

General Specifications

DAQWORX

Data Acquisition Software Suite
 WX101, WX102, WX103, WX104, WX201,
 WX11, WX12, WX13, WX81, WX82, WX83, WX1

GS 04L00L00-00E

Release Number: R2

■ Development Concept

DAQWORX was created as a no-programming software package that forms the basis for a data acquisition system when combined with a variety of instruments including recorders, data acquisition instruments, and other types of measuring instruments. In terms of adding functionality, DAQWORX is designed as what we call data acquisition integrated software, allowing customers to connect high added value software to their existing data acquisition systems to easily expand the range of supported applications.

■ Components

Software Components, Etc.	Overview
Data Acquisition Component Group: Base Software	The "Base" software components require neither technical expertise nor programming, enabling easy setup of various kinds of data acquisition hardware, a rapid system setup time, and easy settings for analysis of data.
High Added-Value Component Group: Add-on Software	"Add-on" components can be added to Base components to construct a high added-value data acquisition system. Add-on software includes applications for customized and network-based remote monitoring, data acquisition and saving by group, and monitoring of measured data for triggered data acquisition.
Interface Component Group: Gate Software	"Gate" applications let you easily connect not only to data loggers, but also power measuring instruments, industrial instrumentation, data via OPC servers, and images from network cameras—all without programming.
DataBrowser Software	DataBrowser performs searches of data files saved by data acquisition units such as DAQSTATION and data acquisition software programs such as DAQLOGGER, DAQEXPLORER, and MXLOGGER, allowing you to display and compare any found waveforms on a single screen.

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■ Product Configuration

Name of Software	Overview of Functions	
Base Software	DAQLOGGER	Integrated data acquisition software, connect up to 32 units 1600ch, shortest measurement interval of one second.
	DAQ32Plus	Data acquisition software for DARWIN (single connection)
	MXLOGGER	Data acquisition software for DAQMASTER MX100 (connect up to 20 units)
	DAQEXPLORER	Software for DAQSTATION DX/CX, MVAdvanced/MobileCorder MV (connect up to 16 units)
Add-on software	AddObserver	Add-on software for monitoring using user-created screens (with builder)
	AddMulti	Data acquisition add-on software for recording by groups (32 channels×50 groups)
	AddTrigger	Data acquisition add-on software with various condition triggers
	DAQLOGGER Client	DAQLOGGER/MXLOGGER Client Monitor
	DAQ32Plus Client	DAQ32Plus Client Monitor
	AddObserver Runtime	Add-on software for monitoring using user-created screens (run-time)
Gate Software	GateDX-P	Interface for DAQSTATION DX100P/DX200P (Style S4 or later) (connect up to 16 units)
	GateμR	Interface for industrial chart recorder μR10000/μR20000 (connect up to 16 units)
	GateMX/MW (formerly GateMX100)	Interface for DAQMASTER MX100/MW100* (connect up to 32 units)
	GateCONTROL	Interface for small scale instrumentation (controllers, signal conditioners, etc.) (connect up to 32 units)
	GateWT	Interface for WT100/200/1000/2000/1600/500 powermeters (connect up to 16 units)
	GateOPC	Interface for OPC DA Servers (connect up to 16 servers) * Browse function required.
	GateMODBUS	Modbus RTU/TCP interface (up to 300 tags)
	GateEye	Web camera (still JPEG) interface (connect up to 4 units)
DataBrowser	Advanced file searching and waveform viewing software	

* The MW100 can only be connected with firmware R2.11 or later.

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■ Software Compatibility

Downstream Upstream	DAQLOGGER	DAQ32Plus	MXLOGGER	DAQEXPLORER	GateDX-P GateμR GateWT GateOPC GateMODBUS	GateMX/MW	GateCONTROL	GateEye
DAQLOGGER	√	√	√	√	√	√	√	-
DAQ32Plus	-	√ ²	-	-	-	-	-	-
DAQEXPLORER	-	-	-	√ ²	-	-	-	-
DAQLOGGER Client	√	-	√ ¹	-	√	√ ³	√ ¹	-
DAQ32Plus Client	-	√	-	-	-	-	-	-
AddObserver	√	√	√ ¹	√	-	√ ³	√	√
AddObserver Runtime	√	√	√ ¹	√	-	√ ³	√	√
AddMulti	√	√	√ ¹	-	-	√ ³	-	-
AddTrigger	√	√	√ ¹	-	-	√ ³	-	-

*1: Restrictions on the number of hardware connections apply when using MXLOGGER and GateCONTROL in combination with upstream software such as DAQLOGGER Client and AddMulti. Check the MXLOGGER and GateCONTROL items for connection conditions.

*2: Realtime remote monitoring can be performed using DAQ32Plus and DAQEXPLORER by connecting them respectively to another DAQ32Plus or DAQEXPLORER on the network. However, you cannot acquire data or recover files.

*3: When connecting upstream software other than DAQLOGGER to GateMX/MW, use GateMX/MW's Group Connection mode. Check the GateMX/MW item as the number of hardware connections is limited.

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■ Hardware Compatibility

	μR10000 μR20000	μR1000 μR1800	VR100 VR200	DX1000 DX1000N DX2000 DX100 DX200 DX200C	DX100P DX200P	CX1000 CX2000	MV1000 MV2000 MV100 MV200	MX100	MW100	DA100	DC100	DR130 DR230 DR240
DAQLOGGER	GateμR	√	√	√	GateDX-P	√	√	GateMX/MW	GateMX/MW	√	√	√
DAQ32Plus	-	-	-	-	-	-	-	-	-	√	√	√
MXLOGGER	-	-	-	-	-	-	-	√	-	-	-	-
DAQEXPLORER	-	-	-	√	-	√	√	-	-	-	-	-
GateDX-P* ²	DX100P, DX200P											
GateμR	μR10000, μR20000											
GateMX/MW* ³	MX100, MW100											
GateCONTROL* ¹	UT130, UT150, UT152, UT155, UT320* ⁴ , UT321, UT350* ⁴ , UT351* ⁵ , UT420* ⁴ , UT450* ⁴ , UT520* ⁴ , UT550* ⁴ , UT551, UT750* ⁴ , US1000, UP150, UP350* ⁴ , UP351, UP550* ⁴ , UP750* ⁴ , UT52A* ⁶ , UT55A* ⁶ UM330* ⁴ , UM331, UM350* ⁴ , UM351 VJU7, VJS7, VJA7, VJH7, VJP8, VJQ7, VJQ8, VJX7, MVHK, MVRK, MVTK											
GateWT	WT110, WT110E, WT130, WT200, WT210, WT230, WT1010, WT1030, WT2010, WT2030, WT1030M, WT1600, WT500* ⁷											
GateOPC	Data acquisition from many kinds of PLC, SCADA, and DAQOPC (DXA410 for DAQSTATION, DP410 for DARWIN) via OPC DA server * Browse function required for the OPC server.											
GateMODBUS* ¹	You can connect with Modbus (Ethernet: Modbus/TCP, RS232/422/485: Modbus/RTU) compatible models such as the POWERCERT PR300 and acquire 300TAG data.											
GateEye	Web cameras supporting JPEG images											
*1:	RS232-to-RS422/485 communication converter required for RS-422/485 communication (ML2 recommended).											
*2:	Can be connected with a DX100P/DX200P of style S4 or later.											
*3:	The MW100 can only be connected with firmware R2.11 or later.											
*4:	UT320, UT350, UT420, UT450, UT520, UT550, UT750, UP350, UP550, UP750, UM330, UM350 can be connected with firmware rev. 20 or later.											
*5:	UT351 can be connected with firmware rev. 29 or later.											
*6:	Can only be connected when the GREEN Series device response (C.GRN) register=1: ON. Note that it is handled as the UT520 or UT551 in the Model Setting.											
*7:	Can only be connected via GP-IB (GP-IB interface option required on the WT500).											

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■ System Requirements

PC system requirements for a standard system configuration (centered on one Base program incorporated with the necessary Gate and Add-on programs) are shown in the table below.

Item		Description
Operating System		Microsoft Windows 2000 Professional SP4, Windows XP Home Edition SP2 or SP3, Windows XP Professional SP2 or SP3, Windows Vista Home Premium 32bit non-SP or SP1, Windows Vista Business 32bit non-SP or SP1 (Windows XP Professional SP3 recommended)
Processor	2000/XP	Intel Pentium III 800MHz or faster x64 or x86 ⁽²⁾ (Pentium 4 1.6GHz or faster recommended)
	Vista	Intel Pentium 4 2.4GHz or faster x64 or x86 ⁽²⁾ (Pentium 4 3.0GHz or faster recommended)
Main memory	2000/XP	256MB or more of RAM (512MB or more recommended)
	Vista	1GB or more of RAM (2GB or more recommended)
Hard disk		Free disk space of 200MB or more (1GB or more recommended for saving measured data), speed of 7,200 rpm or faster recommended
Drive		CD-ROM drive
Monitor, display adapter ⁽¹⁾		<ul style="list-style-type: none"> Resolution of 1,024×768 XGA or higher (1,280×1,024 SXGA or higher recommended) 65,536 colors (16bit), High Color or more
	2000/XP	• 32MB or more of VRAM (64MB or more of non-UMA VRAM ⁽³⁾ recommended)
	Vista	• 128MB or more of VRAM (256MB or more of non-UMA VRAM ⁽³⁾ recommended)
Sound		<ul style="list-style-type: none"> Speakers Sound card⁽¹⁾
Printer ⁽¹⁾		A4 printer (color printer recommended)
Communication interfaces		The following are required depending on the operating environment <ul style="list-style-type: none"> National Instruments GPIB interface (for GPIB)⁽¹⁾ RS232-RS422/485 converter (for RS-422/ 485) or Modbus TCP-RTU converter (for Modbus RTU)⁽⁴⁾ Serial port for RS-232C (for RS-232C or RS232-RS422/485 converter)⁽¹⁾ Ethernet network card (for Ethernet or Modbus TCP-RTU converter)⁽¹⁾

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1: Must support the operating system being used.

2: Operation with the multi-coprocessor not guaranteed.

3: UMA (unified memory architecture) is technology that assigns a portion of the main memory to video memory (VRAM). With DAQWORX, we recommend a PC with dedicated VRAM.

4: Yokogawa ML2 and VJET recommended.

■ Display Language

The DAQWORX display language changes according to the operating system (OS) language as follows.

Software \ OS Lang.	Japanese	English	German	French	Chinese	Other
DAQ32Plus, DAQ32Plus Client, DAQEXPLORER	Japanese	English	German	French	Chinese	English
DAQLOGGER, DAQLOGGER Client	Japanese	English	English	English	Chinese	English
Other	Japanese	English	English	English	English	English

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■ DAQLOGGER (Release Number: R7)

Connection Models		μR1000 μR1800	VR100 VR200	DX1000 DX1000N DX2000	DX100 DX200 DX200C	CX1000 CX2000	MV1000 MV2000	MV100 MV200	DA100	DC100	DR130	DR230 DR240
	Ethernet	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓
RS-232	–	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
RS-422	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	✓
RS-485	–	–	✓	✓	✓	✓	✓	✓	✓	✓	–	✓
Main functions	<ul style="list-style-type: none"> • Connects up to 32 units of μR recorders (μR1000/μR1800), VR recorders (VR100/VR200), DAQSTATION (DX1000/DX1000N/DX2000/DX100/DX200/DX200C/CX1000/CX2000), MVAdvanced/MobileCorder (MV1000/MV2000/MV100/MV200) and DARWIN (DA100/DC100/DR130/DR200) to one PC (different models can coexist). • Scans and records up to the maximum number of channels (1600) of measured/computed data at a minimum interval of 1 second (the interval may belonger depending on the number of connected units and the number of channels). • Monitors and displays the measured/computed data being scanned in five forms: trend, numerical, meter, alarm, and color graph. • Displays the measured/computed data that have been stored, searches for data, alarms, and marks, computes statistics over an area that is specified by the cursors,converts the data format to "ASCII", "Lotus", and "Excel" formats, extracts a section of a file to be stored to another file, and prints various data and information. • Manages data using tag name (up to 16 characters) that was assigned to each channel on the PC. • Manages tags by separating them into a maximum of 50 groups (up to 32 tags/group). • Saves DAQLOGGER settings (this is called a "project") according to the user or the purpose. Allows switching between projects. • Protection from erroneous operation provided through operation levels of users and password protection. • Generates various reports such as hourly, daily, weekly and monthly reports on a PC. • Configures the recorder from the PC. • Incorporates a DDE server function. • Transfers the scanned and recorded data to another PC via the network (the PC receiving the data requires the DAQLOGGER Client Package). • With the e-mail function, the fact that an alarm occurred can be notified through e-mail. • With the FTP function, files can be transferred to an FTP server when data files or report files are created. 											

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Software Manager	
Manager	<ul style="list-style-type: none"> • This program is started first and manages the startup of other DAQLOGGER software applications. It also manages multiple projects. • A project refers to the set of DAQLOGGER settings that corresponds to each user or purpose. It contains the settings of all software applications that are described below. Using Software Manager, you can create multiple projects and store them. By switching projects, you can easily switch between different sets of settings that have been stored previously. • You can limit the range of operation by assigning one of three levels, "Supervisor", "Operator", or "User", to a project. • You can assign a password for each project and limit the operation (password protection). • You can hide the taskbar and icons of Windows so that other programs cannot be started (desktop protection). <p>Software Manager is in charge of the user interface provided on the Logging Software that carries out data scanning and recording and the Report Software that creates reports. For details, see the description of the respective software application.</p>

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Data Logging Software	
Scan / Record	<p>The Logging Software collects the measured/computed data from the recorder at specified intervals. This action is called "scan". It also stores the scanned data to the hard disk at specified intervals. This action is called "record". The Logging Software never appears on the screen. The following operations are carried out through Software Manager:</p> <ul style="list-style-type: none"> • Start/Stop scanning. • Start/Stop recording. • Set scanning conditions (scan interval, start timing, and operations of the computation channels at the start of the scanning operation) and recording conditions (record interval, data storage directory, file name, and division of stored files). • Enter comments for embedding as file information (up to 8 sets, where one set consists of a title of up to 16 alphanumeric characters plus contents of up to 64 alphanumeric characters) • Set the function that automatically reconnects the recorder. Display the information (scan interval, record interval, start time of recording, estimated stop time of recording, file name of recording, and number of recorded data points) on the data being scanned and recorded.
Starting Automatic Acquisition	<p>You can set automatic starting when in scanning or recording mode. The software will automatically attempt to reconnect, even with instruments that could not be connected when acquisition started.</p>

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Data Monitor Software	
Monitor	<ul style="list-style-type: none"> • Data Monitor is started from Software Manager. <p>This application can display the data that have been scanned by the Logging Software and the alarm conditions on the following five types of monitor screens. Each monitor displays tags that have been assigned to the recorder's channels using Tag Editor by groups that have been assigned using Group Editor. In addition, the display setting dialog box of Data Monitor can be used to change the tag assignments, ON/OFF setting for each tag, specify the meters to be used on the meter monitor, set the tag display color, and set other display conditions. The display is updated at the scan interval.</p> <ul style="list-style-type: none"> • Trend monitor Displays the waveform of the scanned data for each group. You can change the display conditions such as zooming in or out of the time axis and specifying the Yaxis zone to be displayed. • Numeric monitor Displays the numerical values of the scanned data for each group. • Meter monitor Displays the meters of the scanned data for each group. You can select the type of meter from bar meter, analog meter, and thermometer. • Alarm monitor Lists the representative alarm status for each group on a single screen (alarm overview display). If an alarm is occurring on any one of the tags in a group, the representative alarm status is shown as "Alarm ON". It also displays a log of alarm occurrences/releases for each tag including the alarm type, date and time of occurrence/release, and tag name (alarm log display). • Color graph monitor Displays the scanned data on a color graph for each group. The scanned data are colored in the following order: blue (minimum value), light blue, green, yellow, and red (maximum value).

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VIEWER Software	
VIEWER	Viewer is used to manage the data that have been recorded and stored by the Logging Software to the hard disk or a storage medium. For data that are currently being recorded, Viewer can manage the section that have been stored to the hard disk. Displays the waveforms and numerical values of data of up to 32 tags per group for up to 50 groups.
Corsor	Calculates the maximum, minimum, P-P, average, and rms values over the area that is specified by the corsor.
Tag	You can change the original data-to-tag assignments, turn ON/OFF the tags, and change other display conditions. You can also save the modified display conditions.
Search	You can set conditions and search for the measured/computed data, alarms, and marks.
extract	You can extract a section of the file to be stored to another file.
Report	Reads and displays report files.
Converts	Converts the data format to "ASCII," "Lotus," or "Excel" formats.
Prints	Prints the displayed data (a printer is required). For the operation procedure of Historical Viewer.

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Software Configurator	
Functional Overview	Software Configurator is used to assign recorder numbers of DAQLOGGER to the recorders that are connected. It is also used to set the configurations of the recorders and communication parameters. DAQLOGGER scans and records the data based on the information specified here. The settings are as follows: <ul style="list-style-type: none"> • Type of communication (RS-232, RS-422A, and Ethernet). • Port, address, baud rate, parity, and stop bit if RS-422A is used. • Port, baud rate, parity, and stop bit if RS-232 is used. • Address, login, and password if Ethernet is used. • IP address or host name, port number, and system number when connecting various types of DAQWORX software. • Type of recorder that is connected, number of measurement channels, number of control channels, and number of computation channels. • Standalone model/expandable model, style number, options, and subunit/module configuration if DARWIN is used. Software Configurator includes a function that automatically determines and registers the model of the recorder that is connected to the specified communication port (Parameters can be set one by one as some models are not determined automatically).
Gate Connection	Can connect with GateDX-P, GateμR, GateMX/MW, GateCONTROL, GateWT, GateOPC, and GateMODBUS.
Base Connection	Can connect with DAQ32Plus, DAQEXPLORER, DAQLOGGER, and MXLOGGER. Please note the following. <ul style="list-style-type: none"> • Ethernet is the only communication mode. • When DAQ32Plus, DAQEXPLORER, DAQLOGGER, or MXLOGGER are connected, there are no items can be set using the software configurator. • The data's time of measurement is that of the time on the PC running the DAQLOGGER that is the connection source. Therefore it may differ from the measurement time on the destination DAQ32Plus, DAQEXPLORER, or MXLOGGER. • When changing the port number of the monitor server or when connecting to a specific system, the monitor server port number and system number (DAQEXPLORER, MXLOGGER) must be set using the software configurator.
Tag Editor	Tag Editor is used to assign the tags used by DAQLOGGER to the recorder's channels. A single channel can have multiple tags. In addition, you can set names (character strings) to the tags. These names are called a "tag names." You can use up to sixteen alphanumeric characters for tag names. Tag names can be read from the recorder via communications. (On the DX1000/DX2000 release number R3 or later, DAQMASTER MX100, and certain other products, if tag strings exceed 16 characters, the first 16 characters are read but the 17th and subsequent characters are omitted. Also, tags cannot be read from the tag number.) You can search for tags by specifying the tag name, tag number, or recorder number. You can import or export text file.
Group Editor	The tags that were set using Tag Editor can be assigned to groups, and the groups can be assigned names. You can use up to 16 alphanumeric characters for group names (however, only 8 characters can be displayed). Up to 32 tags can be assigned to a single group. Up to 50 groups can be assigned. Data Monitor displays the data by groups that are specified here.

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Hardware Configurator	
Functional Overview	<p>Edits the settings in the SET mode (Setting Mode) and SETUP mode (Basic Setting Mode) of the recorder that is connected to the PC.</p> <p>When Hardware Configurator is started for the first time, the initial setup screen for the SET mode or SETUP mode is displayed based on the model, number of measurement/computation channels, presence or absence of options (for DARWIN), and module configuration (for DARWIN) that are specified by Software Configurator.</p> <ul style="list-style-type: none"> • The original SET mode and SETUP mode information can be • Loaded from the recorder via communications (receive via communications). • Loaded from a file that is stored on a storage medium such as a floppy disk (this is called "file importing"). • Created from scratch. • Written to the recorder via communications (transmit via communications). • Stored on a storage medium and written to the recorder from the storage medium (this is called "file exporting"). <p>However, the following restrictions exist depending on the recorder:</p> <ul style="list-style-type: none"> • For μR recorders, the SET Mode settings can be transmitted or received via communications. Settings in the SETUP Mode cannot be modified. Set them directly on the μR recorder. In addition, since no storage media drives are provided, setting using the storage medium is not possible. • For VR recorders, the SET Mode settings can be transmitted or received via communications or imported or exported through files. The settings in the SETUP Mode can be modified through file importing and exporting. Communications cannot be used. • For DX/CX DAQSTATION and MV MobileCorder, the setting mode and basic setting mode settings can be transmitted or received via communications or imported or exported through files. However, network settings (such as the IP address) cannot be changed via communications. Set them directly on the DX or use file exporting. • With the DX1000/DX2000 release number R3 or later, screens cannot be built or edited for the custom display function. • For DARWIN, the SET Mode and SETUP Mode settings can be transmitted or received via communications or imported or exported through files. • In addition, Hardware Configurator can be used to create settings by changing the system configuration such as the presence or absence of options or by changing the subunit/module configuration (for DARWIN). Use this function in situations such as when preparing the configuration change of the connected recorder beforehand. • The following control commands can be transmitted to the recorders. • Set the date and time of the recorder to the date and time of the PC (μR, VR, DX, CX, MV, DA, DR, and DC). • Start/Stop the recording (μR, DX, CX, MV, DR, and DC). • Start/Stop computation (μR, VR200, DX, CX, MV DA, DR, and DC). • Initialize the data memory (VR, DX100/DX200/DX200C, CX, MV100/MV200, DC). • Show the specified display (μR, VR, DX100/DX200/DX200C, CX, MV100/MV200, DR, and DC). • Execute reconfiguration (DA, DR200 (Expandable), and DC).

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Report Generator	
Functional Overview	<p>Determines the instantaneous value, maximum, minimum, average, sum, and total from the data that are scanned or recorded over an hour, a day, a week, or a month and output them to a file or print them at a specified time. Report Generator never appears on the screen. The start and stop operation and settings of the report are done on Software Manager.</p> <p>The following items can be specified.</p> <ul style="list-style-type: none"> • Type of report (hourly, daily, weekly, or monthly), the tags to be reported, and the type of data to be created. • Data to be used to make the report (scan data or record data). • Output destination of the report (file or print) and the output file format (binary or text).

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DDE* Server	
Functional Overview	<p>The DDE Server is started from Software Manager.</p> <p>The server provides DDE services. Data and time that are scanned by the Logger can be displayed on a Windows application that supports DDE such as EXCEL. Up to 1600 tags can be transmitted via DDE communications.</p> <p>* Dynamic Data Exchange: A technique or procedure used to exchange commands and data between Windows applications via communications. The database providing the data is called a <i>server</i>. The application that uses the data is called a <i>client</i>.</p>

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File Utility	
Functional Overview	<p>The File Utility performs four functions, Merge, Divide, Convert, and Restructure, on the data file or report file that the DAQLOGGER creates.</p> <p>Merge: Merges the files that are continuous in time to a single file.</p> <p>Divide: Divides or cuts the data files according to various conditions.</p> <p>Convert: Converts data files or report files to Excel, ASCII, or Lotus format and outputs them.</p> <p>Restruct.: Performs data file merging and dividing at once.</p>

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Event Processor	
Functional Overview	<p>The Event Processor is a software program that can process up to 8 events simultaneously. The settings of a single event consist of an event condition, target file, and process parameters. With event processing, the file specified as the target file is processed using the command specified in Execution/Process when the specified event conditions are met.</p>
Event Conditions	<p>Each event condition can be set with two of the items below in an AND/OR relationship</p> <ul style="list-style-type: none"> • Alarm (in units of groups or channels, all alarm levels or specific alarm levels): Change point, OFF->ON, ON->OFF • Fixed time: Every minute, hour, day, week, month, or period (1 minute to 24 hours) • System: Data file creation, report file creation, detection of recorder disconnection, detection of recorder re-connection, user-defined event (PC operation) • Data value (in units of groups or channels): Data loss, +overrange, -overrange, channel stop, value comparison (=, >, <, =, ≠).
Execution /Processing	<p>Up to ten of the following processes can be set to be executed on the target file.</p> <ul style="list-style-type: none"> • Data and report files: FTP transmission, e-mail transmission, data conversion (to Excel, Lotus, or ASCII), and output in HTML, XML, or XHTML. • PNG file (monitor software screen image): FTP transmission, e-mail transmission • User file (alarm information and instantaneous values as text): FTP transmission, e-mail transmission, and output in HTML, XML, or XHTML.

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Monitor Server	
Functional Overview	<p>The Monitor Server is started from Software Manager. Transfers the scanned data to a PC (Remote Monitor*) that is connected via the Ethernet network. Up to 16 remote monitors can be connected. Remote Monitor can be used to display and monitor the received data. For the operation procedure of the Monitor Server.</p> <p>* Remote monitor : The DAQLOGGER Client Package is required on Remote Monitor side. For an overview of the functions of the DAQLOGGER Client Package.</p>

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Control Server	
Functional Overview	<p>The Control Server is started from the Manager software. Using a PC connected via Ethernet (remote controller*), you can start a scan, start/stop recording, and start/stop the event processor. For the operating procedure of the Control Server.</p> <p>* Remote Controller The DAQLOGGER client package is required for the remote controller. For an overview of the package's functions, see "DAQLOGGER Client Package" below.</p>

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■ DAQ32Plus (Release Number: R11)

Connection Models		DA100	DC100	DR130	DR230	DR240
GP-IB		√	√	√	√	√
Ethernet		√	√	√	√	√
RS-232-C		√	√	√	√	√
RS-422/485		√	√	-	√	√
Main functions	<p>Data Aquisition Software 32 plus consists of so called 'Launcher' software and of seven kinds of software which will open when the 'launcher' icons are clicked. Those icons will automatically be displayed when you open the 'Launcher' software.</p> <p>The seven kinds of software are:</p> <ol style="list-style-type: none"> 1 Software Configurator 2 DARWIN Hardware Configurator 3 Logger 4 Historical Viewer 5 Tag Editor 6 Remote Monitor 7 File Utility 					

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<p>Launcher software</p>	<p>Launcher software serves to open the above seven kinds of software, to use the Project function, and to protect software settings. When you install Data Aquisition Software 32 Plus, the Launcher software, Historical Viewer software, Remote Monitor software and File Utility software will automatically be saved in the Windows 'Program' file. If you have made changes in any of the five kinds of software and saved those, you can use Launcher software to open the software with changed conditions next time you use it. Software with such changed conditions saved will be referred to as a 'Project.' 'Project function' is the name used for saving and opening Projects. The Project function is useful if you want to use Historical Viewer to observe DA100/DC100/DR measurement data on only one PC with a number of people . It enables you to observe waveforms without influencing someone else's settings.</p> <p>With the project settings, you can set automatic starting in monitoring or recording mode.</p>
<p>Software Configurator</p>	<p>Enables you to make operation settings to the software. There are four setting displays.</p> <p>Communications Used to select a directory to save logging data to, and to make several communication settings between DA100/DC100/DR hardware and software.</p> <p>Diagnostic Used to make the necessary system configurations when using your DA100/DC100/DR for the first time, or when changing modules attached to a unit.</p> <p>Calibration Used to calibrate DA100/DC100/DR.</p> <p>Network Used to set IP address, Subnet Mask, and the Default Gateway of DA100/DC100/DR.</p>
<p>Hardware Configurator</p>	<p>Enables you to make settings to the DA100/DC100/DR. Settings differ for each device.</p> <p>The hardware setting data can be saved to a PC.</p> <p>Three kinds of data can serve as basis for further settings:</p> <ul style="list-style-type: none"> • Data earlier saved to a PC harddisk or to a floppydisk from the DA100/DC100/DR. • Data settings as they remained when Hardware Configurator was last closed. • Data settings of a directly PC-connected DA100/DC100/DR.
<p>Logger</p>	<p>Enables you to display DA100/DC100/DR measurement and calculated Math data on your PC's monitor, and save measurement, calculated Math and report data to its harddisk. Allows you to set the interval for saving data, and for display renewal.</p> <ul style="list-style-type: none"> • Saving measurement data can be selected to start either, <ul style="list-style-type: none"> • immediately, or, • at a fixed time. • Saving measurement data can be selected to end either, <ul style="list-style-type: none"> • immediately, or, • at a fixed time, or, • after a fixed data number has been reached. • Report data will be saved when created by DA100, DC100, or DR. <p>Logger itself can make daily report files.</p> <p>On your PC you can display the following monitors:</p> <p>Alarm monitor Displays the alarm condition of each channel. Useful as alarm monitor.</p> <p>Trend monitor Displays both measurement and computed waveforms. Useful for trend observation.</p> <p>Color monitor Displays measurement and computed data in selected color. Useful for monitoring trends for all measurement and computed data.</p> <p>Meter monitor Analog display of measurement and computed data. Depending on the aim of your observation, choose either a bargraph, meter, or thermometer monitor.</p> <p>Numeric monitor Displays numeric values of both measurement and computed waveforms. Useful when reading a large number of values at the same time.</p> <p>Monitor settings can be connected by clicking the Link button.</p> <p>An auto-processor automatically converts data logging and report files into Excel/ASCII/ Lotus 1-2-3 formats.</p> <p>Report files are automatically printed.</p> <p>The monitor server that supplies network-connected personal computers with data, is activated with Logger software.</p>

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Historical Viewer	<p>Using Historical Viewer you can use the following 3 kinds of data to monitor waveforms, numerical values, etc. on a PC screen, or to print them out.</p> <ul style="list-style-type: none"> • Measurement data saved to a harddisk using Logger software. • Measurement data from earlier obtained software for DARWIN instruments (DOS or Windows). • Measurement data saved directly to a floppy disk from a DR/DC100. <p>It is possible to use a cursor to read the values of data on display, or make calculations with selected data. Data can be converted to Excel/ASCII/Lotus 1-2-3 formats, and then saved. Report data can be displayed, printed, and their formats can be converted.</p>
Tag Editor	<p>Tag stands for an optional character string (such as a terminal or signal name) used to distinguish waveforms in stead of graph and channel numbers. Use the 16 character 'Tag Comment' or the 8 character 'Tag No.' For Logger or Historical Viewer software, the Tags will be displayed instead of the channel number. It is possible to receive tag settings from or send them to a DR/DC100. Tag settings are not possible for the DA100.</p>
Remote Monitor software	<p>The Remote Monitor function is used to observe DARWIN data with a personal computer connected to the host through a network.</p> <p>Software: an Alarm Monitor, Trend Monitor, Color Graph Monitor, Digital Monitor, and a Meter Monitor.</p> <p>An Ethernet card is required for the PC (host/remote monitor), and Windows TCP/IP protocol must be installed. Furthermore, for the host it is necessary that DAQ 32 Plus Logger software is communicating and that the monitor server is operating.</p> <p>Note that the remote monitors for DAQLOGGER Client, DAQ32Plus and DAQ32Plus Client, and data monitor for DAQEXPLORER cannot be used at the same time on the same PC.</p>
File Utility software	<p>Allows you to create files by merging or dividing existing measurement data files. Also used to convert measurement data and report data into Excel/ASCII/Lotus 1-2-3 formats.</p> <p>Functions and object files are as follows:</p> <p>Merging Measurement Data Files (Merge): Used to merge continuous files into a new file.</p> <ul style="list-style-type: none"> • For measurement data files created with DAQ 32 R9 or later/DAQ 32 Plus R9 or later. • For measurement data files being merged or divided with File Utility. <p>Dividing Measurement Data Files (Divide): Used to divide one file into multiple files.</p> <ul style="list-style-type: none"> • For measurement data files created with DAQ 32 R9 or later/DAQ 32 Plus R9 or later. • For measurement data files created with software of earlier purchased versions of the DARWIN series (DOS, or Windows). • For measurement data files created with DR/DC100. • For measurement data files being merged or divided with File Utility. <p>Converting Data (Convert): Used to convert data into Excel/ASCII/Lotus 1-2-3 formats.</p> <ul style="list-style-type: none"> • For measurement data files created with DAQ 32 R9 or later/DAQ 32 Plus R9 or later. • For measurement data files created with software of earlier purchased versions of the DARWIN series (DOS, or Windows). • For measurement data files created with DR/DC100. • For report files created with DA/DR/DC100 with report options (/M3). <p>Restructuring Files (Restruct): Used to merge continuous files into a new file and divide them with a new condition</p> <ul style="list-style-type: none"> • For measurement data files created with DAQ 32 R9 or later/DAQ 32 Plus R9 or later. • For measurement data files being merged or divided with File Utility.
Monitor Server	<p>Transfer acquired data to client PCs connected by Ethernet on which the various kinds of add-on software are installed. Up to 16 clients can be connected. The received data can be displayed in a monitor screen and monitored using the DAQ32Plus Client remote monitor.</p>
DDE* Server	<p>The DDE Server is started from Software Manager.</p> <p>The server provides DDE services. Data and time that are scanned by the Logger can be displayed on a Windows application that supports DDE such as EXCEL. Up to 360 tags can be transmitted via DDE communications.</p> <p>* Dynamic Data Exchange:</p> <p>A technique or procedure used to exchange commands and data between Windows applications via communications. The database providing the data is called a <i>server</i>. The application that uses the data is called a <i>client</i>.</p>
Auto Processor functions	<p>Data Files</p> <ul style="list-style-type: none"> • Can be automatically converted to Excel, Lotus, or ASCII format. <p>Report Files</p> <ul style="list-style-type: none"> • Can be automatically converted to Excel, Lotus, or ASCII format. • Can be automatically printed.

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■ **MXLOGGER (Release Number: R2)**

Main functions	Data logging software for the MX100 High Speed Data Acquisition Unit. Lets users construct a high speed data acquisition system with max 1200 channels on 20 units. An excellent GUI provides easy, user-friendly operation.
System configuration	Create a system by dragging units and modules that acquire data with MXLOGGER from among the MX100s that are detected and displayed on the system configuration screen. The GUI facilitates simple, visual operation.
Data logging Conditions	<p>You can set the monitor interval of the measured data, the data recording steps, and the record start/stop conditions. You can also set the save destination and the file name of the recorded data, set up the file division function, and perform other functions.</p> <ul style="list-style-type: none"> • Record start conditions: instant time, specified time, specified interval, specified calculation • Record stop conditions: instant time, specified time, specified interval, specified calculation
Measurement Channel Settings	For each measurement channel, you can set (1) the measurement conditions such as the input mode, measurement range, and measurement span, (2) whether to carry out measurement/recording, and (3) the alarm conditions. (up to 2 levels for style S2 or earlier, up to 4 levels for style S3 or later.)
MATH Channel Settings	<p>240 math channels are available, and expressions of up to 127 characters can be set on each.</p> <p>Expressions</p> <ul style="list-style-type: none"> • The items that can be used in expressions include measured values, alarm statuses, measurement channel statistics (max, min, max-min, total, sum, avg), manual DO statuses, and arbitrary analog output values. • Operators are available for the following: basic arithmetic (+, -, ÷, ×), remainders, logical operations (logical sum, logical product, exclusive OR), relational operations, and conditional operations (switch operand based on whether or not the conditional expression is true). • Arithmetic functions include trigonometric functions, asin, acos, sinh, cosh, tanh, powers, logarithms, square roots, and absolute value. • Special functions allow calculation of max, min, max-min, sum, and average of multiple values, and extraction of integer parts. • In addition to using the results of logical operations to activate various actions, you can also do so by using the following stipulations as conditions: hourly, daily, weekly, monthly, every specified time, and timer status (described below). The actions that can be specified are analog pattern output start or stop, alarm ACK, initialization of MATH, timer, or statistical computations, record start and stop, data file division, or creation of marks. These conditions and actions are available as functions, which can be activated by rendering them in expressions. <p>Constants</p> <ul style="list-style-type: none"> • Constants can be entered directly into expressions, but you can also manipulate constants as character string labels (up to 240). <p>Timer</p> <ul style="list-style-type: none"> • Up to eight timers (repeating timers) used for processing of conditions can be set. The times are set in units of seconds. <p>Alarm Settings</p> <ul style="list-style-type: none"> • Up to four levels of alarms can be set for each MATH channel. • You can choose an alarm type of upper limit, lower limit, high limit on rate of change, or low limit on rate of change. • An hysteresis width can be assigned.

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DO Channel Settings	<p>You can set the DO channel operation. The setting is only valid when a DO module is present. You can choose an operation of alarm output, manual output, file output, or error output.</p> <ul style="list-style-type: none"> • When set to alarm output, the reference alarms are specified by a range of channel numbers (to operate multiple channels in an OR relationship, the channel numbers must be contiguous). • Up to four kinds of manual output can be operated on the software overall. When set for manual output, reference operation numbers are specified from 1 to 4. 													
AO Channel Settings	<p>You can set the AO channel operation. The setting is only valid when an AO module is present. Choose an operation of transmission output or arbitrary output.</p> <ul style="list-style-type: none"> • When transmission output is selected, specify the reference channels. • Up to four kinds of arbitrary output can be operated on the software overall. You can select a type of arbitrary output of either manual output (manipulate the output value directly) or pattern output (set up the output values ahead of time), and both can be switched during an operation. <p>Pattern Output Settings</p> <ul style="list-style-type: none"> • The analog pattern used for arbitrary output can be set graphically. Up to 32 vertices can be used to set a single pattern (31 segments), and the units of the time axis are seconds. 													
Data Logging	<p>Data logging and recording is performed according to the structure of the system and its logging conditions.</p> <p>Main Window (Information Screen)</p> <ul style="list-style-type: none"> • You can perform operations such as starting/stopping data logging, pausing the monitor, starting/stopping data recording, manual DO, and arbitrary output, as well as monitoring the communication status of the connected MX100s, the status of the data logging and recording operation, the status of the hard disk, and other conditions. <p>Multi-Interval</p> <ul style="list-style-type: none"> • You can perform multi-interval logging according to the structure of the system and its logging conditions by using three measurement groups (each with its own measurement interval) assigned to each module individually across multiple connected MX100 units. <p>Starting Automatic Acquisition</p> <ul style="list-style-type: none"> • You can have the unit start monitoring or recording automatically. The software will automatically attempt to reconnect, even with instruments that could not be connected when acquisition started. <p>Shortest Measurement Interval</p> <table border="1" data-bbox="395 1070 965 1223"> <thead> <tr> <th>No. of units</th> <th>Number of channels</th> <th>Measurement interval</th> <th rowspan="4">The performance characteristics to the left are based on the following conditions. <ul style="list-style-type: none"> • Measurement channels only • No alarm settings • No MATH channels </th> </tr> </thead> <tbody> <tr> <td>1</td> <td>24</td> <td>10ms</td> </tr> <tr> <td>10</td> <td>600</td> <td>100ms</td> </tr> <tr> <td>20</td> <td>1200</td> <td>200ms</td> </tr> </tbody> </table>	No. of units	Number of channels	Measurement interval	The performance characteristics to the left are based on the following conditions. <ul style="list-style-type: none"> • Measurement channels only • No alarm settings • No MATH channels 	1	24	10ms	10	600	100ms	20	1200	200ms
No. of units	Number of channels	Measurement interval	The performance characteristics to the left are based on the following conditions. <ul style="list-style-type: none"> • Measurement channels only • No alarm settings • No MATH channels 											
1	24	10ms												
10	600	100ms												
20	1200	200ms												
Data Monitoring	<p>Various types of graphic monitors (trend, digital, level meter, analog meter, temperature etc.) can be laid out to create a real time monitoring environment.</p> <p>Display Conditions Settings</p> <ul style="list-style-type: none"> • For each display group, you can set the channels to be displayed, display scale, display zone, trip point (the value of interest in the waveform display), display color, and other parameters as display conditions for the trend monitor, numeric monitor, and meter monitor. • Up to 50 groups of 32 channels each can be set. 													
Data viewer	<p>Provides optimum functions for data analysis and processing such as redisplaying saved data files, reading in values with the cursor, and calculation between cursors. Allows file conversion to Excel, Lotus, and ASCII formats.</p> <p>Synchronization</p> <ul style="list-style-type: none"> • When the data file is opened, the measurement time is corrected based on the time information of the PC. • If a portion of data is lost due to communication failure or other reason, data backed up to the CF card on the MX100 (style number S2 or later) can be linked and displayed together with the surviving data. <p>Redisplay</p> <ul style="list-style-type: none"> • Waveform display/numeric display • Change display conditions (group assignments, scale, trip point, display color and other parameters) • Read data values using the cursor • Statistical computation over an area • Display and add marks • Print the displayed waveform and numeric values • Save or load display conditions • Display the file information 													
Calibrator	<p>This software is used to calibrate the MX100 input/output modules.</p> <ul style="list-style-type: none"> • You can connect to the MX100, display the modules that can be calibrated (such as the MX110-UNV-H04 and MX110-UNV-M10), and carry out calibration at each measurement range. 													

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<p>DDE* Server</p>	<p>The server provides DDE services. Data and time that are scanned by the Logger can be displayed on a Windows application that supports DDE such as EXCEL.</p> <p>* Dynamic Data Exchange: A technique or procedure used to exchange commands and data between Windows applications via communications. The database providing the data is called a <i>server</i>. The application that uses the data is called a <i>client</i>.</p>
<p>Event Processing</p>	<p>If the entered event conditions are matched, the specified data process is executed. The event conditions that can be set and their available data processes are as follows.</p> <p>Alarms and Record Start</p> <ul style="list-style-type: none"> • Alarm information and instantaneous value information is sent via FTP or e-mail (mail text or attachment) upon alarm occurrences or the recording start operation. • In the case of an alarm event, the alarm reference channels are set using a range specification (when referencing multiple channels, their channel numbers must be contiguous). <p>Record Stop</p> <ul style="list-style-type: none"> • Upon record stop, data files are synchronized, and can be converted to Excel, Lotus, or ASCII format. • Synchronized files and converted files can be sent via FTP or e-mail (as an attachment). <p>Data Files</p> <ul style="list-style-type: none"> • When data files are created, they can be sent via FTP or e-mail (as attachments). <p>Communication</p> <ul style="list-style-type: none"> • Information on communication disconnections, communication re-connections, and data dropout can be sent via FTP or e-mail (main body).
<p>Add-on Software Connection Conditions (Monitor Server Function)</p>	<p>The MXLOGGER can hold up to 61 data memories*. A system number between 0 and 60 is assigned to each data memory according to the monitor interval of the individual units specified on the Logger. Each system number has information on the unit no., the channel range, the monitor interval, and the number of channels.</p> <p>Specify this system number to load scanned data from MXLOGGER using add-on software (Add-Observer, Add-Multi, etc.). (Note that since the upper limit to the number of clients that can be connected is 32, all of the data held in memory is not necessarily loaded).</p> <p>* Each unit (MX100) has three monitor intervals, and the MXLOGGER can connect up to 20 MX100s. Therefore, the maximum number of data memories is $3 \times 20 = 60$. Adding the monitor interval of the computation channel makes it 61.</p> <p>Access from AddMulti or AddTrigger</p> <p>Direct connection to MXLOGGER for acquisition by AddMulti or AddTrigger can occur on only one system (one measurement interval of one of the MX100 units connected to MXLOGGER). Any system can be connected, enabling data acquisition at speeds of 100 ms, or up to 10 ms.</p> <ul style="list-style-type: none"> • The maximum number of measurement channels on which acquisition can be performed is 24 at 10 ms, or 50 at 100 ms. • Measurement channels can be loaded into MXLOGGER's MATH channels, and acquisition can be achieved on up to 240 channels at 100 ms by specifying MATH channels as the system to connect to from AddMulti or AddTrigger. <p>To maximize the number of available channels, you can connect MXLOGGER to DAQLOGGER and acquire data via DAQLOGGER. In this case, the shortest measurement interval of AddMulti or AddTrigger becomes that of DAQLOGGER (one second).</p> <p>Access from AddObserver, AddObserver Runtime, or DAQLOGGER Client</p> <p>As a function is available for connecting to multiple monitor servers, you can specify multiple MXLOGGER system numbers for performing data acquisition.</p> <ul style="list-style-type: none"> • The number of connections cannot exceed the number of monitor servers to which the upstream software can connect (maximum of sixteen; see the specifications of the software program being used), or the number of clients to which MXLOGGER can connect (maximum of thirty-two, see above). • As connections are made in units of system number, channels that apply to multiple system numbers cannot be displayed in the same trend window. <p>Access from DAQLOGGER</p> <p>Use the DAQLOGGER connection mode available in MXLOGGER. All of MXLOGGER's data can be accessed by specifying "All System No." on DAQLOGGER.</p>

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■ DAQEXPLORER (Release Number: R4)

Connection Models		DX1000/DX1000N/DX2000	DX100/DX200/DX200C	CX1000/CX2000	MV1000/MV2000	MV100/MV200
	Ethernet	∨	∨	∨	∨	∨
DAQ Desktop	<p>The DAQ Desktop can be used to perform the following operations:</p> <ul style="list-style-type: none"> • Mount instruments (DX, CX, or MV) on the network (make them accessible from the DAQEXPLORER). • Start the Data Monitor, Data Viewer, and Configurator programs. • Check the files residing in the internal memory or external storage medium of the DX/CX/MV. • Snapshot display of the DX/CX/MV display screen. • Automatically transfer data in internal memory (display data files, event files, and report files) • Copy DX/CX/MV data to the DAQ Desktop. • Send triggers to the DX/CX/MV. • Batch-convert display data files, event files, and TLOG files in folders mounted on the DAQ desktop to Excel, Lotus, or ASCII format. • Set time on all mounted devices at once (DX, CX, and MV). 					
Data Monitor	<p>Monitor the DX1000/DX1000N/DX2000/DX100/DX200/DX200C/CX1000/CX2000/MV1000/MV2000/MV100/MV200 data using a PC connected to the network by viewing the trend waveform, for example. The following types of monitor screens are available:</p> <ul style="list-style-type: none"> • Alarm Monitor : Lists the alarm conditions of each group or alarms that occurred in the past. It can be used to monitor alarms. • Trend Monitor : Displays the waveforms of the measured and computed data. This is useful when you wish to observe the data trend. The maximum number of past data points that can be held per each channel is 1800. • Color Graph Monitor: Displays the measured and computed data using colors that correspond to specific values. This is useful when you wish to observe the overall tendency of the measured and computed data. • Numerical Monitor: Displays the measured and computed data using numerical (digital) values. This is useful when you wish to read the exact values. • Meter Monitor: Displays the measured and computed data using analog meters. You can select bar graph, meter, or thermometer. This provides a useful way to display the current conditions graphically. • Circular Monitor: Displays the measured and computed data in a circular fashion. <p>Note that the remote monitors for DAQLOGGER Client, DAQ32Plus and DAQ32Plus Client, and data monitor for DAQEXPLORER cannot be used at the same time on the same PC. Also, with DX1000/DX2000 release number R3 or later, when the Multi-batch function is ON, the data monitor's initial display groups go in order starting from batch group 1's display groups up to 50 groups. The 51st and subsequent groups are not displayed.</p>					
Data Viewer	<p>The following five types of data files generated by DX1000/DX1000N/DX2000/DX100/DX200/DX200C/CX1000/CX2000/MV1000/MV2000/MV100/MV200 can be displayed as trends, digital values or in a circular fashion on the screen or printed.</p> <ul style="list-style-type: none"> • Display data file: .dds, .cds, .dad • Event data file: .dev, .cev, .dae • TLOG file: .dtg • Report file: .dhr, .ddr, .dwr, .dmr and .dar • Manual sample file: .dmn, .dam <p>You can also use cursors to read the values of the displayed data, perform computation over a specified region, and convert data to a file in ASCII format or a format that can be opened using Excel/Lotus.</p> <p>You can display report data generated by the DX1000, DX1000N, DX2000, MV1000, or MV2000 (.dar) on a stacked bar graph.</p>					
Configurator	<p>The Configurator is used to configure DX1000/DX1000N/DX2000/DX100/DX200/DX200C/CX1000/CX2000/MV1000/MV2000/MV100/MV200 setup data such as the configuration of the measurement channels and computation channels, the screen display format, etc.</p> <p>Configuration data can also be stored to or retrieved from the hard disk on the connected PC. There are three methods for setting the DX1000/DX1000N/DX2000/DX100/DX200/DX200C/CX1000/CX2000/MV1000/MV2000/MV100/MV200</p> <ul style="list-style-type: none"> • Retrieving the current setup data from the connected DX/CX/MV and subsequently modifying the settings. • Loading saved setup data from the PC and changing the settings. • Configuring a new system and settings. <p>Note that with the DX1000/DX2000 release number R3 or later, screens cannot be built or edited for the custom display function.</p>					

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■ AddObserver (Release Number: R4)

AddObserver	AddObserver consists of two software programs, AddObserver Builder and AddObserver Panel.
Builder	<p>AddObserver builder allows you to create original monitor screens for displaying measured data acquired by the monitor servers of the various DAQWORX programs. Unlike with conventional software packages, you can establish a comfortable monitoring environment by creating realistic images and graphics modeled after the site. The software's main functions are as follows:</p> <ul style="list-style-type: none"> • Allows you to create and edit monitor screens to be used for monitoring data on AddObserver Panel. • Creates the two types of files needed for monitor screens; .gob files for monitor settings, and .cob files for configuration. • Connects to the DAQ32 Plus, DAQEXPLORER, DAQLOGGER, or MXLOGGER monitor server and GateEye/GateCONTROL via Ethernet, and accesses the server's channel information. • Allows you to easily assign channels or alarms to monitor screen objects including meters, trend graphs, and signals.
Remote Monitor Panel	See the same item for AddObserver Runtime.
Channels	<p>The types of channels that AddObserver can process are input channels, output channels, controller channels, and V channels.</p> <p>Input Channels</p> <ul style="list-style-type: none"> • These channels are for loading tags (channels) from the monitor servers of DAQLOGGER, DAQ32Plus, MXLOGGER, or DAQEXPLORER, and displaying them in trend graphs and other formats. Up to 1,600 channels can be loaded. • Also, when you connect to GateCONTROL and assign Controllers, the corresponding input channels are automatically assigned. <p>Output Channels</p> <ul style="list-style-type: none"> • These channels are for operation of, and output of settings to, the controller via the output tags set on GateCONTROL. Up to 1,600 channels can be output (however, the maximum number of output tags that can be set on one instance of GateCONTROL is 32 tags×32 units = 1,024). • Also, when connecting to GateCONTROL and assigning Controllers, corresponding output channels are automatically assigned. <p>Controller Channels</p> <ul style="list-style-type: none"> • These channels are for batch-handling the main input/output parameters of the small scale instrumentation (controllers, signal conditioners, etc.) connected to GateCONTROL. Up to 128 units can be processed (however, the maximum number of instruments that can be connected to a single instance of GateCONTROL is 32). <p>V Channels</p> <ul style="list-style-type: none"> • These channels are for connecting to GateEye and processing the JPEG images taken by Web cameras and snapshots (PNG images) from DAQSTATION and MobileCorder. Display can be updated in real time, allowing monitoring with dynamic images. Up to 16 units can be processed (however, the maximum number of instruments that can be connected to a single instance of GateEye is 4).

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Alarm Sound	You can enter settings so that an alarm sounds when an alarm occurs. You can select specific alarms for generating the alarm sound from among the total 6400 possible alarms (max. 1600 channels x 4 levels).
User Setting	You can restrict Numeric Out, Selectable Out, and Temperature Controller Parts operation to the logged-in user only. Up to three protection levels can be specified for up to sixteen users. Users are identified by user name and password.
Parts sets	<p>The panel contains structural objects for displaying measured data, waveforms, alarms, and other data.</p> <ul style="list-style-type: none"> • Line: You can create a line of any length and direction. You can also specify the line's width, color, and whether arrowheads are attached to the ends. • Rectangle: You can create a rectangle of any shape and size. You can also specify the rectangle's line width, line color, and fill. • Ellipse: You can create an ellipse of any shape and size. You can also specify the ellipse's line width, line color, and fill. • Arc: You can create an arc of any shape or size. You can also specify the arc's line width, starting angle, ending angle, line color, and fill. • Polygon: You can create a polygon of any shape and size. You can also specify the polygon's line width, line color, and fill. • Value Rectangle: You can create a value rectangle for any channel. You can also specify the value rectangle's line width and line color. • Indicator/Extended Indicator: Displays the specified alarm. Alarms can be elliptical or rectangular, and the color of the alarm upon occurrence can be selected. "Indicator" indicates the specified 1 channel 1 level alarm, and light green when alarms are cleared. An "Extended Indicator" representatively indicates the alarm of the arbitrary level of multiple consecutive channels (the level must be the same for all target channels), and the center part lights green when the alarm is cleared. Also, the "Extended Indicator" has an ACK (acknowledge) function, and when an alarm occurrence is confirmed with a mouse click, the outline returns to green illumination. When the alarm is not specified it is displayed in black. • Meters: You can create several different kinds of meters (digital, bar, analog, and thermometer) and assign channels to them. You can also enter settings for such things as the channel, text size, and units. You can specify any color for the text and background of digital meters. • Meter Sets: You can create several different kinds of meter sets (digital, bar, analog, and thermometer) and assign channels to them. You can also enter settings for such things as the channel, text size, decimal place, and units. • Trend Graph/Extended Trend Graph: Displays the waveform of the specified channel. Trend graphs display up to thirty-two waveforms. Display zone specification, multi-axis display, and other manipulations of the display can be performed. Extended trend graphs display up to 1600 waveforms. Display zones cannot be specified, and only one type of axis is available. Whether trend graph or extended trend graph, the channels must be of the same system numbers on the same monitor server. Channels with multiple system numbers including those of other monitor servers cannot be displayed on the same graph. • Picture: You can place a "picture" (a bit mapped image) in the monitor screen. • Monitor: You can assign V channels for monitoring dynamic images. • Button: You can create buttons for various tasks such as stopping alarm sounds and showing or hiding a specified monitor window.

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<ul style="list-style-type: none">• Color Change Rectangle, Color Change Ellipse: These objects are for dynamically changing the displayed colors based on the values of the specified channels. You can choose from the following three ways of having colors change.<ul style="list-style-type: none">• Display an arbitrary color for each of the numerical ranges delimited by threshold values (up to 4 threshold values can be set).• Display in grayscale, with black for the minimum value and white for the maximum value. The maximum and minimum values can be specified.• Display in a color scale, with blue for the minimum value and red for the maximum value. The maximum and minimum values can be specified.• String Change Rectangle: This object is for dynamically changing the text color, background color, and text content based on the range of values of the specified channels. Up to 4 thresholds can be set, and up to 16 alphanumeric characters can be used for the text string.• Numeric Out: Displays the value of the specified output channel. You can set any color for the text and background. Clicking on the monitor opens a dialog box for outputting an arbitrary value. This is useful for setting the SP value of the controller, and for other tasks.• Selectable Out: Displays the value and corresponding text of the specified output channel. Up to 8 combinations of values and text can be set, and any color can be set for the text and background colors. Clicking on the monitor opens a dialog box in which you can select a text string to output the corresponding value. This is useful for switching between Auto and Manual on the controller, and other operations.• Temperature Controller: You can assign controllers and batch-process the main input/output parameters of the small scale instrumentation (controllers, signal conditioners, etc.) connected to GateCONTROL. The object looks similar to the front panel of the controller, allowing for intuitive monitoring, operation, and entry of settings. You can turn individual status displays such as program time and segment number, as well as PV events (up to 8) and TIME events (up to 16) ON and OFF, and functions visually in a similar manner to program controllers and indicating controllers with alarms.• X-Y Graph: Displays the specified two channels on an X-Y graph. Up to thirty-two waveforms can be displayed on the same graph. Note that the channels must be of the same system numbers on the same monitor server. Channels with multiple system numbers including those of other monitor servers cannot be displayed on the same graph. The length of the waveform traces kept on the X-Y graph is specified from 1 to 3600 past data.• Alarm Summary: You can specify multiple channels of consecutive numbers for display along with their alarm type, date/time activated/cleared, and tag name. You can also display up to 100 occurrences of past alarms.

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■ AddObserver Runtime (Release Number: R4)

<p>AddObserver Runtime</p>	<p>AddObserver Runtime Package is a real time operation and monitoring software program that allows you to connect to the monitor servers of DAQLOGGER, DAQ32Plus, DAQEXPLORER, and MXLOGGER, connect to GateEye and GateCONTROL, display acquired measured data on original monitor screens, and perform operations and settings on controllers.</p> <p>AddObserver Runtime Package does not include AddObserver Builder (monitor creation software).</p>
<p>Remote Monitor Panel</p>	<p>If you enter connection settings in advance, the Runtime software will immediately display data when it is started up, so it is optimal for on-site monitoring by an operator.</p> <p>The software's main functions are as follows:</p> <ul style="list-style-type: none"> • Allows you to load previously created monitor screen (panel) setting files (with the extension, .gob) and configuration files (with the extension .cob), perform monitoring of measured data acquired by Yokogawa's DAQ32Plus, DAQEXPLORER, DAQLOGGER, and MXLOGGER as well as image data from GateEye, and perform operation and settings on controllers via GateCONTROL. • Allows you to switch labels to display channel numbers, tag numbers, and tag comments. • Displays data from multiple monitor servers (DAQLOGGER, DAQ32 Plus, MXLOGGER, or DAQEXPLORER) and GateEye on a single panel. • Able to connect with up to 16 servers simultaneously. • Displays up to 16 screens. • You can restrict operation of the controller and setting functions according to the user names and passwords set up in AddObserver Builder.

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■ AddMulti (Release Number: R2)

Main Functions	<p>AddMulti is a software program that can simultaneously perform data logging of different logging conditions (this function is referred to as the multilogging function). Connect the PC on which the data logging software is running and the PC on which AddMulti is running on an Ethernet network. AddMulti is connected to the data logging software via the Ethernet network. AddMulti retrieves measured data that the data logging software is scanning and recording from a recorder or a similar instrument. AddMulti operates based on the time information retrieved from the data logging software. AddMulti can only connect to a single data logging software at any given time. AddMulti connects to the monitor server of the data logging software.</p> <ul style="list-style-type: none"> •The Data Monitor is a software program for displaying the measured data that is retrieved from the monitor server at the scan interval. •Overview is a software program for displaying the record status. •The Historical Viewer is a software program for displaying the measured data that has been saved. •The Logger is a software application that logs measured data. The logger runs according to the logging conditions that is set on the Launcher. The program does not appear on the screen. •The Launcher is a software program that manages the AddMulti operation such as setting the logging conditions, connecting to the monitor server, and starting various software programs.
Group Editor	<p>The tags that were set by Tag Editor can be assigned to groups, and the groups can be assigned names. Up to 32 tags can be assigned to a single group. Up to 50 groups can be assigned. Data Monitor displays the data by groups that are specified here.</p>
Scan	<p>Scan refers to the act of retrieving the measured data from the destination monitor server at a predetermined interval (scan interval). The scan interval of AddMulti is the same as that specified on the data logging software to which AddMulti is connected. Scan starts when AddMulti is connected to the data logging software. Scan continues until the connection is dropped. The fastest scan interval are indicated below.</p> <ul style="list-style-type: none"> •When connected to DAQ32Plus: 0.5 s •When connected to DAQLOGGER: 1 s •When connected to MXLOGGER: 0.01 s
Scanning	<p>Scanning status refers to the condition in which AddMulti monitors whether the logging start condition is met after recording is started. Logging starts when the logging start condition is met.</p>
Record	<p>Record refers to the act of logging data according to the logging conditions. Record status is divided into scanning status and logging status.</p>
Logging	<p>Logging refers to the act of saving the measured data to a file on the hard disk at a predetermined interval (logging interval). In the logging status, AddMulti monitors whether the logging end condition is met. When the logging condition is met, AddMulti stops recording or enters the scanning status in which the next logging start condition is monitored. The logging interval can be set equal to the scan interval or its integer multiple. Assigns the measurement channels used to log data to groups. Logging conditions such as the logging start condition, logging interval, and other items are set for each group. Each group logs the data of measurement channels independently according to the logging conditions for its group. Comments can be embedded in each group as file information. Up to 8 sets can be entered, where one set consists of an item name having up to 16 alphanumeric characters and content having up to 64 alphanumeric characters. Number of groups that can be specified: Up to 50 Number of channels per group: Up to 32</p>

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<p>Project Management</p>	<ul style="list-style-type: none"> • Project refers to a unit of AddMulti settings that are grouped according to the user or purpose. You can create multiple projects and save them. <p>For example, if you save the settings for logging the data of process A as "Project 1," you only need to select "Project 1" to recall the settings for logging the data of process A.</p> <ul style="list-style-type: none"> • You can assign a password for each project and limit the operation (password protection). • The information included in a project is the setup information of the project itself, data logging conditions, connection destination monitor server, Launcher, Overview, Data Monitor, and Historical Viewer. • You can hide the icons displayed on the desktop and the Windows taskbar so that other programs cannot be started (desktop protection). • You cannot shut down your PC when AddMulti is running (shutdown protection).
<p>OverView</p>	<ul style="list-style-type: none"> • Record status display <p>Displays the record status of each group using characters and a color indicating the status. The record status consists of Stop, Scanning, Recording, and Error.</p> <ul style="list-style-type: none"> • Detailed display of the record status <p>Displays the details of the record status of each group in a table format. Detailed information includes the logging start time/end time, the trigger count, the number of data points of the file (logging count), the free space on the save destination hard disk, and error information.</p> <ul style="list-style-type: none"> • Data file display <p>Lists the information about the data file that has finished logging for each group. The file number, the group number, the file name, the time of the first data point, the time of the last data point, and the number of data points are displayed.</p>
<p>Monitor</p>	<ul style="list-style-type: none"> • Trend monitor <p>Displays the scanned data using waveforms. You can carry out operations such as expanding or reducing the time axis and changing the display zone of each channel.</p> <ul style="list-style-type: none"> • Numeric monitor <p>Displays the scanned data using numeric values.</p> <ul style="list-style-type: none"> • Meter monitor <p>Displays the scanned data using a meter. You can select the type of meter from bar meter, analog meter, and thermometer.</p> <ul style="list-style-type: none"> • Alarm monitor <p>Displays the alarm status of all groups on a single screen (overview display). If an alarm occurs on any one of the channels in a group, the group shows an alarm indication.</p> <p>The alarm monitor also displays a log of alarm occurrences/releases for each channel including the alarm type, date and time of occurrence/release, and channel name (alarm log display).</p> <ul style="list-style-type: none"> • Color graph monitor <p>Displays the scanned data by assigning the following 50 colors in order. Blue (minimum display scale) – light blue – green – yellow – red (maximum display scale)</p> <ul style="list-style-type: none"> • Circular monitor <p>Displays the scanned data using a circular graph.</p>
<p>Historical Viewer</p>	<p>Displays the measured data that has been logged. You can also save the data by converting the data format.</p> <ul style="list-style-type: none"> • The Historical Viewer can handle only the data that has been logged by AddMulti. For data that are currently being logged, the Historical Viewer can handle only the section that has been stored to the hard disk. The file name extension is .mld. • You can change the display conditions by carrying out tasks such as changing the channels assigned to a group and turning ON/OFF the waveform display. You can also save the modified display conditions. • Connects files containing segmented data (see "Data Logging Conditions") and displays the result. • Calculates the maximum, minimum, P-P, mean, and rms values over the area that is specified by the cursor. • Marks can be placed at arbitrary positions of the measured data. • You can set search conditions and search for measured data, alarms, and marks. • You can extract a section of the file to be stored to another file. • Converts the data format to ASCII, Lotus, or Excel formats. • Prints the displayed data (a printer is required).

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<p>Logging Start Condition/ End Condition</p>	<ul style="list-style-type: none"> • On Record (Logging Start Condition) Logging starts when recording is started. • None (Logging End Condition) Logging continues until recording is stopped. Logging and recording stop when you carry out the operation to stop recording. • Fixed Time (Logging Start Condition/End Condition) After recording is started, logging starts when the time of the data retrieved from the monitor server is equal to or immediately after the specified time. When logging, logging and recording stops when the time of the data retrieved from the monitor server is equal to or immediately before the specified time. • Alarm (Logging Start Condition/End Condition) Monitors a single alarm on a channel. Logging starts/ends when a change is detected in the alarm (alarm occurrence or release). You can specify the trigger confirmation count (see the next page). • Level (Logging Start Condition/End Condition) Monitors the measured data of a channel. Logging starts/ends when the measured value exceeds or falls below the specified value. You can specify the trigger confirmation count. <p>Trigger Confirmation Count When Alarm or Level is specified as the logging start/end condition, you can set AddMulti starts/ends logging when a trigger condition is detected consecutively the specified number of times (trigger confirmation count). You can prevent undesirable triggers from occurring due to changes in the measured data caused by noise and other factors.</p>
<p>Trigger Count</p>	<p>For example, if logging is started after an alarm occurrence after record start, and logging is ended after the alarm is released, you can specify the number times to execute the logging start/end operation (trigger count). When the number of logging start/end operations is executed, recording stops. The trigger count can be specified in the following cases.</p> <ul style="list-style-type: none"> • The logging start condition is Alarm or Level and • The logging end condition is Alarm, Level, or Data count

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■ AddTrigger (Release Number: R1)

Main Functions	<p>AddTrigger is a software program that performs data logging according to user-specified conditions. AddTrigger can start or stop logging of events occurring during data logging based on a trigger. The following can be set as trigger conditions: activation/cancellation of alarms on a channel (alarm trigger), channel data values (level trigger), at a given time during the day (time trigger), or the number of saved data. Connect the PC on which the data logging software is running and the PC on which AddTrigger is running to the Ethernet network. AddTrigger is connected to the data logging software via the Ethernet network. AddTrigger retrieves measured data that the data logging software is logging from a recorder or a similar instrument. AddTrigger operates based on the time information retrieved from the data logging software.</p> <p>AddTrigger can only connect to a single PC with data logging software at any given time.</p>
Group Editor	<p>The tags that were set by Tag Editor can be assigned to groups, and the groups can be assigned names. Up to 32 tags can be assigned to a single group.</p> <p>Up to 50 groups can be assigned. Data Monitor displays the data by groups that are specified here.</p>
Scan	<p>Scan refers to the act of retrieving the measured data from the monitor server at a predetermined interval (scan interval). The scan interval of AddTrigger is the same as that specified on the data logging software to which AddTrigger is connected. Scan starts when AddTrigger is connected to the data logging software. Scan continues until the connection is dropped.</p> <p>The fastest scan intervals are indicated below.</p> <ul style="list-style-type: none"> • When connected to DAQ32Plus: 0.5 s • When connected to DAQLOGGER: 1 s • When connected to MXLOGGER: 0.01 s <p>Scan is allowed on a maximum of 1600 channels.</p>
Scanning	<p>Scanning refers to the status in which AddTrigger monitors whether the logging start condition is met after recording is started. Logging starts when the logging start condition is met.</p>
Record	<p>Record refers to the act of logging data according to the logging conditions. Record status is divided into scanning status and logging status.</p>
Logging	<p>Logging refers to the act of saving the measured data to a file on the hard disk at a predetermined interval (logging interval). In the logging status, AddMulti monitors whether the logging end condition is met. When the logging condition is met, AddMulti stops recording or enters the scanning status in which the next logging start condition is monitored. The logging interval can be set equal to the scan interval or its integer multiple.</p> <p>Assigns the measurement channels used to log data to groups. Logging conditions such as the logging start condition, logging interval, and other items are set for each group. Each group logs the data of measurement channels independently according to the logging conditions for its group.</p> <p>Comments can be embedded as file information. Up to 8 sets can be entered, where one set consists of an item name having up to 16 alphanumeric characters and content having up to 64 alphanumeric characters.</p> <p>Number of groups that can be specified: Up to 50 Number of channels per group: Up to 32</p>
Project Management	<ul style="list-style-type: none"> • Project refers to a unit of AddTrigger settings that are grouped by user or purpose. You can create multiple projects and save them. For example, if you save the settings for logging the data of process A as Project 1, you only need to select Project 1 to recall the settings for logging the data of process A. • You can limit user access to projects by assigning passwords to those projects (password protection).

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<p>Displaying the Logging Results and Logging Status</p>	<p>The recording status can be displayed.</p> <ul style="list-style-type: none"> • Recording status display <p>The recording status is displayed using characters and colors. The recording statuses consist of Stopped, Scanning, Logging, and Error Stop.</p> <ul style="list-style-type: none"> • Detailed display of the recording status <p>The details of the recording status are displayed. The information includes the logging start time/stop time, the trigger count, the number of data points written (logging count), the name of the logging data file, free space on the save destination hard disk, and the status of automatic conversion.</p> <ul style="list-style-type: none"> • Data file list <p>Lists information about the saved data files. The file number, the (current) trigger count, the file name, the time of the first data point, the time of the last data point, and the total number of data points are displayed.</p>
<p>Monitor</p>	<ul style="list-style-type: none"> • Trend monitor <p>Displays the scanned data using waveforms. You can carry out operations such as expanding or reducing the time axis and changing the display zone of each channel.</p> <ul style="list-style-type: none"> • Numeric monitor <p>Displays the scanned data using numeric values.</p> <ul style="list-style-type: none"> • Meter monitor <p>Displays the scanned data using a meter. You can select bar meter, analog meter, or thermometer.</p> <ul style="list-style-type: none"> • Alarm monitor <p>Displays the alarm status of all groups on a single screen (overview display). If an alarm occurs on any one of the channels in a group, the group shows an alarm indication. The alarm monitor also displays a log of alarm activations/cancellations for each channel including the alarm type, date and time of activation/cancellation, and channel name (alarm log display).</p> <ul style="list-style-type: none"> • Color graph monitor <p>Displays the scanned data by assigning the following 5 colors in order. Blue (minimum display scale), light blue, green, yellow, red (maximum display scale).</p> <ul style="list-style-type: none"> • Circular monitor <p>Displays the scanned data using a circular graph.</p>
<p>Historical Viewer</p>	<p>The viewer displays the measured data that has been logged. You can also convert the data format before saving.</p> <ul style="list-style-type: none"> • Historical Viewer can only process data that has been completely logged by AddTrigger. For data that are currently being logged, Historical Viewer can handle only the section that has been stored to the hard disk. The file name extension is .mld. • You can change the display conditions by carrying out tasks such as changing the channels assigned to a group and turning ON/OFF the waveform display. You can also save the modified display conditions. • You can connect to files containing divided data and display the results. • You can calculate the maximum, minimum, P-P, mean, and rms values over the area that is specified by the cursor. • Marks can be placed at arbitrary positions on the measured data. • You can set search conditions and search for measured data, alarms, and marks. • You can extract a section of the file to be stored to another file. • The data can be converted to ASCII, Lotus, or Excel format. • You can print the displayed data (separate printer required).

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<p>Logging Start Condition/ End Condition</p>	<ul style="list-style-type: none"> • Alarm (Start/Stop Conditions) You can select an arbitrary number of alarms from an arbitrary number of channels, and set the statuses and changes of those alarms to trigger activation conditions. Logging starts or stops when the trigger conditions are met. The trigger activation conditions that can be set to the selected alarms are AND or OR. • Level (Start/Stop Conditions) Select arbitrary channels, and set triggers to activate depending on the relationship between those channels specified thresholds and measured values. Logging starts or stops when the trigger conditions are met. The trigger conditions between each specified channel are all AND or OR. • Data Count (Stop Condition) Logging stops when a specified number of data points is logged. Logging interval = scan interval x recording rate x specified data count. • Fixed Time (Start/Stop Conditions) A time within a 24-hour period (HH:MM:SS.SSS) can be specified. The times of the acquired data are scanned, and logging starts or stops when the time of the data retrieved from the monitor server is equal to or greater than the specified time. When logging, logging starts when the time of the data retrieved from the monitor server is equal to or greater than the specified time. Logging stops when the time of the data retrieved from the monitor server is equal to or less than the specified time (the specified stop time is not exceeded). • Operation if the start conditions were already met at the point stop conditions are met Logging stops at the point at which stop conditions were met (A), and start condition scanning begins at the same time. At that point (B), start conditions are met but logging is not stopped. Logging starts at point (D) in which start conditions were met again after point (C) prior to which start conditions failed to be met the first time. • Pretrigger Function If the start condition is an alarm trigger or level trigger, you can use a pretrigger function. The pretrigger function allows you to save only the specified number of data prior to the trigger start point. The number of data specified does not include the trigger point itself. The pretrigger function can be set in the range from 0 to 1799 data points. If you specify 0 data points, the pretrigger function is effectively disabled.
<p>Trigger Count</p>	<p>For example, if logging is started after an alarm occurrence after record start, and logging is ended after the alarm is released, you can specify the number times to execute the logging start/end operation (trigger count). When the number of logging start/end operations is executed, recording stops.</p> <p>The trigger count can be specified in the following cases.</p> <ul style="list-style-type: none"> • The logging start condition is Alarm or Level and • The logging end condition is Alarm, Level, or Data count

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■ DAQLOGGER Client (Release Number: R7)

<p>Main Functions</p>	<p>DAQLOGGER Client is software that accepts data from server PCs on which DAQLOGGER or Gate programs are installed and displays that data in monitor screens.</p> <p>The main functions are as follows:</p> <ul style="list-style-type: none"> • Connects up to 16 Monitor Servers. • Receives data consisting of up to 1600 tags from a single server at a minimum interval of 1 s and updates the display (the interval may be longer depending on the number of connected servers and the number of tags). • Displays the data from the server on one of six types of monitors: trend, digital, meter, alarm, color graph, and circular. • Displays tags by dividing them into groups (up to 50 groups, up to 32 tags per group). • Loads and displays the file containing data that have been recorded by the Logging Software of DAQLOGGER and carries out various operations such as computation over an area specified by the cursors, data conversion, display of file information, and printing (same as Viewer of DAQLOGGER).
<p>Remote Monitor</p>	<p>Sets the conditions for connecting to the server (host name, port number, frequency of data retrieval) and connects/disconnects from the server. The conditions for connection can be stored.</p> <p>Displays the data from the monitor server on the following six types of monitors. On each monitor, you can change the display-related settings such as change the tag assignment or turn ON/OFF the tag display. The display conditions can also be stored.</p> <p>The data display is updated according to the interval (frequency of data retrieval) that is specified by the conditions for connection.</p> <ul style="list-style-type: none"> • Trend monitor Displays the waveform of the retrieved data for each group. You can change the display conditions such as zooming in or out of the time axis and specifying the Yaxis zone to be displayed. • Numeric monitor Displays the numerical values of the retrieved data for each group. • Meter monitor Displays the meters of the retrieved data for each group. You can select the type of meter from bar meter, analog meter, and thermometer. • Alarm monitor Lists the representative alarm status for each group on a single screen (alarm overview display). If an alarm is occurring on any one of the tags in a group, the representative alarm status is shown as "Alarm ON." It also displays a log of alarm occurrences/releases for each tag including the alarm type, date and time of occurrence/release, and tag name (alarm log display). • Color graph monitor Displays the retrieved data on a color graph for each group. The data are colored in the following order: blue (minimum value), light blue, green, yellow, and red (maximum value). • Circular monitor Displays the retrieved data on a circular graph for each group. <p>Note that the remote monitors for DAQLOGGER Client, DAQ32Plus and DAQ32Plus Client, and data monitor for DAQEXPLORER cannot be used at the same time on the same PC.</p>
<p>Historical Viewer</p>	<p>Viewer is used to manage the data that have been recorded and stored by the Logging Software to the hard disk or a storage medium. The functions are the same as those for DAQLOGGER Historical Viewer. See the description on DAQLOGGER Historical Viewer. However, data that DAQLOGGER is recording cannot be accessed.</p>
<p>File Utility</p>	<p>It performs four functions, Link, Divide, Convert, and Restructure, on the data file or report file that the DAQLOGGER creates. The functions are the same as those for DAQLOGGER File Utility. See the description on DAQLOGGER File Utility.</p>
<p>Remote Controller</p>	<p>Enter settings for connection with the control server (host name, port number used, login/password) to be used when opening/closing the connection. The following operations can be performed while connected.</p> <ul style="list-style-type: none"> • Start scan, start/stop recording • Start/stop the event processor, generate user events

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■ DAQ32Plus Client (Release Number: R11)

<p>Main Functions</p>	<p>The DAQ32Plus Client Package is used to receive data from a PC (Monitor Server) that is connected via the network and display the measured/computed data on the monitor screen.</p> <p>The main functions are as follows:</p> <ul style="list-style-type: none"> • Connects up to 16 Monitor Servers. • Receives data consisting of up to 360 tags from a single server at a minimum interval of 0.5s and updates the display (the interval may be longer depending on the number of connected servers and the number of tags). • Displays the data from the server on one of six types of monitors: trend, digital, meter, alarm, color graph, and circular. • Displays tags by dividing them into groups (up to 30 groups, up to 32 tags per group). • Loads and displays the file containing data that have been recorded by the Logging Software of DAQ32Plus and carries out various operations such as computation over an area specified by the cursors, data conversion, display of file information, and printing (same as Viewer of DAQ32Plus).
<p>Remote Monitor</p>	<p>Sets the conditions for connecting to the server (host name, port number, frequency of data retrieval) and connects/disconnects from the server. The conditions for connection can be stored.</p> <p>Displays the data from the monitor server on the following six types of monitors. On each monitor, you can change the display-related settings such as change the tag assignment or turn ON/OFF the tag display. The display conditions can also be stored.</p> <p>The data display is updated according to the interval (frequency of data retrieval) that is specified by the conditions for connection.</p> <ul style="list-style-type: none"> • Trend monitor Displays the waveform of the retrieved data for each group. You can change the display conditions such as zooming in or out of the time axis and specifying the Yaxis zone to be displayed. • Numeric monitor Displays the numerical values of the retrieved data for each group. • Meter monitor Displays the meters of the retrieved data for each group. You can select the type of meter from bar meter, analog meter, and thermometer. • Alarm monitor Lists the representative alarm status for each group on a single screen (alarm overview display). If an alarm is occurring on any one of the tags in a group, the representative alarm status is shown as "Alarm ON." It also displays a log of alarm occurrences/releases for each tag including the alarm type, date and time of occurrence/release, and tag name (alarm log display). • Color graph monitor Displays the retrieved data on a color graph for each group. The data are colored in the following order: blue (minimum value), light blue, green, yellow, and red (maximum value). • Circular monitor Displays the retrieved data on a circular graph for each group. <p>Note that the remote monitors for DAQLOGGER Client, DAQ32Plus and DAQ32Plus Client, and data monitor for DAQEXPLORER cannot be used at the same time on the same PC.</p>
<p>Historical Viewer</p>	<p>Viewer is used to manage the data that have been recorded and stored by the Logging Software to the hard disk or a storage medium. The functions are the same as those for DAQ32Plus Historical Viewer. See the description on DAQ32Plus Historical Viewer. However, data that DAQ32Plus is recording cannot be accessed.</p>
<p>File Utility</p>	<p>It performs four functions, Link, Divide, Convert, and Restructure, on the data file or report file that the DAQ32Plus creates. The functions are the same as those for DAQ32Plus File Utility. See the description on DAQ32Plus File Utility.</p>

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Gate software

GateWT (Release Number: R2)	
Functional Overview	<p>Makes possible a system that integrates recorders, data loggers, and power meters. Up to 16 WT power meters can be connected via GPIB or RS-232-C.</p> <ul style="list-style-type: none"> Compatible with the following instruments: WT110, WT110E, WT130, WT200, WT210, WT230, WT1010, WT1030, WT2010, WT2030, WT1030M, WT1600, and WT500. Note that the WT500 can only be connected via GP-IB (GP-IB interface option required on the WT500). The Harmonic Analysis and Harmonic Measurement modes are not supported on the twelve models other than the WT500. The following functions of the WT1600 cannot be acquired: CfU, CfI, FfU, FfI, Z, Rs, Xs, Rp, Xp. The following functions of the WT500 cannot be acquired: 2nd through 50th orders of U/I/P/S/Q/LAMBda/PHI; 1st, 2nd, and 4th through 50th orders of PHIU/PHII; and UHDF, IHDF, and PHDF. Up to 16 units can be linked. By creating a shortcut in Windows, you can setup automatic starting in process execution mode. The software will automatically attempt to reconnect, even with instruments that could not be connected when starting. Measurement can be performed at intervals of up to 0.5 seconds*. <p>* 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.</p>

T15-1Eb.EPS

GateDX-P (Release Number: R1)	
Functional Overview	<p>Allows connection with the DX100P/DX200P data acquisition stations.</p> <ul style="list-style-type: none"> Supports the Ethernet, RS-232-C, and RS-422-A/485 interfaces. Up to 16 DX100P/DX200Ps (Style S4 or later) can be linked. By creating a shortcut in Windows, you can setup automatic starting in process execution mode. The software will automatically attempt to reconnect, even with instruments that could not be connected when starting. Measurement can be performed at intervals of up to 0.5 seconds*. <p>* 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.</p>

T15-1Ec.EPS

GateMODBUS (Release Number: R2)	
Functional Overview	<p>Lets you connect with power monitors, temperature meters, and other devices supporting Modbus communications.</p> <ul style="list-style-type: none"> Reads the input and holding registers from various measuring instruments. Supports Modbus/RTU (serial communications) and Modbus/TCP (Ethernet). Allows you to read the input and holding registers from various measuring instruments. Up to 300 tags can be read. By creating a shortcut in Windows, you can setup automatic starting in process execution mode. The software will automatically attempt to reconnect, even with instruments that could not be connected when starting. Measurement can be performed at intervals of up to 0.5 seconds*. <p>* 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.</p>

T15-1Ed.EPS

GateOPC (Release Number: R1)	
Functional Overview	<p>Connects with PLCs and other controllers via OPC servers and acquires data.</p> <ul style="list-style-type: none"> • Acts as an OPC client, connecting to an OPC DA (data access) server (hereinafter OPC server). <ul style="list-style-type: none"> * Browse function required for the OPC server. • Can acquire data from 16 OPC servers simultaneously. • By creating a shortcut in Windows, you can setup automatic starting in process execution mode. The software will automatically attempt to reconnect, even with instruments that could not be connected when starting. • Measurement can be performed at intervals of up to 0.5 seconds*. <p>* 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.</p>

T15-1Ee.EPS

GateEye (Release Number: R1)	
Functional Overview	<p>GateEye is a software program that operates via Ethernet to acquire image data from network cameras and Yokogawa's DX, MV, and CX series instruments, and distributes those images to clients on the network (Does not support the DX1000/DX1000N/DX2000/MV1000/MV2000). GateEye does not store image data. This manual explains how GateEye acts as a client to acquire image data from networked devices (cameras and Yokogawa DX, CX, and MV series instruments), and acts as the server to distribute those images to other clients. GateEye allows you to enter connection settings for downloading images from a server, and view connection settings, image data client information, and server information. Settings for distributing images must be entered on each individual client.</p> <p>Starts in execution mode. The software will automatically attempt to reconnect, even with instruments that could not be connected when starting.</p> <ul style="list-style-type: none"> • Acquisition Function <p>Max. no. of servers: 4 Protocol: HTTP (1.0 or later), dedicated DX/CX/MV communication commands Image format: JPEG (network cameras), PNG (DX/CX/MV) Connection example: Network camera (able to take still JPEG images, and supports URLs). Update interval: Auto (best-effort)</p> • Distribution Function <p>Max. no. of clients: 16 Protocol: TCP/IP Client example: YOKOGAWA AddObserver RMPanel Image size: 640 × 480 pixels recommended. GateEye imposes an upper limit of 128 KBytes per image data file. If files larger than 128 KB are sent, parts of the data will be lost.</p>

T15-2E.EPS

GateMX/MW (Release Number: R3) *formerly GateMX100	
Functional Overview	<p>GateMX/MW is a software program that acquires data from the DAQMASTER Data Acquisition Unit MX100/MW100 and supplies that data to DAQLOGGER and the add-on software. Using GateMX/MW allows you to monitor data that can be measured by the MX100/MW100 on DAQLOGGER or Remote Monitor.</p> <ul style="list-style-type: none"> • Up to 32 MX100/MW100s can be connected for communication. • It also supports connections from up to 32 clients (DAQLOGGER or add-on software). • The measurement interval matches that of the connected MX100/MW100 (however, the shortest measurement interval for DAQLOGGER is one second). • The maximum number of past data points that can be held per each channel is 1800. • In connecting to the MX100, even if communication during acquisition on the GateMX/MW is disconnected, the MX100 does not switch to backup mode and the data is not saved to the CF card. Also, even if the /DS option is enabled, Dual Save is not carried out. • The MW100 can only be connected with firmware R2.11 or later. • By creating a shortcut in Windows, you can setup automatic starting in process execution mode.
Connection modes	<p>GateMX/MW can hold up to 128 data memories.* A system number between 0 and 127 is assigned to each data memory for every acquisition interval specified on the individual MX100/MW100 units.</p> <p>* Each unit has up to four (MW100) acquisition intervals, and GateMX/MW can connect up to thirty-two MX100/MW100s. Therefore, the maximum number of data memories is $4 \times 32 = 128$.</p> <p>Group connection mode</p> <ul style="list-style-type: none"> • Group connection mode is used in order for add-on software (AddObserver, AddMulti, etc.) to utilize scanned data from GateMX/MW. Specify this system number on the add-on software to connect (note that since the upper limit to the number of clients that can be connected is 32, all of the data held in memory is not necessarily utilized). <p>DAQLOGGER connection mode</p> <ul style="list-style-type: none"> • DAQLOGGER connection mode is used in order for DAQLOGGER to utilize scanned data from GateMX/MW. All of GateMX/MW's data can be accessed by specifying "All System No." on DAQLOGGER. <p>Access from upstream software is described below.</p> <p>Access from AddMulti and AddTrigger</p> <p>Direct connection to GateMX/MW for acquisition by AddMulti or AddTrigger can occur on only one system (one measurement interval of one of the MX100/MW100 units connected to GateMX/MW). Any system can be connected, enabling data acquisition at speeds of 100 ms, or up to 10 ms.</p> <ul style="list-style-type: none"> • The maximum number of measurement channels on which acquisition can be performed is 24 at 10 ms, or 60 at 100 ms. <p>To maximize the number of available channels, you can connect GateMX/MW to DAQLOGGER and acquire data via DAQLOGGER. In this case, the shortest measurement interval of AddMulti or AddTrigger becomes that of DAQLOGGER (one second).</p> <p>Access from AddObserver, AddObserver Runtime, or DAQLOGGER Client</p> <p>As a function is available for connecting to multiple monitor servers, you can specify multiple GateMX/MW system numbers for performing data acquisition.</p> <ul style="list-style-type: none"> • The number of connections cannot exceed the number of monitor servers to which the upstream software can connect (maximum of 16; see the specifications of the software program being used), or the number of clients to which GateMX/MW can connect (maximum of 32, see above). • As connections are made in units of system number, channels that apply to multiple system numbers cannot be displayed in the same trend window. <p>Access from DAQLOGGER</p> <p>Use the DAQLOGGER connection mode available in GateMX/MW. All of GateMX/MW's data can be accessed by specifying "All System No." on DAQLOGGER.</p>

T16-1E.EPS

GateCONTROL (Release Number: R2)	
Functional Overview	<p>GateCONTROL is a software driver that acquires data from temperature controllers and signal converters that support data output via the Modbus/RTU and Modbus/TCP protocols, and transfers the data to Yokogawa's DAQLOGGER or Remote Monitor software and the AddObserver panel. Also, GateCONTROL can receive operations performed on the AddObserver panel, and output parameters to controllers. By using GateCONTROL, in addition to being able to easily monitor measurement input and other data from temperature controllers and signal conditioners on DAQLOGGER or Remote Monitor software, you can also easily perform the functions required for small scale instrumentation (recording, monitoring, operation, and setting) all from DAQWORX by combining programs with AddObserver or AddObserver Runtime.</p> <ul style="list-style-type: none"> • Up to 32 temperature controllers and signal converters can be connected. • The Modbus addresses that can be used are 1-99. • Model names and tag information is automatically acquired using the Automatic Model Determination function. • By creating a shortcut in Windows, you can setup automatic starting in process execution mode. The software will automatically attempt to reconnect, even with instruments that could not be connected when starting. <p>Notes When Connecting DAQLOGGER Client</p> <p>On GateCONTROL, each connected instrument is handled as a separate system. As DAQLOGGER Client has a function for connecting to multiple monitor servers, you can specify multiple GateCONTROL system numbers for performing monitoring.</p> <ul style="list-style-type: none"> • More connections cannot be made than the number of monitor servers to which DAQLOGGER Client can connect (16 max.). Namely, one DAQLOGGER Client can monitor only up to sixteen servers. • As connections are made in units of system number, data from separate instruments cannot be displayed in the same trend window.
Supported Models	<p>Temperature Controller UT130, UT150, UT152, UT155, UP150 Indicating Controller UT320*, UT321, UT350*, UT351*, UT420*, UT450*, UT520*, UT550*, UT551, UT750*, US1000, UT52A*, UT55A* Program Controller UP350*, UP351, UP550*, UP750* Indicator with Alarms UM330*, UM331, UM350*, UM351 Signal Conditioner VJU7, VJS7, VJA7, VJH7, VJP8, VJQ7, VJQ8, VJX7 Digital Limit Alarms MVHK, MVRK, MVTK</p> <p>* UT320, UT350, UT420, UT450, UT520, UT550, UT750, UP350, UP550, UP750, UM330, UM350 can be connected with firmware rev. 20 or later. * UT351 can be connected with firmware rev. 29 or later. * The UT52A and UT55A can only be connected when the GREEN Series device response (C.GRN) register is 1: ON, and are handled as the UT520 or UT551 in the Model Setting.</p>
Input Tags	<p>3 to 42 parameters are assigned as input tags in advance depending on the connected model. By arbitrarily specifying Modbus registers that can be read, up to 48 parameters can be acquired per instrument as input tags (parameters assigned in advance cannot be deleted).</p>
Output Tags	<p>1 to 10 parameters are assigned as output tags in advance depending on the connected model. By arbitrarily specifying Modbus registers that can be written, up to 32 parameters can be handled per instrument as output tags, and writing to registers can be performed using the AddObserver panel (parameters assigned in advance cannot be deleted).</p> <p>If you add output parameters, corresponding input parameters are added (these associations must be changed manually for parameters having different read and write register numbers). Therefore, depending on the restriction on the number of input parameters, the maximum of 32 parameters may not be able to be assigned.</p>

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Gate μR (Release Number: R2)	
Functional Overview	<p>GateμR is a driver software program that acquires data from the μR10000/μR20000 Chart Recorder and supplies that data to DAQLOGGER or Remote Monitor. Using the software allows you to monitor pressure, temperature, and other kinds of data on DAQLOGGER or Remote Monitor that was measured on the μR10000/μR20000. Yokogawa's DAQLOGGER is a software program that allows users to open a connection from their PC to various kinds of Yokogawa recorders (the μR1000/μR1800, VR, DARWIN, DX, MV, and CX) and perform data logging and monitoring.</p> <p>Yokogawa's Remote Monitor is a software program that enables monitoring of data logged by recorders or data logging software.</p> <ul style="list-style-type: none">• Of the μR series instruments, connection is only possible with the μR10000/μR20000.• Up to sixteen μR10000/μR20000s can be connected for communication.• By creating a shortcut in Windows, you can setup automatic starting in process execution mode. The software will automatically attempt to reconnect, even with instruments that could not be connected when starting.• Measurement can be performed at a short interval of 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.• When connecting via serial communications, the PC's COM port is occupied for GateμR. When the PC is connected to instruments GateμR supports and instruments GateμR does not support via serial communications, multiple COM ports are required.

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■ DataBrowser (Release Number: R1)

Functional Overview	<p>DataBrowser is a software application providing data file searching and display functions. It allows you to search for and display data files saved by Yokogawa recorders and data acquisition software programs from a local or network host. DataBrowser consists primarily of the following two functions.</p> <p>Data Search Function</p> <ul style="list-style-type: none"> • You can find data files stored on the PC using search criteria such as date/time and tag name. You can search up to eight folders, include subfolders in the search, search within results, and perform other search tasks. • You can connect to another PC on the network running DataBrowser and include folders on that PC in searches. <p>Data Display Function</p> <ul style="list-style-type: none"> • You can specify specific channels within specific files from among the search results and display those channels as waveforms. Up to 32 waveforms can be displayed in the same window regardless of the model and sampling interval. • One of four types of time axis references (start reference, end reference, trigger reference, and time reference) can be selected when displaying multiple waveforms. Not only can you arrange data from different models by absolute time, but also you can superimpose data of different dates and times.
Searchable Data Types	<p>DAQSTATION DX100/DX200/CX1000/CX2000, MobileCorder MV100/MV200 (Does not support the DX1000/DX1000N/DX2000/MV1000/MV2000) DAQMASTER MX100 (MX100 standard, MXLOGGER, and CF files on the main unit) DAQWORX(DAQLOGGER,AddMulti,AddTrigger)</p>
Data Search Function	<p>Five categories of search conditions are available, making entry of criteria simple. Also, you can select multiple search conditions to refine your searches.</p> <p>(1) Time You can search for files of a specific year, month, date, and time (Time Range), or for those of a specific time range regardless of the day (Time Range each day).</p> <p>(2) File Name Search for data files of a specified file name or extension.</p> <p>(3) Data Type Search for data files from a specific instrument (DX100/200, CX1000/2000, MX100, or MV100/200) or data acquisition software application (DAQLOGGER, AddTrigger, or AddMulti).</p> <p>(4) Keywords Search for data files containing a specified keyword(s). Items to search can be arbitrarily specified from the following (multiple items can be specified): comments, batch information, tag comments, tag numbers, channel numbers, group names, and marks/messages.</p> <p>(5) Serial Number Search for data files of the specified instrument serial number.</p>
Data Display Function	<ul style="list-style-type: none"> • You can display waveforms of data having different times and acquisition intervals, and obtained by different instruments and applications, all on the same screen. • You can read values using cursors, and compute statistics over an area. • Data can be converted to Excel, text, or Lotus format. • All data, or a range of data specified by the cursor can be printed.

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License Model

DAQWORX licenses include a license for new installations (or a "run license" for Gate software) and a release upgrade license.

New installation license	You can install new software programs of the version indicated by the license, limited to a number of computers corresponding to the number of licenses granted.
Release upgrade license	You can upgrade old versions of the software indicated by the license to new versions of the software indicated by the license, limited to a number of computers corresponding to the number of licenses granted.

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In order for holders of an old version of the license to install the latest version, they must purchase an added release upgrade license, or purchase a new license.

License models and suffix codes are as follows:

License Model and Suffix Codes for New Installation

Model/Suffix Code	Description	Affected Version	Number of License	
WX101	DAQLOGGER license	R7	1	
WX102	DAQ32Plus license	R11	1	
WX103	MXLOGGER license	R2	1	
WX104	DAQEXPLORER license	R4	1	
WX201	DataBrowser license	R1	1	
WX11	AddObserver license	R4	1	
WX12	AddMulti license	R2	1	
WX13	AddTrigger license	R1	1	
WX81	DAQLOGGER Client license	R7	1	
WX82	DAQ32Plus Client license	R11	1	
WX83	AddObserver Runtime license	R4	1	
WX1	GateDX-P GateuR GateMX/MW GateCONTROL GateWT GateOPC GateMODBUS GateEye	License to run 1 program	Same for all versions	1
Options	/NCD	License sheet only		

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License Models and Suffix Codes for the Release Upgrade

Model/Suffix Code	Description	Affected Version	Number of License
WX101UP	DAQLOGGER upgrade	DAQLOGGER R3/R4/R5/R6→R7	1
WX102UP	DAQ32Plus upgrade	DAQ32Plus R9/R10→R11	1
WX103UP	MXLOGGER upgrade	MXLOGGER R1→R2	1
WX104UP	DAQEXPLORER upgrade	DAQEXPLORER R1/R2/R3→R4	1
WX11UP	AddObserver upgrade	DAQOBSERVER/AddObserver R1/R2/R3→R4	1
WX12UP	AddMutli upgrade	AddMulti R1→R2	1
Options	/NCD	License sheet only	

- The following upgrades must be purchased as full products (no discount upgrade options available):
DAQLOGGER Client, DAQ32Plus Client, DAQOBSERVER/AddObserver Runtime.
- Customers who have a license for the latest version but who need a release upgrade (for example from DAQLOGGER R7.01 to R7.06), you can obtain the release upgrade on the latest CD-ROM. If you do not have access to the latest CD-ROM, you can purchase just the CD-ROM by itself (model B9991WB).
- For release upgrades from older versions other than the above, please contact your Yokogawa representative.

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Shipping Format

When ordering with model code WX___, the ordered quantity's worth of the product CD-ROMs, manual CD-ROMs, and Installation & Operation Guides are included along with the license sheet. The CD-ROMs and Installation & Operation Guides are the same, therefore if multiple copies are not needed, please specify the /NCD option (WX___/NCD) for all but the first item.