

OpreX™ Data Acquisition

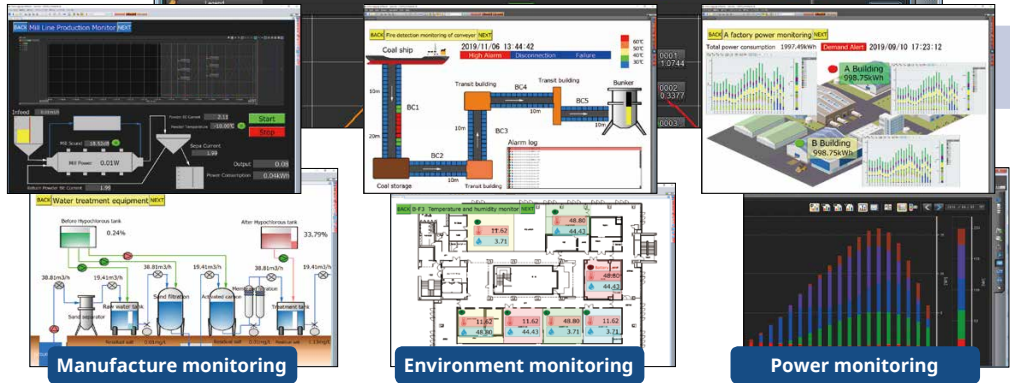
GA10

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.

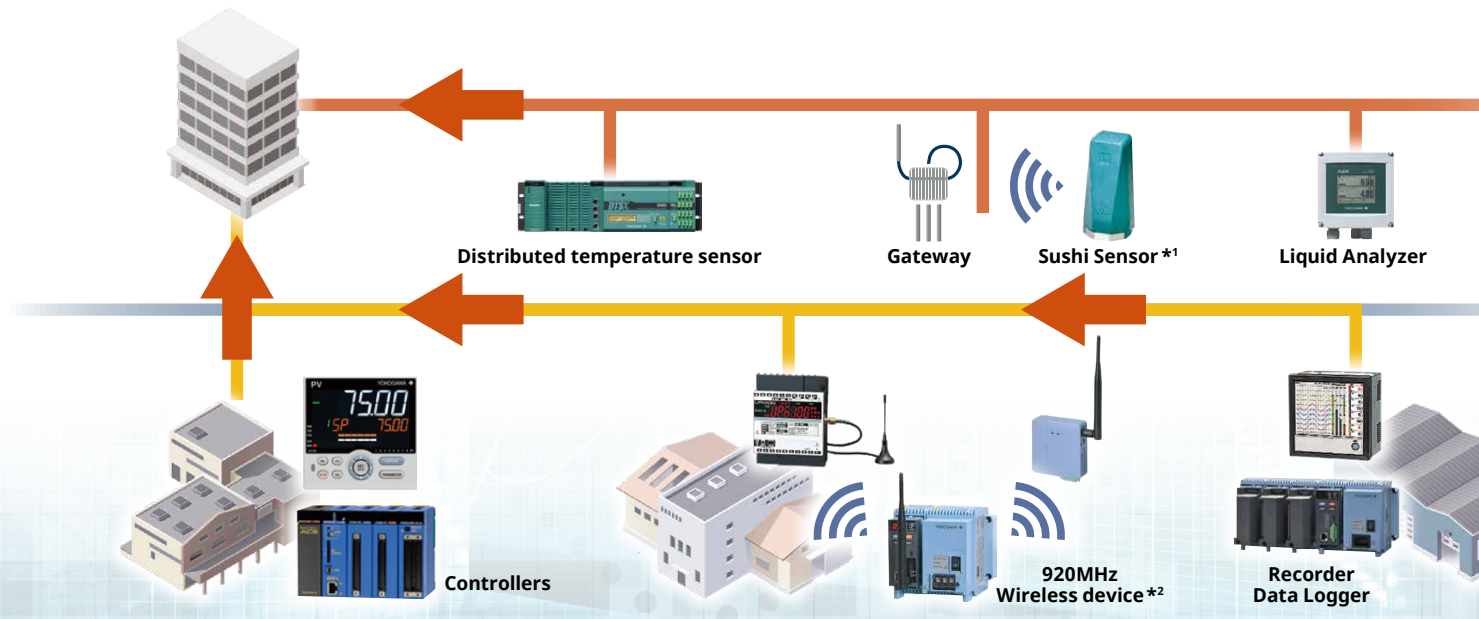


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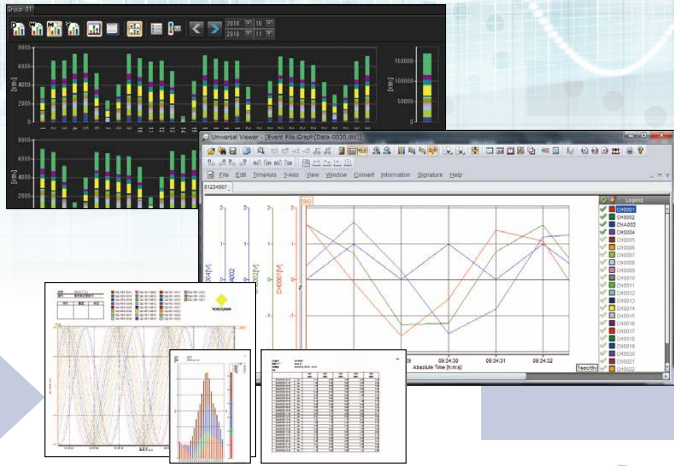


Monitors and a variety of ins

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



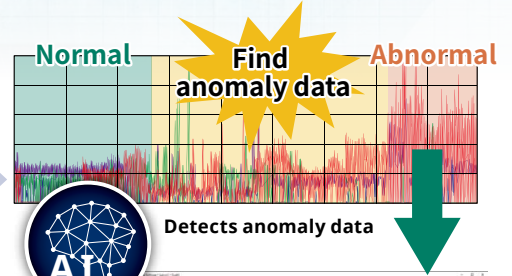
*1 Sushi Sensor XS770A is now released in Japan, south-east Asia and Europe. For other areas, Yokogawa is making efforts to expand regions by developing each region model and getting local certifications such as explosion proof and radio.
 *2 GX/GP/GM/(CM□, /CS□ option), GX70SM: Sales for Japan, Korea, USA only. UPM: Sales for Japan, Korea, India, Southeast Asia and Taiwan only.



AI Analysis **NEW**

Anomaly detection by AI

AI learns while acquiring data, allowing it to detect "unusual state" and automatically notify of any anomaly data. You can also analyze anomalies from past data and record.



AI detects anomaly data from your equipment and highlights display

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.

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: 10000 Tags

Assortment of connection devices

Remote monitoring from multiple locations

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.



Ethernet, serial, USB*¹
*¹ GM10 only

GM	MX	GX	μR	DX	UT	WT	Sushi Sensor	Modbus Devices	Software
	MW	GP	DR	MV	PR/UPM				DAQLOGGER
	DA			CX	JUXTA				DAQ32Plus
									MXLOGGER



* 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).

② Registration ③ Start monitoring

① Auto search

- Start monitoring with simple steps
- Even data processing is possible with the math function

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.

Recording conditions can also be specified.

- When an alarm occurs
- Above a specified value
- Between specified times

NEW

FTP

- Start recording based on various conditions
- Easier to use with automatic report output and FTP transfer

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.

GA10

ALARM

H L

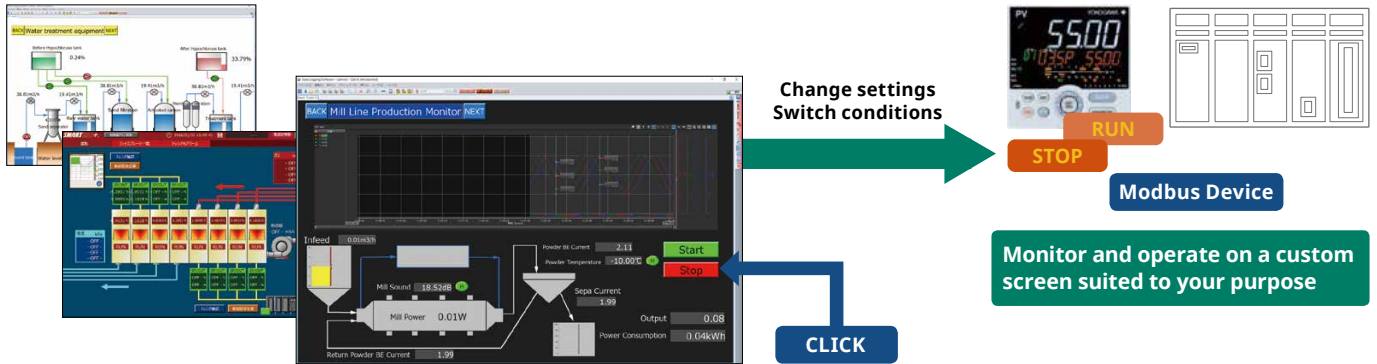
E-mail transmission

- Quickly check errors on the monitor
- Even automatic e-mail delivery

Useful Functions for Monitoring and Operation

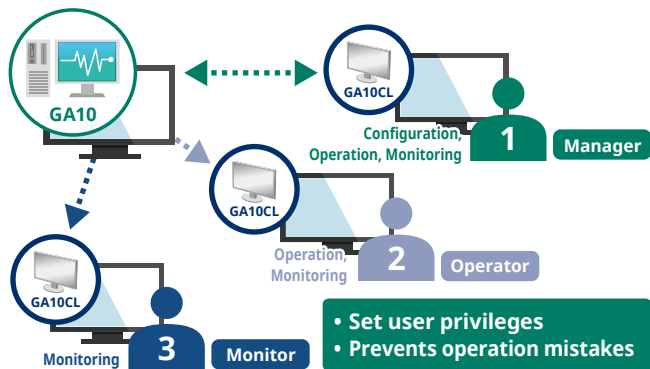
Build an easy-to-use monitoring screen

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.



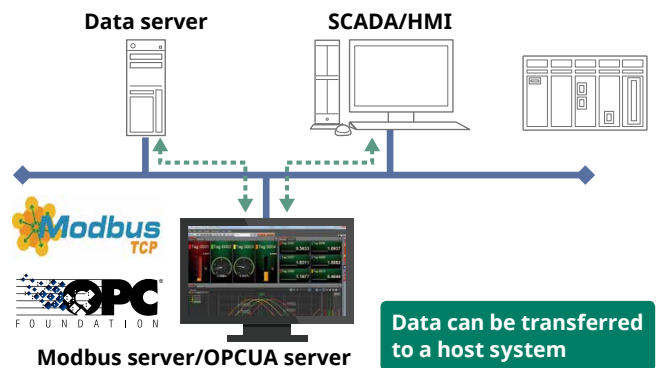
Privileges for each user

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

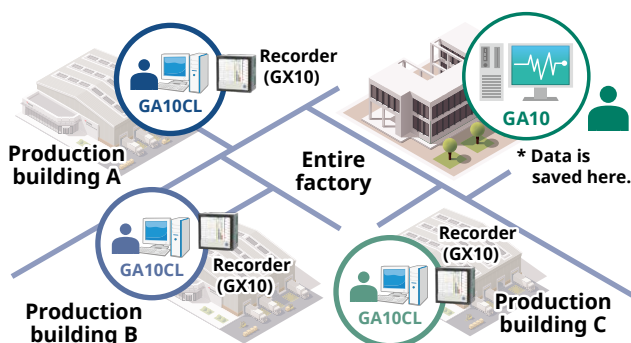
Data can be transferred to SCADA/PLC using the OPC-UA server function (option) or Modbus server function.



Examples of monitoring and operation applications

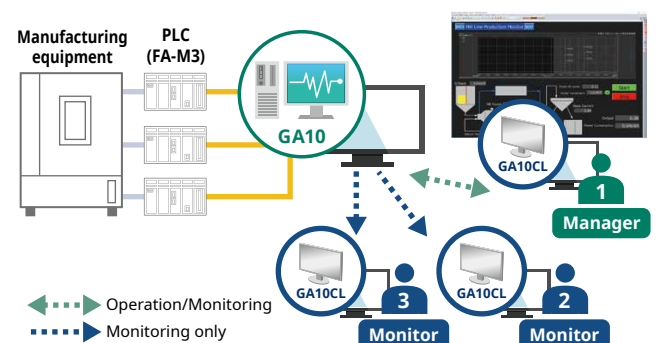
Example 1 Monitor the equipment operation status in production building

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

When a range is specified, the maximum, minimum, average, and the like between the two points are calculated on the spot.

Play back data all the way back to when recording was started, even during recording

Range 11:00 to 12:00
Maximum: XXXX
Minimum: YYYY
Average: AAAA

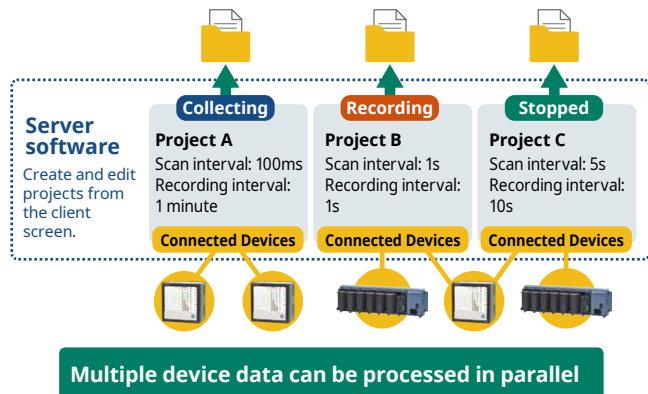
Detailed analysis with a dedicated viewer even during recording

NEW

Data can be analyzed during evaluation and testing

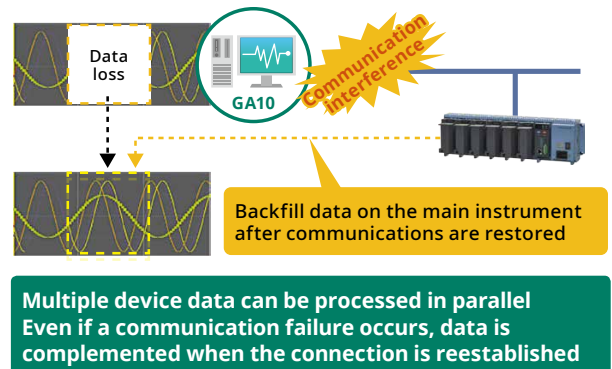
Multiple projects

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



High reliability

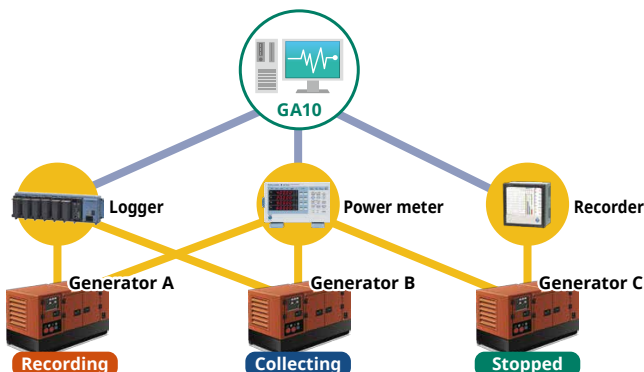
The data supplementing function (backfill function) automatically complements data when communication is disconnected (set the acquisition mode to Device time, when a GX/GP/GM/DX/MV is in use).



Examples of evaluation and experiment applications

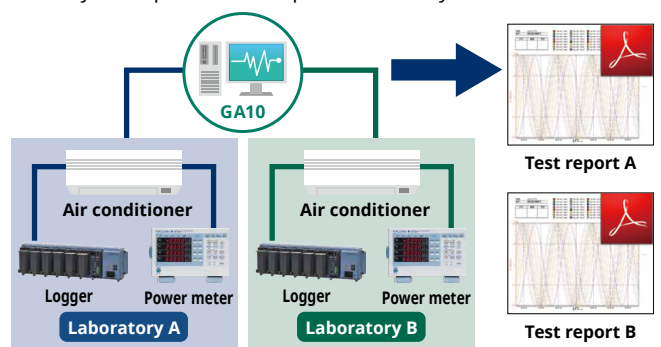
Example 1 Simultaneous evaluation tests of multiple generators

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



Example 2 Air conditioner performance test

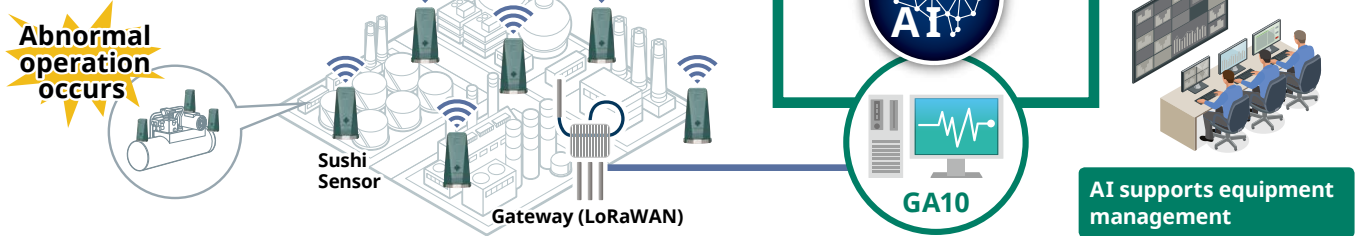
In an air conditioner performance test, data from all laboratories can be collected, and the recorded data can be saved for each room. A weekly test report can be output automatically.



Factory Visualization

Using AI to monitor for anomaly sign **NEW**

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.



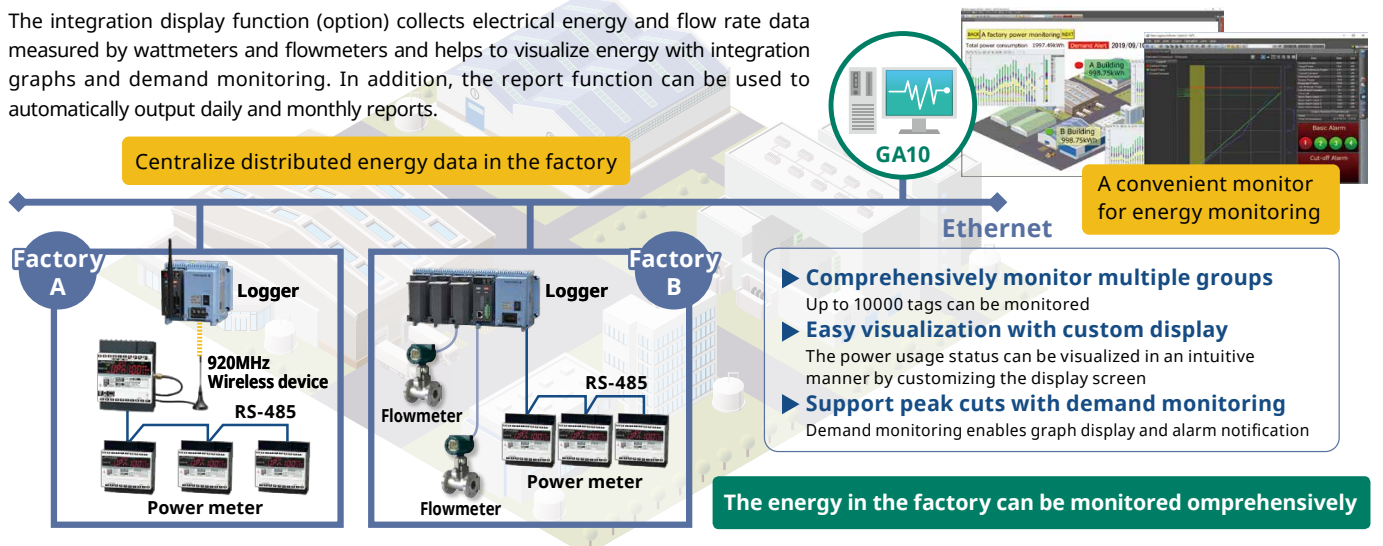
Predict the future with AI **NEW**

Use acquired data to predict future data, and display predicted future waveforms along with real time data on the trend screen. You can also set alarms against predicted data to detect problems in advance when they occur in the future so you can deal with them beforehand.



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.



Specifications (Overview)

- Max. connectable units: 100 ○ Max. recording tags (channels): 10000
- 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

OS	Windows 8.1, Windows 10, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, Windows Server 2016, Windows Server 2019
CPU *1	Intel Core2 Duo E6300 or faster x64 or x86 processor
Main memory *1	2GB or more
Hard disk *1	500MB or more of free space, 2GB NTFS recommended.
Display	A resolution of 1024 x 768 or higher, 65,536 colors (16-bit, high color) or more
Communication port	RS-232, Ethernet, or USB port *2 supporting the OS Use a converter (ML2 recommended) for RS-422/485 communication.

*1 For the recommended operating environment with 5000 ch or more, see the General Specifications (GS 04L65B01-01EN).

*2 GM10 only

Connectable Devices and Software

	Products to be connected
Data Logger	GM10, MX100, MW100, DA100
Recorder	GX10, GX20, GP10, GP20, DX1000, DX1000N, DX2000, DX1000T, DX2000T, FX1000, FW1000, MV1000, MV2000, CX1000, CX2000, μ R10000, μ R20000, DR130, DR230, DR240
Sushi Sensor *3	XS770A, XS550, XS530
Control Instrument	UT75A, UT52A, UT55A, UT35A, UT32A, UP55A, UP35A, UM33A, YS1500, YS1700 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	WT300, WT500, WT1800 *4, WT1600 *4, WT3000, WT3000E
Modbus Device	Instruments supporting Modbus communication
Software	DAQLOGGER, DAQ32Plus, MXLOGGER

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

*4 Free connection software GateWT for GA10 available

Model and Suffix Codes

● Data logging software

Model	Suffix Code	Optional Suffix Code	Description
GA10			Data Logging Software Basic license
Number of channels	-01		100ch
	-02		200ch
	-05		500ch
	-10		1000ch
	-20		2000ch
	-50		5000ch *5
	-A0		10000ch *5
Optional features		/RP	Report/Print function
		/MT	Math function (Max. 2000 ch)
		/UA	OPC-UA server function
		/CG	Custom display function
		/WH	Integration display function *6
		/SU	GateSushi function

*5 For the recommended operating environment with 5000 ch or more, see the General Specifications (GS 04L65B01-01EN).

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

● If adding channels or features

Model	Suffix Code	Description
GA10UP		Upgrade license for GA10
Upgrade	-01	Channel upgrade 100 ch→200 ch, 200 ch→500 ch, 500 ch→1000 ch, 1000 ch→2000 ch
	-02	Channel upgrade 100 ch→500 ch, 200 ch→1000 ch, 500 ch→2000 ch
	-03	Channel upgrade 100 ch→1000 ch, 200 ch→2000 ch
	-04	Channel upgrade 100 ch→2000 ch
	-0A	Channel upgrade 2000 ch→5000 ch *7
	-0B	Channel upgrade 5000→10000 ch *7
	-0C	Channel upgrade 2000→10000 ch *7
	-RP	Add Report/Print function
	-MT	Add Math function (Max. 2000 ch)
	-UA	Add OPC-UA server function
	-CG	Custom display function
	-WH	Integration display function *8
-SU	GateSushi function	

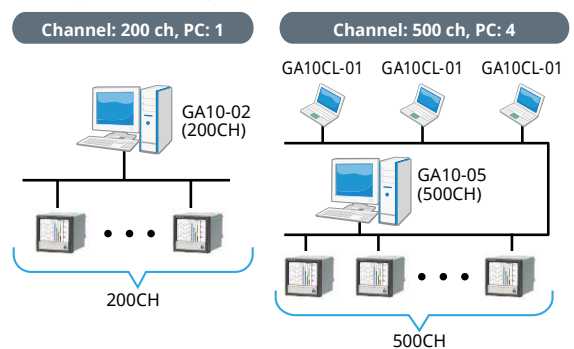
*7 For the recommended operating environment with 5000 ch or more, see the General Specifications (GS 04L65B01-01EN).

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

● If increasing the number of monitoring PCs (clients)

Model	Suffix Code	Description
GA10CL		Client license for GA10
Number of licenses	-01	1 license
	-05	5 licenses
	-10	10 licenses
	-50	50 licenses

● Configuration example



● 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, MXLOGGER
* See the website for details.

WEB site

<http://www.smartdacplus.com/en/>



User Registration Request

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