User's Manual

WX1
GateWT

vigilantplant.®

Foreword

This manual describes the functions and operations of GateWT. 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 in the event a question arises.

GateWT is a software program that acquires data from WT series instruments and transfers it to DAQLOGGER or Remote Monitor.

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Overview of This Manual

Structure of This Manual

This user's manual consists of the following chapters.

Chapter	Title	Description
1	Overview	Gives an overview of the GateWT software.
		Lists the PC requirements for running Gate-WT and gives information about system configuration.
2	Operating Procedure	Gives procedures for entering environment and data logging interval settings, and how to monitor the operational status of the software.
3	Detailed Description of Functions	Provides a detailed description of the functions of GateWT. Lists error messages, their causes, and their corrective actions.
Index		An alphabetical index of the manual's contents.

Scope of This Manual

This manual provides instructions on how perform basic operations with the software when running under Windows XP, Windows 2000, and Windows Vista. For information regarding the basic operations of Windows, see the Windows user's manual.

Conventions Used in This Manual

- **Units**

  K Denotes 1024.   Example: 10 KB

  M Denotes 1024K.   Example: 10 MB

  G Denotes 1024M.   Example: 2 GB

- **Boldface Type**

  Hardware and software controls that the user manipulates such as dialog boxes, buttons, and menu commands are often set in boldface type.

- **Subheadings**

  On pages in chapters 1 through 3 that describe operating procedures, the following subheadings 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

Index

1

2

3

Index

1.1   Overview of GateWT Functions

GateWT is a software program that acquires data from WT series instruments and transfers it to DAQLOGGER or Remote Monitor. Using GateWT allows you to monitor data on DAQLOGGER or Remote Monitor that is measured on WT series instruments. Yokogawa's DAQLOGGER is a software program that allows users to open a connection from their PC to various kinds of Yokogawa recorders (the mR, VR, DARWIN, DX, MV, and CX) and perform data logging and monitoring.

Yokogawa's Remote Monitor is a software program that enables monitoring of data logged by recorders or data logging software.

Note
When connecting the GateWT and WT1600 and acquiring data, you must set the WT1600's measurement range to Fixed Range since data communication is not possible if it is set to Auto Range.

Features

- Runs as a Windows application.
- Compatible with the following instruments: WT110, WT110E, WT130, WT200, WT210, WT230, WT1010, WT1030, WT2010, WT2030, WT1030M and WX1600 .
- Up to 16 units of the WT100, WT200, WT1000, WT2000 or WT1600 can be linked.
- Measurement can be performed at intervals of up to 0.5 seconds*.
  *   However, DAQLOGGER's shortest interval is 1 second. Also, the maximum speed of 0.5 seconds may not be attainable depending on the amount of data being read, the response time of the device, and the communication speed.

1.2   System Overview

System

This software can connect with and download data from a WT series instrument having the following characteristics.

However, the harmonic option is not supported.

- A WT110, WT110E, WT200, or WT210 with RS-232 or GPIB communication functions installed
- A WT230 or WT130 with RS-232 or GPIB communication functions installed
- A WT1010, WT1030, WT1030M, WT2010, or WT2030 with RS-232 or GPIB communication functions installed
- A WT1600 with RS-232, GP-IB, or Ethernet functionality.

Required Operating Systems

Run DAQWORX under any of the following operating systems.

- Windows 2000 Professional SP4
- Windows XP Home Edition SP2, SP3
- Windows XP Professional SP2, SP3 (excluding Windows XP Professional x64 Edition)
- Windows Vista Home Premium, SP1 (excluding the 64-bit edition)
- Windows Vista Business, SP1 (excluding the 64-bit edition)

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 are required to use GateWT.

- PC: A PC that runs one of the OS above, and that meets the following CPU and memory requirements.
  When Using Windows 2000 or Windows XP
  Pentium 4, 1.6 GHz or faster
  512 MB or more of memory
  When Using Windows Vista
  Pentium 4, 3 GHz or faster
  2GB or more of memory
- Free disk space: 200 MB or more
- Communication device: An Ethernet (when connecting to DAQLOGGER, Remote Monitor or WT1600), RS-232, or GPIB port that is recognized by the operating system.
- CD-ROM drive: Used to install the software
- Peripheral devices: A mouse supported by the operating system
- GP-IB port: Required for GPIB communications between the software and a WT series instrument
  Please use the PCI-GPIB or PCMCIA-GPIB by National Instruments.
- Monitor: **When Using Windows 2000 or Windows XP**
  A monitor supported by the OS of 1024 × 768 dot or higher and 65,536 colors or more.
  When Using Windows Vista
  A video card recommended for use with Vista and a monitor supported by the OS of 1024 × 768 dot or higher and 65,536 colors or more.

1

System Configuration
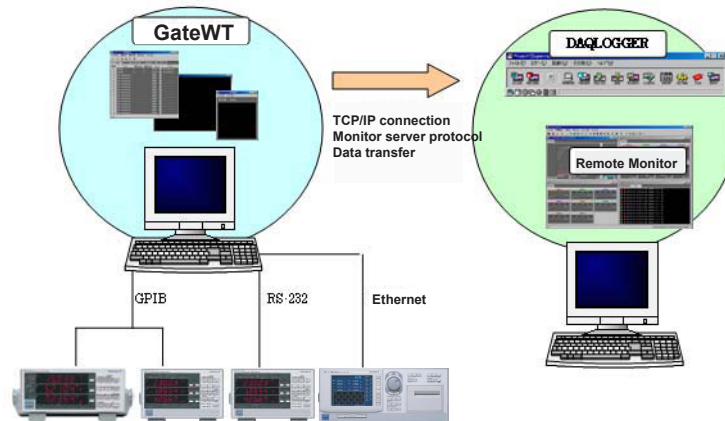
It is recommended that you run GateWT and DAQLOGGER on separate PCs.

Software Configuration
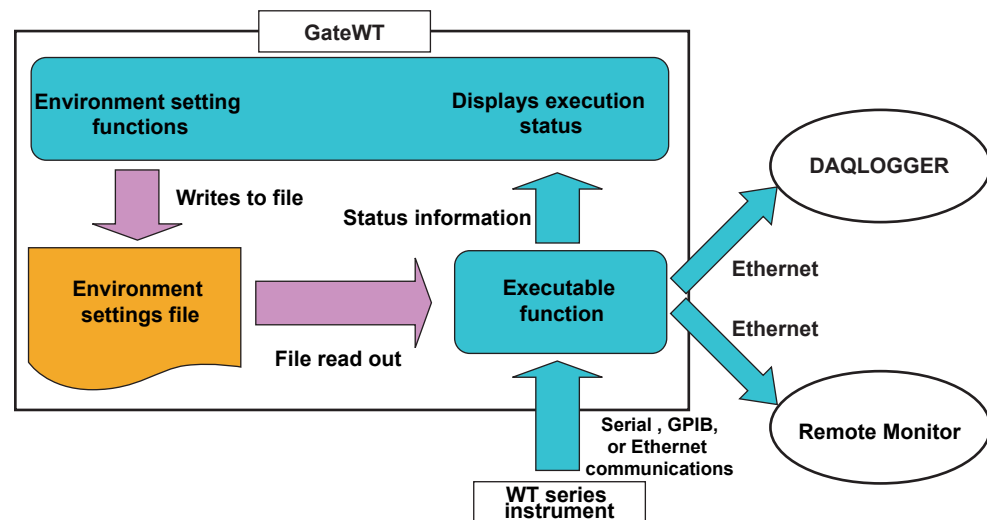
GateWT Configurator consists of two separate software functions. The role of each function within the configurator is as follows:

- **Environment Setting Functions**
  These functions allow the user to enter various settings required by the executable function for communications with the WT series instrument, as well as those required for data transfers to and from DAQLOGGER and Remote Monitor. The user can also view the execution status.

- **Executable Function**
  The software reads data from the WT series instruments at fixed intervals. It also acts as a monitor server, transferring data to DAQLOGGER and Remote Monitor.

2.1   Running and Exiting Gate-WT

2

Running the Software

Procedure

1. From the Windows Start menu, choose **Programs > YOKOGAWA DAQWORX > GateWT > GateWT**.

    The GateWT Configurator opens, displaying the user interface.
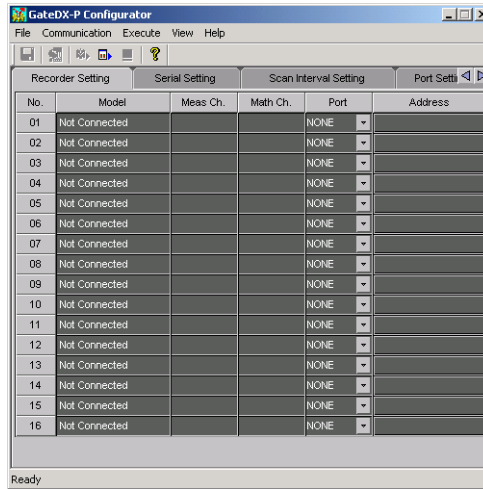
Note

*   When you start GateWT, it is restored to the same status that was active during the previous session.
*   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 GateWT in Acquisition Start Mode

Procedure

1. From the Windows Start menu, choose **Programs > YOKOGAWA DAQWORX > GateWT > GateWT**, then right-click GateWT and select Create Shortcut.

2. Right-click the shortcut icon and select Properties.

3. Choose the Shortcut tab, then add /START to the right of the path in the Target box and click OK.
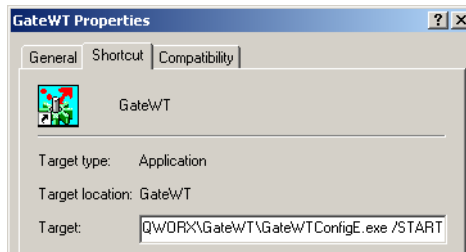
4. Choose the shortcut from the Windows Start menu. The connection status of the previous session is restored, and acquisition begins.

Exiting the Software

Procedure

1. Choose **File > Exit** from the menu bar, or click the X button at the right end of the title bar.

    GateWT closes.

2.2 Entering Environment Settings

The following settings can be entered using the configurator.
* WT assignments, communications settings, and login settings
* Acquisition interval settings for each WT
* Port number settings (for the monitor server) as needed
* The settings can be saved.

Serial Port Settings

Procedure

1. Click the Serial Setting tab or choose **View > Serial Setting** from the menu bar. The Serial Setting tab is displayed.

2. Enter settings for each item.

Port number :	ON (blue)/OFF (gray)
Baud rate :	4800, 9600, 19200
Data length :	Fixed at 8
Parity :	Fixed at NONE
Stop bit :	Fixed at 1

2

WT Settings

Procedure

1. Click the WT Setting tab or choose **View > WT Setting** from the menu bar.

The WT Setting tab is displayed.
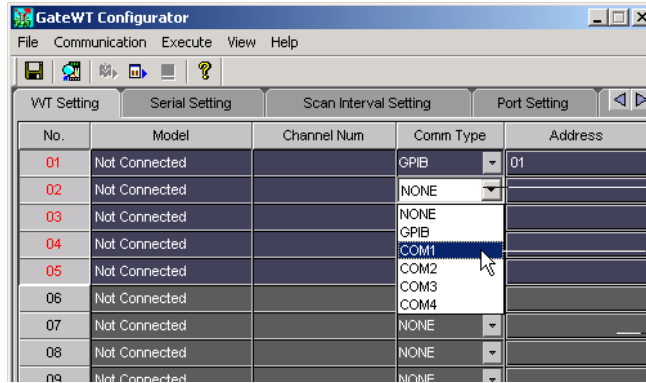
— Click to display a list

— Only the active COM ports (specified in serial port settings) are displayed

— Click to display the Input Address dialog box

2. Enter the communication method and address.

Communication type : Select the port to be used for the connection. Only the numbered COM ports turned ON in the serial setting tab are displayed.

For GPIB

Click a cell in the Address column to open the dialog box in the figure below.
Enter the GPIB address.
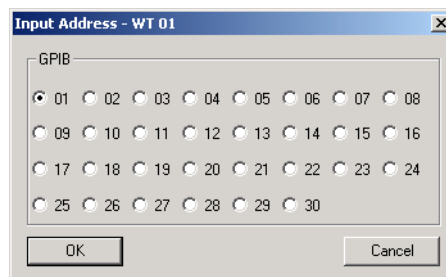
For Ethernet (ETHER)

Click Address to display the following dialog box.
Enter the IP address or host name, user name, and password.

For Serial Ports Set to COM1–COM9 (RS-232 Ports)

An address is not entered.

Address : Only needed if the communication type is GPIB.

Automatic Model Determination

3. Click Auto determination on the toolbar or choose **Communication > Recorder Model Determination** from the menu bar.

Auto determination button

The following items are displayed.

Model :   The specific WT models to be connected.

Channel :   The number of channels on the WT to be connected.

No.	Model	Channel Num	Comm Type	Address
01	WT110	16	GPIB	01
02	WT110E	16	COM1	
03	WT200	18	COM2	
04	WT210	18	COM3	
05	WT130	52	COM4	
06	Not Connected		NONE	
07	Not Connected		NONE	
08	Not Connected		NONE	
09	Not Connected		NONE	
10	Not Connected		NONE	
11	Not Connected		NONE	
12	Not Connected		NONE	
13	Not Connected		NONE	
14	Not Connected		NONE	
15	Not Connected		NONE	
16	Not Connected		NONE	

Tag Settings

***4.*** Double-click the tag number cell on the WT setting tab of the tag that you wish to set.

The Tag Setting dialog box opens.

Cannot be changed (see chapter 3 regarding codes)

Choose the decimal place

Enter the upper and lower limit values of span (-1E16~1E16-)

Enter the units

Initial settings of the tag names are assigned from information obtained during automatic model determination

Click to display the Color setting dialog box

Test results displayed here

Drag to select a range of items

Tag No.	Out Put Channel Name	Dec Pos	Span Lower	Span Upper	Unit	Tag Name	Color	Value
TAG01	E1:V	3	-10.000	10.000		TAG01		
TAG02	E1:A	3	-10.000	10.000		TAG02		
TAG03	E1:W	3	-10.000	10.000		TAG03		
TAG04	E1:VA	3	-10.000	10.000		TAG04		
TAG05	E1:VAR	3	-10.000	10.000		TAG05		
TAG06	E1:PF	3	-10.000	10.000		TAG06		
TAG20		3	-10.000	10.000				

OK   Cancel   Test Execute   Test Stop

Turns the selected items ON and OFF

Copies the setting in the first item of the selection to all of the items in the selection

Restore the default color to all tags

Executing the Test

5. Click the Test Execution button in the Tag Setting dialog box.

The test result is displayed in the value column.

Stopping the Test

6. Click the Test Stop button.

Scan Interval and Retry Settings

Procedure

1. Click the Scan Interval Setting tab or choose **View > Scan Interval** Setting from the menu bar.

The Scan Interval Setting tab is displayed.
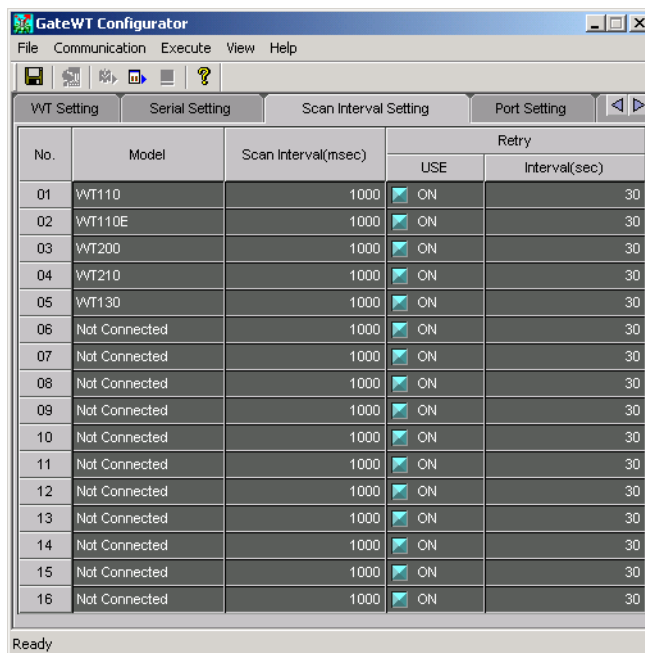
Scan Interval Settings

2. Specify a scan interval from 0.5 to 3600 seconds.

Setting the Number of Retries

3. Turn the communication retry setting ON or OFF.

4. Enter the time interval between retries.

The available setting range is 30 to 3600 seconds.

Port Settings

Procedure

1. Choose File > Port Number from the menu bar.
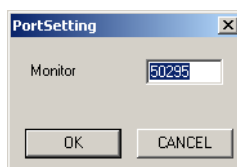
2. You can change the port number used by the monitor server.

Saving Environment Settings

Procedure

1   Click the Save button on the tool bar or choose **File > Save** from the menu bar.

Save button

Test Acquisition

Procedure

1.   Double-click a number in the GateWT Configurator.

The Tag Setting dialog box opens.
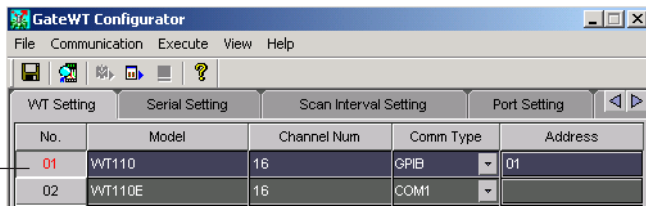
Double-click
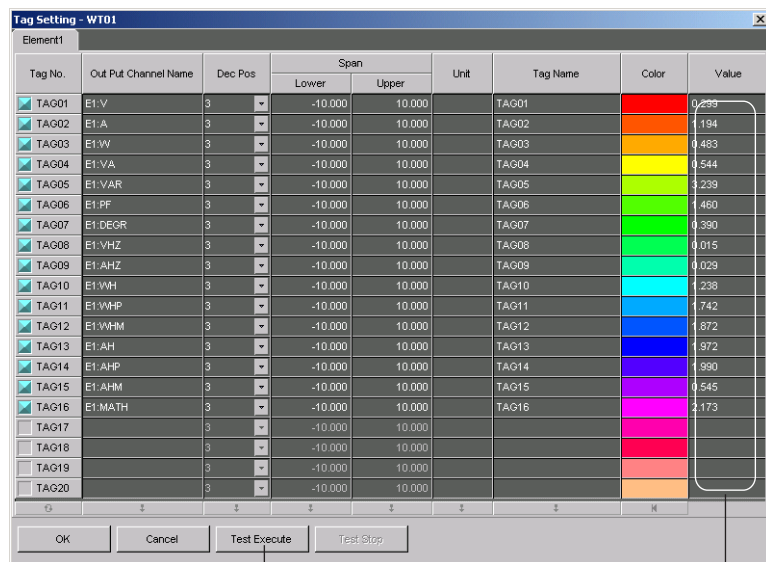
Click   **Test acquisition result**

2.   Click the Test Execute button.

The test acquisition result is displayed in the Value column.

2.3 Connecting from DAQLOGGER or Remote Monitor

While the executable function is running, DAQLOGGER or Remote Monitor works via Ethernet to log and monitor the data that the WT is acquiring. GateWT's executable function acts as the client of a DAQLOGGER or Remote Monitor that is running as the monitor server.

In this case, system numbers are assigned as follows:

WT assigned to WT01 : 0
WT assigned to WT02 : 1

Connecting from DAQLOGGER

Procedure

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

Note

• If a connection is made with GateWT when DAQLOGGER's system server setting is set to No system number, the connected WTs are handled on the same system. For example, if a GateWT with two WTs connected is set to No system number on DAQLOGGER, DAQLOGGER handles both units channels as a single connected GateWT.
• When recorder model determination is performed by DAQLOGGER, models numbered 01 under GateWT's "WT Setting" are displayed as No. 00. To identify models numbered 02 or higher, specify the system number on DAQLOGGER. For example, for number 02, specify 01 under System No.

Connecting from Remote Monitor

Procedure

See section 8.1 of the WX101 DAQLOGGER WX81 DAQLOGGER Client Package User's Manual (IM WX101-01E), or section 9.2 of the WX102 DAQ32Plus WX82 DAQ32Plus Client Package User's Manual (IM WX102-01E).

2.4 Process Run/Stop and Service Run/Stop

Running/Stopping from the Menu Bar

Procedure

Running as a Process or Service

1. Click the Service execution or Process execution button on the tool bar. Or, choose **Execute > Service** or **Execute > Process** from the menu bar.

   The executable function starts as a process or service. "Service" or "Process" is displayed under Practice Status on the Practice Status tab.

   Stop button
   Process execution button
   Service execution button

Note

- Service execution can only be specified by users with Administrator privileges.
- Services cannot be executed when using Windows Vista.

Stopping the Process or Service

1. Click the Stop button on the tool bar or choose **Execute > Stop** from the menu bar.

   The Practice Status item shown on the Practice/Status tab displays "Stop."

Running/Stopping the Executable Function from the Practice/Status Tab

Procedure

1. Click the Practice/Status tab or choose **View > Practice/Status** from the menu bar.

   The Practice/Status tab is displayed.
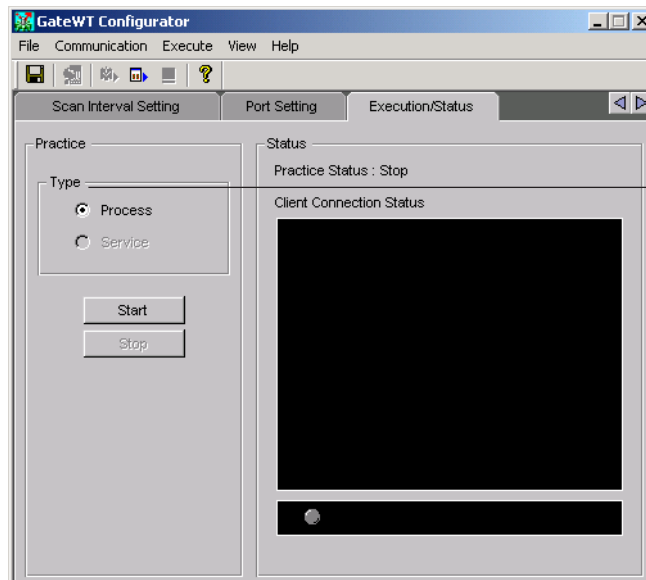
   Select the practice type

Running as a Process or Service

2. Select to execute the function as a process or service.
3. Click Practice.

   The executable function starts, and "Service" or "Process" is displayed under Practice Status.

Stopping the Process or Service

2. Click the Stop button.

   "Stop" is displayed for the practice status.

2.5 Viewing the Status of the Executable Function

Procedure

Displaying the Connection Status

1. Click the Execution/Status tab, or choose **View > Execution/Status** from the menu bar.

   The Execution/Status tab is displayed, allowing you to see the method under which the executable function may be running (as a process or as a service), whether or not it is running, and with which PCs communications are open.

Displays the names of connected clients

Double-click to display the Error Indicator dialog box

Select the practice type

Displays the communications status with the client
Gray: Stopped
Red: Error
Green: Normal
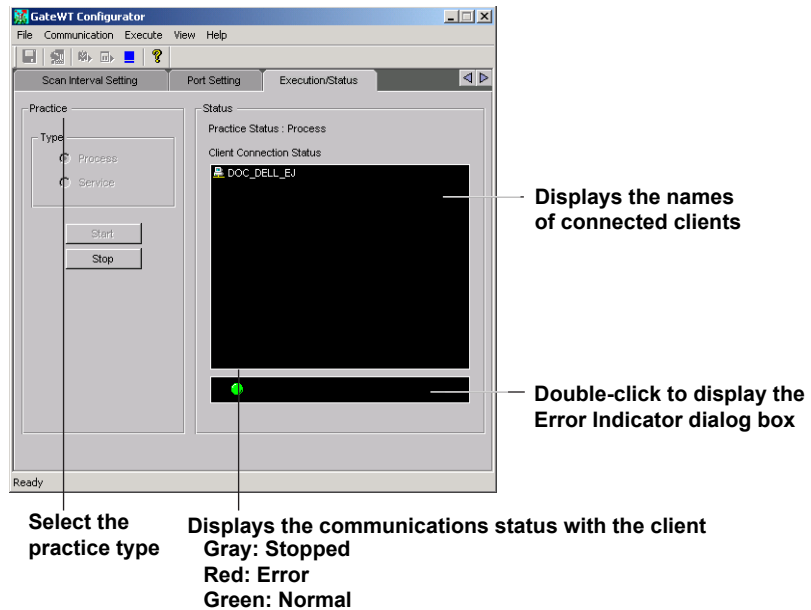
Viewing Error Detail

2. Double-click the box displaying the client communication status on the Execution/Status tab (shown above).

   The Error Indicator dialog box opens.
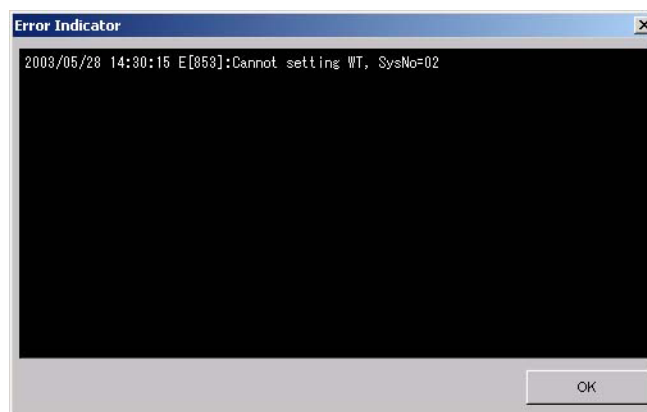
See section 3.3 for error messages.

Note

- If a warning message is displayed (code Wxxxx), the lamp that displays the connection status by color does not blink red.
- When an error occurs and the lamp blinks red, the Error Indicator dialog box appears. If you close the dialog box, the lamp turns green.

# 2.6　Viewing Version Information

Procedure

1. Click the About button on the tool bar or choose Help > About from the menu bar.

About button

The Version dialog box opens.

Version

GateWT Configurator **Version**　　　OK

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Software Japan

This Product is licensed to:

Company name

User name

License number

3.1   Overview

GateWT opens communications with WT series instruments and acquires data at regular intervals. Through the monitor server function, the acquired data is transferred to DAQLOGGER or Remote Monitor via Ethernet. GateWT Configurator consists of two separate software functions. The following is a list of the features of each software function.

Environment Setting Functions

Basically, the environment setting functions are used to enter all environment settings required to run the executable function. The environment setting functions include the following :

- Entry of parameters used for communications with up to 16 WTs.
  For GPIB :   Address
  For serial communications: Port, baud rate
- Display of information (model and number of channels) from the WTs to be connected
  The software can open communication with the WTs and obtain this information automatically.
- Tag settings for each WT
  - Use/Do not use (ON/OFF)
  - Upper/lower limit of span
  - Decimal place
  - Unit
  - Tag name
  - Color
- Entry of the acquisition interval and port numbers for the executable function
- Test execution
- The above communication parameters, information from the WT, acquisition interval, and port numbers can be saved
  Later, this information can be loaded by the executable function.
- Runs/stops the executable function as a process
  Two executable functions cannot be run at the same time.
  If the function is already running as a service, it cannot be run as a process.
- Registers/deletes the executable function as a process
  The function can run as a service while being registered.
  It can be registered as an automatically executable service.
- Displays the status of the executable function
  Stopped, running as a service, running as a process
- Displays a list of monitor clients connected with the executable function
- Displays errors from the executable function
  Sockets are used for communication with the executable function.

Executable Function

Features of the executable function are as follows:
- Runs as a service
- Multiple instances of the function may not be run simultaneously
- Reads the settings file and connects with up to 16 WTs
  Communication protocols: GPIB, RS-232C
- Reads instantaneous data from the WTs at fixed intervals and saves the data to internal memory
  Reading interval: 0.5 – 3600 seconds
  The internal memory holds the 1800 most recent data samples.
- Runs as a monitor server
  Compatible with the DAQLOGGER monitor server specifications.
- Provides a list of clients connected to the status display function

3.2   Detailed Description of Functions

Serial Port

The communications ports available to GateWT are the COM1–COM9 serial (RS-232) ports. The user must enter the following port settings.
- Use/Do not use (ON/OFF)
- Baud rate :   Select 4800 or 9600
- Data length : Fixed at 8
- Parity :   Fixed at NONE
- Stop bit :   Fixed at 1

GPIB Communication

GateWT can use GPIB addresses 1–30.

WT Settings

GateWT allows simultaneous connection with any combination of 16 of the following instruments: WT110, WT110E, WT130, WT200, WT210, WT230, WT1010, WT1030, WT1030M, WT2010, or WT2030.

The user must enter the following on the WTs to be accessed.
- Choose a communication method (COMx , GPIB, or Ethernet)

  For GPIB

Communications mode :	488.2
Address :	1–30

  For RS-232 (for instruments in the WT series other than the WT1600)

Communications mode :	488.2
Handshaking :	0
Format :	0
Delimiter :	Cr + Lf
Baud rate :	4800, 9600, 19200

  For RS-232 (WT1600)

Communication mode :	488.2
Handshaking :	CTS-RTS
Format :	8-NO-1
Delimiter :	Cr+Lf
Baud rate :	4800, 9600, 19200

  For Ethernet : Enter the following settings.

  When Using DHCP
  - Domain name
  - Primary DNS server address
  - Secondary DNS server address
  - Primary domain suffix
  - Secondary domain suffix

  When Using DNS
  - IP address
  - Subnet mask
  - Default gateway

Note

When connecting with DAQLOGGER to acquire data from the WT, if the number of channels set on the WT Setting tab exceeds 1600, 1600 channels of data is sent to DAQLOGGER, starting with the first channel of the instrument of the smallest system number. Also, if an error occurs on an instrument during the first communication and communication is restored by executing a communication retry, connection is possible with that instrument in 1 scan mode without any channels being cut out.

3

Automatic Model Determination

If you select a WT and perform automatic model determination, the model and number of channels are passed to the WT Setting tab on the configurator.

However, harmonic option output and harmonic mode are not supported.

Models and Number of Channels (Model Name in Brackets)

Model	Number of channels
WT110 [253401]	19
WT110E [253451]	
WT200 [253421]	
WT210 [760401]	
WT130 (2Elements) [253502]	53
WT230 (2Elements) [760502]	
WT230 (3Elements) [253503]	70
WT230 (3Elements) [760503]	
WT1010 [253610]	18
WT2010 [253101]	
WT1030 (2Elements) [253620]	46
WT2030 (2Elements) [253102]	
WT1030 (3Elements) [253630]	61
WT2030 (3Elements) [253103]	
WT1030M [253640]	68
WT1600 (1Elements) [760101-01/-10]	76
WT1600 (1Elements) [760101-02/-11/-20]	123
WT1600 (1Elements) [760101-03/-12/-21/-30]	170
WT1600 (1Elements) [760101-04/-13/-22/-31/-40]	197
WT1600 (1Elements) [760101-05/-14/-23/-32/-41/-50]	224
WT1600 (1Elements) [760101-06/-15/-24/-33/-42/-51/-60]	251

Scan Interval

A scan interval from 0.5 to 3600 seconds is selected for each of the 16 WTs.

> **Note**
>
> When connecting to DAQLOGGER and acquiring data from the WTs, if GateWT's scan interval is longer than that of DAQLOGGER, DAQLOGGER logs the same data repeatedly until the next GateWT scan interval. Therefore, it is recommended that GateWT's scan interval be set to a value smaller than DAQLOGGER's scan interval.

Setting the Number of Retries

The Retry function can be turned ON and OFF for each of the 16 WTs.

If Retry is turned ON, a retry interval of 30 to 3600 seconds can be specified. Communication is reattempted each time the specified number of seconds elapses.

Retries are also performed on instruments with which a communication error occurred during the first communication.

Port Settings

GateWT uses the following ports.

- Monitor server port
  The port used for communications from DAQLOGGER and Remote Monitor.

Running/Stopping the Executable Function

The user interface allows you to start and stop the executable function.

The executable function runs under one of the following two methods or "types."

*   **Process Run/Stop**

    The executabºle function is run/stopped as a process.

*   **Service Run/Stop**

    The executable function is registered as an automatically executing service, then run. After an executable function running as a service is stopped, its registration as a service is deleted.

Note

As indicated by the service execution status, the executable function continues processing even when the user has logged off of Windows. Also, the software is automatically run as a service when the computer is turned ON. Service execution can only be specified by users with Administrator privileges. Services cannot be executed when using Windows Vista.

Monitor Server Function of the Executable Function

When the executable function is running, you can connect from DAQLOGGER or Remote Monitor via Ethernet using the remote monitor protocol, and acquire data. In this case, system numbers are assigned as follows:

WT assigned to WT01 :   0
WT assigned to WT02 :   1

Executable Function Status Display

The status display shows the status of the environment setting and executable functions.

The information from the executable function that can be displayed is as follows:

*   Practice status (stopped, running as a service, running as a process)
*   Connection status from the client

    Displays a list of PCs running DAQLOGGERS and Remote Monitors with which the executable software has opened a connection.
*   Error display

    Shows the presence or absence of errors on the executable function.

Test Acquisition

You can perform a test acquisition on each tag using the configurator. During the test acquisition, data is read from WT output channels assigned to each tag and displayed as digital values. This allows you to determine whether the communication settings for each tag are correct. The test acquisition gets values from assigned tags at intervals of approximately 1 second. Up to 32 tags can be assigned to a group, and up to 4 groups can be displayed.

The number of tags that can be assigned to a group differs depending on the type of connected device, and only up to 4 groups can be displayed.

Tag Settings

Initial settings of the tags are assigned according to the model information obtained during automatic model determination.

WT100/WT200

WT110 WT110E WT200 WT210	Group 1 (Group name: Element1)	Element1(V, A, W, VA, VAR, PF, DEGR, VHZ, AHZ, WH, WHP, WHM, AH, AHP, AHM)+MATH+TIME
WT130(2Element) WT230(2Element)	Group 1 (Group name: Element1)	Element1(V–APK)+MATH+TIME
	Group 2 (Group name: Element3)	Element3(V–APK)
	Group 3 (Group name: Sigma)	Sigma(V–APK)
WT130(3Element) WT230(3Element)	Group 1 (Group name: Element1)	Element1(V–APK)+MATH+TIME
	Group 2 (Group name: Element2)	Element2(V–APK)
	Group 3 (Group name: Element3)	Element3(V–APK)
	Group 4 (Group name: Sigma)	Sigma(V–APK)

WT1000/WT2000

WT1010 WT2010	Group 1 (Group name: Element1)	Element1 (V, A, W, VA, PF, DEGR, VPK, APK, WH, WHP, WHM, AH, AHP, AHM)+FREQ+MATH+TIME
WT1030 WT2030	Group 1 (Group name: Element1)	Element1(V–AHM)+FREQ+MATH+TIME
	Group 2 (Group name: Element3)	Element3(V–AHM)
	Group 3 (Group name: Sigma)	Sigma(V~AHM)
WT1030(3Element) WT2030(3Element)	Group 1 (Group name: Element1)	Element1(V–AHM)+FREQ+MATH+TIME
	Group 2 (Group name: Element2)	Element2(V–AHM)
	Group 3 (Group name: Element3)	Sigma(V–AHM)
	Group 4 (Group name: Sigma)	Sigma(V–AHM)
WT1030M	Group 1 (Group name: Element1)	Element1(V–AHM)+FREQ+MATH+TIME
	Group 2 (Group name: Element2)	Element2(V–AHM)
	Group 3 (Group name: Element3)	Element3(V–AHM)
	Group 4 (Group name: Sigma)	Sigma(V–AHM)
	Group 5 (Group name: Sigma)	TORQ, RPM, SRPM, SLIP, MPOW, MEFF, TEFF

WT1600

Tags set to group ElementX are the same as those for Element1. Tags set to group SigmaX are the same as those for SigmaA.

Note

Since the maximum number of parameters that can be acquired via communications by the WT1600 is 255, GateWT cannot acquire Cfu, Chi, FfU, FfI, Z, Rs, Xs, Rp, or Xp.

WT1600 (1Element)	Groupe 1 (Groupe Name:Element1)	Element1(URMS, UMN, UDC, UAC, IRMS, IMN, IDC, IAC, P, S, Q, LAMBda, PHI, FU, FI, PC, UPPeak, UMPeak, IPPeak, IMPeak, TIME, WH, WHP, WHM, AH, AHP, AHM)
	Groupe 2 (SigmaA)	SigmaA(URMS, UMN, UDC, UAC, IRMS, IMN, IDC, IAC, P, S, Q, LAMBda, PHI, PC, WH, WHP, WHM, AH, AHP, AHM)
	Groupe 3 (Other)	Other(ETA, SETA, F1, F2, F3, F4, DURMS1, DUMN1, DUDC1, DUAC1, DURMS2, DUDC2, DUAC2, DUMN2, DURM3, DUMN3, DUDC3, DUAC3, DIRM, DIMN, DIDC, DIAC)
	Groupe 4 (Motor)	Motor(TORQue, SPEed, SYNC, SLIP, PM, MAETa, MBETa)
WT1600 (2Elements)	Groupe 1 (Element1)	Element1(URMS—AHM)
	Groupe 2 (Element2)	Element2(URMS—AHM)
	Groupe 3 (SigmaA)	SigmaA(URMS—AHM)
	Groupe 4 (SigmaB)	SigmaB(URMS—AHM)
	Groupe 5 (Other)	Other(ETA—DIAC)
	Groupe 6 (Motor)	Motor(TORQue—MBETa)
WT1600 (3Elements)	Groupe 1 (Element1)	Element1(URMS—AHM)
	Groupe 2 (Element2)	Element2(URMS—AHM)
	Groupe 3 (Element3)	Element3(URMS—AHM)
	Groupe 4 (SigmaA)	SigmaA(URMS—AHM)
	Groupe 5 (SigmaB)	SigmaB(URMS—AHM)
	Groupe 6 (SigmaC)	SigmaC(URMS—AHM)
	Groupe 7 (Other)	Other(ETA—DIAC)
	Groupe 8 (Motor)	Motor(TORQue—MBETa)
WT1600 (4Elements)	Groupe 1 (Element1)	Element1(URMS—AHM)
	Groupe 2 (Element2)	Element2(URMS—AHM)
	Groupe 3 (Element3)	Element3(URMS—AHM)
	Groupe 4 (Element4)	Element4(URMS—AHM)
	Groupe 5 (SigmaA)	SigmaA(URMS—AHM)
	Groupe 6 (SigmaB)	SigmaB(URMS—AHM)
	Groupe 7 (SigmaC)	SigmaC(URMS—AHM)
	Groupe 8 (Other)	Other(ETA—DIAC)
	Groupe 9 (Motor)	Motor(TORQUA—MBETa)
WT1600 (5Elements)	Groupe 1 (Element1)	Element1(URMS—AHM)
	Groupe 2 (Element2)	Element2(URMS—AHM)
	Groupe 3 (Element3)	Element3(URMS—AHM)
	Groupe 4 (Element4)	Element4(URMS—AHM)
	Groupe 5 (Element5)	Element5(URMS—AHM)
	Groupe 6 (SigmaA)	SigmaA(URMS—AHM)
	Groupe 7 (SigmaB)	SigmaB(URMS—AHM)
	Groupe 8 (SigmaC)	SigmaC(URMS—AHM)
	Groupe 9 (Other)	Other(ETA—DIAC)
	Groupe 10 (Motor)	Motor(TORQue—MBETa)

WT1600 (6Elements)	Groupe 1 (Element1)	Element1(URMS—AHM)
	Groupe 2 (Element2)	Element2(URMS—AHM)
	Groupe 3 (Element3)	Element3(URMS—AHM)
	Groupe 4 (ElementÇS)	Element4(URMS—AHM)
	Groupe 5 (Element5)	Element5(URMS—AHM)
	Groupe 6 (Element6)	Element6(URMS—AHM)
	Groupe 7 (SigmaA)	SigmaA(URMS—AHM)
	Groupe 8 (SigmaB)	SigmaB(URMS—AHM)
	Groupe 9 (SigmaC)	SigmaC(URMS—AHM)
	Groupe 10 (Other)	Other(ETA—DIAC)
	Groupe 11 (Motor)	Motor(TORQue—MBETa)

A list of function names used in this manual and function names used on the WT1600 (Numerical display header name)

Function names used in this manual	: Function names used on the WT1600 (Numerical display header name)	Function names used in this manual	: Function names used on the WT1600 (Numerical display header name)
URMS	: Urms	PC	: Pc
UMN	: Umean	TIME	: I-Time
UDC	: Udc	WH	: Wp
UAC	: Uac	WHP	: Wp+
IRMS	: Irms	WHM	: Wp-
IMN	: Imean	AH	: q
IDC	: Idc	AHP	: q+
IAC	: Iac	AHM	: q-
P	: P	ETA	: η
S	: S	SETA	: 1/η
Q	: Q	F1	: F1
LAMBda	: λ	F2	: F2
PHI	: φ	F3	: F3
FU	: FreqU (fU)	F4	: F4
FI	: FreqI (fI)	DURMS	: ΔUrms
UPPeak	: U+peak (U+pk)	DUMN	: ΔUmean
UMPeak	: U-peak (U-pk)	DUDC	: ΔUdc
IPPeak	: I+peak (I+pk)	DUAC	: ΔUac
IMPeak	: I-peak (I-pk)	DIRMS	: ΔIrms
CFU	: CfU	DIMN	: ΔImean
CFI	: CfI	DIDC	: ΔIdc
FFU	: FfU	DIAC	: ΔIac
FFI	: FfI	SPEed	: Speed
Z	: Z	TORQue	: Torque
RS	: Rs	SYNC	: SyncSpd
XS	: Xs	SLIP	: Slip
RP	: Rp	PM	: Pm
XP	: Xp	MAETa	: ηmA

Channel Names, Tag IDs, and Tag Names

GateWT's default channel names and tag IDs are the same: EI:V, EI:A, … etc.

The tag names are the names of the output items on the connected WT: TAG01, TAG02, …etc. These can be changed.

Note

When connecting DAQLOGGER to GateWT, channel names and tag IDs are ignored. You can download tag names using tag setting software.

Channel Colors

The default channel colors on GateWT are the following 16 colors.

Red, Green, Blue, Magenta, Orange, Cyan, Brown, LightGray, Purple, Pink, Yellow, White, CaditBlue, LightPink, LightGreen, Salmon

These can be changed.

GateWT is started and the data of a possible data collection from WT1600

GateWT doesn't correspond to "Harmonic component mode." Therefore, the data collection of the parameter in the harmonic component mode is not made.

	ch1	ch2	ch3	ch4	ch5	ch6	ΣA	ΣB	ΣC	motor
Voltage RMS	URMS	URMS	URMS	URMS	URMS	URMS	URMS	URMS	URMS	TORQue
Voltage MEAN	UMN	UMN	UMN	UMN	UMN	UMN	UMN	UMN	UMN	SPEed Revolution sped
Voltage DC	UDC	UDC	UDC	UDC	UDC	UDC	UDC	UDC	UDC	SYNC Synchronization speed
Voltage AC	UAC	UAC	UAC	UAC	UAC	UAC	UAC	UAC	UAC	SLIP
Current RMS	IRMS	IRMS	IRMS	IRMS	IRMS	IRMS	IRMS	IRMS	IRMS	PM Motor output
Current MEAN	IMN	IMN	IMN	IMN	IMN	IMN	IMN	IMN	IMN	MAETa Motor efficiency
Current DC	IDC	IDC	IDC	IDC	IDC	IDC	IDC	IDC	IDC	MBETa total efficiency
Current AC	IAC	IAC	IAC	IAC	IAC	IAC	IAC	IAC	IAC	
Active power	P	P	P	P	P	P	P	P	P	
Apparent power	S	S	S	S	S	S	S	S	S	
Reactive power	Q	Q	Q	Q	Q	Q	Q	Q	Q	
Power factor	LAMBda	LAMBda	LAMBda	LAMBda	LAMBda	LAMBda	LAMBda	LAMBda	LAMBda	
Phase difference	PHI	PHI	PHI	PHI	PHI	PHI	PHI	PHI	PHI	
Voltage frequency	FU	FU	FU	FU	FU	FU				
Current frequency	FI	FI	FI	FI	FI	FI				
Corrected Power Pc	PC	PC	PC	PC	PC	PC	PC	PC	PC	
Voltage + peak	UPPeak	UPPeak	UPPeak	UPPeak	UPPeak	UPPeak				
Voltage – peak	UMPeak	UMPeak	UMPeak	UMPeak	UMPeak	UMPeak				
Current + peak	IPPeak	IPPeak	IPPeak	IPPeak	IPPeak	IPPeak				
Current – peak	IMPeak	IMPeak	IMPeak	IMPeak	IMPeak	IMPeak				
Integration time	TI	TI	TI	TI	TI	TI				
Watt hour (positive and negative)	WH	WH	WH	WH	WH	WH	WH	WH	WH	
Watt hour (positive)	WHP	WHP	WHP	WHP	WHP	WHP	WHP	WHP	WHP	
Watt hour (negative)	WHM	WHM	WHM	WHM	WHM	WHM	WHM	WHM	WHM	
Current hour (positive and negative)	AH	AH	AH	AH	AH	AH	AH	AH	AH	
Current hour (positive)	AHP	AHP	AHP	AHP	AHP	AHP	AHP	AHP	AHP	
Current hour (negative)	AHM	AHM	AHM	AHM	AHM	AHM	AHM	AHM	AHM	
Delta computation voltage RMS	DURM	DURM	DURM							
Delta computation voltage MEAN	DUMN	DUMN	DUMN							
Delta computation voltage DC	DUDC	DUDC	DUDC							
Delta computation current AC	DUAC	DUAC	DUAC							
Delta computation current AC IRMS				DIRMS						
Delta computation current AC IMN				DIMN						
Delta computation current AC IDC				DIDC						
Delta computation current AC IAC				DIAC						
Efficiency 1	ETA									
Efficiency 2	SETA									
User-defined function 1	F1									
User-defined function 2	F2									
User-defined function 3	F3									
User-defined function 4	F4									

3

Detailed Description of Functions

3.3 Error Messages and Corrective Actions

Error

No.	Message	Corrective Actions
E211	Cannot write to file.	Check if the disk capacity is sufficient or if the file systems is normal.
E212	Cannot read file.	Check if the file exists and is supported by the software or if the file system is normal.
E213	Cannot open file.	Check if the file exists and is supported by the software or if the file system is normal
E401	Communication error.	Check if the recorder connected for communication is powered on and if the cable is properly connected. Also check the following items according the the communication type. • For Ethernet Check if address settings are correct; the TCP/IP protocol is installed in Windows; the Ethernet card is properly installed. • For RS-232 and RS-422-A Check if the baud rate settings match; the port (COM1 to COM9) settings match, the address settings are correct (RS-422-A); the serial port of the PC is active and the appropriate cable is being used.
E402	Communication timeout.	-
E403	Cannot open a communication port.	Same as E401.
E501	Invalid license number. Please reinstall the software.	Install the software again.
E1010	Execution of aprocess failed.	Check whether an executable function exists, or whether its files are damaged. If this error appears frequently, reinstall the software.
E1011	Execuition of a service failed.	Check whether an executable function exists, or whether its files are damaged. If this error appears frequently, reinstall the software.
E1600	The WT1000/WT2000 does not support	With WT1000/WT2000 series instruments, model determination can

Message

No.	Message
M1201	Model determination was successful.
M1210	Setting changes saved before execution.

Executable Function Messages

No.	Message	Corrective Actions
W[631]	Data Lack	Reduce the number of acquired data points or connected instruments, or lengthen the scan interval.
E[673]	Cannot open communication	Same as E401.
E[674]	Communication error	Same as E401.
E[675]	Communication time out	Same as E401.
E[850]	Command Error	An error was received from the WT. Check the status of the WT.
E[851]	Cannot setting WT	Check whether the communication status and connected instruments matches those specified in the software. If they do not, perform model determination again.
E[852]	Recive Continued	Check the communication status.
E[853]	Recieve data error	Check the communication status.
I[606]	Recovery Communication	Connection recovered.

Index

Index