet Communication[]     I     I     I       Copy cell Area[]     I     I     I       Copy cell Area[]     I     I     I       Detet Cell Area[]     I     I     I       Charge Sheet Name[]     I     I     I       Create Button(b)     I     I     I       Poteter Kell Area[]     I     I     I       Create Button(b)     I     I     I       Stating Data Export(b)     I     I     I       Version Info@]     I     I     I								_
Start Communication(E)	Automatic Communication Startup Setting(A)		_	-	-			
IShet Communication@  Cut Cell Area@  Cut Cell Area@  Detets Cell Area@  Detets Cell Area@  Change Sheet Name@  Create Button@  Options@  Options@  Stetus Data spont@  Version Info@  I I ISheet Zell Zell Zell Zell Zell Zell Zell Z	Start Communication(B)	E		F	G	н	1	J
Cut Cell AreagD Copy Cell AreagD Copy Cell AreagD Copy Cell AreagD Change Sheet NametD Change Sheet	End Communication(E)							
Cut Cit ArasB								
Paste Cell Area@ Delete Cell Area@ Change Sheet Name[b Chan								
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Protect WS/Net setting(B) Option:(D) Setting Outs Export(2) Vesion Info (A)	Create Button(M)							
Optioniji Setting Ords Epont(5) Version Info@ >II Sinee(2_Sneet2_Sneet3_72) ↓ Ⅲ →	Protect MX Sheet setting(R)							
Setting Data Export(g)           Version Info.g/           ▶ Hi Sheet ∠ Sheet2 ∠ Sheet3 ∠ Car	Options II							
Version Info:(M	Setting Data Export(X)							
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MX Sheet icons and menu are displayed.

#### Point P

If the "Register add-in" is not selected on the Select add-in register. screen in step 7 (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

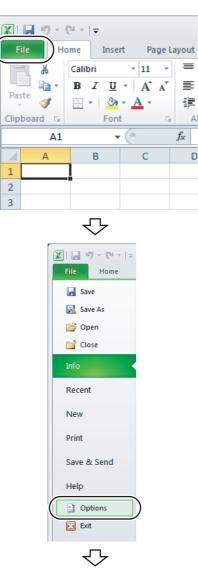
# 3.1.4 Manual add-in registration

[MX Sheet] menu is not registered to the <<Add-Ins>> tab if "Register add-in" is not selected on the <u>Select add-in</u> register. screen in step 7 ( I 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.

#### Operating procedure

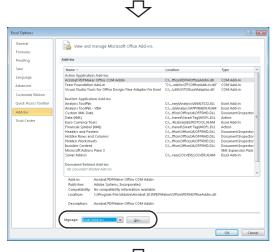


To the next page

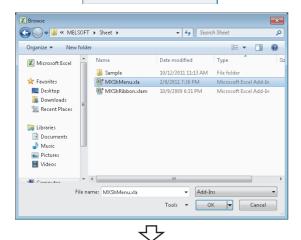
**1.** Start Excel and click the <<File>> tab.

**2.** Select [Option].

#### 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 <u>\_\_\_\_</u> button. <Microsoft<sup>®</sup> Excel<sup>®</sup> 2003> Select [Tool] ⇔ [Add-Ins] from the menu bar to display the <u>Add-Ins</u> screen. <Microsoft<sup>®</sup> Excel<sup>®</sup> 2007> Select the Office button and click the <u>\_\_\_\_</u> Excel Options button.

#### 4. The <u>Add-Ins</u> screen is displayed.

Click the Browse... button.

#### 5. The <u>Browse</u> screen is displayed.

Select "MXShMenu.xla" in "File name" and click the



"MXShMenu.xla" is stored into [User specified folder]<sup>\*1</sup> ⇒ [Sheet] at installation.

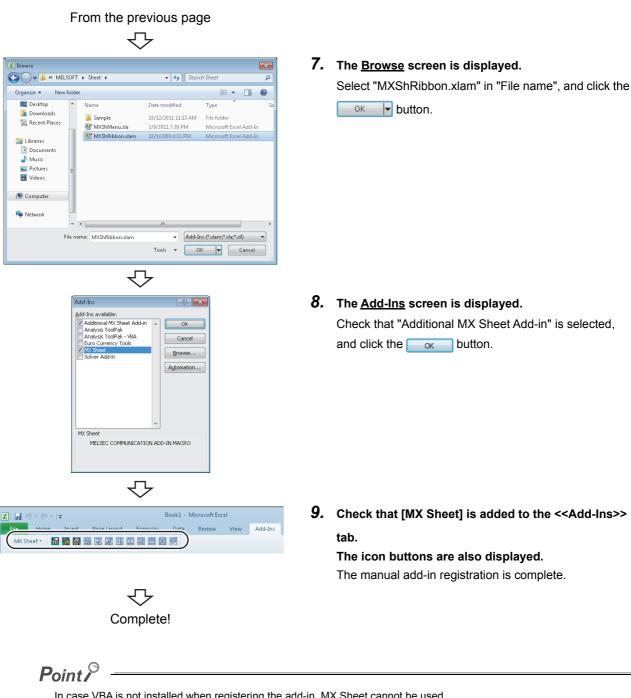
\*1 : The installation destination folder is "C:\Melsec\Sheet" if it is not changed at installation.

#### 6. The <u>Add-Ins</u> 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.



3.1 Installation 3.1.4 Manual add-in registration

3

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

# 3.2 Uninstallation

This section explains MX Sheet unistallation.

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

#### Operating procedure



MX Sheet - Install Shield Wizard Do you want to completely remove the selected application and all of its features? Yes No

To the next page

 Select [Start] ⇔ [Control Panel] ⇔ "Uninstall a program".

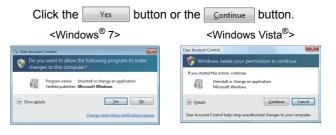
<Windows XP<sup>®</sup>> [Start] ⇔ [Control Panel] ⇔ "Add/Remove Programs"

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

<Windows XP<sup>®</sup>>

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

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

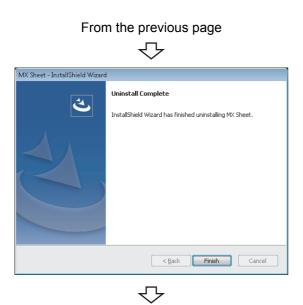


**3.** Click the Yes button.

When not uninstalling MX Sheet, click the 📃 🛚 🔊

Components indicate the installed icons and files.

button to return to the preceding screen.



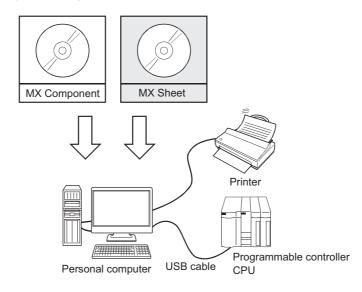
Complete!

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

- **4.** Click the Finish button to close the screen.
- 5. Restart the personal computer.

# CHAPTER 4 SYSTEM CONFIGURATION USED IN THIS MANUAL

This manual explains system configuration as follows.

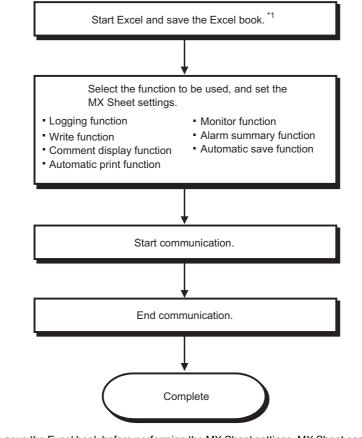


Syste	em Equipment	Description
Personal co	omputer	Personal computer that satisfies the operating environment of MX Sheet. For details, refer to the following chapter. SP Page 11, CHAPTER 2.
	Operating system	Microsoft <sup>®</sup> Windows <sup>®</sup> 7 Professional Operating System (English version)
Software	MX Sheet	MX Sheet Version 2
Soltware	MX Component	MX Component Version 4
	Excel	Microsoft <sup>®</sup> Excel <sup>®</sup> 2010 (32-bit version) (English version)
Programma	able 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.

. . . . . . . . . . . . . . . . . . .



\*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

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.

۱	<b>.</b> 9 -	(" -   -		Book1 -	Microsoft Ex	cel		_		23
Fi	le Ho	ome Insert	Page Layout	Formulas	Data Revi	ew View	Add-Ins	Team 🛆	- 3	æ X
	MX Sheet	- 🔛 🏪 🖉								
Meni	u Comman	ıds	Custom To	olbars						
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3			3 Thu 20:41:12	47			0			_
4			8 Thu 20:41:17	52		0	0	-		
5			3 Thu 20:41:22	57		0	0	-		
6	┍╺┝		3 Thu 20:41:27	62		0	0			
7	+		3 Thu 20:41:32	67		0	0			_
8			3 Thu 20:41:37	72		0	0	-		_
9			3 Thu 20:41:42	77		0	0	-		_
10	+		3 Thu 20:41:47	83		0	0			- 11
11		2012/06/28	3 Thu 20:41:52	88	96	0	0		ļ	
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		<ul> <li>10 loggir</li> </ul>	ng data are d				rom left t			
		<ul> <li>The lates</li> </ul>	st logging da	ta is displa	aved on t			Ŭ		

- 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

🗶 Save As	
COO - E + Lib	raries > Documents >
Organize 🔻 Nev	v folder 🛛 🔠 🔻 🔞
🛣 Microsoft Excel	Documents library     Arrange by: Folder *
🚖 Favorites	Includes: 2 locations
Desktop	
🐞 Downloads 📆 Recent Places	No items match your search.
Cibraries 📄 Documents	
File name:	
Save as type:	Excel Workbook (*.xlsx)
Authors: A	Add an author Tags: Add a tag
	🔄 Save Thumbnail
🔺 Hide Folders	Tools - Save Cancel
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Auto Auto Start	matic Save Setting(g) matic Print Setting(g) matic Communication Startup Setting(A) Communication(B) 
Cell Settings	
	Operation Interval Device Trigger Handshake CSV Logging
	agging V
	ogging function
Cell Area E	2:G11 ☐ Set the Color of Grid line ☐ Set the Color for Filing ✓ Clear cell area at the start of communication
New data location	Last Line
Display Contents	Add title 🔽 Add date and time details
Operation when cel	
	C Display from the beginning without clearing the cell area C Display from the beginning after clearing the cell area
	<ul> <li>Display from the beginning after clearing the cell area</li> <li>Print the Excel sheet</li> </ul>
	Save to fie
	File name to save Browse
	Add date and time to File name
	C Add sequential number to File name 000 → 999 C Fix the File name
Cell Area Name	Use Logical Sta Operation Interval Device Trigger Handshake CSV Logging
	Not set / Set already ) OK Cancel Apply
Optional Settings (	Not set / Set already )
	$\checkmark$

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

#### **3.** Displaying the <u>Cell Settings</u> screen

Select the <<Add-Ins>> tab  $\Rightarrow$  [MX Sheet]  $\Rightarrow$ [Cell Setting] to display the <u>Cell Settings</u> 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
- New data location
- Display Contents
- : Add date and time details

: B2:G11

: Last Line

• Operation when cell is full: To scroll

#### From the previous page

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Logical S	Station Num	ber									-	
								( (	Communicat	ion Settings	_)	
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1					-	-						
2					÷	•						
3					÷							
5					÷							
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Cell Area	Name	Use	_	Logical S	sta	Opera	ion Interval	Device Tr	igger Handsh	ake CSV L	ogging	
Mandatory	Settings(	Not set	,	Set already	)					[		1
Optional Se		Not set			ś				ж	Cancel	Apply	
Abrought 26	xunga (	NOT SEL	1	Set aready	)							

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

Click the <u>communication Settings...</u> button to start the communication setup utility for setting the logical station number.

When the following screen is displayed, click the

Yes button.

<u>^</u>	ation Setup Utility Do you execute programs as an administrator? To change the communication settings select "Yes". When "No" is selected, The communication settings cannot be changed.
	Yes No Cancel

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

<Windows<sup>®</sup> 7 or later>

<Windows Vista<sup>®</sup>>

😵 User Account Control	User Account Control
Do you want to allow the following program from an unknown publisher to make changes to this computer?	An unidentified program wants access to your computer
Program name: ActComm.exe Verlied publisher: Unknown File origin: Hard drive on this computer	Don't run the program unless you know where it's from or you've used it before.
To continue, type an administrator password, and then click Yes.	GX755-D
Pessword	Password
Show details	Details     OK Cancel
	User Account Control helps stop unauthorized changes to your computer.

After inputting the password, click the Yes button or

the or button.

The privilege escalation allowance screen on User

Account Control screen is displayed as follows.\*1

<Windows<sup>®</sup> 7 or later> <Windows Vista<sup>®</sup>>

😵 User Account Control	User Account Control
Do you want to allow the following program from an unknown publisher to make changes to this computer?	An unidentified program wants access to your computer
Program name: ActComm.exe Publisher: <b>Unknown</b> File origin: Hard drive on this computer	Don't run the program unless you know where it's from or you've used it before. ActComm.exe Unidentified Publisher
Show details     Yes No	Cancel I don't know where this program is from or what it's for.
Change when these notifications appear	Allow I trust this program. I know where it's from or I've used it before.
	🛞 Details
	User Account Control helps stop unauthorized changes to your computer.

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

MX Sheet Version 2 Operating Manual



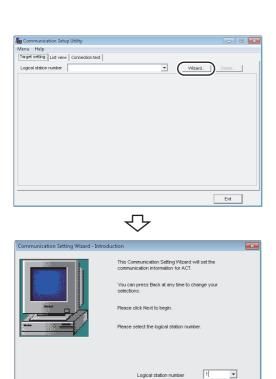
To the next page

Clicking the <u>Yes</u> 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 Finish button on the <u>Communication Setting Wizard</u> screen, the error occurs as follow.

Communic	ation Setting Wizard
8	Updating the system information data failed. There is a possibility without the operation authority. Please execute it by the administrate authority user. There is a spossibility that the operating environment of the application is compet. Re-install the application and try again.
	OK

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



Next >

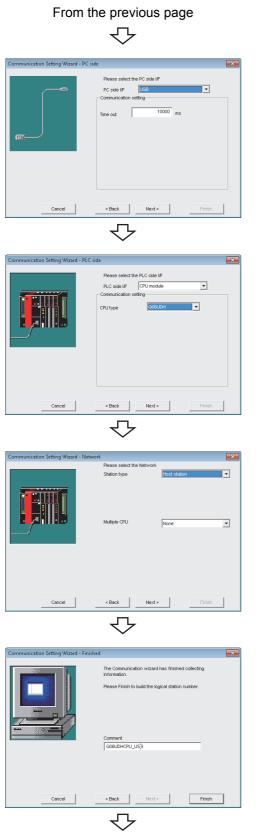
To the next page

Cancel

#### 7. Setting the logical station number

Set "1" in "Logical station number" and click the <u>Next</u> > button.

6



To the next page

#### 8. Setting the personal computer side interface

Set the following items and click the Next > button.

- PC side I/F : USB
- Time out : 10000
- 9. Setting the programmable controller side interface

Set the following items and click the Next > button.

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

#### 10. Selecting the communication path

Set the following items and click the Next > button.

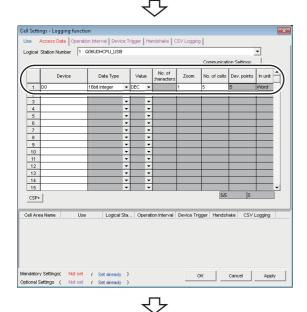
- Station typeMultiple CPU
  - : Host station
  - le CPU : None
- **11.** Enter any word (Q06UDHCPU\_USB in this example)

and click the Finish button

公

🖣 Communication Setup Utility			
Menu Help			
Target setting List view Connection tes	st		
Logical station number 1:Q06UDHCPU_	USB	-	 Delete
USB			
PC I/F USB	CPU type	QUEUDH	
Time-out 10000 ms			
	Multiple CPU	None	
			E×it
	г	7	

Setup Utility			
Menu Help			
Target setting List view Connection tes	F		
Logical station number 1:006UDHCPU	J_USB	•	Test
Result			
Diagnosis count	0		
Result			
CPU name			
Mean time of communication	0 ms		
			E×it



#### To the next page

#### **12.** Checking the settings

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

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

#### **13.** Connection test

Click the <u>rest</u> button to check that the programmable controller and personal computer are normally communicating.

After confirmation, click the <u>Exit</u> button to close the communication setup utility.

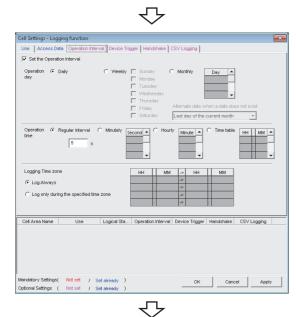
An error message is displayed if they are not communicating normally. Check the error definition and remove the error.

#### **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<sup>\*1</sup> : D0
   Data type : 16bit integer
   Value : DEC
   Zoom : 1
   No. of cells<sup>\*2</sup> : 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.

6



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Cell Settings - Logging function

on 📀 Daily

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cess Data Ope

#### **15.** Setting the <<Operation Interval>> tab

Set the logging operation interval as follows.

- Set the Operation Interval : Selected
- Operation day
- Operation time •
- : Regular interval

: Daily

- (5 seconds)
- Logging Time Zone : Log Always ٠

#### 16. Applying the settings

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

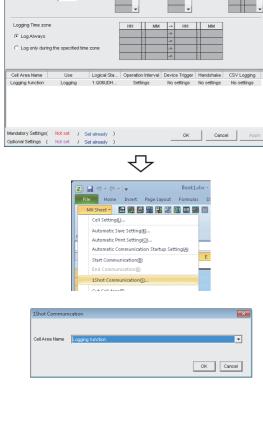
Check that the cell area is registered as shown on the left

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 ⇔ [MX Sheet] ⇔ [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.





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Complete!

#### 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 ⇔ [MX Sheet] ⇔ [Start Communication] to start logging.

As the message is displayed, click the Ves button.

### **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.

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

#### (1) Creation example

Set the following Excel spreadsheet.

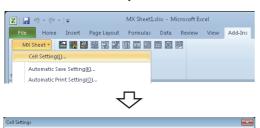
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#### (2) Setting MX Sheet

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

#### Operating procedure

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Cell Area Name	Use	Logical Sta	Operation Interval	Device Trigger	Handshake	CSV Logging
indatory Settings	(Notset (	Set already )		ок	Canc	el Apply

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.

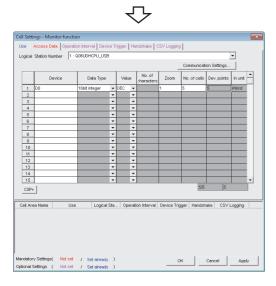
#### 3. Displaying the <u>Cell Settings</u> screen

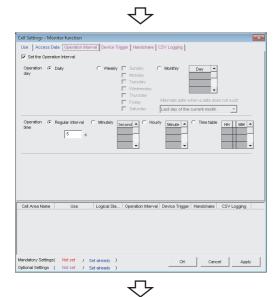
Select the <<Add-Ins>> tab ⇔ [MX Sheet] ⇔ [Cell Setting] to display the <u>Cell Settings</u> screen.

#### 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





Cell Settings - Monitor function	x
Use Access Data Operation Interval Device Trigger Handshake CSV Logging	
Set the Operation Interval	
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Optional Settings ( Not set / Set already )	_

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.

<ul> <li>Logical Station Number<sup>*1</sup></li> </ul>	: 1
<ul> <li>Device<sup>*2</sup></li> </ul>	: D0
<ul> <li>Data type</li> </ul>	: 16bit integer
Value	: DEC
• Zoom	: 1
<ul> <li>No. of cells<sup>*3</sup></li> </ul>	: 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 Operation time
- : Daily : Regular interval
  - (5 seconds)

#### 7. Applying the settings

Click the <u>Apply</u> button to enable the settings of the <u>Cell Settings</u> screen.

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

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	Automatic Communication Startup Setting(A) 	E		F	G	Н
	End Communication(E)	I	_	_		

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 ⇔ [MX Sheet] ⇔ [1Shot Communication].
- <u>1Shot Communication</u> 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 <u>ok</u> button to start 1 shot communication.

#### **9.** Starting communication

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

As the message is displayed, click the Yes button.

#### **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.

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

#### (1) Creation example

Set the following Excel spreadsheet.

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#### (2) Setting MX Sheet

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

#### Operating procedure

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Optional Solarings	( Not set					ок	Cancel	Apply

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

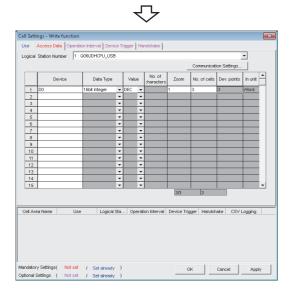
#### 3. Displaying the <u>Cell Settings</u> screen

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

#### 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



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 Dai
 5 Cell Area Name Use Logical Sta... Operation Interval Device Trigger Handshake CSV Logging Cancel Apply Ъ



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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.

<ul> <li>Logical Station Numbe</li> </ul>	r <sup>*1</sup> :1
<ul> <li>Device<sup>*2</sup></li> </ul>	: D0
<ul> <li>Data type</li> </ul>	: 16bit integer
Value	: DEC
Zoom	: 1
<ul> <li>No. of cells<sup>*3</sup></li> </ul>	: 3

- No. of cells\*3
- For the logical station number setting method, refer to the \*1: 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.

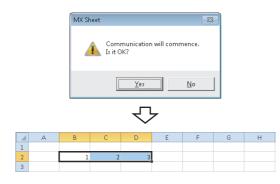
- · Set the Operation Interval: Selected
- · Operation day
- : Daily : Regular interval
- · Operation time
- (5 seconds)

#### 7. 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.

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Complete!

#### 8. Starting communication

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

As the message is displayed, click the Yes 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

# 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.

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#### (2) Setting automatic save

This section explains an Excel book automatic save setting procedure.

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Remote password
Bt Device Device 3D Condition When ON      When ON      Other State     (0.15)
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Specify the sheet name Sheet1
C Add date and time to File name C Add sequential number to File name 000 -> 999
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Remote password
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#### 1. Selecting automatic save setting

Start Excel and select the <<Add-Ins>> tab ⇔ [MX Sheet] ⇔ [Automatic Save Setting] to display the <u>Automatic Save List</u> 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<sup>\*1</sup> : 1
   Bit device : Selected
   Device<sup>\*2</sup> : 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".

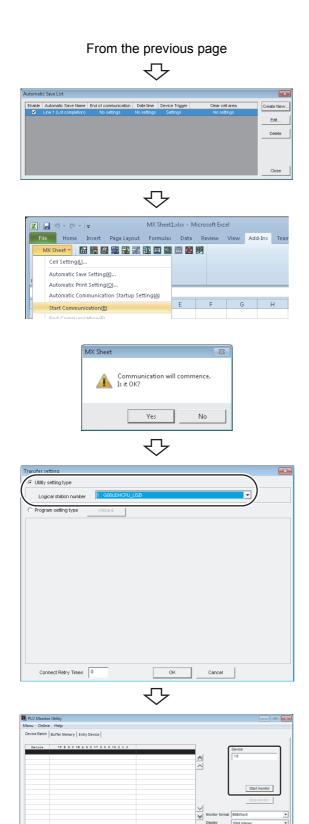
Set the file name to be saved automatically.

Clicking the Browse... button displays the <u>Save As</u> 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.



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 <u>Close</u> button to close the <u>Automatic Save List</u> screen.

#### **5.** Starting communication

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

As the message is displayed, click the Yes button.

- Starting the programmable monitor utility Start the PLC controller monitor utility. As the <u>Transfer setting</u> screen is displayed, set the following items.
  - Utility setting type : Selected
  - Logical station number : 1

After completing the above settings, click the \_\_\_\_\_K button.

#### 7. Specifying the monitor device

Exit

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

• Device : Y0

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

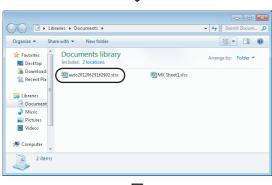
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Complete!

#### 8. Writing to device

Change the Y0 device status.

Double-click the monitor display area of the <<Device Batch>> tab to display the <u>Write to Device</u> screen. Forcibly turn on Y0 in the following procedure.

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

After completing the above settings, click the <u>Close</u> button.

#### **9.** Checking the device status

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

After checking, click the <u>Stop monitor</u> button and then the <u>Exit</u> button.

#### 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 ⇔ [MX Sheet] ⇔ [End Communication] to end communication.

The automatic save setting is now completed.

6

# 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.

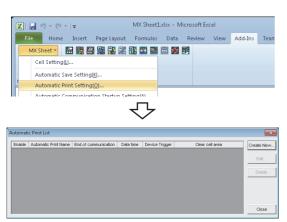
#### (1) Setting example

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





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

#### 2. Creating new automatic print conditions

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

#### 3. Setting the automatic print conditions

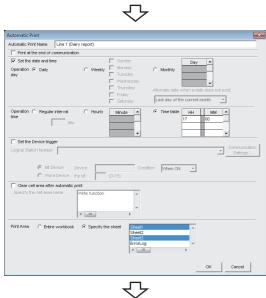
Set the automatic print conditions as follows.

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

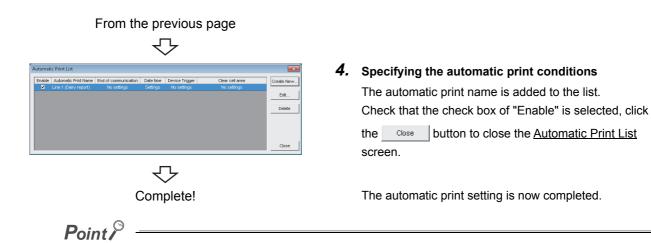
After the settings, click the \_\_\_\_K button.

\*1: Multiple spreadsheets can be selected.

• Print Area<sup>\*1</sup>



To the next page



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

# 6.6 Creating/Using button

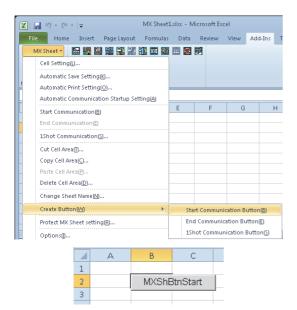
This section explains a convenient communication starting method by Create Button.

#### (1) Setting example

Button type: Start Communication buttonMX 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.<sup>\*1</sup>

\*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	Yes
button.	



Complete!

# APPENDIX

# Appendix 1 Useful Functions of MX Sheet

In addition to the functions explained in this manual ( F 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 20:41:07 2012/06/28 Thu 20:53:24	2	1	0	0	0	
	2	1	0	0	0	

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

Appendix 1 Useful Functions of MX Sheet Appendix 1.1 Alarm summary

Α

## Appendix 1.2 Comment display

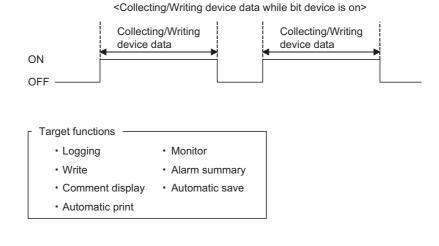
The comment display function converts a bit device value or word device value into the corresponding comment character strings and displays them on an Excel spreadsheet. (A comment is displayed according to the change of device value.)

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

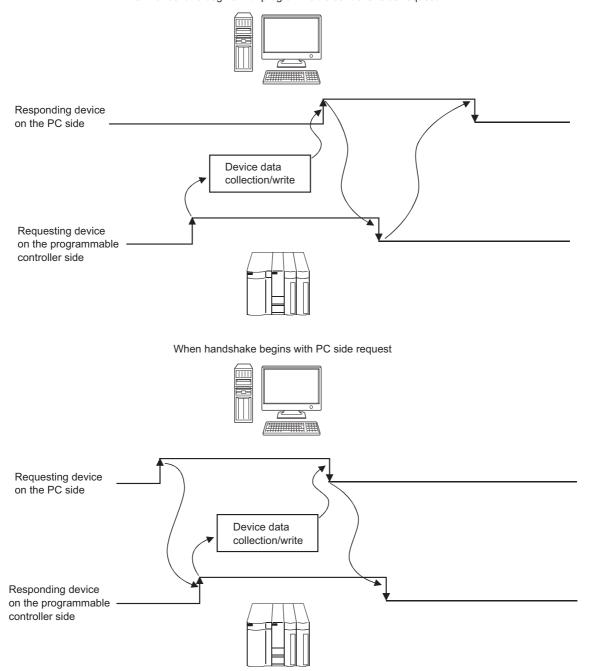
The device trigger function sets the device condition for device data collection/write, and collects or writes the device data when the set device condition holds.



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# 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.



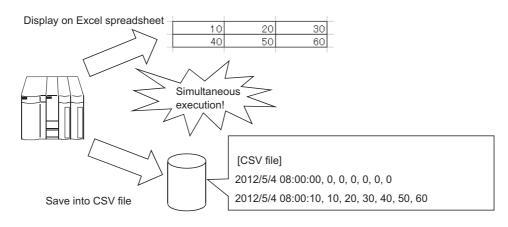
When handshake begins with programmable controller side request

Α

# 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.



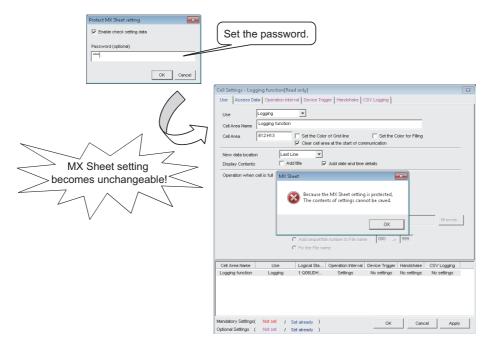
## Appendix 1.6 Automatic Communication Startup Setting

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.<sup>\*1</sup> The user settings can be set to unchangeable.



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

## 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.

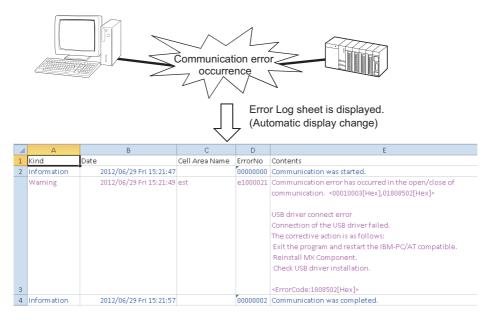
#### (1) Setting the error log types to be output

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

	(Setting for outputting all error log)				
	A	В	С	D	E
1	Kind	Date	Cell Area Name	ErrorNo	Contents
2	Information	2012/06/29 Fri 15:21:47		00000000	Communication was started.
	Warning	2012/06/29 Fri 15:21:49	est	e1000021	Communication error has occurred in the open/close of communication. <00010003[Hex],01808502[Hex]>
3					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]></errorcode:1808502[hex]>
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.



#### (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
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