User's Manual

WX1
GateMX/MW

YOKOGAWA ◆

Yokogawa Electric Corporation

IM WX1-06E

9th Edition

This manual explains the functions and operations of GateMX/MW. To ensure correct use, please read this manual thoroughly before beginning operation. After reading the manual, keep it in a convenient location for quick reference whenever a question arises during operation.

GateMX/MW is a software program that monitors measured data from the MX100/ MW100 Data Acquisition Unit and supplies the data to DAQLOGGER or remote monitors.

Notes

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End of document

How to Use This Manual

Structure of This Manual

This user's manual consists of the following sections.

Chapter	Title	Description
1	Overview	Gives an overview of the GateMX/MW functions. Describes the PC system requirements and system configuration that are required to use GateMX/MW.
2	Operating Procedure	Describes the operating procedures of GateMX/MW.
3	Error Messages and Corrective Actions	Describes the error messages and their corrective actions.
Index		An alphabetical index of the manual's contents.

Scope of the Manual

This manual does not explain the basic operations of your PC's operating system (OS). For information regarding the basic operations of Windows, see the user's guide that came with Windows.

Conventions Used in This Manual
- **Unit**
  - K   Denotes 1024.   Example: 10 KB
  - M   Denotes 1024 K. Example: 10 MB
  - G   Denotes 1024 M. Example: 2 GB

- **Bold Characters**
  Bold characters are used for characters displayed on the software program screen.

- **Subheadings**
  On pages that describe the operating procedure in Chapter 2, the following symbols are used to distinguish the procedure from their explanations.

  Procedure   This subsection contains the operating procedure used to carry out the function described in the current section. All procedures are written with inexperienced users in mind; experienced users may not need to carry out all the steps.

  Note   Calls attention to information that is important for proper operation of the instrument.

Contents

1.1   Functional Overview of the GateMX/MW

GateMX/MW is a software program that monitors data from the MX100/MW100 Data Acquisition Unit (MX100/MW100) and supplies the data to DAQLOGGER or remote monitors (software programs). GateMX/MW enables you to monitor and logging the data that can be measured by the MX100/MW100 using DAQLOGGER or a remote monitor.

> *Note*
>
> DAQLOGGER is a software application that can connect various recorders (µR, VR, DARWIN, DX, MV, and CX models) and a PC for you to scan, record, and monitor the data.
> Remote Monitor is a software application that is included in the DAQLOGGER Client Package or DAQ32Plus Client Package. It can be used to monitor the data that has been acquired by the recorder or data acquisition software programs. Add-on software includes a variety of programs for customized monitors, network remote monitors, data acquisition and saving on a group basis, monitoring of measured data and triggered data acquisition, and other functions.

Features

- Up to 32 MX100s/MW100s can be connected.
  The maximum number of connections from client programs (DAQLOGGER and remote monitors) is also 32.
- The monitor interval matches the measurement interval of the connected MX100.
  * However, the fastest interval on DAQLOGGER is 1 second.
- The maximum number of data points that can be held per channel is 1800.

> *Note*
>
> - GateMX/MW does not contain functions for configuring the MX100/MW100.
>   To configure the MX100, use the MX100 Standard Software that comes standard with the MX100 or MXLOGGER, a software program sold separately. Enter MW100 settings using the browser.
> - GateMX/MW does not contain computation functions.
> - GateMX/MW does not contain service functions that are available on other Gate programs.
> - If you use the MX100 Standard Software or MXLOGGER, GateMX100 or GateMX/MW are displayed under the Software columns.

Procedure

To scan and record data from MX100/MW100 on DAQLOGGER, carry out the procedure given below. If you are monitoring the data on a remote monitor, follow the instructions below and start the data monitoring on GateMX/MW.

Operations on GateMX/MW

Turn ON the MX100/MW100	Start GateMX/MW — Section 2.1	Connect to GateMX/MW from DAQLOGGER
Start the MX100 Standard Software or Browser	Register target MX100s/MW100s — Section 2.2	Set tags and other items on DAQLOGGER
Set the MX100/MW100 measurement conditions, etc.	Retrieve info about the target MX100s/MW100s — Section 2.3	Start logging on DAQLOGGER
Close the MX100 Standard Software or Browser	Start data monitoring on GateMX/MW — Section 2.4	

> *Note*
>
> If you are changing the module configuration on the target MX100/MW100, stop the data monitoring on GateMX/MW and turn off the MX100/MW100 beforehand. After changing the module configuration, turn ON the MX100/MW100 and reconfigure using the MX100 Standard Software or the browser.

1.2   System Overview

Software Requirements

Run DAQWORX under any of the following operating systems.
- Windows Vista Home Premium SP2 (excluding the 64-bit editions)
- Windows Vista Business SP2 (excluding the 64-bit editions)
- Windows 7 Home Premium, SP1 (32-bit and 64-bit editions)
- Windows 7 Professional, SP1 (32-bit and 64-bit editions)
- Windows 8 (32-bit and 64-bit) (Supports the desktop mode)
- Windows 8 Pro (32-bit and 64-bit) (Supports the desktop mode)

The language displayed by the software under different language versions of the OS are as follows.

OS Language	Software Language
Japanese	Japanese
Other	English

Hardware Requirements

The following hardware is required for running GateMX/MW.
- PC: A PC that runs one of the OS above, and that meets the following CPU and memory requirements.
  When Using Windows Vista
  Pentium 4, 3 GHz or faster Intel x64 or x86 processor; 2 GB or more of memory
  When Using Windows 7 or Windows 8
  32-bit edition: Intel Pentium 4, 3 GHz or faster x64 or x86 processor; 2 GB or more of memory
  64-bit edition: Intel x64 processor that is equivalent to Intel Pentium 4, 3 GHz or faster; 2 GB or more of memory
- Free disk space: 200 MB or more
- Communication device: Ethernet port supported by the OS
- CD-ROM drive: The CD-ROM drive is needed to install the software.
- Peripheral devices: Mouse supported by the OS
- Monitor: A video card that is recommended for the OS and a display that is supported by the OS, has a resolution of 1024×768 or higher, and that can show 65,536 colors (16-bit, high color) or more.

System Configuration
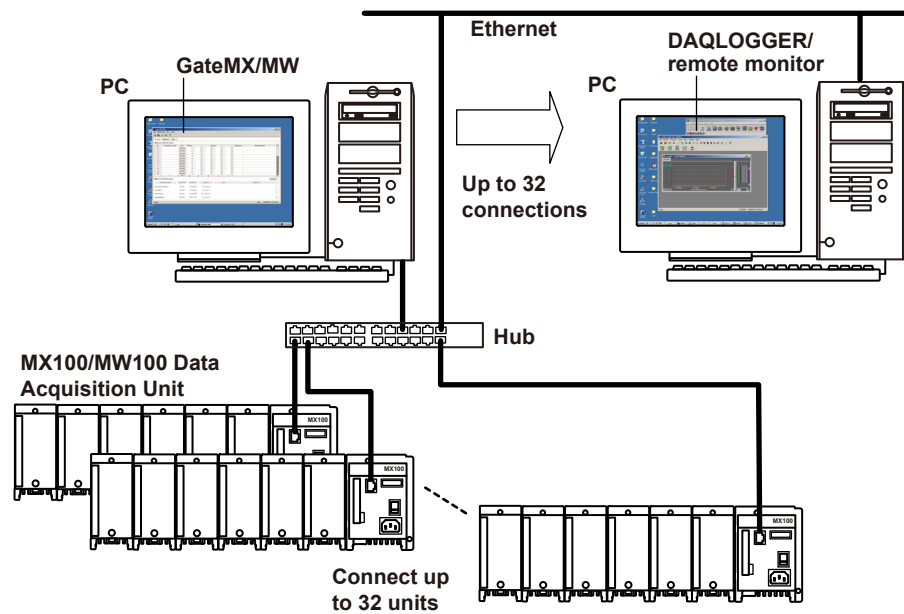
It is recommended that GateMX/MW and DAQLOGGER be run on different PCs to distribute the load.

Software Configuration
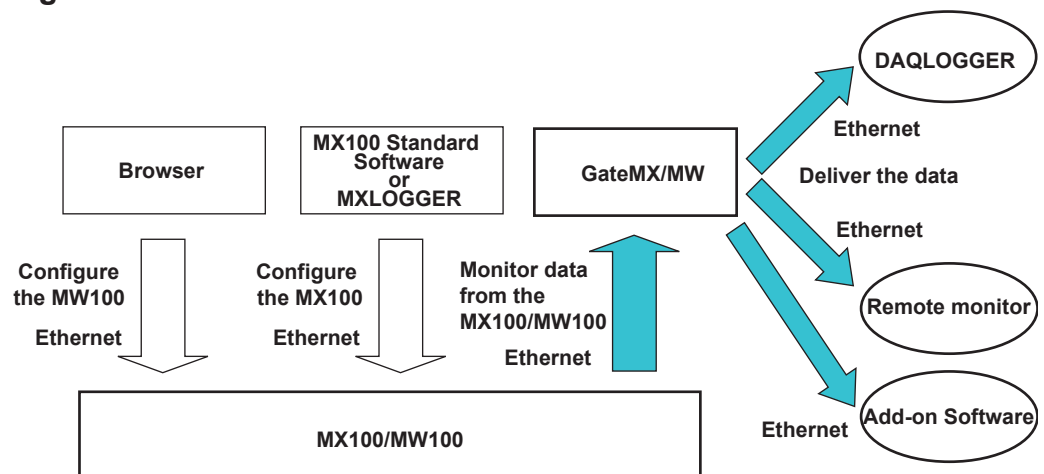
GateMX/MW monitors data from multiple MX100s/MW100s that are connected. It also acts as a monitor server to deliver the data to DAQLOGGER, remote monitors, or Add-on Software.

GateMX/MW does not contain functions for configuring the MX100/MW100. To configure the MX100, use the MX100 Standard Software that comes standard with the MX100 or MXLOGGER, a software program sold separately. Enter MW100 settings using the browser. In addition, GateMX/MW does not contain computation functions.

2.1   Starting and Exiting GateMX/MW

Procedure

Starting GateMX/MW
Choose **Programs** > **YOKOGAWA DAQWORX** > **GateMXMW** > **GateMXMW** from the Windows Start menu.
The window shown below opens.
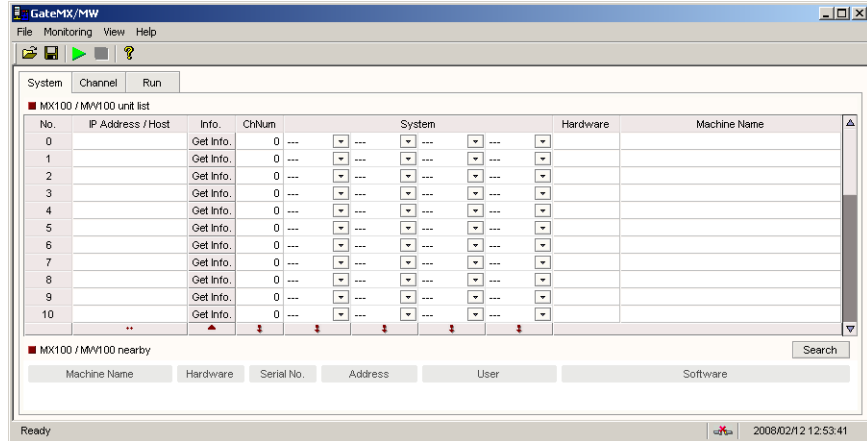
Note
- GateMX/MW starts up in the condition that existed immediately before you closed GateMX/MW the previous time.
- If the program is closed while a process or service is running, the license will be considered to be "in use." If the message, "Invalid license number. Please reinstall." appears when restarting the program, it may indicate that the user is attempting to run a Gate program in excess of the number of available licenses.

Starting GateMX/MW in Acquisition Start Mode
1. From the Windows Start menu, choose **Programs > YOKOGAWA DAQWORX > GateMX/MW > GateMX/MW**, then right-click GateMXMW and select Create Shortcut.
2. Right-click the shortcut icon and select Properties.
3. Choose the Shortcut tab, then add /START (space and /START) to the right of the path in the Target box and click OK.
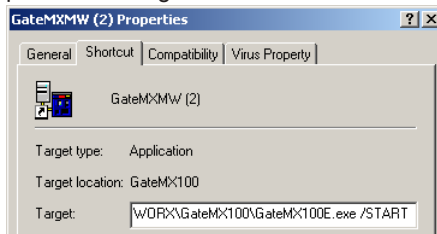
4. Choose the shortcut from the Windows Start menu. The connection status of the previous session is restored, and acquisition begins.

Exiting GateMX/MW
Choose **Exit** from the **File** menu or click the "X" button at the right corner of the title bar.
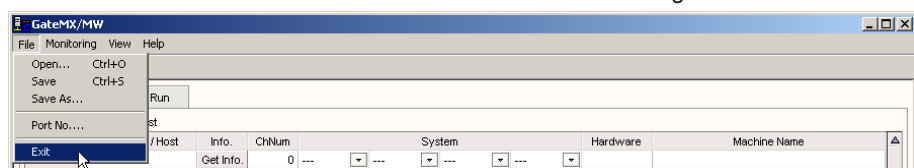
2.2 Registering MX100s/MW100s

Before carrying out the procedure below, connect the target MX100/MW100 to the Ethernet network and turn its power ON. Configure the MX100 in advance using the MX100 Standard Software that comes standard with the MX100 or MXLOGGER, a software program sold separately. Enter MW100 settings using the browser.

Procedure

1. Click the **Search** button.

MX100s connected to the network are listed under MX100 nearby

Click

Click to sort by the item name
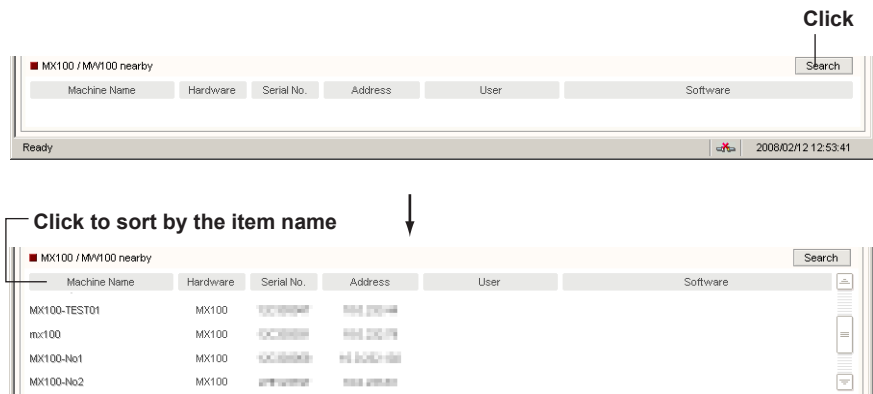
Note

If a user is already connected to an MX100/MW100, the corresponding computer name and MX100/MW100 software application name are displayed under the User and Software columns, respectively. You cannot use GateMX/MW to connect to an MX100/MW100 that already has a connected user.

2. Drag the machine name of the MX100/MW100 you wish to connect from the MX100/MW100 nearby list and drop it onto the MX100/MW100 unit list area.

When registered, the IP address of the target MX100/MW100 appears in the IP Address/Host column in the MX100/MW100 unit list area.

2

Operating Procedure
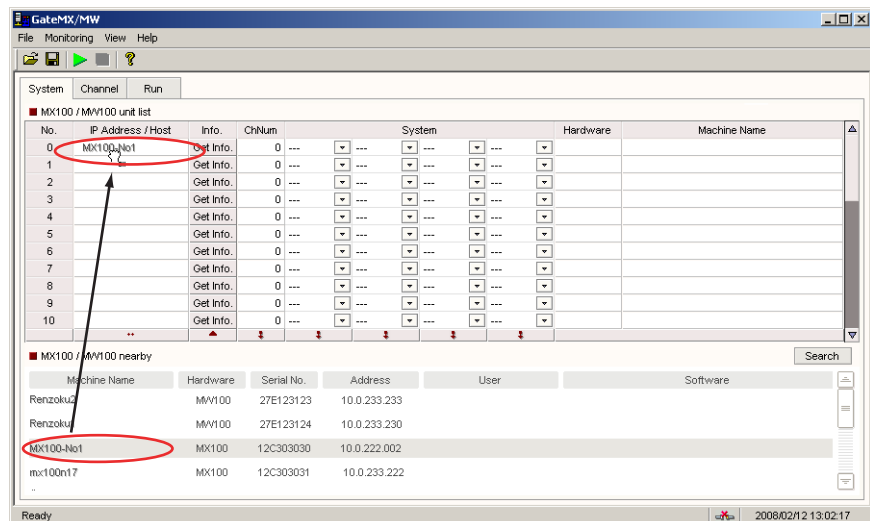
Note

- You can also register MX100s by entering the IP address or host name directly in the IP Address/Host column.
- As shown in the figure below, you can select multiple numbers in the No. column and click the button below the IP Address/Host column to register incrementing IP addresses starting from the IP address of the first number in the selected range. If a host name is displayed for the first number in the selected range, the same host name is registered for all the numbers in the selected range.

Select

Click

2.3 Retrieving Information about the Target MX100s/MW100s and Setting the Number of Channels and the Monitor Interval

Before carrying out the procedure below, register the target MX100s in advance according to the instructions given in section 2.2, "Registering MX100s/MW100s."

Procedure

1. Click the **Get Info.** button in the Info column in the MX100/MW100 unit list area.

   When the retrieval of the information is complete, the MX100/MW100 machine name appears in the Machine Name column.

   Click
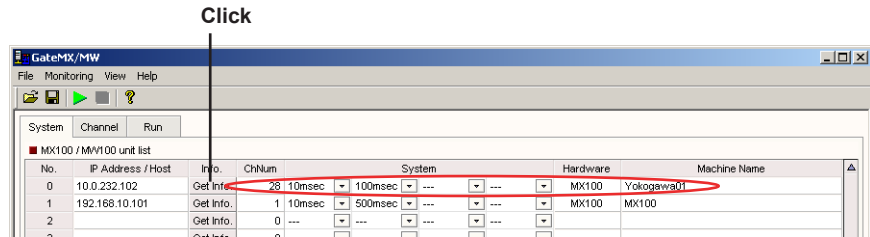
   ### Note

   • If the MX100/MW100 from which you are attempting to retrieve information is already connected by another user or if the MX100/MW100 does not exist on the network, the information cannot be retrieved. The number of the channel is displayed as 0 and the system, hardware, and machine name do not appear.

   • As shown in the figure below, you can select multiple numbers in the No. column and click the button below the Info. column to retrieve information of multiple registered units.
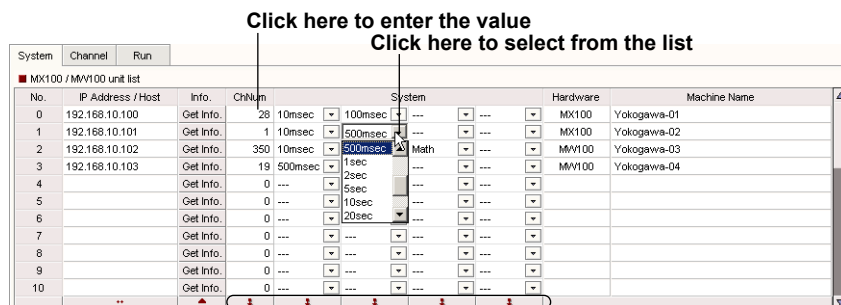
   1. Select
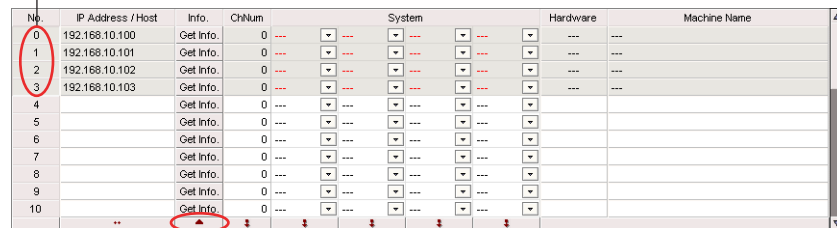
   2. Click

   • The information is retrieved again from the registered MX100/MW100 when data monitoring is started.

2. To change the number of channels after information is retrieved, click in the Num. of Ch. column and enter the number. If you wish to change the monitor interval settings, click the button in the System column to display the list and select a monitor interval. When the number of channels is changed, the display in the Channel tab will be modified.

   Click here to enter the value
   Click here to select from the list

   Copy the settings of the first channel in the selected range to all other channels in the range

2

Note

You can set multiple monitor intervals in the same system. If the same monitor interval is set for the MW100, it is assigned to each system in order from smallest measurement group number. Also, if the number of same monitor intervals is greater than the actual number of measurement groups, only the actual number of measurement groups is valid.
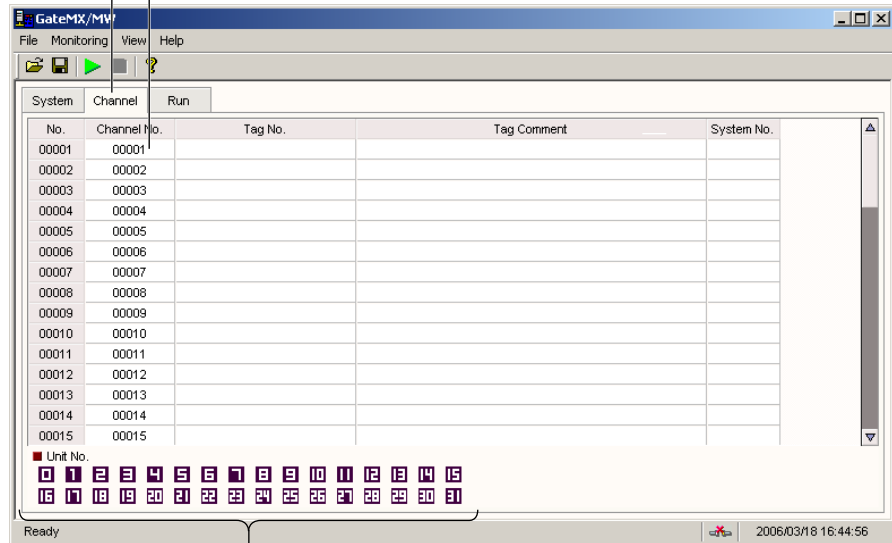
2. To display channel information, click the **Channel** tab.

You can also choose **Channel** from the **View** menu.

Click

**Highest two digit: Registered unit number**
Lowest three digit: Channel number (000 to 099), Math channel (more than 100)

Click the number to highlight the channel information of the corresponding unit

Note

* The channel information is displayed only for channels that are set to acquire data in the MX100/MW100 settings.
* If the number of channels set in step 2 exceeds the actual number of channels that exists in the MX100/MW100, the portion of nonexistent channels is left blank. If the number of channels is less than the actual number of MX100/MW10 channels, only the set channels are displayed.
* If the connection fails, the channel information for the corresponding MX100/MW100 appears as a blank line.
* If the channels of the modules installed to the MX100/MW100 do not match the channels displayed in the Channel tab, perform reconfiguration using the MX100 Standard Software or the Browser.
* The System No. from the channel information display is shown when information is retrieved or when setting the System column in the System Configuration screen.
* Click System No. to sort the channel information by system number. Click System No. again to sort the channel information by channel number.
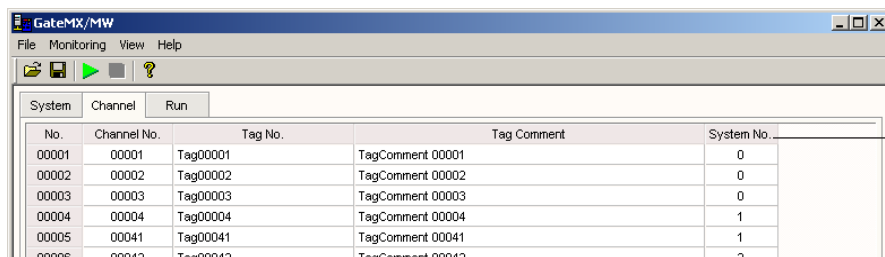
Click here to sort the channel information by system number

2.4 Starting/Stopping Data Monitoring

Before carrying out the procedure below, retrieve the channel information of the target MX100s in advance according to the instructions given in section 2.3, "Retrieving Information about the Target MX100s/MW100s."

Procedure

Starting Data Monitoring
Click the Start Monitoring button or choose **Start Monitoring** from the **Monitoring** menu.

Click
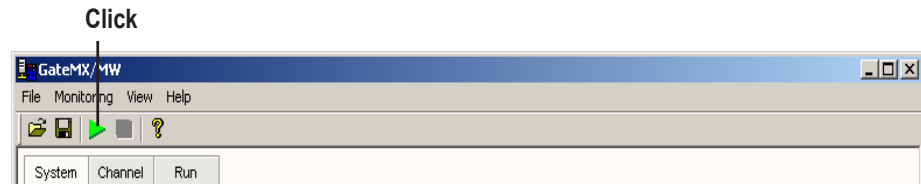
Note

• If GateMX/MW is connected to the MX100, Backup mode will not be enabled when the communication is cut while monitoring data. Even if the /DS option is enabled, the Dual Save feature will not operate.

• If the initial communication with the target fails, retry ten seconds after the communication failure is confirmed. Additional time is required from the start of communication until the failure is recognized.

Displaying Run Status While Monitoring Data
Click the **Run** tab.
You can also choose **Run** from the **View** menu.

Click

Computer name of the PC running the client software that is connected (Maximum number of connections: 16)

Acquisition Status
Green: Normal (running)
Red: Error (stopped, not able to connect, or there is no corresponding channel to monitor data.)

The number of channels assigned to the same monitor interval

Monitor interval specified on the MX100

The maximum and minimum channel numbers of the channel range assigned to the same monitor interval.

Number registered in the MX100 unit list under System.
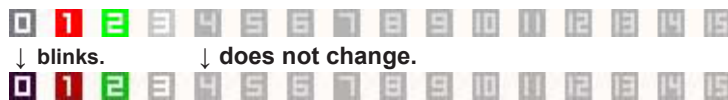
Assigned system number

Note

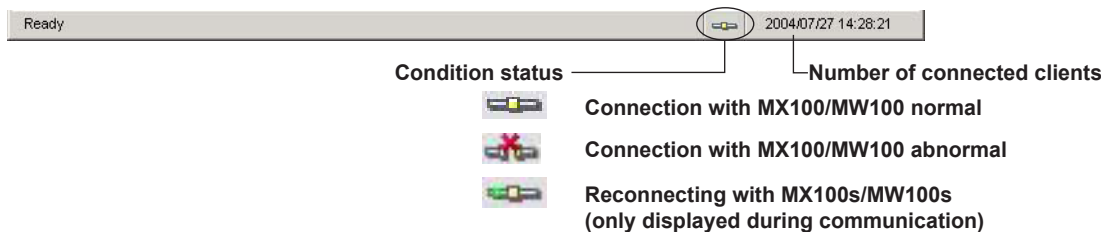- The color of the unit numbers under Communication Status indicates the following conditions.

  Gray (characters in dark gray): There is no IP address or host name specified for the MX100/MW100 with that unit number (specification is blank). Or, there is an IP address or host name specified but the number of channels and system is not specified.

  Green: Communication with the MX100/MW100 is normal, and data is being monitored.

  Red: There is an IP address or host name specified for the MX100/MW100 with that unit number, but the connection failed. Or, communication was cut while monitoring data, and now attempting to reconnect.

  Black: There was an IP address or host name specified for the MX100 with the unit number and connection succeeded, but there were no channels set to acquire data.

  If the icon is displayed in red, try the connection again. If reconnection is successful, the icon turns green and acquisition resumes.
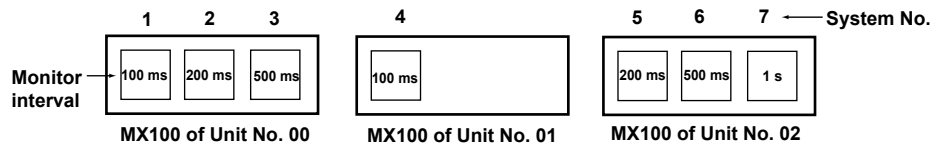
  When acquisition stops, all characters turn gray (characters in dark gray). When acquisition resumes, registered items blink. The gray color of unregistered items remains unchanged (characters in dark gray).

  ↓ blinks.   ↓ does not change.

- The status of GateMX/MW is displayed in the status bar. You can check the communication status displayed in the Run tab.

  Ready   2004/07/27 14:28:21

  Condition status ———————   └—Number of connected clients

  Connection with MX100/MW100 normal

  Connection with MX100/MW100 abnormal

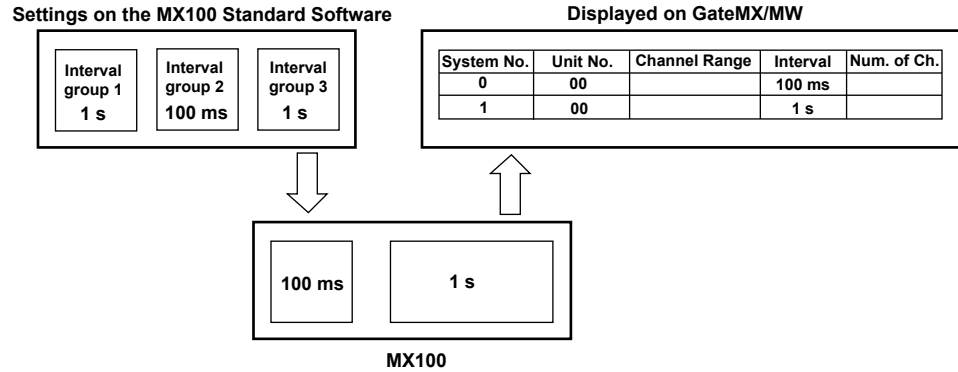 Reconnecting with MX100s/MW100s
  (only displayed during communication)

- System numbers are assigned on the GateMX/MW System Configuration screen as shown in the figure below. Since four monitor intervals can be specified on each MX100/MW100, the system numbers are assigned in the range from 0 to 127.

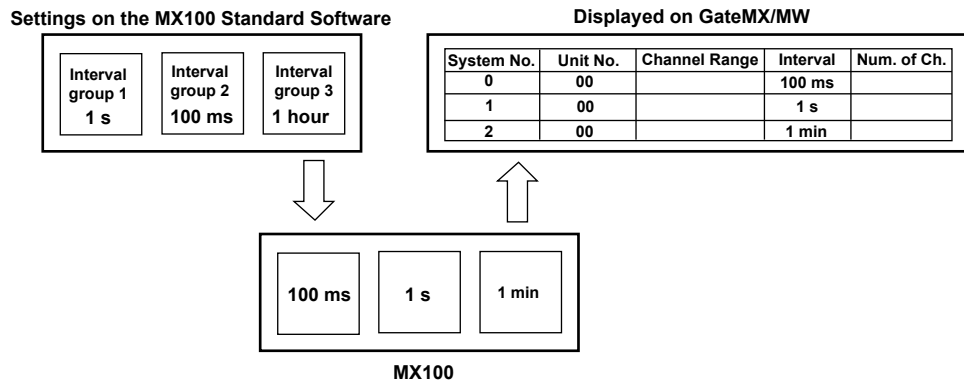 | | 1 | 2 | 3 | | 4 | | 5 | 6 | 7 | ← System No. |
  |---|---|---|---|---|---|---|---|---|---|---|
  | Monitor interval | 100 ms | 200 ms | 500 ms | | 100 ms | | 200 ms | 500 ms | 1 s | |
  | | MX100 of Unit No. 00 | | | | MX100 of Unit No. 01 | | MX100 of Unit No. 02 | | | |

- Interval groups with the same monitor interval can be configured on the MX100 Standard Software (See the *MX100 Standard Software User's Manual (IM MX180-01E)*). A single interval group is displayed as a single system on GateMX/MW.
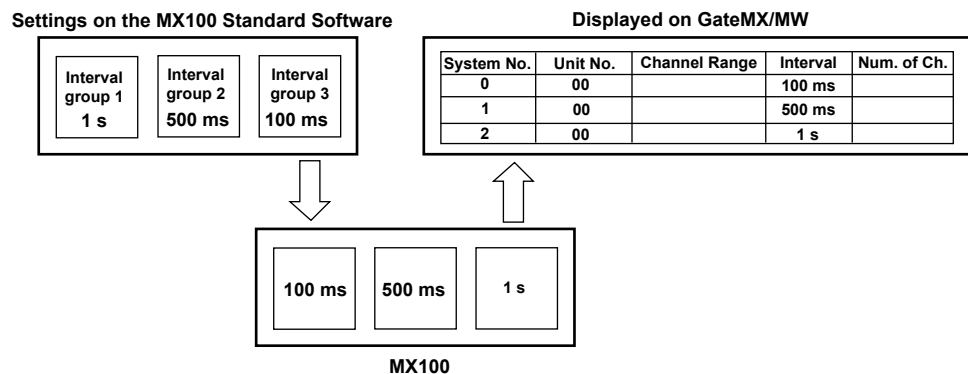
Settings on the MX100 Standard Software

Interval group 1	Interval group 2	Interval group 3
1 s	100 ms	1 s

Displayed on GateMX/MW

System No.	Unit No.	Channel Range	Interval	Num. of Ch.
0	00		100 ms	
1	00		1 s	

MX100

100 ms	1 s

- If a monitor interval longer than 1 minute is specified on the MX100 Standard Software, the monitor interval on the MX100 is set to 1 minute and the monitor interval longer than 1 minute is achieved by decimating the data on the MX100 Standard Software. Therefore, even if a monitor interval longer than 1 minute is specified on the MX100 Standard Software, the monitor interval is displayed as 1 minute on GateMX/MW, and the data is monitored at 1-minute intervals.

Settings on the MX100 Standard Software

Interval group 1	Interval group 2	Interval group 3
1 s	100 ms	1 hour

Displayed on GateMX/MW

System No.	Unit No.	Channel Range	Interval	Num. of Ch.
0	00		100 ms	
1	00		1 s	
2	00		1 min	

MX100

| 100 ms	1 s	1 min

- If the interval group of different monitor intervals are set on the MX100 Standard Software, the MX100 sorts them by monitor intervals from fastest to slowest. Consequently, the GateMX/MW also assigns system numbers in order from fastest to slowest monitor interval when retrieving the information on the System Configuration screen. If the system is set or changed on the System Configuration screen, the system numbers are assigned in the set order.

Settings on the MX100 Standard Software

Interval group 1	Interval group 2	Interval group 3
1 s	500 ms	100 ms

Displayed on GateMX/MW

System No.	Unit No.	Channel Range	Interval	Num. of Ch.
0	00		100 ms	
1	00		500 ms	
2	00		1 s	

MX100

100 ms	500 ms	1 s

Stopping Data Monitoring

Click the Stop Monitoring button or choose **Stop Monitoring** from the **Monitoring** menu.

Click
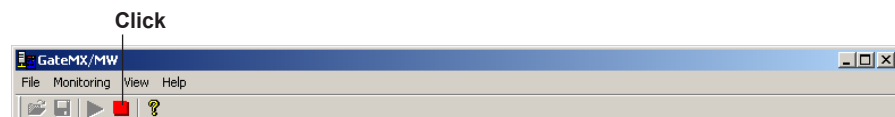
2.5 Connecting to GateMX/MW from DAQLOGGER, Remote Monitor, or Add-on Software

While data is being monitored by GateMX/MW, DAQLOGGER and remote monitors can log or monitor the MX100/MW100 data via the Ethernet network. GateMX/MW operates as a monitor server for DAQLOGGER, remote monitor clients, and Add-on software.

Connecting to GateMX/MW from DAQLOGGER

See section 2.6 in the *WX101 DAQLOGGER WX81 DAQLOGGER Client Package User's Manual (IM WX101-01E)*.

Note

There are two methods to connect to GateMX/MW from DAQLOGGER. One method is to specify the system number; the other is not to specify the system number. For the procedure of selecting the connection method, see section 2.6 in the *WX101 DAQLOGGER WX81 DAQLOGGER Client Package User's Manual (IM WX101-01E)*.

- **Connecting to GateMX/MW by specifying the system number**
  Of the MX100s/MW100s connected to GateMX/MW, only the channel data with the specified system number is monitored.
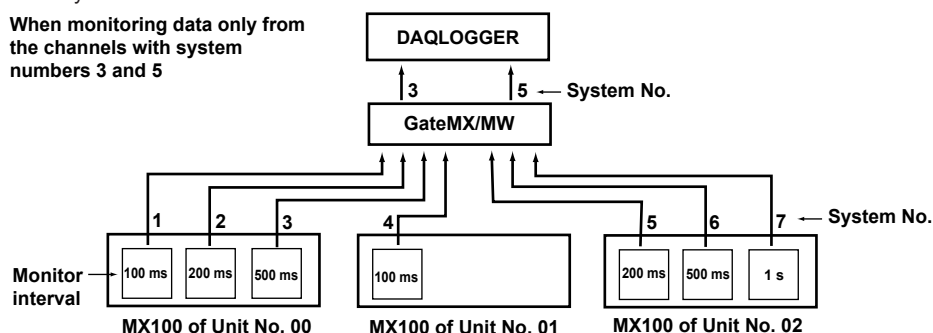
- **Connecting to GateMX/MW without specifying the system number**
  The data of all the channels of the MX100s/MW100s connected to GateMX/MW is monitored using one connection.
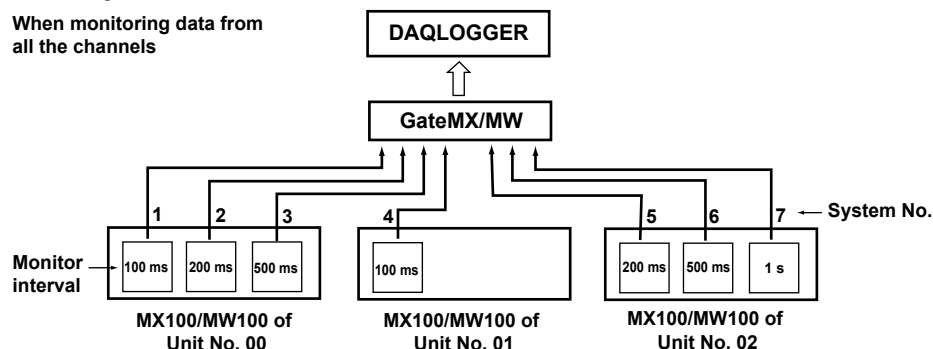
Connecting to GateMX/MW from the remote monitor

If you are connecting to GateMX/MW from the remote monitor of the DAQLOGGER Client Package, see section 8.1 in the *WX101 DAQLOGGER WX81 DAQLOGGER Client Package User's Manual (IM WX101-01E)*.

If you are connecting to GateMX/MW from the remote monitor of the DAQ32Plus Client Package, see section 9.2 in the *WX102 DAQ32Plus WX82 DAQ32Plus Client Package User's Manual (IM WX102-01E)*.

Connecting to GateMX/MW from the Add-on Software

If you are connecting to GateMX/MW from the Add-on software, see the user's manual for the relevant product.

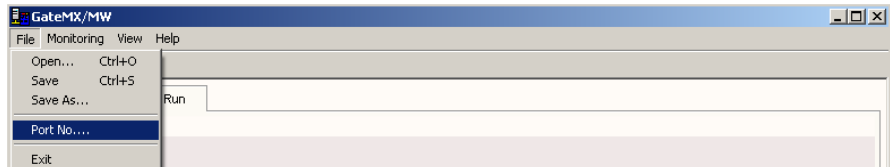## 2.6 Changing the Port Number and Saving the Settings

Procedure

Changing the Port Number

Carry out the procedure below if you wish to change the TCP/IP port number that is used by DAQLOGGER or remote monitors to connect to GateMX/MW.
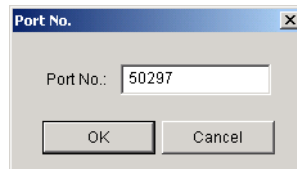
1. From the **File** menu, choose **Port No.**.

The Port No. dialog box opens.

2. Enter the port number used for the monitor server.
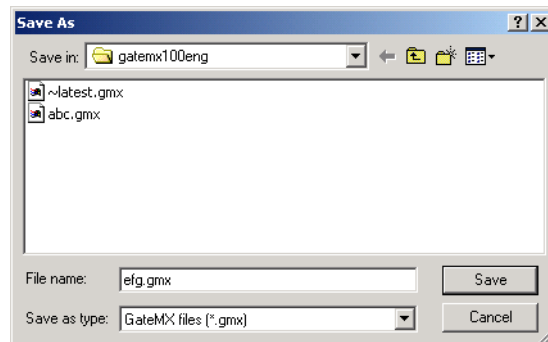
The default value is 50297.

3. Click OK and restart GateMX/MW.

You must restart GateMX/MW to activate the new port number.

Saving the Settings

From the **File** menu, choose **Save** or **Save As**.
If you choose Save As, enter the file name in the dialog box that appears and save the file.

Note

If you choose Save when you have not saved to a specific file name before, the same dialog box that opens as when you choose Save As opens.

Changing to the Saved Settings

From the **File** menu, choose **Open**. Select and open the desired file in the dialog box that appears.
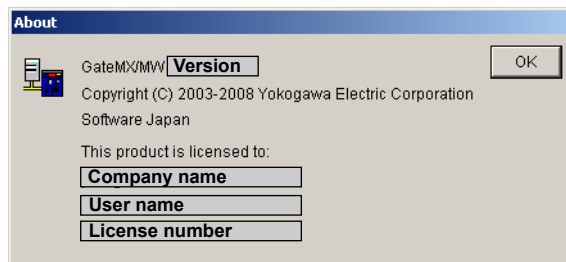
2.7　Showing Version Information

Procedure

Click the About button on the toolbar or choose **About** from the **Help** menu.

Display version information

The About dialog box opens as shown below.

3.1   Error Messages and Corrective Actions

This section describes the messages and their corrective actions when errors occur.

Code	Description	Action
E0002	Insufficient memory. Please exit immediately.	Close other software programs and restart GateMX/MW. Or, restart Windows.
E0211	Cannot write to the file.	Check whether there is sufficient space on the hard disk, whether writing is permitted, and whether the file system is operating normally.
E4800	The maximum limit of Gate programs running simultaneously has been exceeded.	The number of Gate programs that you can run simultaneously is limited by the Gate software license that you have purchased. Close a Gate program that is already running or purchase a new license and reinstall the program.

3

Error Messages and Corrective Actions

■ Index