MITSUBISHI

Type SW2D5F-XMOP-E Monitoring Tool Operating Manual



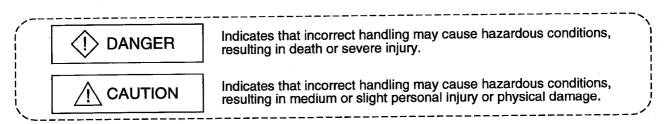
Mitsubishi Programmable Logic Controller

• SAFETY INSTRUCTIONS •

(Always read these instructions before using this equipment.)

Before using this product, please read this manual and the relevant manuals introduced in this manual carefully and pay full attention to safety to handle the product correctly. The instructions given in this manual are concerned with this product. For the safety instructions of the programmable controller system, please read the CPU module user's manual.

In this manual, the safety instructions are ranked as "DANGER" and "CAUTION".



Note that the \triangle CAUTION level may lead to a serious consequence according to the circumstances. Always follow the instructions of both levels because they are important to personal safety.

Please save this manual to make it accessible when required and always forward it to the end user.

[Design Instructions]

• When data change is to be made from a peripheral device to the running PLC, configure up an interlock circuit in the outside of the PLC system to ensure that the whole system will always operate safely.

Also, determine corrective actions to be taken for the system when a communication error occurs due to a cable connection fault or the like in online operation performed from the peripheral device to the PLC CPU.

• Online operation performed with a peripheral device connected to the running CPU module (especially forced output) should be started after carefully reading the manual and fully ensuring safety.

Not doing so can cause machine damage or accident due to an operation mistake.

REVISIONS

* The manual number is given on the bottom left of the back cover.

Print Date	* Manual Number	Revision		
Mar., 1999		First edition		
2				
-				

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Operating Instructions

- Starting the Tag management process
 XMOP will not operate if the tag management process has not started.
- (2) Designing instructions

For designing, set the Tag management process to the "STOP" status. You can make setting with the tag setup utility.

- (3) Reloading the Tag management process During execution of created user applications, do not reload the tag management process.
- (4) Operation of XMOP On any personal computer where XMOP is not installed, user applications using XMOP will not run.
- (5) Registering the XMOP custom controls

Up to 254 XMOP custom controls may be registered to one form. However, when designing, register within 100 controls to one form in consideration of the practical use of loads, etc.

(6) Monitoring the XMOP custom controls

When designing, more than 254 XMOP custom controls should not be monitored at once in consideration of the processing loads of XMOP and container application (VB).

The custom controls whose form status is Show are all monitored. Monitoring will not be performed if you have set the tag where the form status is Hide and ordinary collection is not made.

(7) Saving the picture file

When picture information is saved, it is not stored as data themselves but as a file pathname.

If you have changed the picture file saving folder or file name, reset the picture property.

(8) When using Windows NT 4.0

When using Windows NT 4.0, XMOP may be installed and used only on the administrator's authority.

- (9) About Ethernet communication
 - (a) When TCP/IP is used for Ethernet communication, there are the following restrictions.
 - 1) During monitoring, write to the PLC CPUs of the same logical station number cannot be performed.
 - The following controls are restricted.
 - XMBITOPR.OCX
- XMNUMDAT.OCX
 XMSTRDAT.OCX
- XMNUMBLK.OCX
 XMSTRBLK.OCX
- XMWRBIT.OCX *1
- XMWRWORD.OCX *1 XMCLOCK.OCX (read not allowed, either)
 - *1 When using TCP/IP to perform write, provide more than one port number, give a logical station number to each of them, and use them for read/write.
- 2) XMOP (Tag management process) and the other process (e.g. device monitor utility, user application) cannot have simultaneous access to the PLC CPUs of the same logical station number.
- (b) If the CPU goes down or the Ethernet module is reset during Ethernet communication, the communication loop will be cut off. In that case, restart the personal computer.
- (10) About computer link communication and RS-422 communication on Windows 95 On Windows 95, communication using the COM port, e.g. computer link communication or RS-422 communication, will cause a memory leak. Therefore, do not perform continuous operation.

(11) About simultaneous use of XMOP and GPPW

When using GPPW and XMOP together on the same E71 module to make Ethernet communication, make the following settings.

- Set the protocol of the "Target" screen on the Ethernet utility of CSKP to "UDP/IP".
- Set SW2 of the communication condition setting switches of the E71 module to "OFF (binary)".

(12) About overwrite installation

When performing overwrite installation, install the software in the folder where it had already been installed.

(13) About the start menu

When you have uninstalled XMOP, the item may remain in the start menu. In such a case, restart the personal computer.

(14) About reinstallation after uninstalling CSKP

If you uninstalled CSKP with XMOP installed and then you reinstalled CSKP, the communication setting information (information set with various utilities such as the computer link utility) will be lost.

At this time, you must make communication settings again.

(15) About the number of licenses

The number of licenses are set to XMOP.

Installation decreases the number of licenses by 1.

Conversely, uninstallation increases the number of licenses by 1.

Therefore, when deleting XMOP, always uninstall it.

Note that the number of licenses will not increase if the folder and files are deleted on Explorer or the like.

INTRODUCTION

Thank you for choosing Type SW2D5F-XMOP-E Monitoring Tool.

Before using Type SW2D5F-XMOP-E Monitoring Tool, please read this manual carefully to use the product to its optimum.

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

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About Manuals

The following manuals are also related to this product. In necessary, order them by quoting the details in the tables below.

Related Manuals

Manual Name	Manual Number (Model Code)
Type SW2D5F-CSKP-E Basic Communication Support Tool Operating Manual This manual describes how to set up and use each utility for communication. (Including in the product package)	IB-66888 (1LMS42)
Type SW2D5F-CSKP-E Basic Communication Support Tool Programming Manual Provides the programming procedure, detailed explanations, and error codes of the MELSEC data link library. (Including in the product package)	IB-66889 (1LMS43)
Type A70BDE-J71QLP23GE/A70BDE- J71QLP23/A70BDE-J71QBR13 MELSECNET/10 Interface Board User's Manual (For SW2DNF-MNET10) Describes the features, specifications, part names and settings, and driver installation and uninstallation, etc. of the MELSECNET/10 card. (Including in the product package)	IB-66894 (13JL81)
Type A80BDE-J61BT13 CC-Link Interface Board User's Manual (For SW2DNF-CCLINK) Describes the features, specifications, part names and settings, and driver installation and uninstallation, etc. of the CC-Link card. (Including in the product package)	IB-66895 (13JL82)

How to Use This Manual

"How to Use This Manual" is described by purposes of using XMOP. Refer to the following and use this manual.

- (1) To know the features (Section 1.1) Features are given in Section 1.1.
- (2) Custom control and utility lists (Sections 1.2 and 1.3)
 The XMOP custom control list is provided in Section 1.2 and the utility list in Section 1.3.
- (3) To know the system configuration (Section 2.1) This section provides system configurations available by use of XMOP.
- (4) To know XMOP's operating environment and usable PLC CPUs (Section 2.2) XMOP's operating environment is given in Section 2.2. Since usable PLC CPUs are the same as those of CSKP, refer to the CSKP Operating Manual.
- (5) To install or uninstall XMOP (Chapter 3) Read Chapter 3 which describes how to install and uninstall XMOP.
- (6) To know the operation procedures of XMOP (Chapters 4 to 6) Chapter 4 provides the operation procedures of XMOP, Chapter 5 deals with the way of creating a tag file necessary to use XMOP, and Chapter 6 gives simple operation procedures for communication by actually using XMOP.
- (7) To know the operation methods of the utilities (Chapters 7 and 8)
 Chapter 7 provides operations common to the utilities, and Chapters 8 describes how to perform operation on a utility basis.
 Read these chapters when using the utilities.
- (8) To use the custom controls (Chapters 9 to 15)Chapters 9 to 15 give detailed explanations of the custom controls.Read these chapters when using the custom controls.
- (9) To know the accessible devices and ranges The CSKP Operating Manual provides the accessible devices and ranges. Refer to the CSKP Operating Manual.

About the Generic Terms and Abbreviations

Unless otherwise specified, this manual uses the following generic terms and abbreviations to describe Type SW2D5F-XMOP-E Monitoring Tool.

Generic Term/Abbreviation	Description			
XMOP	Abbreviation of Type SW2D5F-XMOP-E Monitoring Tool			
CSKP	Abbreviation of Type SW2D5F-CSKP-E Basic Communication Support Tool			
Windows NT 4.0	Abbreviation of Microsoft Windows NT Workstation 4.0			
Windows 95 Abbreviation of Microsoft Windows 95				
Windows 98	Abbreviation of Microsoft Windows 98			
Windows Generic Term of Microsoft Windows 95, Microsoft Windows 98 and Microsoft NT Workstation 4.0				
VB	Abbreviation of Microsoft Visual Basic 5.0			
Personal computer	DOS/V-compatible personal computer of IBM PC/AT and its compatibles			
CC-Link G4 module	Abbreviation of Type AJ65BT-G4 GPP function peripheral device connection module			
GPPW	Abbreviation of GPP Function Software for Windows SW D5C-GPPW-E/SW D5F- GPPW-E			
Ladder Logic Test Tool (LLT)	Abbreviation of Ladder Logic Test Function Tool Software for Windows SW D5C-LLT- E/ SW D5F-LLT-E			
MELSECNET/10 card Abbreviation of Type A70BDE-J71QLP23GE/A70BDE-J71QLP23/A70BDE-J7 MELSECNET/10 interface card				
CC-Link card	Abbreviation of Type A80BDE-J61BT13 CC-Link interface card			
AnNCPU	Generic term of the A0J2HCPU, A1SCPU, A1SCPU-S1, A1SCPUC24-R2, A1SHCPU, A1SJCPU, A1SJCPU-S3, A1SJHCPU, A1SJHCPU-S8, A1NCPU, A2CCPU, A2CCPUC24, A2CCPUC24-PRF, A2CJCPU, A2NCPU, A2NCPU-S1, A2SCPU, A2SCPU-S1, A2SHCPU, A2SHCPU-S1 and A1FXCPU			
AnACPU Generic term of the A2ACPU, A2ACPU-S1, A2ASCPUP21/R21, A2AC A3ACPUP21/R21, A3NCPU and A3ACPU				
AnUCPU Generic term of the A2UCPU, A2UCPU-S1, A2ASCPU, A2ASCPU-S1, A2ASCPU-S1, A2ASCPU-S30, A3UCPU and A4UCPU				
QnACPU	Generic term of the Q2ACPU, Q2ACPU-S1, Q2ASCPU, Q2ASCPU-S1, Q2ASHCPU, Q2ASHCPU–S1, Q3ACPU, Q4ACPU and Q4ARCPU			
ACPU	Generic term of the AnNCPU, AnACPU and AnUCPU			
FXCPU Generic term of the FXo, FXos, FXon, FX1, FX2, FX2c, FX2n and FX2nc series				
C24 Generic term of the A1SCPUC24-R2, A1J71C24-PRF, A1SJ71C24-R2, A2CCF A2CCPUC24-PRF, AJ71C24-S6 and AJ71C24-S8				
UC24 Generic term of the AJ71UC24, AJ71UC24-PRF, A1SJ71UC24-R2 and A1S. PRF				
QC24 Generic term of the AJ71QC24, AJ71QC24-R2, AJ71QC24-R4, A1SJ71 A1SJ71QC24-R2, AJ71QC24N, AJ71QC24N-R2, AJ71QC24N-R4, A1S A1SJ71C24N-R2				
E71	Generic term of the AJ71E71, AJ71E71-S3, A1SJ71E71-B2, A1SJ71E71-B5, A1SJ71E-B2-S3 and A1SJ71E71-B5-S3			
QE71	Generic term of the AJ71QE71, AJ71QE71-B5, A1SJ71QE71-B2 and A1SJ71QE71-B5			

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Meanings and Definitions of the Terms

The terms used in this manual have the following meanings and definitions.

(1) Container application

Application which can embed XMOP in its own data.(VB)

(2) Tag management process

Process which must have been started when using the custom controls of XMOP. Normally, this process is started simultaneously with Windows. For full information, refer to Section 8.2.2.

(3) Tag

Data table which contains a set of information necessary for communication with the PLC, e.g. communication settings, devices and data types. For full information, refer to Section 5.1.

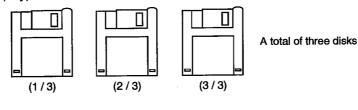
(4) Field

Device information created in a tag. For full information, refer to Section 5.1.

Product Makeup

XMOP consists of the following products.

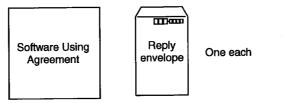
(1) Type SW2D5F-XMOP-E Monitoring Tool



(2) Manual



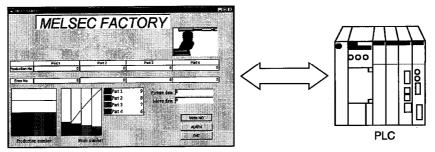
(3) Others



1. OVERVIEW

Type SW2D5F-XMOP-E Monitoring Tool is designed to create monitor applications using the custom controls of Visual Basic.

You can create monitor applications by simply pasting input area, display area, check box, menu and other parts and pushbuttons and other controls and setting display conditions, etc. in a form window on VB.



XMOP screen

IMPORTANT

CSKP is required to create applications with XMOP.

When using created applications for monitoring, set the communication means with the CSKP utility.

For details, refer to the CSKP Operating Manual.

REMARKS

The screens given in this manual are those of Windows 95.

Therefore, they may be slightly different from those of Windows NT Workstation 4.0 and Windows 98.

1.1 Features

XMOP has the following features.

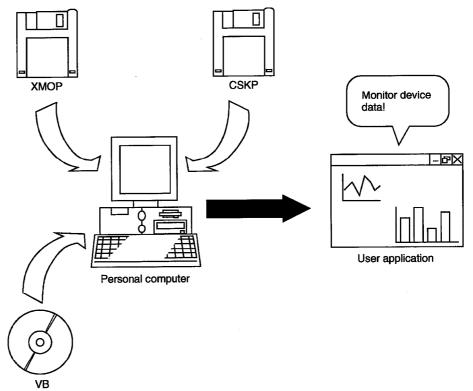
(1) User-friendly development environment

VB is a user-friendly programming language designed to create Windows application software easily.

XMOP is a kind of control (custom control OCX) of that VB and is operated in the same way as VB.

In addition, a wide variety of commercially available graphic tools for Windows can be utilized to draw a monitor screen.

User-friendly development environment is achieved by utilization of the tool you are accustomed to use.

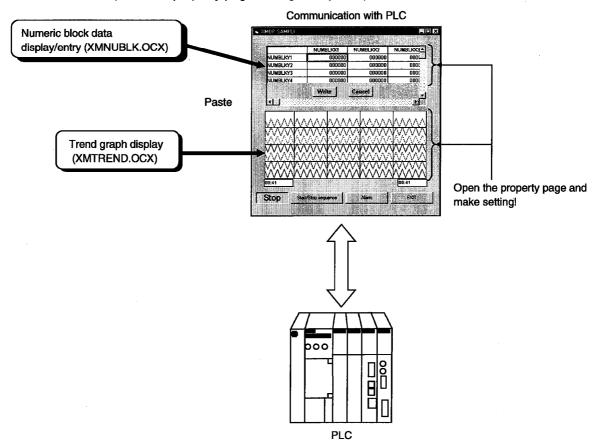


(2) Program-less run

XMOP is supplied with 23 different custom controls which are needed to monitor Factory Automation equipment, e.g. graphic display, numeric display, level display and trend graph.

Without any specific expertise, you can use them like the other standard controls to make communication with the PLC by merely pasting the necessary custom controls to a form and executing them.

(Note that property page setting is required.)



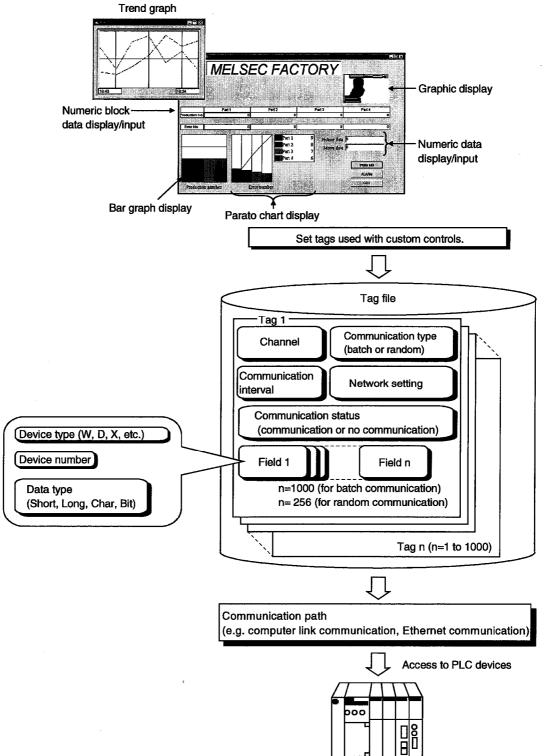
(3) Expansion of programmed processing

Since the moving image functions and custom controls have one-for-one correspondence on a monitor, programmed processing can be easily added later and monitor applications can be updated flexibly.

While maintaining compatibility with the conventional data, you can easily make modifications such as the addition of new functions.

(4) Simple communication using tags

When XMOP merely uses a tag having such information as the device types and device numbers in the environment where the tag management process is running, you can have easy access the devices set to the tag.



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PLC

1.2 Custom Control List

Function		File Name	Description
	Graphic display	XMPICTUR.OCX	Shows a graphic file with set values.
Parts display	Blink display	XMBLINK.OCX	Provides a blink display when the specified bit device is on.
	Comment display	XMCMNT.OCX	Shows a comment with the set device value.
	Level display	XMLEVEL.OCX	Shows a level.
	Line graph display	XMLINGRF.OCX	Shows a line graph.
	Trend graph display	XMTREND.OCX	Shows a trend graph.
Graph display	Bar graph display	XMBARGRF.OCX	Shows a bar graph.
	Pareto chart display	XMPALLET.OCX	Shows a Pareto chart.
	Historical trend graph display	XMHSTTRD.OCX	Shows a historical trend graph.
Block	Numeric block data display/input	XMNUMBLK.OCX	Shows/enters numeric values in block.
display/input	Character string block data display/input	XMSTRBLK.OCX	Shows/enters character strings in block.
	Numeric data display/input	XMNUMDAT.OCX	Shows/enters numeric value data.
Display/input	Character string data display/input	XMSTRDAT.OCX	Shows/enters character string data.
	Bit device operation (bit input)	XMBITOPR.OCX	Performs bit device operation.
-	Word write	XMWRWORD.OCX	Writes data to a word device.
Input	Bit write	XMWRBIT.OCX	Writes data to a bit device.
	Event occurrence	XMEVENT.OCX	Causes an event at the specified timing.
	Snap shot	XMSNPSHT.OCX	Provides output, etc. to a printer.
	Alarm display	XMCATION.OCX	Shows an alarm on the screen on the basis of the set value.
Others	Alarm sound output	XMALARM.OCX	Provides an alarm sound on the basis of the set value.
	Alarm summary display	XMALMSMR.OCX	Shows an alarm summary.
	Error	XMERROR.OCX	Causes an error event.
	Clock display	XMCLOCK.OCX	Shows a clock on the screen.

The custom controls of XMOP are listed below.

1.3 Utility List

The XMOP utilities are listed below.

Utility Name	Description	Refer to
Environment setup utility	Used to set the environment when the tag management process starts.	Section 8.1
Tag setup utility	Used to set the tag file used by the tag management process.	Section 8.2
Comment setup utility	Used to set the comment file used for comment display (XMCMNT.OCX).	Section 8.3
Alarm summary setup utility	Used to set the alarm summary file used for alarm summary display (XMALMSMR.OCX).	Section 8.4

MEMO

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2. SYSTEM CONFIGURATION

2. SYSTEM CONFIGURATION

This chapter deals with the system configuration, operating environment and usable CPU.

2.1 System Configuration

The system configuration for XMOP is similar to that for CSKP. Refer to the CSKP Operating Manual.

2.2 Operating Environment

The operating environment of XMOP is indicated below.

ltem	Description
Model	Personal computer on which Windows 95, Windows 98 or Windows NT Workstation 4.0 *1 operates
Operating System	Windows 95, Windows 98, Windows NT Workstation 4.0 *1
CPU	Pentium 100MHz or more (multiprocessor incompatible)
Display	Resolution 800×600 dots or more (recommended 1024×768 dots)
Required memory capacity	32MB or more
Hard disk free space	40MB or more
Disk drive	3.5 inch (1.44MB) floppy disk drive
Corresponding container application	Visual Basic 5.0

*1 Service Pack 3 or higher is required for use of Windows NT Workstation 4.0.

2.3 Usable PLC CPU

The PLC CPU usable with XMOP is the same as those with CSKP. Refer to the CSKP Operating Manual.

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CHAPTER 3 INSTALLATION AND UNINSTALLATION

This chapter describes how to install and uninstall XMOP.

3.1 Installation

This section describes how to install XMOP.

POINTS

- (1) Installation decreases the number of licenses by one.
- (2) When the OS is Windows NT 4.0, log on as a user who has an administrator attribute.
- (3) Start installation after removing all applications included in Startup and restarting Windows.
- (4) CSKP must have been installed.
- (5) Make the first floppy disk write-enabled.

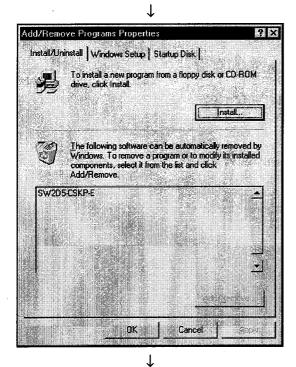


- 1. After powering on the personal computer, start Windows.
- Choose [Start]-[Settings]-[Control Panel].
 When the control panel has opened, choose "Add/Remove Programs".

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MELSEC

(From the preceding page)



3. Click the "Install..." button.

- Install Program From Floppy Disk of CD-RDM Inset the product's first installation floppy disk of CD-RDM. and then click Next.
- For Installation Program

 If the is the correct installation program, click Finish. To service search again, click Blowse

 If the is the correct installation program, click Blowse

 Command line for installation program.

 Command line for installation program.

 Browse

 Keak

 Finish

 Cancel

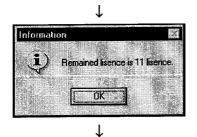
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4. When the left screen has appeared, insert the first floppy disk into the FDD and click the "Next>" button..

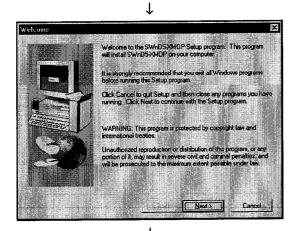
5. When the left screen has appeared, click the "Finish" button.

If "SETUP.EXE" could not be found, click the "Browse..." button to locate "SETUP.EXE" in the FDD.

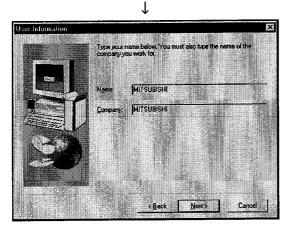
(From the preceding page)





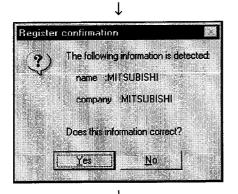


- After a while, the screen as shown on the left will appear. Confirm the number of remaining licenses and click the "OK" button.
 When there is no licenses left, installation cannot be
 - performed. *The actual number of licenses is the number of licenses plus a spare license.
- After making sure that all your running programs are closed, click the "OK" button.
 If your programs are running, close all running programs.
- 8. Confirm the instructions and click the "Next>" button.

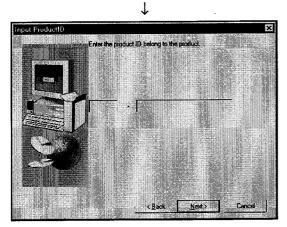


↓ (To the next page)

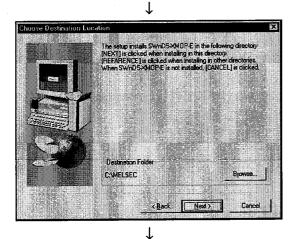
 Type your name and company name, and click the "Next>" button. (From the preceding page)



10. Confirm your name and company name registered.If they are correct, click the "Yes" button.To change any name, click the "No" button.This returns to the preceding screen.



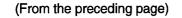
 Enter the product ID and click the "Next>" button.
 The product ID is given in the "Software Registration Card" packed with the product.

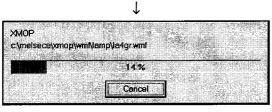


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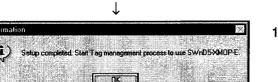
12. Specify the installation destination folder. The destination folder of XMOP defaults to "C:\MELSEC".

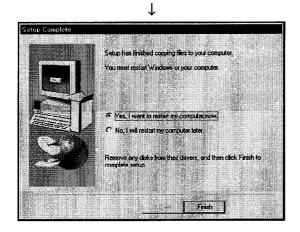
To choose the default folder, click the "Next>" button. To change the destination folder, click the "Browse..." button and change the folder.











- 13. As installation starts, exchange the floppy disks in order according to the prompt.
- 14. As the left screen appears, confirm the message, and then click the "OK" button.
- 15. When the left dialog box appears, installation is complete.

To restart, make sure that "Yes, I want to restart my computer now." is checked, and then click the "Finish" button.

To restart later, check "No, I will restart my computer later." and then click the "Finish" button.

* The number of licenses decreases by 1 on completion of installation.

POINT

If installation failed at any point in the above procedure and XMOP can be uninstalled, uninstall it.

The number of licenses will decrease by 1 if you do not uninstall XMOP.

3.2 Icons Registered

Installing XMOP registers the following icons in [Start]-[Programs]-[MELSEC APPLICATION]-[MONITORING TOOL (XMOP-E)].

MELSEC

(1) Tag management

(a) Alarm summary setup utility
Used to start the alarm summary setup utility.
(b) Comment setup utility
Used to start the comment setup utility.
(c) Tag management process
Used to start the Tag management process.
(d) Tag setup utility
Used to start the tag setup utility.
(e) Environment setup utility
Used to start the environment setup utility.

(2) XMOP Help

Used to show the help screen of XMOP.

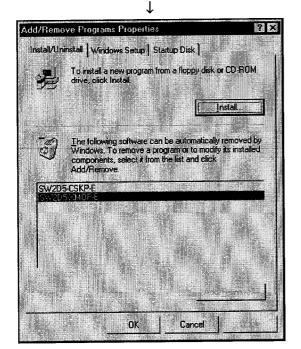
3. INSTALLATION AND UNINSTALLATION

3.3 Uninstallation

This section provides how to uninstall XMOP.

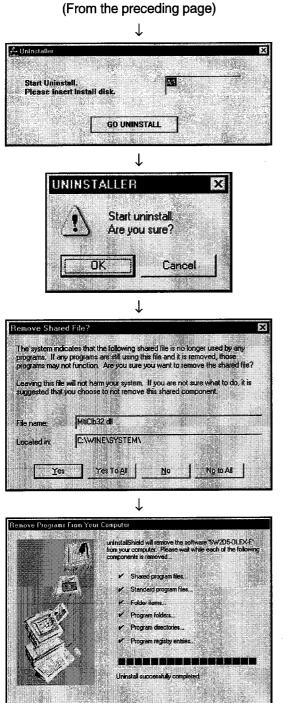
POINTS	

- (1) Always uninstall the program from the control panel. Do not start installed "Uninstaller.exe" directly.
- (2) Uninstallation increases the number of licenses by 1. Therefore, always uninstall the program when deleting XMOP. The number of licenses will not return to the previous value if a folder or file is deleted by the user on Explorer or the like.
- (3) Make the first floppy disk write-enabled.
 - 1. Choose the [Start]-[Settings]-[Control Panel] menu.
- Sets up programs and creates shortcuts
- As the control panel appears, double-click
 "Add/Remove Programs".



3. Choose "SW2D5-XMOP" and click the "Add/Remove..." button.

↓ (To the next page)



- 4. As the left screen appears, insert the first floppy disk into the floppy disk drive and click the "GO UNINSTALL" button.
- 5. Clicking the "OK" button starts uninstallation.

6. If the left screen has appeared, click the "No to All" button.

If you click the "Yes" or "Yes to All" button, the shared file of the MELSEC software packages is removed and the other software packages may not start properly.

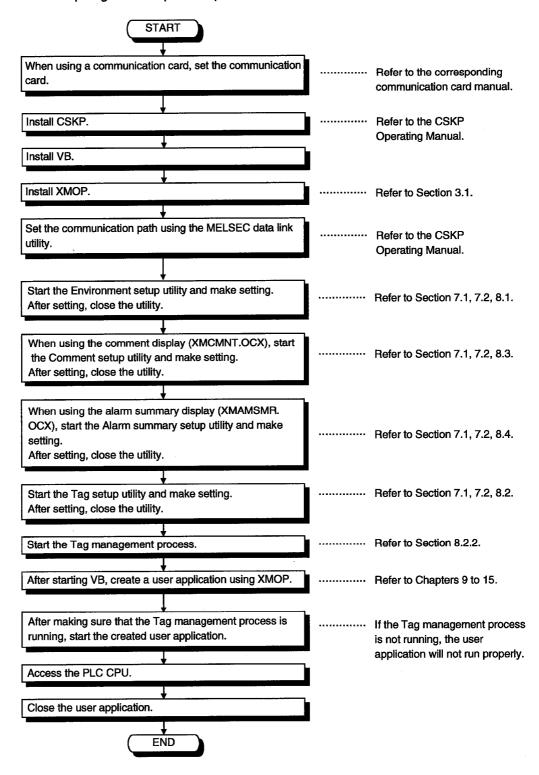
- 7. When uninstallation is completed, click the "OK" button.
 - *The number of licenses increases by 1 on completion of uninstallation.

OK

MELSEC

4. OPERATION PROCEDURE

This chapter gives the operation procedure of XMOP.



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5. CREATING A TAG FILE

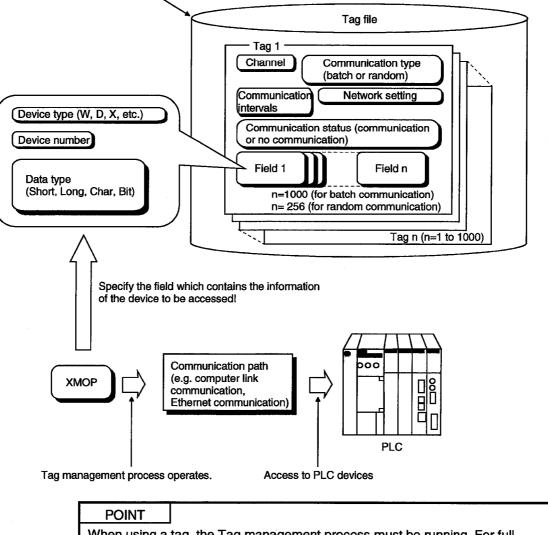
5. CREATING A TAG FILE

This chapter explains how to create a tag file which is utilized when using XMOP.

5.1 Getting Information on "Tag"

A tag is a data table which contains a set of information necessary for communication with the PLC CPU, e.g. communication setting, devices and data types. By specifying a tag, XMOP can access devices defined in the tag.

Create a tag file using the Tag setup utility

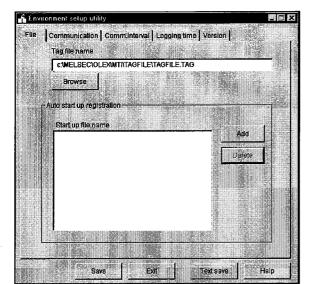


When using a tag, the Tag management process must be running. For full information, refer to Section 8.2.2.

5. CREATING A TAG FILE

5.2 What Should Be Done First

This section describes the operation to be preformed first when creating a tag file. Please read this section before creating the tag of any communication path.



- 1. Set the corresponding utility according to the communication form used (e.g. computer link, Ethernet).
- 2. Start the Environment setup utility. (Refer to Section 7.1.)
- 3. Open the "File" screen and set the tag file name used. When creating a new tag, specify the name of the tag file you want to create.

nvironment setup utility	() () () ()	1=19
e Communication Comm.ir	iterval	ogging time Version
Communication channel	T II	Channel name
PLC RS422 (COM1)	2.	PLCA
CC-Link G4 (COM1)	.	CC-Link 01
шт.	•	Channel3
Computer link (COM1)	.	Channel4
Computer link (COM1)	Ē.	Channel5
Computer link (COM1)	<u> </u>	Channel6
Computer link (COM1)	<u>.</u>	Channel7
Computer link (COM1)	<u> </u>	Channel8
Computer link (COM1)	-	Channel9
Computer link (COM1)	<u>-</u>	Channel10

4. Open the "Communication" screen and set channel names (aliases) to the communication channels used. The channel names set here are reflected on the Tag setup utility.

↓ (To the next page)

5. CREATING A TAG FILE

(From the preceding page)

	r setup utility nunication Comm.inter	val Loccinc time	-
Interval	Interval nama	Interval	Interval name
5 -	- 500msec	5.	MonCycle16
10 -	- 1sec	5 -	MonCycle17
600 -	- 1min	5	MonCycle18
6000 -	- 10min	5 -	MonCycle19
19000 -	- 30min	5 -	MonCycle20
36000 -	- 1hour	5-	- MonCycle21
864000 -	- 1day	5 -	MonCycle22
5	MonCycle8	5 -	- MonCycle23
5 -	MonCycle9	5 -	MonCycle24
5 -	- MonCycle10	<u>5</u>	MonCycle25
5	MonCycle11	5	MonCycle26
5 -	- MonCycle12	5 -	MonCycle27
5 -	- MonCycle13	5 -	MonCycle28
5 -	MonCycle14	5 -	MonCycle29
5 -	MonCycle15	5 -	MonCycle30

5. Open the "Comm. interval" screen and set communication interval names (aliases) to the communication intervals.
The communication interval names set here are reflected on the Tag setup utility.

6. Save the data and close the Environment setup utility. (Refer to Section 7.2 and 7.3.)

↓ (To Section 7.3)

5. CREATING A TAG FILE

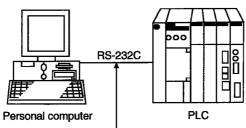
5.3 Creating a Tag File

This section gives how to create a tag file when collecting the device information of the PLC CPU connected via a computer link module.

Please read Section 5.2 before making setting in this section.

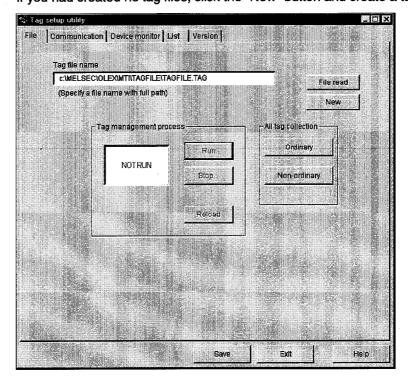
Tag file name Specified devices : C:\MELSEC\USER\SAMPLE2.TAG : tag001 ... D0 to D15 (Short) (for 16 points) tag002 ... M100 (Bit), D200 (Long) : 0 (set on the computer link utility)

Logical station number



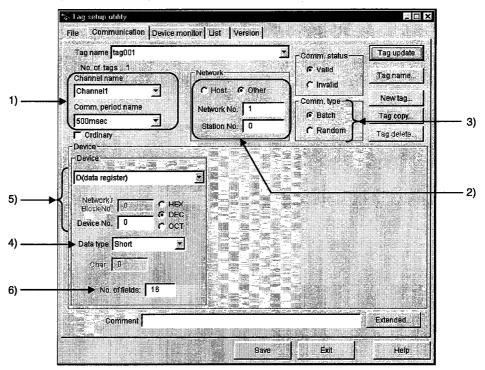
Connected to the computer link (serial communication) module.

- (1) Start the Tag setup utility. (Refer to Section 7.1.)
- (2) Open the "File" screen and specify the tag file name to be set. If you had created no tag files, click the "New" button and create a tag file.



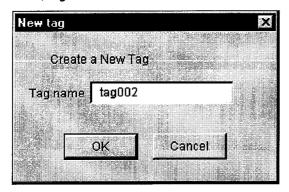
(3) Open the "Communication" screen, make setting as shown on the screen below, and click the "Tag update" button.

(Set D0 to D15.)

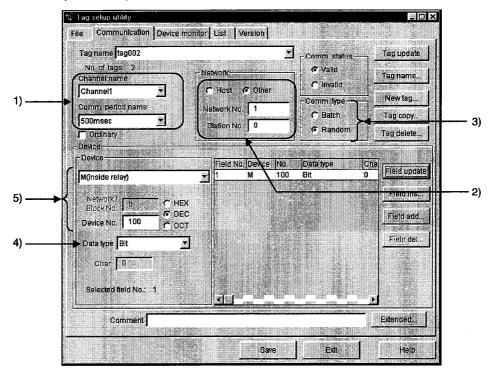


- The data set on the Environment setup utility are reflected here. Set the channel of the communication form used. Here, set the channel name of the computer link communication.
- Set the Network No. and Station No..
 Here, set the logical station number in the Station No. box.
- Since only D devices are set, specify Batch here.
 When setting two or more devices, specify Random.
- 4) Set Short.
- 5) Set D0 in decimal.
 - When specifying bit devices, set a multiple of 8 (a multiple of 16 for Ethernet communication).
- 6) Set 16 points.When specifying bit devices, set a multiple of 16.

(4) Click the "New tag..." button and create a new tag. Here, tag002 is created.



(5) Make setting as shown on the screen below and click the "Field update" button. (Set M100.)



- 1) The data set on the Environment setup utility is reflected here. Here, set the channel name of the computer link communication.
- 2) Set the logical station number in the Station No. box. Ignore the network number as it is not used.
- 3) Since two devices, M100 and D200, are specified, set Random.
- 4) Set Bit.
- 5) Set M100 in decimal.

- (6) Click the "Field add..." button.
- (Set D200.) -Device -Device Field No. Device No. Cha Data type Field update 100 M Bit 0 D(data register) Y 'n 0 200 Lone Field ins 2) Network/ Block Nø. C HEX Field add. Device No. 200 C OCT Field del... 1) Data type Long • Char 0 Selected field No.: 2
 - 1) Set Long.
 - 2) Set D200 in decimal.
 - (8) Click the "Tag update" button.
 - (9) After clicking the "Save" button, click the "Exit" button to close the Tag setup utility.

(7) Make setting as shown on the screen below and click the "Field update" button.

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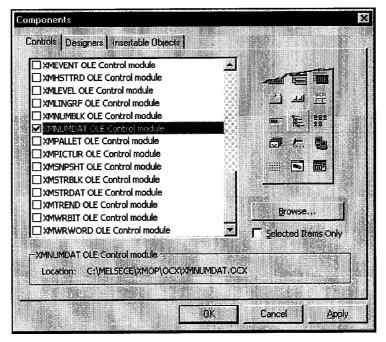
6. CREATING A MONITOR APPLICATION

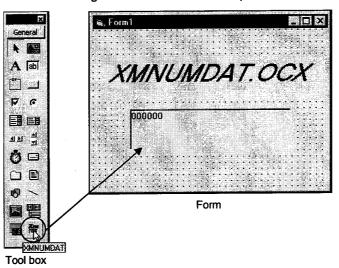
The following example explains a procedure to create a monitor application. For full information on the corresponding custom controls, refer to Chapters 9 to 15. Note that XMOP and CSKP should already have been installed.

- Example: Creating an application which gathers the device data of the own station OCX used : XMNUMDAT.OCX Device from which data will be collected : W200
- (1) Create a tag file.

Refer to Chapter 5 and Section 8.2 and create a tag file used to read W200.

- (2) Create figures and pictures used (BMP, WMF file)
 Using Paint or the like, create figures and pictures used with the custom control. (Not used in this example.)
- (3) Start Visual Basic 5.0.
- (4) Stat the Tag management process. Refer to Section 8.2.2 and start the Tag management process.
- (5) Paste the custom control to a form.
 - (a) Choose [Project]-[Components...] on the menu bar to show the following screen, and register the custom control (XMNUMDAT.OCX).

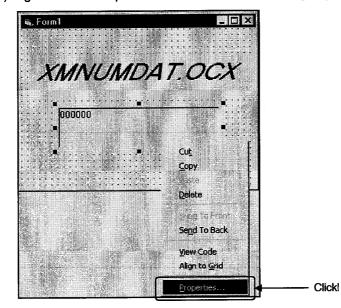




(b) Click the icon registered in the tool box to paste the custom control to a form.

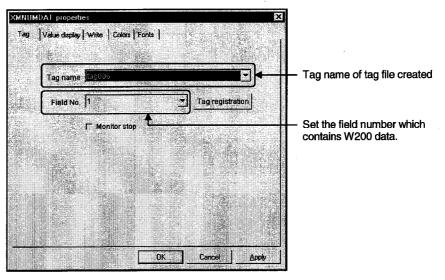
(6) Set the properties.

(a) Right-click on the pasted custom control and click [Properties...].

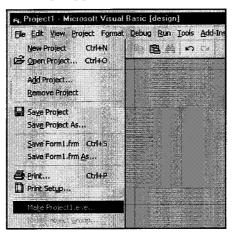


(b) As the Properties page opens, set the tag name and field No. used. Device data can be collected without specific setting on the numeric display setting, write, color and font screens.

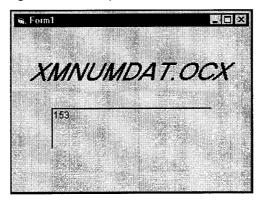
(They are not set in this example.)



- (7) Create an application and monitor the device.
 - (a) Choose [File]-[Make*****.exe...] and create an EXE file.



(b) Right-click on the pasted custom control and click [Properties...].



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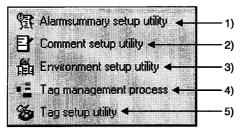
7. OPERATIONS COMMON TO THE UTILITIES

7. OPERATIONS COMMON TO THE UTILITIES

This chapter describes the operations common to the utilities.

7.1 Starting the Utility

Any utility can be started by clicking the corresponding menu item among 1) to 5) shown below in the [Start]-[Programs]-[MELSEC APPLICATION]-[MONITORING TOOL (XMOP-E)]-[Tag Management] menu.



- 1) Start the Alarm summary setup utility.
- 2) Start the Comment setup utility.
- 3) Start the Environment setup utility.
- 4) Start the Tag management process. (For details, refer to Section 8.2.2.)
- 5) Start the Tag setup utility.

7.2 Closing the Utility

setup utility	e Gior Marilla dia 19		
larm list Version			
1	ağı andı sayı.		Update
		<u></u>	Insert
ax 40 characters)			Add
1 Status 1 🕒	J		Delete
tion			
Serious error		Status 1 color	
Serious error		Status 2 color	
Serious error		Status 3 color	
Serious error		Status 4 color	
Serious error		Status 5 color	
	(Click col	lor button to open c	olor dialog.)
	Bave	Exit	Help
		Ť	
	ax 40 characters) ax 40 characters) Status 1 Serious error Serious error Serious error Serious error Serious error	ax.40 characters) Status 1 Serious error Serious error	ax 40 characters)

Any utility can be closed by clicking the "Exit" button at the bottom of the Utility screen.

7.3 Saving the Settings

The settings made on the Utility can be saved by clicking the "Save" button at the bottom of the Utility screen.

The settings will not be saved if you close the Utility without clicking the "Save" button.

1년 Alarm summary	y setup utility		
File Alarm /	Alarm list Version		
Alarm No.	<u>1 当</u>		Update
Alarm			Insert
Q	vlax.40 characters)		Add
Status selectio	on Status 1 💆]	Delete
C Status registra	ation		
Status 1	Serious error	Status 1 o	solor
Status 2	Serious error	Status 2 (alar Januari
Status 3	Serious error	Status 3 c	olor Januari
Status 4	Serious error	Status 4 o	olor
Status 5	Serious error	Status 5 d	olor
		(Click color button to o	sen color dialog.)
	5	ave Böt	Help
		1	
	С	ick!	

7.4 Displaying the Help Screen

The Utility help screen can be displayed by clicking the "Help" button at the bottom of the Utility screen.

Alarm No.	1 -		Update
Alarm			Insert
(Max.40 characters)		Add
Status selectio	on Status 1 💌		Delete
Status registr	ation		
Status 1	Serious error	Status 1 color 🕽	
Status 2	Serious error	Status 2 color	<u> </u>
Status 3	Serious error	Status 3 color	
Status 4	Serious error	Status 4 color	
Status 5	Serious error	Status 5 color	
	(Click c	olor button to open co	lor dialog.)
	Save	Exit	Help

7.5 Confirming the Version

e Alarm .	Alarm ist Version	
		Anger and
	Click!	
Version-		
	Alarm summary setup 1999-02-17	
厚	utility	
	utility Copyright (C) 1999 MITSUBIBHI ELECTLIC C	ORPORATION
	utility	ORPORATION
	utility Copyright (C) 1999 MITSUBIBHI ELECTLIC C	ORPORATION
	utility Copyright (C) 1999 MITSUBIBHI ELECTLIC C	ORPORATION
	utility Copyright (C) 1999 MITSUBIBHI ELECTLIC C	ORPORATION

The version of the Utility can be confirmed by clicking the "Version" tab.

MELSEC

7. OPERATIONS COMMON TO THE UTILITIES

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8. UTILITY OPERATIONS

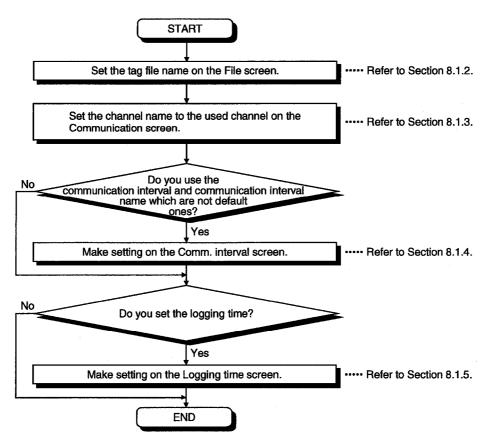
This chapter describes how to operate and set the utilities.

8.1 Environment Setup Utility

This section explains how to operate and set the Environment setup utility.

8.1.1 Operating Procedure

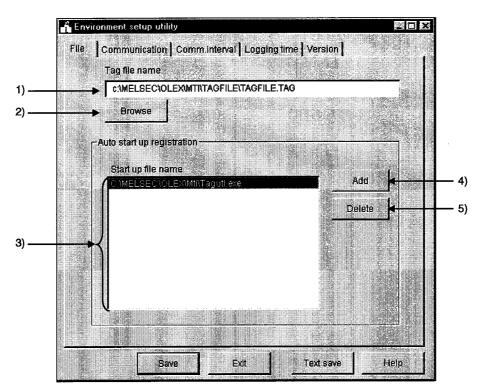
This section provides the procedure of operating the Environment setup utility.



8

8.1.2 Operations on the File Screen

These operations include the setting of the tag file name to be read for execution of the Tag management process.



1) Tag file name

Set the tag file which the Tag management process will read.

2) "Browse" button

Used to find the tag file to be set in 1). As the file setting dialog box opens, choose the tag file.

3) Start up file name

Shows the application started simultaneously with the starting of the Tag management process.

4) "Add" button

Used to set the application started simultaneously.

You can set up to a total of 16 files.

However, the files that may be set are only those having EXE, XLS and MDB extensions. Any other files cannot be started if set.

5) "Delete" button

Choose the file name registered in 3) by clicking it, and click this button to delete the file selected in 3) and release automatic start-up.

8.1.3 Operations on the Communication Screen

e Communication Com	m.interval	Logging time Vertion
Communication channel		Channel hame
PLC RS422 (COM1)	- 1	PLCA
CC-Link G4 (COM1)	•	CC-Link 01
шт		Channel3
Computer link (COM1)	<u>-</u>	Channel4
Computer link (COM1)	<u> </u>	Channel5
Computer link (COM1)	<u> </u>	Channel6
Computer link (COM1)	<u> </u>	Channel7
Computer link (COM1)	- 1	Channel8
Computer link (COM1)	-	Channel9
Computer link (COM1)	• -	Channel10

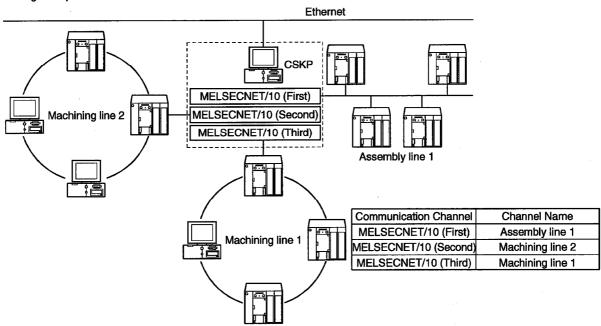
Set channel names relative to the Communication channels. (Up to 10 names)

1) Communication Channel

Choose the communication channels relative to the channel names.

2) Channel Name

Set only the channel names with which the user's desired names will be used. The user makes communication setting with the Tag setup utility on the basis of the channel names set.



Setting example

8. UTILITY OPERATIONS

8.1.4 Operations on the Comm. Interval Screen

You can attach any names to the Communication intervals and define them as the communication names. (Up to 30 names)

	t secup utility munication Continuinter		
e Comr Interval	Interval name		Interval name
5 -	- 500msec	5	MonCycle16
10 -	- 1sec	5 -	MonCycle17
600 -	- 1min	5 -	MonCycle18
6000 -	- 10min	5 -	MonCycle19
18000 -	- 30min	5 -	MonCycle20
36000 -	- 1hour	5 -	MonCycle21
864000 -	- 1day	5 -	MonCycle22
5 -	- MonCycle8	5 -	MonCycle23
5 -	- MonCycle9	5 -	MonCycle24
5 -	- MonCycle10	5 -	MonCycle25
5-	- MonCycle11	5 -	MonCycle26
5-	- MonCycle12	5 -	MonCycle27
5 -	- MonCycle13	5 -	MonCycle28
5 -	- MonCycle14	5 -	MonCycle29
5 -	- MonCycle15	5 -	MonCycle30

1) Comm. Interval

Intervals can be set in 100ms increments. Hence, "5" sets the communication interval to 500ms. (The setting range is 1 to 864000.)

2) Comm. Interval Name

Set the user's desired names.

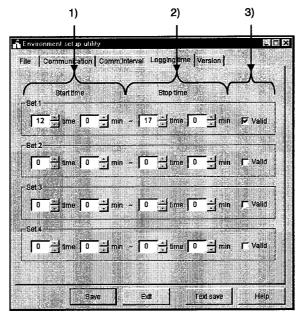
The user makes communication setting with the Tag setup utility on the basis of the communication interval names set.

8.1.5 Operations on the Logging Time Screen

Set the time zones when the logging operation of the Tag management process will be performed.

You can set up to four zones.

(In XMOP, this screen is used when using a historical trend graph.)



1) Start time

Set the data logging operation-starting time of the Tag management process. Type the set time on a 24-hour basis. (Setting range: 0:00 to 23:59)

2) Stop time

Set the data logging operation-ending time of the Tag management process. Type the set time on a 24-hour basis. (Setting range: 0:00 to 23:59)

3) Valid/invalid check box

Set whether the set operation times are made valid or not. Check the box to make the set times valid.

When the box is unchecked, the set times are invalid.

POINTS

- (1) If the period between the Start time and the Stop time is longer than 24 hours, their settings cannot be made.
- (2) The settings on this screen are valid only when you have checked "Log within the operation time period" in Logging Setting within "Extended" on the Tag setup utility. For details, refer to Section 8.2.6 (3).
- (3) If you have made the logging setting, the following folder is created but never delete it.

Deleting it will disable proper logging.

If you want to delete all log information, delete all files in the folder.

<HD drive>-<User-defined folder>-<CSKP>-<MTI>-<LOGFILE>

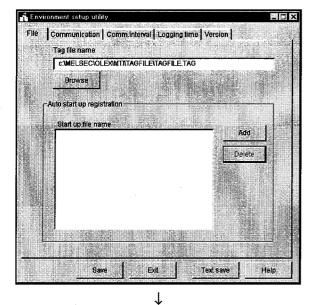
8. UTILITY OPERATIONS

8.1.6 About Saving Data as a Text

By clicking the "Text save" button at the bottom of the Environment setup utility, the settings made with the Environment setup utility can be saved as a text file.

(1) Operation procedure

Perform the following procedure to save the data of the setting in a text file.



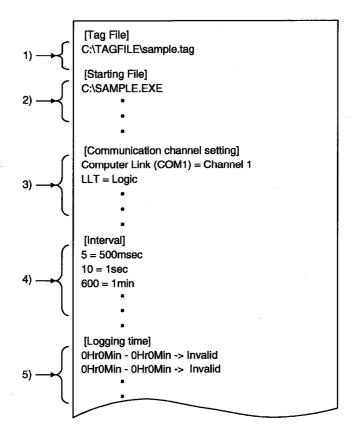
1. Click the "Text save" button on the Environment setup utility.

Save in:	🕞 Mti	 1	- 🖻	d 🖩	
Almfile		 			
Cmtfile					
🗋 Tagfile					
lle <u>n</u> ame.	Sample.txt	A. 19.192-11.		Sav	/e

2. As the left dialog box appears, set the saving place and file name and click the "Save" button.

(2) File data

The data of the created text file will be described.



1) Indicates the data set to the tag file name on the "File" screen.

2) Indicates the data set to automatic start-up registration on the "File" screen.

3) Indicates the data set to the "Communication" screen.

4) Indicates the data set to the "Comm. interval" screen.

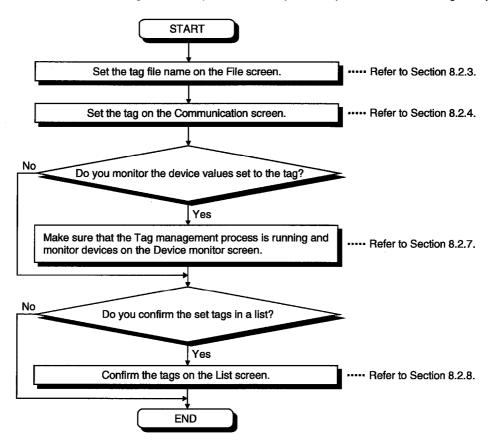
5) Indicates the data set to the "Logging time" screen.

8.2 Tag Setup Utility

This section provides how to operate and set the Tag setup utility.

8.2.1 Operating Procedure

The following flowchart provides the operation procedure of the Tag setup utility.



8.2.2 About the Tag Management Process

The Tag management process is a process which provides a communication method using a tag on the basis of the information set with the Environment setup utility and the information of the tag file.

When using a tag, the Tag management process must be running.

(1) Starting method

Click [Start]-[Programs]-[MELSEC APPLICATION]-[MONITORING TOOL (XMOP-E)]-[Tag management]-[Tag management process].

POINT

Before starting the Tag management process, you need to create a tag file with the Tag setup utility and specify the tag file with the Environment setup utility.

(2) Ending method

To close the Tag management process, force it to end.

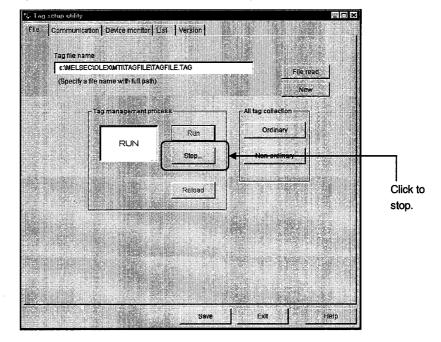
Alternatively, choose "Tag management process" on the task bar and press the "Alt" + "F4" keys.

(3) Reloading procedure

The Tag management process must be reloaded to reflect the modified/added tag file for use during execution of the Tag management process.

1) Stop the Tag management process.

Open the "File" screen and click the "Stop..." button.



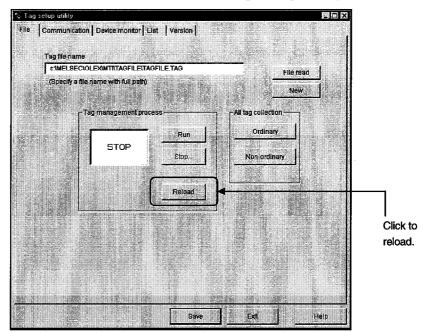
2) Edit the tag file.

3) Update the modified/added tag information.

Open the "Communication" screen, modify/add tags and click the "Tag Update" button.

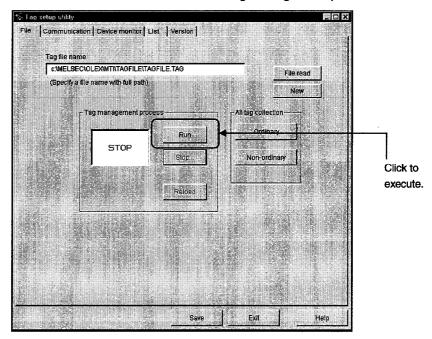
- 4) Click the "Save" button to save the information.
- 5) Reload the Tag management process.

Click the "Reload" button to reload the Tag management process.



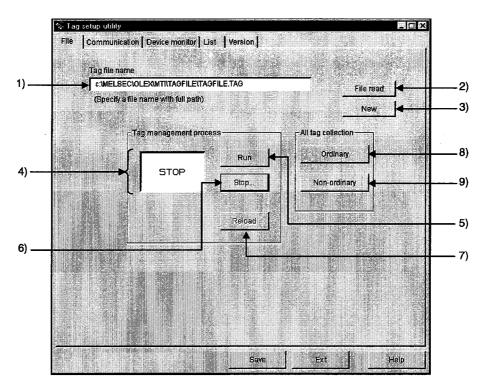
6) Execute the Tag management process.

Click the "Execute" button to run the Tag management process.



8.2.3 Operations on the File Screen

Set the tag file to be saved, collection timing, and whether the Tag management process is run or stopped.



- 1) Tag file name Specify the tag file name to be set.
- 2) "File read" button

Used to find the tag file to be set in 1). As the file setting dialog box opens, choose the tag file.

3) "New" button

Used to create a new tag file.

As the file setting dialog box opens, set the name of a new tag file to be created.

 Tag management process operating status Indicates the current status of the Tag management process.

RUN.....Indicates that the Tag management process is "running". STOPIndicates that the Tag management process is "at a stop".

NOT RUN......Indicates that the Tag management process is not started.

5) "Run" button

Used to run the Tag management process.

You cannot use this button to start the Tag management process.

(This button cannot be selected when the Tag management process has not yet been started.)

6) "Stop..." button

Used to stop the Tag management process.

You cannot use this button to end the Tag management process.

(This button cannot be selected when the Tag management process has not yet been started.)

7) "Reload" button

Used to reload the Tag management process.

Note that this button may be selected only during the stop of the Tag management process.

8) "Ordinary" button

Used to set all collection timings of the set tags to "Ordinary" in batch.

OrdinaryData is always collected independently of whether the application using the tags is active or inactive.

9) "Non-ordinary" button

Used to set all collection timings of the set tags to "Non-ordinary" in batch.

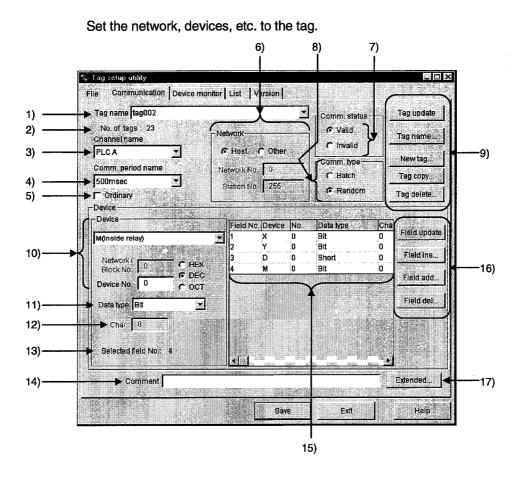
Non-ordinaryData is collected only when the application using the tags is active.

POINT

The Tag management process has great influence on the processing speed of the personal computer.

When using other application, it is recommended to stop the Tag management process.

8.2.4 Operations on the Communication Screen



1) Tag Name

Choose the tag name to which the setting will be registered.

2) No. of tags

Shows the number of tags registered currently.

3) Channel name

Choose the channel name set with the Environment setup utility. (Refer to Section 8.1.3.)

4) Comm. period name

Choose the communication interval name set with the Environment setup utility. (Refer to Section 8.1.4.)

5) Ordinary

When this box is checked, data is always collected independently of whether the application using the tags is active or inactive.

When this box is unchecked, data is collected only when the application using the tags is active.

6) Network

Set the communication network.

If other station has been selected, the network number and station number can be set. For details, refer to Section 8.2.5.

7) Comm. status

Set whether the communication of the set tag is valid or invalid. If you set Invalid, communication is not made.

8) Comm. type

Specify "Batch" or "Random" as the way of access to the PLC.

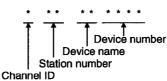
Batch Choose this when accessing the specified points of a single device name.

Random Choose this when accessing one point of each of many device names.

9) Tag-related buttons

"Tag Update".....Used to update the tag data set to the tag file. To save the data, click the "Save" button.

"Tag name...".....Used to create the tag name automatically or change it. The tag name created automatically is set as follows. (The default tag name is the automatically created tag name.)



Channel ID

Example: When channel ID 1 is selected and W device No. 0 of the own station is specified

Tag name: 1FFWD0000

"New tag..."....Used to create a new tag. (Up to 32 characters) When entering a tag name, you cannot use the following characters.

"\", "/", ":", "*", "?", """, "<", ">", "|"

"Tag copy" Used to copy the tag currently being edited.

"Tag delete" Used to delete the tag currently being edited.

10)Device

Device..... Choose the type of the device used for communication. Network/Block No. ... You can enter data when you specify any of the following devices.

Device Name	Description
L* (Except L)	Set the network No. of the specified device.
ER	
EM	Set the block No. of the specified device.
ED	

HEX, DEC, OCT Specify the hexadecimal, decimal or octal when setting the extension No. or device No.

HEX Hexadecimal DEC Decimal OCT Octal

POINT

If you selected Batch in Communication Type and "Bit" in Data Type, specify the device number as a multiple of 8 (0, 8, 16, ...) and the field count as a multiple of 16 (0, 16, 32, ...).

For Ethernet communication, however, specify the device number as a multiple of 16 (0, 16, 32, ...).

11)Data type

Determine the data type relative to the set device.

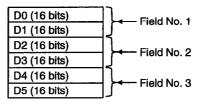
12)Char

Specify the number of characters to reserve the number of device points.

The number of characters is up to 40 characters.

(Valid only when Char is selected in Data Type.)

13)Selected (Field No.)	
Selected field No	This number appears when the communication type is
	Random.
	The field No. of the item currently selected in the field
	preview appears.
Field count	This number appears when the communication type is
	Batch.
	Set the field count which reserves the devices in the unit
	specified in Data Type.
	Example: If Device = D, Device No. = 0, Data Type =
	Long, and field count = 3, devices of 32 bits are
	reserved as a single field since the data type is
	Long.



14)Comment

Comment the tag.

15)Field preview

Shows the field data set until now.

Alternatively, clicking selects the field.

(Appears only when "Random communication" is chosen in Communication Type.)

16)Field button (valid only when Random is selected in Communication Type)

- "Field update" Used to register the current setting in the selected field.
- "Field ins...".......Used to insert a new field in a place preceding the currently selected field.

"Field add..." Used to create a new field in the last field.

"Field del..." Used to delete the currently selected field.

17)Extended...

Used to show the dialog screen where logging setting and Hand shake are set.

(Refer to Section 8.2.6.)

(Setting example for random communication)

For random communication with W100 (Short), D0 (Long) and ER0 (block No.

1) (Short)

	_ 1) Choose communication type "Random".
W100 setting-	 1) Choose communication type "random". 2) Choose device type "W" and type device number "100". 3) Click the "Eield undete" button (Use the data type of default single provision).
W TOO Setting	(0) Olick the Theory update batton. (Ose the data type of default single precision.)
	4) Click the "Field add" button.
D0 setting	 5) Choose device type "D" and type "0" in Device No. 6) Choose data type "Long".
Dootang	6) Choose data type "Long".
	7) Click the "Field update" button.
	8) Click the "Field add" button.
EDO cotting	9) Choose device type "ER" and type "0" in Device No.
ERO setting-	 9) Choose device type "ER" and type "0" in Device No. 10) Type block No. "1".
	(11) Click the "Field update" button. (Use the data type of default single precision.)
	12) Click the "Tag Update" button.
	13) Click the "Save" button.

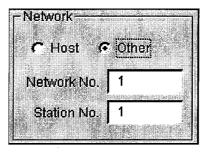
(Setting example for batch communication)

For batch communication with 10 points starting from W100 (Short)

	1) Choose communication type "Batch".
ſ	2) Choose device type "W" and type device number "100".
W100 setting -	3) Type "10" in Field.
Ľ	4) Click the "Tag Update" button.
	5) Click the "Save" button.

8.2.5 About the Network Setting

The settings of "Network" on the "Communication" screen change with the communication path used as indicated below.



(1) Host setting

When you choose Host in the network setting, the settings are as follows.

Communication	Description	
Computer link	Not used.	
Ethernet	Not used.	
RS-422	Access is made to the PLC CPU directly connected.	
MELSECNET/10	Access is made to the own personal computer.	
CC-Link		
CC-Link G4	Not used.	
Shared device	Access is made to the EM and ED devices of the own personal computer.	
LLT	Access is made to LLT on the own personal computer.	

(2) Other setting

When you select Other in "Network Setting", the settings are as follows.

Communication		Description	
		Network number	Station number
Computer link		Not used.	Set the logical station number specified on the utility.
Ethernet			
CC-Link G4			
CPU RS-422	Via MELSECNET/10	Set the network number.	Set the station number.
MELSECNET/10		Set the network number.	Set the station number.
CC-Link		Not used.	Set the station number.
Shared device	Via MELSECNET/10	Set the network number	Set the station number.
LLT		Not used.	Not used.

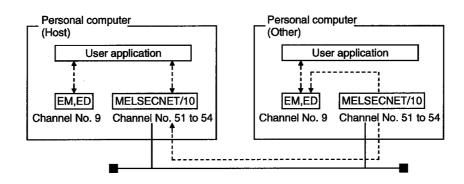
POINTS

(1) The shared devices (EM, ED) may be set only on Windows NT4.0 using the shared device utility.

They cannot be set on Windows 95 or Windows 98.

However, the shared devices (EM, ED) on Windows NT4.0 can be accessed from Windows 95 or Windows 98.

(2) To access the shared devices (EM, ED) of the other personal computer (other station), specify the channel of MELSECNET/10 which is used as a communication path.



8.2.6 Operations on the Extended Screen

Set the Condition, Logging and Hand shake.

(1) Explanation of buttons

The buttons function as follows.

- "OK"...... Used to make the setting valid and return to the Communication Setting screen.
- "Cancel"... Used to make the setting invalid and return to the Communication Setting screen.

"Help" Used to display Help.

(2) Condition

Set the condition of signaling data collection.

Object	Other	Device ER(extension file register)
KNetwork No.	1	Network/Block No. 1 CHEX
Station No.	1	Device No. 0 © DEC
	Sedan gala	0 Bit position

1) Condition

Set the condition of collecting data.

- No Setting The collection condition on this screen is not reflected.
- Flag ON Data can be collected only when the specified bit device is ON.
- Flag OFF..... Data can be collected only when the specified bit device is OFF.

2) Network setting

Set the network No. and station No. of the device used as the collection condition.

Object Host	. Choose any of the following items in the combo box. . The device of the own station is set as the collection condition.
Other	. The device of the other station is set as the collection condition.
	Also, you can enter the network No
According to Tag	. The device of the station number whose setting was
	Updated on the communication setting screen is set as
	The collection condition. (Refer to Section 8.2.4.)
Network No	. Specify the network No.
	(Valid only when Other Station is selected in Station Setting.)
Station No	. Set the station number.
	(Valid only when Other Station is selected in Station Setting.)

POINTS

(1) Note that if you have specified "According to Tag" in Station Setting and then changed the station number in "Communication", that change is not reflected on the station setting of "Extended".

(2) When setting "Other" in Station Setting (making transient communication), it is assumed that the communication speed will be affected greatly. Therefore, when specifying the station, we recommend you to specify "Host".

3) Device

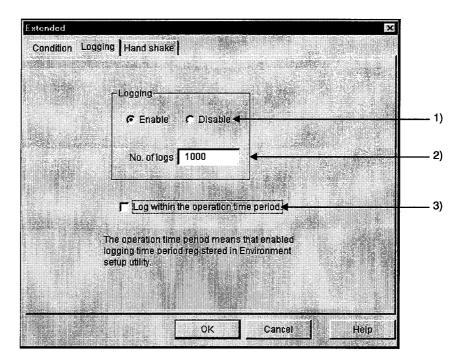
Device type..... Choose the type of the device used for communication. Network/Block No. .. You can enter data when you specify any of the following devices.

Device Name	Description
L*	Set the network No. of the specified device.
ER	
EM	Set the block No. of the specified device.
ED	

Device No. Set the device No. of the specified device type. HEX, DEC, OCT Specify the hexadecimal, decimal or octal when setting the extension No. or device No. HEX Hexadecimal DEC Decimal OCT Octal Bit Position Set the bit used as the collection condition when you specified the word device.

(3) Logging

Set whether logging is specified or not.



1) Logging

Set whether logging is made or not.

Enable...... As soon as the Tag management process has started, data collection starts and log data is saved.

Disable......Logging is not made.

2) No. of logs

Set the number of log data to be collected. (1 to 10000)

3) Logging within the operation time period

Data is collected according to the operation time set on the Environment setup utility.

(Refer to Section 8.1.5.)

POINT

Set the communication interval to 1 seconds or longer in the tag to which log setting is made.

(4) Hand shake

Set the Hand shake data.

Hand-shake type Bit Image: State of the state of	Condition Logging Hand shake		
10 x100msec Requested value 0 C DEC Network Host Image: Constraint of the second s	 Hand-shake Bit type Bit Hand shake timing Writing	B(link relay) Network / Block No.	
Network / Block No. 0 Station No: 255 Device No. 1 C HEX Device No. 0 C DEC		Requested value 0	
		Network / Block No. 0 Device No. 1	

1) Hand-shake type

Choose the way of handshaking.

Bit.....Hand shake is made in accordance with ON and OFF of bit devices.

• Operation sequence

Request bit ON \rightarrow Data transfer \rightarrow Response bit ON \rightarrow Request bit OFF \rightarrow Response bit OFF \rightarrow Completion

WordHand shake is performed according to the values stored into word devices.

• Operation sequence

Request value stored into request word device \rightarrow Data transfer \rightarrow Response value stored into response word device \rightarrow 0 stored into request word device \rightarrow 0 stored into response word device \rightarrow Completion

Unconditional Data transfer is made without Hand shake.

2) Hand shake timing

Set the timing of handshaking.

3) Time out interval

Set the time-out period. (1 to 36000)

Time-out is a period from "request device set" to "request device reset" for write, and a period from "response device set" to "response device reset" for read.

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4) Network

Set the network No. and station No. of the devices used for Hand shake.

Choose any of the items in the Network Setting combo box.

Host	. The devices of the own station are set to Hand shake.
Other	. The devices of the other station are set to Hand shake.
	Also, you can enter the network No.
According to tag	. The devices of the station number set on the
	Communication setting screen are set to Hand shake.
	(Refer to Section 8.2.4.)
Network No	. Specify the network No.
	(Valid only when Other Station is selected in Station
	Setting.)
Station. No.	. Set the station number.
	(Valid only when Other Station is selected in Station
	Setting.)

5) Request side

Specify the device used as a request side flag.

Set the device type, network/block No., device number, and HEX, DEC or OCT as in this section, (2), 3).

Request valueSet the value written to the word device as a request value. (Valid only when the word device is selected in Handshake type.)

6) Response side

Specify the device used as a response side flag.

Set the device type, network/block No., device number, and HEX, DEC or OCT as in this section, (2), 3).

Response value......Set the value written to the word device as a response value.

(Valid only when the word device is selected in Handshake type.)

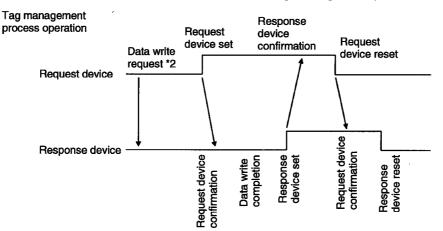
POINTS

- (1) Note that if you have specified "According to tag" in Network Setting and then changed the station number in "Communication", that change is not reflected on the station setting of "Extended".
- (2) When setting "Other" in Network Setting (making transient communication), it is assumed that the communication speed will be affected greatly. Therefore, when specifying the station, we recommend you to specify "Host".
- (3) When the tag specified for handshake is specified to Logging for reading, the data collection of the other tag communicating at the same time will be affected extremely. (It will take longer time.)
- (4) Set the Hand shake time out interval so that the communication interval value is greater than the Hand shake time out value.

(a) Hand shake timing

Hand shake is made as shown in the following timing charts.

1) When data is written to Tag management process device memory

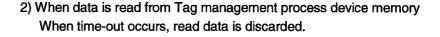


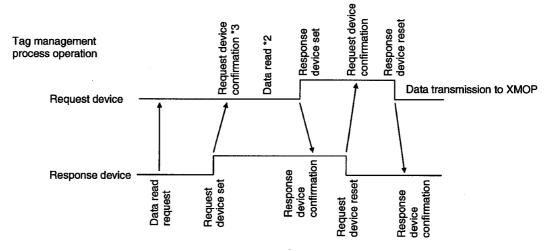
PLC operation *1

*1 For PLC operation, a program must be written using the sequence ladder or MELSEC data link library.

*2 Request of XMOP to write data to device memory.

Since the Tag management process makes this request actually, the Tag management process is on the request side.





PLC operation *1

*1 For PLC operation, a program must be written using the sequence ladder or MELSEC data link library. *2 The Tag management process reads the device memory data.

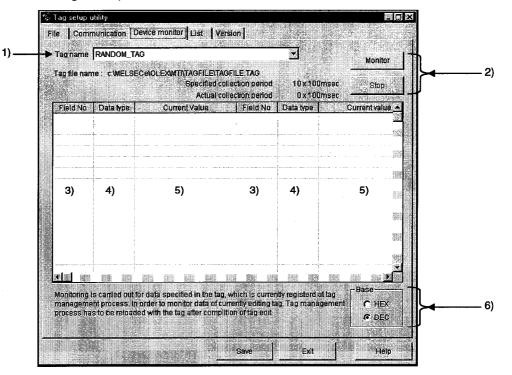
It is not read unless the request device is set on XMOP.

After reading data, the Tag management process sets the response device.

*3 An error (-30) occurs if the request device has not been set for request device confirmation.

8.2.7 Operations on the Device Monitor Screen

Monitor devices based on the data of the tag file currently under control of the Tag management process.



1) Tag name

Devices are monitored based on the data of the tag specified here.

2) Monitor and Stop buttons

"Monitor": Used to start monitor. "Stop": Used to stop monitor.

3) Field No.

Shows the field numbers being monitored.

4) Data type

Shows the data types of the devices set to the fields.

5) Current value

Shows the current device values. (When bit device is ON: "*")

6) Base

Set the format of the data to be displayed.

HEX ... Hexadecimal display DEC ... Decimal display

POINTS

- (1) Monitor stops when you change the screen (to the file setting, communication setting or other screen) by tab operation.
- (2) When monitoring the tag being edited, save the edited tag and restart the Tag management process.

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8.2.8 Operations on the List Screen

Tag file name: c1MELSI	ECelOLEXIMT	TAGFILE	TAGFILE.TAG			So	t
Display option	ogging	F Hand	shake 🎔 Dal	le 🔽 Com	ment	Texts	ave
Tag name	Туре	Setting	Comm.period	Channel	Net No.	Sta No.	Fie -
RANDOM_TAG	Random	Valid	1sec	PLC A	0	255	1
		ļ				· · · · ·	3
BATCH_WORD_TAG	Batch	Valid	1sec	PLC A	0	255	4 101
tag006	Random		500msec	PLC A	0	255	1
linegraph1	Random	Valid	500msec	PLC A	0	255	1
				· · · · · · · · · · · · · · · · · · ·			3
							4 5
							6
							8
	.				_		9 🛒
linegraph2	Random	Valid	500msec	PLC A	0	255	1

1) Setting display

Tags registered to the tag file are listed.

2) Display option

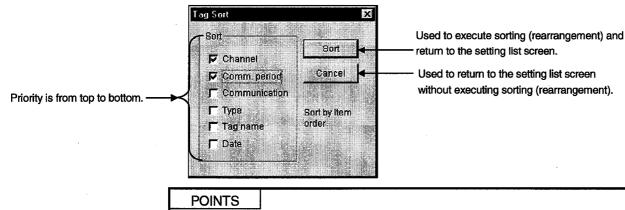
Check and display the items you want to display in addition to the data currently being shown.

3) "Sort..." button

As the following dialog box opens, set the sort conditions (Two or more conditions may be set.)

Note that priority is from top to bottom.

Items not checked return to the initial states.



- (1) Sorting of character strings, such as comments, are made in ASCII code order. (Not in alphabetical order.)
- (2) Data in the sorted status cannot be saved in the tag file.

4) "Text save" button

Used to save the currently displayed data in the specified text file.

POINT

Data is saved as a text in the sorted status.

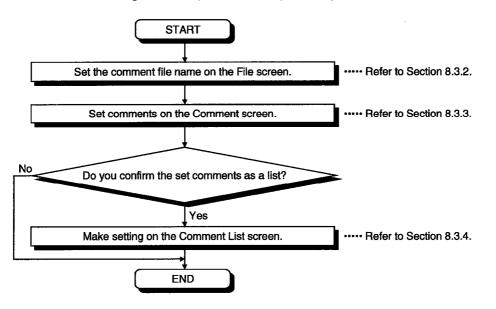
8. UTILITY OPERATIONS

8.3 Comment Setup Utility

This section describes the operation and setting procedures of the Comment setup utility.

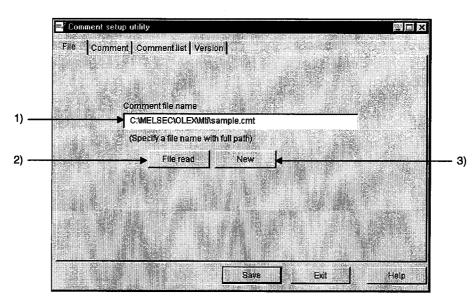
8.3.1 Operation Procedure

The following flowchart provides the operation procedure of the Comment setup utility.



8.3.2 Operations on the File Screen

Set the file where comments will be saved.



1) Comment file name

Specify the comment file name to be set.

2) "File read" button

Used to find the comment file to be set in 1).

As the file setting dialog box opens, set the comment file.

3) "New" button

Used to create a new comment file.

As the file setting dialog box opens, set a new comment file.

8.3.3 Operations on the Comment Screen

Set the definition, display range and character color of a comment.

	☐ ² Comment setup utility	
	File Comment Comment list Version	
1)	Comment No. 11	Update
2)	Comment Battery warning	
	(Max.40 characters) Display range (Up) 250	
3)	Display range (Low) 250	Add
	Font color FEFE Data	Detete
4)	Font color RoB: FFFF00h Click the color to open the color dialog	
	Save But	Help

1) Comment No.

Set the comment number where the comment definition, display range, character color and so on are saved. (Up to No. 1000)

2) Comment

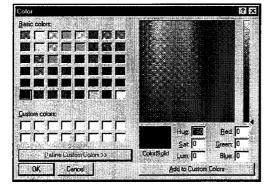
Describe the comment definition relative to the comment number. (Up to 40 characters)

3) Comment range

Set the upper and lower limits of the device value for displaying the comment. The comment is displayed when the device value is within the setting range. When specifying one point, set the same value to the upper and lower limits.

4) Font color

Clicking the color display area opens the following dialog box. Set the character color of the comment in this dialog box.



- 5) Buttons
 - "Update" ... Used to update the definition of the comment currently being selected.
 - "Insert" Used to add a new comment in a place preceding the comment currently being selected.
 - "Add"....... Used to add a new comment in a place next to the last comment number.
 - "Delete"..... Used to delete the comment currently being selected.

8.3.4 Operations on the Comment List Screen

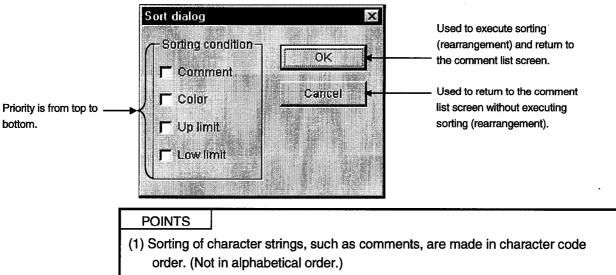
Show the set comments as a list.

	File na	ame:		Son	Text save
<u> </u>	No	Range(Up)	Range(Low)	Comment	Color(RGB)
1	[1000	500	Normal	COCOCOh
	2	32767	1001	Waiting time	004040h
	3	1	1	Valve1: stop	FFFF00h
4	ļ.	4	2	Valve1: malfunctions	0000FFh
	5	5	5	Valve2: stop	FF8040h
E	3	10	6	Valve2: malfunctions	804000h
2	r	15	11	Valve3: stop	80FF80h
E	}	20	16	Valve3: malfunctions	FF0080h
9)	450	450	Whole functional stop	8080C0h
1	0	300	300	Leak of water warning	FF8000h
1	1	250	250	Battery warning	FF0000h

 Setting display screen Shows the comments registered to the comment file as a list.

2) "Sort" button

As the following dialog box opens, set the sort conditions (Two or more conditions may be set.) Note that priority is from top to bottom. Items not checked return to the initial states.

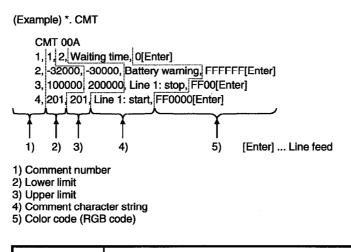


- (2) Data in the sorted status cannot be saved in the comment file.
- 3) "Text save" button

Used to save the currently displayed data in the specified text file. When sorting has been executed, data is saved as a text in the sorted status.

8.3.5 Comment File Format

The comment file is saved in a text file in the following format.



POINTS

(1) Settings should be separated by a comma (,).

(2) The line starting with "//" is handled as a comment.

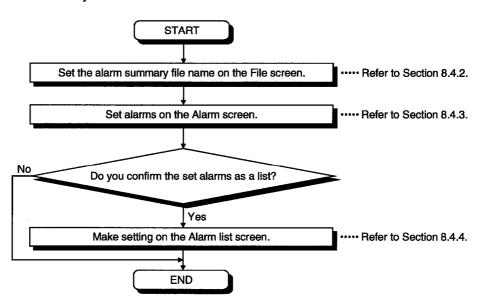
8. UTILITY OPERATIONS

8.4 Alarm Summary Setup Utility

This section describes the operation and setting procedures of the Alarm summary setup utility.

8.4.1 Operation Procedure

The following flowchart provides the operation procedure of the Alarm summary setup utility.



8.4.2 Operations on the File Screen

 Image: Pile
 Alarm summary file name

 Image: Pile
 New

 Image: Pile
 Alarm summary file name

 Image: Pile
 New

 Image: Pile
 Alarm summary file name

 Image: Pile
 New

 Image: Pile
 New

 Image: Pile
 Bave

 Image: Pile
 Help

Set the file where alarm summary information will be saved.

- 1) Alarm summary file name Specify the file name where the data set with this utility will be saved.
- 2) "File read" button

Used to find the alarm summary file to be set in 1). As the file setting dialog box opens, set the alarm summary file.

3) "New" button

Used to create a new alarm summary file.

As the file setting dialog box opens, set a new alarm summary file name.

8.4.3 Operations on the Alarm Screen

Set the definition, classification character strings and character colors of an alarm.

	🖓 Alarm summary setup utility		
	File Alarm Alarm list Version	-	
) ——	Alarm No: 1	-	Update
	Alarm Valve1: malfunctions		Insert
	(Max.40 characters)		Add
	Status selection Status 1	nin anti-a ata	Delete
	Status registration	<u> </u>	
	Status 1 Serious error	Status 1 color	
	Status 2 Warming	Status 2 color 📕	
	Status 3 Notice	Status 3 color 📘	
	Status 4 Complete	Status 4 color	
	Status 5 Serious error	Status 5 color	
	Click	color button to open col	or dialog)

1) Alarm No.

Set the file name where the data set with this utility will be saved. (Up to No. 300)

2) Alarm

Describe the definition of the alarm message relative to the alarm number. (Up to 40 characters)

3) Status selection

Select the status which will be displayed simultaneously with the alarm definition. Set the data to be selected in Set Status.

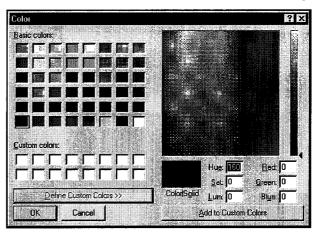
4) Status registration

Set the character strings and colors of the classifications to be displayed.

StatusSet the character string of the classification to be displayed. (Up to 16 characters)

Status (1 to 5) ColorSet the character color of the classification to be displayed. Clicking the color display area opens the following dialog box.

Set the character color of the comment in this dialog box.



5) Buttons

"Update" ... Used to update the data currently being selected.

"Insert" Used to insert a new alarm in a place preceding the alarm currently being selected.

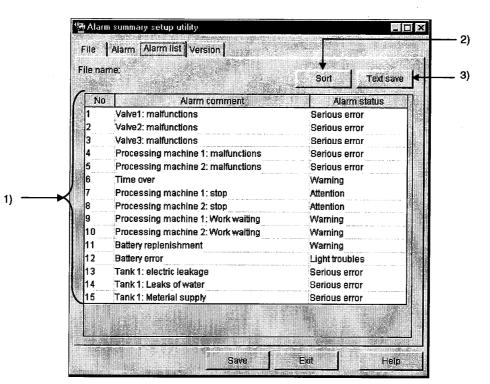
"Add"...... Used to add a new alarm in a place next to the last alarm number.

"Delete"..... Used to delete the alarm summary currently being set.

8. UTILITY OPERATIONS

8.4.4 Operations on the Alarm List Screen

Show the set alarms as a list.



1) Setting display screen

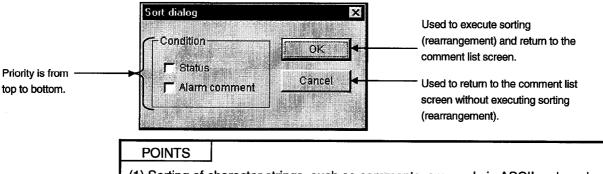
Shows the set alarm comments and alarm states as a list.

2) "Sort" button

As the following dialog box opens, set the sort conditions (Two or more conditions may be set.)

Note that priority is from top to bottom.

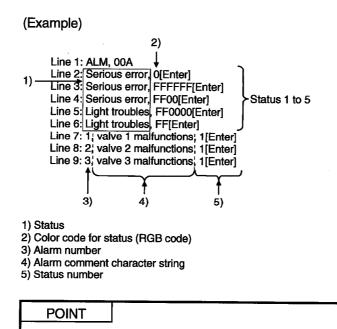
Items not checked return to the initial states.



- (1) Sorting of character strings, such as comments, are made in ASCII code order. (Not in alphabetical order.)
- (2) Data in the sorted status cannot be saved in the alarm summary file.
- 3) "Text save" button
 - Used to save the currently displayed data in the specified text file.

8.4.5 Alarm Summary File Format

The alarm summary file is saved in a text file in the following format.



Settings should be separated by a comma (,).

MEMO

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9. ABOUT THE XMOP CUSTOM CONTROLS

9. ABOUT THE XMOP CUSTOM CONTROLS

9.1 Properties

(1) OCX-standard properties

Among the properties that may be set, the OCX-standard properties can also be set to the custom controls of XMOP.

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Setting these properties determines the attributes and so on of the characters and frames displayed.

Property	Description	Details	Initial Value	Change during Execution
Alignment	Set the arrangement of a numeric value or character string displayed in a text.	0: Left alignment 1: Right alignment 2: Center alignment	—	Not allowed
Appearance	Set a 3D effect on the drawing style.	True : With 3D effect False : Flat (Without 3D effect)	True	
BackColor	Set the background color of a control.	Set in DCB and		
ForeColor	Set the foreground color of a control.	Set in RGB code.		Allanua d
BorderStyle	Set the style of a border line of a control.	True : With border line False : Without border line	True	Allowed
Enabled Set whether a control is forced recognize the event caused by user operation.		True : Recognizes False : Does not recognize	True	
Font	Set the font.		System	

POINT

Do not set the DragMode property to Automatic.

XMOP does not support DragDrop.

(2) XMOP-common properties

Properties which can be set in common to any custom controls of XMOP.

Property	Variable Type	Description	Details	Initial Value	Change during Execution
MErrorID	orID SHORT Error identi		 Communication error Tag management process error 3 : XMOP-specific error 	0	Not allowed
MErrorNo	SHORT	Detailed error information	Error code		
MMonSTOP	BOOL	Monitoring stop flag	True : Monitoring stop False : Monitoring execution	Flase	Allowed
MTagName	STRING	Tag name	Choose the tag name registered in the tag file.	First tag name in tag file	Not allowed
MFieldNo	SHORT	Field number	Field number of the tag name read	1	Not allowed

POINT

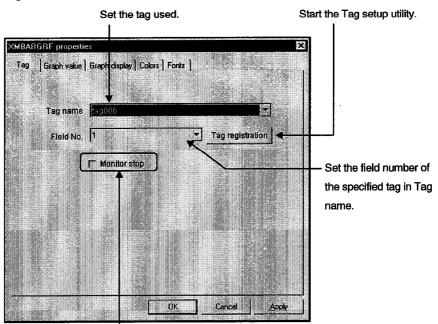
- The MMonStop property does not exist in XMWRWORD (word write), XMWRBIT (bit write), XMCLOCK (clock display) and XMERROR (error).
- The MFieldNo property does not exist in XMHSTTRD (historical trend graph), XMCLOCK (clock display) and XMERROR (error).
- Even during execution of the MMonStop property, a change can be made to any custom controls (with the exception of those which do not monitor devices and which must ordinarily collect data).
- The MfieldNo property is valid for not only for random-specified tags but also for batch-specified tags. For batch-specified tags, specify which device will be monitored.
- (3) Properties specific to the custom controls of XMOP

Refer to the description of the custom controls in Chapters 10 to 15 and later.

9.2 Property Page

This page appears when you choose the pasted XMOP custom control and click [Properties...] in the right-click menu.

(1) Tag

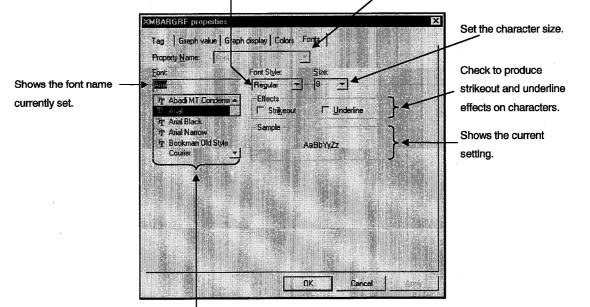


Check to stop the monitor function.

(2) Fonts

Specify the character style such as highlight or italic.

Choose the property name to which the front will be set.



Choose the font name used.

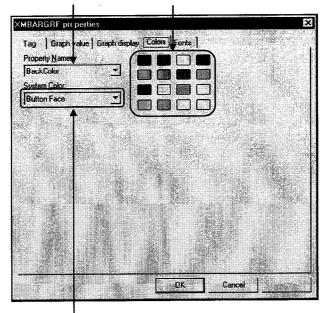
9-3

(3) Colors

Choose the color used.

Choose the property name to which the color will be set.

When the required color is not found, double-click the property name in the Properties window and select the color.



Specify the place where the color will be set.

9.3 Methods

Method Name	Returned Value	Argument	Description
DoClick	None	None	When this method is executed by VB, the "Click" event is
			generated by the specified control.
Refresh	None	None	When this method is executed by VB, redrawing is performed by
			the specified control.
			Supported only by the word write and bit write custom controls.
SetPicValue	LONG	None	When this method is executed by VB, the data specified by the
			property is written.
	·		If an error occurs, it is returned as a returned value.
			When this method is executed by VB, the corresponding XMOP
			custom controls return the monitored device values of the PLC
			CPU.
			Note that the forms of the values returned by the custom controls
			used are as follows.
			SHORT type
			Bit device operation custom control
		None	Event occurrence custom control
			Snap shot custom control
			Blink display custom control
	SHORT		LONG type
GetPicValue	LONG		Level display custom control
	STRING		Comment display custom control
	STILLING		Graphic display custom control
			Alarm display custom control
			Alarm sound output custom control
			Numeric data display/input custom control
			Line graph display custom control
			Trend graph display custom control
			Bar graph display custom control
			Pareto chart display custom control
			Numeric block data display/input custom control
			STRING type
			Character string data display/input custom control
			Character string block data display custom control

This section explains various methods used with the custom controls.

POINT

The GetPlcValue method cannot be used with the historical trend graph, alarm summary and clock display custom controls to acquire values. In addition, the GetPlcValue method cannot be used with the controls which do not perform device monitoring.

9.4 Monitoring Start and Stop Timings

Monitoring can be started and stopped in any of the following three patterns.

- (1) Start
 - 1) Monitoring starts when the form to which the custom control has been set appears.
 - 2) Monitoring resumes when the "hidden (Hide)" form is "displayed".
 - 3) Monitoring resumes when the MMonStop property of the custom control turns from True to False.
- (2) Stop
 - 1) Monitoring stops when the form to which the custom control has been set is closed (UNLOAD).
 - 2) Monitoring stops when the form is "hidden (Hide)".
 - 3) Monitoring stops when the MMonStop property of the custom control turns to True.

(Data collection continues.)

Also note the following.

- When the form is unloaded It is erased from memory and reloaded when it is displayed next time.
- When the form is hidden (Hide) The form resides on memory but the XMOP custom control other than the following stops drawing.

Ordinary collection of Trend graph display Alarm summary

Historical trend graph Event occurrence

 Monitoring stopped by the MMonStop property Monitoring is stopped per custom control and the stop/resume command can be given from the VB program.

POINTS

 Since monitoring does not stop at other than the points noted above, the processing speed may be reduced under the influence of hidden windows if one window has a small number of monitoring points.

In that case, exercise display window hiding, closing or other control in the VB program.

• Data collection is not made when memory is not loaded with the form to which trend graph ordinary collection, alarm summary, event occurrence or other setting has been made.

Also, to hide the form when ordinary collection is required, do not set Unload but set Hide.

9.5 Events

Like the VB controls, the XMOP custom controls allow you to describe procedures executed by events.

Create these processing procedures in the code window.

The procedure name of each event is fixed.

Generated events change with the custom controls.

The XMOP custom controls have the following event generating functions.

(1) Generated event list classified by custom controls

Custom Control Name (OCX)	Click	Drag drop	Drag over	Lost focus	Get focus	Numeric change	Write	Error	Upper limit excess	Lower limit excess	Alarm	Bit monitor	Scroll	Snap shot	Clock
Graphic display	0	0	0	0	0	0		0							
Blink display	0	0	0	0	0	0		0							
Comment display	0	0	0	0	0	0		0							
Level display	0	0	0	0	0	0		0	0	0	0				
Line graph display	0	0	0	0	0	0		0	0	0					
Trend graph display	0	0	0	0	0	0		0	0	0					
Bar graph display	0	0	0	0	0	0		0	0	0					
Pareto chart display	0	0	0	0	0	0		0							
Historical trend graph								0							
display															
Numeric block data display/input	0	0	о	0	0	0	о	ο	0	0			0		
Character string block data display/input	0	0	0	0	0	0	0	0					0		
Numeric data display/input	0	0	0	0	0	0	0	0	0	0					
Character string data display/input	0	0	0	0	0	0	0	0		-					
Bit device operation (bit input)	0	0	0	0	0	0	0	ο							
Word write							0	0							
Bit write							0	0							
Event occurrence								0				0			
Snap shot		0	0	0	0			0						0	
Alarm display	0	0	0	0	0	0		0							
Alarm sound output						0		0							
Alarm summary display		0	0	0	0			0							
Error								0							
Clock display		0	0	0	0			0							0

9. ABOUT THE XMOP CUSTOM CONTROLS

Event Name	Procedure	Event Occurrence Timing	
Click	Click	When a control is clicked.	
Drag drop	DragDrop	Must not be used.	
Drag over	DragOver	Must not be used.	
Get focus	GotForcus	When an object acquired a focus.	
Lost focus	LostForcus	When an object lost a focus.	
Numeric change	MPIcChange	When the device set to any custom control has changed from the valur read just before.	
Write	MWrite	When the custom control data having the write function is written. (Occurs after write is over.)	
Error	MError	When any custom control has detected an error.	
Upper limit excess	MUpper	When the device value has risen above the upper limit setting.	
Lower limit excess	MLower	When the device value has fallen below the lower limit setting.	
Alarm	MEmergency	The level displayed has risen above the upper limit alarm level or faller below the lower limit alarm level.	
Scroll (vertical)	MVscroll	When the scroll bar (vertical) is moved in block data display.	
Scroll (horizontal)	MHscroll	When the scroll bar (horizontal) is moved in block data display.	
Bit monitor	MBitAction	When the device changed in bit monitoring.	
Snap shot	MSnapShot	When snap shot is made.	
Clock	MClock	Per unit (second) set by the user in the clock display custom control.	

(2) Event details

POINT The DragDrop and DragOver events are not supported by the XMOP custom controls. In addition, the DragMode property cannot be run in the automatic mode (1-Automatic).

Example: Displaying Form2 if the device value exceeds 30000 in numeric data display

Sub XMNumdat1_MPIcChange() If XMNumdat1.GetPIcValue > 30000 Then Form2. Show 1 End If End Sub

'Current value comparison 'Form2 display

XMNumdat1: Object name of numeric display/input OCXXMNumdat1.GetPlcValue: Method which acquires the current value of numeric display

The custom controls provided by XMOP may be used in the following applications.



Graphic display custom control

• Represents on the screen the image of a product sequence in an FA line.

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- Represents machining processes using figures.
- Shows alarm information using figures.



Blink display custom control

• Represents machine and other faults in an FA line.



Comment display custom control

- Shows the comments of operating states.
- Shows the comments of alarm information.



Level display custom control

• Indicates remaining amounts in factory tanks.



Line graph display custom control

- Shows productions in the whole line as a line graph.
- Shows the numbers of malfunctions in the whole line as a line graph.
- Shows productions product-by-product as a line graph.
- Shows the numbers of malfunctions product-by-product as a line graph.



Trend graph display custom control

- Shows laboratory temperature transitions as a trend graph.
- Shows productions product-by-product as a trend graph.
- Shows productions in the whole line as a trend graph.
- Shows the numbers of malfunctions product-by-product as a trend graph.
- Shows the numbers of malfunctions in the whole line with a trend graph.



Bar graph display custom control

- Shows remaining amounts in factory tanks in batches.
- Shows production quantities product-by-product.



Pareto chart display custom control

- Shows fault causes as a Pareto chart.
- Shows production results as a Pareto chart.



Historical trend graph display custom control

- Shows the past production quantities.
- Shows a malfunction history on a daily basis.
- Shows a production quantity history on a daily basis.



Numeric block data display/input custom control

- Shows real-time productions in batches.
- Shows/enters various parameter data in batches.



Character string block data display/input custom control

- Shows manufactured product names line-by-line in batches.
- Shows/enters character string parameters in batches.



Numeric data display/input custom control

- Shows a real-time production.
- Production command
- Shows/enters parameter data.



Character string data display/input custom control

Shows/enters a character string parameter.



Bit operation custom control

- Production command
- Button control using a switch



Word write custom control

• Writes a numeric value to the word device which uses VB (e.g. production command, batch parameter write).



Bit write custom control

• ON/OFF control of the bit device which uses VB (e.g. operation start/stop processing).



Event occurrence custom control

- Starting of a remedy due to trouble occurrence
- Screen switching by bit device



Snap shot custom control

- Saving/printing of fault condition
- Saving/printing of final production condition



Alarm display custom control

- Shows the operating status, etc. of an FA line.
- Alerts the operator to a fault by indication and sound using the voice function.



Alarm sound output custom control

• Alerts the operator to a fault using the voice function.



Alarm summary display custom control

• Shows FA line fault conditions in batches.



Error custom control

• Alerts the operator to all errors that occurred in the tag management process.



Clock display custom control

- Shows the system clock data of a personal computer on the control.
- Shows/writes the clock data of the specified PLC.

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10. PART DISPLAY CUSTOM CONTROLS

10.1 Graphic Display



When the device reaches the set value, the specified figure appears on the control.

(1) Specifications

File name	XMPICTURE.OCX	
Setting quantity	30 pcs.	
Registration format	BMP or WMF file	
Moving method	Specify the moving range in the Twip unit. The starting and end points can be specified. Specify the starting point. (MStartLeft, MStartTop) Specify the end point. (MEndLeft, MEndTop)	
Registered figure editing	Use a graphic tool such as Paint.	

(2) Properties

Property name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).			
MPicMove	Select whether the displayed figure is moved or not. 0: No move 1: Move		0: No move	
MMovTagName	Set the tag name for movement.	_	First tag name in tag file	
MMovFieldNo	Set the field of the tag for movement.]	1	
MStartLeft	Starting point X-coordinate of the moved figure (Twip unit)			
MStartTop	Starting point Y-coordinate of the moved figure (Twip unit)	0 to 32767	o	Not allowed
MEndLeft	End point X-coordinate of the moved figure (Twip unit)			
MEndTop	End point Y-coordinate of the moved figure (Twip unit)			
MMoveUpper	Value at the starting point of the moved figure	-2147483648	32767 -32768	
MMoveLower	Value at the end point of the moved figure	to 2147483647		
MDefPicture	Set the default displayed figure. Displayed when any value not set is reached.		No setting	

Property name	Description	Setting Range	Initial Value	Change during Execution
MDataLow	Set the lower limit of the range in range setting. To show this limit only for a specific value, set the same value as in MDataHigh.	-2147483648 to 2147483647	0	Not allowed
MDataHigh	Set the upper limit of the range in range setting. To show this limit only for a specific value, set the same value as in MDataLow.		1	
MPicture	MDataLow, MDataHigh and MPicture must be set as a group.		No setting	
MBlinkFlag	Select whether the chosen figure is blinked or not. The blink cycle is 1 sec. uniformly. True: With blink False: Without blink		Flase	
Mindex	Specify the picture number.	1 to 30	1	Allowed

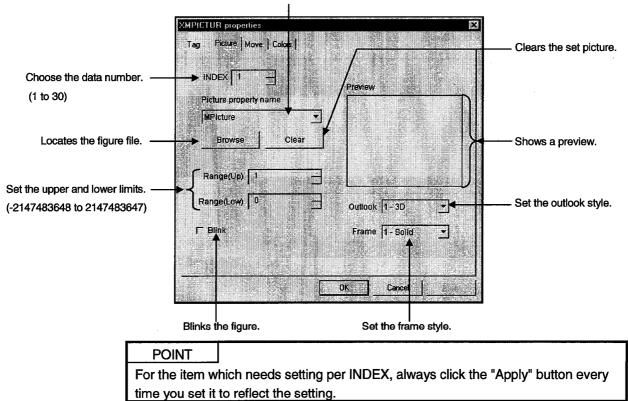
...Must be set per set number of MIndex.

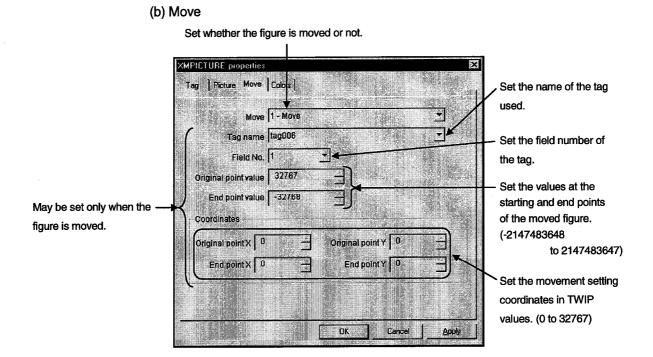
(3) Property page

For the Tag and Colors setting methods, refer to Section 9.2.

(a) Picture

Set the property name relative to the figure.





(4) Conditions of usable tag

For both the figure and movement data, the data type is any of Short, Long and Bit.

Note that the bit type data recognized are 0 and 1 only.

- (5) Precautions for designing
 - The following four properties are used to make setting per picture (MIndex). Make setting per Index number.
 - 1. MDataLow 2. MDataHigh 3. MPicture 4. MBlinkFlag
 - The control pasted to a form during designing is painted white.
 - For designing, the figure of MPicture registered to the MIndex value is displayed.
 - The BMP or WMF file is expanded/reduced according to the display range change made after registration.
 - To specify the moving range, enter the starting and end points in the Twip unit to Top and Left after the moved figure has been selected.
 - If the figure is blink-specified, MDefPicture alternates with,

Selected	: MDefPicture
Not selected	: Background
when displayed.	

- If the MDataLow or MDataHigh value is equal to that of other INDEX (MIndex), the value of the smaller INDEX number has precedence.
- Unlike the VB-standard picture control, the file name is stored when the picture data is saved.

When changing the environment of the execution file or the like, also change that of the XMOP control application and picture file together.

- (6) Precautions for execution
 - Using many bit map files increases the program capacity extremely.
 (BMP file size = length (dots) × width (dots) + approx. 1078 bits)
 - When using a WMF file, the display colors may change under the influence of other applications used, if any.
 When using a WMF file with the other applications, use only the primary colors or
 - use a BMP file.If there are no registered figures, nothing appears on the screen.
 - Some picture files may not be printed properly in the PrintForm method of VB. Use the XMOP snap shot custom control to print.
 - If a moved figure is used, it is not displayed but a background appears when the data is outside the range.

(7) Compatible events and methods

EventClick, MplcChange, MError

Method DoClick, Refresh, GetPlcValue: Returned value is a LONG value. GetPlcValue cannot acquire the data of the moved figure.

10. 2 Blink Display

While the specified bit device is on, the registered figure is displayed and hidden alternately at the specified interval to make it blink.

(1) Specifications

File name	XMBLINK.OCX
Display format	While the specified bit device is on, the registered figure data is blinked.

(2) Properties

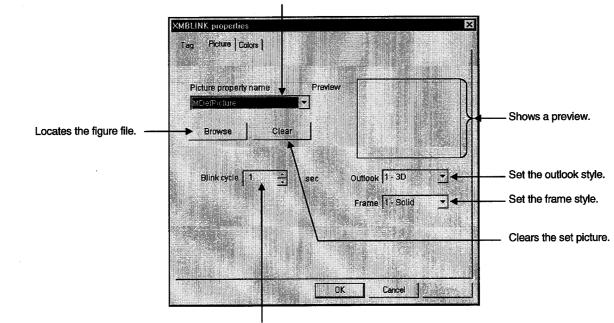
Property name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).			
MDefPicture	Specify the figure (BMP/WMF) to be displayed when blinking is off. When blinking is on, this figure alternates with the figure set to the MPicture property.	_	None	Not allowed
MPicture	Choose the displayed figure (BMP/WMF).			
MBlinkCycle	Set the figure blinking interval (in seconds).	1 to 60	1	

(3) Property page

For the Tag and Colors setting methods, refer to Section 9.2.

(a) Picture

Set the property name relative to the figure.



Set the blinking interval. (1 to 60)

- (4) Conditions of usable tag
 - The data type is Bit.

(5) Precautions for designing

• If the blinking interval is set to 2 seconds, the figure registered to the MPicture property appears for 1 seconds, and the figure registered to the MDefPictur property then appears for 1 seconds.

If nothing has been registered to the MDefPicture property, the background appears.

 MPicture registered figure
 MDefPicture registered figure

 Appears 1 second.
 Appears 1 second.

- The control pasted to a form during designing is painted white.
- During designing, the figure of MDefPicture is displayed normally but the figure of MPicture appears when,
 - 1. A figure has been registered to MPicture.
 - 2. MPicture has been selected in the Properties window.
- Unlike the VB-standard picture control, the file name is stored when the picture data is saved.

When changing the environment of the execution file or the like, also change that of the XMOP control application and picture file together.

(6) Precautions for execution

- Since operation is repeated when the specified bit device is on, the speed may be affected due to the increased load by the figure display if a number of blink displays turn on at the same time.
- When using this function often, set the same blink interval to all the controls used. If they are set differently, much memory is needed, slowing down the entire operation.

(7) Compatible events and methods

Event Click, MplcChange, MError Method DoClick, Refresh, GetPlcValue: Returned value is a SHORT value.

10. 3 Comment Display



According to the set device value, the character string in the comment setting file range is read and displayed in the specified color.

Using the comment setup utility, pre-create a comment setting file (*.CMT) which contains the sets of device values for showing figures and comments to be displayed. (Up to 1,000 comments)

(1) Specifications

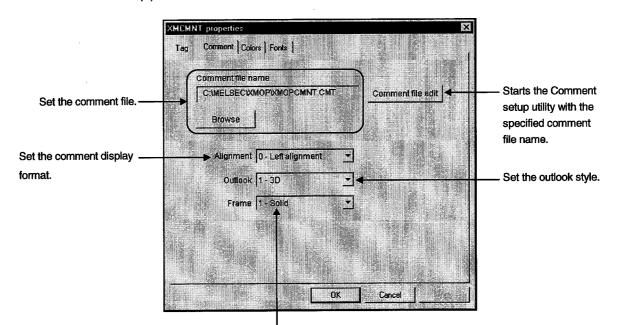
File name	XMCMNT.OCX
Setting quantity	1000 pcs.
Comment length	40 characters
Comment editing	Use the Comment setup utility.

(2) Properties

Property name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).			
MCmntFILE	Specify the comment setting file.		C:\MELSEC\XMOP \XMOPCMNT.CMT	Not allowed

(3) Property page

For the Tag, Fonts and Colors setting methods, refer to Section 9.2. (a) Comment



Set the frame style.

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- (4) Conditions of usable tag
 - The data type is any of Short, Long and Bit.
- (5) Precautions for designing
 - With the exception of the background color, set the display attributes of the character string to be displayed with the OCX-standard properties.
 - During designing, a comment is indicated by '\$' corresponding to 40 characters.
 - When the file is registered during designing, the first comment registered in the comment file appears.
 - Refer to Section 8.3 for the comment file format.
 - Some colors may not be displayed properly according to the color pallet setting of the display.
- (6) Precautions for execution
 - If the comment data exceeds 40 characters, only 40 characters are valid.
 - Any value specified outside the numeric range is not displayed.
 - An error occurs if any character is other than those convertible as a numeric value (+, -, 0 to 9).
 - If a comment cannot be displayed within the control width, its extra part is displayed in the next line.
 - Use a smallest possible number of files since using many files will exhaust memory extremely and affect the running speed.
- (7) Compatible events and methods

Event Click, MplcChange, MError

Method DoClick, Refresh, GetPlcValue: Returned value is a LONG value.

11. GRAPH DISPLAY CUSTOM CONTROLS

11.1 Level Display



The control is painted at the ratio (percentage) of the device value to the whole (range between the upper and lower limits).

An event is generated if the upper or lower limit is exceeded.

(1) Specifications

File name	XMLEVEL.OCX
Moving direction	Up, down, left, right
Display format	Choose whether figures are used to display the level or figures are not used to provide a rectangular level display. When the use of figures is selected, a level display is provided using a background figure and a front figure which is used to move the level.
Upper/lower limit Alarm level Display color	← Up limit ← Alarm level (Up) ← Alarm level (Low) ← Low limit ← Low limit ← Up limit ← Alarm level (Low) ← Low limit ← Low lim
	 An event occurs if the alarm level (up) or (low) is exceeded.
	Setting MEmerLine allows alarm level indicating lines to appear.
	You can use MLevColor to specify the standard color, MUpLevColor to specify that the alarm level
	(up) is exceeded, and MDownLevColor to specify that the alarm level (low) is exceeded.
Alarm level change	 If the MProtect value is set to True, the alarm levels can be changed as follows. (Can be changed also during run) They can be changed by operating the spin buttons. Clicking the alarm level display frame enables numeric entry. (When the MDspEmer value is set to True)
Pattern	For vertical display (level direction: Top/bottom is selected) Pattern 1 Pattern 2 Pattern 3 Pattern 4 Pattern 1 Pattern 2 Pat
·	BMP or WMF file
Figures used	(Only when the use of figures is selected)
Registered figure editing	Use a graphic tool such as Paint.

MELSEC

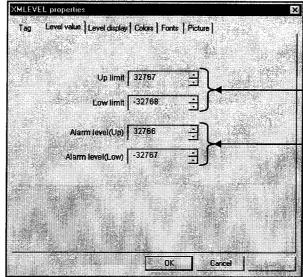
5
5

Property name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).			
MLevType	Select whether figures are used for level display or not. 0: Not used 1: Used	0,1	0	Not allowed
MLevColor	Setting of painting color for level display		Blue	
MUpperLev Color	Level color when the alarm level (up) is exceeded		Ded	Allowed
MLowerLev Color	Level color when the alarm level (low) is exceeded		Red	Allowed
MBackColor	Setting of background color for level display		White	
MDefPicture	Set the figure used as a background for graphic level display.		None	Not allowed
MPicture	Set the figure used to move the level for graphic level display.		norie	Not allowed
MDirection	Painting direction (top→bottom, bottom→top, left→right, right→left)		Left→right	
MUpper	Set the upper limit.		32767	
MLower	Set the lower limit.	-2147483648	-32768	Allowed
MUpperEmer	Set the alarm level (up).	to 2147483647	32766	Allowed
MLowerEmer	Set the alarm level (low).	214/40304/	-32767	
MEmerLine	Whether the alarm level lines are shown or not True: Shown False: not shown			
MDspEmer	Whether the alarm level changing texts are shown or not True: Shown False: not shown		Flase	
MDspData	Whether the level-displayed value is shown or not True: Shown False: not shown			Not allowed
MDspPattern	Choose the alarm level changing text and level value display form. 0: Pattern 1 1: Pattern 2 2: Pattern 3 3: Pattern 4	—	0	
MDspColor	Set the character color when the alarm levels and current value are displayed.		Black	
MDspBack Color	Set the background color when the alarm levels and current value are displayed.		White	Allowed
MProtect	Set whether the alarm levels are made rewritable or not. True: Rewritable False: Unrewritable		Flase	

(3) Property page

For the Tag, Fonts and Colors setting methods, refer to Section 9.2.

(a) Level value

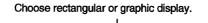


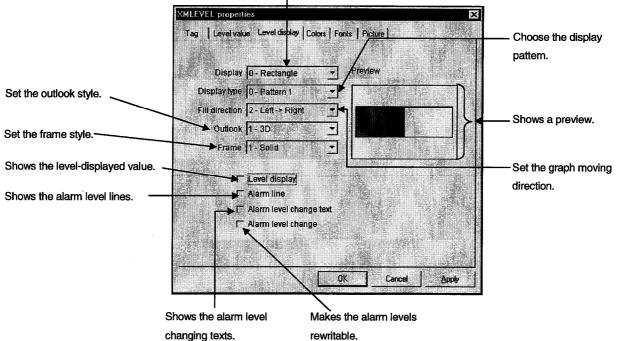
Set the upper and lower limits. (-2147483648 to 2147483647)

Set the upper and lower limits of alarm levels.

(-2147483648 to 2147483647)

(b) Level display

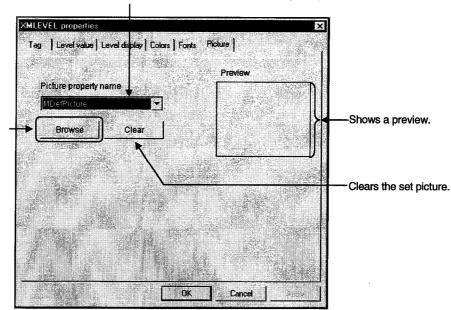




rewritable.

(c) Picture

Set the property name relative to the figure.



Locate and set the file name to be set to the property.

(4) Conditions of usable tag

• The data type is either of Short and Long.

(5) Precautions for designing

- Set the display attributes of the control frame to be shown with the OCX-standard properties.
- For designing, the chart of a 50% position level appears.
- Since showing the alarm level or level data makes clearances within the control frame, the clearances are painted with the color set to the BackColor property of the OCX-standard properties.
- The alarm event occurs if the alarm level (up) or (low) is exceeded. The user should judge the GetPlcValue method in the processing of the MEmergency event, determine whether the alarm level is exceeded or not, and describe error processing.
- Unlike the VB-standard picture control, the file name is stored when the picture data is saved.

When changing the environment of the execution file or the like, also change that of the XMOP control application and picture file together.

• If you selected figures for level display, MLevColor, MUpperLevColor and MLowerLevColor are made invalid.

(6) Compatible events and methods

EventClick, MplcChange, MError, MUpper, MLower, MEmergency MethodDoClick, Refresh, GetPlcValue: Returned value is a LONG value.

(7) Example of use

The device which changes from 0 to 1200 is level-displayed, and a message box appears when 1000 is exceeded.

(a) Properties

MDirection	Bottom→top
MUpper	1200
MLower	0
MUpperEmer	1000

(b) Alarm event processing

Sub XMLevel1_MEmergency()

If XMLevel1.MupperEmer < XMLevel1.GetPlcValue Then MsgBox "Alarm level (up) is exceeded."

End If

End Sub

11.2 Line Graph Display

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A line graph which represents the values of several devices, beginning with the specified one, as the graph points of the devices are displayed on the control.

(1) Specifications

File name	XMLIN	GRF.OCX
Number of lines		8
Display format	 Horizontal axis lines Set the number of horizontal axis lines to be displayed. Example: Setting of 3 lines Upper limit Horizontal lines are drawn in 25%, 50% and 75% positions. Lower limit 	 Vertical reference lines You can set in how many point increments the vertical lines will be shown. Set 0 when not displaying the vertical lines. Example: 10 points are specified for the entire graph and 1 point increments are specified for the vertical lines. Vertical reference line
Number of points	21	to 100

(2) Properties

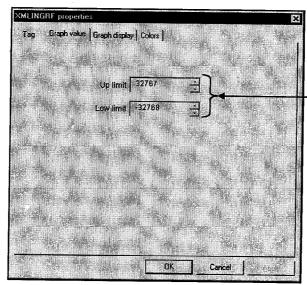
Property name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).			
MineColor	Set the display color of line 1 to 8.0: Black8: Gray1: White9: Bright gray2: Red10: Dark red3: Green11: Dark green4: Blue12: Dark blue5: Yellow13: Bright brown6: Magenta14: Dark magenta7: Cyan15: Dark cyan		First line: 4Second line: 2Third line: 3Fourth line: 0Fifth line: 7Sixth line: 6Seventh line: 8Eighth line: 5	Not allowed
MLineWidth	Set the thickness of line 1 to 8 in pixel unit.	1 to 100	1	
	Choose the type of line 1 to 8 from the combo box. 0: Solid 1: Dot 2: Broken 3: None Valid when the MLineWidth property is 1	0 to 3	0	Allowed
MBlackColor	Set the background color of the graph.		White	
MSetNo	Set the number of lines to be displayed.	1 to 8	1	
MSetPoint	Set the number of points in the horizontal axis.	2 to 100	10	Not allowed

11. GRAPH DISPLAY CUSTOM CONTROLS

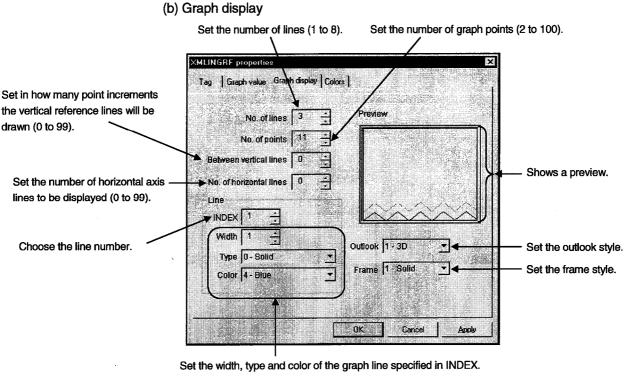
Property name	Description	Setting Range	Initial Value	Change during Execution
MUpper	Set the upper limit.	-2147483648	32767	
MLower	Set the lower limit.	to 2147483647	-32768	Allowed
MYLine	Set in how many point increments the vertical reference lines will be drawn.	0 to 99	0	
MXLine	Set the number of horizontal axis lines to be drawn.		·	Not allowed
MIndex	Set the line number.	1 to 8	1	1

... Must be set per set number of Mindex.

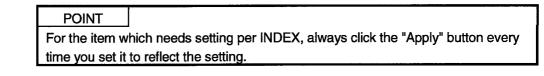
- (3) Property page
 - For the Tag, Fonts and Colors setting methods, refer to Section 9.2.
 - (a) Graph value



-Set the upper and lower limits of the graph. (-2147483648 to 2147483647)



(The line type can be set only when the width is 1 point.)

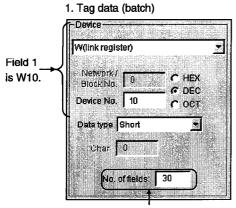


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- (4) Conditions of usable tag
 - The data type is either of Short and Long.
 - Note that operation will not be performed if:
 - 1. "Number of fields < number of graph lines \times number of points"
 - 2. The fields of different data types are included when the random tag was specified.

2. OCX data (tag)

Example1: Usable tag (batch)



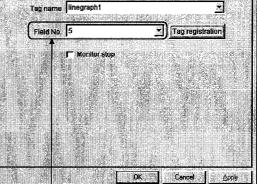
W10 to W39

3. OCX data (graph display)

Tag Graph value Graph display Colors

XMLINGRE pro

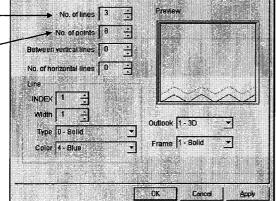




Set 1) of the first line as field 5 (W14).

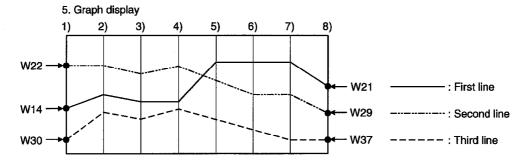
No. of lines: 3 -

No. of points: 8 -



4. Data storage format

	1)	2)	3)	4)	5)	6)	7)	8)
First line	W14	W15	W16	W17	W18	W19	W20	W21
Second line	W22	W23	W24	W25	W26	W27	W28	W29
Third line	W30	W31	W32	W33	W34	W35	W36	W37



11 - 9

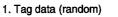
Example2: Usable tag (random)

Set the same data type.

Preview

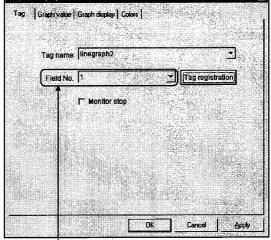
•

Apply



Field No.	Device	NO.	Data type	Cha
1	W	0	Short	0
2	W	32	Short	0
3	D	20	Short	0
4	R	10	Short	0
5	ER1	0	Short	0
6	STT	0	Short	0
7	L	10	Short	0
8	Ŵ	48	Short	0
9	STN	20	Short	0

2. OCX data (tag) XMLINGBE propertie





3. OCX data (graph display) XMLINGRE proj Tag Graph value Graph display Colors

No, e

No. of horizontal lines

INDEX 1

Betw

No. of points 3 een vertical lines

-

З K K

1

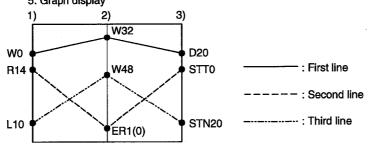
-

No. of lines: 3

No. of points: 3

Type	0 - Solid					
			<u>x</u>		Ĺ,	- 3D
Color	4 - Blue		Ŧ	Frar	ne 1	- Solid
	,					
			г			Cance
	GUIUT	Cont 14 - pide				

	<u> </u>	2)	3)
First line	W0	W32	D20
Second line	R10	ER1(0)	STT0
Third line	L10	W48	STN20



Tag data (random)					
Field No.	Device	No.	Data type	Cha	
1	W	0	Short	0	
2	W	32	Short	0	
3	D	20	Short	_ 0	
4	R	10	Long]◀–⋕	7 Ca
5	ER1	0	Short		an
6	B	0	Bit	ן אר	
7	L	10	Short	0	sp
8	W	48	Short	0	nu
9	STN	20	Char	1	is

Example3: Unusable tag (if there are different data types within the specified fields)

Cannot be set since there are different fields when the specified field is 1 and the number of points specified is 4 or more.

(5) Precautions for designing

- The following three properties are used to make setting per line (MIndex). Set the number of lines set in MSetNo.
 - 1. MLineColor 2. MLineWidth 3. MLineStyle
- The return value of the GetPlcValue method is a LONG two-dimensional array. Example

XMLINGRF1.GetPlcValue(2,3); //Data at point 3 in line 2 is acquired.

----- Indicates the data of the point counted from left.

----- Indicates the line number.

- If the number of lines is set to 8, the numeric change (MPlcChange) event occurs when the latest data of any line changes.
- For designing, the initial value graph appears.
- An event occurs if any of the set lines exceeds the upper limit (MUpper) or lower limit (MLower).
- If MLineWidth is other than 1, MLineStyle is forced to be a solid line (0).
- (6) Compatible events and methods

Event Click, MplcChange, MError, MUpper, MLower

Method ... DoClick, Refresh, GetPlcValue: Returned value is a LONG value array.

11.3 Trend Graph Display

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Device values are read at the specified intervals and displayed on the control as a time series graph.

The graph is updated in real time.

(1) Specifications

File name	XMTREND.OCX	
Number of lines	8	
	Set the number of horizontal axis lines to be You c displayed. vertica Set 0	al reference lines an set in how many point increments the al lines will be shown. when not displaying the vertical lines. le: 10 points are specified for the entire
Display format	Upper limit Horizontal lines are drawn in 25%, 50% and 75% positions. Lower limit	graph and 1 point increments are specified for the vertical lines. Vertical reference line
	next to the	it values are displayed names determined on asis.(Display/hide: Selectable)
Number of points	2 to 100	
Sampling period	1 or more second	S
Collection form	Ordinary/non-ordin	ary
Number of lines collected	Depending on restriction on the number of monit	or points (Ordinary/non-ordinary)

11. GRAPH DISPLAY CUSTOM CONTROLS

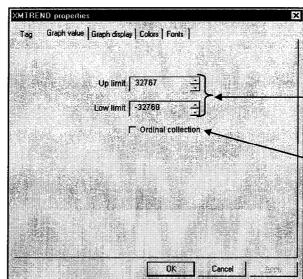
Property neme	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).			
	Set the display color of line 1 to 8.0: Black8: Gray1: White9: Bright gray2: Red10: Dark red		First line : 4 Second line : 2 Third line : 3 Fourth line : 0	
MLineColor	3: Green11: Dark green4: Blue12: Dark blue5: Yellow13: Bright brown6: Magenta14: Dark magenta7: Cyan15: Dark cyan	_	Fifth line : 7 Sixth line : 6 Seventh line : 8 Eighth line : 5	Not allowed
NLineName	Set the name for numeric display.	Up to 32	"TREND1" to	
5		characters	"TREND8"	
MLineWidth	Set the thickness of line 1 to 8 in pixel unit.	1 to 100	1	
MLineStyle	Choose the type of line 1 to 8 from the combo box. 0: Solid 1: Dot 2: Broken 3: None Valid when the MLineWidth property is 1	0 to 3	0	Allowed
MBackColor	Set the background color of the graph.	·	White	
MSetNo	Set the number of lines to be displayed.	1 to 8	1	
MSetPoint	Set the number of points in the horizontal axis.	2 to 100	10	Not allowed
MUpper	Set the upper limit.	-2147483648 to	32767	Allowed
MLower	Set the lower limit.	2147483647	-32768	Allowed
MDspPattern	Set whether numeric values are displayed or not, and if displayed, its position. 0: Not displayed 1: Displayed on the right 2: Displayed on the left	0 to 2	0	·
MDspTime	Set whether the collection times are displayed or not. True: Displayed False: Not displayed	_		Not allowed
MLogFlag	Set ordinary or non-ordinary collection. Ordinary collection :True Non-ordinary collection :False		False	
MYLine	Set in how many point increments the vertical reference lines will be drawn.	0 to 99	0	
MXLine	Set the number of horizontal axis lines to be drawn.			
MDspColor	Set the character color of the current values and collection times.		Black	
MDspBack Color	Set the background color of the current values and collection times.	—	White	Allowed
		1		

(2) Properties

... Must be set per set number of Mindex.

(3) Property page

For the Tag, Fonts and Colors setting methods, refer to Section 9.2. (a) Graph value



Set the upper and lower limits of the graph. (-2147483648 to 2147483647)

Data is collected when the form is not active.

(b) Graph display

	Set the number of lines (1 to 8).	Set the number of graph po	oints (2 to 100).
Set in how many point increments the vertical reference lines will be drawn (0 to 99).	XMTREND properties Tag Graph value Graph display Colors F No. of lines 1 $\frac{4}{5}$ No. of points 10 $\frac{4}{5}$	onts Praview TR11(
Set the number of horizontal axis lines to be displayed (0 to 99).	→ Between vertical lines 0. → No. of horizontal lines 0 Line INDEX 1 →		Shows a preview. Set the position of displaying the current
Set the width, type and color of the graph line specified in INDEX. (The line type can be set only when the width is 1 point.)	Width 1 = Di Type [0-Solid Color [4-Blue Label TREND1	ata display 1 - Display at right Outlook 1 - 3D Frame 1 - Solid	data. Set the outlook style. Set the frame style.
·		DK. Cancel Apply	

Set the label attached to data when data is displayed. Sh

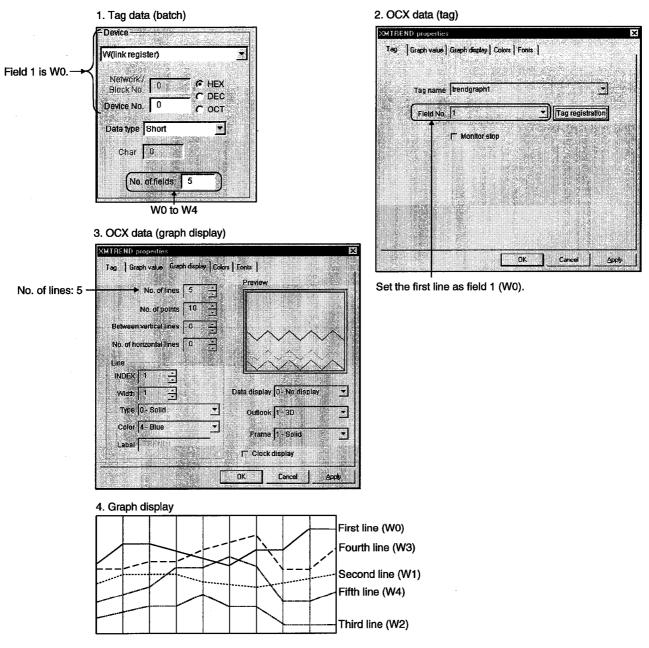
Shows the collection times on the screen.

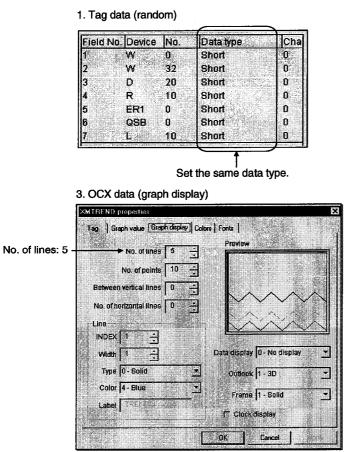
POINT

For the item which needs setting per INDEX, always click the "Apply" button every time you set it to reflect the setting.

- (4) Conditions of usable tag
 - The data type is either of Short and Long.
 - Note that operation will not be performed if:
 - 1. "Number of fields < number of graph lines"
 - 2. The fields of different data types are included when the random tag was specified.

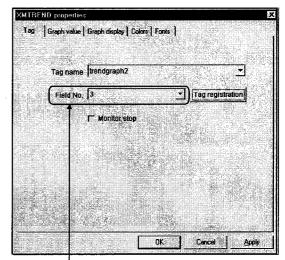
Example1: Usable tag (batch)





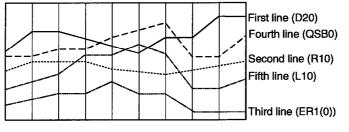
Example2: Usable tag (random)

2. OCX data (tag)



Set the first line as field 3 (D20).

4. Graph display



-	Т	ag dat	a (random)		
Field No.	Device	No.	Data type	Cha	
1	W	0	Short	0	
2	W	32	Short	0	
3	D	20	Short	0	
4	R	10	Long		Cannot be set since there
5	ER1	0	Short		are different fields when th
6	B	0	Bit		
7	L	10	Short	<u>_</u> 0/	specified field is 1 and the
8	W	48	Short	/	number of lines specified is
9	STN	20	Char		4 or more.

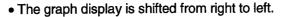
Example3: Unusable tag (if there are different data types within the specified fields)

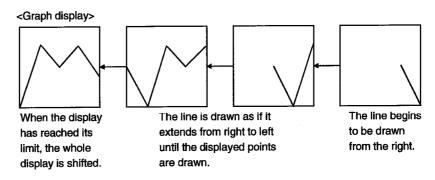
- (5) Precautions for designing
 - The following four properties are used to make setting per line (MIndex). Set the number of lines set in MSetNo.
 - 1. MLineColor 2. MLineWidth 3. MLineStyle 4. MLineName
 - The return value of the GetPlcValue method is a LONG two-dimensional array. Example

XMTREND1.GetPlcValue(4,7); //Data at point 7 in line 4 is acquired.

Indicates the data of the point counted from left. Indicates the line number.

- Since showing the clock or collected data makes clearances within the control frame, the clearances are painted with the color set to the BackColor property of the OCX-standard properties.
- An event occurs if any of the set lines exceeds the upper limit (MUpper) or lower limit (MLower).
- If MLineWidth is other than 1, MLineStyle is forced to be a solid line (0).
- If the number of lines is set to 8, the numeric change (MPlcChange) event occurs when the latest data of any of the eight lines changes.
- If the number of lines is set to 8, the upper limit (MUpper) or lower limit (MLower) excess event occurs when any of the eight lines exceeds the upper or lower limit.
- When ordinary collection (MLogFlag) is set to True, data collection is performed if the form is not active. However, if a monitor stop is made, ordinary collection is not performed and the data is cleared.





(6) Compatible events and methods

EventClick, MplcChange, MError, MUpper, MLower

Method DoClick, Refresh, GetPlcValue: Returned value is a LONG value array.

11.4 Bar Graph Display

X772 |1,|,

Device values are read at the specified intervals and displayed as a bar graph. As in level display, bars are painted at the percentages of the device values to the upper and lower limits specified by device values and their ranges are varied to display the levels.

(1) Specifications

File name	XMBARGRF.OCX
Number of lines	8
Display format	You can set the number of horizontal axis lines. The following screen assumes the setting of 8 lines. Horizontal axis line Product A 483 Product B 653 Product C 502 Product D 750 Product E 363 Product F 788 Product H 431 The user can set the bar-to-bar distance. The user can set the bar-to-bar distance.
Sampling period	1 or more seconds
Collection form	Ordinary/non-ordinary

(2) Properties

Property Name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard XMOP-common	Refer to Section 9.1 (1). Refer to Section 9.1 (2).		—	_
	Set the display color of line 1 to 8.0: Black8: Gray1: White9: Bright gray2: Red10: Dark red3: Green11: Dark green4: Blue12: Dark blue5: Yellow13: Bright brown6: Magenta14: Dark magenta7: Cyan15: Dark cyan		First line: 4Second line: 2Third line: 3Fourth line: 0Fifth line: 7Sixth line: 6Seventh line: 8Eighth line: 5	Not allowed
MBarName	Set the name for numeric display.	Up to 32 characters	"BARGRF1" to "BARGRF8"	Not allowed
MBarColor	Set the background color of the graph.		White	Allowed
MSetNo	Set the number of bars to be displayed.	2 to 8	2	Not allowed

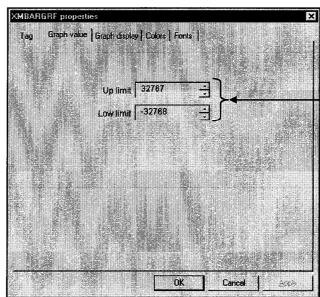
	Μ	IE	LS	EC	
--	---	----	----	----	--

Property Name	Description	Setting Range	Initial Value	Change during Execution
MBarReduce	Set the bar-to-bar distance.	0 to 100	0	
MUpper	Set the upper limit.	-2147483648	32767	Allowed
MLower	Set the lower limit.	to 2147483647	-32768	
MDspPattern	Set whether numeric values are displayed or not, and if displayed, its position. 0: Not displayed 2: Displayed on the left 1: Displayed on the right	0 to 2	0	Not allowed
MXLine	Set the number of horizontal axis lines to be drawn.	0 to 99		
MDspColor	Set the character color of the current values and collection times.		Black	
MDspBack Color	Set the background color of the current values and collection times.	_	White	Allowed
Mindex	Set the line number.	1to 8	1	

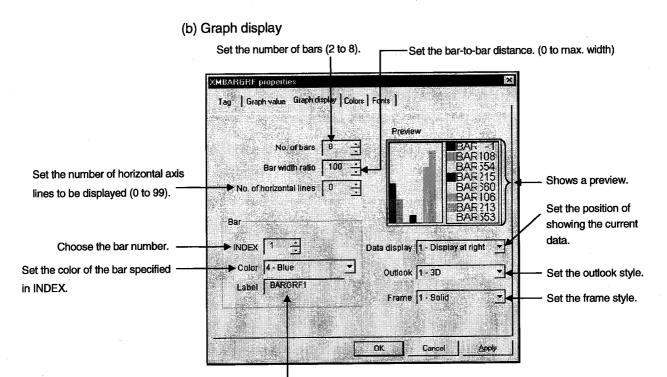
... Must be set per set number of Mindex.

(3) Property page

For the Tag, Fonts and Colors setting methods, refer to Section 9.2. (a) Graph value



Set the upper and lower limits of the graph. (-2147483648 to 2147483647)



Set the label attached to data when data is displayed.

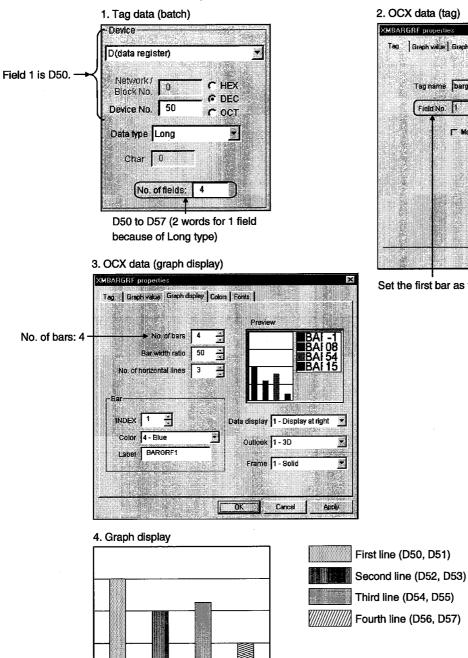


For the item which needs setting per INDEX, always click the "Apply" button every time you set it to reflect the setting.

MELSEC

- (4) Conditions of usable tag
 - The data type is either of Short and Long.
 - Note that operation will not be performed if:
 - 1. "Number of fields < number of graph lines"
 - 2. The fields of different data types are included when the random tag was specified.

Example1: Usable tag (batch)



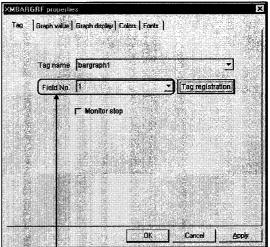
2

1

3

4

2. OCX data (tag)



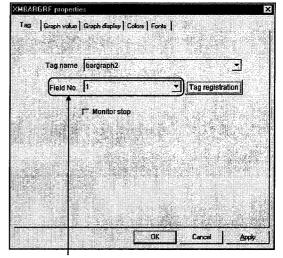
Set the first bar as field 1 (D50).

Example2: Usable tag (random)

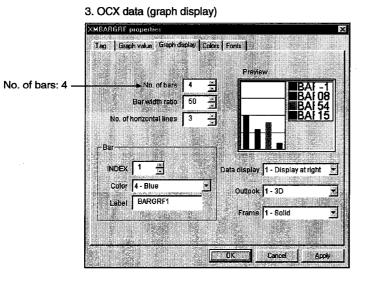
Field No.	Device	No.	Data type	Cha
1	D	10	Short	0
2	₩	32	Short	0.
3	SD	20	Short	0
4	F	10	Short	0
5	ER1	0	Short	0
6	QSB	0	Short	0
7	L	10	Short	O

Set the same data type.

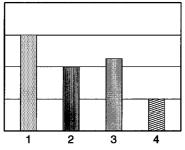
2. OCX data (tag)

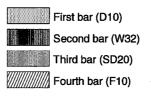


Set the first bar as field 1 (D10).



4. Graph display





	Та	ag data	a (random)		
Field No	. Device	No.	Data type	Cha	
1	W	0	Short	0	
2	W	32	Short	0	
3	D	20	Short	0	
4	R	10	Long]∙	Cannot be set since
5	ER1	0	Short		/ there are different
6	B	0	Bit		fields when the
7	L	10	Short	0	specified field is 1 and
8	W	48	Short	_ 0∕	the number of bars
9	STN	20	Char		specified is 4 or more.

Example3: Unusable tag (if there are different data types within the specified fields)

(5) Precautions for designing

- The following two properties are used to make setting per line (MIndex). Set the number of lines set in MSetNo.
 - 1. MBarColor 2. MBarName
- Since showing the scroll bar or collected data makes clearances within the control frame, the clearances are painted with the color set to the BackColor property of the OCX-standard properties.
- For designing, the initial value graph appears.
- The return value of the GetPlcValue method is a LONG array. Example

XMBARGRF1.GetPlcValue(2); //Data of bar 2 is acquired.

- Indicates the bar number.

(6) Compatible events and methods

EventClick, MplcChange, MError, MUpper, MLower MethodDoClick, Refresh, GetPlcValue: Returned value is a LONG value array.

11. 5 Pareto Chart Display

Xm C

Device values are read at the specified intervals and displayed in a Pareto chart. A Pareto chart provides the level display of device values in percentage, with the sum of the values of the monitored devices handled as the upper limit. The devices monitored are displayed from left to right in the order of larger values.

(1) Specifications

File name	XMPALLET.OCX			
Number of lines	8			
Display format	A Pareto chart is shown as follows. Bar graph Line graph Vertical line (Display/hide: Can be set) Sum of collected values 0 0 0%			
Sampling period	a device basis. (Display/hide: Selectable)			

(2) Properties

Property Name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).			
	Set the display color of line 1 to 8.0: Black8: Gray1: White9: Bright gray2: Red10: Dark red3: Green11: Dark green4: Blue12: Dark blue5: Yellow13: Bright brown6: Magenta14: Dark magenta7: Cyan15: Dark cyan	_	First line: 4Second line: 2Third line: 3Fourth line: 0Fifth line: 7Sixth line: 6Seventh line: 8Eighth line: 5	Not allowed
NBarName	Set the name for numeric display.	Up to 32 characters	"PALLET1" to "PALLET8"	
MBackColor	Set the background color of the graph.		White	Allowed
MSetNo	Set the number of lines to be displayed.	2 to 8	2	Not allowed
MYLine	Set whether the vertical lines are displayed or not. True: Displayed False: Not displayed		True	Allowed

Property Name	Description	Setting Range	Initial Value	Change during Execution
MLineType	Set the type of line graph line. 0: Solid 2: Broken 1: Dot 3: None	0 to 3		
MDspPattern	 Set whether numeric values are displayed or not, and if displayed, its position. 0: Not displayed 2: Displayed on the left 1: Displayed on the right 	0 to 2	0	Not allowed
MDspColor	Set the character color of the current values.		Black	
MDspBack Color	Set the background color of the current values.	—	White	Allowed
Mindex	Set the line number.	1 to 8	1	

... Must be set per set number of MIndex.

MELSEC

- (3) Property page
 - For the Tag, Fonts and Colors setting methods, refer to Section 9.2.

(a) Graph display

Set the number of lines (2 to 8).

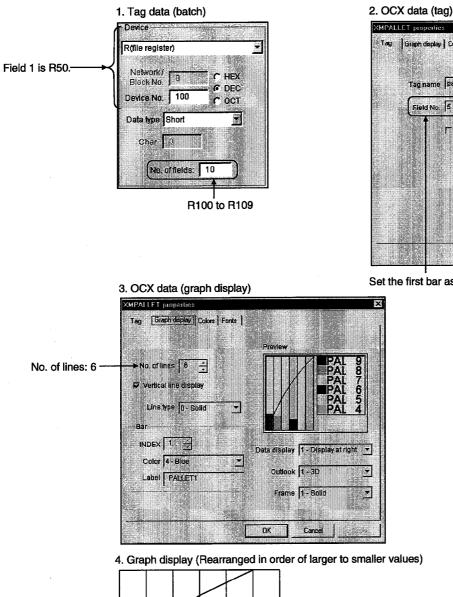
	XMPALLET properties		
	Tag Graph display Colors Forts]	Preview	
Shows the vertical lines	No. of lines 6 +	PAL 8 PAL 7 PAL 6 PAL 5	— Shows a preview.
the line graph.	Bar		Set the position of displaying the current
Choose the bar number. —— Set the color of the bar specified —— in INDEX.	→ INDEX 1 2 Color 4-Blue 2 Label PALLET1	Data display 1 - Display at right	data. — Set the outlook style.
		Frame 1 - Solid	— Set the frame style.
		OK Cancel Apply	

Set the label attached to data when data is displayed.

For the item which needs setting per INDEX, always click the "Apply" button every time you set it to reflect the setting.

- (4) Conditions of usable tag
 - The data type is either of Short and Long.
 - Note that operation will not be performed if:
 - 1. "Number of fields < number of graph lines"
 - 2. The fields of different data types are included when the random tag was specified.

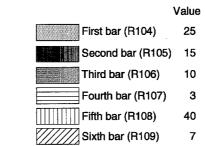
Example1: Usable tag (batch)



2

5

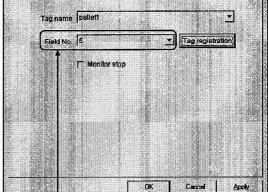
3 6 4



Graph display Colors Fonts

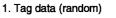
MPALLE

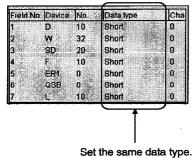
Tag



Set the first bar as field 5 (R104).

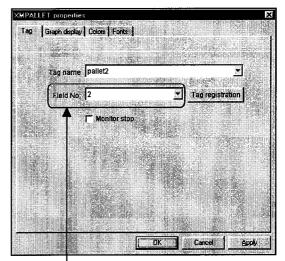
Example2: Usable tag (random)





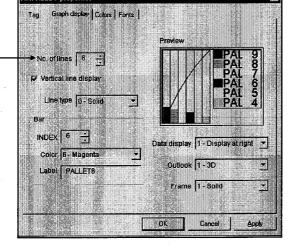
3. OCX data (graph display)

2. OCX data (tag)

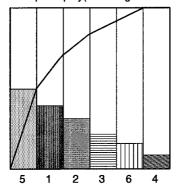


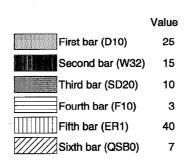
Set the first bar as field 2 (W32).

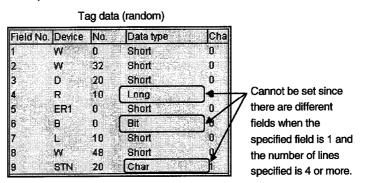
No. of lines: 6-



4. Graph display(Rearranged in order of larger to smaller values)





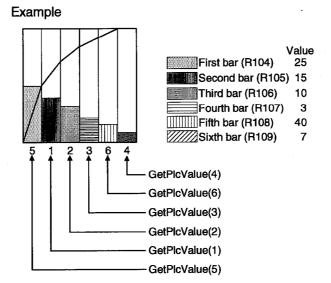


Example3: Unusable tag (if there are different data types within the specified fields)

(5) Precautions for designing

- The following two properties are used to make setting per line (MIndex). Set the number of lines set in MSetNo.
 - 1. MBarColor 2. MBarName
- Since showing the collected data makes clearances within the control frame, the clearances are painted with the color set to the BackColor property of the OCXstandard properties.
- For designing, the initial value graph appears.
- (6) Precautions for execution
 - If there is any negative value collected, a proper graph display will not be provided. Do not enter a negative value.
- (7) Compatible events and methods

EventClick, MplcChange, MError MethodDoClick, Refresh, GetPlcValue: Returned value is a LONG value array.



Long GetPlcValue (MIndex)

11 - 29

11. 6 Historical Trend Graph Display

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Device values are read at the specified intervals to display a time series line graph. A graph overflowing the screen is shifted for display. The graph shifted can be confirmed using the scroll bar.

(1) Specifications

File name	XMHSTTRD.OCX			
Number of lines	4			
Display format	You can set the number of horizontal axis lines. The following screen assumes the setting of 3 lines. • Numeric display reference line (movable) Set the reference line for numeric display. • Numeric display The current values are displayed next to the names determined on a device basis. (Display/hide: Selectable) 1997-03-13 12:00:00 — Product A 1000 — Product C 653 • Shows the next graph. • Graph changeover Click either button to change between graphs when the data of two or more historical trend graphs are collected. Shows the new and old data collection times of the graph. (Display/hide: Selectable)			
Number of points	100			
Sampling period	1 or more seconds (communication interval set to tag)			
Collection form	Ordinary			
Number of historical points	1 to 10000 (number of logging points set to tag)			
Number of historical trend graphs	Depending on restriction on the number of monitor points			

Property Name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).			
MGraphNo	Set the number of graphs for historical trend graph display.	1 to 5	1	Not allowed
MBackColor	Set the background color of the graph (used in all graphs).		White	
MDspColor	Set the character color of the specified values and times.		Black	Allowed
MDspBack Color	Set the background color of the specified values and times.		White	

(2) Properties

11. GRAPH DISPLAY CUSTOM CONTROLS

Property Name	Description	Setting Range	Initial Value	Change during Execution
MTagName	Set up to the tags used with graphs 1 to 5. (Specify on a graph basis.)		As in XMOP- common.	
	Set the display color of line 1 to 8.0: Black8; Gray1: White9: Bright gray2: Red10: Dark red3: Green11: Dark green4: Blue12: Dark blue5: Yellow13: Bright brown6: Magenta14: Dark magenta7: Cyan15: Dark cyan		First line : 4 Second line : 2 Third line : 3 Fourth line : 0	Not allowed
MLineWidth	Set the thickness of line 1 to 4 in pixel unit.	1 to 100	1	
MLineType	Choose the type of line 1 to 4. 0: Solid 1: Dot 2: Broken 3: Transparent	0 to 3	0	
	Set the name for numeric display.	Up to 32 characters	"HSTTRD11" to "HSTTRD55"	
MSetNo	Set the number of graph lines.	1 to 4	1	
MPoint	Set the number of points in the vertical axis.	2 to 100	10	
MUpper	Set the upper limit.	-2147483648	32767	
MLower	Set the lower limit.	to 2147483647	-32468	Allowed
MYLine	Set in how many point increments the vertical reference lines will be drawn.	0 to 99	0	
MXLine	Set the number of horizontal axis lines to be drawn.			
MDspTime	Set whether times are displayed or not (set on a graph basis). True: Displayed False: Not displayed		False	Not allowed
MDspPattern	Set whether numeric values are displayed or not, and if displayed, its position. 0: Not displayed 2: Displayed on the left 1: Displayed on the right	0 to 2	0	
MIndex	Set the line number.	1 to 4	1	
MGraphIndex	Specify the graphs (whole).	1 to 5	1	Allowed

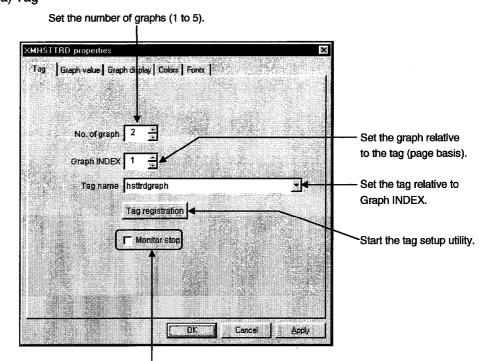


... Must be set per set number of MIndex.

... Must be set per set number of MGraphIndex.

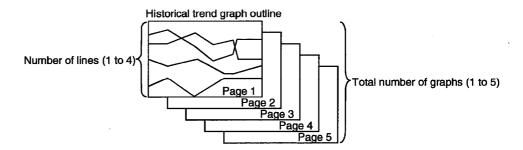
(3) Property page

For the tag and color setting methods, refer to Section 9.2. (a) Tag



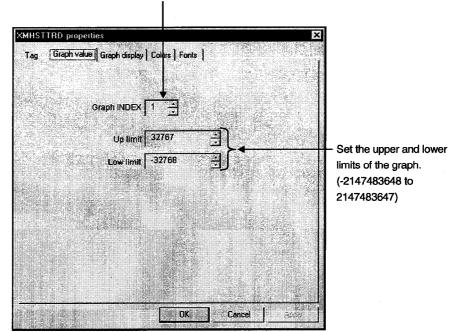
Check to stop the monitor function.

POINT For the item which needs setting per INDEX, always click the "Apply" button every time you set it to reflect the setting.



(b) Graph value

Set the graph number to which setting will be made (1 to 5).



(c) Graph display Set the number of lines (1 to 4). Set the graph number to which setting will be made (1 to 5). -Set the number of graph points (2 to 100). XMHSTTRD propersies X aph display Cold Tag Graph value Fonts Set in how many point increments Preview Graph INDEX ÷ 4 the vertical reference lines will be 999-03-No. of lines drawn (0 to 99). ÷ No. of points 11 10 11Ō Shows a preview. Between vertical lines 0 ÷ Set the number of horizontal axis 110 • • No. of horizontal lines lines to be displayed (0 to 99). Line Set the position of Set the line number (1 to 4). displaying the current • Data display 1 - Display at right data. Twidth 1 📫 Type 0-Solid Outlook 1 - 3D Set the outlook style. • • Set the width, type and color of the graph line specified in Color 4-Blue • Frame 1 - Solid -Set the frame style. INDEX. Label HSTTRD11 Clock display OK Cancel Apply Set the label attached to data when data is displayed. Shows the collection times on the screen. POINT

For the item which needs setting per INDEX, always click the "Apply" button every time you set it to reflect the setting.

(4) Conditions of usable tag

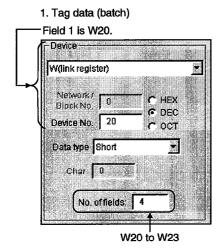
Under the following conditions, create tags dedicated to the historical trend graph OCX.

- Set the tag collection cycle to 1 second or larger.
- The data type is either of Short and Long and Log is specified. Note that operation will not be performed if:
 - 1. "Number of fields < number of graph lines"
 - 2. The fields of different data types are included when Random tag was specified.

POINTS

- Set log designation on the "Extended" screen of the tag setup utility.
- Do not enter unnecessary data into the tag data.
- If there are data more than required, operation may not be performed.

Example1: Usable tag (batch)



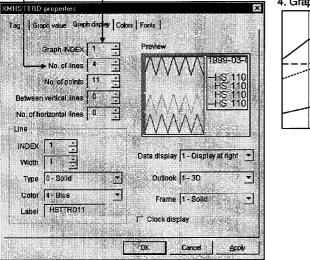
First graph

3. OCX data (graph display)

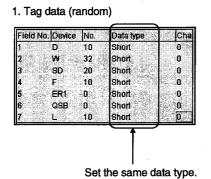
No. of lines: 4

MHST	IBD properties	1
Tag	Graph value Graph display Colors Fonts	
		5.00 C
	No. of graph 2 🚆	
	Graph INDEX 1 +	CARL LINES
	Tag name hsttrdgraph	I
	Tag registration	
	ing regionation	
	🖵 Monitor stop	
5 M 1999		

Set tags corresponding to the number of graphs.



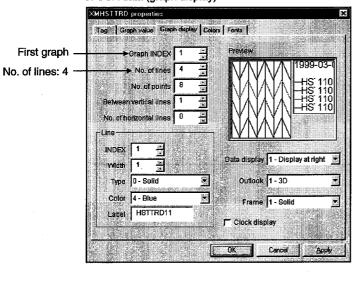
4. Graph display First line (W20) Fourth line (W23) Second line (W21) Third line (W22)

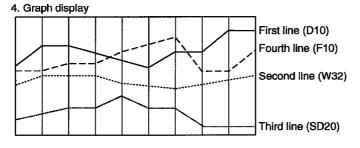


Example2: Usable tag (random)

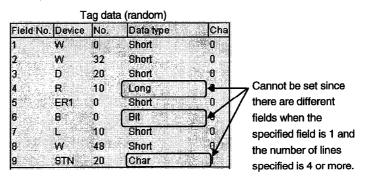
2. OCX data (tag) XMHSTTRD propertie x Teg Graph value | Graph display | Colors | Fonts | No. of graph 2 ÷ 4 Graph INDEX 1 Tag name hsttrdgraph × Tag registration 🗂 Monitor stop OK Can AD

Set tags corresponding to the number of graphs.





3. OCX data (graph display)

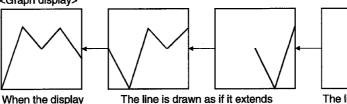


Example3: Unusable tag (if there are different data types within the specified fields)

(5) Precautions for designing

- The tag file used with this custom control should be used as dedicated tags. Therefore, there is no field setting property.
- The following four properties are used to make setting per graph (MGraphIndex). 1. MSetNo 2. MPoint 3. MUpper 4. MLower
- The following four properties are used to make setting per line (MIndex). Set the number of lines set in MSetNo.
 - 1. MLineColor 2. MLineWidth 3. MLineStyle 4. MLineName
- Since showing the collected data makes clearances within the control frame, the clearances are painted with the color set to the BackColor property of the OCX-standard properties.
- For designing, the initial value graph appears.
- In MGraphNo, set the number of graphs monitored by the historical trend graph display custom control.
- You need to set the data of the number of graphs set in MGraphNo.
- The graph display is shifted from right to left.
- The numeric display reference line can be moved by dragging the mouse.

<Graph display>





The line begins to be drawn from the right.

has reached its limit, the whole display is shifted.

The line is drawn as if it extends from right to left until the displayed points are drawn.

(6) Compatible event and method

EventMError *1

MethodRefresh

*1 In the historical trend graph, an error event related to communication cannot be acquired for the MError event.

12. BLOCK DISPLAY/INPUT CUSTOM CONTROLS

12.1 Numeric Block Data Display/Input

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Device values are read from blocks of the specified devices to show them vertically and horizontally. Alternatively, numeric values may be entered to write them to devices.

(1) Specifications

File name	XMNUMBLK.OCX			
Number of blocks	Column: Max. 30 blocks Row: Max. 10 blocks			
Table format	Columns and rows			
Numeric display format	Decimal/hexadecimal number			
Number of display digits	1 to 18 digits			
Decimal point position	Digit 0 to 16			
Weighting	+, -, ×, / -2147483648 to 2147483647			
Minimum value	Short or Long type minimum value to maximum value -1			
Maximum value	Short or Long type minimum value +1 to maximum value			
Data entry method	Choose the cell whose data will be changed. Double-click and enter a value, then press the Enter key.			
Display format	Manufactured Defective • Block character display Product A 8000 2 Product B 2000 0 Product C 12000 5 Product D 10000 3 Product F 32760 6 Write Cancel Hatch-written by MWriteLock property. If (1 or 2) is specified, these buttons appear.			
Data direction	The user can set the data direction for block display. Column direction The user can set the data direction for block display. Column direction The user can set the data direction for block display. The user can block display. The user			
	The following interlocking methods are available to write numeric values.			
Interlock	Interlock TypeWrite TimingNoneWhen data is changed.Batch writeWhen you clicked the "Write" button.Batch writeWhen you clicked the "OK" button in the message box which appeared as soon (message box)Only at bit ONWhen the bit device set as an interlock turned on.Only at bit OFFWhen the bit device set as an interlock turned off.			
Write procedure	The writing procedure is as follows. START Set MWriteFlag to True. The writing processing.			

12. BLOCK DISPLAY/INPUT CUSTOM CONTROLS

MELSEC

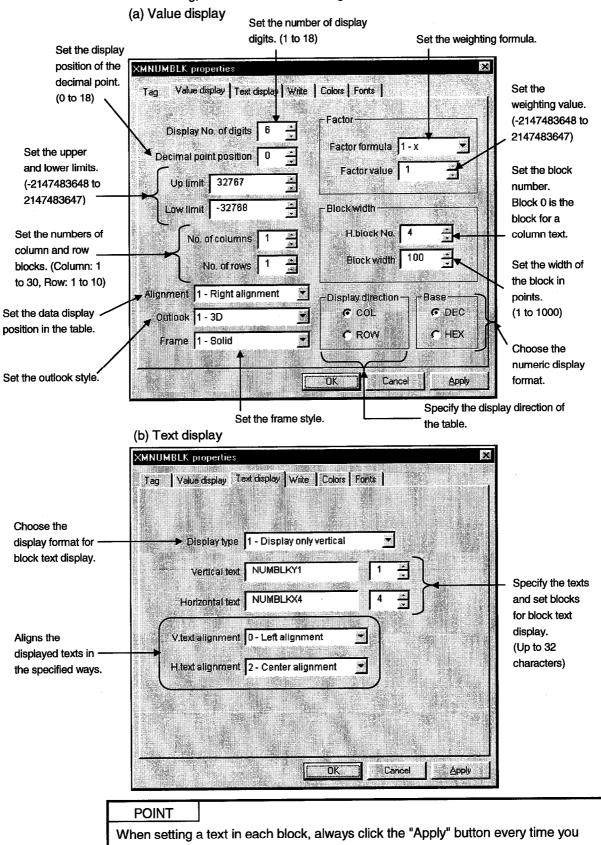
	(2) Properties				
Property Name	Description	Setting Range	Initial Value	Change during Execution	
OCX-standard	Refer to Section 9.1 (1).				
XMOP-common	Refer to Section 9.1 (2).				
MYBlock	Set the number of blocks in the Y (column) direction.	1 to 30	1		
MXBlock	Set the number of blocks in the X (row) direction.	1 to 10	1	Not allowed	
MDataDirection	Set the display direction of block data. 0: Column direction 1: Row direction	0, 1	0		
MNumColor	Set the character color for numeric display.		Black	Allowed	
MBackColor	Set the background color for numeric display.		White	Allowed	
МNоТуре	Choose the numeric display format. 0: Decimal number 1: Hexadecimal number	0, 1 0		Not allowed	
MStrLen	Specify the number of display digits.	1 to 18	6	Not allowed	
MDecPoint	Set the position of the decimal point display digit.	0 to 16	0: (no indication)		
MUpper	Set the upper limit.	-2147483648 to	32767	Allowed	
MLower	Set the lower limit.	2147483647	-32768	Allowed	
MExchange	Choose the weighting format. 0: None 1: × 2: / 3: + 4: -	0 to 4	0		
MRate	Weighting value	-2147483648 to 2147483647	1		
MWriteLock	Set the interlock for write. 0: None 3: Only at bit ON 1: Batch write 4: Only at bit OFF 2: Batch write (message box)	0 to 4	0	Not allowed	
MLockTagName	Specify the tag name for interlock. (Valid only when 3 or 4 is selected in the MWriteLock property)		First tag name in tag file		
MLockFieldNo	Specify the field number of the tag. (Valid only when the MLockTagName property is used)		1		
MLockMessage	Set the text to be displayed in the message box. (Valid only when 2 is selected in the MWriteLock property)	Up to 64 "Write data! Are characters you sure?"			
MWriteFlag	Set whether write is valid or invalid. True: Write valid False: Write invalid		False	Allowed	
MDspPattern	Set the block character display. 0: No display 1: Column display only 2: Row display only 3: Both display	0 to 3	0		
MYString	Set the display text in the column direction.	Up to 32 characters	"NUMBLKY1" to "NUMBLKY30" "NUMBLKX1" to	Not allowed	
MXString	Set the display text in the row direction.		"NUMBLKX1" 10 "NUMBLKX30"		
MYBlockNo	Set the block number in the column direction.	1 to 30	1	Allowed	
MXBlockNo	Set the block number in the row direction.	0 to 10			
MXBlockWidth	Set the cell width.	1 to 1000	100	-	
Mblock Alignment	Set the alignment of the block-displayed values. 0: Left alignment 1: Right alignment 2: Center alignment		1		
MYStr Alignment	Set the alignment of the column direction text. 0: Left alignment 1: Right alignment 2: Center alignment	0 to 2	0	Not allowed	
MXStr Alignment	Set the alignment of the row direction text. 0: Left alignment 1: Right alignment 2: Center alignment		2		

(2) Properties

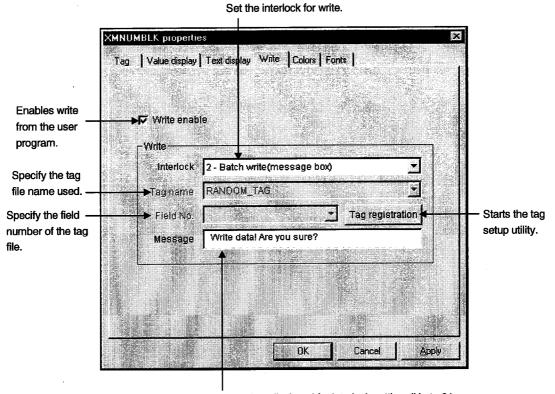
MELSEC



For the Tag, Fonts and Colors setting methods, refer to Section 9.2.



set it to reflect the setting.

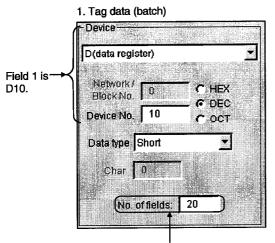


(c) Write

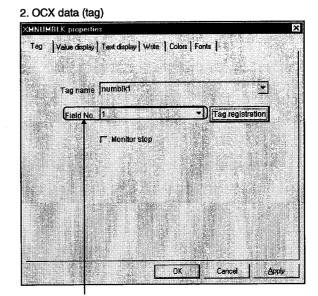
Set the message in the message box displayed for interlock setting. (Up to 64 characters)

POINT Specify the tag of Bit data type as the tag used for interlock.

- (4) Conditions of usable tag
 - The data type is either of Short and Long.
 - Note that operation will not be performed if:
 - 1. "Number of fields < column blocks × row blocks"
 - 2. The fields of different data types are included when the random tag was specified.
 - Example1: Usable tag (batch)

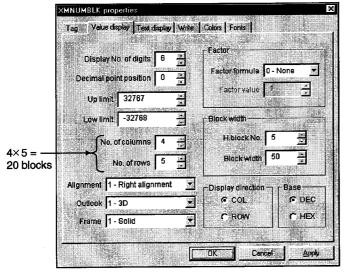


D10 to D29



Set the first block as field 1 (D10).

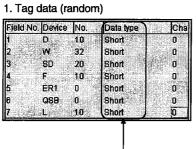
3. OCX data (value display)



4. Block display (display direction: column)

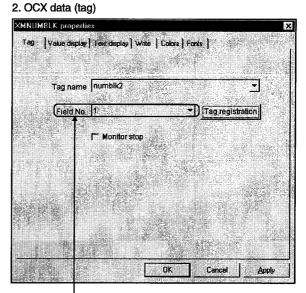
D10	D14	D18	D22	D26
D11	D15	D19	D23	D27
D12	D16	D20	D24	D28
D13	D17	D21	D25	D29

12. BLOCK DISPLAY/INPUT CUSTOM CONTROLS



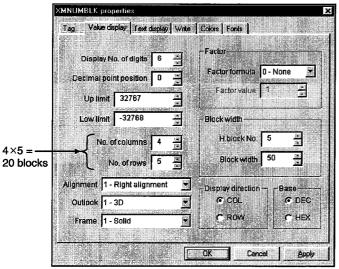
Set the same data type.

Example2: Usable tag (random)



Set the first block as field 1 (D10).

3. OCX data (value display)



4. Block display (display direction: column)

D10	F10
W32	ER1(0)
SD20	QSB0

Example3: Unusable tag (if there are different data types within the specified fields) Tag data (random)

Field No.	Device	No.	Data ty	pe	Cha	
1	W	0	Short		0	
2	w	32	Short		0	8. 8. • •
3	D	20	Short		0	.
4	R	10	Long		0	Cannot be set s
5	ER1	0	Short	\sim	4	different fields w
6	B	0	Bit		<u> </u>	specified field is
7	L	10	Short		0	
8	W	48	Short		0	number of point
9	STN	20	Char		1	or more.

Cannot be set since there are different fields when the specified field is 1 and the number of points specified is 4 or more.

	(5) Precautions for designing
	 Since specifying batch write makes clearances within the control frame, the clearances are painted with the color set to the BackColor property of the OCX- standard properties.
	 For designing, '0' appears to indicate the number of digits.
	 An error message appears if the set value is outside the range.
	 With the exception of the display color and background color, the attributes of the text displayed are set by the OCX-standard properties.
	 Any value in excess of the upper or lower limit is highlighted.
	 "***" appears if a value exceeds the number of display digits.
	 MWriteFlag can be changed during execution and allows write to be
	disabled/enabled from the user program.
	 The numeric change (MPlcChange) event occurs when any of the block data changes.
	 An event occurs if any block exceeds the upper or lower limit.
	 Any fractional part generated by weighting is discarded.
	 When weighting has been set, the device value is used to make an upper/lower value check.
	When weighting has been set, the values displayed and entered are as follows.
	(Example) Weighting: ×8 Device value: 5 (decimal display) On-screen display: 40 ("40" is shown as a result of multiplying 5 by 8) Entered value : 5 (Device value of "5" is entered)
	 The value weighted is not included in the judgment of the upper or lower limit. Judgment is based on the actual value.
	 The returned value of the GetPlcValue() method is long.
	This value is acquired by specifying a block.
	• In a write enable status, double-clicking a cell shows a caret and enables entry. After entering a value, press the Write button for batch write, or press the Enter key or move to another cell for other than batch write to write the value.
DANGER	 For data change control exercised for the running PLC, configure up an interlock circuit in the sequence program to ensure that the whole system will always operate safely.
	Also, determine corrective actions to be taken for occurrence of a data
	communication error between your personal computer and PLC CPU.
	(6) Compatible events and methods Event MError, Click, MWrite, MUpper, MLower, MVScroll, MHScroll, MalaChange

MplcChange

Method Refresh, DoClick, GetPlcValue: Returned value is a LONG twodimensional array.

Long GetPlcValue (column block number, row block number)

12.2 Character String Block Data Display/Input

ズボ

Device values are read from blocks of the specified devices to show texts in lines. Alternatively, numeric values may be entered to write them to devices.

(1) Specifications

File name	XMSTRBLK.OCX			
Number of blocks	Column: Max. 30 blocks Row: Max. 10 blocks			
Table format	Columns and rows			
Number of displayed characters	2 to 40 bytes (specify even bytes)			
Data entry method	Choose the cell whose data will be changed. Double-click and enter a text, then press the Enter key.			
Display format	Code Upper/Code Lower • Block character display Product A AUJ2H BH01 Product B A2A BH02 Product C A3A BH21 Product D A2U BH03 Product F Q3A BH03 Write Cancel Cancel Write Cancel If (1 or 2) is specified, these buttons appear.			
Data direction	The user can set the data direction for block display. Column direction I I <thi< th=""> I <thi< th=""></thi<></thi<>			
	The following interlocking methods are available to write texts.			
	Interlock Type Write Timing			
	None When data is changed.			
	Batch write When you clicked the "Write" button.			
Interlock	Batch write When you clicked the "OK" button in the message box which appeared as soon			
	(message box) as you clicked the "Write" button.			
	Only at bit ON When the bit device set as an interlock turned on.			
	Only at bit OFF When the bit device set as an interlock turned off.			
Write procedure	The writing procedure is as follows. Start Set MWriteFlag to True. Double-click the cell where a text will be written, and enter the text.			

12. BLOCK DISPLAY/INPUT CUSTOM CONTROLS

MELSEC

Property Name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			_
XMOP-common	Refer to Section 9.1 (2).			
MYBlock	Set the number of blocks in the Y (column) direction.	1 to 30	1	
MXBlock	Set the number of blocks in the X (row) direction.	1 to 10	1	Not allowed
MDataDirection	Set the display direction of block data. 0: Column direction 1: Row direction	0, 1	0	
MStrColor	Set the character color for numeric display.		Black	Allowed
MBackColor	Set the background color for numeric display.		White	Allowed
MStrLen	Specify the number of display digits.	2 to 40	40	
MWriteLock	Set the interlock for write. 0: None 3: Only at bit ON 1: Batch write 4: Only at bit OFF 2: Batch write (message box)	0 to 4	o	
MLockTagName	Specify the tag name for interlock. (Valid only when 3 or 4 is selected in the MWriteLock property)		First tag name in tag file	Not allowed
MLockFieldNo	Specify the field number of the tag. (Valid only when the MLockTagName property is used)		1	
MLockMessage	Set the text to be displayed in the message box. (Valid only when 2 is selected in the MWriteLock property)	Up to 64 "Write data! Are characters you sure?"		
MWriteFlag	Set whether write is valid or invalid. True: Write valid False: Write invalid		False	Allowed
MDspPattem	Set the block character display.0: No display1: Column display only2: Row display only3: Both display	0 to 3	0	
MYString	Set the display text in the column direction.	Up to 32	"STRBLKY1" to "STRBLKY30"	Not allowed
MXString	Set the display text in the row direction.	characters	"STRBLKX1" to "STRBLKX30"	
MYBlockNo	Set the block number in the column direction.	1 to 30	4 1	Allowed
MXBlockNo	Set the block number in the row direction.	1 to 10	5	/
MXBlockWidth	Set the cell width.	1 to 1000	100	-
Mblock Alignment	Set the alignment of the block-displayed values. 0: Left alignment 1: Right alignment 2: Center alignment		1	
MYStr Alignment	Set the alignment of the column direction text. 0: Left alignment 1: Right alignment 2: Center alignment	0 to 2	0	Not allowed
MXStr Alignment	Set the alignment of the row direction text. 0: Left alignment 1: Right alignment 2: Center alignment		2	

(3) Property page

For the Tag, Fonts and Colors setting methods, refer to Section 9.2. (a) Text display

O the true field		Set the number of — displayed characters. (2 to 40)	- Set the data display position in the table.
Set the numbers of coluring row blocks.	XMSTRBLK properties		X
(Column: 1 to 30, Row: 1 to 10)	Tag: Text display Write	Alignment	Set the outlook
Set the block width in points.	Display No. of digits 40		Set the frame
(1 to 1000)	No. of rows 1 Block width 100	- O-Leftalionm	t ent
Set the block number. — Block 0 is the block for a column text.	Техі	Block H.text alignmen 2- Center alig	alignment
Choose the display format of	Display type 1 - Display Viext STRBLKY1 alignment	ay only vertical 💽 💽 Block	direction texts.
the block text display.	H.text STRBLKX1	1 <u>+</u> Block	Specify the display direction of the table.
		ÜK Cancel	
		ne texts and set blocks for block characters)	k text display.
	POINT		·
\	When setting a text in ea	ach block, always click th	e "Apply" button every time you

set it to reflect the setting.

12. BLOCK DISPLAY/INPUT CUSTOM CONTROLS

	Set t	the interlock for write.
	XMSTRBLK properties	×
	Tag Test display Write Colors Fonts	
Enables write		
from the user		
program.	→ Write enable	
	_ Write	
ecify the tag name used.	Interlock 2 - Batch write(message	
	Tag name RANDOM_TAG	
pecify the field umber of	Field No.	Tag registration Starts the tag
ne tag file.	Message Write data! Are you sure	3?
-		
		and the second statement of the second
	OK	Cancel Apply

POINT					
Specify the ta	g of Bit data type	e as the tag u	ised for int	erlock.	

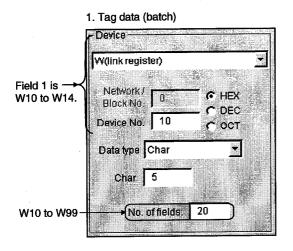
.

(b) Write

MELSEC

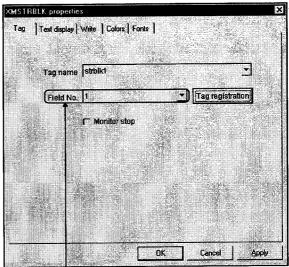
- (4) Conditions of usable tag
 - The data type is Char.
 - Note that operation will not be performed if:
 - 1. "Number of fields < column blocks × row blocks"
 - 2. The fields of different data types are included when the random tag was specified.

Example1: Usable tag (batch)

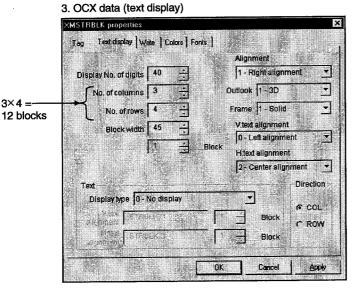


3×4 =





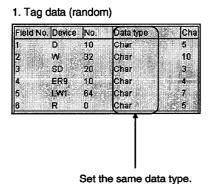
Set the first block as field 1 (W10 to W14).



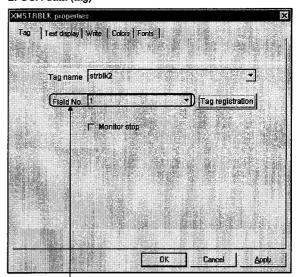
4. Block display (5 characters in one cell) (display direction: column)

• •		
W10 to W14	W30 to W34	W50 to W54
W15 to W19	W35 to W39	W55 to W59
W20 to W24	W40 to W44	W60 to W64
W25 to W29	W45 to W49	W65 to W69

Example 2: Usable tag (random)

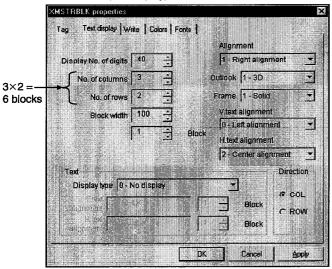


2. OCX data (tag)



Set the first block as field 1 (D10 to D14).

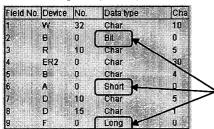
3. OCX data (text display)



4. Block display (display direction: column)

D10 to D14	ED9(10) to ED9(13)
W32 to W41	LW1(64) to LW1(70)
SD20 to SD22	R0 to R4

Example3: Unusable tag (if there are different data types within the specified fields) Tag data (random)



Cannot be set since there are different fields when the specified field is 1 and the number of points specified is 4 or more.

- (5) Precautions for designing
 - Since specifying batch write makes clearances within the control frame, the clearances are painted with the color set to the BackColor property of the OCXstandard properties.
 - For designing, '\$' appears inside the frame.
 - With the exception of the display color and background color, the attributes of the text displayed are set by the OCX-standard properties.
 - MWriteFlag can be changed during execution and allows write to be disabled/enabled from the user program.
 - The returned value of the GetPlcValue method is String. This value is acquired by specifying a block.
 - In a write enable status, double-clicking a cell shows a caret and enables entry. After entering a value, press the Write button for batch write, or press the Enter key or move to another cell for other than batch write to write the value.

For data change control exercised for the running PLC, configure up an interlock circuit in the sequence program to ensure that the whole system will always operate safely.
 Also, determine corrective actions to be taken for occurrence of a data communication error between your personal computer and PLC CPU.

(6) Compatible events and methods

Event MError, Click, MWrite, MVScroll, MHScroll, MPlcChange Method Refresh, DoClick, GetPlcValue: Returned value is a STRING twodimensional array.

String GetPlcValue (column block, row block)

13. DISPLAY/INPUT CUSTOM CONTROLS

13.1 Numeric Data Display/Input

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This custom control is used to display a device value and write a value to a device. Use the corresponding property to set whether write is performed or not.

(1) Specifications

File name	XMNUMDAT.OCX		
Numeric display format	Decimal/hexadecimal number		
Number of display digits	1 to 18 digits		
Decimal point position	Digit 0 to 16		
Weighting	+, -, ×, / -2147483648 to 2147483647		
Minimum value	Short or Long type minimum value to maximum value -1		
Maximum value	Short or Long type minimum value +1 to maximum value		
Interlock	The following interlocking methods are available to write numeric values. Interlock Type Write Timing None When data is changed. Message box When you clicked the "OK" button in the message box which appeared as soon as the value is changed. Only at bit ON When the bit device set as an interlock turned on. Only at bit OFF When the bit device set as an interlock turned off.		
Write procedure	The writing procedure is as follows. Start Set MWriteFlag to True. Double-click the cell where a value will be written, and Perform interlock processing. END		

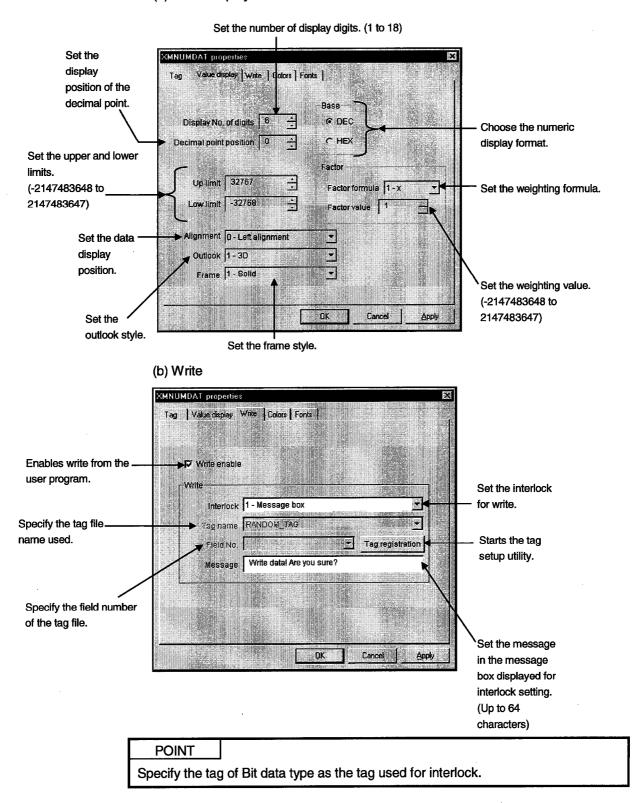
13. DISPLAY/INPUT CUSTOM CONTROLS

				Change
Property Name	Description	Setting Range	Initial Value	during
-				Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).	—		
MNumColor	Set the character color for numeric display.		Black	
MBackColor	Set the background color for numeric display.	_	White	Allowed
MNoType	Choose the numeric display format.	1	0	
	0: Decimal number 1: Hexadecimal number	0, 1	0	Nat allaunat
MStrLen	Specify the number of display digits.	1 to 18	6	Not allowed
MDecPoint	Set the position of the decimal point display digit.	0 to 16	0: (no indication)	
MUpper	Set the upper limit.	-2147483648 to	32767	Allowed
MLower	Set the lower limit.	2147483647	-32768	Allowed
MExchange	Choose the weighting format. 0: None 1: × 2: / 3: + 4: -	0 to 4	0	
MRate	Weighting value	-2147483648 to 2147483647	1	
MWriteLock	Set the interlock for write. 0: None 1: After message box display confirmation 2: Only at bit ON 3: Only at bit OFF	0 to 3	0	
MlockTag Name	Specify the tag name for interlock. (Valid only when 2 or 3 is selected in the MWriteLock property)		First tag name in tag file	Not allowed
MLockFieldNo	Specify the field number of the tag. (Valid only when the MLockTagName property is used)	_	1	
MLockMessage	Set the text to be displayed in the message box. (Valid only when 2 is selected in the MWriteLock property)	Up to 64 characters	"Write data! Are you sure?"	
MWriteFlag	Set whether write is valid or invalid. True: Write valid False: Write invalid	—	False	Allowed

(2) Properties

(3) Property page

For the Tag, Fonts and Colors setting methods, refer to Section 9.2. (a) Value display



- (4) Condition of usable tag
 - The data type is either of Short and Long.
- (5) Precautions for designing
 - For designing, '0' appears to indicate a displayable area.
 - With the exception of the display color and background color, the attributes of the text displayed are set by the OCX-standard properties.
 - Any value in excess of the upper or lower limit is highlighted. "***" appears if a value exceeds the number of display digits.
 - Any fractional part generated by weighting is discarded.
 - When weighting has been set, the device value is used to make an upper/lower value check.
 - MWriteFlag can be changed during execution and allows write to be disabled/enabled from the user program.
 - When weighting has been set, the values displayed and entered are as follows.

(Example) Weighting: ×8 Device value: 5(decimal display) On-screen display: 40 ("40" is shown as a result of multiplying 5 by 8) Entered value : 5 (Device value of "5" is entered)

- The value weighted is not included in the judgment of the upper or lower limit. Judgment is based on the actual value.
- In a write enable status, double-clicking a cell shows a caret and enables entry. After entering a value, press the Write button for batch write, or press the Enter key for other than batch write to write the value.

For data change control exercised for the running PLC, configure up an interlock circuit in the sequence program to ensure that the whole system will always operate safely.
 Also, determine corrective actions to be taken for occurrence of a data communication error between your personal computer and PLC CPU.

(6) Compatible events and methods

Event MError, Click, MWrite, MUpper, MLower, MPlcChange Method Refresh, DoClick, GetPlcValue: Returned value is a LONG value.

13.2 Character String Data Display/Input

Xmr ABC

This custom control is used to display a device value as characters and write data to a device.

Use the corresponding property to set whether write is performed or not.

(1) Specifications

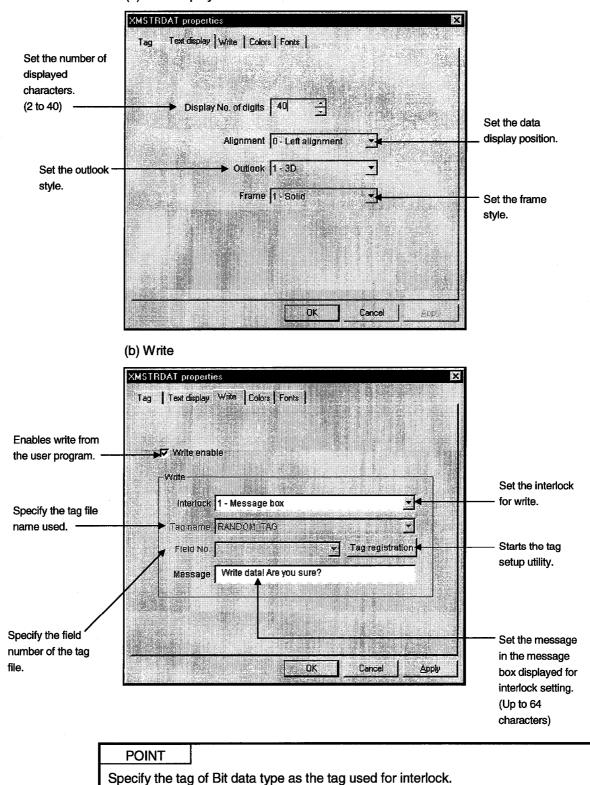
File name	XMSTRDAT.OCX			
Number of characters	2 to 40 bytes (specify even bytes)			
	The following interlocking methods are available to write texts.			
	Interlock Type Write Timing			
	None When data is changed.			
Interlock	Message box When you clicked the "OK" button in the message box displayed.			
	Only at bit ON When the bit device set as an interlock turned on.			
	Only at bit OFF When the bit device set as an interlock turned off.			
	The writing procedure is as follows.			
Write procedure	START Set MWriteFlag to True. Start + Double-click the cell where a text will be written, and enter the text. Perform interlock processing.			

(2) Properties

Property Name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).			
MNumColor	Set the character color for numeric display.		Black	Allowed
MBackColor	Set the background color for numeric display.		White	Allowed
MStrLen	Specify the number of display digits.	2 to 40	40	
MWriteLock	Set the interlock for write. 0: None 1: Message box 2: Only at bit ON 3: Only at bit OFF	0 to 3	0	Not allowed
MlockTag Name	Specify the tag name for interlock. (Valid only when 2 or 3 is selected in the MWriteLock property)		First tag name in tag file	
MLockFieldNo	Specify the field number of the tag. (Valid only when the MLockTagName property is used)	_	1	Not allowed
MLockMessage	Set the text to be displayed in the message box. (Valid only when 2 is selected in the MWriteLock property)	Up to 64 characters		
MWriteFlag	Set whether write is valid or invalid. True: Write valid False: Write invalid		False	Allowed

(3) Property page

For the Tag, Fonts and Colors setting methods, refer to Section 9.2 (a) Text display



- (4) Condition of usable tag
 - The data type is Char.
- (5) Precautions for designing
 - For designing, '\$' appears inside the frame.
 - With the exception of the display color and background color, the attributes of the text displayed are set by the OCX-standard properties.
 - MWriteFlag can be changed during execution and allows write to be disabled/enabled from the user program.
 - In a write enable status, double-clicking a cell shows a caret and enables entry. After entering a value, press the Enter key to write the value.

• For data change control exercised for the running PLC, configure up an interlock circuit in the sequence program to ensure that the whole system will always operate safely.

Also, determine corrective actions to be taken for occurrence of a data communication error between your personal computer and PLC CPU.

(6) Compatible events and methods Event MError, Click, MWrite, MPIcChange Method Refresh, DoClick, GetPIcValue: Returned value is STRING.

13.3 Bit Device Operation (Bit Input)

This custom control is designed to control the value of the specified bit device (ON/OFF).

If setting has been made to show a button or the like which represents ON and OFF states, the button matching the current device value appears on the control during monitoring.

Also, clicking that button controls the device value and changes the button indication to an after-control status.

(1) Specifications

File name	XMBITOPR.OCX		
	Set the bit map images of the ON and OFF states as described below.		
	Normally, this custom control is used for monitoring to show the bit map image according to the		
	device value.		
	A button appears when a figure is not used.		
	1) Alternate Description		
	• Outputs the opposite of the current value when clicked.		
Display data	2) Set		
	• Outputs ON if the current value is OFF. Provides no output when the current value is ON.		
	3) Reset		
	• Outputs OFF if the current value is ON. Provides no output when the current value is OFF.		
	4) Switch		
	OFFL		
Input condition	The input object is where the mouse is operated or the tab key is pressed.		
Write condition	Output is provided on a type basis for each bit where the mouse is operated or the tab key is		
	pressed.		
	You can choose the interlocking method for writing a value from among the following methods.		
	1. None 2. Write enabled after unlocking by clicking		
	 Write enabled only when the specified bit device turns on Write enabled only when the specified bit device turns off 		
	The following operation is performed when you select "2 (Write enabled after unlocking by clicking)". Example: When Alternate is specified		
Interlock	LockON During locking, the text set in MLockCaption* is displayed on the button in the color of MLockColor.		
	Click, return.		
	The time set in MLockTime has elapsed.		
	OFF		
	LockOFF		

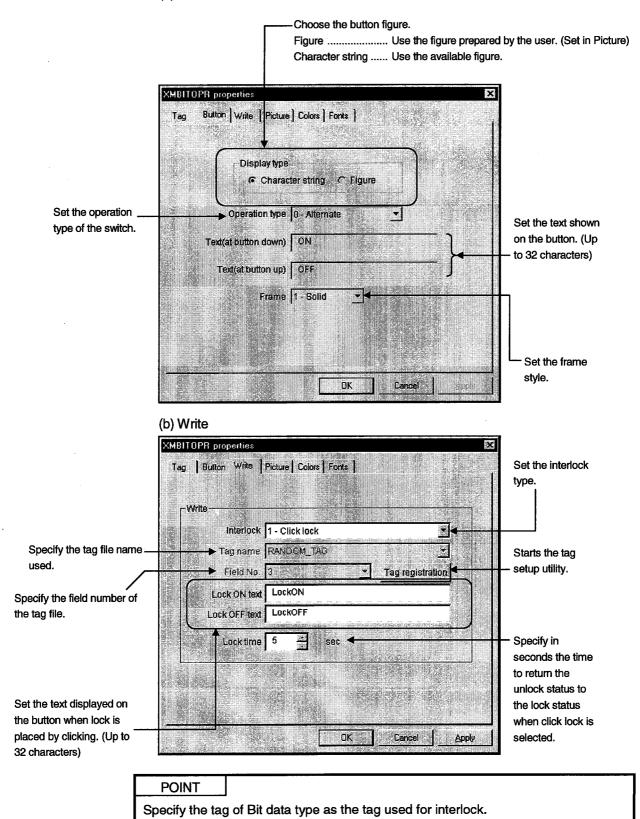
.

Property Name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).	1 —		-
MDspPattern	Set the button shape. 0: Text display 1: User setting	0, 1	0	
MPicName [Down]	Set the shape of the button when pressed (BMP/WMF). (Valid when MDspPattern is "1")			
MPicName [Up]	Set the shape of the button when not pressed (BMP/WMF). (Valid when MDspPattern is "1")	_	None	
MCaption [Down]	Set the text when the button is pressed. (Valid when MDspPattern is "0")	Up to 32	"OFF"	
MCaption [Up]	Set the text when the button is not pressed. (Valid when MDspPattern is "0")	characters	"ON"	
MSwitchType	Set the operation type. 0: Alternate 2: Reset 1: Set 3: Switch	0 to 3	0	
MWriteLock	Set the interlock for write. 0: None 2: Only at bit ON 1: Click lock 3: Only at bit OFF	0 to 3	0	
MlockTag Name	Specify the tag name for interlock. (Valid only when 2 or 3 is selected in the MWriteLock property)		First tag name in tag file	Not allowed
MLockFieldNo	Specify the field number of the tag. (Valid only when the MLockTagName property is used)		1	
MLockColor	Set the display color when lock is placed by clicking. (Valid only when 1 is selected in the MWriteLock property)		White	
MLockCaption Down	Specify the displayed text when the monitor bit is off during a lock. (Valid only when 1 is selected in the MWriteLock property)	Up to 32	"LockON"	
MLockCaption Up	Specify the displayed text when the monitor bit is on during a lock. (Valid only when 1 is selected in the MWriteLock property)	characters	"LockOFF"	
MLockTime	Set the time when the unlock status is changed to the lock status. (Valid only when 1 is selected in the MWriteLock property)	1 to 3600	5(sec)	

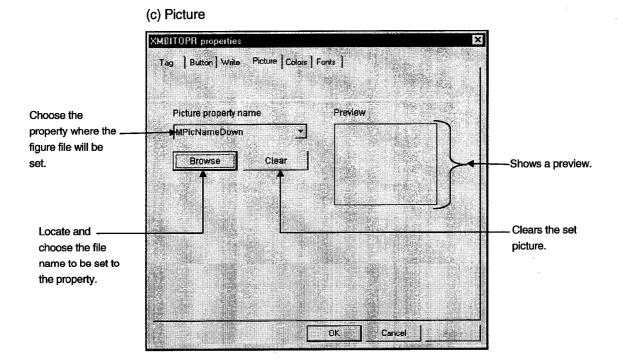
(2) Properties

(3) Property page

For the Tag and Fonts setting methods, refer to Section 9.2. (a) Button



13. DISPLAY/INPUT CUSTOM CONTROLS



- (4) Condition of usable tag
 - The data type is Bit.
- (5) Precautions for designing
 - How soon the actual device value will change after button operation depends on the performance of the communication network.
 - Do not use the "Switch" operation type for machine control or the like. Using it may cause abnormal operation due to misoperation since the interlock function is not provided.
 - Unlike the VB-standard picture control, the file name is stored when the picture data is saved.
 - When changing the environment of the execution file or the like, also change that of the XMOP control application and picture file together.
 - When you set Set in Operation type, the button goes down when the bit turns on.
 - When you set Reset in Operation type, the button goes down when the bit turns off.

For data change control exercised for the running PLC, configure up an interlock circuit in the sequence program to ensure that the whole system will always operate safely.
 Also, determine corrective actions to be taken for occurrence of a data communication error between your personal computer and PLC CPU.

- (6) Compatible events and methods
 - Event MError, Click, MWrite, MPlcChange

Method Refresh, DoClick, GetPlcValue: Returned value is SHORT.

MEMO

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14. INPUT CUSTOM CONTROLS

14.1 Word Write



This custom control is used to write a value to a word device.

(1) Specifications

File name	XMWRWORD.OCX				
Display format	An icon appears during setting but nothing is shown for execution.				
	The following interlocking methods are available to write a value to a word device.				
	Interlock Type Write Timing				
	None When the SetPicValue method was executed.				
Interlock	Message box When you clicked the "OK" button in the message box which appeared as soon as the SetPlcValue method was executed.	e			
	Only at bit ON When the SetPlcValue method was executed and the bit device set as an interlock is	on.			
	Only at bit OFF When the SetPlcValue method was executed and the bit device set as an interlock is	off.			
	The writing procedure is as follows.				
Write procedure	START Set MPmtFlag to True. Execute SetPlcValue. Perform interlock processing. Set MPmtFlag to False.	D			

(2) Properties

Property Name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).	—		
MPmtFlag	Set whether write is enabled or disabled. True: Write enabled False: Write disabled	—	False	
Mdata	Set the data written.	-2147483648 to 2147483647	0	Allowed
MWriteLock	Set the interlock for write. 0: None 1: Message box 2: Only at bit ON 3: Only at bit OFF	0 to 3	0	
MLockTagName	Specify the tag name for interlock. (Valid only when 2 or 3 is selected in the MWriteLock property)		First tag name in tag file	Not allowed
MLockFieldNo	Specify the field number of the tag (Valid only when the MLockTagName property is used)		1	
MLockMessage	Set the text to be displayed in the message box. (Valid only when 1 is selected in the MWriteLock property)	Up to 64 characters	"Write data! Are you sure?"	Allowed

(3) Property page

For the Tag and Fonts setting methods, refer to Section 9.2. (a) Write

Set the data written. (-2147483648 to 2147483647)

I	XMWB	VORD propertie	es			×	
	Tag	Write					
		Write dat	a 12	¥			
Set the interlock for write.	_ (Write					
		> Interlock	2 - Only a			3	
Specify the tag file name used.		🔶 Tag name	tag001		(99)	2	
		🔶 Field No.	2	<u>.</u>	Tag registra	tion	-Starts the Tag setup
Specify the field number of the		Message	Write d	ital Are you sure?			utility.
tag file.	L		Ī				
	++++				Cancel	Apply	

Set the message in the message box displayed for interlock setting. (Up to 64 characters)

POINT			
Specify the tag of Bit	data type as the tag used	d for interlock.	

(4) Condition of usable tag

• The data type is either of Short and Long.

(5) Precautions for designing

 MPmtFlag is available for the word write OCX to prevent write from overlapping. Set the write enable flag (MPmtFlag) to True immediately before write, and return it to False as soon as write is over.

A failure to perform this operation will cause malfunction.

For data change control exercised for the running PLC, configure up an interlock circuit in the sequence program to ensure that the whole system will always operate safely.
 Also, determine corrective actions to be taken for occurrence of a data communication error between your personal computer and PLC CPU.

- (6) Compatible events and methods EventMError, MWrite MethodSetPicValue
- (7) Example of use

This examples writes 100 to the field number 1 of the tag name "Valve 1" when a command button is pressed.

Sub OOOOO_Click()

{

If XMWRWORD1.MPmtFlag = FALSE Then 'Change to TRUE if FALSE XMWRWORD1.MPmtFlag = TRUE XMWRWORD1.MTagName = "Valve 1" 'Tag name: Valve 1 XMWRWORD1.MFieldNo = 1 'Field No. 1 XMWRWORD1.MMdata = 100 'Value written: 100 err = XMWRWORD1.SetPlcValue 'Vrite executed If err < > SUCCESS Then 'Error occurs if write fails MsgBox"Communication error" End If

XMWRWORD1.MPmtFlag = FALSE End If 'Set to FALSE after write is over

Er

}

14. INPUT CUSTOM CONTROLS

14.2 Bit Write

Xm B/

This custom control is used to write a value to a bit device.

(1) Specifications

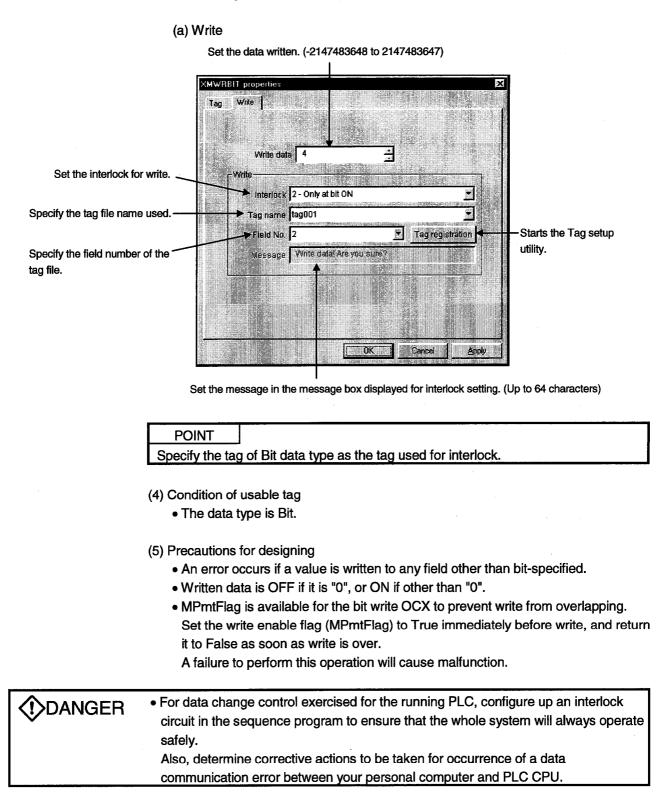
File name	XMWRBIT.OCX			
Display format	An icon appears during setting but nothing is shown for execution.			
The following interlocking methods are available to write a value to a bit device.				
	Interlock Type	Write Timing		
	None	When the SetPicValue method was executed.		
Interlock	Message box	When you clicked the "OK" button in the message box which appeared as soon as the SetPlcValue method was executed.		
	Only at bit ON	When the SetPlcValue method was executed and the bit device set as an interlock is on.		
	Only at bit OFF	When the SetPicValue method was executed and the bit device set as an interlock is off.		
	The writing procedure is as follows.			
Write procedure		t MPmtFlag True. Execute Perform interlock Set MPmtFlag setPlcValue. Processing. to False.		

(2) Properties

Property Name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).			
MPmtFlag	Set whether write is enabled or disabled. True: Write enabled False: Write disabled		False	
Mdata	Set the data written.	-2147483648 to 2147483647	0	Allowed
MWriteLock	Set the interlock for write. 0: None 1: Message box 2: Only at bit ON 3: Only at bit OFF	0 to 3	0	
MLockTagName	Specify the tag name for interlock. (Valid only when 2 or 3 is selected in the above property)		First tag name in tag file	Not allowed
MLockFieldNo	Specify the field number of the tag (Valid only when the above property is used)			
MLockMessage	Set the text to be displayed in the message box. (Valid only when 1 is selected in the MWriteLock property)	Up to 64 characters	"Write data! Are you sure?"	Allowed

(3) Property page

For the Tag and Fonts setting methods, refer to Section 9.2



- (6) Compatible events and methods EventMError, MWrite MethodSetPlcValue
- (7) Example of use

This examples turns on the bit of the field number 2 of the tag name "Valve 1" when a command button is pressed.

Sub OOOOO_Click()

{

If XMWRBIT1.MPmtFlag = FALSE Then	Change to TRUE if FALSE
XMWRBIT1.MPmtFlag = TRUE	
XMWRBIT1.MTagName = "Valve 1"	'Tag name: Valve 1
XMWRBIT1.MFieldNo = 2	'Field No. 2
XMWRBIT1.MMdata = TRUE	'Bit is turned on
err = XMWRBIT1.SetPlcValue	Write executed
If err < > SUCCESS Then	'Error occurs if write fails
MsgBox"Communication error"	
End If	
XMWRWORD1.MPmtFlag = FALSE	'Set to FALSE after write is over
End If	

}

15. OTHER CUSTOM CONTROLS

15.1 Event Occurrence



This function causes an event when the value of the specified bit device changes. Programming must be done to use this function.

(1) Specifications

File name	XMEVENT.OCX
Display format	An icon appears during setting but nothing is shown for execution.

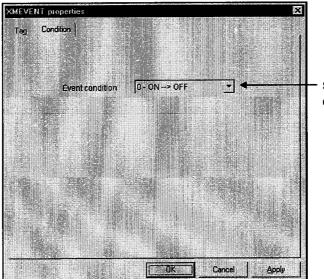
(2) Properties

Property Name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).			
MBitAction	Set the event occurrence condition. 0: $ON \rightarrow OFF$ 2: $ON \leftrightarrow OFF$ 1: $OFF \rightarrow ON$ 3: None	0 to 3	2(ON ↔ OFF)	Allowed

(3) Property page

For the tag setting method, refer to Section 9.2

Condition



Set the event occurrence condition. (MBitAction)

(4) Condition of usable tag

• The data type is Bit.

(5) Compatible events and methods Event MBitAction, Merror Method GetPlcValue: Returned value is SHORT.

(6) Example of use

This examples shows the number of leading edges of the specified bit device.

Sub XMEVENT1_MBitAction() dummy = Label1.Caption dummy = dummy + 1Label1. Caption = dummy

'Value being displayed is imported '+1 'Redisplay

End Sub

15.2 Snap Shot

Xm

When the value of the specified bit device turns to ON, this function outputs the hard copy of the form where the snap shot setting has been made to a BMP format file (max. 100 files) or the printer.

(1) Specifications

File name	XMSNPSHT.OCX	
	Pasting this custom control shows the same figure as the standard command button.	
Display forma	To hide the figure, set the Visible property to False.	

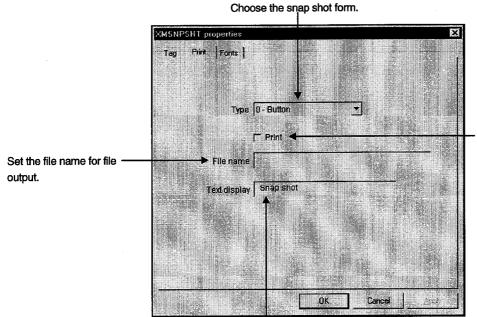
(2)	Properties
-----	------------

Property Name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).			
MSnapStyle	Set how to execute the snap shot. 0: Button ON 1: Specified bit device ON 2: Button ON and specified bit device ON	0 to 2	0	Not allowed
MPrint	Choose the snap shot function. True: Printer output False: File output	_	Flase	Allowed
MFileName	Set the output destination file name for file output.		None	Not allowed
MCaption	Set the text to be displayed on the button.	Up to 32 characters	"Snap shot"	Allowed

(3) Property page

For the Tag and Fonts setting methods, refer to Section 9.2

• Print



Output to the printer. (Output to file when Print is not set)

Set the text to be displayed on the snap shot button. (Up to 32 characters)

(4) Condition of usable tag

• The data type is Bit.

(5) Precautions for designing

- When the custom control is pasted to a form during designing, a button appears as in default setting.
- Data printed by the printer is in full color on a form basis. (Light/shade printing for a two-color printer)
- Setting 0 in MSnapStyle executes the specified snap shot function when the button is pushed down.
- Setting 1 in MSnapStyle executes the snap shot function when the specified bit device turns on.
- When saved in a file, a form is saved as a BMP file.
- A file name of up to 6 characters may be specified in MFileName.
- Specify the file name as follows.
 - "******00.BMP"

Added automatically in order from 00 to 99. If this number has reached 99, saving stops and it restarts as soon as a free number is available.

- —— File name specified in MFileName.
- (6) Precautions for execution
 - The snap shot control does not function in a hide status.
 - Print data is expanded/reduced for adjustment and output onto whole paper.
 - When MPrint is set to True, data is not output to the file if the file name is specified in MFileName. (Printer output only)
 - If the other window covers the form, that window is printed.
- (7) Compatible events and methods

EventMSnapShot, MError

MethodGetPlcValue: Returned value is SHORT.

翻

This function shows the registered text figure (circle, rectangle) on the control on the basis of the set device value range.

(1) Specifications

File name	XMCATION.OCX			
Setting quantity	30 pcs.			
Display format	Specify a single circle or rectangle text in the specified device value range. Fault occurrence Normal operation Rectangle Circle			
End timing	The sound output end timing can be selected for sound output.			
Font	According to the OS specifications			

(2) Properties

	(2) Fropenies			1
Property Name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).			
MDefShape	Select the default display figure.	0,1	0 (rectangle)	
	0: Rectangle 1: Circle		- (
	Choose the default figure color.			
	0: Black 8: Gray			
	1: White 9: Bright gray			
MDofEbona	2: Red 10: Dark red			
MDefShape	3: Green 11: Dark green		1 (white)	
Color	4: Blue 12: Dark blue	0 to 15		
	5: Yellow 13: Bright brown			
	6: Magenta 14: Dark magenta			
	7: Cyan 15: Dark cyan			
MDefFont	Choose the default font color.		Q (block)	
Color	Choices are the same as those of MDefShapeColor.		0 (black)	Not allowed
		Up to 32		
MDefCaption	n Set the default message.		"Alarm display"	
	Set the device value range.			
MDataLow	When the specified device value whose lower limit is		0	
	MDataLow and upper limit is MDataHight is between	-2147483648	-	
	MDataLow and MDataHight, the figure specified in	to		
	MShape, MTextColor, MFontColor and MCaption	2147483647		
MDataHight	appears. When sound output is selected,		1	
	MSoundFile is output.		· · · · · · · · · · · · · · · · · · ·	
MShape	Select the display figure.	0,1	0 (rectangle)	
inchapo	0: Rectangle 1: Circle	<u>,,</u>	- (
MShapeColor	Choose the displayed figure color.		15 (white)	
monapección	Choices are the same as those of MDefShapeColor.	0 to 15		
MFontColor	Choose the displayed font color.		0 (black)	

15. OTHER CUSTOM CONTROLS

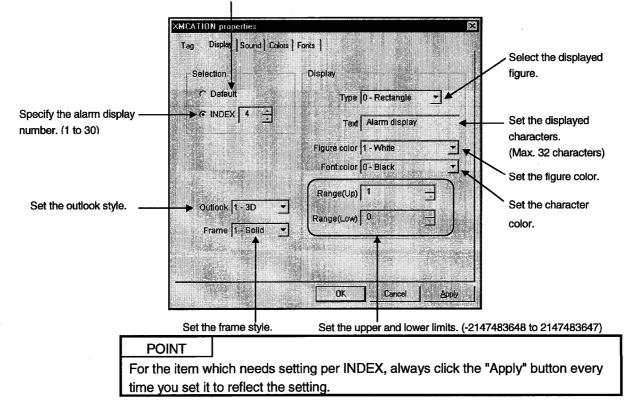
Property Name	Description	Setting Range	Initial Value	Change during Execution
MCaption	Set the displayed message.	Up to 32 characters	"Alarm display"	
MSoundUsed	Set whether a sound is used or not. True: Used False: Not used		False	
	 Set the end timing of the sound. One time output Sound is ended after the specified WAV file is output once. 1: Click stop Sound is output until the user clicks the control. 2: Time stop	0 to 3	3	Not allowed
MEndTime	Set the time until the sound stops (100ms increments). (Valid only when 2 is selected in the above property)	1 to 36000	600 (1 minute)	
MSoundFile	Set the WAV file to be output.		None	
Mindex	Set the alarm display number.	1 to 30	1	Allowed

... Must be set per set number of Mindex.

(3) Property page

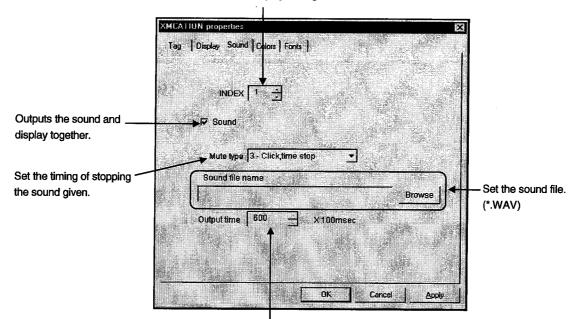
For the Tag, Fonts and Colors setting methods, refer to Section 9.2. (a) Display

Use the default setting for display.



(b) Sound

Set the text No. to which display setting will be made.



Set the sound output time. (1 to 36000)



For the item which needs setting per INDEX, always click the "Apply" button every time you set it to reflect the setting.

- (4) Condition of usable tag
 - The data type is any of Short, Long and Bit.
- (5) Precautions for designing
 - For designing, the control is shown with the data of the property specified in MIndex.
 - The sound output function is compatible with a personal computer which has the voice output function.
 - Since sound registration is made by specifying a file, one registered sound must be saved in a single WAV format file.
 - To use the device value as one point and not as a range, set the same value to DataLow and DataHigh.
 - No figure is displayed if the value of DataLow is greater than that of DataHigh.
 - The font is common to all texts with the exception of the color specified.
 - If the setting range is the same as that of the other index, the setting range of the smaller index number has precedence.
 - Use one sound outputting control in one project.

(6) Compatible events and methods

EventClick, MPlcChange, MError

MethodDoClick, Refresh, GetPicValue: Returned value is LONG.

15.4 Alarm Sound Output



To provide a sound, this function outputs the registered sound file (WAV file) on the basis of the set device value range.

(1) Specifications

File name	XMALARM.OCX			
Setting quantity	30 pcs.			
Display format	An icon appears during setting but nothing is shown for execution.			
Registered				
sound	Assign one sound to the specified device value range.			
designation				
Registered	Specify the WAV file			
sound	Specify the WAV file.			
End timing	The sound output end timing can be selected when sound output is selected.			

(2) Properties

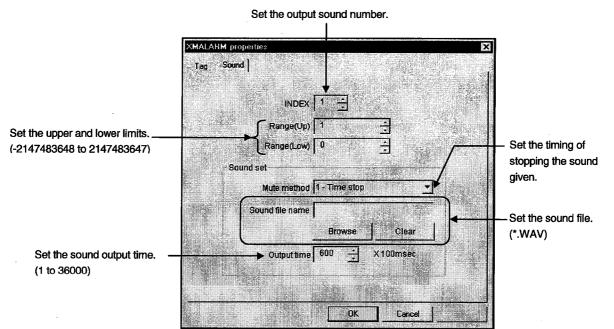
Property Name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).			
MDataLow	Set the device value range. When the specified device value whose lower limit is	-2147483648	0	
MDataHight	MDataLow and upper limit is MDataHight is between MDataLow and MDataHight, the sound specified in MSoundFile is output.	to 2147483647	1	
MSoundEnd	Set the end timing of the sound. 0: One time outputSound is ended after the specified WAV file is output once. 1: Time stopSound is output until the given time elapses.	0,1	1	Not allowed
MEndTime	Set the time until the sound stops (100ms increments). (Valid only when 1 is selected in the above property)	1 to 36000	600 (1 minute)	
MSoundFile MIndex	Specify the output sound. Set the sound number.	 1 to 30	None 1	Allowed

... Must be set per set number of Mindex.

(3) Property page

For the tag setting method, refer to Section 9.2.

Sound



POINT

For the item which needs setting per INDEX, always click the "Apply" button every time you set it to reflect the setting.

(4) Condition of usable tag

• The data type is any of Short, Long and Bit.

(5) Precautions for designing

- For designing, the control is shown with the data of the property specified in MIndex.
- The sound output function is compatible with a personal computer which has the voice output function.
- Since sound registration is made by specifying a file, one registered sound must be saved in a single WAV format file.
- To use the device value as one point and not as a range, set the same value to DataLow and DataHigh.
- No sound is output if the value of DataLow is greater than that of DataHigh.
- If the setting range is the same as that of the other index, the setting range of the smaller index number has precedence.
- Use one sound outputting control in one project.

(6) Compatible events and methods

EventClick, MPIcChange, MError

MethodDoClick(), Refresh(), GetPlcValue(): Returned value is LONG.

15.5 Alarm Summary Display

When the specified bit device turns ON, this function displays the message set to the alarm summary file together with the ON time in the specified color. Also, it shows the restoration time when the device turns OFF.

Pre-create the alarm summary file (*.ALM) using the alarm summary setup utility. (You can set up to 300 points.)

(1) Specifications

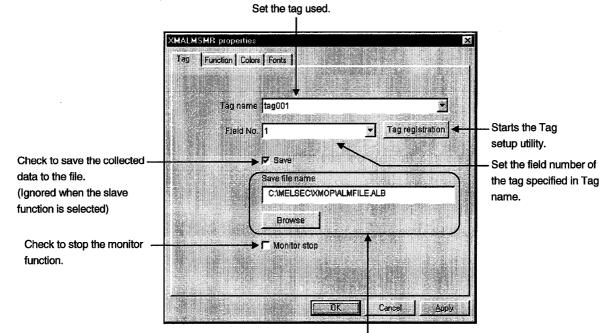
File name	XMALMSMR.OCX			
Number of monitoring points	Max. 300 pcs.			
Display format	 If the message is not yet confirmed, the "Confirm" cell is painted with the same color as the "Class" cell. Click it to deactivate. The times of occurrence and restoration are indicated "year/month/day hour:minute:second". Newer data are added to the bottom. Not yet confirmed. Confirm Occurred time Restored time Alarm message Class 1 ***** Valve1: malfunction Serious error 2 ***** Valve 2: malfunction Light trouble 3 ***** Valve 2: malfunction Serious error Deletes the confirmed message Confirm delete from the alarm summary. 			
Alarm information registration	According to the alarm summary setup utility			
Slave function	The user can select the slave function in the alarm summary function. Only two pieces of latest information in the other alarm summary are displayed as shown below. Newer data are shown from top in order. Valve1 : malfunction Machine1: malfunction The display color changes with the degree of a failure.			

Property Name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).			
MAlarmStyle	Select between the alarm summary custom control functions. 0: Alarm summary 1: Slaved functions	0, 1	0	
MAlarmNo	Set the number of alarms collectable.	1 to 32767	1000	
MDspPattern	 Set the display format when the data has exceeded the number of collectable alarms. 0: No operation Display does not change until the button is pressed to delete the data. 1: Delete undo data Old data of restored failure are deleted in order and new alarms are collected. 	0, 1	1	Not allowed
MSaveAlarm	Set whether the final status is saved and reflected on the next. 0: Not saved 1: Saved		0	
MAlarmFile	Specify the alarm summary file name used.		"C:MELSEC\XMO P\ALMFILE.ALM"	
MFileName	Set the file where data is saved at the end. (Valid only when 1 is selected in the MSaveAlarm property)		"C:\MELSEC\XMO P\ALMFILE.ALB"	
MXBlockWidth	Specify the cell width.	1 to 1000	100	
Mindex	Specify the block number.	0 to 4	0	

(2) Properties

(3) Property page

For the Fonts and Colors setting methods, refer to Section 9.2 (a) Tag



Set the file where collected data will be saved.

(b) Function

Choose either of the functions (alarm summary, salve)

	XMALMSMR properties	
	Tag Function Colors Fonts	
	Function 0-Alarm summary	
Set the file name created	Alarm summary file name CNMELSECXMOPIALMFILE.ALM File edit	Starts the Alarm
with the alarm summary setup utility.	Browse	summary setup utility.
Set the max. number	Maxalarm points 1000 -	Set the processing to
of alarms collected.	Process at data full 1 - Delete undo data	be made when the maximum number of
Set the width of the block displayed.	Block width 100 0 + Block Outlook 1-30 -	collected alarms is exceeded.
	DK Cancel	—— Specify the block where the block width will be set.
	 Set the outlook style.	

POINT When setting the block width, always click the "Apply" button per block to reflect the setting.

- (4) Conditions of usable tag
 - The data type is Bit.

(It is recommended to use it as the tag dedicated to alarm summary.) Note that operation will not be performed if:

- 1. "Number of fields < number of alarms"
- 2. The fields of different data types are included when the random tag was specified.
- (5) Precautions for designing
 - For designing, only the frame appears.
 - Since the alarm summary custom control monitors many points, merely pasting one control has great influence on the running speed.
 - This control which locates the same file in one system must not exist.
 - The form where the alarm summary control is pasted must always be on memory.
- (6) Precautions for execution
 - Up to the user-specified number of data are displayed on the screen.
 If the user-specified number of data is exceeded, they are collected in the method specified in MDspPattern.

If "No operation" has been selected as specified by the user, a new alarm will be ignored until the old alarm is deleted by pressing the button.

(7) Compatible events and methods

Event Click, MPlcChange, MError Method DoClick, Refresh, GetPlcValue: Returned

15.6 Error

When a fault has occurred in the Tag management process, this function causes an error event and passes the error number to the user.

(1) Specifications

File name	XMERROR.OCX
Display format	An icon appears during setting but nothing is shown for execution.

(2) Properties

Property Name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).			
MTagName The tag name in error is saved.]	None	
MErrorID	The corresponding error identifier is saved.		0	Not allowed
MErrorNo	The fault that occurred is saved.		0	

- (3) Condition of usable tag
 - There is no tag setting.
- (4) Precautions for execution
 - The error ID and No. saved are always the latest information. Old data is not left.
- (5) Compatible events and methods
 - EventMError
 - MethodNone
- (6) Example of use

Sub XMERROR1_Merror()

Label1.Caption = "Error occurrence"

Label2.Caption = "Tag name:" + XMError1.MTagName

- Label3.Caption = "Error identifier" + Str\$(XMError1.MErrorID)
- Label4.Caption = "Error detail number" + Str\$(XMError1.MErrorNo)

End Sub

15.7 Clock Display

ð

This function shows a clock (year/month/day hour:minute:second) on the screen.

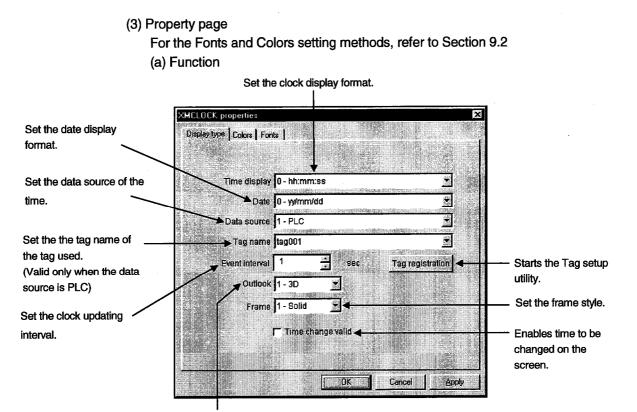
(1) Specifications

File name	XMCLOCK.OCX	
Display format	The information of "year/month/day hour:minute:second" is shown as follows.	
Font	According to the OS specifications	

(2) Properties

Property Name	Description	Setting Range	Initial Value	Change during Execution
OCX-standard	Refer to Section 9.1 (1).			
XMOP-common	Refer to Section 9.1 (2).			
MTimeStyle	Specify the time display form. 0: hh:mm:ss 2 : None 1: hh:mm		0 (hour:minute :second)	A.I. 1
MDayStyle	Specify the date display form. 0: yy/mm/dd 2: None 1: mm/dd	0 to 2	0 (year/month /day)	Allowed
MClock	Set the data source of the clock data. 0: PC 1: PLC	0,1	0 (personal computer)	
Mevent Interval	Set the interval of generating the MClock event in seconds.	1 to 3600	1(sec)	Not allowed
MTagName	Specify the tag file name for clock data collection. (Valid for PLC only)		None	
MWriteFlag	Set whether the time change (PLC only) is valid or invalid. True: Valid False: Invalid	_	False	Allowed
MErrorID MErrorNo	The corresponding error identifier is saved. The fault that occurred is saved.	-	0	Not allowed

15. OTHER CUSTOM CONTROLS



MELSEC

Set the outlook style.

- (4) Conditions of usable tag
 - The PLC-specified tag.
- (5) Precautions for designing
 - For designing, the default time is displayed according to the time pasted to the form.
 - Pasting two or more of this custom control will affect the monitoring speed. It is recommended to paste one control to one form.
 - Clicking the control in a time change enable status shows a caret and allows entry. Press the Enter key to write the value.
 - An error message is returned if wrong setting is made for entry.
 - The write format of the clock data is the same as the display format.
 - Since the clock operates between 1971 and 2036, set the clocks of the personal computer and PLC to within that time range.

If the time is outside this range, the clock will operate assuming that the year is 1971.

- (6) Precautions for execution
 - Change the time in accordance with the setting of MTimeStyle and MDayStyle.

Examople: MTimeStyle: 0 (hour:minute:second) MDayStyle: 1 (month/day)



POINT

Some PLC CPU types do not have the clock function. Do not use the clock display function if the PLC does not have the clock function.

(7) Compatible events and methods Event MClock, MError Method Refresh

16. PARTS COLLECTION

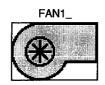
The following parts (*.BMP, *.WMF) are included when XMOP is installed. The last alphabet in a file name indicates the color of the part.

The last alphabe			or the part	
000000BM	MP(WMF)			
Ľ	Indicates	the color of the part	t.	
B ·····Blue BG····Blue green G ····Green GR····Gray	R ···· Red W ···· White Y ···· Yellow			
(1) Buttons Stored in [Ins	stall folder]-[XMO	P]-[BMP(WMF)]·	-[BUTON].	
BU1_	BU2	BU31_	 BU32_	BU41_
BU42_	BU51_	BU52_	BU61_	BU62_
	<u></u>		4	
BU71_	BU72_	BU81_		BU91_
BU92_				

The test of te

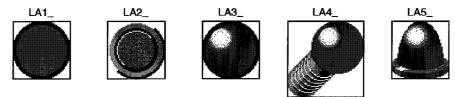
(2) Fan

Stored in [Install folder]-[XMOP]-[BMP(WMF)]-[FAN].



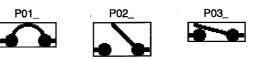
(3) Lamps

Stored in [Install folder]-[XMOP]-[BMP(WMF)]-[LAMP].



(4) Points

Stored in [Install folder]-[XMOP]-[BMP(WMF)]-[POINT].



(5) Pumps

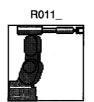
Stored in [Install folder]-[XMOP]-[BMP(WMF)]-[POMP].



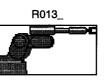


- (6) Arm robots
 - (a) Arm robots 1

Stored in [Install folder]-[XMOP]-[BMP(WMF)]-[ROBO1].

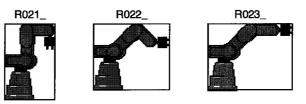






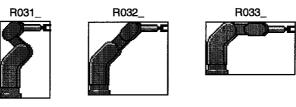
(b) Arm robots 2

Stored in [Install folder]-[XMOP]-[BMP(WMF)]-[ROBO2].



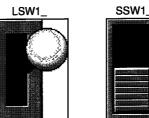
(c) Arm robots 3

Stored in [Install folder]-[XMOP]-[BMP(WMF)]-[ROBO3].



(7) Switches

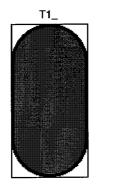
Stored in [Install folder]-[XMOP]-[BMP(WMF)]-[SWITCH].





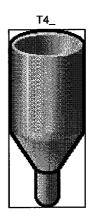
(8) Tanks

Stored in [Install folder]-[XMOP]-[BMP(WMF)]-[TANK].









(9) Valves

Stored in [Install folder]-[XMOP]-[BMP(WMF)]-[VALB].





APPENDICES

APPENDIX 1 Specifications

XMOP has the following specifications.

ltem	Monitor Screen	Canvas Screen	
Number of screens	230 forms/application (according to VB specifications)		
Figure type			
Painting pattern			
Number of figures registered	According to the VB and Operating System specifications		
Screen title			
Statement			
Figure parts	BMP and WMF are used as parts.		
	No specific restrictions (up to the limit of VB)		
Number of monitor points	Max. control name: 254 pcs./form		
	Note that the number of controls may exceed 254 for control arrays.		

App.

APPENDIX 2 Creating the Image File

The background and figure display image data to be pasted to a form is created in the BMP or WMF format for use.

Create this image data using Paint of Windows or a Windows-compatible graphic tool available on the market.

The maximum number of controls is 600 per application and 255 per form.

Note that the maximum number of controls may change with the controls used.

Note that using a bit map file too often will increase the file size. BMP file size = length (dots) \times width (dots) + about 1078 bytes

APPENDIX 3 Operation Procedures for Samples

This section explains operating procedures for use of XMOP samples.

Appendix 3.1 For Use of XmopDemo.tag

- Make setting with the Environment setup utility Start the environment setup utility and choose "XmopDemo.tag".
 Also set the first communication change as the necessary channel.
- Read the sample tag
 Start the tag setup utility and read the sample tag.
 Save destination: <Install folder>-<Samples>-<Demo>-XmopDemo.tag
- (3) Set the assigned devices and network as required Set the tag devices and network as required.
- (4) Start VB and read the sample (XmopDemo.VBP)
- (5) Set the comment file
 Register the demonstration comment file to XMCMNT.OCX.
 Save destination: <Install folder>-<Samples>-<Demo>-Comment.cmt
- (6) Set the alarm summary file Set the demonstration alarm summary file to XMALMSMR.OCX. Save destination: <Install folder>-<Samples>-<Demo>-AlmSmr.alm
- (7) Register pictures to XMPICTUR.OCX
- (8) Run

APPENDICES

Appendix 3.2 For Use of XmopCntl.tag

- Make setting with the Environment setup utility Start the environment setup utility and choose "XmopCntl.tag".
 Also set the first communication change as the necessary channel.
- (2) Read the sample tag
 Start the tag setup utility and read the sample tag.
 Save destination: <Install folder>-<Samples>-<Demo>-XmopCntl.tag
- (3) Set the assigned devices and network as required Set the tag devices and network as required.
- (4) Start VB and read the sample (XmopDemo.VBP)

(5) Run

APPENDIX 4 Error Codes

This section lists the error codes displayed when XMOP is used.

Appendix 4.1 XMOP Error Codes

shot.

Printing failure

Snap shot printing failed.

-20

-21

2

2

Error Code		Enne De Californi	Correction Action	
Identifier	Number	Error Definition	Corrective Action	
0	4	Memory shortage	As memory may be short, execute after	
2	-1	Memory necessary to run custom controls is short.	closing other running applications.	
0		Upper limit excess	Prevent the monitored value from rising	
2	-2	Monitored value has risen above the upper limit.	above the upper limit.	
0	0	Lower limit excess	Prevent the monitored value from falling	
2	-3	Monitored value has fallen below the lower limit.	below the lower limit.	
0		Unauthorized input		
2	-4	Input data is wrong.	Enter correct data.	
0	E	File open error	Cat the evipting file name	
2	-5	Opening of the specified file failed.	Set the existing file name.	
0	0	Unauthorized drive name	Creatify the evicting drive name	
2	-6	Access cannot be made to the specified drive.	Specify the existing drive name.	
0	-7	Folder creation failure	Since the specified disk does not have	
2	-/	Folder creation failed.	enough free space, increase the space.	
2	-8	File read error	Check that the file is correct.	
2	-0	Read of the specified file failed.		
2	-9	File write error	Since the specified disk does not have	
2	-9	Write to the file failed.	enough free space, increase the space.	
2	-11	Unauthorized file type	Specify the correct file.	
2	-11	Specified file type does not exist.		
2	-12	No existing file	Specify the existing file.	
2	-12	Specified file does not exist.		
2	-13	Abnormal end of thread	Check for a communication fault.	
2	-10	Thread for monitoring ended abnormally.		
2	-15	Inversion of lower and upper limits	Set correct values to the upper and lower	
2	-15	Values of the upper and lower limits inverted.	limits.	
2	-16	Invalid property value	Specify the proper property value.	
2	-10	Invalid property value was specified.		
		Not supported for execution		
2	-17	Attempt was made to change the property which is	Do not make change during execution.	
		not allowed to change during execution.		
		No free file name		
2	-1 9	There is no free file name to be created for snap	Delete the unnecessary snap shot file.	

The following table lists the error codes generated by XMOP.

Check that the printer is connected.

Default printer information acquirement failure

Printer information acquirement failed.

Error Code			
Identifier	Number	Error Definition	Corrective Action
		Unauthorized data type error	
3	-1	Data type read or written is wrong.	Specify the correct data.
3	-2	Memory acquirement error	
3	-3	Memory acquirement failed.	
3	-5	Resource acquirement error	
3	-6	Resource acquirement failed.	
3	-11		Re-execute after closing other running
3	-12		applications, if any.
3	-13	Shared memory acquirement error	
3	-14	Shared memory acquirement failed.	
3	-15		
3	-16	Picture file error	
3	-10	Specified picture file does not exist.	Chapter the correct directory and file name
3	-20	File error	Specify the correct directory and file name.
3	-20	Specified file does not exist.	
3	-30	BMP file fault	Choose the correct bit map file.
3	-31	Specified file is not a bit map file.	Choose the conect bit map me.
3	-32		
3	-33		
3	-34	Metafile fault	Confirm that the file is a correct metafile.
3	-35	Specified file is not a metafile, or acquirement of	When it is a correct metafile, re-execute after
3	-36	memory for storing the metafile failed.	closing other running applications, if any.
3	-37		
3	-38		
3	-101	File name error	Specify the correct file name.
		Specified file name is wrong.	
~		Data type error	Choose the fields having the consecutively
3		Data type of the specified tag is not the same as	same data type.
		that of the fields.	
3	1001	Automatic tag collection error	
		Automatic collection of tag data failed. Tag information acquirement error	Check that the appointed test evicts
3	-1002	Acquirement of tag information failed.	Check that the specified tag exists. Also check for an error in the error viewer.
	· · · · · · · · · · · · · · · · · · ·	Unauthorized tag name	
3	-1003	Specified tag name is unauthorized.	
		Data type mismatch	
3	-1004	Tag and field number specified have the data type	Specify the tag of correct data type.
-		unusable for the specified custom control.	

Appendix 4.2 Tag Error Codes

Error Code			
Identifier	Number	Error Definition	Corrective Action
1	-1	Specified tag file is abnormal.	Choose the tag file created using the tag setup utility.
1	-2	Failure to acquire shared memory. Memory for operation cannot be acquired due to memory shortage.	Execute after closing other running
1	-3	Failure to acquire local memory. Memory for operation cannot be acquired due to memory shortage.	applications.
1	-4	Failure to acquire resources. Acquirement of resources failed.	Since memory may be short, execute after closing other running applications.
1	-5	Tag name is wrong.	Specify the tag name registered as a valid tag in the specified tag file.
1	-6	Thread creation failed.	Since memory may be short, execute after closing other running applications.
1	-7	Registry contents are wrong. Registry information is corrupted.	Reinstall software.
1	-8	Timing of registration to user event is wrong.	As the set user timing is 0, set a proper value.
1	-9	Specified log timing is abnormal.	In a log-specified tag, log collection cannot be done at the timing of less than 1 second. Correct the collection timing.
1	-10	Collection condition is wrong.	Set a correct collection condition.
1	-11	Handshake time-out error	Make setting to make handshake established.
1	-12	Tag management process status is wrong.	Make tag information correct.
1	-13	Reload occurred in tag management process.	Perform reload-related processing since reload occurred in tag management process.
1	-14	Specified buffer size is wrong.	Specify proper buffer size.
1	-15	Tag not specified for logging was handled as a logged tag.	Choose a log-specified tag.
1	-16	Specified field number exceeds the number of tag fields.	Specify a proper field number.
1	-17	Number of fields is wrong.	Specify a proper field number and number of read/write fields.
1	-18	Number of read/write fields is wrong.	Specify a proper number of read/write fields.
1	-19	Event of a tag which is not normally read was awaited.	Specify the tag normally read.
1	-20	Specified tag is not normally collected.	Specify the tag normally collected.
1	-21	Error event occurred.	
1	-23	Data specified to wait for event is wrong.	

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

Error Code			Corrective Action	
Identifier	Number	Error Definition	Corrective Action	
1	-24	Clock reading was attempted by specifying the CPU which does not have the clock reading function.	Specify the CPU having the clock function.	
1	-25	Log data saving failed.	Free space of hard disk may be small. Increase the free space of hard disk.	
1	-27	Time-out occurred during clock data write.	Check that the special devices used to write clock data are in write-ready status.	
1	-30	Request device is not set.	For handshake read, set the request device.	

Type SW2D5F-XMOP-E Monitoring Tool **Operating Manual**

MODEL SW2D5F-XMOP-E-O-E MODEL CODE

1LMS44

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