Opex™ Data Acquisition

GA10
Data Logging Software
Monitor

Monitor screen depending on the application

Real-time monitoring is possible with simple settings. In addition, you can create an original monitor by customizing the monitor screen depending on your application.

Monitor

GA10

Monitors and a variety of ins

GA10 is a PC-based data logging application software for monitoring and recording data by connecting devices

*1 Sushi Sensor XS770A is now released in Japan, south-east Asia and Europe. For other areas, Yokogawa is making efforts to expand regions by developing each region model and getting local certifications such as explosion proof and radio.

*2 GX/GP/GM/CM□, /CS□ option), GX70SM: Sales for Japan, Korea, USA only. UPM: Sales for Japan, Korea, India, Southeast Asia and Taiwan only.

60-day free trial!
records data from instruments via networks

distributed in a factory or on a premises via Ethernet network.

**Acquire**

**Collect scattered data**
All the data is acquired by connecting the various devices installed in a factory to an Ethernet network.

- **Maximum number of connections:** 100 devices
- **High-speed acquisition** 100 ms or faster
- **Maximum number of data tags:** 2000 Tags

**Assortment of connection devices**
Broad support covering loggers, recorders, temperature controllers, signal conditioners, power monitors, and power meters. Even acquires data from Modbus devices. The acquired data can be viewed from multiple monitoring PCs.

**Remote monitoring from multiple locations**

**Record**

**Reliable monitoring and data storage**
Collected data is recorded reliably in binary or Excel format. You can view the recorded data using the dedicated viewer. Also, you can output an automatic report based on the recorded data to Excel, PDF, or a printer.

**AI Analysis**

Anomaly detection by AI
AI learns while acquiring data, allowing it to detect “unusual state” and automatically notify of any anomaly data.

- **Find anomaly data**
- **Normal**
- **Abnormal**

**AI detects anomaly data from your equipment and highlights display**

**Data Logging Software GA10**

* See back cover for compatible models
Basic Functions

Simple settings
Simply select the devices to connect and you are ready to acquire data. With data loggers and recorders, tag names are automatically reflected and multi-channel acquisition can be started easily. In addition, data processing is easy using the math function (option).

Reliable data storage
Manage data for a variety of applications by specifying recording conditions and data formats (binary or Excel). The report function (option) enables automatic report output in Excel and PDF formats and automatic printing to a printer. Further, reports and recorded files can be automatically transferred using the FTP function.

Check errors quickly
Quickly check errors with the alarm monitor. When an alarm occurs, a beep is sounded on the PC. In addition, the e-mail function sends e-mails based on conditions such as alarm occurrence, specified period, specified time, and communication error.
Useful Functions for Monitoring and Operation

Build an easy-to-use monitoring screen

The custom display function (option) can be used to freely create a screen with your favorite design for monitoring and operation. The value of a connected device (Modbus device) can be changed by operating the buttons or the like on the custom screen.

Privileges for each user

Access privileges can be assigned to each user. Select from manager (configuration, operation, monitoring), operator (operation, monitoring), and monitor (monitoring).

Transfer data to other systems

Data can be transferred to SCADA PLC using the OPC-UA server function (option) or Modbus server function.

Examples of monitoring and operation applications

Example 1 Monitor the equipment operation status in production building

GA10 can monitor the operation status of equipment in the entire factory, summarized by each production building.

Example 2 Monitor and operate production equipment

The status of production equipment can be monitored on a custom screen. Only authorized users can operate from the screen.
Functions Useful for Evaluation and Testing

Data analysis while collecting and recording

Many useful functions are available for data analysis, which can also be used to analyze data while collecting and recording data.

- Select and display only the waveforms of interest
- Play back data all the way back to when recording was started, even during recording
- When a range is specified, the maximum, minimum, average, and the like between the two points are calculated on the spot
- Detailed analysis with a dedicated viewer even during recording
- Data can be analyzed during evaluation and testing

Multiple projects

Recording is possible using separate timings for each piece of test and production equipment (up to 30 projects can run simultaneously).

- Server software: Create and edit projects from the client screen.
- Multiple device data can be processed in parallel
- Even if a communication failure occurs, data is complemented when the connection is reestablished

High reliability

The data supplementing function (backfill function) automatically complements data when communication is disconnected (set the acquisition mode to Device time, when a GX/GP/GM/DX/MV is in use).

Examples of evaluation and experiment applications

**Example 1** Simultaneous evaluation tests of multiple generators

Evaluation tests can be performed on different types of generators in parallel in multiple projects.

**Example 2** Air conditioner performance test

In an air conditioner performance test, data from all laboratories can be collected, and the recorded data can be saved for each room. A weekly test report can be output automatically.
Using AI to monitor for anomaly sign

AI can learn what normal operating data “looks like” by acquiring measured data on the GA10 from Sushi Sensors, recorders, loggers, and other devices added to the production equipment. This enables it to identify anomaly data and notify the user. Anomaly detection looks at correlations among multiple data to make determinations, and can be utilized to catch signs of malfunctions that are difficult for humans to discern.

Support for visualizing power

The integration display function (option) collects electrical energy and flow rate data measured by wattmeters and flowmeters and helps to visualize energy with integration graphs and demand monitoring. In addition, the report function can be used to automatically output daily and monthly reports.

Examples of factory visualization applications

**Example 1**  Monitoring of factory wastewater treatment

Data such as pH, turbidity, odor, and flow rate of wastewater treatment equipment can be collected with GM10 (Data Logger) or directly, and the entire wastewater treatment can be monitored on GA10.

**Example 2**  Fire detection of belt conveyors

DTSX (optical fiber temperature sensor) is used to measure the temperature of the belt conveyor at intervals of 1 m. Fires can be detected easily with the GA10’s color-coded display.
Specifications (Overview)

- Max. connectable units: 100
- Max. recording tags (channels): 2000
- Max. recording MATH tags (channels): 2000
- Max. connectable clients: Unlimited (verified with 32)
- Scan interval: 100 ms or higher (using PC time), or scan interval of instruments (using instrument time)

Operating Environment

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Pentium 4, 3.2 GHz or faster (or equivalent), 64-bit OS recommended</td>
</tr>
<tr>
<td>Main memory</td>
<td>2GB or more</td>
</tr>
<tr>
<td>Hard disk</td>
<td>500MB or more of free space, 2GB NTFS recommended</td>
</tr>
<tr>
<td>Display</td>
<td>A resolution of 1024 x 768 or higher, 65,536 colors (16-bit, high color) or more</td>
</tr>
<tr>
<td>Communication port</td>
<td>RS-232, Ethernet, or USB port* supporting the OS* Use a converter (ML2 recommended) for RS-422/485 communication</td>
</tr>
</tbody>
</table>

*GM10 only

Model and Suffix Codes

- **Data logging software**

<table>
<thead>
<tr>
<th>Model</th>
<th>Suffix Code</th>
<th>Optional Suffix Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GA10</td>
<td>-01</td>
<td></td>
<td>Data Logging Software Basic license</td>
</tr>
<tr>
<td></td>
<td>-02</td>
<td></td>
<td>100 ch</td>
</tr>
<tr>
<td></td>
<td>-05</td>
<td></td>
<td>500 ch</td>
</tr>
<tr>
<td></td>
<td>-10</td>
<td></td>
<td>1000 ch</td>
</tr>
<tr>
<td></td>
<td>-20</td>
<td></td>
<td>2000 ch</td>
</tr>
<tr>
<td></td>
<td>/RP</td>
<td></td>
<td>Report/Print function</td>
</tr>
<tr>
<td></td>
<td>/MT</td>
<td></td>
<td>Math function (Max. 2000 ch)</td>
</tr>
<tr>
<td></td>
<td>/UA</td>
<td></td>
<td>OPC-UA server function</td>
</tr>
<tr>
<td></td>
<td>/CG</td>
<td></td>
<td>Custom display function</td>
</tr>
<tr>
<td></td>
<td>/WH</td>
<td></td>
<td>Integration display function*</td>
</tr>
<tr>
<td></td>
<td>/SU</td>
<td></td>
<td>GateSushi function</td>
</tr>
</tbody>
</table>

*MT option must be separately specified when the /WH is selected.

- **If adding channels or features**

<table>
<thead>
<tr>
<th>Model</th>
<th>Suffix Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GA10UP</td>
<td>-01</td>
<td>Upgrade license for GA10</td>
</tr>
<tr>
<td></td>
<td>-02</td>
<td>Channel upgrade 100 ch, 200 ch, 500 ch, 1000 ch</td>
</tr>
<tr>
<td></td>
<td>-03</td>
<td>Channel upgrade 100 ch, 200 ch, 500 ch, 2000 ch</td>
</tr>
<tr>
<td></td>
<td>-04</td>
<td>Channel upgrade 100 ch, 2000 ch</td>
</tr>
<tr>
<td></td>
<td>/RP</td>
<td>Add Report/Print function</td>
</tr>
<tr>
<td></td>
<td>/MT</td>
<td>Add Math function (Max. 2000 ch)</td>
</tr>
<tr>
<td></td>
<td>/UA</td>
<td>Add OPC-UA server function</td>
</tr>
<tr>
<td></td>
<td>/CG</td>
<td>Custom display function</td>
</tr>
<tr>
<td></td>
<td>/WH</td>
<td>Integration display function*</td>
</tr>
<tr>
<td></td>
<td>/SU</td>
<td>GateSushi function</td>
</tr>
</tbody>
</table>

*If the GA10 does not have the math function (/MT), you also need to upgrade to add the math function (/MT).

Connectable Devices and Software

- **Products to be connected**

<table>
<thead>
<tr>
<th>Data Logger</th>
<th>Products to be connected</th>
</tr>
</thead>
<tbody>
<tr>
<td>GM10, MX100, MW100, DA100</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recorder</th>
<th>Products to be connected</th>
</tr>
</thead>
<tbody>
<tr>
<td>GX10, GX20, GP10, GP20, DX1000, DX1000N, DX2000, DX1000T, DX2000T, FX1000, FW1000, MV1000, MV2000, CX1000, CX2000, μR10000, μR20000, DR130, DR230, DR240</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sushi Sensor*</th>
<th>Products to be connected</th>
</tr>
</thead>
<tbody>
<tr>
<td>XS770A, XS550, XS530</td>
<td></td>
</tr>
</tbody>
</table>

*Option code "/SU" is required for Sushi Sensor connection.

- **Control Instrument**

| Products to be connected |

Connect the following as Modbus instruments

FA-M3V (F3SP7x), PR300, UPM100, UPM101, VJU7, VJS7, VJA7, VJH7, VJP8, VJQ7, VJQ8, VJX7, MVHK, MVRK, MVTK

- **Power Meter**

| Products to be connected |
| WT300, WT500, WT1800**, WT1600**, WT3000, WT3000E |

*Free connection software GateWT for GA10 available

- **Modbus Device**

| Products to be connected |
| DAQLOGGER, DAQ32Plus, MXLOGGER |

- **Software Download**

Download software from our website. Enter your license key in the trial version to unlock the full version.

- **The user’s manual Can be downloaded from the website.**

- **For DAQWORX customers**

An introductory guide for GA10 is available. You can also use your existing instrument and software as-is. Target software: DAQLOGGER, DAQ32Plus, MXMLLOGGER

*See the website for details.


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