

CMC15G

Multifunction Gateway Communication Controller

Logging Function Manual



Thank you for purchasing the CMC15G Multifunction Gateway Communication Controller.

This manual contains information for ensuring the correct use of the CMC15G. It also provides necessary information for installation, maintenance, and troubleshooting.

This manual should be read by those who design and maintain equipment that uses the CMC15G. Be sure to keep this manual nearby for handy reference.

NOTICE

Be sure that the user receives this manual before the product is used.

Copying or duplicating this user's manual in part or in whole is forbidden. The information and specifications in this manual are subject to change without notice.

Considerable effort has been made to ensure that this manual is free from inaccuracies and omissions. If you should find an error or omission, please contact Yamatake Corporation.

In no event is Yamatake Corporation liable to anyone for any indirect, special or consequential damages as a result of using this product.

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Conventions Used in This Manual

- To prevent injury to the operator and others, and to prevent property damage, the following types of safety precautions are indicated:



CAUTION

Cautions are indicated when mishandling this product might result in minor injury to the user, or only physical damage to the product.

- In describing the product, this manual uses the icons and conventions listed below.



Use caution when handling the product.



The indicated action is prohibited.



Be sure to follow the indicated instructions.



Handling Precautions:

Handling Precautions indicate items that the user should pay attention to when handling the CMC15G.



Note:

Notes indicate information that might benefit the user.



:

This indicates the item or page that the user is requested to refer to.

(1), (2), (3):

Numbers within parentheses indicate steps in a sequence or parts of an explanation.

[ABC] button:

Indicates a selectable button on a personal computer screen.

[File], [Edit]:

Indicates messages and menus displayed on the personal computer.

[AB] → [XYZ]:

Indicates menu selection on a personal computer.

[Enter] key:

Indicates keys on the keyboard.

[Shift]+[F5] key:













Indicates the operation of pressing the [F5] key on the keyboard while the [Shift] key is pressed.

>>:

Indicates the result of an operation, details displayed on the personal computer or other devices, or the state of the device after operation.

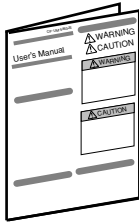
Safety Precautions

CAUTION

	Use Yamatake Corporation's SurgeNon if there is the risk of power surges caused by lightning. Failure to do might cause fire or faulty operation.
	Prevent the total power consumption of all linked modules from exceeding 100 W.
	Before wiring, removing or installing the CMC15G, be sure to turn the power OFF. Failure to do so might cause faulty operation.
	Do not disassemble the CMC15G. Doing so might cause faulty operation.
	Wire the CMC15G in compliance with established standards, using the specified power source and recognized installation methods. Failure to do so might cause electric shock, fire or device failure.
	Do not allow wire clippings, metal shavings or water to enter the CMC15G case. Doing so might cause fire or faulty operation.
	Firmly tighten the terminal screws at the torque listed in the specifications. Insufficient tightening of terminal screws might cause fire.
	Do not use unused terminals on the CMC15G as relay terminals. Doing so might cause electric shock, fire or faulty operation.
	Do not block ventilation holes. Doing so might cause fire or faulty operation.
	Do not short-circuit the batteries, and do not get them wet. If short-circuited, they may over-heat or catch fire.
	Do not throw used batteries into fire or discard them as general garbage. When discarding them, follow local rules and regulations.
	When disposing of the CMC15G, dispose of it appropriately as industrial waste in accordance with local bylaws and regulations.

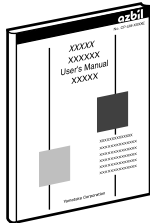
The Role of This Manual

Four different manuals are available for the CMC15G. Read them as necessary for your specific requirements. If a manual you require is not available, contact Yamatake Corporation or its dealer.



CMC15G Multifunction Gateway Communication Controller No. CP-UM-5463JE

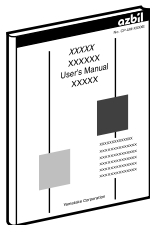
This manual is supplied with the product. This manual describes the safety precautions, installation and wiring.



CMC15G Multifunction Gateway Communication Controller Installation and Configuration No. CP-SP-1277E

Personnel in charge of design, manufacture, operation, and/or maintenance of a system using this unit must thoroughly read this manual.

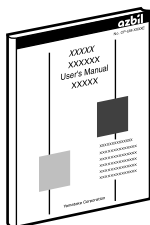
This manual also describes the installation, wiring, connections for communication, all functions and settings of this unit with the GatewayEditor, operating procedures, troubleshooting, and specifications.



CMC15G Multifunction Gateway Communication Controller Connection Manual No. CP-SP-1278E

Personnel in charge of combine the CMC15G with PLCs made by other manufacturers and dedicated board computers to build systems must thoroughly read this manual.

This manual describes how to connect to PLCs, address maps that correspond to PLCs, and other operations and settings required for making applications using PLCs.



CMC15G Multifunction Gateway Communication Controller Logging Function Manual No. CP-SP-1279E

This Manual.

Personnel in charge of design, manufacture, operation, and/or maintenance of a system using logging function by CMC15GD001 advanced function model must thoroughly read this manual.

This manual describes detailed instructions on logging functions, details about LogViewer.

Organization of This User's Manual

This manual is organized as follows:

Chapter 1. OVERVIEW

Survey of applications, features, model selection, functions and operation of the CMC15G.

Chapter 2. LOGGING FUNCTION

Continuous trends, captured trends, data logs, event logs, and extended functions

Chapter 3. LOGVIEWER

How to install, start, quit, and operate the LogViewer

Chapter 4. LOG TABLES

Log tables and related file operations. Log tables store the log data from the CMC15G.

Chapter 5. DISPLAYING WITH LOGVIEWER

Settings for displaying graphs and log lists with LogViewer

Chapter 6. ONLINE OPERATION

Instructions for online operation with LogViewer

Chapter 7. ENVIRONMENT CONFIGURATION

Adjustment of the environmental settings

Chapter 8. SPECIFICATIONS

General specifications and external dimensions of the CMC15G

Chapter 9. TROUBLESHOOTING

Problem diagnosis and treatment

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Chapter 1 OVERVIEW

1 - 1 Overview and Features

■ Overview

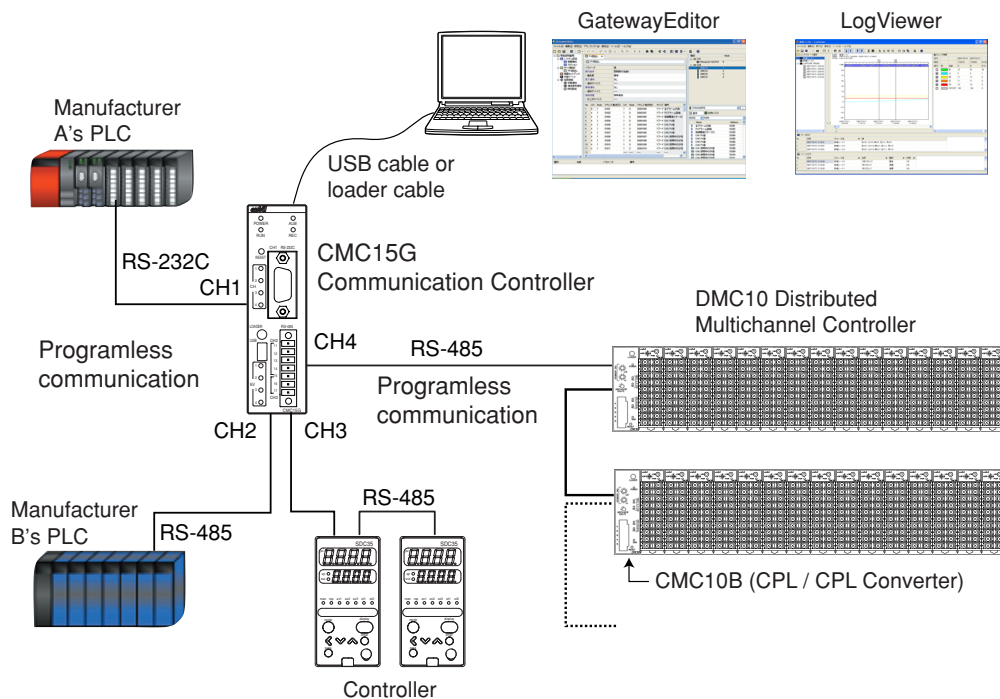
The CMC15G is a communication controller designed to exchange data between another manufacturer's PLC, a host station, and a Yamatake controller or flowmeter connected as a slave station. By setting simple communication parameters, data can be shared between modules, indicator values can be recorded, etc.

A specially designed PC loader tool, GatewayEditor (model No.: SLP-G15J50), is used to set up the communication parameters and to transmit the data to the CMC15G.

For CMC15G setup:

👉 CMC15G Multifunction Gateway Communication Controller Installation and Configuration (CP-SP-1277E)

If the CMC15G advanced function model is used, data can be saved from connected modules (trend, data log, and event log) to the internal memory. To transmit saved data from the CMC15G's internal memory, a special PC loader tool, the LogViewer (model No. SLP-G15LGV), is used.



■ Features

- **Powerful design support and debug functions during operation startup**
The logging function of the CMC15GD01 advanced function model provides a wide variety of triggers useful for analyzing and solving problems that occur at the work site.
- **Optimum for complex debugging**
The CMC15GD01 advanced function model can read out the log data from multiple modules. The status of the slave station and the status of the host station can be saved at the same time.
- **Visual analysis**
The LogViewer allows easy determination of the time at which events occurred. It visually presents the state of the trend data at the time recorded in the event log in conjunction with each logging function.
- **Long-term recording**
Using the CMC15GD01 advanced function model's large-capacity internal memory and real-time monitoring function of the LogViewer makes it possible to record data for an extended period of time.

1 - 2 Model Number Guide

■ CMC15G

Basic Model No.	Function	Module	Option	Specifications
CMC15G				
	S01			Basic model
	D01			Advanced function model *
		A		Base module with connectors
			000	None

* To use the logging function, the CMC15GD01 advanced function model is required.

■ Smart Loader Package

Software name	Model No.	Note
Smart Loader Package (GatewayEditor)	SLP-G15J50	CD for Windows 2000/XP/Vista USB mini-B (5-pin) cable included
Smart Loader Package (LogViewer) *	SLP-G15LGV	CD for Windows 2000/XP/Vista

* To use the logging function, the LogViewer (SLP-G15LGV) is required.

■ Maintenance parts (option)

Part name	Model No.	Note
Replacement battery	81446431-001	

1 - 3 Function Overview

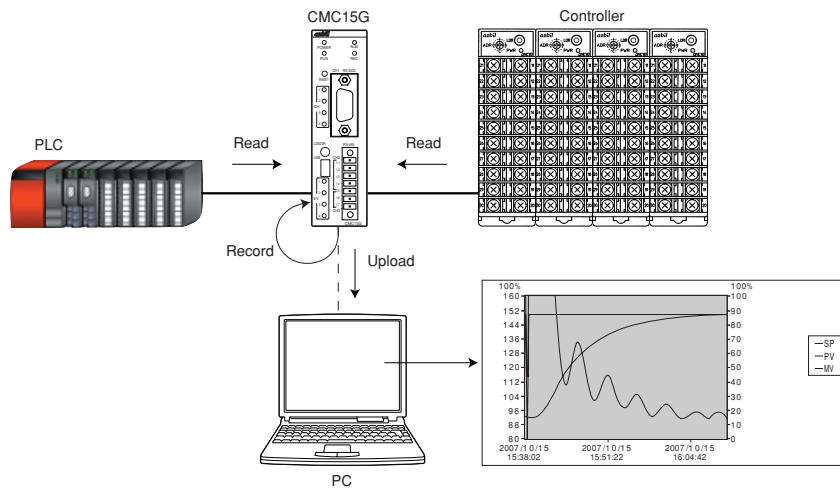
■ Trends

! Handling Precautions

- To use the logging function, the CMC15GD01 advanced function model and the LogViewer (SLP-G15LGV) are required.

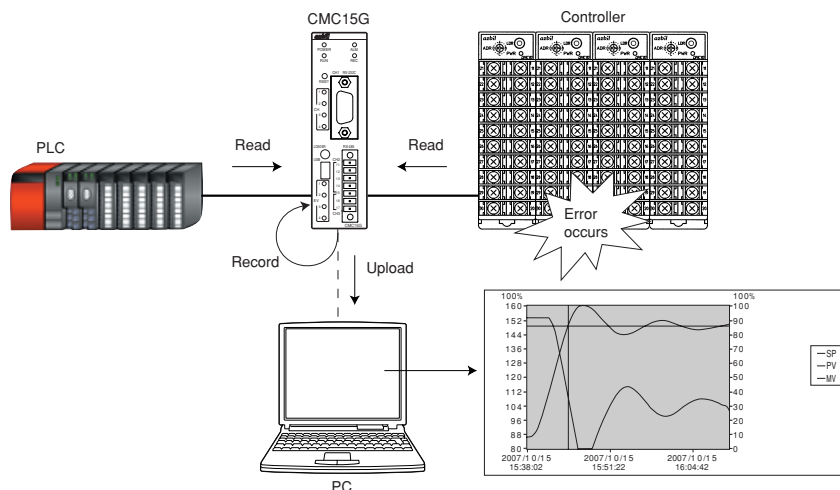
● Continuous trend

This function reads numeric data from connected modules at constant intervals and records the data. Data is saved in the internal memory of the CMC15G. This function can be used to monitor, at constant intervals, changes in value.



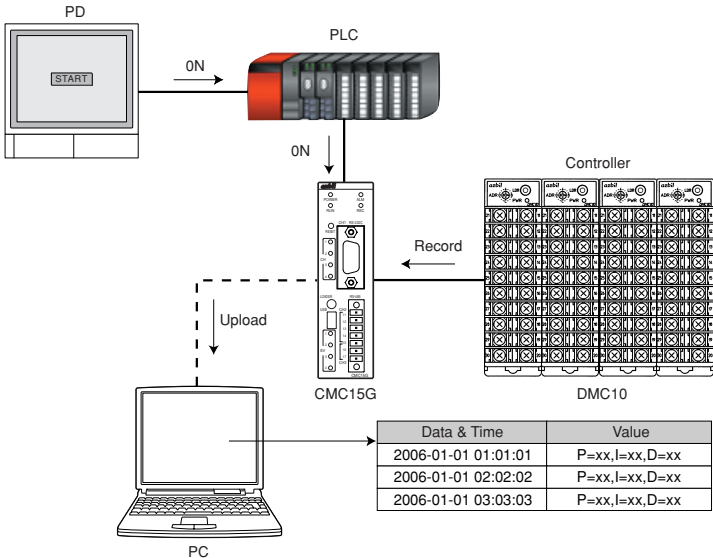
● Captured trends function

This function reads numeric data from connected modules at constant intervals and records the data before and after a trigger occurs. Data is saved in the internal memory of the CMC15G. Numeric data from connected modules can be recorded for a specified period of time before and after an error occurs. This function can be used to retain waveform information before and after an alarm occurs, in order to analyze the information for maintenance purposes.



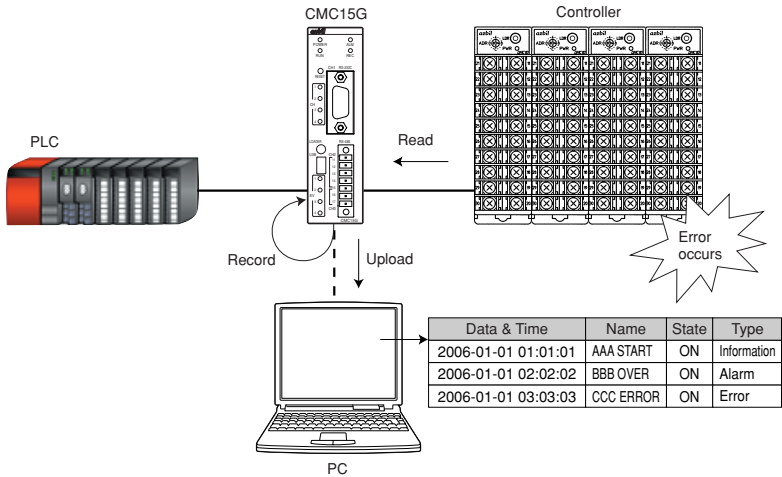
■ Data logs

This function records data from connected modules in the internal memory of the CMC15G whenever a change in a specified bit occurs. The status data for connected modules for one operation cycle can be saved at a specified time, such as when the system batch process begins, or when an error occurs in a connected module.



■ Event logs

This function monitors a specified bit periodically. If any change occurs in the bit, the event type and time are recorded in the internal memory.



■ Extended functions

The CMC15GD01 advanced function model provides the extended functions below, in addition to the functions of the basic model (CMC15GS01).

● Capture notification

- Notification that a capture exists
The CMC15GD01 notifies the user of capture table creation.
- Notification that capture memory is full
The CMC15GD01 notifies the user that new triggers cannot be accepted.

Chapter 2 LOGGING FUNCTION

2 - 1 Continuous Trends

This function reads out numeric data from connected modules periodically and records it to the internal memory of the CMC15G. The continuous trend function can be used to monitor, at constant intervals, changes in values.

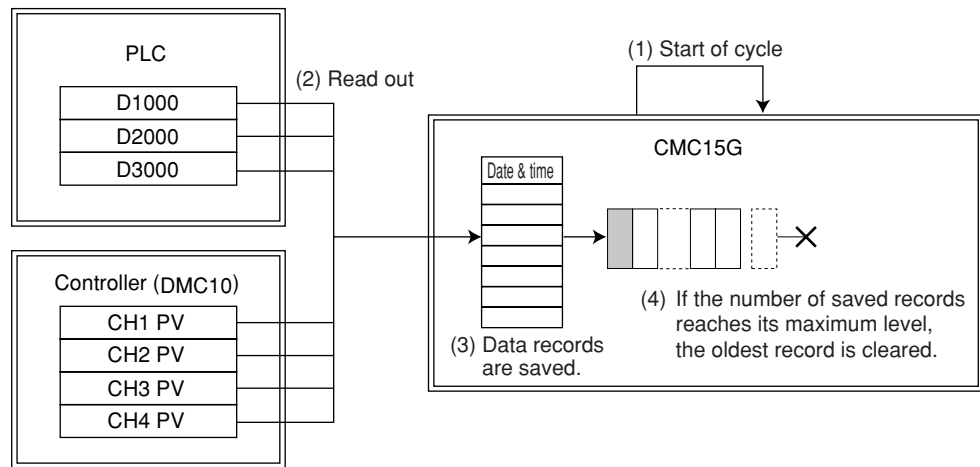
■ Description of operation

● Startup

Data read-out from connected modules is executed at specified intervals.

● Process

The following describes how information from connected modules is saved to the internal memory:



- (1) The continuous trends function is started up at intervals specified inside the CMC15G.
- (2) Numeric data is read out from the source.
- (3) Data that has been read into the internal memory of the CMC15G is saved as a record with date and time recorded.
- (4) If the number of saved records exceeds the maximum, the latest record is written over the oldest record.

❗ Handling Precautions

- The maximum number of records that can be saved for one group can be specified. However, the settings may need to be adjusted on account of other groups or the entire log function, so that the usage capacity of the internal memory does not exceed the maximum level.

● **Operation if an error occurs**

- Cycle overrun

If the collection cycle is too short for the amount of data to be collected, a cycle overrun occurs. If this occurs, treatment of the record is as described below. A separating vertical line is displayed on the LogViewer.

Actual time	No. 1	No. 2	No. 3
10:10:10	1 0 0	2 0 0	3 0 0
10:10:11	1 0 1	2 0 1	3 0 1
10:10:12	1 0 2	---	---
10:10:13	---	2 0 3	3 0 3
10:10:14	1 0 4	2 0 4	3 0 4
10:10:15	1 0 5	2 0 5	3 0 5
10:10:16	1 0 6	2 0 6	3 0 6

←Data delay in Nos. 2 and 3

←Data received successfully in Nos. 2 and 3 at 13 s.

Contents of record

Recorded time	No. 1	No. 2	No. 3
10:10:10	1 0 0	2 0 0	3 0 0
10:10:11	1 0 1	2 0 1	3 0 1
10:10:12	1 0 2	2 0 3	3 0 3
10:10:14	1 0 4	2 0 4	3 0 4
10:10:15	1 0 5	2 0 5	3 0 5
10:10:16	1 0 6	2 0 6	3 0 6

Data received successfully is recorded in 12 s row.

There is no record at 13 s.

- Collection device read-out communication error

If a communication error occurs while reading data due to a module fault, one invalid record showing that data has not been collected is recorded. (This record is displayed as "---" on the LogViewer.)

When there is successfully read data in the same group in which a communication error occurred, information showing the valid data is recorded in the invalid record. (The total amount collected is displayed on the LogViewer.)

- Discontinuous data

If any of the following conditions arises, the record is not recorded during this period. (A separating vertical line is displayed on the LogViewer.)

- The CMC15G is turned OFF.
- Read-out is stopped by a change in the enabled-disabled setting.
- The time is advanced by the date and time adjustment function or the online date and time setting function.

● **Display**

The REC LED indicator functions as described below during continuous trend logging.

Status	Meaning
Off	Not recording
Lit green	A trend function is recording.

2 - 2 Captured Trends

The captured trends function reads numeric data from connected modules periodically. When a trigger occurs, it saves data from before and after the trigger to the internal memory of the CMC15G.

Waveform information from before and after the occurrence of an alarm is kept and can be used for analysis during maintenance work.

■ Description of operation

● Startup

Data is read from connected modules at specified intervals.

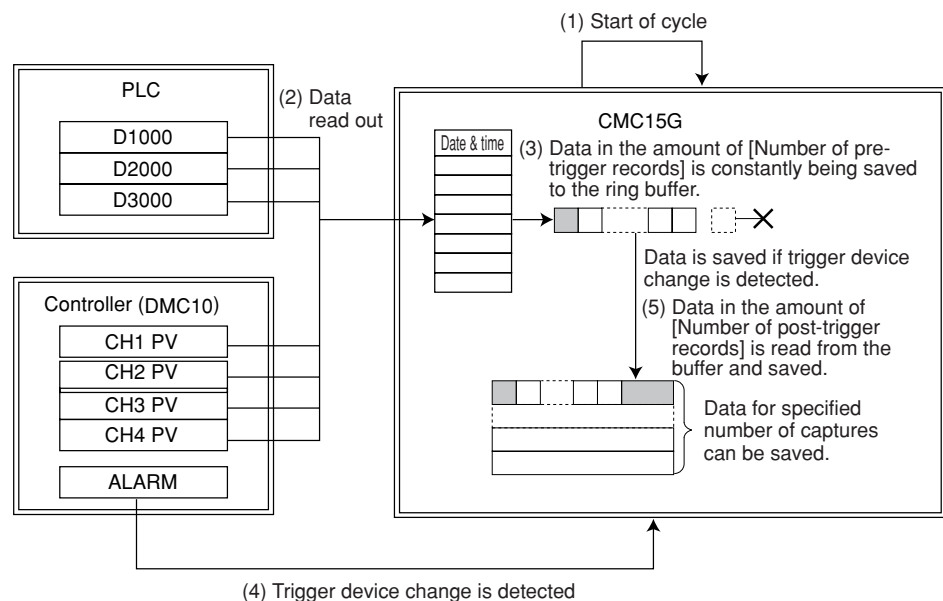
If a trigger is detected, the data written to the ring buffer before and after the occurrence is read from the buffer and saved.

There are two methods of starting the captured trends function, as described below.

- Trigger capture (OFF→ON): Executed when the value of a specified bit changes from OFF to ON.
- Trigger capture (ON→OFF): Executed when the value of a specified bit changes from ON to OFF.

● Process

The following describes the process of periodic data collection and saving of data before and after an alarm occurs:



- (1) The captured trends function is started up at intervals specified inside the CMC15G.
- (2) Data is read from the source.
- (3) Data which has been read is written to the ring buffer with the date and time.
- (4) If the specified bit is changed to ON (or OFF), the data in the amount of [Number of pre-trigger records] is read from the ring buffer and saved.
- (5) Data in the amount of [Number of post-trigger records] is read from the ring buffer and saved.

📖 Note

- The user can select whether or not past captured data should be overwritten if the memory for captured data is full.

Handling Precautions

- If a trigger occurs when the enabled-disabled setting is "disabled," it is ignored.
- If a new trigger occurs when saving data after a trigger has occurred, the new trigger is ignored.
- In addition to the memory area for captures, there is a separate memory for the ring buffer.
- After the maximum number of captures have been saved, if the overwrite save function is not set, the captured trends function will not operate until recorded data is cleared.
- The settings for the number of captures and the number of saved records should take other groups and the overall logging function into account, so that the capacity of the internal memory is not exceeded.

Note

- If the data type of the trigger device is a word, changes in value are judged according to the contents of bit 0 (the least significant bit).



Additionally, the bit that is initialized by trigger device initialization is bit 0 (the LSB) only.

● Display

The REC indicator functions as described below while the captured trends function is active.

Status	Meaning
Off	Not recording
Lit green	Trend recording is in progress.
Flashing green (1 s intervals)	The captured trends function is running after a trigger occurred.
Flashing green. (200 ms intervals)	Captured trends function is running but capture memory is full.

Note

- The REC LED indicator starts flashing in green (at 1 s intervals) when the trigger of the captured trends function is activated. Note that this is not the time at which the post-trigger data is saved.
- The REC LED indicator starts flashing green (at 200 ms intervals) when the last trigger of the number of captures for the captured trends function is activated. Note that this is not the time at which the post-trigger data is saved completely.

● Operation if an error occurs

- Trigger device read-out communication error

If a communication error occurs when reading data from the trigger device, the trigger is not activated.

- Cycle overrun

If the collection cycle is too short for the amount of data to be collected, a cycle overrun occurs. If this occurs, treatment of the record is as described below. A separating vertical line is displayed on the LogViewer.

Actual time	No. 1	No. 2	No. 3
10:10:10	1 0 0	2 0 0	3 0 0
10:10:11	1 0 1	2 0 1	3 0 1
10:10:12	1 0 2	---	---
10:10:13	---	2 0 3	3 0 3
10:10:14	1 0 4	2 0 4	3 0 4
10:10:15	1 0 5	2 0 5	3 0 5
10:10:16	1 0 6	2 0 6	3 0 6

←Data delay in Nos. 2 and 3

←Data received successfully in Nos. 2 and 3 at 13 s.

Contents of record

Recorded time	No. 1	No. 2	No. 3
10:10:10	1 0 0	2 0 0	3 0 0
10:10:11	1 0 1	2 0 1	3 0 1
10:10:12	1 0 2	2 0 3	3 0 3
10:10:14	1 0 4	2 0 4	3 0 4
10:10:15	1 0 5	2 0 5	3 0 5
10:10:16	1 0 6	2 0 6	3 0 6

Data received successfully is recorded in 12 s row.

There is no record at 13 s.

- Collection device read-out communication error

If a communication error occurs while reading data due to a module fault, one invalid record showing that data has not been collected is recorded. (This record is displayed as "---" on the LogViewer.)

When there is successfully read data in the same group in which a communication error occurred, information showing the valid data is recorded in the invalid record. (The total amount collected is displayed on the LogViewer.)

- Discontinuous data

If any of the following conditions arises, the record is not recorded during this period. (A separating vertical line is displayed on the LogViewer.)

- The CMC15G is turned OFF.
- Read-out is stopped by a change in the enabled-disabled setting.
- The time is advanced by the date and time adjustment function or the online date and time setting function.

2 - 3 Data Logs

The data log function records information from the connected modules in the internal memory of the CMC15G when a change in the bit is detected. Status data from the connected modules for one cycle is saved if a system batch process is started or if an error occurs in the connected modules.

■ Description of operation

● Startup

If a change in the bit of a specified connected module is detected, the data read-out from the connected module is executed.

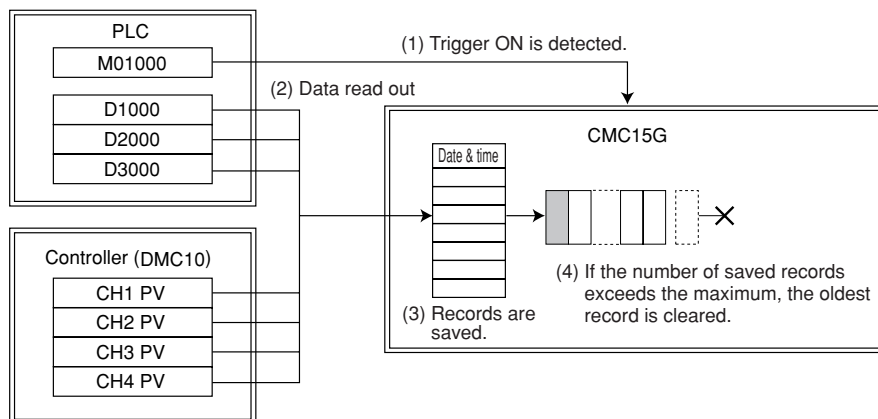
There are two kinds of trigger startup methods, trigger (OFF→ON) and trigger (ON→OFF), as described below.

Trigger (OFF→ON): Executed when the value of a specified trigger device is changed from OFF to ON.

Trigger (ON→OFF): Executed when the value of a specified trigger device is changed from ON to OFF.

● Process

The following describes how the settings for the connected modules are saved if a process (trigger occurrence) for the system arises:



- (1) The CMC15G monitors the bit periodically. If the bit is turned ON, the data log function is started.
- (2) Numeric value data is read from the specified device.
- (3) The data which was read is saved to the internal memory of the CMC15G as records with date and time data.
- (4) If the number of saved records exceeds the maximum, the next record is overwritten onto the oldest record.

📖 Note

- If the data type of the trigger device is a word, changes in value are judged



according to the contents of bit 0 (the least significant bit).

Additionally, the bit that is initialized by trigger device initialization is bit 0 (the LSB) only.

Handling Precautions

- The maximum number of records that can be saved for one group can be specified in the configuration process. However, the settings should take other groups and the overall logging function into account, so that the capacity of the internal memory is not exceeded.

● Operation if an error occurs

- Trigger device read-out communication error
If a communication error occurs when reading data from the trigger device, the trigger is not activated.
- Collection device read-out communication error
If a communication error occurs while reading data due to a module fault, one invalid record showing that data has not been collected is recorded. (This record is displayed as "---" on the LogViewer.)
When there is successfully read data in the same group in which a communication error occurred, information showing the valid data is recorded in the invalid record. (The total amount collected is displayed on the LogViewer.)

2 - 4 Event Logs

■ Description of operation

● Startup

There are two startup methods, cyclic (auto) and cyclic (fixed).

- Cyclic (auto): The execution interval is automatically determined from the average process time.
- Cyclic (fixed): The event log is executed at specified intervals.

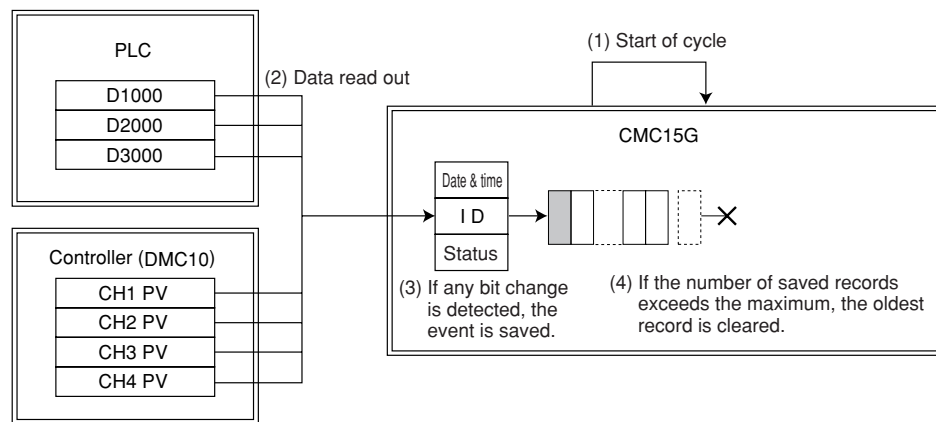
● Process

Multiple bits registered for the processing are monitored periodically.

When the state (ON/OFF) of a specified bit changes, the device's type and the time are recorded. There are three kinds of bit ON/OFF detection (events) as described below.

- Trigger (OFF→ON): Executed when the value of a specified trigger device is changed from OFF to ON.
- Trigger (ON→OFF): Executed when the value of a specified trigger device is changed from ON to OFF.
- Trigger (OFF→ON/ON→OFF): A record is added to the event log at both the start and finish of the trigger.

When multiple bits are monitored and a change occurs, the following describes how the event and the date and time are saved:



⚠ Handling Precautions

- The maximum number of records that can be saved for one group can be specified in the configuration process. However, the settings should take other groups and the overall logging function into account, so that the capacity of the internal memory is not exceeded.

📖 Note

- If the data type of the trigger device is a word, changes in value are judged according to the contents of bit 0 (the least significant bit).



Additionally, the bit that is initialized by trigger device initialization is bit 0 (the LSB) only.

● **Operation if an error occurs**

- Cycle overrun
If the process is not completed within the specified cycle, the process is not run again.
- Bit read-out communication error
If a communication error occurs in the bit read-out process, the bit's value is not judged and no judgement results are recorded.

2 - 5 Extended Functions

■ Notification of capture and of full capture memory

Capture notification: At least one data record has been collected by the captured trends function.

Capture limit notification: The captured trends function cannot accept another trigger.

! Handling Precautions

The capture and capture limit statuses are retained until the project is downloaded or the recorded data is cleared.

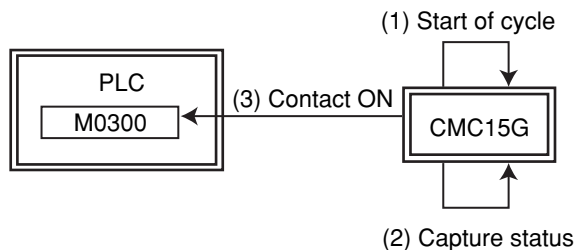
By monitoring the specified notification device, the status of the CMC15G can be checked. When alarm status occurs, the bit is turned ON at the intervals specified by the user (in "min" (minute)).

● Startup

The capture notification and capture limit notification function are started up at specified intervals (in "min" (minute)).

● Process

A specified bit is turned ON at the intervals specified (in "min" (minute)) when the relevant status occurs. The following describes the process for sending periodic capture limit notification to the host station.



(1) The time is monitored at specified intervals for startup of the capture notification and capture limit notification functions.

(2) The capture status is checked.

(3) If the memory for capture is full, the specified bit on the host station is turned ON.

● Operation if an error occurs

- If a process is not completed within the specified cycle, the process is not started again.
- If a communication error occurs when the notification device is turned ON (or OFF), no notification is sent to the connected module.

Chapter 3 LOGVIEWER

3 - 1 Overview of LogViewer

■ Function

LogViewer displays log tables collected by the CMC15G logging function (trends, data logs and event logs). Collected log tables are managed on a project* basis.

* A project is a group of functional settings for the CMC15G.

For further details,

 User's manual No. CP-SP-1277E.

■ System requirements

OS	Windows Vista, Windows XP, Windows 2000 *1
Language *2	Japanese, English
CPU	Pentium compatible CPU, 400 MHz or more
Memory (RAM)	512 MB or more
Hard disk drive	Free space, 2 GB or more
Display	SVGA (800 × 600) resolution or better, 16-bit color or better
CD-ROM drive	Necessary only when installing LogViewer
Keyboard	Necessary
Mouse	Necessary
USB port *3	Necessary if connecting to the CMC15G with the USB cable
COM (serial) port *3	Necessary if connecting to the CMC15G with the loader cable

*1. Following OSs are not supported: Windows Me, Windows 98, Windows 95, Windows XP 64-bit Edition, Windows Vista 64-bit Edition and Windows Server (Windows 2000 Server, Windows Server 2003, Windows Home Server, Windows Server 2008, etc.)

*2. If LogViewer is started up in a language environment other than Japanese, the menu is displayed in English.

*3. To communicate with the CMC15G, the personal computer must have either a USB port or COM port interface.

3 - 2 Installation, Removal, and Maintenance

■ Installing LogViewer

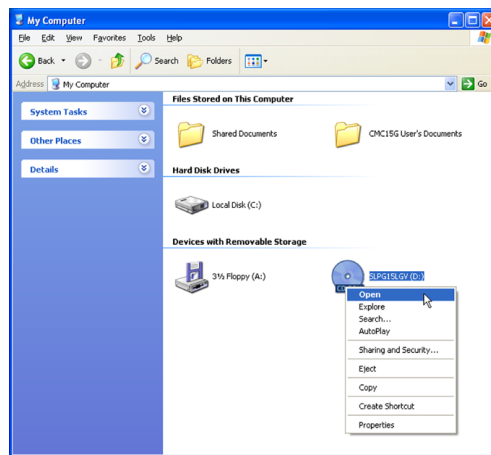
! Handling Precautions

- Installing LogViewer does not install the USB driver for the CMC15G. If you need to install the USB driver, execute setup.exe in the usb directory of the CD-ROM.

- (1) Insert LogViewer setup CD-ROM into the CD-ROM drive. Double-click [My Computer] to open it.

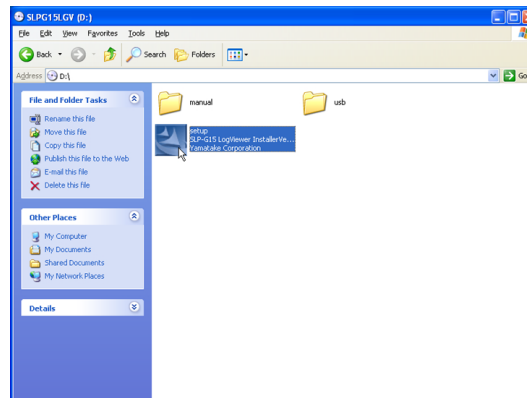


- (2) Move the mouse cursor onto the icon for the CD-ROM drive, press the right mouse button, and select [Open] from the pop-up menu.

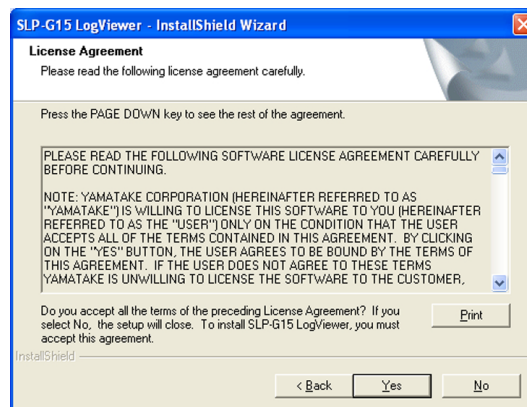


>> The contents of the CD-ROM are shown.

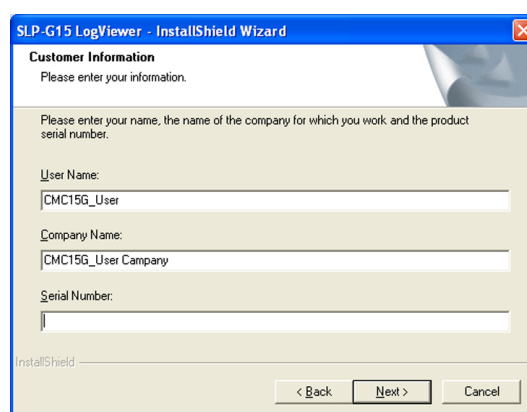
- (3) Double-click Setup.exe



>> The setup wizard screen will appear. The License Agreement screen will appear during installation. Check the contents of the license agreement. If you agree with the contents of the license agreement, click the [Yes] button. If you do not agree, click the [No] button and installation will be cancelled.



>>Subsequently, a screen prompting you to input information will appear.



(4) Input a user name, company name, and serial number. The serial number is printed on the label attached to the CD-ROM case. If the serial number is not input accurately, the installation process will not continue.

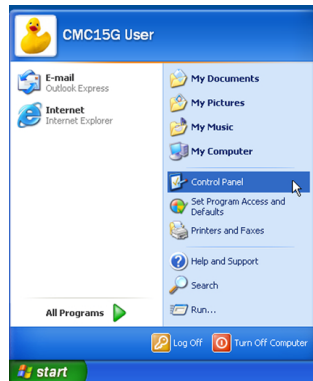
(5) Follow the instructions on the screen to continue the setup.

Note

When installing LogViewer, files with a .gwl extension are registered as log table files. To open a log table file, double-click the .gwl file to start LogViewer.

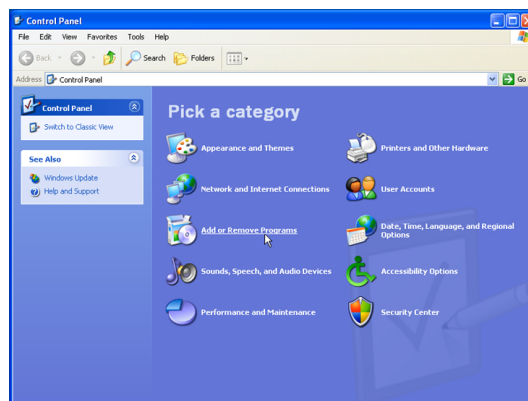
■ Uninstalling LogViewer

(1) From the [Start] menu, select [Control Panel].



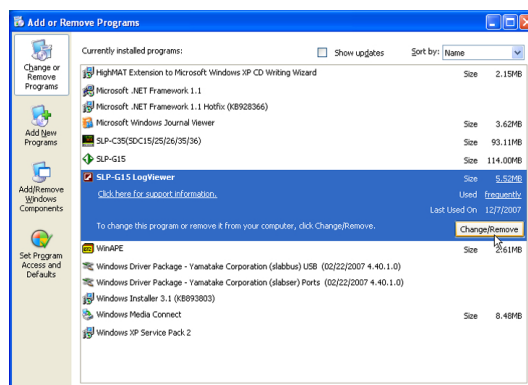
>> The Control Panel window will appear.

(2) In Windows 2000, Windows XP, and Windows Vista, double-click [Add/Remove Programs], [Add or Remove Programs], and [Programs and Features], respectively.



>> A list of installed programs is displayed.

(3) Select [SLP-G15]. In Windows 2000, Windows XP, and Windows Vista, double-click [Change/Remove], [Change/Remove], and [Uninstall/Change], respectively.



>> LogViewer and the USB driver will then be removed.

Note

Project files created by the user, address selection palette favorites, etc. are not removed.

■ LogViewer upgrade and maintenance

If the LogViewer setup.exe file is run after the LogViewer has already been installed on the personal computer, instead of a general new installation, one of the following two processes is started:

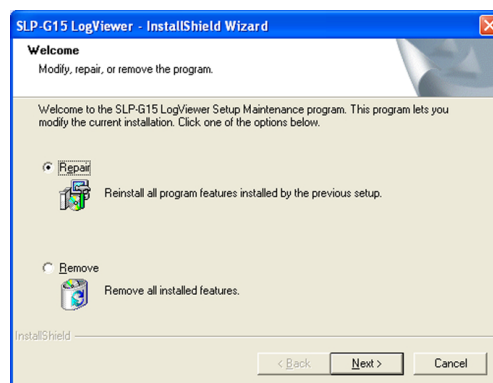
● Upgrade installation

If the setup.exe program is a newer version of the LogViewer, the currently installed version will be removed, and the new version will be installed.

No data is overwritten onto project files created by the user, address selection palette favorites, etc.

● Maintenance

If the setup.exe program is the same version as the installed LogViewer, it operates in maintenance mode.



Repair

If any program files have been removed accidentally, this function restores the system configuration to that of a new installation.

Remove

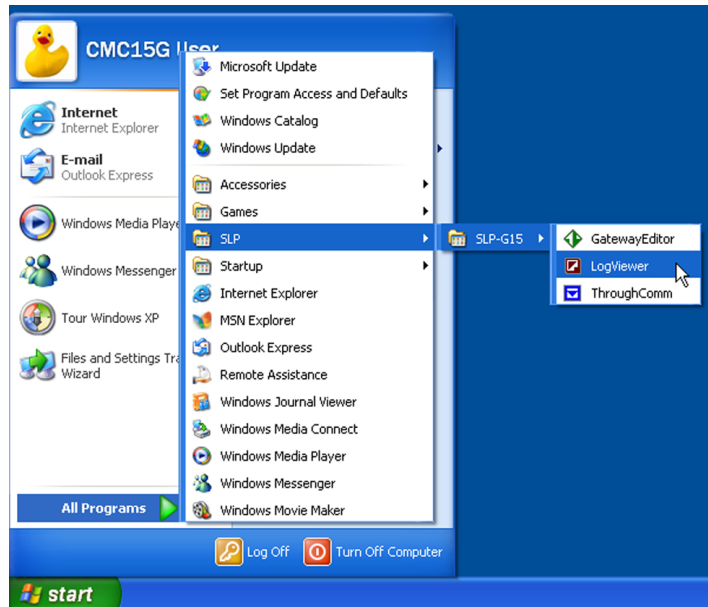
Executable files (LogViewer and USB drivers) of the LogViewer are removed. Project files created by the user, address selection palette favorites, etc. are not removed.

! Handling Precautions

- If the installation destination folder or the program folder location for the start menu, to which program icons are registered, is changed during an upgrade, blank folders may remain. In this case, remove the blank folders manually.
- If an installer program with a different version is run, the installation information from the old version may remain in the [Add/Remove Applications] (Add or Remove Programs) list. If Remove Programs is executed for this old information, no program will be removed, but the information will be deleted.

3 - 3 Starting and Exiting LogViewer

■ Starting LogViewer



To start up Logviewer, follow the steps below:

Click the Windows [Start] button in the lower left of the screen.
 Select [All Programs] → [SLP] → [SLP-G15] → [LogViewer].

>> LogViewer then starts up and the Menu window appears.

! Handling Precautions

Up to two instances of LogViewer can be run at the same time. If you attempt to start a third instance, an error message will appear.

■ Exiting LogViewer

To exit LogViewer, follow the steps below:

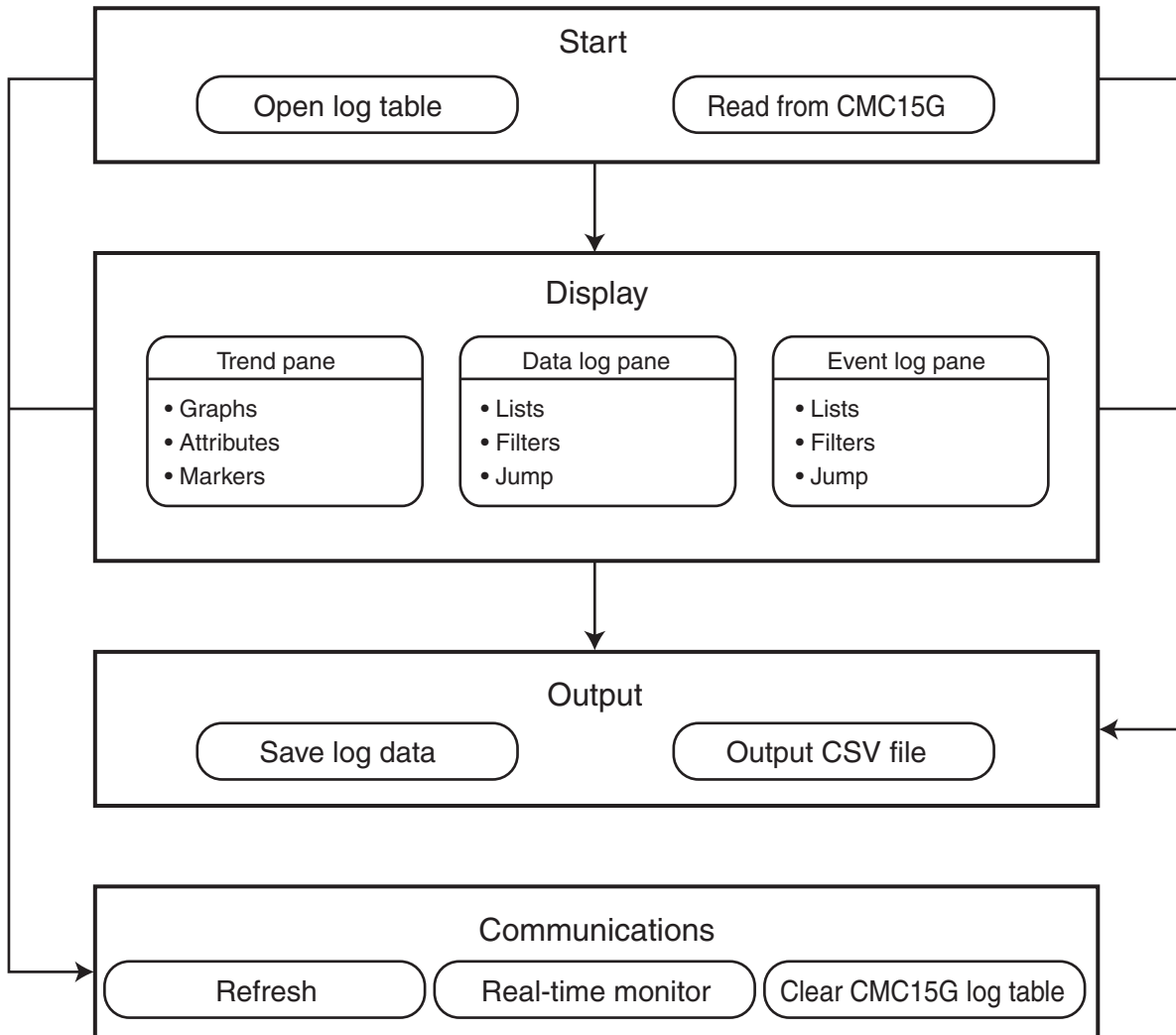
Click the [X] (close) button on the title bar. Or, to exit LogViewer from the menu, select [Exit] from the [File] menu.

>> LogViewer will close.

📖 Note

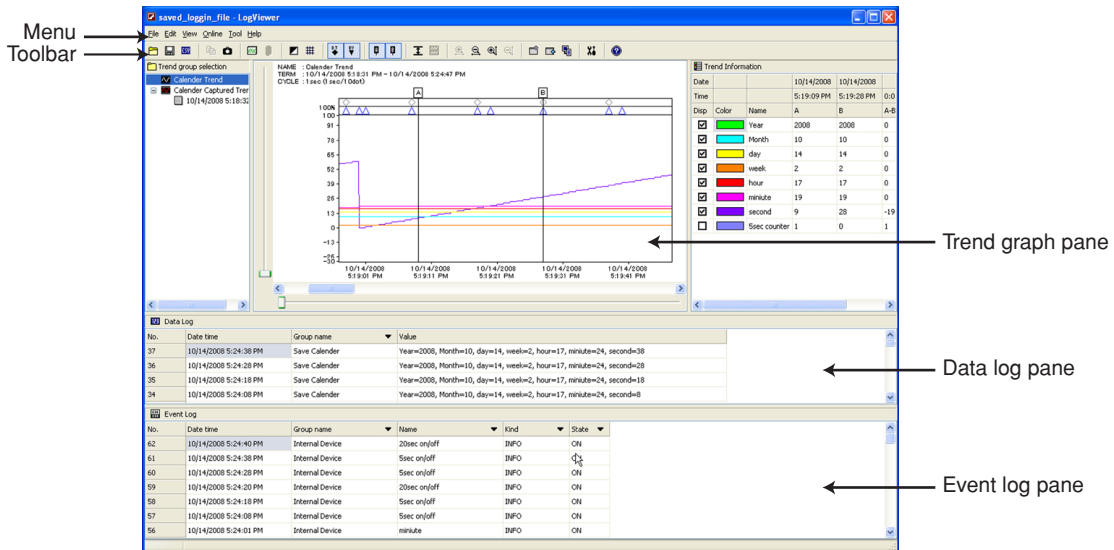
- By running two programs at the same time (concurrent operation), you can open previous log tables where you saved files or compare log tables during real-time monitoring.

3 - 4 Operation Flow



3 - 5 Main Window

Screen layout



- **Menu**

Available operations.

- **Toolbar**

A strip containing buttons related to the menus.

- **Trend graph pane**

Graphs of log table data read from the CMC15G.

- **Data log pane**

Data logs from log tables read from the CMC15G.

- **Event log pane**

Event logs read from the CMC15G log tables.

- **Menu and toolbar conventions**

LogViewer functions are displayed on the menu and toolbar.

The following describes the conventions that are used.






Icon	Icons indicate relevant functions in an easily understood way. Clicking an icon on the toolbar will execute the corresponding function.
Item name	Item names are shown on the menu.
<u>X</u>	Underlining indicates an accelerator key.*1
[Ctrl]+[X]	Indicates a shortcut key combination.*2 Omitted if no shortcut key is available.

*1. Accelerator keys access a menu when the combination of [Alt] + the specified key is pressed. For example, pressing [f] while [Alt] is pressed displays the pull-down File menu.






*2. Shortcut keys directly execute a menu item. They consist of [Ctrl] + the specified key. For example, pressing [c] when [Ctrl] is pressed executes the copy command.

■ Menus

















● File menu

Menu	Icon	Submenu	Description	Shortcut key
File		<u>O</u> pen log table	Opens a saved log table file (*.gwl)	[Ctrl] + [o]
		<u>R</u> eopen log table	Displays up to 10 of the most recently opened files, with their pathname. Selecting a file opens it.	
		<u>S</u> ave log table	Saves the (active) open log table as a file.	[Ctrl] + [s]
		Save log table <u>a</u> s	Saves the (active) open log table with a new name as a file.	
		<u>C</u> lose log table	Closes the (active) currently open log table.	
		Output <u>C</u> SV file	Outputs the (active) open log table as a plain text file with comma-separated values.	
		Log table <u>i</u> nformation	Displays project information for the (active) currently open log table.	
		<u>E</u> xit	Exits LogViewer.	





 ● Edit menu

Menu	Icon	Submenu	Description	Shortcut key
Edit		C <u>o</u> py	Copies the selected cell of the Data log, Event log, or Trend pane to the Windows clipboard.	[Ctrl] + [c]
		Select <u>a</u> ll	Selects all cells in the Data log, Event log, or Trend pane.	[Ctrl] + [a]
		Copy <u>g</u> raph	Copies the displayed graph to the Windows clipboard.	[Ctrl] + [g]
		Change <u>c</u> olor	Changes the color of the selected graph line.	
		Graph <u>c</u> omparison	Saves the displayed graph as an image (shadow) in the background. When the selection is canceled, the background image disappears.	
		<u>L</u> ock graph shadow	Enables user to move background (shadow) and foreground graphs together.	
		<u>J</u> ump to selection	Moves the displayed graph to the time and date selected in the Data log pane or Event log pane.	


● Display menu

Menu	Icon	Submenu		Description	Shortcut key
View		Window panes	Trend group selection pane	Switches between display and no display of the Trend group selection pane.	
			Trend information pane	Switches between display and no display of the Trend information pane.	
			Data log pane	Switches between display and no display of the Data log pane.	
			Event log pane	Switches between display and no display of the Event log pane.	
		Background color change		Changes the background color of the graph. Black: black background, white lines, dark gray solid grid lines. White: white background, black lines, light gray grid lines.	
		Grid display		Switches between display and no display of the graph grid lines.	
		Marker display	Data log	Switches between display and no display of the data log markers.	
			Event log	Switches between display and no display of the event log markers.	
		Cursor display	Cursor <u>A</u>	Switches between display and no display of cursor A.	
			Cursor <u>B</u>	Switches between display and no display of cursor B.	
		Range setting		Displays a dialog box for setting the data range and 2-axis display for the current trend group.	
		Vertical display of 2 axes		If the current trend group is set for 2-axis display, switches between vertical display and overlapping display.	
		Zoom in / zoom out	Scale up <u>h</u> orizontal axis	Scales up the time (x) axis of the graph.	
			Scale down <u>h</u> orizontal axis	Scales down the time (x) axis of the graph.	
			Scale up <u>v</u> ertical axis	Scales up the value (y) axis of the graph.	
			Scale down <u>v</u> ertical axis	Scales down the value (y) axis of the graph.	


● **Communications menu**

Menu	Icon	Submenu	Description	Shortcut key
Communications		U <u>pload</u> all	Uploads all log tables from the CMC15G to the PC.	
		R <u>efresh</u>	Uploads log tables created since the last upload from the CMC15G.	
		Real-time <u>m</u> onitor	Periodically reads data recorded on the CMC15G.	
		C <u>lear</u> CMC15G log tables	Erases the log tables on the CMC15G.	
		C <u>lear</u> CMC15G capture data	Erases captured data on the CMC15G.	

● **Tool menu**

Menu	Icon	Submenu	Description	Shortcut key
T <u>ool</u>		E <u>nvironment</u> configuration	Configures settings for communication with the PC, etc.	

● **Help menu**

Menu	Icon	Submenu	Description	Shortcut key
H <u>elp</u>		H <u>elp</u>	Shows the user's manual (PDF file).	
		V <u>ersion</u> information	Displays the LogViewer version number, etc.	

Chapter 4 LOG TABLES

4 - 1 Overview

Data logged by the CMC15G is called a log table. Log tables can be read from the CMC15G using LogViewer. Log tables read out from the CMC15G are saved in binary format as *.gwl files. They can also be saved in CSV format.

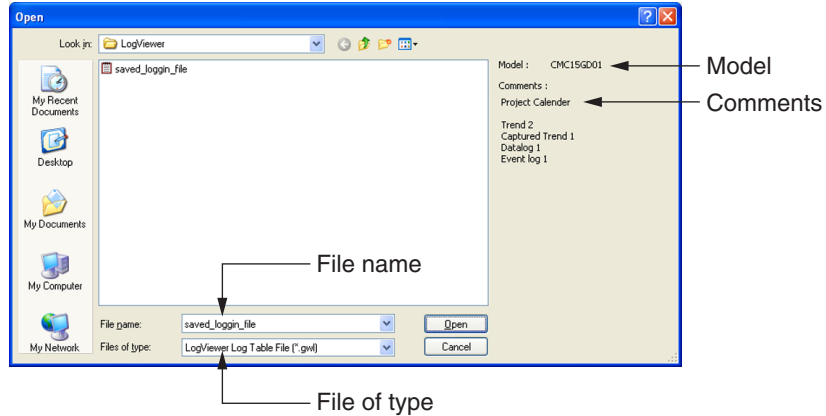
LogViewer provides three ways to read log tables from the CMC15G, reflected in the menu selections Upload all, Refresh, and Real-time monitoring. Also, you can use LogViewer to clear log tables from the CMC15G.

➡ Chapter 6, ONLINE OPERATION.

4 - 2 Log Table File Operations

4-2-1 Opening a log table

■ Screen layout



- **Model**
- **Comments**
- **File name**
- **File of type**
- **Open**
- **Cancel**

The model No. for which the log file was made.

Shows user comments about the selected file.

Input/selection of a file name.

Selection of the type of file.

Opens the file.

Closes the dialog box without opening the file.

■ Procedure

Opening a saved log table file (*.gwl):

(1) Select [File] → [Open log table].

>> The [Open] dialog box is displayed.

(2) Select the file to open. To indicate the file name directly, type it into the File name box.

(3) Click the [Open] button.

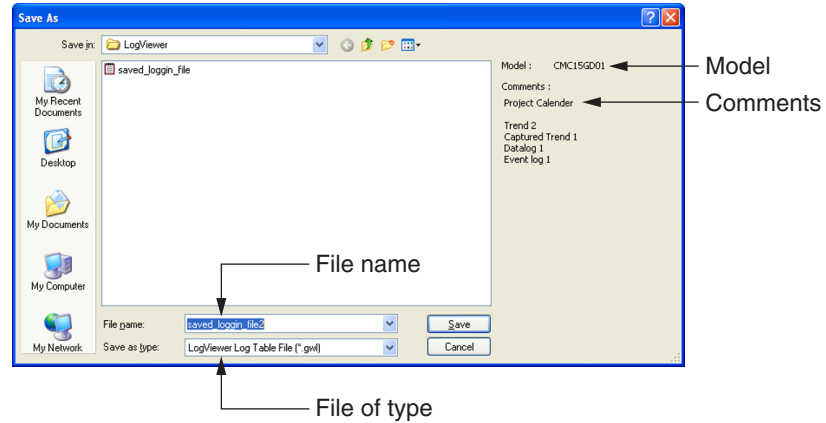
>> The specified log table file will be opened.

Note

- The initial folder when LogViewer is started for the first time is My Documents¥LogViewer¥. Subsequently when LogViewer is started, the folder that was selected the previous time becomes the default folder.

4-2-2 Saving a log table

■ Screen layout



- Model
- Comments
- File name
- File of type
- Save
- Cancel

The model No. for which the log file was made.

Shows user comments about the selected file.

Input/selection of a file name.

Selection of the type of file.

Saves the file.

Closes the file without saving.

■ Procedure

(1) Select [File] → [Save log table].

>>The currently selected log table is saved to a file.

Note

- If you try to save a log table that has not yet been saved to a file, the [Save As] window will appear. Or follow the steps below:

(1) Select [File] → [Save as].

>>The [Save as] dialog box is displayed.

(2) Open the folder to which you wish to save the log table, and input a file name.
(Or, if you want to overwrite an existing file with the current log table, select the name of the existing file.)

(3) Click the [Save] button

>> The log table is saved with the specified name.

Handling Precautions

- Do not use any characters in the file name that are found exclusively in the Unicode character set. Doing so will prevent the file from being saved.

Note

- The initial folder when LogViewer is started for the first time is My Documents¥LogViewer¥. Subsequently when LogViewer is started, the folder that was selected the previous time becomes the default folder.

4-2-3 Closing a log table

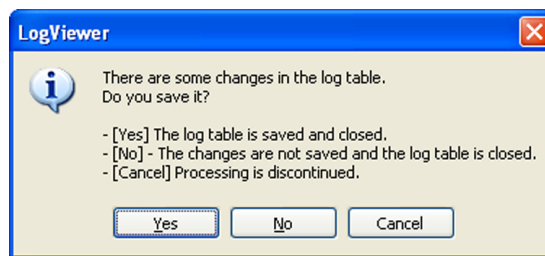
■ Procedure

(1) Select [File] → [Close log table].

>>The opened log table is saved and closed.

Note

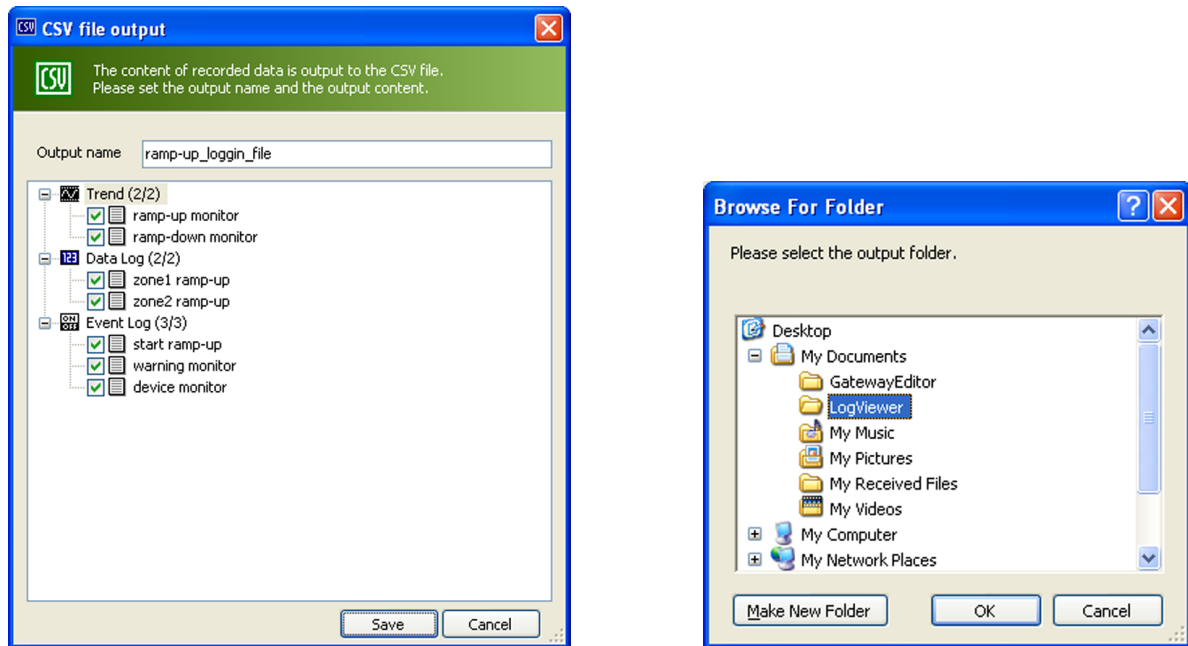
- If you close a log table you are currently editing, the message below will appear.



4-2-4 Outputting a log table as a CSV file

The contents of the currently displayed log table can be output to a CSV file. The user can choose which log table contents to output and can specify the file name.

■ Screen layout



- **Output name**

Enter a name to be used for the folder and file.

- **Data to output**

Select which data is to be output to the CSV file. Data groups are displayed in a tree structure, organized by function. Following each function name (trend, captured trend, data log, event log) the numbers in parentheses tell the number of groups selected per total number of data groups.

- **Save**

Saves data.

- **Cancel**

Closes the window without saving data.

- **Folder selection window**

Select or create the destination folder for the CSV file.

■ Procedure

(1) Select [File] → [Output CSV file].

>>The CSV file output window appears.

(2) Enter a name for the file you are going to output. (To overwrite an existing file, select the name of that file.)

(3) Select the content to be output.

(4) Click the [Save] button.

>>A folder selection window appears.

(5) Select the output destination folder and click the [OK] button.

>>A new folder with the designated name is created under the selected folder, and the CSV file is output to it.

 **Note**

- The initial folder when LogViewer is started for the first time is My Documents¥LogViewer¥. Subsequently when LogViewer is started, the folder that was selected the previous time becomes the default folder.

■ **Data available for output**

● **Continuous trend**

• **Header information**

Data group name	xxxx
Starting time and date	xxxx/xx/xx xx:xx:xx
Closing time and date	xxxx/xx/xx xx:xx:xx
Period	xxxx
Number of items	xxxx

• **Data format**

Time and date	CH1 name	CH2 name	CH3 name	...
xxxx/xx/xx xx:xx:xx	xxxx	xxxx	xxxx	...
...

● **Captured trend**

• **Header information**

Data group name	xxxx
Occurred time and date	xxxx/xx/xx xx:xx:xx
Starting time and date	xxxx/xx/xx xx:xx:xx
Closing time and date	xxxx/xx/xx xx:xx:xx
Period	xxxx
Number of items	xxxx

• **Data format**

Time and date	CH1 name	CH2 name	CH3 name	...
xxxx/xx/xx xx:xx:xx	xxxx	xxxx	xxxx	...
...

● **Data log**

• **Header information**

Data group name	xxxx
Number of items	xxxx

• **Data format**

Time and date	CH1 name	CH2 name	CH3 name	...
xxxx/xx/xx xx:xx:xx	xxxx	xxxx	xxxx	...
...

● Event log

• Header information

Data group name	xxxx
Number of items	xxxx

• Data format

Time and date	CH1 name	CH2 name	CH3 name	...
xxxx/xx/xx xx:xx:xx	xxxx	xxxx	xxxx	...
...

Note

- The time and date display format varies depending on the language environment settings of the OS, which are located in [Control Panel] → [Regional and Language Options].

■ Output file name conventions

CSV file names are automatically named according to the following rules, based on the name entered by the user as the output name:

OutputName_FunctionName_Number_GroupName.csv

The function names are as follows:

Function	Function Name
Continuous trend	Trend
Captured trend	Capture Trend
Data log	Datalog
Event log	Eventlog

"Number" is a 2-digit serial number for the data group, automatically added to the information for each function.

In the case of captured trends, after GroupName there is an added number which is automatically assigned for each trigger, and the time at which the trigger occurred, so that the CSV file name is:

OutputName_FunctionName_Number_GroupName_TriggerNumber_DateTime.csv

Examples:

TABLE_Trend_01_Temperature log.csv

TABLE_Trend_02_Pressure log.csv

TABLE_CaptureTrend_01_PV error_01_20080131235959.csv

TABLE_Datalog_01_Switching Operation.csv

! Handling Precautions

- If characters that cannot be used in file names are used for a data group name, the characters are deleted. The following characters cannot be used in file names:

\ / : * ? " < > |

- When the maximum number of lines for a file is exceeded:
If the total number of lines in a file is more than 65,536 (the maximum number of lines that can be displayed in Excel), the file is automatically divided. At that time, "_n" is added to the end of the file name, where n is an integer 1 or greater.

Example:

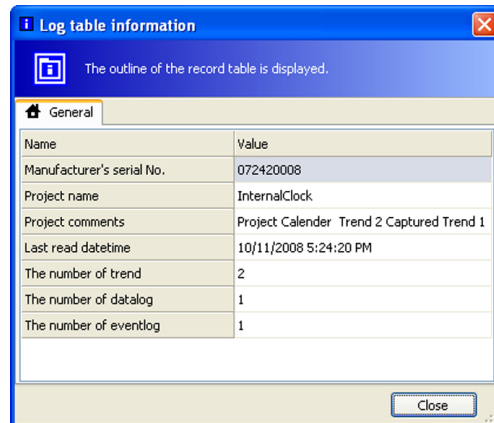
TABLE_CaptureTrend_01_PV error_01_20080131235959_1.csv

TABLE_CaptureTrend_01_PV error_01_20080131235959_2.csv

4-2-5 Viewing log table information

The information in the currently displayed log table can be viewed in list format.

■ Screen layout



- **Mfr. serial No.**

Indicates the manufacturer's serial No. of the CMC15G.

- **Project name**

Displays the name of the project file downloaded to the CMC15G.

- **Project comments**

Displays comments on the project downloaded to the CMC15G. Line feeds in the comment are displayed as single spaces.

- **Last read date/time**

Indicates the time and date at which the file was last read from the CMC15G.

- **Trend number**

Displays the data group number for the trend.

- **Data log number**

Displays the data group number for the data log.

- **Event log number**

Displays the data group number for the event

■ Procedure

Select [File] → [Log table information].

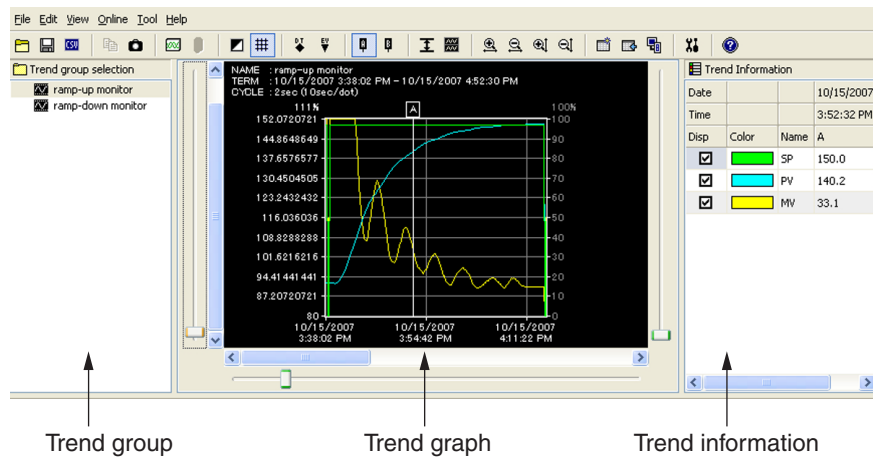
>> The log table information window appears.

Chapter 5 DISPLAYING WITH LOGVIEWER

5 - 1 Trend Pane

Graphed data for each log table can be displayed.

■ Screen layout



- **Trend group selection pane**

Shows trend groups in tree format.

- **Trend graph pane**

Shows a graph of the data for the selected trend group.

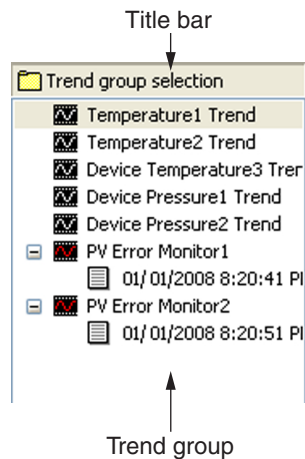
- **Trend information pane**

Shows information regarding the data of the selected group.

5-1-1 Trend group selection pane

Displays trend-related data groups in a tree view style.

■ Screen layout



● Title bar

Shows the project name for the displayed log table. Clicking the title bar toggles the display of the trend group selection list on and off.

● Trend group

Shows the trend groups in a tree format.

The name of each data group is displayed on the top level.

For captured trend groups only, the second level shows the log record (item name and time) for each trigger that occurred.

The line of the selected item is highlighted. A graph of the selected trend group is displayed in the Trend graph pane.

■ Procedure

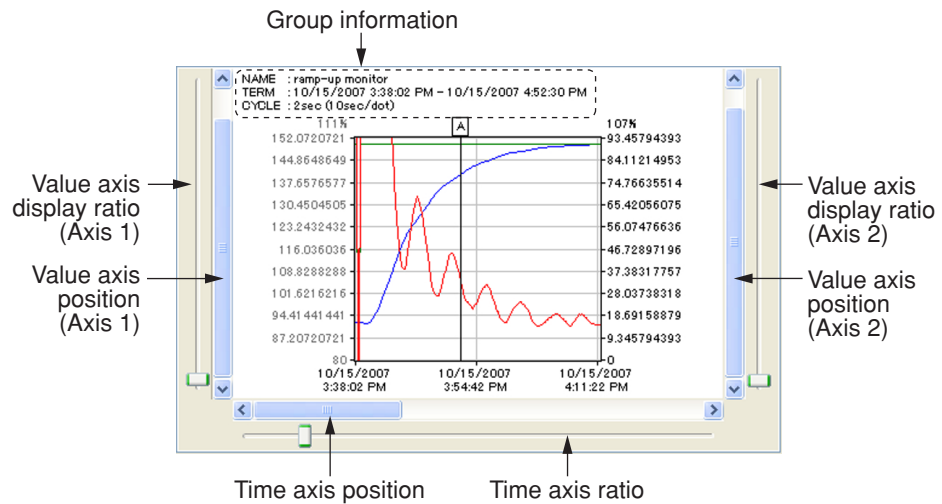
In the tree view, click the trend group you want to display.

>> Graphed data for the selected group is displayed in the Trend graph pane.

5-1-2 Trend graph pane

Displays a graph of the selected trend group.

■ Screen layout



- **Time (X) axis position**

Changes the position of the time axis on the graph.

- **Time axis ratio**

Move the slider to adjust the number of time intervals per dot.

- **Value (Y) axis position**

Changes the position of the value axis on the graph. Not displayed if the value axis slider is at the bottom.

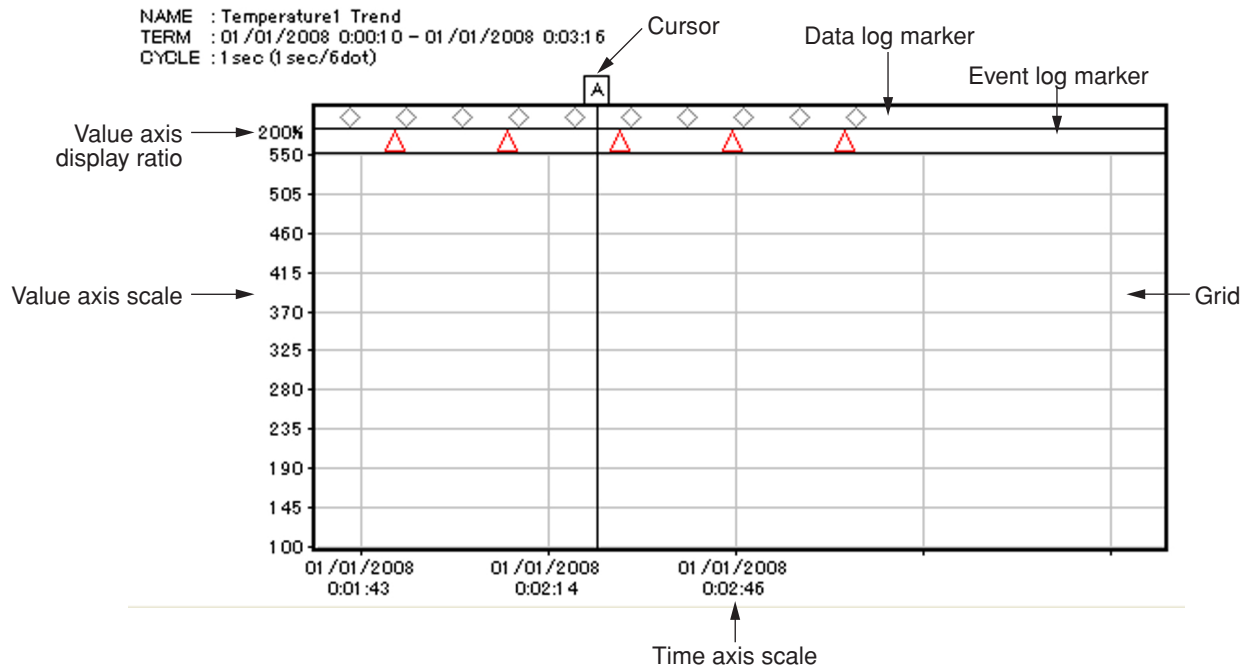
- **Value axis display ratio**

Move the slider to adjust the value axis display ratio.

- **Group information**

Data group information is displayed as follows:

- **NAME:** The data group name
- **TERM:** Start date and time, End date and time
- **CYCLE:** Cycle length in seconds (and number of seconds per dot)
 - **Group name**
Displays the group name for the selected trend.
 - **Start date and time**
Shows the date and time (Month/Day/Year H:M:S) at which the trend group data began to be collected.
 - **End date and time**
Displays the end date and time (Month/Day/Year H:M:S) at which the displayed trend group data collection ended.
 - **Cycle**
Indicates the collection period for the displayed trend group data. Also indicates the period per dot as determined by the display ratio.



- **Graph**

Shows the graphs for the log table for each data group. Shows only the data for which the [Disp] check box is selected in the Trend information pane.

- **Value (vertical/Y) axis**

- Value axis scale
Displays values for the log table selected in the Trend information pane, using the specified grid scale count. To change the grid count, click [Tools] → [Environment], and then set the "View Configuration."
- Value axis display ratio indicator
Indicates the display ratio of the value axis as a percentage.

- **Time (horizontal/X) axis**

- Time axis scale
Displays the sampling time in YYYY/MM/DD, HH:MM:SS format. The time is displayed in conformity to the grid width setting. To change the grid width, click [Tools] → [Environment], and then set "View Configuration."

- **Grid**

Displays vertical and horizontal lines at the scale positions for the time axis and the value axis. The grid is displayed when [View] → [Grid] is selected.

- **Cursor**

Displays up to two cursors. The values at the cursor position are shown in the Trend information pane. A cursor is displayed if "Cursor A" or "Cursor B" is selected under [View] → [Cursor]. When the cursor is first switched from invisible to visible status it is shown at the center of the graph.

- **Data log/event log marker**

"◇" is shown at the time position of each item displayed in the Data log pane. "△" (OFF → ON) and "▽" (ON → OFF) markers are shown at the time positions for the items displayed in the Event log pane. Markers are displayed if "Data Log" or "Event Log" are selected under [View] → [Marker].

■ Moving the graph display position

You can use the mouse or keyboard to move the graph display position.

Position limits are as follows:

- Value (vertical) axis top: upper limit position of range setting
- Value (vertical) axis bottom: lower limit position of range setting
- Leftmost time (horizontal) axis: oldest time position
- Rightmost time (horizontal) axis: latest time position + screen size

● Operating the scroll bar

Change the portion of the graph that is displayed by dragging the rectangular tab (scroll box) on the scroll bar.

- Value (vertical) axis scroll bar
To see a higher value position, drag the scroll box upward. To see a lower value position, drag the scroll box downward.
- Time (horizontal) axis scroll bar
To see later times, drag the scroll box to the right. To see earlier times, drag the scroll box to the left.

● Operating the keyboard or mouse


While the focus is on the graph, you can use the following keyboard and mouse operations to change the display position of the y-axis or x-axis:

Y axis (value) movement	Keyboard or mouse
1 dot up or down	[↑], [↓]
50 dots up or down	[Shift] + [↑], [Shift] + [↓]
A quarter page up or down	[Ctrl] + [↑], [Ctrl] + [↓]
A half page up or down	[Ctrl] + [PageUp], [Ctrl] + [PageDown]
Unrestricted	Drag
1/20 page up or down	[Ctrl] + [Shift] + 1 mouse wheel increment

X axis (time) movement	Keyboard or mouse
1 dot left or right	[←], [→]
50 dots left or right	[Shift] + [←], [Shift] + [→]
A quarter page left or right	[Ctrl] + [←], [Ctrl] + [→]
A half page left or right	[PageUp], [PageDown]
Unrestricted	Drag
Unrestricted	[Shift] + 1 mouse wheel increment

Note

- You can also use the Data log pane or Event log pane to move the graph display position.

 Section 5-2, Log List.

■ Changing the graph display ratio

You can use the mouse or keyboard to change the scaling of the graph.

● Operating the track bar

The graph's display ratio can be adjusted by moving the slider (the rectangular handle on the track bar).

- Vertical axis display ratio track bar

To increase the display ratio of the vertical axis (enlarge the display), move the slider upward.

To decrease the display ratio of the vertical axis (shrink the display), move the slider downward.

When the slider is at the bottom, the entire vertical axis is displayed.

The base point for enlargement or reduction is the bottom of the display frame.

- Horizontal axis display ratio track bar

To increase the displayed periods per dot (zoom out), move the slider to the right.


To decrease the displayed periods per dot (zoom in), move the slider to the left.

When the slider is at the left end, the display cycle is 10 times the collection interval.


● Operating the menu and toolbar

When the focus is on the graph in the Trend graph pane, the display ratio of the graph can be changed using a menu command or a toolbar icon. The base point for enlargement or reduction is the center point of the display frame.


- Enlarging the vertical axis

To increase the display ratio of the y-axis and display more detail, click [View] → [Zoom in/zoom out] → [Scale up vertical axis] (or click  on the toolbar).


- Reducing the vertical axis

To decrease the display ratio of the y-axis and display a wider range, on the main menu click [View] → [Zoom in/zoom out] → [Scale down vertical axis] (or click  on the toolbar).

- Enlarging the horizontal axis

To decrease the display cycles per dot and show more detail, click [View] → [Zoom in/zoom out] → [Scale up horizontal axis] (or click  on the toolbar).

- Reducing the horizontal axis

To increase the display cycle per dot and display a wider range, click [View] → [Zoom in/zoom out] → [Scale down horizontal axis] (or click  on the toolbar).

● **Operating the mouse or keyboard**

While the focus is on the trend graph, the mouse can be used as indicated below to change the display ratio of the value axis or time axis of the graph.

Function	Display ratio of y-axis	Display ratio of x-axis
Enlarge	[Ctrl] + forward turn of mouse wheel	Forward turn of mouse wheel
Reduce	[Ctrl] + backward of mouse wheel	Backward of mouse wheel

When the focus is on a track bar, the keys can be used as indicated below to change the display ratio of the value axis or time axis of the graph.

Function	Display ratio of y-axis	Display ratio of x-axis
Enlarge	[↑] [→]	[↑] [→]
Reduce	[↓] [←]	[↓] [←]

■ **Moving the cursor**

The cursor can be moved using the keyboard or mouse. (The cursor is visible only if [View] → [Cursor display] → "Cursor A" or "Cursor B" has been selected.)

● **Operating the keyboard or mouse**

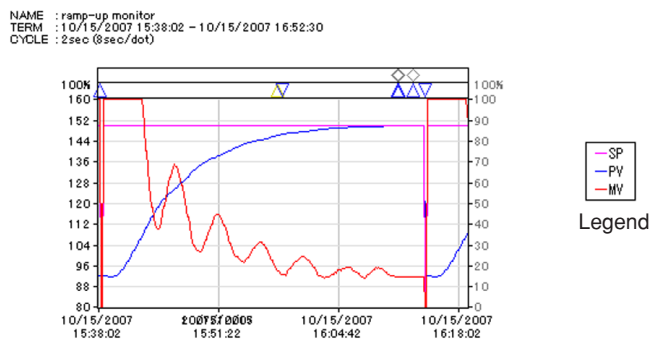
When the focus is on cursor A or B, you can use the following keyboard or mouse operations to move the cursor position:

Movement	Keyboard or mouse
1 dot left or right	[←], [→]
50 dots left or right	[Shift] + [←], [Shift] + [→]
A quarter page left or right	[Ctrl] + [←], [Ctrl] + [→]
Unrestricted	Drag

 **Note**

- If the trend graph is larger than the screen, the screen can be scrolled by moving the cursor outside of the screen.

■ **Copying graphs**




To copy the displayed graph to the Windows clipboard as a bitmap image, click [Edit] → [Copy graph]. You can then paste the image into a program such as Paint and save it as a file.

If you have selected [Tool] → [Environment] and then "Copy graph with label" from the "View Configuration" tab, legends are included on the bitmap.

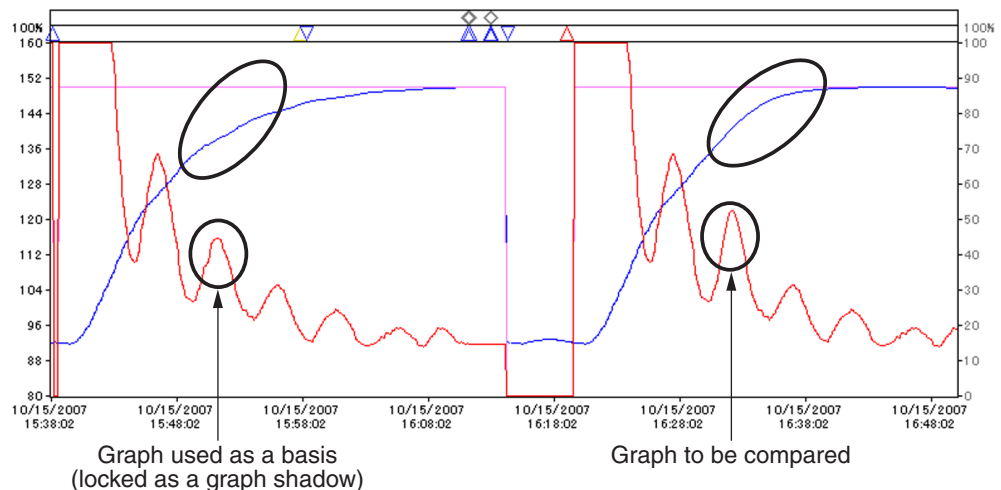
■ Comparing graphs

One graph can be superimposed on another one having a different time range in order to visually compare the two graphs. Click [Graph comparison] to set one graph as the basis of comparison (background image), which will be overlaid with the other graph. You can use [Lock graph shadow] to move both graphs together.

The procedure is as follows:

- (1) Move the trend graph display to the position where the graph that will be the basis of comparison (the background graph) is displayed. In the figure below, the graph used as a basis is shown on the left.
- (2) Click [Edit] and then [Graph comparison]. (To execute from the toolbar, click .)
 >> The graph changes to a lighter color, indicating that it is set as the background image.

NAME : ramp-up monitor
 TERM : 10/15/2007 15:38:02 - 10/15/2007 16:52:30
 CYCLE : 2sec (6sec/dot)

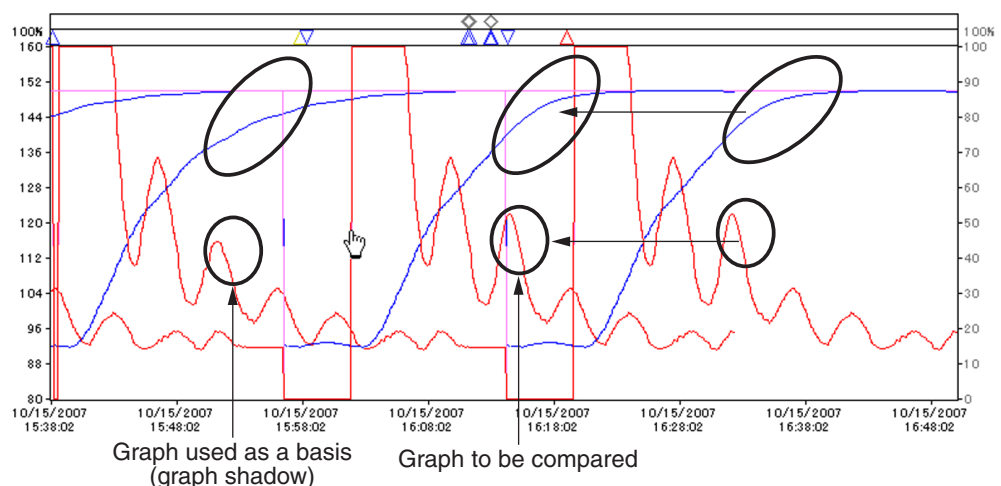


- (3) Move the trend graph display to the position of the graph to be compared.


- (4) Scroll or use the mouse to drag this graph to the desired position over the background graph.

>> You can use the move operation for the graph display position to move the compared graph in the normal way.

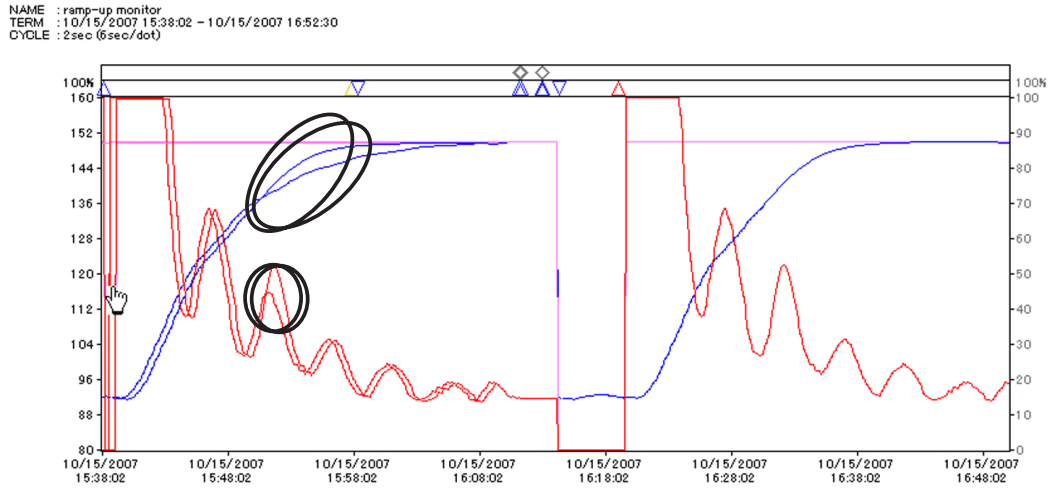
NAME : ramp-up monitor
 TERM : 10/15/2007 15:38:02 - 10/15/2007 16:52:30
 CYCLE : 2sec (6sec/dot)



>> By adjusting the position, you can visually determine the differences between the two graphs.

(5) Click [Edit] → [Lock graph shadow]. (To execute from the toolbar, click )

(6) You can now drag with the mouse and move the two graphs together.

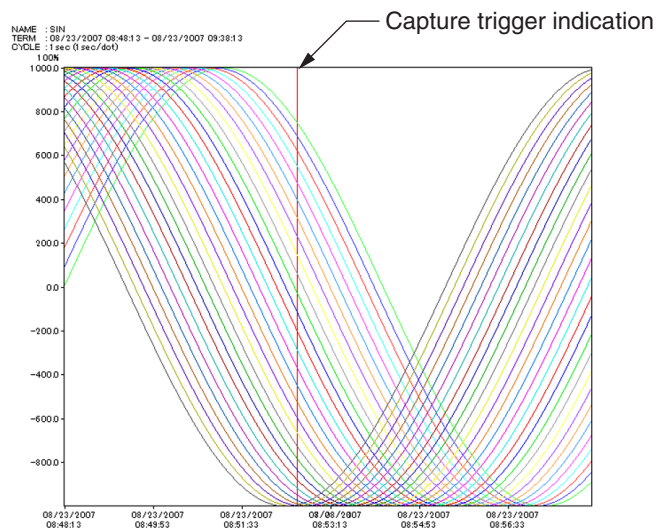


 **Note**

You can also use the Data log pane or Event log pane to move the graph display position.

 Section 5-2, Log List.

■ Capture indication



A red line is used to show the time at which a capture trigger was activated.

■ Displaying data

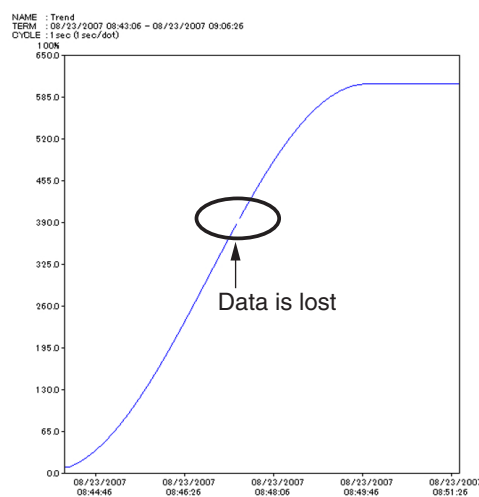
● Data display range

The data ranges that can be displayed in graphs are as follows:

-3.402823466e+38 to -1.175494351e-38, 0,
+1.175494351e-38 to +3.402823466e+38

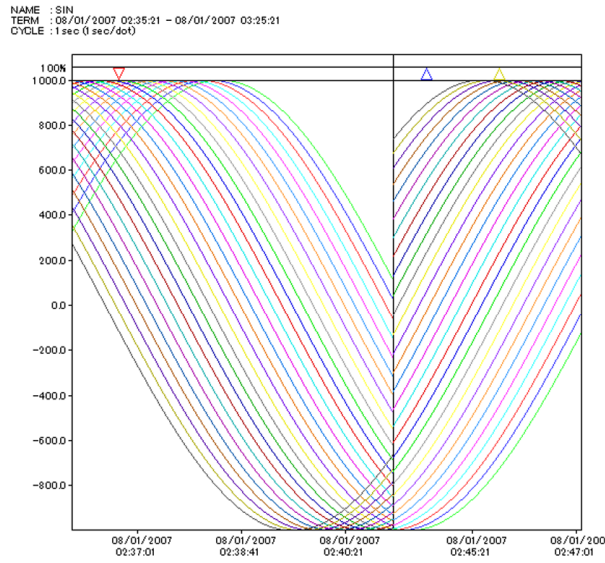
A denormalized floating-point number is displayed as 0.

Infinite ($\pm\infty$) and nonnumeric data are not displayed as a trend graph and are represented by "---" in the Trend information pane.



● Display in case of error

If a communication error occurs, graph data is lost, and "---" is displayed for the cursor value in the Trend information pane.



If any one of the phenomena below occurs, a vertical divider line appears in the graph data. For the cursor value in the Trend information pane, the value that is in effect upon resumption is displayed:

- Cycle startup overrun
- Power turned ON/OFF
- Collection stop/start due to toggling between enable/disable.
- Clock is set forward (advanced)

If the time is set back using the date-time adjustment function, a subsequent graph may be superimposed on a previous one.

5-1-3 Trend information pane

The information in each data record (corresponding to 1 GatewayEditor row) of the selected group can be displayed.

■ Screen layout

Title bar

Trend Information						
Date			10/18/2008	10/18/2008	10/18/2008	
Time			9:58:06 AM	9:36:26 AM	9:51:06 AM	0:14:40
Disp	Color	Name	Current	A	B	A-B
<input checked="" type="checkbox"/>		SP	160.0	150.0	150.0	0
<input checked="" type="checkbox"/>		PV	159.5	149.2	126.7	22.5
<input checked="" type="checkbox"/>		MV	26.2	65.9	16.7	49.2

Information table

● Title

"Trend Information" is displayed. Clicking this title toggles the display of the listed information on and off.

● Information table

- Display check box
Use the check boxes to make graphs of the item visible or invisible. All check boxes are selected by default. Deselecting a check box makes the item invisible.
- Color
Shows the graph line color for each data item. To display the Color Settings window, double-click the cell or select it and press [F2]. Then select the desired color and click OK.
- Name
Displays the name of each data item.
- Current
Displays the latest position for each data item. The time of the latest position (MM/DD/YYYY/HH/MM/SS) is shown in the fixed cells at the top, but only if the real-time monitor is running.
- A
Shows the position of cursor A for each data item. The time for the cursor A position (MM/DD/YYYY/HH/MM/SS) is shown in the fixed cells at the top. Column A is displayed only if "Cursor A" is selected under [View] → [Cursor display].
- B
Shows the position of cursor B for each data item. The time for the cursor B position (MM/DD/YYYY/HH/MM/SS) is shown in the fixed cells at the top. Column B is displayed only if "Cursor B" is selected under [View] → [Cursor display].
- A-B
Shows the difference between the cursor A and cursor B positions for each data item. The difference between the cursor position times (MM/DD/YYYY/HH/MM/SS) is shown in the fixed cells at the top. Column A-B is displayed only if both "Cursor A" and "Cursor B" are selected under [View] → [Cursor display].

- A'
For each data item, while graph comparison is running, A' shows the position of cursor A on the shadow (background) graph. The time (MM/DD/YYYY/HH/MM/SS) for the cursor A position on the graph shadow is shown in the fixed cells at the top. Column A' is displayed only if "Cursor A" is selected under [View] → [Cursor display].
- B'
For each data item, while graph comparison is running, B' shows the position of cursor B on the graph shadow. The time (MM/DD/YYYY/HH/MM/SS) for the cursor B position on the graph shadow is shown in the fixed cells at the top. Column B' is displayed only if "Cursor B" is selected under [View] → [Cursor display].
- (A-A')
Shows the difference between the cursor A positions on the background (shadow) and foreground graphs while graph comparison is running, for each data item. The time difference between the respective cursor positions (MM/DD/YYYY/HH/MM/SS) is shown in absolute terms in the fixed cells at the top. Column A-A' is displayed only if "Cursor A" is selected under [View] → [Cursor display].
- (B-B')
Shows the difference between the cursor B positions on the background (shadow) and foreground graphs while graph comparison is running, for each data item. The time difference between the respective cursor positions (MM/DD/YYYY/HH/MM/SS) is shown in absolute terms in the fixed cells at the top. Column B-B' is displayed only if "Cursor B" is selected under [View] → [Cursor display].

■ Procedure

● Changing a graph line color

Do the following to change the color of a line on the displayed graph:

- (1) Select the relevant cell from the Color column in the information table.
- (2) Click [Edit] → [Change color], or select [Change color] from the pop-up menu to open the Color Settings window. Alternatively, double-click the cell in the Color column to open the window.
>> A color selection dialog box appears.
- (3) Select the desired color and then click the [OK] button.

● Jumping to a cursor position

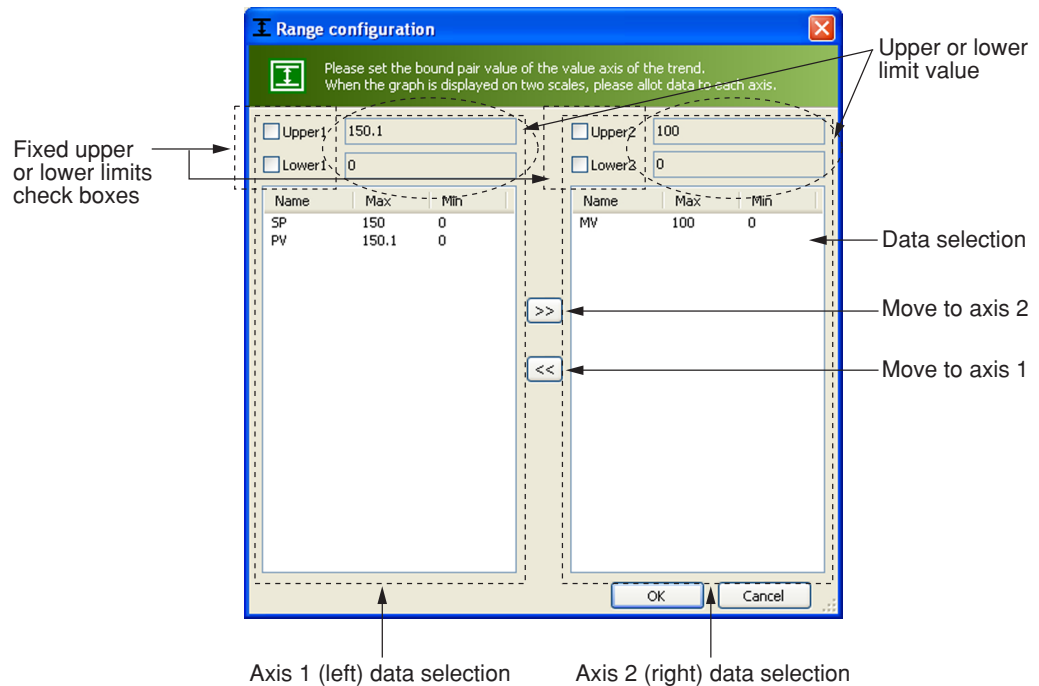
You can jump to a cursor position listed in the table in the Trend information pane by doing the following:

- (1) Select "Current" or an item in the "A" or "B" cursor column.
- (2) Click [Edit] → [Jump to selection], or select [Jump to selection] from the pop-up menu. Alternatively, you can double-click the current value or the cursor "A" or "B" column in the fixed cells at the top to open the window.
>> The graph moves to the specified cursor position.

5-1-4 Range configuration

With this function upper or lower limits can be set for the y-axis (value axis). For a situation in which two axes are displayed, the user can specify which data is assigned to which axis.

■ Screen layout



● Fixed upper or lower limits check boxes

If the check boxes are not checked, the upper or lower values on the graph are determined automatically by the maximum or minimum values of the data.

Checking the check box sets a fixed upper or lower limit for the axis.

● Upper or lower limit value

Sets the upper or lower display limit for the axis. The setting range is as follows:
 $-3.402823466e+38$ to $-1.175494351e-38$, 0,
 $+1.175494351e-38$ to $+3.402823466e+38$

● Data selection (axis 1)

Shows the items that are displayed on axis 1. Name, Max, and Min are displayed for each item.

● Data selection (axis 2)

Shows the items that are displayed on axis 2. Name, Max, and Min are displayed for each item.

● Move to axis 1 or move to axis 2

Move the selected item to the other axis using the two buttons between the columns.

■ Procedures

● Setting the upper or lower limit value

Use the following steps to set an upper or lower limit value for an axis:

(1) Click [View] → [Range setting].

>> The Range setting window appears.

(2) Check the fixed upper limit or fixed lower limit check box.

(3) Enter a numeric value for the upper or lower limit setting.

(4) Click the [OK] button.

Handling Precautions

- The upper limit setting must be greater than the lower limit setting.

● Setting the display group

For a 2-axis display, use the following steps to allocate data groups to axis 1 or axis 2:

(1) Click [View] → [Range setting].

>> The Range setting window appears.

(2) Select the items you want to move to the other axis. Multiple consecutive items can be selected by holding down the [Shift] key while clicking on the first and last items. Multiple non-consecutive items can be selected by holding down the [Ctrl] key while clicking on them.

(3) Click the appropriate double-arrow button to move items to the other axis.

(4) Click the [OK] button.

■ Automatic updating of upper or lower limit value

If the fixed upper or lower limit value check box is unchecked, the upper or lower limit value is automatically updated on the following occasions, and the graph is automatically displayed with the new upper or lower limit:

- New data upload
- [Update] button is pressed
- Data update by real-time monitor

Handling Precautions

- If the minimum value is larger than 0.0, the lower limit value is displayed as "0.0".
- If the maximum value is smaller than 0.0, the upper limit value is displayed as "0.0".
- If the minimum and maximum values are the same, 1.0 + the lower limit value is used as the upper limit.

5-1-5 Configuration of view

■ Shared and individual settings

The view configuration screen allows configuration of shared view settings related to trend graphs and of individual view settings pertaining to trend groups.

● Shared view settings

These items are shared by all data groups. To change the settings, click [View] or [Tool] → [Environment]. Settings are stored separately for each Windows logon user and are reflected again the next time LogViewer is started.

Item		Remember last state
Trend graph	Background mode (black/white)	Yes
	Grid line display	Yes
	Data log marker	Yes
	Event log marker	Yes
	Grid interval for time axis	Yes
	Number of grid lines on value axis	Yes

● Individual view settings

You can separately set individual view configuration items for each data group. When switching to another group, the setting for that group is used. A configuration file is stored for each log table file (with a .gwl extension), and is used whenever the .gwl file is read. For items whose state is not saved, the default setting is used when the .gwl file is read.

Item		Remember last state
Trend graph	Graph comparison is enabled/disabled	No
	Lock graph shadow is enabled/disabled	No
	Upper/lower limit of value axis	Yes
	Time axis display position	Yes
	Time axis display ratio	Yes
	Value axis display position	Yes
	Value axis display ratio	Yes
	Cursor position	No
	Whether display is divided	Yes
	Vertical division ratio	Yes
Trend information	Visible/invisible status for each data item on each graph line.	Yes
	Value axis to which data item belongs	Yes
	Data item color	Yes

When various captured trend data in the same data group is displayed, the individual view settings change as follows:

	Item	Individual view settings
Trend graph	Graph comparison is enabled/disabled	Switched every capture
	Lock graph shadow is enabled/disabled	Switched every capture
	Upper/lower limit of value axis	Continues between captures
	Time axis display position	Switched every capture
	Time axis display ratio	Switched every capture
	Value axis display position	Switched every capture
	Value axis display ratio	Switched every capture
	Cursor position	Switched every capture
	Whether display is divided	Continues between captures
	Vertical division ratio	Continues between captures
Trend information	Visible/invisible status for each data item on each graph line.	Continues between captures
	Value axis to which data item belongs	Continues between captures
	Color of each data item	Continues between captures

5 - 2 Log list

5-2-1 Data log pane

■ Screen layout

No.	Date time	Group name	Value
28	10/15/2007 4:52:11 PM	Zone2 ramp-up	Loop2 P=5.0, Loop2 I=12.0, Loop2 D=3.0
27	10/15/2007 4:52:09 PM	Zone1 ramp-up	Loop1 P=5.0, Loop1 I=12.0, Loop1 D=30
26	10/15/2007 4:12:58 PM	Zone2 ramp-up	Loop2 P=5.0, Loop2 I=12.0, Loop2 D=3.0

- **Title**

"Data Log" is displayed. Clicking this title toggles the log list on and off (visible/invisible).

- **Date and time**

Shows when data was collected.

- **Group name**

Shows the data group name for the data log.

- **Value**

Shows the information contained in the data log.

Each data item is separated by ", " (comma and space) and is displayed in the format: Data name = Value.

5-2-2 Event log pane

■ Screen layout

Title bar
↓

No.	Date time	Group name	Name	Kind	State
31	10/15/2007 4:52:13 PM	start ramp-up	zone3 ramp FIN	INFO	ON
30	10/15/2007 4:52:11 PM	start ramp-up	zone2 ramp FIN	INFO	ON
29	10/15/2007 4:52:07 PM	warning monitor	OK heater	INFO	OFF
28	10/15/2007 4:18:59 PM	warning monitor	ERR heater	ERR	ON
27	10/15/2007 4:14:17 PM	start ramp-up	zone1 ramp RST	INFO	OFF

↑
Log list

● Title

"Event Log" is displayed. Clicking this title toggles the log list on and off (visible/invisible).

● Date and time

Shows when the event occurred.

● Group name

Shows the data group name for the event log.

● Name

Shows the event name.

● Kind

Tells the kind of event.

- Information
- Warning
- Error

● Status


Tells the bit device status.

- ON (OFF → ON)
- OFF (ON → OFF)

5-2-3 Operation list

■ Display filter

- Group name
- Name (event log only)
- Kind (event log only)

When you click  in the fixed top cell of a list, "All" and filterable text is displayed in a drop-down list. Filterable text consists of all items that can be displayed when a filter is not used for the column. For columns which are shown with a filter, the top fixed cell characters are displayed in blue.

■ Jump

You can use the following operation to move the currently displayed trend graph to a specific target time position:

- Double-click the target item on the list
- While the item is selected, click [Edit] → [Jump to selection].
- While the item is selected, from a pop-up menu, select [Jump to selection].

When you execute jump, the marker displayed on the top of the trend graph (if it is invisible, it automatically becomes visible) is filled in, and a broken vertical line is displayed for the time.

Handling Precautions

- If the specified time does not exist on the graph, the following status occurs:

Time before the first time on the trend graph range	Moves the trend graph to the starting position.
Time after the last time on the trend graph range	Moves the trend graph to the final position and adds a marker at the final position.

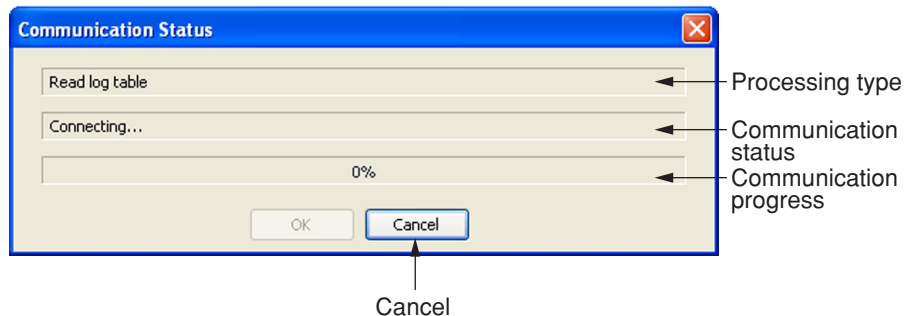
- If multiple cells are selected, the focussed cell among those selected serves as the target of the jump.
- If the CMC15G date/time is adjusted during logging and the time is set back, the same time may be represented already on a trend graph. If a jump is executed under these conditions, the trend graph display jumps to the rightmost time.

Chapter 6 ONLINE OPERATION

6 - 1 Communication Status Window

Communication progress is displayed.

■ Screen layout



● Processing type

The type of communication processing is shown. Processing types are:

- Read log table
- Clear log table
- Clear capture data

● Communication status

The execution status of the communication is displayed. It varies with the processing type.

● Communication progress

Communication progress is shown by percent and bar graph.

● Cancel

When the [Cancel] button is pressed, communication processing stops.

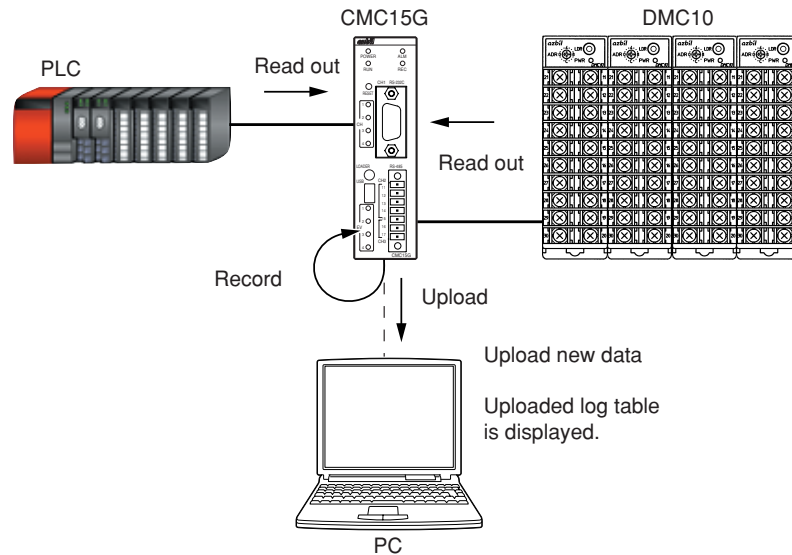
! Handling Precautions

- If a log table is protected with a password, the password must be entered every time you connect to the CMC15G.
 ☞ Section 6-7, Entering a Password.
- When a CMC15G project is invalid or the current project does not have a data group (trend, data log, or event log) related to the log table, an error message is displayed.
- If a PC is not connected to the CMC15G, an error message is shown, and a message saying "Unable to connect" is displayed in the Communication status space.

6 - 2 Uploading New Data

A log table that has been newly recorded in the internal memory of the CMC15G can be uploaded. In addition, data can be added and a previously saved file can be saved again.

☞ Section 6-3, Refresh.



■ Procedure

Do the following to upload a new log table:

(1) Click [Communications] → [Upload all].

>> If this command is executed while a log table is opened, the currently opened log table is closed.

>> A communication status window appears and uploading of the log table begins.

If communication ends normally, the communication status window closes. The uploaded log table is displayed.

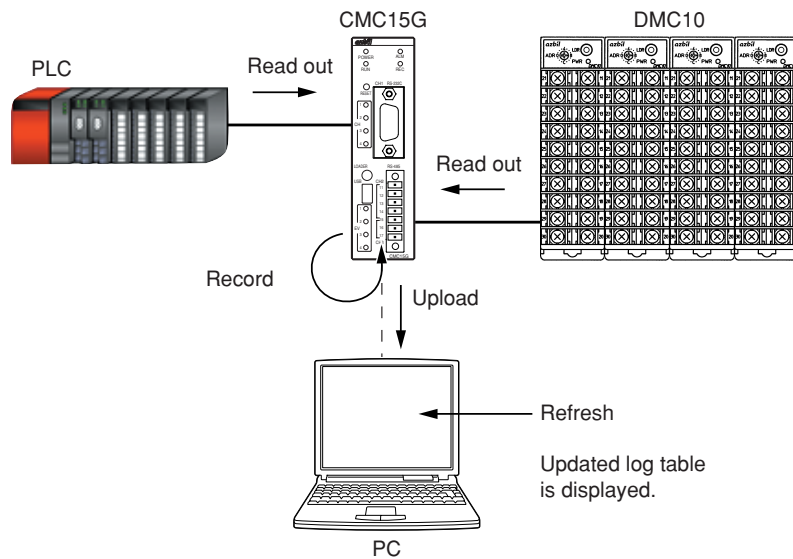
(2) If desired, save the table with [File] → [Save log table].

! Handling Precautions

- If the data was not completely uploaded due to a cancellation command or communication error, the log table is not displayed.

6 - 3 Refresh

You can refresh (update) a CMC15G log table that was previously saved to a file.



■ Procedure

Do the following to update the log table:

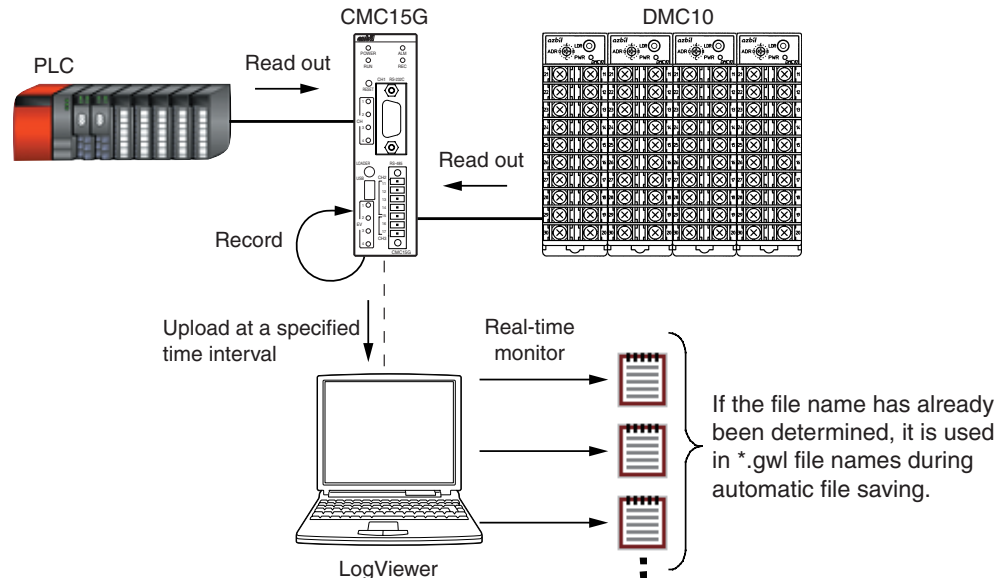
- (1) Open the log table that you want to update on the screen.
- (2) From the main menu, click [Communications] → [Refresh].
 - >> A communication status window appears and reading of the log table begins.
 - If communication ends normally, the communication status window closes.
 - The updated log table is displayed.
- (3) If desired, save the table with [File] → [Save log table].

! Handling Precautions

- The log table cannot be updated if any of the following is true of the open log table:
 - The file size in bytes exceeds the upper limit.
 - ☞ Section 7-3, File Configuration
 - The total number of captures of all captured trends exceeds 3,000.
 - The total number of data items in the data log exceeds 1,000,000.
 - The total number of data items in the event log exceeds 1,000,000.
- In any of the following cases, the log table cannot be updated because the open log table and the log table on the CMC15G are determined to be not identical:
 - The serial numbers of the tables differ.
 - The settings for the trend, data log or event log are different.
 - The number of settings for the trend, data log or event log are different.
- If the log table cannot be updated, save the currently open log table and then click [Communications] → [Upload all].
- If the data was not completely uploaded due to a cancellation command or communication error, the data is not added to the existing log table.
- If the data on the CMC15G is older than the data in the open log table file, it is not read. Only new data adds and updates the existing file.

6 - 4 Real-time Monitor

This function reads a log table stored in the internal memory of the CMC15G at a specified time interval. If the size of the log table exceeds the preset upper limit, the file is saved to the PC automatically.



■ Procedure

● To start monitoring immediately

- (1) While no log table is open, click [Communications] → [Real-time monitor].
 - >> A communication status window appears and the information is read from the CMC15G. If communication ends normally, the communication status window closes.
 - The log table is read from the CMC15G at the interval specified in the Environment configuration.
- (2) If selection of the real-time monitor is canceled, reading at the specified interval is stopped.

! Handling Precautions

- If the real-time monitor is started while no log table is open, the data read when the monitor starts becomes the initial data in a new log table. Data that is on the CMC15G before the real-time monitor starts is not read.
- The real-time monitor will stop operating if the file size reaches the preset upper limit. The data will not be automatically saved.

● To save data automatically

- (1) Click [Communications] → [Upload all].
 - >> A communication status window appears and the information on the CMC15G is read. If communication ends normally, the communication status window closes.
- (2) Click [File] → [Save log table] to save the log table file.
- (3) Click [Online] → [Real-time monitor].
 - >> The log table is read from the CMC15G at the interval specified in Environment configuration, and when the preset file size upper limit is reached, the file is saved automatically.

! Handling Precautions

- When you open a log table and start real-time monitoring, LogViewer reads data continuously from the CMC15G, starting immediately after the latest data in the log table. However, if data is missing because the CMC15G is set to overwrite the oldest data in the internal memory, there will be a gap in the data in the saved log table.

■ Saving files automatically

If a log table exceeds the file upper limit, the data read from CMC15G is automatically saved to a file. Exceeding the file size upper limit can occur in a number of ways.

- The file size in bytes exceeds the upper limit.
 ➔ Section 7-3, File Configuration.
- The total number of captures of all captured trends exceeds 3,000.
- The total number of data items in the data log exceeds 1,000,000.
- If the total number of data items in the event log exceeds 1,000,000, the file size upper limit ranges from 10 MB to 1 GB, and the initial value is 100 MB.

For the correct settings,

➔ Section 7-3, File Configuration.

The name used for the saved file is the user-specified file name plus the time (year, month, day, hour, minute, and second), formatted as `yyyymmddhhmmss`.

Example: `XXXX20071231235959.gwl`

! Handling Precautions

- If any of the conditions below occur, real-time monitoring will stop without saving data automatically. In that case, click [File] → [Save log table as]. Note that if you do not manually save the data, the log table on the CMC15G may be overwritten and lost.
 - Real-time monitoring was executed while the log table file was closed.
 - A file with the same name already exists.
 - The specified destination does not have enough space for the file.
 - The total number of characters in the path and file name exceeds 255.
- During real-time monitoring, do not connect to another LogViewer using the CMC15G's serial port.

■ Screen updating while data is read

The scroll bar range of the time axis is updated while data is read. Updating of the graph and of the display at the scroll bar position may differ depending on the displayed position.

- If the time at the far right of the screen is later than the latest data:
A graph of the newly read data is continually created. The time axis display position is not updated.
- If the time on the rightmost side in the screen matches the time of the latest data:
A graph of the newly read data is continually created as the older part of the graph is pushed to the left. For the display position of the time axis, the time on the rightmost side is changed to match the latest time.
- If the time at the rightmost side of the screen is earlier than the latest data:
The display is not updated because the newly read data is outside the field of view. The time axis display position is also not updated.

6 - 5 Clearing a Log Table on the CMC15G

A log table on the CMC15G can be cleared by LogViewer. All continuous trend, captured trend, event log and data log data is deleted. Communication error history and operation history are not deleted.

■ Procedure

(1) Click [Communications] → [Clear CMC15G log tables].

>> A confirmation dialog box appears.

(2) Click [OK].

>> A communication status window appears and clearing of the log table begins.

If communication ends normally, the communication status window closes.

! Handling Precautions

- If log table protection is activated on the CMC15G, you must enter a password to clear the log table.

6 - 6 Clearing a Captured Trend on the CMC15G

LogViewer can clear captured trend data from the CMC15G.

■ Procedure

- (1) Click [Communications] → [Clear capture data in CMC15G].
>> A confirmation message box appears.
- (2) Click [OK].
>> A communication status window appears and clearing of the captured trend begins. If communication ends normally, the communication status window closes.

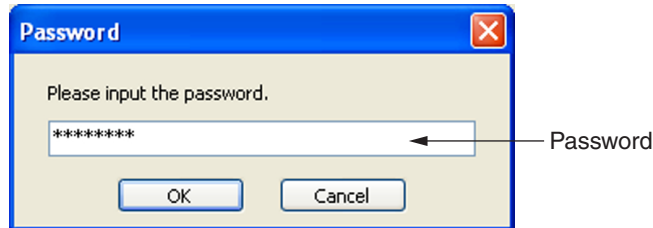
! Handling Precautions

- If log table protection is activated on the CMC15G, you must enter a password to clear the captured trend data.

6 - 7 Entering a Password

If log table protection is activated on the CMC15G, a password screen appears when you attempt an online operation. The project cannot be modified online if the password does not match. This window does not appear if log table protection is not turned on.

■ Screen layout



● Entering a password

Enter the password for log table protection, which was previously set for the project on the CMC15G. A maximum of 16 characters can be entered.

● OK

When you click the [OK] button, the password is checked against the one previously set on the CMC15G. If the password matches, the project can be operated online.

● Cancel

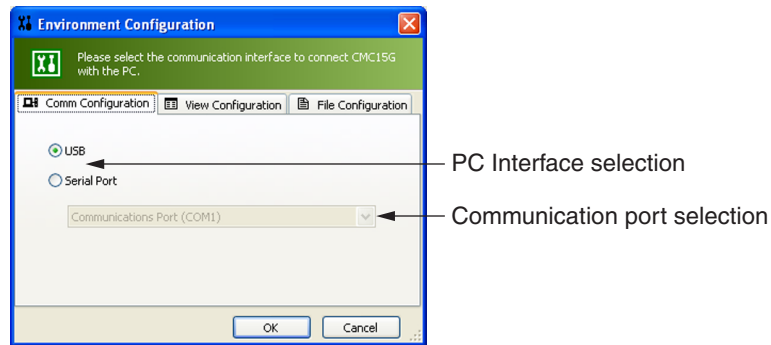
Cancels the request for online operation.

Chapter 7 ENVIRONMENT CONFIGURATION

7 - 1 Communication Configuration

Communication configuration sets up the connection between the CMC15G and the PC.

■ Screen layout



● Interface selection

Select the communication interface on the PC that is connected to the CMC15G.

- USB
- Serial port

The initial setting is USB.

● Communication port selection

If you set Serial port as the interface selection, select the COM port that is connected to the CMC15G. The initial value for the port is the port that is found first. If no COM port is found, there is no initial value, and "---" is displayed.

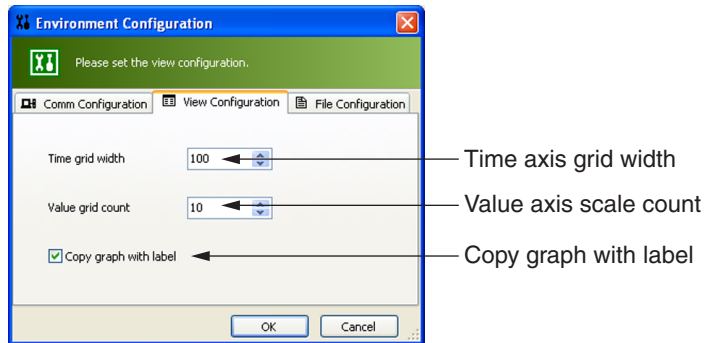
📖 Note

- The communication configuration is stored in a separate file for each Windows logon user.

7 - 2 View Configuration

Graph-related characteristics can be configured. The settings described in this section apply to all data groups.

■ Screen layout



● Time axis grid width

Specify the grid width of the time (horizontal) axis in dots. The setting range is 50 to 200, and the initial value is 100.

● Value axis scale count

Specify the scale count on the value (vertical) axis. The setting range is 2 to 20 and the initial value is 10.

● Copy graph with label

If this box is checked, when a graph is copied to the clipboard, the data name and line color information are added next to the graph.

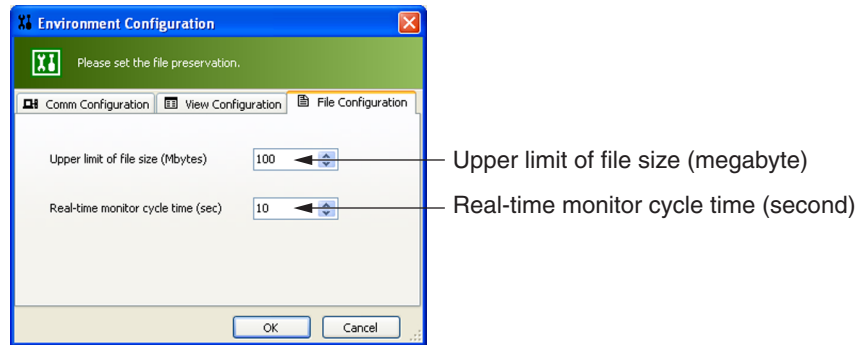
Note

- The view configuration is stored in a separate file for each Windows logon user.

7 - 3 File Configuration

Parameters for file saving and real-time monitoring can be configured.

■ Screen layout



● Upper limit of file size

Specify a file size limit in megabytes for saved read-out data. Automatic saving of data during real-time monitoring will be governed by this limit. The setting range is 10 to 1000, with an initial value of 100.

● Real-time monitor cycle time

Specify the interval at which the real-time monitor should read data. The setting range is 10 to 600 seconds, and the initial value is 10.

Note

- The file configuration is stored in a separate file for each Windows logon user.

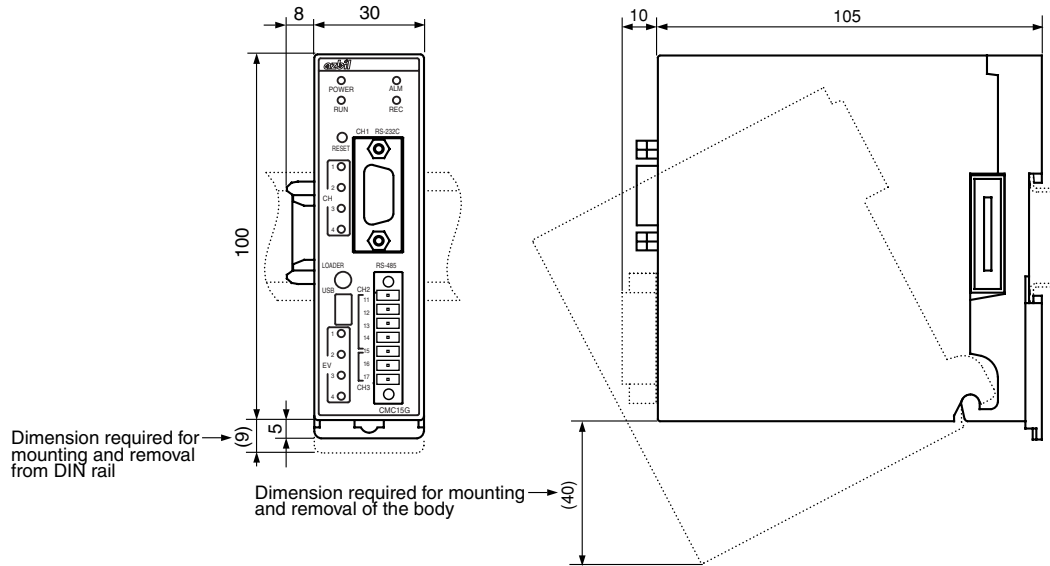
Chapter 8 SPECIFICATIONS

■ Specifications

Item		Specifications
Communications	CH1	RS-232C, full duplex (half duplex protocol), cable length 15 m or less, D-Sub 9-pin, max. transmission speed 115.2 kbps
	CH2	RS-485, 5-wire system full duplex (half duplex protocol), cable length 500 m or less, 7-pin connector (5 pins used), max. transmission speed 115.2 kbps
	CH3	RS-485, 3-wire system half duplex, cable length 500 m or less, connector 7-pin connector (3 pins used), max. transmission speed 19.2 kbps
	CH4	RS-485, 3-wire system half duplex, cable length 500 m or less, screw terminals on the base, max. transmission speed 38.4 kbps
	USB	USB 2.0-based full speed (12 Mbps) mini-B, 5-pin
Digital signal I/O bus	Number of signals	4
	Function	Outputs the logical sum (OR) of the same bus event outputs from each DMC10.
General specifications	Rated power voltage	24 Vdc
	Operating power voltage	21.6 to 26.4 Vdc
	Power consumption	3 W or less
	Insulation resistance	Min. 20 MΩ by 500 Vdc megger (between each I/O terminal and 24 Vdc power terminals)
	Dielectric strength	500 Vac for 1 min. (between case and 24 Vdc power terminals)
	Isolation	All communications lines are isolated from power lines. Individual communications channels are not isolated from each other. Individual EV buses are not isolated from each other, but are isolated from communications.
	Built-in clock accuracy	Within ± 40 s per month (reference value at 25 °C)
	Memory backup	Min. 5 years (at 25 °C)
	Operating condition	Ambient temp.: 0 to 50 °C. Ambient humidity: 30 to 90 % RH
	Transport/storage conditions	Ambient temp.: -20 to +70 °C. Ambient humidity: 10 to 95 % RH Vibration resistance: Max. 4.9 m/s ² Impact resistance: Max. 392 m/s ² for screw mount Max. 196 m/s ² for DIN rail mount Package drop test: Drop height 60 cm, free fall
	Screw tightening torque	Power terminals and CH4 communication terminals: 0.8 to 1.0 N•m
	Mounting	DIN rail mount or screw mount
	Materials	Mask, case, base: polycarbonate
	Color	Mask: navy blue, Case: light gray, Base: light gray
	Mass	Approx. 200 g
Standards compliance	EN61326	
Accessories		User's Manual (No.CP-UM-5463JE)
		CH2, CH3 communication connector (handles both channels)
Maintenance parts		Battery model No.: 81446431-001
Software		Smart Loader Package (GatewayEditor) model No.: SLP-G15J50 Smart Loader Package (LogViewer) model No.: SLP-G15LGV

■ External dimensions

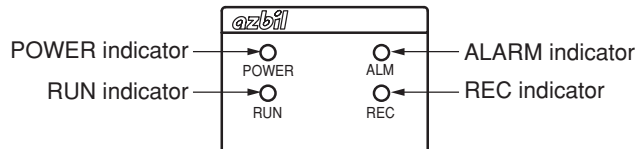
Unit: mm



Chapter 9 TROUBLESHOOTING

■ Diagnosis using the indicator status

The CMC15G's indicator lights notify the user if an error occurs.



● POWER indicator

Status	Meaning	Corrective action
Green	CMC15G power is ON.	—
Off	CMC15G power is OFF.	Turn ON the power.
Orange	Backup battery voltage is low.	Replace the backup battery. User's manual No. CP-SP-1277E Chapter 13, Maintenance.

● ALARM indicator

Status	Meaning	Corrective action
Off	The CMC15G is running normally.	—
Red	An error occurs in the self-diagnosis.	If the ALARM indicator is lit red, turn OFF the power and then turn it ON again, or reset the CMC15G with the RESET button. If the alarm still appears, contact a Yamatake salesperson.

● RUN indicator

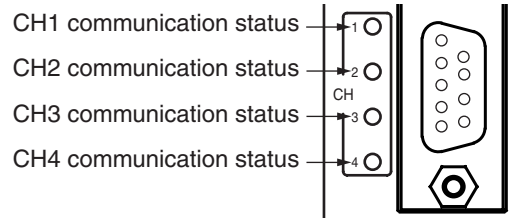
Status	Meaning	Corrective action
Off	CMC15G functions have stopped.	To change to RUN mode, use the GatewayEditor. User's manual No. CP-SP-1277E 10-2-5, Operation mode change (page 10-12).
Green	CMC15G functions are running.	—
Flashing green	The PC (SLP, etc.) is communicating with the controller through the CMC15G by loader through-communication.	To switch from through-communication mode to RUN mode, run ThroughComm.exe. User's manual No. CP-SP-1277E 7-6, Loader through-communication (page 7-10).

● REC indicator

Status	Meaning	Corrective action
Off	Not recording.	—
Green	Trend is being recorded.	—
Flashing green (1 s intervals)	CMC15G notifies that the capture table exists.	—
Flashing green (200 ms intervals)	CMC15G notifies that the capture memory is full.	—

■ Error diagnosis using the CH1 to CH4 indicators

The indicators show whether there was a communication error.



Four indicators corresponding to the COM ports to which the modules are connected indicate the communication status of each module.

Status	Meaning	Corrective action
Off	No communication	If the indicator is not lit even though there is a communication request*, the communication parameters may be incorrect. Using GatewayEditor, check the communication parameters for the target channel.
Flashing green	Communicating	—
Orange	No response, or error in received message	Any of the following may be the cause: <ul style="list-style-type: none"> • Wrong wiring • Wrong communication configuration (station address, transmission speed, parity, etc.) • The communication parameters (data address, data area, etc.) are incorrect. Depending upon the device, mode, and conditions, it may not be possible to write data. Using the GatewayEditor's Online monitor, identify the module with the communication error, and check the wiring and the communication configuration and parameters. 👉 User's manual No. CP-SP-1277E 10-2-4, Online monitor (page 10-10).

* For example, a communication request occurs when there is a periodic data transmission or when a trigger device initiates module setup. Additionally, since the CMC15G monitors trigger devices periodically, if a host station device is set as a trigger device, it is normal for the indicator of the channel connected to the host station to be flashing frequently.

■ Corrective actions if an error occurs

Context (activity)	Symptom	Cause	Corrective action
General logging functions	Data collection does not start.	If the enabled-disabled setting results in "disabled" status, the data collection is not started.	If the REC indicator is not green while the continuous trend or captured trends function is running, the enabled-disabled setting has disabled the process, or other settings are incorrect. Check the cycle(s) and enabled-disabled setting. Check also the trigger device in the captured trends or data log.
	All data is not collected completely.	The interval for data collection is too short for the volume of data.	Extend the collection interval. If a CMC15G communication error occurred, it can be checked using the online monitor or communication error history.
	All data is not collected completely.	If a power failure occurs, data is handled discontinuously.	Check the operation history in GatewayEditor to see whether a power ON (power turned OFF, and then turned ON again) occurred.
	When downloading with GatewayEditor, the backup memory size exceeded the high limit, and the transmission of configuration data to the CMC15G was stopped.	If the volume of internal memory used by all logging functions exceeds the capacity of the CMC15G, downloading is not executed.	Adjust the settings on the basis of all groups or logging functions so that internal memory usage does not exceed the maximum level. The usage volume is indicated by the color of the backup memory usage ratio display in GatewayEditor. If the color is red, the memory usage exceeds the capacity. Additionally, you can check the number of bytes set for the memory under the project information in GatewayEditor.
Captured trends function	Even though triggers for all captures are turned ON, the capture memory does not fill up.	After a trigger starts up but before its data has been saved, there is another trigger. Triggers that are activated before data saving is complete are ignored.	Change the conditions for trigger occurrence using an internal event on the PLC or CMC15G. Also, if you increase the number of records saved after the initial trigger, more data can be obtained even though the second trigger is ignored.
LogViewer	The real-time monitor stopped.	The real-time monitor does not save data automatically if any of the following conditions occurs: <ul style="list-style-type: none"> • A file with the same name already exists. • There is insufficient space at the file destination. • The number of characters in the full path name for the file exceeds 255 characters. 	Change the file name, remaining capacity of the disk, or file path so that the data is saved automatically.

Terms and Conditions

We would like to express our appreciation for your purchase and use of Yamatake products.

You are required to acknowledge and agree upon the following terms and conditions for your purchase of Yamatake products (field instruments, control valves, and control products), unless otherwise stated in any separate document, including, without limitation, estimation sheets, written agreements, catalogs, specifications and instruction manuals.

1. Warranty period and warranty scope

1.1 Warranty period

Yamatake products shall be warranted for one (1) year from the date of your purchase of the said products or the delivery of the said products to a place designated by you.

1.2 Warranty scope

In the event that Yamatake product has any failure attributable to Yamatake during the aforementioned warranty period, Yamatake shall, without charge, deliver a replacement for the said product to the place where you purchased, or repair the said product and deliver it to the aforementioned place. Notwithstanding the foregoing, any failure falling under one of the following shall not be covered under this warranty:

- (1) Failure caused by your improper use of Yamatake product (noncompliance with conditions, environment of use, precautions, etc. set forth in catalogs, specifications, instruction manuals, etc.);
- (2) Failure caused for other reasons than Yamatake product;
- (3) Failure caused by any modification or repair made by any person other than Yamatake or Yamatake's subcontractors;
- (4) Failure caused by your use of Yamatake product in a manner not conforming to the intended usage of that product;
- (5) Failure that the state-of-the-art at the time of Yamatake's shipment did not allow Yamatake to predict; or
- (6) Failure that arose from any reason not attributable to Yamatake, including, without limitation, acts of God, disasters, and actions taken by a third party.

Please note that the term "warranty" as used herein refers to equipment-only-warranty, and Yamatake shall not be liable for any damages, including direct, indirect, special, incidental or consequential damages in connection with or arising out of Yamatake products.

2. Ascertainment of suitability

You are required to ascertain the suitability of Yamatake product in case of your use of the same with your machinery, equipment, etc. (hereinafter referred to as "Equipment") on your own responsibility, taking the following matters into consideration:

- (1) Regulations and standards or laws that your Equipment is to comply with.
- (2) Examples of application described in any documents provided by Yamatake are for your reference purpose only, and you are required to check the functions and safety of your Equipment prior to your use.
- (3) Measures to be taken to secure the required level of the reliability and safety of your Equipment in your use. Although Yamatake is constantly making efforts to improve the quality and reliability of Yamatake products, there exists a possibility that parts and machinery may break down. You are required to provide your Equipment with fool-proof design, fail-safe design, anti-flame propagation design, safety design, or the like so that the said Equipment may satisfy the level of the reliability and safety required in your use, whereby preventing any occurrence of physical injuries, fires, significant damage, and so forth.

3. Precautions and restrictions on application

Yamatake products other than those explicitly specified as applicable (e.g. Yamatake Limit Switch For Nuclear Energy) shall not be used in a nuclear energy controlled area (radiation controlled area). Any Yamatake products shall not be used for/with medical equipment.

In addition,

you are required to conduct a consultation with our sales representative and understand detail specifications, cautions for operation, and so forth by reference to catalogs, specifications, instruction manual, etc. in case that you intend to use Yamatake product for any purposes specified in (1) through (6) below.

Moreover, you are required to provide your Equipment with fool-proof design, fail-safe design, anti-flame propagation design and other designs of protection/safety circuit on your own responsibility to ensure the reliability and safety, whereby preventing problems caused by failure or nonconformity.

- (1) For use under such conditions or in such environments as not stated in technical documents, including catalogs, specification, and instruction manuals
- (2) For use of specific purposes, such as:
 - * Nuclear energy/radiation related facilities
[For use outside nuclear energy controlled areas] [For use of Yamatake Limit Switch For Nuclear Energy]
 - * Machinery or equipment for space/sea bottom
 - * Transportation equipment
[Railway, aircraft, vessels, vehicle equipment, etc.]
 - * Antidisaster/crime-prevention equipment
 - * Burning appliances
 - * Electrothermal equipment
 - * Amusement facilities
- (3) Supply systems such as electricity/gas/water supply systems, large-scale communication systems, and traffic/air traffic control systems requiring high reliability
- (4) Facilities that are to comply with regulations of governmental/public agencies or specific industries
- (5) Machinery or equipment that may affect human lives, human bodies or properties
- (6) Other machinery or equipment equivalent to those set forth in items (1) to (5) above which require high reliability and safety

4. Precautions against long-term use

Use of Yamatake products, including switches, which contain electronic components, over a prolonged period may degrade insulation or increase contact-resistance and may result in heat generation or any other similar problem causing such product or switch to develop safety hazards such as smoking, ignition, and electrification. Although acceleration of the above situation varies depending on the conditions or environment of use of the products, you are required not to use any Yamatake products for a period exceeding ten (10) years unless otherwise stated in specifications or instruction manuals.

5. Recommendation for renewal

Mechanical components, such as relays and switches, used for Yamatake products will reach the end of their life due to wear by repetitious open/close operations.

In addition, electronic components such as electrolytic capacitors will reach the end of their life due to aged deterioration based on the conditions or environment in which such electronic components are used. Although acceleration of the above situation varies depending on the conditions or environment of use, the number of open/close operations of relays, etc.

as prescribed in specifications or instruction manuals, or depending on the design margin of your machine or equipment, you are required to renew any Yamatake products every 5 to 10 years unless otherwise specified in specifications or instruction manuals.

Field instruments (sensors such as pressure/flow/level sensors, regulating valves, etc.) will reach the end of their life due to aged deterioration of parts.

For those parts that will reach the end of their life due to aged deterioration, recommended replacement cycles are prescribed. You are required to replace parts based on such recommended replacement cycles.

6. Other precautions

Prior to your use of Yamatake products, you are required to understand and comply with specifications (e.g., conditions and environment of use), precautions, warnings/cautions/notices as set forth in the technical documents prepared for individual Yamatake products, such as catalogs, specifications, and instruction manuals to ensure the quality, reliability, and safety of those products.

7. Changes to specifications

Please note that the descriptions contained in any documents provided by Yamatake are subject to change without notice for improvement or for any other reason.

For inquires or information on specifications as you may need to check, please contact our branch offices or sales offices, or your local sales agents.

8. Discontinuance of the supply of products/parts

Please note that the production of any Yamatake product may be discontinued without notice.

For repairable products, we will, in principle, undertake repairs for five (5) years after the discontinuance of those products. In some cases, however, we cannot undertake such repairs for reasons, such as the absence of repair parts.

For field instruments, we may not be able to undertake parts replacement for similar reasons.

azbil

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URL: <http://www.azbil.com>

Specifications are subject to change without notice. (08)

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