

Technical Information

GA10 Data Logging Software Setup Guide

SMARTDAC+[®]

TI 04L65B01-02EN

Customizable layout

Instantly recognize alarms (in red)

Change the split location

Display only waveforms of interest

Zoom in/out on the Y axis. Easily line up overlapping waveforms for confirmation

Check values with the cursor. Calculate the difference between 2 points "on the fly."

Add memos (marks) to key locations for later confirmation

Play back data up to recording start, even during measurement

Max. 100 devices

100 ms high-speed acquisition

Max. 2000 channels (tags)

The contents of this Technical Information are subject to change without notice.

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Introduction

This document describes the setup for GA10 Data Logging Software.

■ Notice

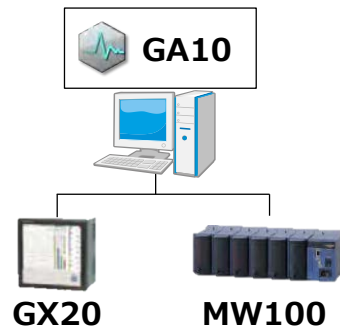
- The contents of this manual are subject to change without notice as a result of continuing improvements to the instrument's performance and functions.
- Every effort has been made to ensure accuracy in the preparation of this manual. Should any errors or omissions come to your attention, however, please inform Yokogawa Electric's sales office or sales representative.
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❖ 1. Collecting Data with GA10 for the First Time

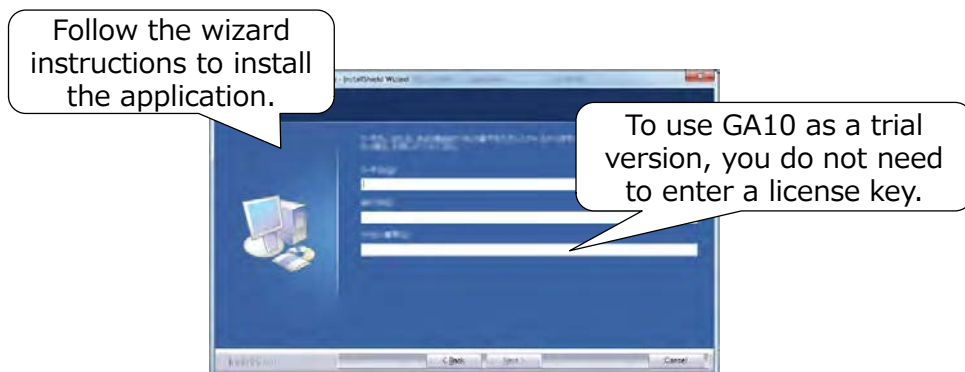
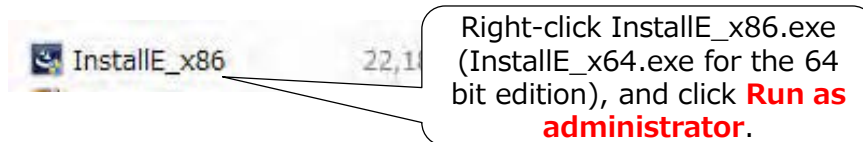
❖ Let's actually connect devices to GA10 and collect data.



* To connect the UT, PR, or JUXTA series; other Modbus devices; or the WT series, see Section 10.

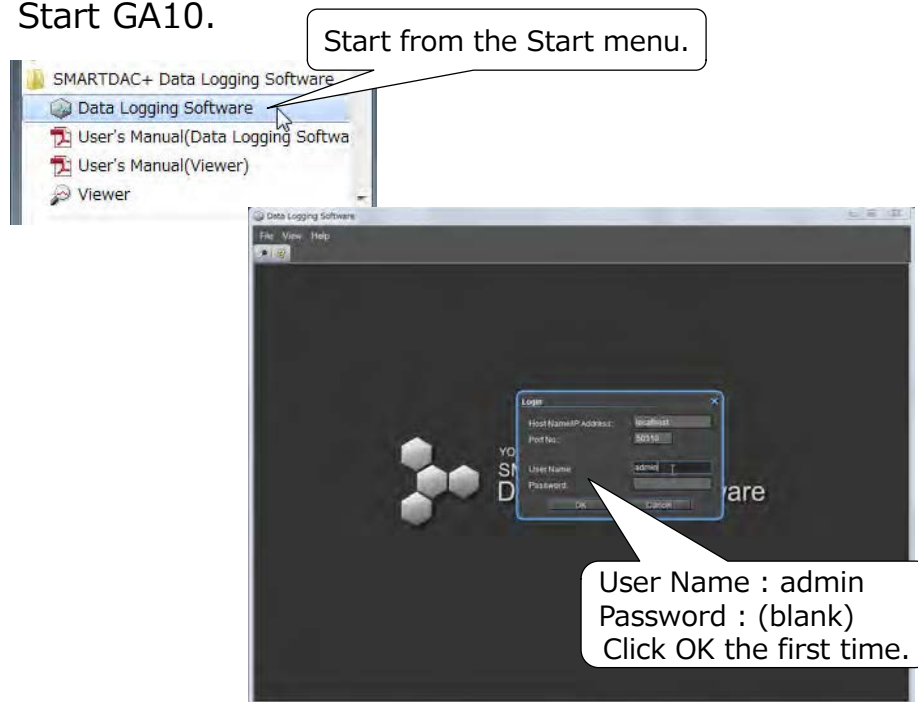
❖ 2. Installing GA10

❖ Download GA10 from the Web site, and install it in your PC.



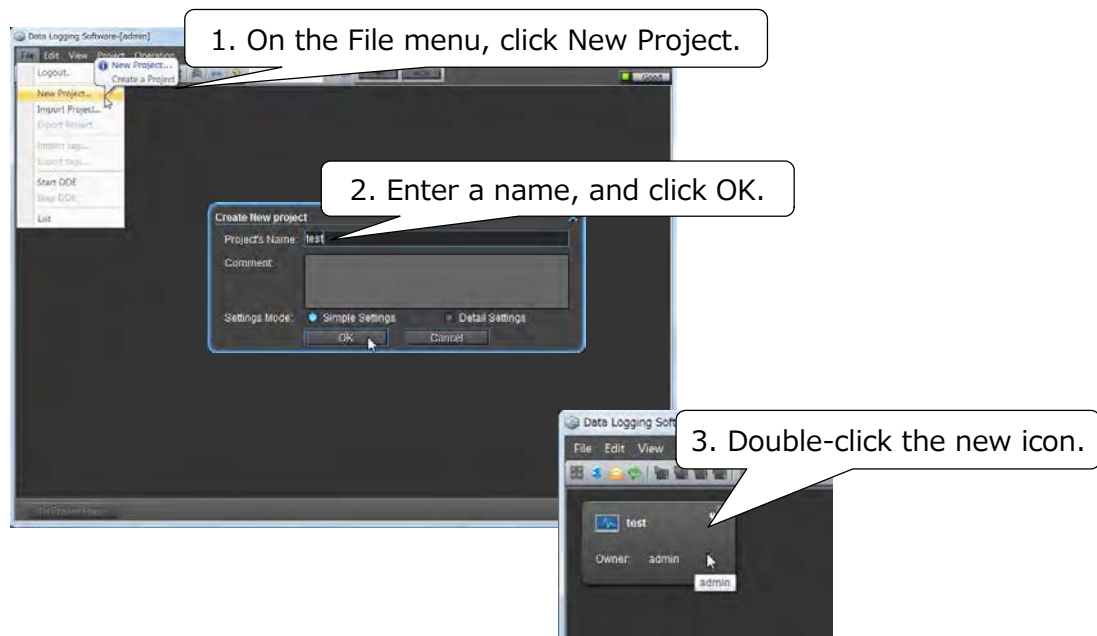
❖ 3. Simple Settings 1/4

❖ Start GA10.



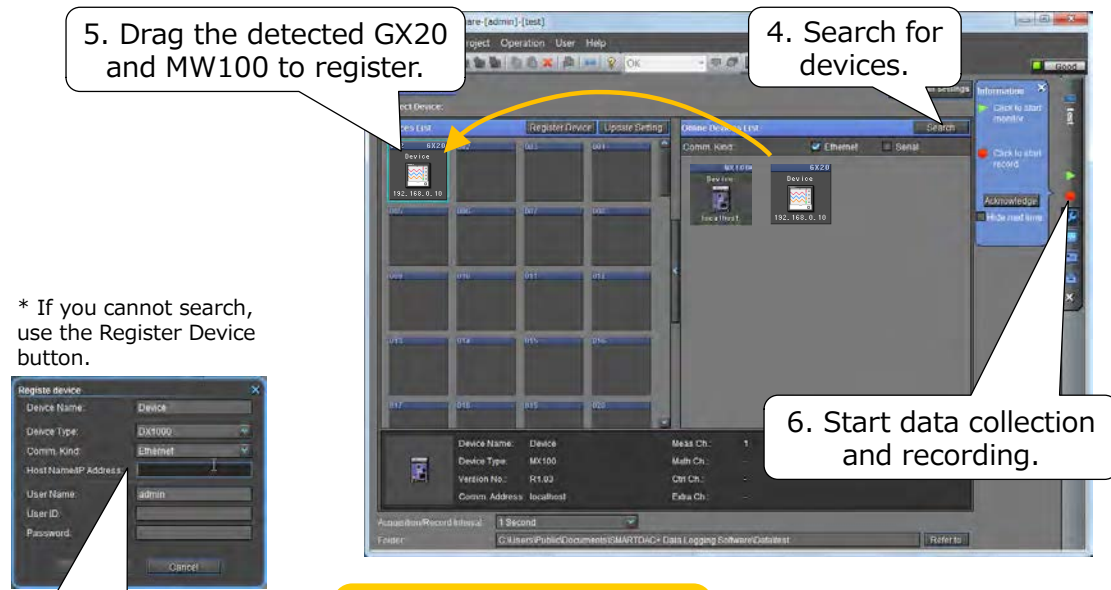
❖ 3. Simple Settings 2/4

❖ Assign a name to the project.



3. Simple Settings 3/4

Simply register devices, and you can start collecting data.



* If you cannot search, use the Register Device button.

- Select the device name.
- Enter the IP address or serial settings.

* For details on using the UT, PR, or JUXTA series; Modbus devices; or the WT series, see section 10.

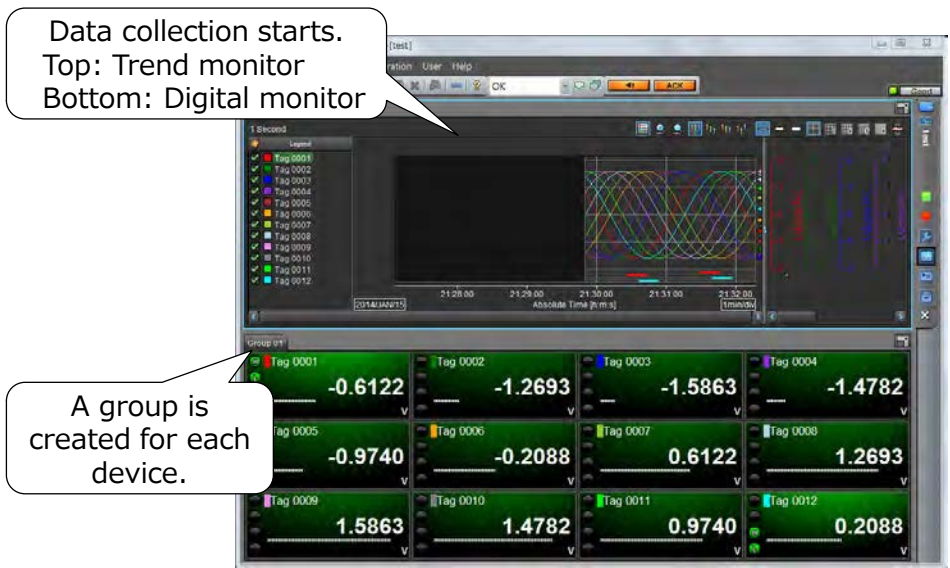
- ▶ Monitor: Monitoring only
- Record: Saves data to file.

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3. Simple Settings 4/4

You can start collecting data by simply performing the aforementioned steps.



A group is created for each device.

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4. Viewing the Recorded Data

❖ If you recorded data, you can view the data with the viewer.

The image shows two windows from the Data Logging Software. The top window displays a 'Data List' table with columns: File Name, Data Number, Record Interval, Start Time, End Time, File Size, and Comment1. The bottom window shows a 'Universal Viewer' displaying a graph of recorded data over time.

1. Click the icon on the right side to switch to the data list page.

2. Double-click the data that you want to view.

The viewer starts.

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5. Changing the Settings in Detail (Detail Settings)

❖ Switch to Detail Settings mode.

The image shows the 'Detail Settings' mode in the Data Logging Software. It features a left-hand menu with options like Tag, Display, Record, Alarm, and Access/Others. The main area displays a grid of device settings for various devices.

Use the tabs on the right side to switch pages.

Click the Detail Settings button.

Detail Settings mode
Set the items in the left menu in order from the top.

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❖ 6. Changing Tag Names (Detail Settings)

❖ You can change tag numbers and tag comments.

Select Tag.

You can enter tag numbers and tag comments.

You can copy and paste selected lines, turn on and off tags collectively, and assign numbers automatically (increment).z

❖ 7. Assigning Tags to Groups and Changing the Display (1) (Detail Settings)

❖ You can assign tags to different groups as you like.

❖ You can change how to display the waveforms, such as the waveform color, meter type, Y-axis, and scale.

On the View menu, click Display Group.

Group tags any way you like. Automatic assignment by device or by a specific number of tags is possible.)

Display group name

Y-axis to use for trends

Meter display type

Max. and min. scale values to display

7. Assigning Tags to Groups and Changing the Display (2) (Detail Settings)

Zone: Specify the vertical waveform position.
Example: Specify 1 to 25, 25 to 75, and 75 to 100.

Trip: Displays a horizontal guideline
Example: Specify 5.0.

8. Selecting the Data Time

- ❖ We recommend you use "PC time," which does not divide the screen or files.
- ❖ Use "Device time" to back up data or when replacing DAQ32Plus.

- Monitoring applications on a PC
- If you want data to be consolidated into a single file
- For replacing DAQLOGGER

| | Timestamp | Collection and record interval | Backfill* | Monitor page (Trend/Alarm) | Data file |
|-------------|--------------------|---------------------------------|-----------|---|---|
| PC time | Time on the PC | Can be set freely | No | Displayed on a single page | Saved to a single file |
| Device time | Time on the device | Uses the interval on the device | Yes | Page divided by device or collection interval | File divided by device or collection interval |

- Data backup applications
- For replacing DAQ32Plus (using one Darwin unit)

- * Backfill operates under the following conditions.
- Applicable devices: GX/GP/DX/MV
 - Data is retained in the device's internal memory.
 - The device's FTP function is on.

9. Changing the Monitor Page (Detail Settings)

The monitor page can be divided into up to 16 monitor sets.

On the View menu, click Acquisition & Monitor.

Example 1: 4 monitor sets (horizontally divided into 2)



Example 2: 6 monitor sets (horizontally divided into 2)

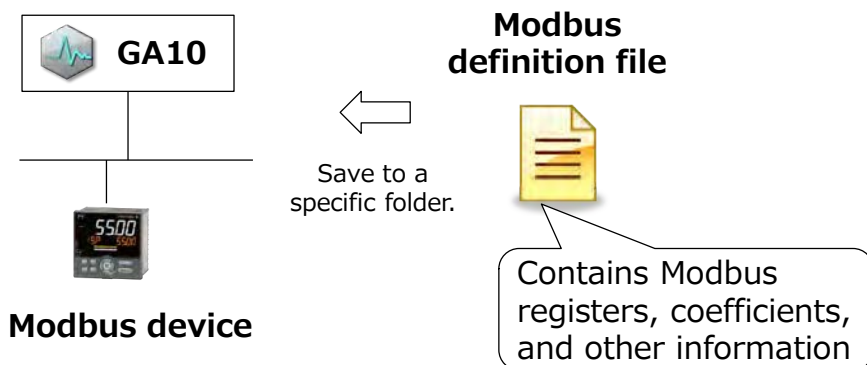


The available display types are trend, digital, meter, and alarm.

Check the preview.

10. Connecting a Modbus Devices

To connect a UT, PR, or JUXTA series device or other Modbus device, you need to register a "definition file" containing the device information in GA10.



❖ 11. Creating a Modbus Definition File (1/2)

❖ Download a sample file from the Web site, and edit it using Windows Notepad.

From the Start menu, select Accessories and then Notepad.

Drop the sample file on Notepad and edit. (For editing instructions, see the next page.)

When you finish editing, be sure to use Save As to save the file. Set the character coding to UTF-8.

❖ 11. Creating a Modbus Definition File (2/2)

❖ Key points for editing the sample file

```

<?xml version="1.0" encoding="utf-8"?>
<ModbusDevice Type="UT55Asample">
  <Registers>
    <Register Name="PV1" FunctionCode="3" Address="42003" DataType="INT16"></Register>
    <Register Name="SP1" FunctionCode="3" Address="42004" DataType="INT16"></Register>
  </Registers>
  <Channels>
    <Channel Name="PV1" DecimalPos="1" ScaleRatio="1" ScaleOffset="0" Unit="degC">
      <Value Register="PV1"></Value>
    </Channel>
    <Channel Name="SP1" DecimalPos="1" ScaleRatio="1" ScaleOffset="0" Unit="degC">
      <Value Register="SP1"></Value>
    </Channel>
  </Channels>
</ModbusDevice>
  
```

1. Device name that appears when registering the device to GA10

2. Channel name, function code, register, data type

3. Decimal place, scale, offset, unit

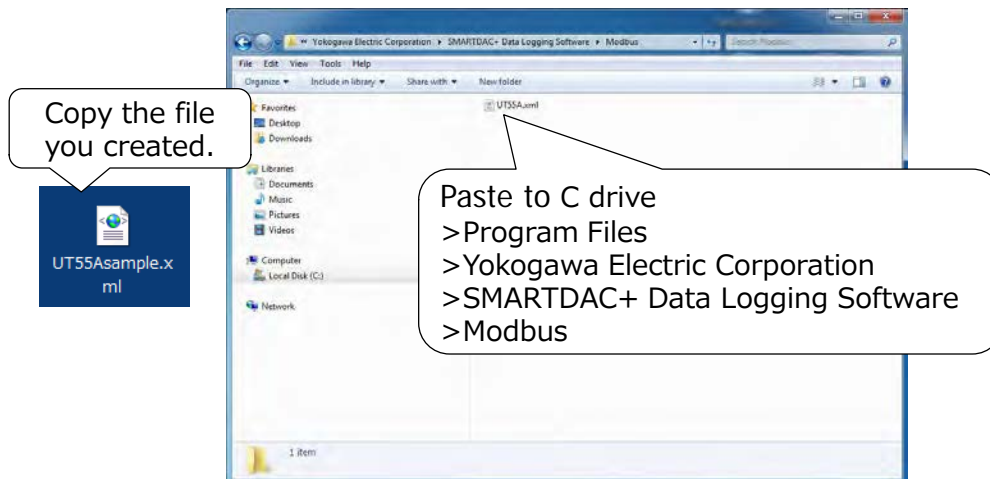
Add as necessary.

This sample is for loading PV1 and SP1 of a UT55A.

| | |
|------------------------|------------------------|
| Channel name: PV1 | Channel name: SP1 |
| Function code: 3 | Function code: 3 |
| Register number: 42003 | Register number: 42004 |
| Data type: INT16 | Data type: INT16 |
| Decimal place: 1 | Decimal place: 1 |
| Scale: 1 | Scale: 1 |
| Offset: 0 | Offset: 0 |
| Unit: degC | Unit: degC |

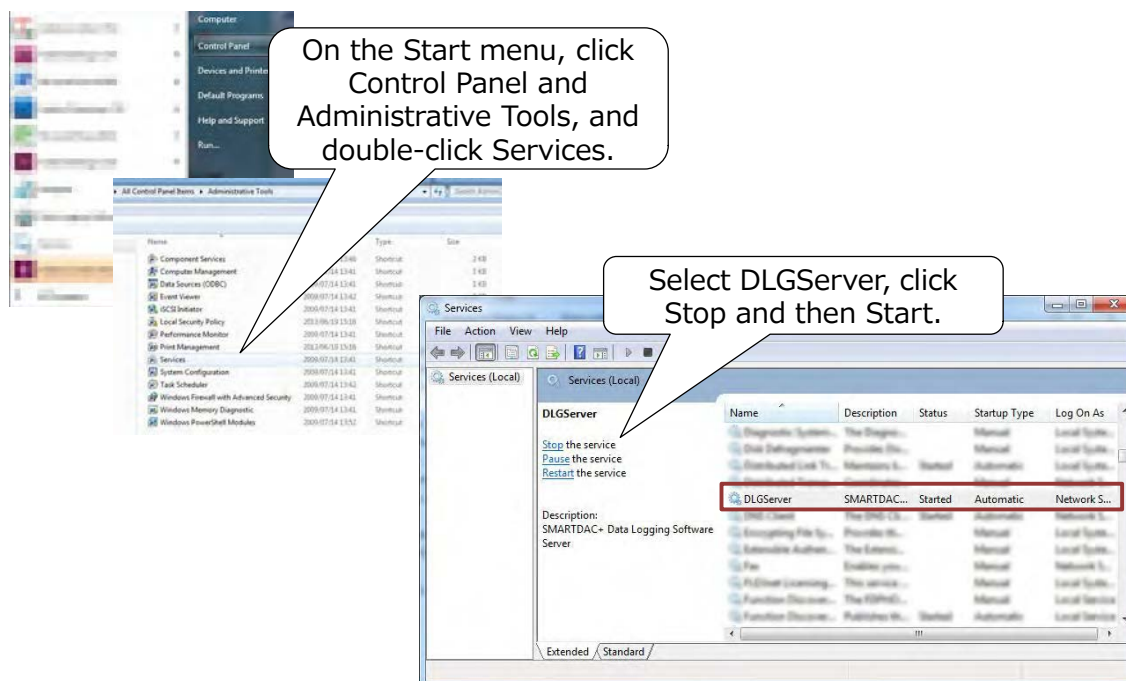
❖ 12. Copying the File Created in Step 1 to a Specific Folder

❖ Copy the file to the specific folder.



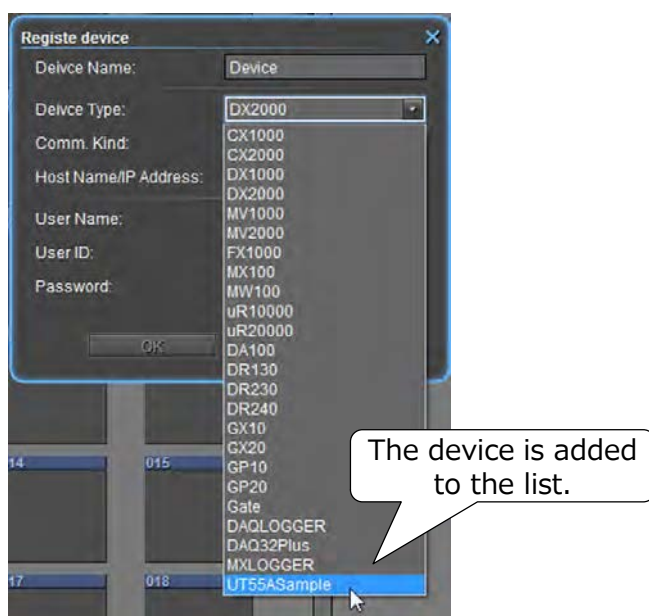
❖ 13. Restarting the Server

❖ Restart the GA10 service.



❖ 14. Register the Device to GA10

❖ On the GA10 Setting Page, register the device that you defined.



❖ 15. Connecting a WT Series Device

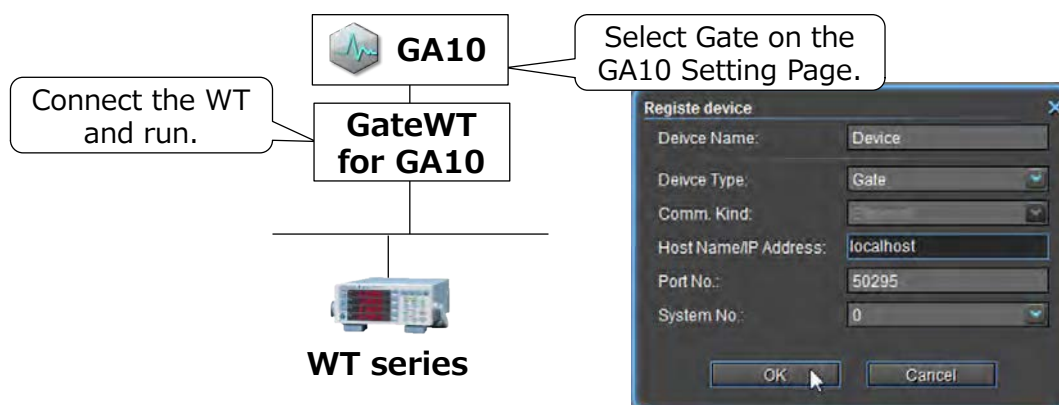
❖ Download GateWT for GA10, and use it to make the connection.

License: You can install it using the GA10 license key.

Applicable models: WT210/230/500/1800

* The WT310/330 can be connected using the WT210/WT230 compatible command mode.

Communication port: Ethernet or serial



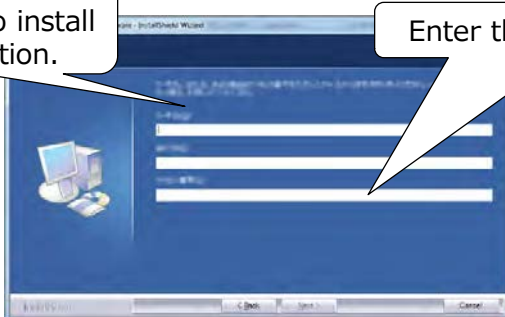
❖ 16. Installing GateWT for GA10

- ❖ Be sure to read "Readme.txt"
- ❖ Install GateWT for GA10.

Right-click Install.exe, and click **Run as administrator**.

Follow the wizard instructions to install the application.

Enter the GA10 license key.



❖ 17. Configuring GateWT for GA10 (1/2)

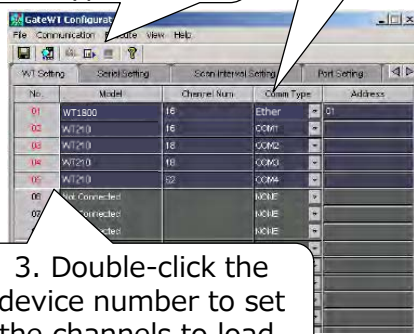
- ❖ Start GateWT for GA10.

2. Select the device to automatically detect the device type.

1. Select the communication method.

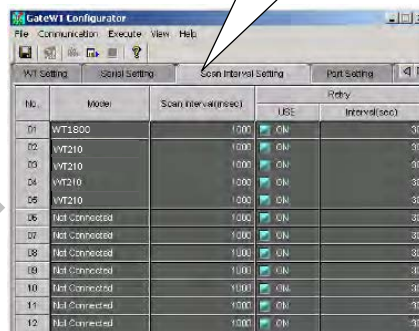
ETHER: Enter the address (IP address).
COM: Set on the serial setting tab in advance.

4. On the Scan Interval Setting Tab, set the scan interval (msec).



3. Double-click the device number to set the channels to load.

Switch tabs



Switch tabs



❖ 17. Configuring GateWT for GA10 (2/2)

❖ When you finish the settings, register the device to GA10.

6. On the Execution/Status tab, click the process execution button.

7. Register the device on the GA10 Setting Page.

Device type: Gate
IP address: localhost

8. Start data collection and recording on GA10.

9. Check that the PC information is added to the connection status.

Switch tabs

Ready

Practice
Type: Process
Start
Stop

Status
Practice Status: Process
Client Connection Status
DOC_DLL_EJ

Register device
Device Name: Device
Device Type: Gate
Comm. Kind:
Host Name/IP Address: localhost
Port No.: 50295
System No.: 0
OK Cancel

❖ 18. To DAQWORX Users

❖ Please replace DAQWORX with GA10.

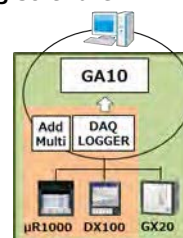
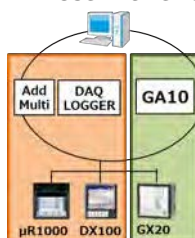
❖ However, in the following cases, use the existing software together with GA10.

- Windows XP or earlier is in use.
- Connecting to a discontinued product.
- GP-IB communication is in use.
- Event processor (e-mail transmission, FTP transfer, html conversion, etc.), report function, file utility (file split and merge), math channels, AO channels, or DO channels are in use.
- AddTrigger, AddObserver, or DataBrowser is in use.

Replace entirely



Use with existing software



❖ 19. Replacing Entirely (1/2)

- ❖ Reconfigure the system using GA10.
- ❖ To save the current settings, use the DAQWORX print function.

DAQLOGGER environment settings (ENVI) example

The image shows two screenshots from the DAQLOGGER Manager software. The top screenshot is the main interface with a callout pointing to the 'ENVI' button. The bottom screenshot is the 'DAQLOGGER Software Configuration' dialog box, with a callout pointing to the 'File > Print' menu option. To the right is a network diagram showing a central 'GA10' node connected to three peripheral nodes: 'DX1000', 'MW100', and 'GX20'. A callout points to the GA10 node with the text 'Replace entirely' and another callout points to the connection lines with the text 'Reconfigure.'

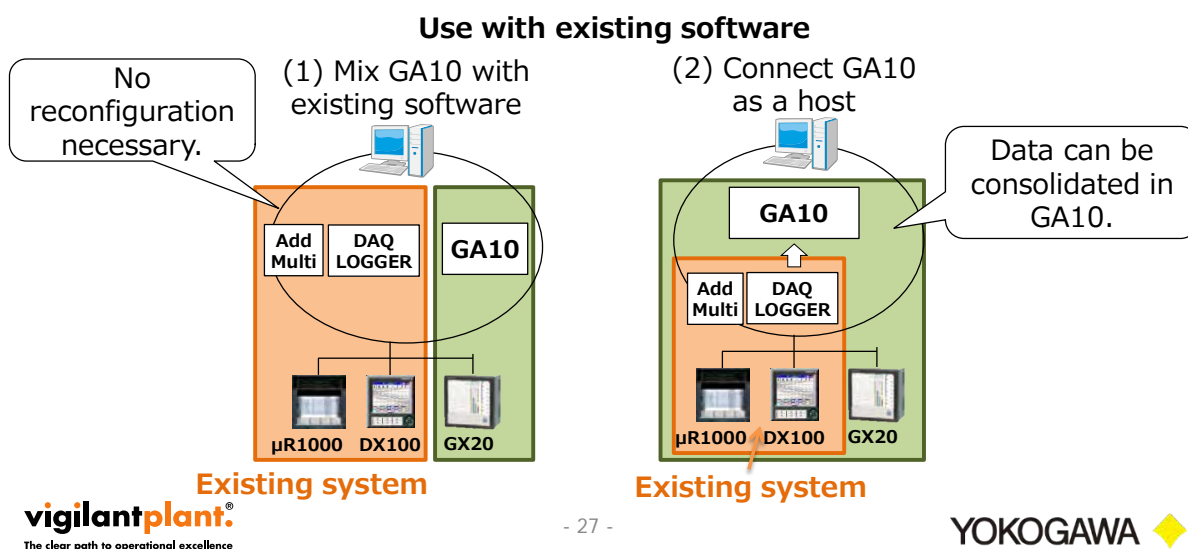
❖ 19. Replacing Entirely (2/2)

- ❖ You can reduce the burden of configuration by using the GA10 tag import feature, tag auto assignment feature, and the Action bar.

The image contains three screenshots from the DAQLOGGER software. The first screenshot shows the 'Detail Settings > Tag' menu with 'Import tags...' selected, and a callout explaining that tag names and comments can be imported from Excel or Notepad. The second screenshot shows 'Detail Settings > Display > Display Group' with an 'Assign Automatically' dialog box open, showing options to assign tags by number or by device. The third screenshot shows 'Detail Settings > Tag or Display' with a table of tag configurations and a callout explaining that selected lines can be copied, pasted, and tags can be assigned automatically (incremented).

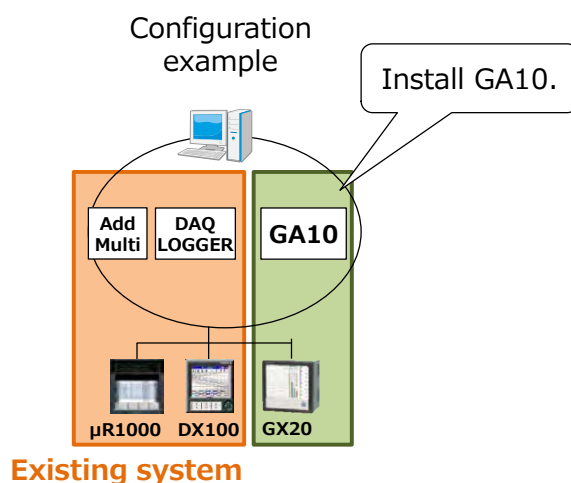
❖ 20. Using Existing Software with GA10 (Two Methods)

- ❖ There are two methods.
- ❖ (1) Mix GA10 with existing software
You can use the current configuration and add GA10.
- ❖ (2) Connect GA10 as a host
By integrating GA10 as a host to DAQWORX, collected data can be consolidated in GA10.



❖ 21. Using Existing Software with GA10 (1) Mix GA10 with existing software

- ❖ Install GA10 in the PC that you are using, and configure it.



❖ 22. Using Existing Software with GA10 (2) Connect GA10 as a host

❖ Data that DAQWORX Data Logger is collecting will be consolidated in GA10.

1. While data collection is in progress, start the monitor server.

2. On the Register Device page, select DAQLOGGER.

Click Manager M.SERV to start the monitor server.

Configuration example

Existing system

Device type: DAQLOGGER
Host name: Enter the PC IP address (or "Localhost").

GA10 will automatically be assigned with the same tag name as DAQLOGGER.

❖ 23. Functional Comparison with DAQWORX

| | | DAQLOGGER | DAQ32Plus | MXLOGGER | GA10 |
|-----------------------------------|-------------------------------------|--------------|---------------|---------------|------------------------------------|
| Basic features | Connectable devices | Many devices | Darwin | MX100 | Many devices |
| | Number of device connections | 32 | 1 | 20 | 100 |
| | Number of measurement channels | 1600ch | 300ch | 1200ch | 2000ch |
| | Number of math channels | No | 60ch | 240ch | (TBA) |
| | Collection (scan) interval | 1 s or more | 0.5 s or more | 10 ms or more | 100 ms or more (10 ms or more)* |
| Logging | Trigger acquisition | Option | Option | Option | Yes |
| | Collection in groups (multilogging) | Option | Option | Option | Yes |
| Data processing (event processor) | Auto data conversion | Yes | Yes | Yes | Yes |
| | e-mail transmission | Yes | Yes | Yes | Yes SMTP authentication support |
| | FTP transfer | Yes | Yes | Yes | No |
| | Simple report output | Yes | Yes | No | No |
| Monitoring function | Remote monitoring (client) | Option | Option | Option | Option |
| | Graphic monitoring | Option | Option | Option | No |
| Device configuration/control | Device configuration | Yes | Yes | Yes | Standard software |
| | IO/AO module control | No | Yes | No | No |
| Utility | File merge, split, reconfigure | Yes | Yes | Yes | No |
| User privilege | User privilege | No | No | No | Yes |
| Other | DDE server | Yes | Yes | Yes | Yes |

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