



Portable Gas Monitor
GX-8000
Data Logger Management Program
SW-GX-8000(EX)
Operating Manual

RIKEN KEIKI Co., Ltd.

2-7-6 Azusawa, Itabashi-ku, Tokyo, 174-8744, Japan

Phone : +81-3-3966-1113

Fax : +81-3-3558-9110

E-mail : intdept@rikenkeiki.co.jp

Web site : <http://www.rikenkeiki.co.jp/english/>

1

Preface

The operation procedures and precautions mentioned in this operating manual apply only for the specified use of the program. We do not hold ourselves responsible for uses not described in this operating manual.

This operating manual will not explain the basic common operations of Microsoft Windows 7, Windows 8, and Windows 10, such as selecting commands or setting dialog boxes. First-time users of Windows should read the Windows manual or other documents in advance to learn common operations of the operating system.



WARNING

This product is distributed on a special type of CD called "CD-ROM".
Do not try to play this CD on a common audio CD player.
Ignoring this warning may cause loud noise, resulting in hearing impairment or speaker damage.



CAUTION

Necessity of pointing devices

This software requires pointing devices such as a mouse or touchpad.
Keyboard-only operation is not supported.

1-1. Purpose and features of this program

This program is used to download data collected by the data logger function featured in GX-8000 to a PC to use the data effectively.

There are the following advantages in downloading data collected by the data logger function:

- Gathered data can be viewed in a list.
- Gathered data can be viewed in graph and table formats.
- Graph and table data can be printed and stored on paper.
- Past data can be stored.
- Manual copying of data is no longer necessary.
- Able to know quickly which unit needs calibration, and perform calibration automatically.
- Able to manage more than one unit easily.

**Notice**

- Copying or duplicating the content of this manual without our knowledge, in whole or in part, is prohibited unless otherwise specified in law.
- Due to the improvement of the product, the content of this operating manual might be amended without prior notice.
- It is necessary to agree with the Software License Agreement, separately provided, before using this product. Please consent that we assume you have agreed to this agreement when the package is opened.
- Utilization of the software other than for intended purposes is prohibited. If the operating manual is ignored when using the software, or the software is altered in any way, the safety and quality of the product might not be maintained. We will not be liable for any accidents caused by these conditions.

(c) Copyright 2010 Riken Keiki co., Ltd. All rights reserved.
The copyright of this software is owned by RIKEN KEIKI.

Microsoft, Windows 7, Windows 8, and Windows 10 are registered trademarks of Microsoft Corporation in the United States and other countries.

Contents

1. Preface.....	2
1-1. Purpose and features of this program	2
2. Installation and Uninstallation	5
2-1. Precautions on operating environment.....	5
2-2. Software installation.....	5
2-3. Installation procedure.....	6
2-4. Uninstallation	11
3. How to Operate.....	13
3-1. Download screen	13
(1) Download data from GX-8000	14
(2) Download instrument information.....	15
(3) Download various data	16
(4) Complete download	17
(5) Clear data in the GX-8000 main unit.....	18
(6) Turn off the power of the GX-8000 main unit	18
(7) Switch to automatic mode.....	19
3-2. Instrument Information screen	20
(1) Data source type.....	21
(2) Status information	21
(3) Calibration history information	22
(4) Sensor alarm setpoint information	22
3-3. Data screen.....	23
(1) Delete data	24
(2) View details of data.....	24
(3) Summary pane	24
3-4. Data View screen.....	28
(1) Switch between table and graph views	30
(2) Output to a printer	31
(3) Printing CALIBRATION REPORT	34
(4) Save to a file	37
(5) To view data summary simultaneously	38
(6) Table details	39
(7) Graph details	40
3-5. Last Calibration screen	42
(1) Change displayed contents.....	43
(2) Output to a printer	44
(3) Delete data	45
(4) Change password.....	46
3-6. Set screen.....	47
(1) Change font and graph colors	47
(2) Change status of the main unit	48
(3) Send updates to the GX-8000 main unit.....	51
4. Data Maintenance.....	52
4-1. Details of data storage structure	52
4-2. Backup	52
5. Operating Precautions	53
6. Troubleshooting	54
7. IrDA Specifications	55
7-1. About infrared communication	55
7-2. Display of communication ready status	55
7-2-1. Task bar icon when the operating system recognizes GX-8000	55
7-2-2. Task bar icon when communication between the data logger program and the GX-8000 main unit is in progress	56
8. File Structure.....	57
8-1. Current directory immediately after installation	57
8-2. Current directory during operation.....	57
9. Software Specifications	58

2

Installation and Uninstallation

2-1. Precautions on operating environment

This program can be used on Microsoft operating systems Windows 7, Windows 8, and Windows 10. Please note that it cannot be used on other operating systems.

This program requires a maximum of 40 MB hard disk when it is installed. Moreover, on operation of the system, it requires hard disk capacity depending on the amount of data. Please use the program with sufficient disk capacity.



CAUTION

Precautions on handling the CD-ROM

1. CD-ROM storage
Do not store the CD-ROM in a place exposed to direct sunlight or a place with high temperature and humidity.
2. CD-ROM drive to use
Avoid using a slot-loading CD-ROM drive.
The label attached on the CD-ROM might prevent CD-ROM from ejecting properly.
Use a tray-type CD-ROM drive.

2-2. Software installation

Insert a disk which stores data of the program to a CD-ROM drive of a Windows-based PC. After a while, an installation screen will automatically start.

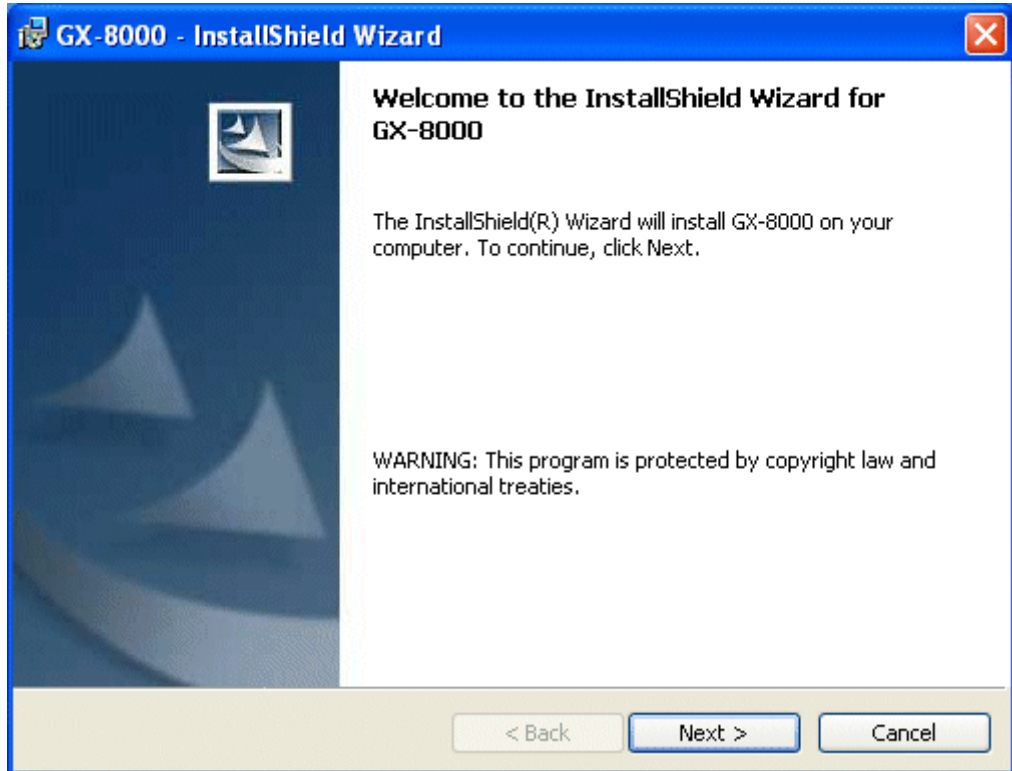
When the PC does not support the auto-start function of the CD-ROM, operate as follows:

1. From Explorer, open the CD-ROM drive.
2. Double-click the setup.exe file.

2-3. Installation procedure

- **Start the setup program**

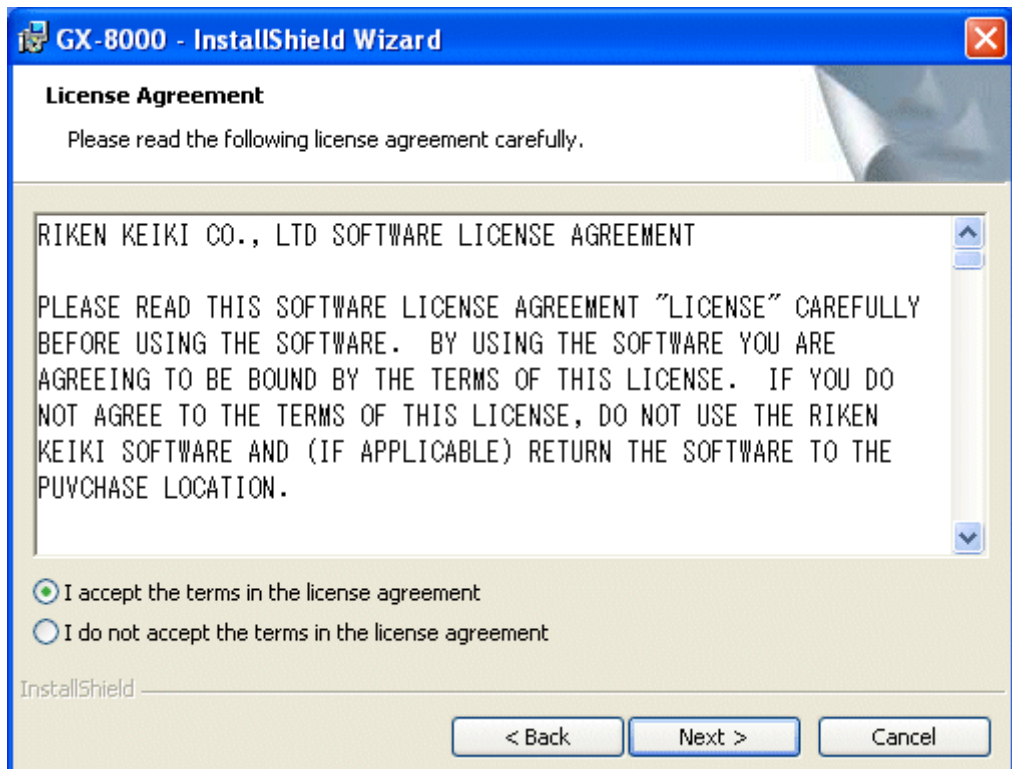
After inserting the CD-ROM or starting setup.exe, the following screen is displayed.



Click the "Next" button.

- **Accept the license agreement**

The following screen is displayed.



Click the "Next" button to continue the installation, or the "Cancel" button to abort the installation.

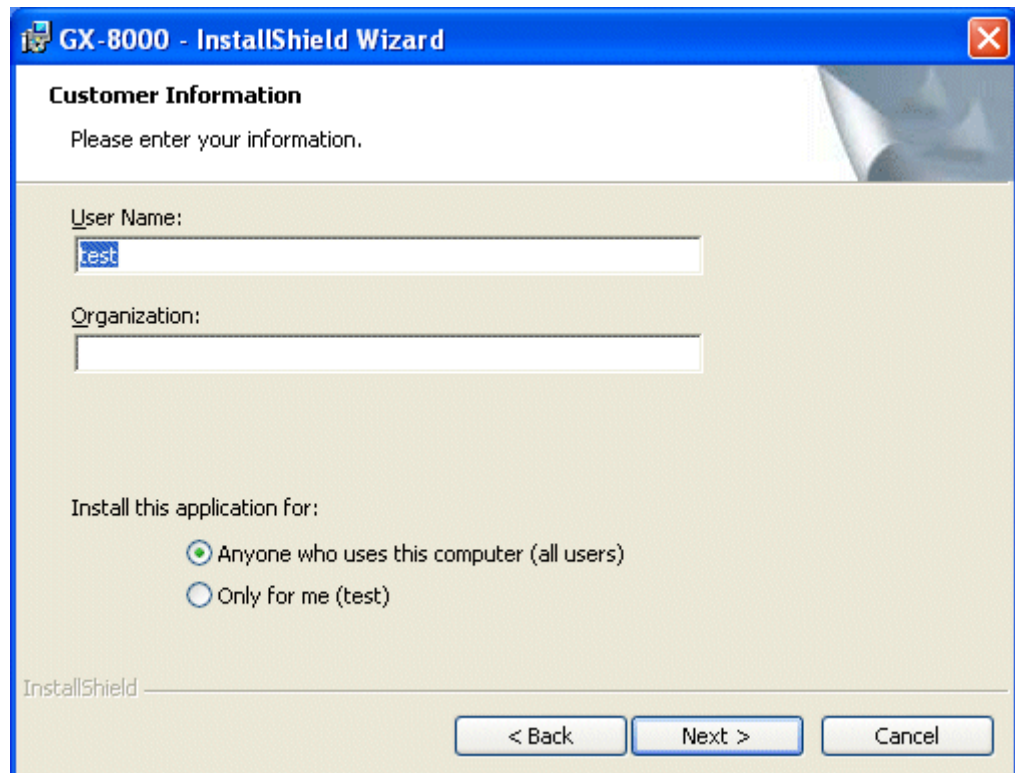


CAUTION

Fully understand the license agreement before continuing with the installation of the software.

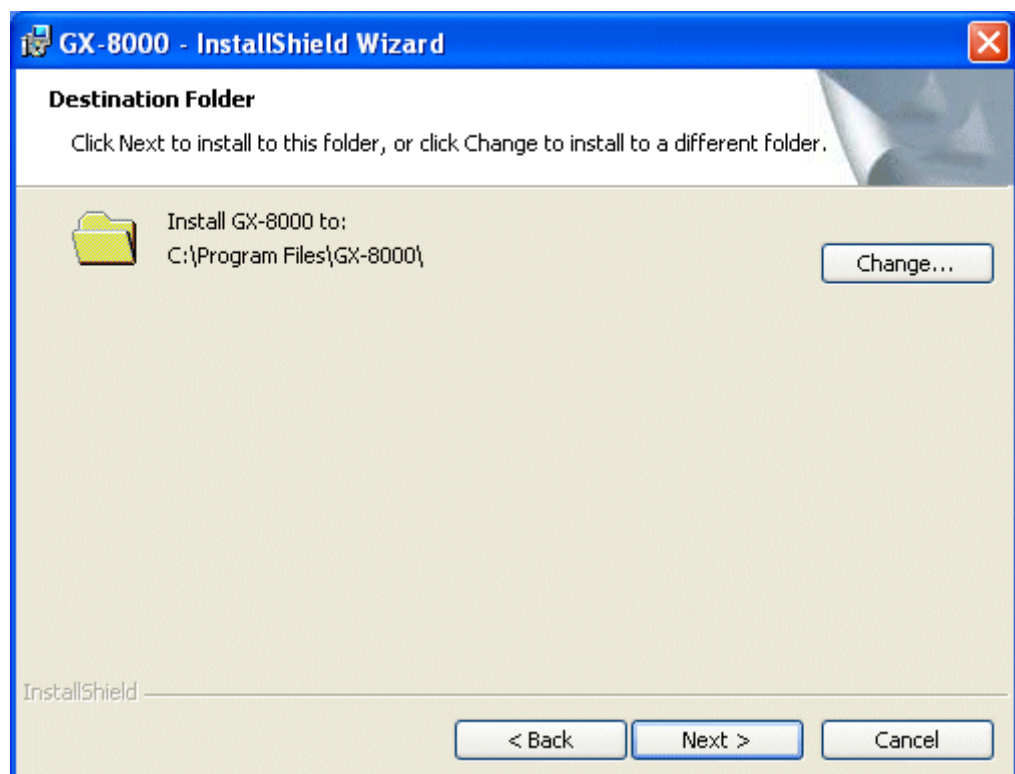
- **Customer Information**

Click the "Next" button to display the following screen.



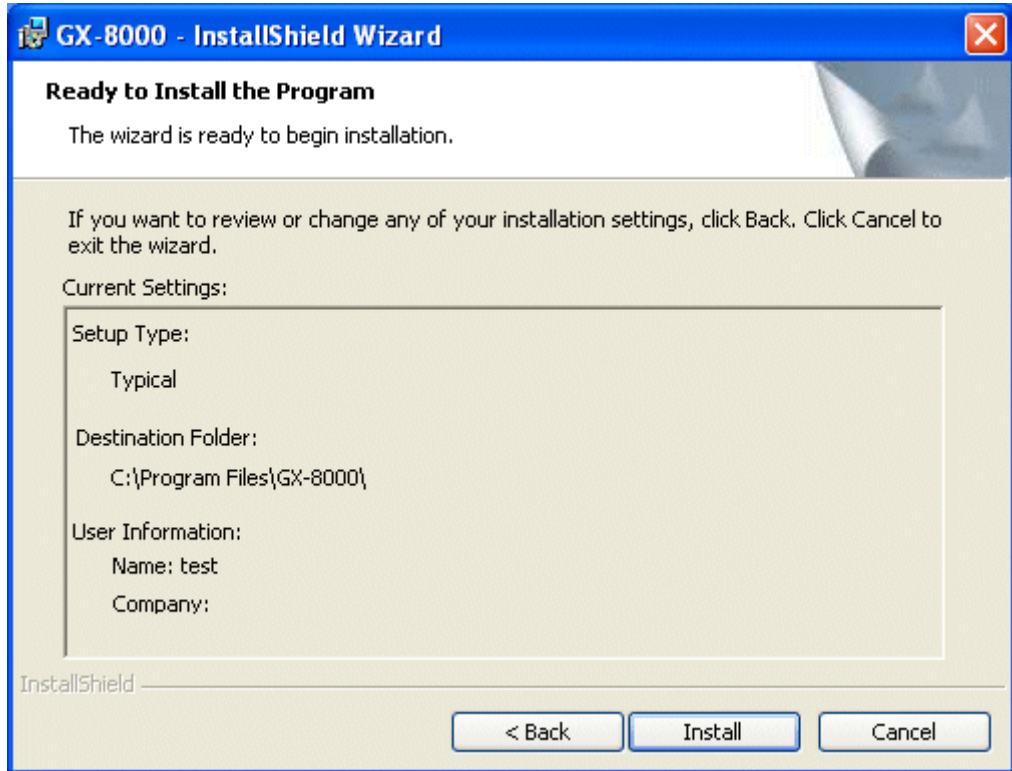
Click the "Next" button.

- **Destination Folder**



Click the "Next" button.

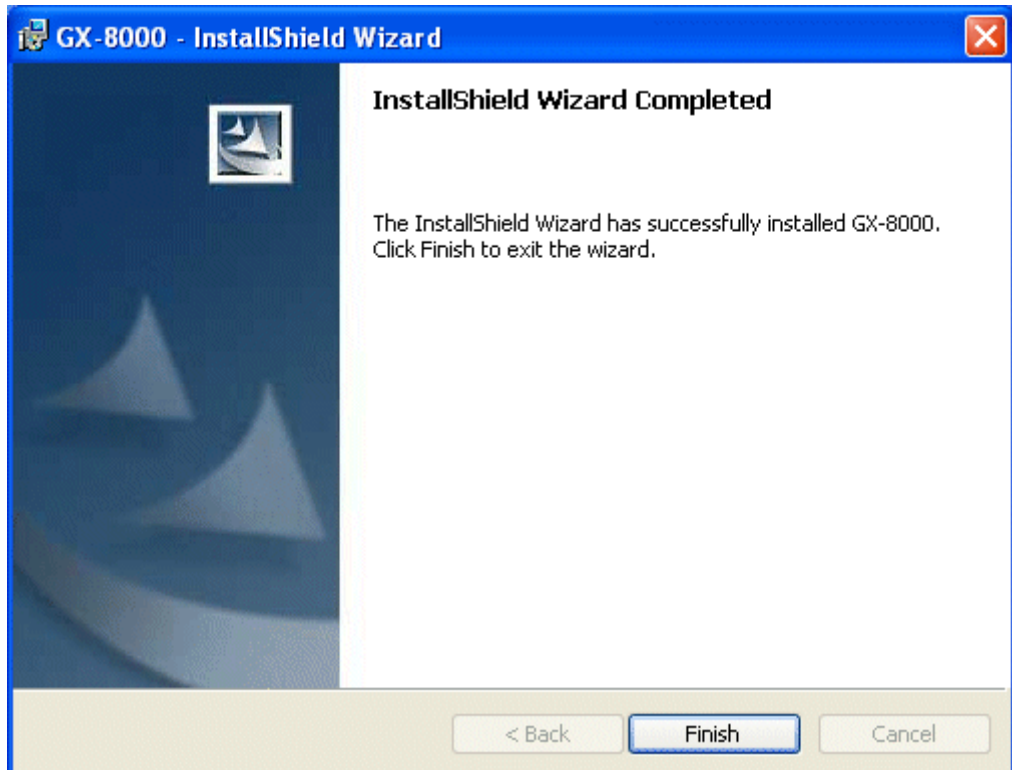
- **Start setup**



Click the "Next" button to start installation.

- **Complete**

When the setup process is completed, the following screen is displayed.



The program can be used immediately after setup.

**CAUTION****Save past data for reinstallation**

Please note the following when reinstalling the software:

1. Uninstall the software before reinstallation.
2. If the software is uninstalled after some operation, some files will remain on the PC. Of these files, GX8000.mdb is a database file. If past data needs to be saved, copy this file to a different location, and then delete the folder.

**CAUTION****Precautions when installing on Windows 7/8/10**

This software requires a library, which consists of files such as various drivers, installed on the Windows system. The files are installed automatically during the installation of the software. When using Windows 7/8/10, installation of the system library requires administrator privileges. In this case, follow the instructions to log in as an administrator, and then install the system library. After installation, a dialog prompts to restart the system. Restart, log on again as a general user, and install the application.

(Both the library and the application are installed by clicking setup.exe in the CD-ROM. Installation with an administrator privilege is required only when the required library is not installed in the system folder.)

**When using the software under a network-connected environment**

When installed on a network-connected PC running Windows 7/8/10, check the following points. IrDA communication utilizes a subset of TCP/IP technology (the communication technology used for the Internet, etc.) and uses a special set of communication groups and IP addresses. Because of this, some strong Internet security software might reject communication.

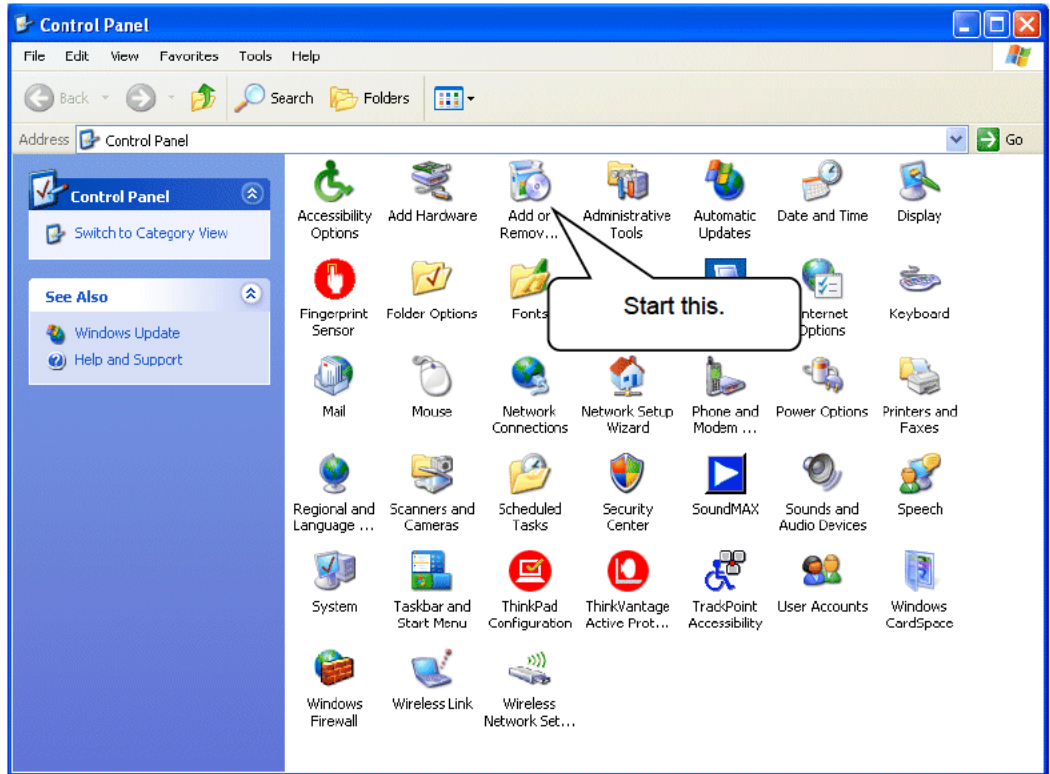
If possible, use a computer that is not connected to the network.
When using a computer connected to the network, use with sufficient considerations on security settings.

2-4. Uninstallation

- **Startup**

To uninstall the software, from the Start Menu of the Windows bar, click "Settings" and then start "Control Panel".

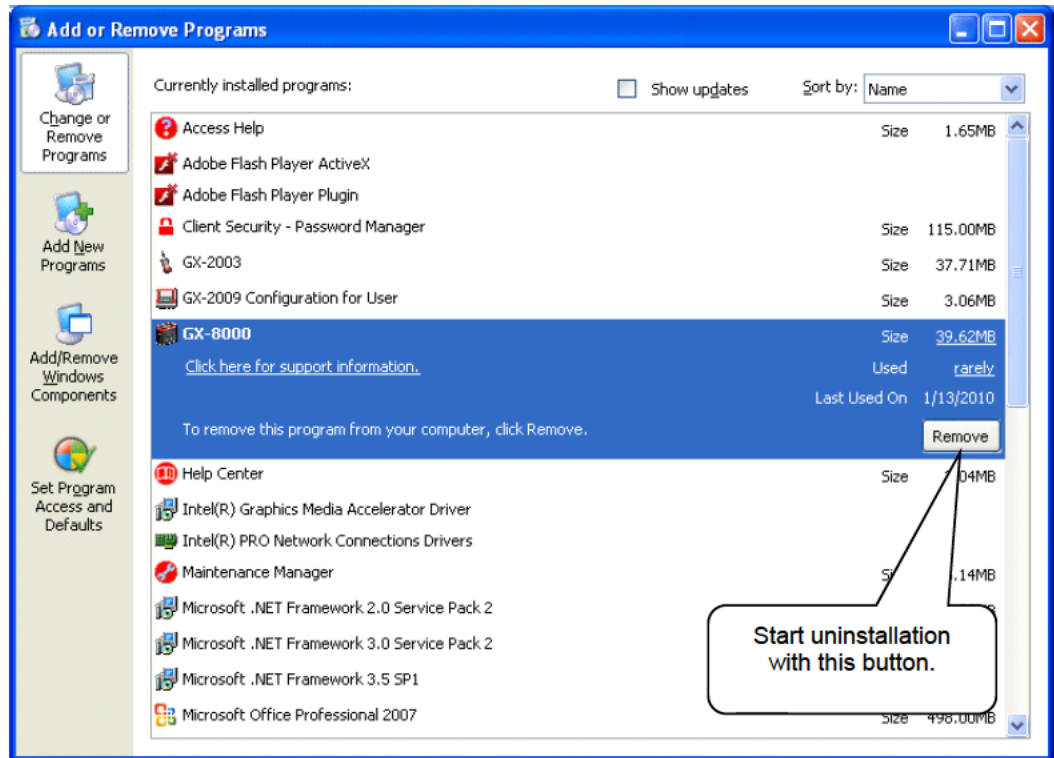
Control Panel (example)



From the Control Panel, double-click "Add or Remove Programs" to start.

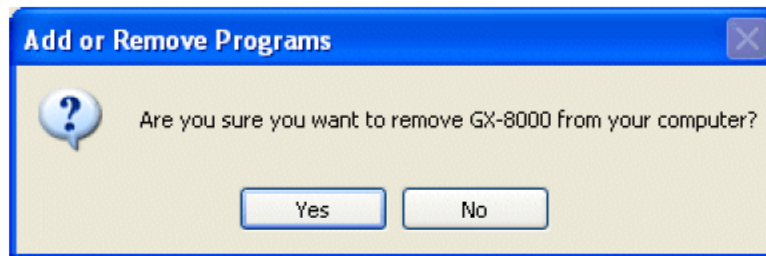
- Select GX-8000

When "Add or Remove Programs" is double-clicked, the following screen is displayed.



- Start deletion

Select "GX-8000" and click the "Remove" button.



Click "Yes" to start the uninstallation.



CAUTION

A message, "Do you want to remove the shared file?" might be displayed during uninstallation. Select "No to All". Selecting "Yes to All" might affect other applications.

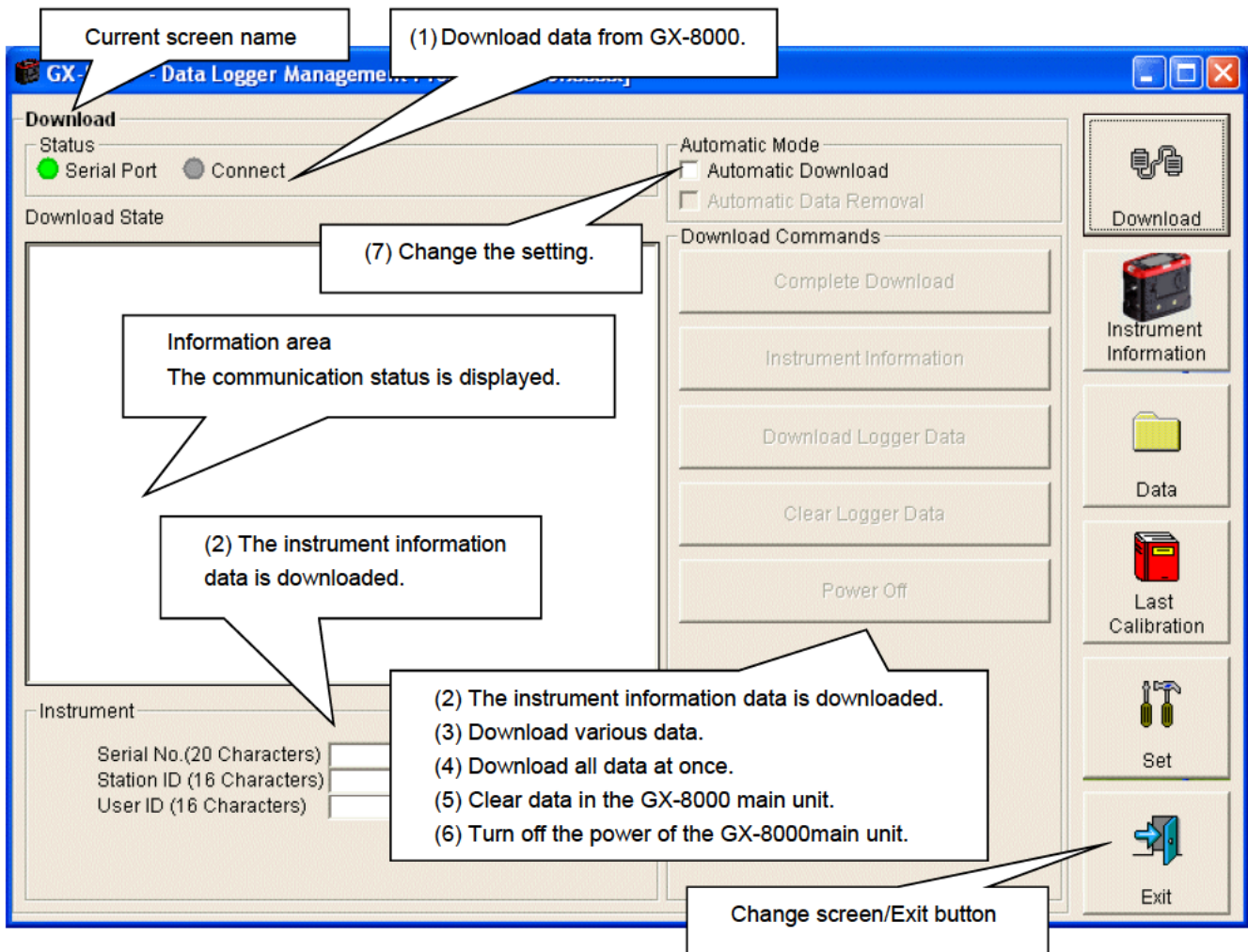
3

How to Operate

Double-click the "GX-8000" desktop shortcut, or click the "Start Menu", select "Programs" and click the GX-8000 program icon.

3-1. Download screen

After the splash screen, the download screen is displayed.



To perform data communication, place the GX-8000 main unit to an appropriate position, and with the program activated, turn on the power of the main unit. The program automatically judges whether or not communication is possible. If possible, the PC will be ready to receive the data.

(1) Download data from GX-8000

• **Prepare the main unit**

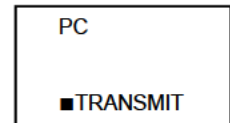
1. Start the software.
2. With the GX-8000 main unit powered off, move it to a position capable of communication.
3. Turn on the GX-8000 main unit.



CAUTION

Make sure to turn on the power of GX-8000 after placing it to a position capable of communication.
 Communication will not be established when it is placed at a position capable of communication with the power turned on.

The message will be displayed as shown on the right on the LCD screen of the GX-8000 main unit. →
 (Due to the display resolution of GX-8000, the message will be somewhat difficult to read.)



The following message is displayed in the Information Area.



CAUTION

If the content of the Information Area is different from above, turn off the power of the GX-8000 main unit, check the position of the unit or other issues, and then turn on the power again.

When communication is established, the Status area changes as follows.



Serial Port:

- Communication available: Green (PC port ready)
- Communication not available: Red

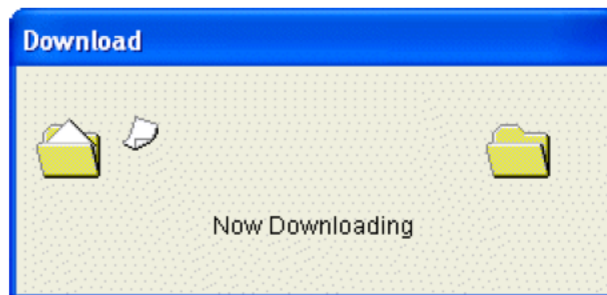
Connect:

- Communication ready: Gray
- Communication in progress: Green

(2) Download instrument information

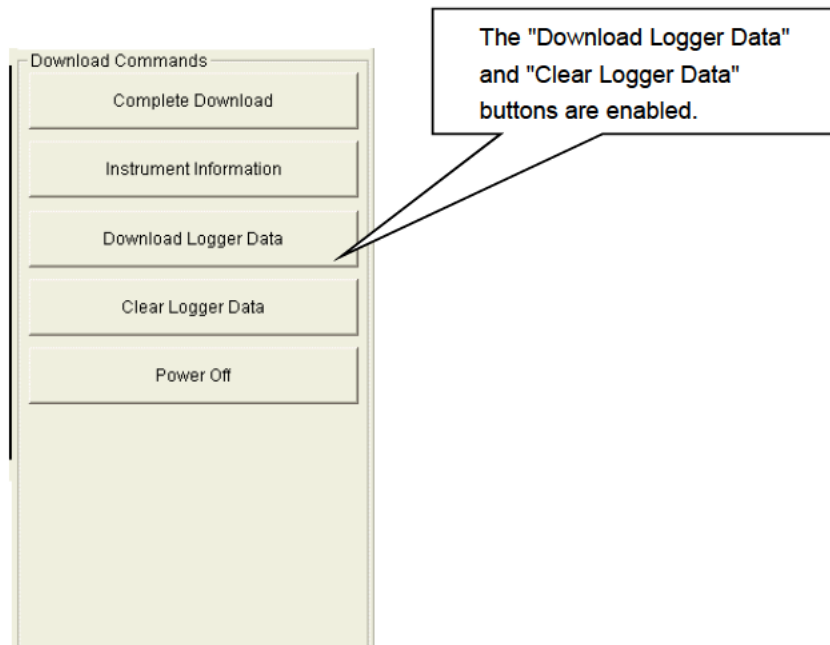
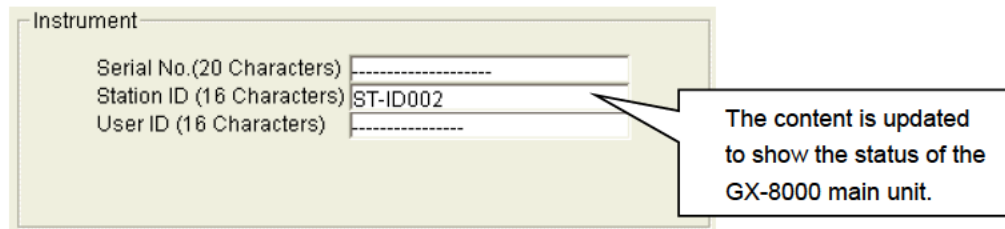
- Download instrument information

First, click the "Instrument Information" button to download instrument information data.



An animation is displayed during download.

When the Instrument Information data is downloaded, the content of the Instrument Information area is updated and the "Download Logger Data" and "Clear Logger Data" buttons are enabled.

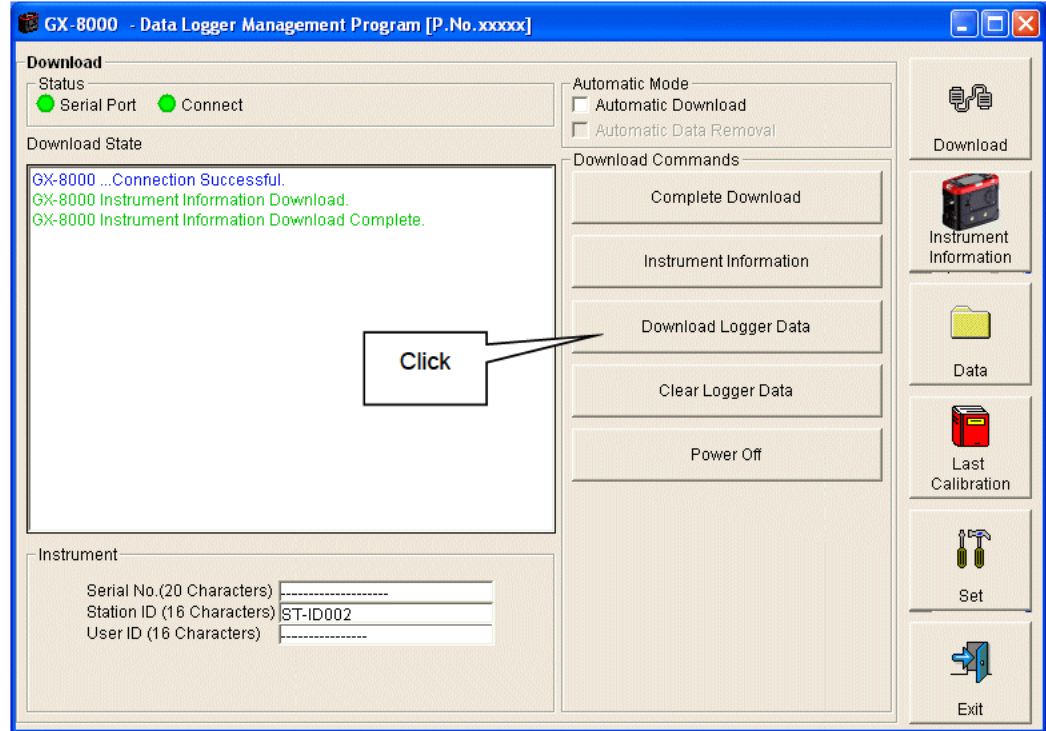


(3) Download various data

- Trend data
- Event data

After the instrument information data is downloaded using the "Instrument Information" button, the "Download Logger Data" button is enabled.

Click the "Download Logger Data" button.



The download status is displayed in the information area.



CAUTION

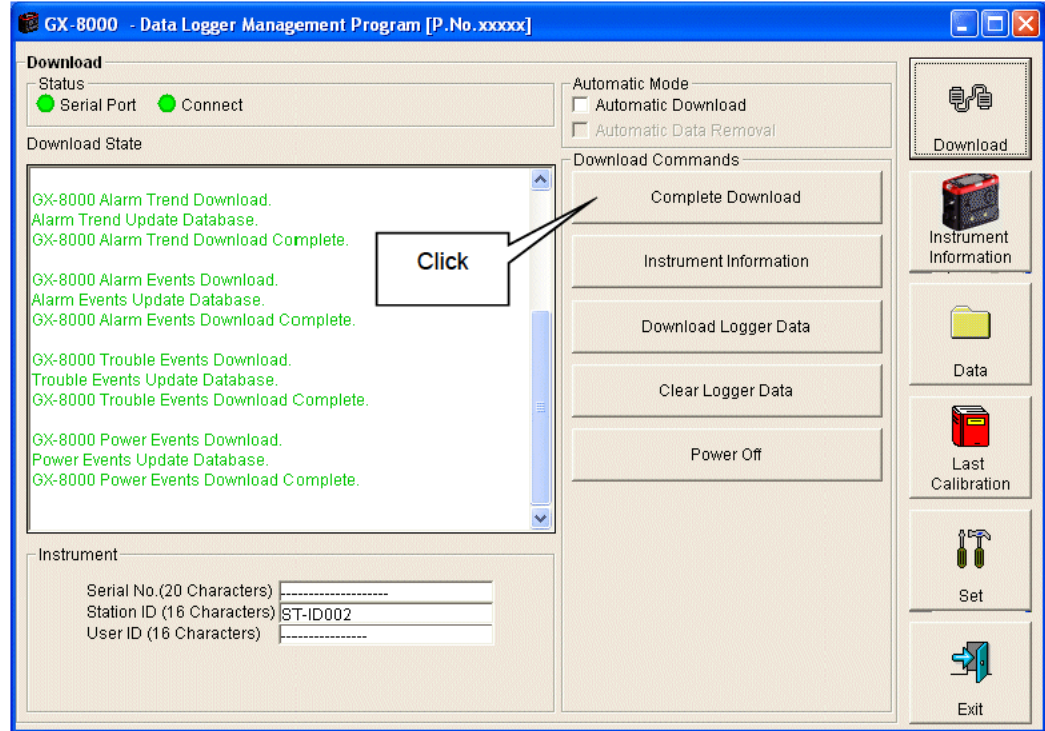
During download of each data, other data accesses are prohibited. Therefore, other download buttons and the "Set" button are disabled.

(4) Complete download

- Complete download

The "Complete Download" button downloads "Instrument Information", "Interval Trend", "Alarm Trend", "Alarm Events", "Trouble Events" and "Power Events" data at once.

Click the "Complete Download" button.



The download status is displayed in the information area.



CAUTION

During download of each data, other data accesses are prohibited. Therefore, other download buttons and the "Set" button are disabled.

(5) Clear data in the GX-8000 main unit

- **Data clear**

Use the "Clear Logger Data" button to delete various data stored inside GX-8000.

Click the "Clear Logger Data" button.



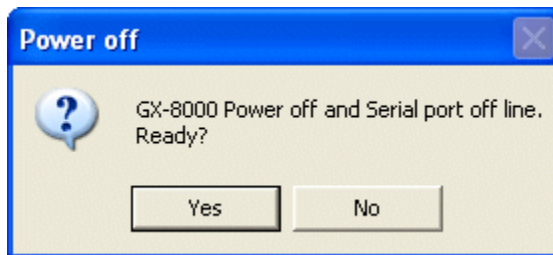
Click "Yes" to start clearing the data.

(6) Turn off the power of the GX-8000 main unit

- **Power OFF**

Use the "Power Off" button to turn off the power of the GX-8000 main unit and initialize the serial port of the PC.

1. Click the "Power Off" button.

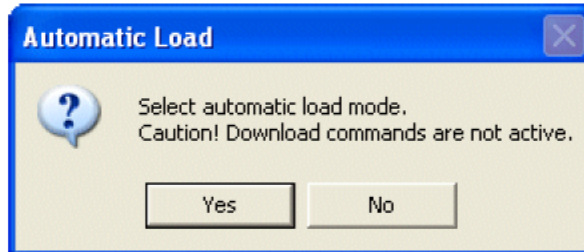
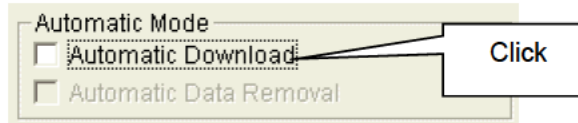


Click the "Yes" button to start the power off process of the GX-8000 main unit. After the serial port of the PC is initialized, it will be reset to the data download ready status.

(7) Switch to automatic mode

- **Automatic Download**

1. Mark the Automatic Download checkbox (if not marked yet).



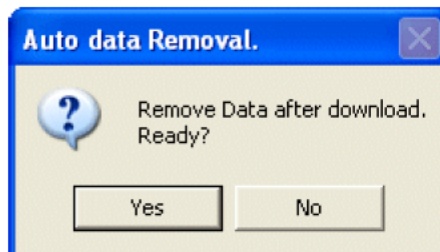
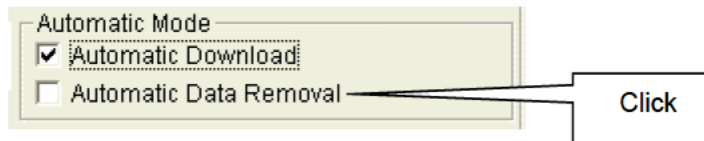
Click "Yes" to switch to Automatic Download.
Click "No" to cancel mode change.

In this mode, after the GX-8000 main unit is powered on, the PC automatically downloads complete data and then turns off the power of the GX-8000 main unit. During automatic download, manual download is not available.

- **Automatic Data Removal**

When Automatic Download is used, downloaded data can be automatically removed after download.

1. Mark the "Automatic Data Removal" checkbox.



Click "Yes" to automatically remove data stored in GX-8000 after downloading complete data.

* This setting is useful for shortening download time when repeating download and data removal processes.

3-2. Instrument Information screen

Click the "Instrument Information" button at the right side of the screen to switch to the following screen. This screen lists instrument information data for the currently connected GX-8000 main unit.

(1) Data source type

(2) Status information

(3) Calibration history information

Click this button

Gas	Calib.Date	Before	After	A.Cal.	Cal.Due(Days)
CH4(100%LEL)	1/1/2008	0	0	50	Now
O2(40.0VOL%)	1/1/2008	0.0	0.0	12.0	Now
H2S(100.0ppm)	1/1/2008	0.0	0.0	25.0	Now
CO(500ppm)	1/1/2008	0	0	50	Now
CH4(100VOL%)	1/1/2008	0	0	50	Now

Gas	Warning	Alarm	STEL	TWA
CH4(100%LEL)	10	50	----	----
O2(40.0VOL%)	19.5	18.0	----	----
H2S(100.0ppm)	10.0	30.0	15.0	10.0
CO(500ppm)	25	50	200	25
CH4(100VOL%)	----	----	----	----

(4) Sensor alarm setpoint information



CAUTION

This screen is read-only. Modification of data is not supported. -> See "3-6. Set screen".
When the Instrument Information data is not downloaded, no data is displayed.

(1) Data source type

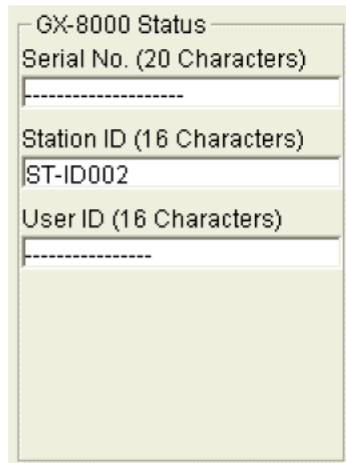
- **Data source information**

When the information of the multi-gas monitor main unit is displayed, the text [Connected] is displayed.



(2) Status information

- **Information details**



Serial No, Station ID and User ID stored inside the main unit are displayed.



CAUTION

This column is read-only. Modification of the data is not supported.

(3) Calibration history information

- Calibration history details

Calibration History					
Gas	Calib.Date	Before	After	A.Cal.	Cal.Due(Days)
CH4(100%LEL)	1/1/2008	0	0	50	Now
O2(40.0VOL%)	1/1/2008	0.0	0.0	12.0	Now
H2S(100.0ppm)	1/1/2008	0.0	0.0	25.0	Now
CO(500ppm)	1/1/2008	0	0	50	Now
CH4(100VOL%)	1/1/2008	0	0	50	Now

Contents:

- Gas: Measured gas name (unit)
- Calib.Date: Date of last calibration
- Before: Concentration before last calibration
- After: Concentration after last calibration/calibration failure
- A.Cal.: Concentration for automatic calibration
- Cal.Due(Days): Guaranteed operating time without another calibration (when the remaining time reaches 1 month, this item is displayed in red to indicate a warning)

(4) Sensor alarm setpoint information

- Details

Gas	Warning and Alarm point			
	Warning	Alarm	STEL	TWA
CH4(100%LEL)	10	50	-----	-----
O2(40.0VOL%)	19.5	18.0	-----	-----
H2S(100.0ppm)	10.0	30.0	15.0	10.0
CO(500ppm)	25	50	200	25
CH4(100VOL%)	-----	-----	-----	-----

Contents:

- Gas: Measured gas name
- Warning: Concentration at first alarm setpoint
- Alarm: Concentration at second alarm setpoint
- STEL: Concentration at STEL alarm setpoint
- TWA: Concentration at TWA alarm setpoint

3-3. Data screen

Click the "Data" button at the right side of the screen to switch to the following screen and view the list of downloaded data.

Property	Value
Name	iv15152831_12345678901234567890
Sampling Date/Time	12/15/2009 3:28:31 PM to 12/15/2009 3:28:51 PM
Serial No.	12345678901234567890
Station ID	ST-ID000
User ID	-----
Data Count	8
Interval Time (sec)	10
Gas(FullScale)	IH10(100%L) O2(40.0vol%); 2S(100.0ppm CO(500ppm)
Avg	***** 0.0 vol% *****
Max	***** 20.9 vol% *****
Max Date/Time	***** 12/15 15:28: *****
Min	***** 20.9 vol% *****

The operation of this screen is similar to the Windows Explorer. However, the following operations are not supported.

1. Rename data.
2. Move the data to another location.

Folders are displayed in an Explorer-like manner, with serial numbers, station IDs and User IDs displayed hierarchically in this order.

Folders and data names are formed under the following rules.

Folder name: 12/09 = Data of December 2009.

File name: iv15152831_12345678901234567890 = Interval trend, 15th day, 15:28:31 (Start date and time of logging)

al18144738_12345678901234567890</pt738> = Alarm trend, 18th day, 14:47:38 (Date and time of alarm occurrence)

The limit of data items to be stored in each folder depends on the memory limit of the PC. However, to maintain response speed, back up data files at least once a year. See "4. Data Maintenance".

(1) Delete data

- Delete

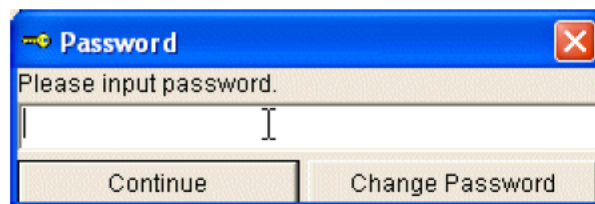
1. Click to select the data or folder to delete.
2. Right-click there (without moving the mouse).

Name	SerialNo	StationID	UserID	Date/Time
iv151...	123456...	ST-ID000	-----...	12/15/2009 3:28:
iv15153020...	123456...	ST-ID000	-----...	12/15/2009 3:30:
iv15161534...	123456...	ST-ID000	-----...	12/15/2009 4:15:

The Delete Menu is displayed. Click "Delete".

- Input password

1. The Password dialog is prompted. Enter the password and press the "Continue" button.



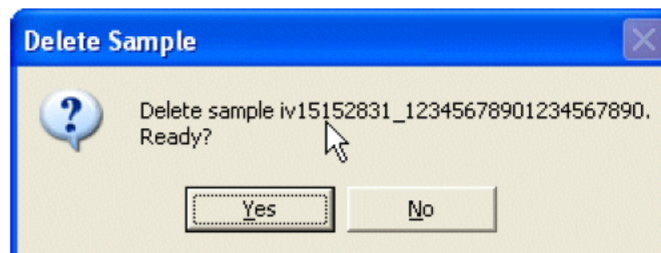
A dialog box titled "Password" with a close button (X) in the top right corner. The text inside says "Please input password." Below the text is a text input field with a cursor. At the bottom, there are two buttons: "Continue" and "Change Password".



CAUTION

When "Continue" is pressed without entering the password, the delete operation is canceled.

2. When "Continue" is pressed with an appropriate password, the following message is displayed.



A dialog box titled "Delete Sample" with a close button (X) in the top right corner. It contains a question mark icon and the text "Delete sample iv15152831_12345678901234567890. Ready?". At the bottom, there are two buttons: "Yes" and "No".

Click the "Yes" button to delete the data.
Click the "No" button to cancel deletion of data.

(2) View details of data

- View data details

1. Click the data to be viewed in detail. Check that the summary of the data is displayed in the summary pane, and click the "View Data" button.

or

2. Double-click the data to be viewed in detail.

For details on how to use the data details screen, see "3-4. Data View screen".

(3) Summary pane

• **Details**

When the selected data is a normal data, the summary of the data is displayed.
Interval trend

Property	Value			
Name	iv15152831_12345678901234567890			
Sampling Date/Time	12/15/2009 3:28:31 PM to 12/15/2009 3:28:51 PM			
Serial No.	12345678901234567890			
Station ID	ST-ID000			
User ID	-----			
Data Count	8			
Interval Time (sec)	10			
Gas(FullScale)	-C4H10(100%LEL)	O2(40.0vol%)	H2S(100.0ppm)	CO(500ppm)
Avg	*****	0.0 vol%	*****	*****
Max	*****	20.9 vol%	*****	*****
Max Date/Time	*****	12/15 15:28:32	*****	*****
Min	*****	20.9 vol%	*****	*****
Min Date/Time	*****	12/15 15:28:32	*****	*****
Warning	10 %LEL	19.5 vol%	10.0 ppm	25 ppm
Alarm	50 %LEL	23.5 vol%	30.0 ppm	50 ppm
STEL	*****	*****	15.0 ppm	200 ppm
TWA	*****	*****	10.0 ppm	25 ppm

- Name: Data name
- Sampling Date/Time: Start and end of sampling date/time
- Serial No./Station ID/User ID: Status of the GX-8000 main unit
- Data Count: Number of sampled data
- Interval Time (sec): Sampling interval (sec)
- Gas(FullScale): Gas (full scale)
- Avg: Average value of gas
- Max: Maximum value of gas data
- Max Date/Time: Date/time when the maximum value is logged
- Min: Minimum value of gas data
- Min Date/Time: Date/time when the minimum value is logged
- Warning: First alarm setpoint
- Alarm: Second alarm setpoint
- STEL: STEL alarm setpoint
- TWA: TWA alarm setpoint

Alarm trend

Property	Value			
Name	al18144738_12345678901234567890			
Alarm Date/Time	12/18/2009 2:47:38 PM			
Serial No.	12345678901234567890			
Station ID	ST-ID002			
User ID	-----			
Data Count	720			
Interval Time (sec)	5			
Gas(FullScale)	CH4(100%LEL)	O2(40.0vol%)	H2S(100.0ppm)	CO(500ppm)
Value	100 %LEL	20.9 vol%	0.0 ppm	0 ppm
Warning	*****	19.5 vol%	10.0 ppm	25 ppm
Alarm	*****	18.0 vol%	30.0 ppm	50 ppm
STEL	*****	*****	15.0 ppm	200 ppm
TWA	*****	*****	10.0 ppm	25 ppm

Name: Data name
 Alarm Date/Time: Date/time when the alarm is occurred
 Serial No./Station ID/User ID: Status of the GX-8000 main unit
 Data Count: Number of sampled data
 Interval Time (sec): Sampling interval
 Gas(FullScale): Gas (full scale)
 Value: Concentration when the alarm is occurred
 Warning: First alarm setpoint
 Alarm: Second alarm setpoint
 STEL: STEL alarm setpoint
 TWA: TWA alarm setpoint

Calibration history

DateTime	Gas	Before	After
1/8/2010 9:50:05 AM	i-C4H10(100%LEL)	----	----
	O2(40.0vol%)	----	----
	H2S(100.0ppm)	----	----
	CO(500ppm)	----	----
	i-C4H10(100vol%)	46 vol%	50 vol%
1/8/2010 9:28:42 AM	i-C4H10(100%LEL)	0 %LEL	----
	O2(40.0vol%)	----	----
	H2S(100.0ppm)	----	----
	CO(500ppm)	----	----
	i-C4H10(100vol%)	----	----
...	Total	7	Datas

DateTime: Date and time when the event occurred
 Gas: Gas
 Before: Concentration before calibration
 After: Concentration after calibration

Alarm events

DateTime	Gas	Event
12/21/2009 6:52:14 PM	CO(500ppm)	wARNING
12/21/2009 6:50:02 PM	O2(40.0vol%)	wARNING
12/21/2009 5:12:19 PM	O2(40.0vol%)	wARNING
12/21/2009 5:12:12 PM	O2(40.0vol%)	wARNING
12/21/2009 5:11:54 PM	CO(500ppm)	wARNING
12/21/2009 5:11:15 PM	CO(500ppm)	wARNING
12/21/2009 5:11:00 PM	CO(500ppm)	wARNING
12/21/2009 5:10:22 PM	H2S(100.0ppm)	wARNING
...	Total	18 Datas

DateTime: Date and time when the event occurred

Gas: Naturally occurring or produced gas

Event: Event type

Trouble events

DateTime	Gas/Body	Event
12/21/2009 11:35:21 AM	Body	Fail(FLOW)
12/21/2009 11:35:14 AM	CH4(100%LEL)	Fail(Span)
12/21/2009 11:33:56 AM	CH4(100%LEL)	Fail(Span)
12/21/2009 11:33:39 AM	CO(500ppm)	Fail(Sens.)
12/21/2009 11:33:39 AM	H2S(100.0ppm)	Fail(Sens.)
12/21/2009 11:31:11 AM	Body	Fail(FLOW)
12/21/2009 11:30:04 AM	CH4(100%LEL)	Fail(Span)
12/21/2009 11:28:51 AM	CH4(100%LEL)	Fail(Span)
...	Total	49 Datas

DateTime: Date and time when the event occurred

Gas/Body: Naturally occurring or produced gas, or the GX-8000 main unit (Body)

Event: Event type

Bump test

DateTime	Gas	Test Result	Concentration	Judge
1/6/2010 2:45:10 PM	CH4(100%LEL)	73 %LEL	50 %LEL	FAIL
	O2(40.0vol%)	12.4 vol%	12.0 vol%	FAIL
	H2S(100.0ppm)	----	----	----
	CO(500ppm)	----	----	----
	----(--)	----	----	----

DateTime: Date and time when the event occurred

Gas: Gas

Test Result: Test result concentration

Concentration: Test gas concentration

Judge: Test judgment

3-4. Data View screen

This screen displays the details of each data in a table or a graph.

(1) Switch between table and graph views

(2) Output to a printer

(3) Save to a file

(4) To view data summary simultaneously

No	Date/Time	i-C4H10(100%LEL)	O2(40.0vol%)	H2S(100.0ppm)	CO(500ppm)
1	12/15/2009 4:43:49 PM	0 %LEL	20.9 vol%	0.0 ppm	0 ppm
2	12/15/2009 4:43:49 PM	----	wARNING	----	----
3	12/15/2009 4:43:59 PM	0 %LEL	18.5 vol%	0.0 ppm	0 ppm
4	12/15/2009 4:44:09 PM	0 %LEL	18.9 vol%	0.0 ppm	0 ppm
5	12/15/2009 4:44:19 PM	0 %LEL	20.9 vol%	0.0 ppm	0 ppm
6	12/15/2009 4:44:23 PM	Fail(FLOW)	NORMAL	----	----
7	12/15/2009 4:44:23 PM	----	Fail(FLOW)	Fail(FLOW)	Fail(FLOW)
8	12/15/2009 4:44:29 PM	0 %LEL	20.9 vol%	0.0 ppm	0 ppm
9	12/15/2009 4:44:39 PM	0 %LEL	20.9 vol%	0.0 ppm	0 ppm
10	12/15/2009 4:44:49 PM	0 %LEL	20.9 vol%	1.0 ppm	0 ppm
11	12/15/2009 4:44:56 PM	----	----	wARNING	----
12	12/15/2009 4:44:59 PM	0 %LEL	20.9 vol%	6.5 ppm	0 ppm
13	12/15/2009 4:45:09 PM	0 %LEL	20.9 vol%	11.0 ppm	0 ppm
14	12/15/2009 4:45:18 PM	----	----	ALARM	----
15	12/15/2009 4:45:19 PM	0 %LEL	20.9 vol%	24.5 ppm	0 ppm
16	12/15/2009 4:45:29 PM	0 %LEL	20.9 vol%	28.0 ppm	0 ppm
17	12/15/2009 4:45:39 PM	0 %LEL	20.9 vol%	20.0 ppm	0 ppm
18	12/15/2009 4:45:43 PM	----	----	----	wARNING
19	12/15/2009 4:45:44 PM	Fail(FLOW)	Fail(FLOW)	NORMAL	NORMAL
20	12/15/2009 4:45:44 PM	----	----	Fail(FLOW)	Fail(FLOW)
21	12/15/2009 4:45:45 PM	----	----	wARNING	ALARM
22	12/15/2009 4:45:45 PM	----	----	----	wARNING
23	12/15/2009 4:45:49 PM	0 %LEL	20.9 vol%	20.0 ppm	36 ppm
24	12/15/2009 4:45:59 PM	0 %LEL	20.9 vol%	20.0 ppm	45 ppm
25	12/15/2009 4:46:08 PM	----	----	----	NORMAL
26	12/15/2009 4:46:09 PM	0 %LEL	20.9 vol%	20.0 ppm	26 ppm

- Event Only: Displays event data only.
- Condensed: Displays data which shows some change in sample data.



CAUTION

Graph is not available when the number of samples is five or less.
 In the table for the Alarm Trend data, the data where the alarm occurred is painted in red.

Among the event data, when the mouse cursor is pointed to WARNING, ALARM or OVER, the cursor changes to the following.

When in this state, clicking the cell triggers a search for the corresponding trend data. If it exists, it can be displayed in a separate screen.



In case of WARNING, ALARM, OVER

The separate screen displayed in case of WARNING, ALARM, OVER.
Click the "Return" button to turn off the screen.

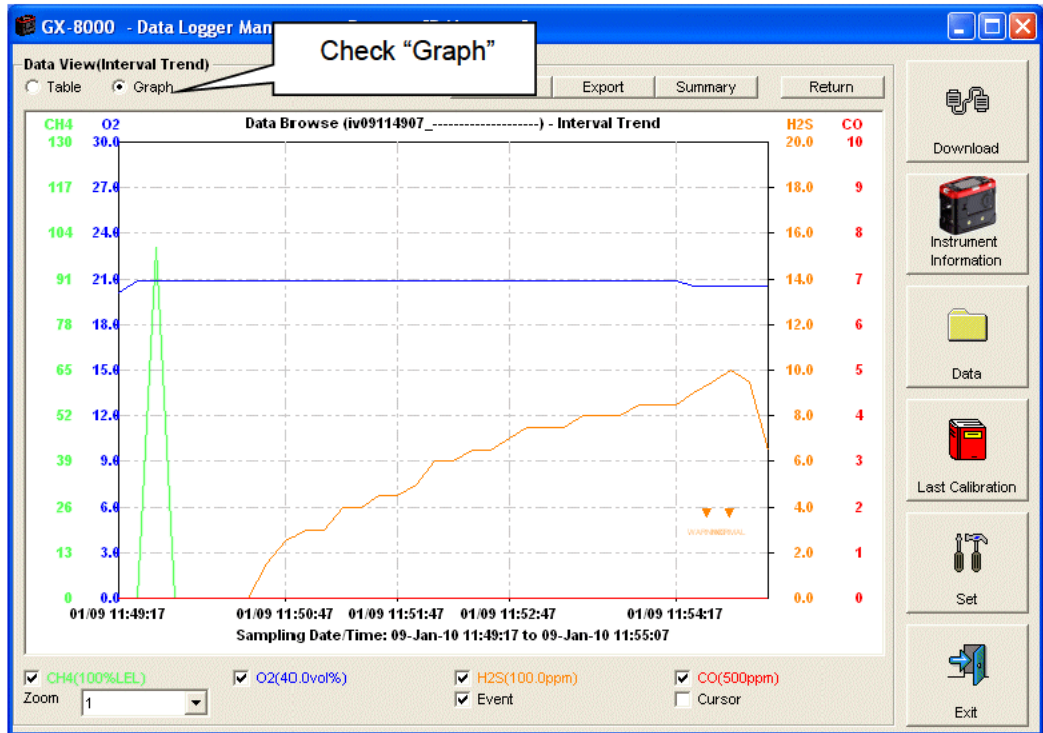
No.	Date/Time	CH1(V/LABEL)	CH2(V/PPM)	CH3(V/PPM)	CH4(V/PPM)	CH5(V/PPM)
348	12/01/2000 4 02:40 PM	-----	-----	-----	-----	-----
349	12/01/2000 4 02:53 PM	-----	-----	-----	-----	-----
351	12/01/2000 4 02:58 PM	-----	-----	-----	-----	-----
352	12/01/2000 4 03:03 PM	-----	-----	-----	-----	-----
353	12/01/2000 4 03:08 PM	-----	-----	-----	-----	-----
354	12/01/2000 4 03:13 PM	-----	-----	-----	-----	-----
355	12/01/2000 4 03:18 PM	-----	-----	-----	-----	-----
356	12/01/2000 4 03:23 PM	-----	-----	-----	-----	-----
357	12/01/2000 4 03:28 PM	-----	-----	-----	-----	-----
358	12/01/2000 4 03:33 PM	0 %LBLE	20.9 v/PPM	6.5 ppm	0 ppm	-----
359	12/01/2000 4 03:38 PM	0 %LBLE	20.9 v/PPM	6.5 ppm	0 ppm	-----
360	12/01/2000 4 03:43 PM	0 %LBLE	20.9 v/PPM	6.5 ppm	0 ppm	-----
361	12/01/2000 4 03:48 PM	0 %LBLE	20.9 v/PPM	6.5 ppm	0 ppm	-----
362	12/01/2000 4 03:53 PM	0 %LBLE	20.9 v/PPM	11.0 ppm	0 ppm	-----
363	12/01/2000 4 03:58 PM	0 %LBLE	20.9 v/PPM	14.0 ppm	0 ppm	-----
364	12/01/2000 4 04:03 PM	0 %LBLE	20.9 v/PPM	14.0 ppm	0 ppm	-----
365	12/01/2000 4 04:08 PM	0 %LBLE	20.9 v/PPM	14.0 ppm	0 ppm	-----
366	12/01/2000 4 04:13 PM	0 %LBLE	20.9 v/PPM	14.0 ppm	0 ppm	-----
367	12/01/2000 4 04:18 PM	0 %LBLE	20.9 v/PPM	14.0 ppm	0 ppm	-----
368	12/01/2000 4 04:23 PM	0 %LBLE	20.9 v/PPM	14.0 ppm	0 ppm	-----
369	12/01/2000 4 04:28 PM	0 %LBLE	20.9 v/PPM	14.0 ppm	0 ppm	-----
370	12/01/2000 4 04:33 PM	-----	-----	-----	-----	-----
371	12/01/2000 4 04:38 PM	-----	-----	-----	-----	-----
372	12/01/2000 4 04:43 PM	-----	-----	-----	-----	-----
373	12/01/2000 4 04:48 PM	-----	-----	-----	-----	-----
374	12/01/2000 4 04:53 PM	-----	-----	-----	-----	-----

* In the table for the Alarm Trend data, the data where the alarm occurred is painted in red.

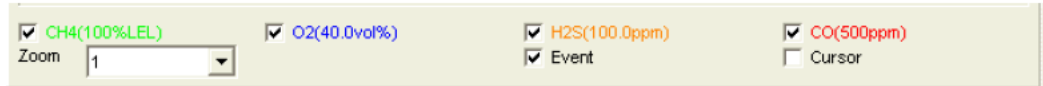
(1) Switch between table and graph views

- Switch to graph view

1. From the Table and "Graph" radio buttons at the top left of the screen, select "Graph".



Use checkboxes and a combo box at the bottom of the screen to perform various operations on the view.



Checkboxes at the top of the screen (gas name): Select these boxes to toggle on/off each gas data.

Zoom combo box: Use this box to select the magnification ratio of the horizontal axis, according to the number of samples.

“Event” checkbox: Select this box to display event information markers, such as alarms.

“Cursor” checkbox: Select this box to display a cursor on the graph.



CAUTION

The maximum value of the graph's vertical axis is automatically adjusted based on the following definitional equations.

When the maximum value of data without event is "x", if full scale is 10 or above, the equation will be $Y_{max} = \{int(x / 10) + 1\} * 10$. If full scale is below 10, the equation will be $Y_{max} = \{int(x) + 1\}$, where "int" means to round off the decimal part.



CAUTION

A graph is not displayed unless there are five or more normal concentration data.

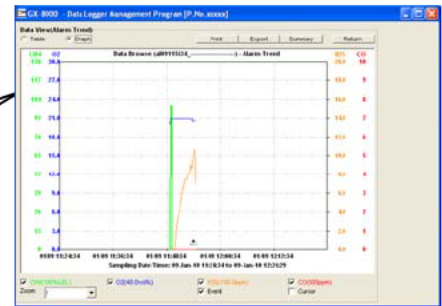
Data that contains only events cannot be drawn as a graph, because no concentration data is included.

Among the event data, when the mouse cursor is pointed to WARNING, ALARM or OVER, the cursor changes to the following. When in this state, clicking the graph triggers a search for the corresponding trend data. If it exists, it can be displayed in a separate screen.



In case of WARNING, ALARM, OVER

The separate screen displayed in case of WARNING, ALARM, OVER. Click the "Return" button to turn off the screen.

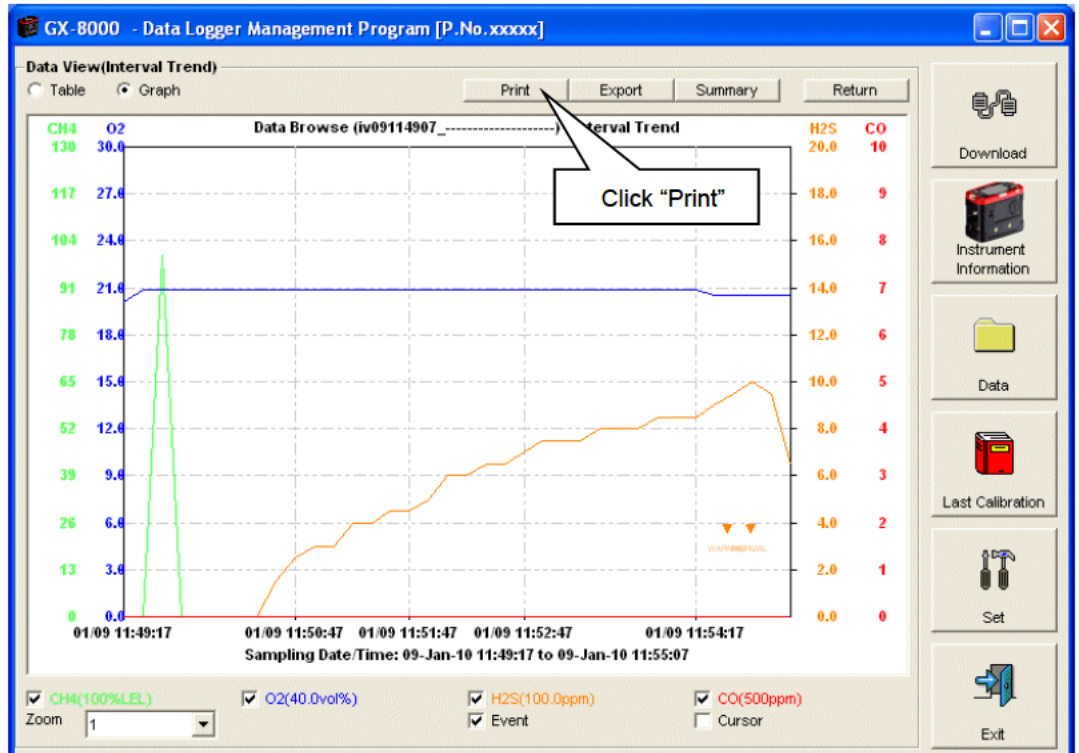


(2) Output to a printer

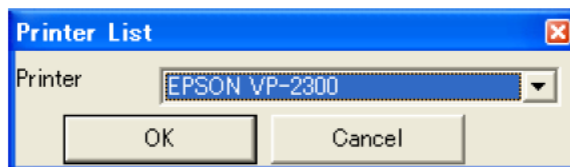
- Print

The content currently displayed on the Data View screen can be output to a printer.

1. Click the "Print" button on the screen.

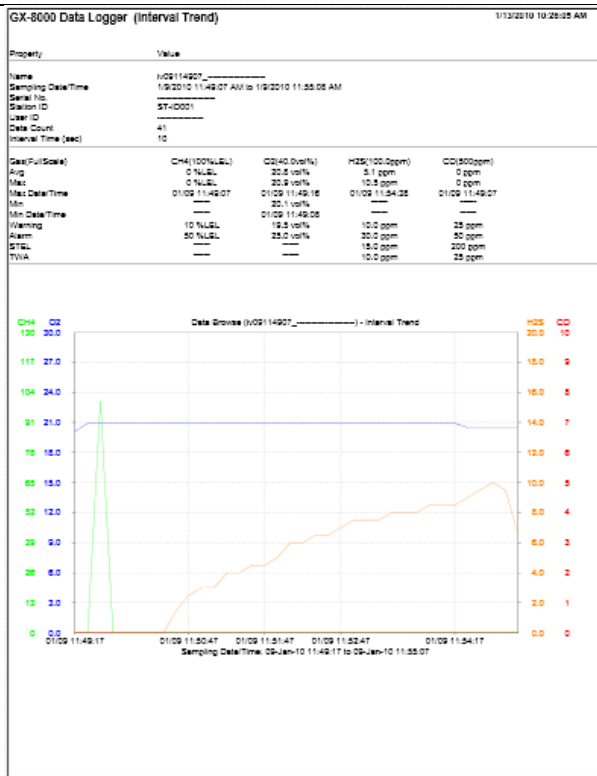


The Printer List screen is displayed. Select the printer to use and click the "OK" button.



Click the "OK" button to start the printout.
Click the "Cancel" button to cancel the printout and return to the previous screen.

Printout example (graph printout)



Printout example (table printout)

GX-8000 Data Logger (Interval Trend)
 1/13/2010 10:28:16 AM

Property	Value
Name	1/09114907_
Sampling Date/Time	1/9/2010 11:49:07 AM to 1/9/2010 11:55:05 AM
Serial No.	---
Station ID	ST-0001
User ID	---
Data Count	41
Interval Time (sec)	10

Gas(FullScale)	CH4(100%LEL)	CO2(40.0vol%)	H2S(100.0ppm)	CO(300ppm)
Avg	0 %LEL	23.9 vol%	5.1 ppm	0 ppm
Max	0 %LEL	23.9 vol%	10.9 ppm	0 ppm
Max Date/Time	01/09 11:49:07	01/09 11:49:16	01/09 11:54:35	01/09 11:49:07
Min	---	---	---	---
Min Date/Time	---	01/09 11:49:05	---	---
Warning	10 %LEL	19.5 vol%	10.0 ppm	25 ppm
Alarm	50 %LEL	23.0 vol%	30.0 ppm	50 ppm
STL	---	---	18.0 ppm	200 ppm
TVA	---	---	10.0 ppm	25 ppm

No	Date/Time	CH4(100%LEL)	CO2(40.0vol%)	H2S(100.0ppm)	CO(300ppm)
1	1/9/2010 11:49:15 AM	AIR	AIR	AIR	AIR
2	1/9/2010 11:49:17 AM	0 %LEL	23.9 vol%	0.0 ppm	0 ppm
3	1/9/2010 11:49:27 AM	0 %LEL	23.9 vol%	0.0 ppm	0 ppm
4	1/9/2010 11:49:37 AM	OVER	23.9 vol%	0.0 ppm	0 ppm
5	1/9/2010 11:49:47 AM	0 %LEL	23.9 vol%	0.0 ppm	0 ppm
6	1/9/2010 11:49:57 AM	0 %LEL	23.9 vol%	0.0 ppm	0 ppm
7	1/9/2010 11:50:07 AM	0 %LEL	23.9 vol%	0.0 ppm	0 ppm
8	1/9/2010 11:50:17 AM	0 %LEL	23.9 vol%	0.0 ppm	0 ppm
9	1/9/2010 11:50:27 AM	0 %LEL	23.9 vol%	0.0 ppm	0 ppm
10	1/9/2010 11:50:37 AM	0 %LEL	23.9 vol%	1.9 ppm	0 ppm
11	1/9/2010 11:50:47 AM	0 %LEL	23.9 vol%	2.5 ppm	0 ppm
12	1/9/2010 11:50:57 AM	0 %LEL	23.9 vol%	3.0 ppm	0 ppm
13	1/9/2010 11:51:07 AM	0 %LEL	23.9 vol%	3.0 ppm	0 ppm
14	1/9/2010 11:51:17 AM	0 %LEL	23.9 vol%	4.0 ppm	0 ppm
15	1/9/2010 11:51:27 AM	0 %LEL	23.9 vol%	4.0 ppm	0 ppm
16	1/9/2010 11:51:37 AM	0 %LEL	23.9 vol%	4.5 ppm	0 ppm
17	1/9/2010 11:51:47 AM	0 %LEL	23.9 vol%	4.5 ppm	0 ppm
18	1/9/2010 11:51:57 AM	0 %LEL	23.9 vol%	5.0 ppm	0 ppm
19	1/9/2010 11:52:07 AM	0 %LEL	23.9 vol%	6.0 ppm	0 ppm
20	1/9/2010 11:52:17 AM	0 %LEL	23.9 vol%	6.0 ppm	0 ppm
21	1/9/2010 11:52:27 AM	0 %LEL	23.9 vol%	6.5 ppm	0 ppm
22	1/9/2010 11:52:37 AM	0 %LEL	23.9 vol%	6.5 ppm	0 ppm
23	1/9/2010 11:52:47 AM	0 %LEL	23.9 vol%	7.0 ppm	0 ppm
24	1/9/2010 11:52:57 AM	0 %LEL	23.9 vol%	7.5 ppm	0 ppm
25	1/9/2010 11:53:07 AM	0 %LEL	23.9 vol%	7.5 ppm	0 ppm
26	1/9/2010 11:53:17 AM	0 %LEL	23.9 vol%	7.5 ppm	0 ppm
27	1/9/2010 11:53:27 AM	0 %LEL	23.9 vol%	8.0 ppm	0 ppm
28	1/9/2010 11:53:37 AM	0 %LEL	23.9 vol%	8.0 ppm	0 ppm
29	1/9/2010 11:53:47 AM	0 %LEL	23.9 vol%	8.0 ppm	0 ppm
30	1/9/2010 11:53:57 AM	0 %LEL	23.9 vol%	8.5 ppm	0 ppm
31	1/9/2010 11:54:07 AM	0 %LEL	23.9 vol%	8.5 ppm	0 ppm
32	1/9/2010 11:54:17 AM	0 %LEL	23.9 vol%	8.5 ppm	0 ppm
33	1/9/2010 11:54:27 AM	0 %LEL	23.9 vol%	9.0 ppm	0 ppm
34	1/9/2010 11:54:34 AM	---	---	WARNING	---
35	1/9/2010 11:54:37 AM	0 %LEL	23.9 vol%	9.5 ppm	0 ppm
36	1/9/2010 11:54:46 AM	---	---	WARNING	---
37	1/9/2010 11:54:47 AM	0 %LEL	23.9 vol%	10.0 ppm	0 ppm
38	1/9/2010 11:54:57 AM	0 %LEL	23.9 vol%	9.5 ppm	0 ppm
39	1/9/2010 11:55:07 AM	0 %LEL	23.9 vol%	6.5 ppm	0 ppm

Printout example (calibration history)

GX-8000 Data Logger (Calibration History)
 1/13/2010 10:33:32 AM

Property	Value
Serial No.	---
Station ID	ST-0000
User ID	---
Last Download	1/9/2010 11:56:32 AM

No	Date/Time	HC4H10(100%LEL)	CO2(40.0vol%)	H2S(100.0ppm)	CO(300ppm)	HC4H10(100vol%)
1	1/8/2010 9:50:05 AM	Before	---	---	---	46 vol%
		After	---	---	---	50 vol%
2	1/8/2010 9:52:42 AM	Before	0 %LEL	---	---	---
		After	---	---	---	---
3	1/8/2010 9:55:32 AM	Before	---	---	---	0 vol%
		After	---	---	---	---
4	1/7/2010 5:49:14 PM	Before	---	---	---	---
		After	---	---	---	---
5	1/7/2010 5:49:05 PM	Before	---	---	---	---
		After	---	---	---	---
6	1/7/2010 5:49:00 PM	Before	---	---	---	---
		After	---	---	---	---
7	1/7/2010 5:43:05 PM	Before	55 %LEL	13.1 vol%	24.5 ppm	45 ppm
		After	50 %LEL	12.0 vol%	25.0 ppm	50 ppm

Printout example (alarm events)

GX-8000 Data Logger (Alarm Event)
 1/13/2010 10:33:32 AM

Property	Value
Serial No.	12345678901234567890
Station ID	No 1
User ID	1234567890123456
Last Download	1/8/2010 3:33:32 PM

No	Date/Time	Gas	Event
1	1/8/2010 2:49:59 PM	CH4(100%LEL)	OVER
2	1/8/2010 2:49:55 PM	CH4(100%LEL)	ALARM
3	1/8/2010 2:49:55 PM	CH4(100%LEL)	WARNING
4	1/8/2010 1:06:03 PM	CO(300ppm)	WARNING
5	1/8/2010 1:06:03 PM	CO2(40.0vol%)	WARNING
6	1/8/2010 1:06:03 PM	HC4H10(100%LEL)	WARNING
7	1/8/2010 1:06:03 PM	HC4H10(100%LEL)	ALARM
8	1/8/2010 1:06:03 PM	HC4H10(100%LEL)	OVER
9	1/8/2010 11:52:42 AM	H2(100%LEL)	WARNING
10	1/8/2010 11:52:42 AM	H2(100%LEL)	ALARM
11	1/8/2010 11:52:42 AM	H2(100%LEL)	OVER
12	1/8/2010 11:42:02 AM	HC4H10(100%LEL)	WARNING
13	1/8/2010 11:42:02 AM	HC4H10(100%LEL)	ALARM
14	1/8/2010 11:42:02 AM	HC4H10(100%LEL)	OVER
15	1/8/2010 11:29:12 AM	HC4H10(100%LEL)	WARNING
16	1/8/2010 11:29:12 AM	HC4H10(100%LEL)	ALARM
17	1/8/2010 11:29:12 AM	HC4H10(100%LEL)	OVER
18	1/8/2010 11:19:26 AM	HC4H10(100%LEL)	WARNING
19	1/8/2010 11:19:26 AM	HC4H10(100%LEL)	ALARM
20	1/8/2010 11:19:26 AM	HC4H10(100%LEL)	OVER

Printout example (bump test)

GX-8000 Data Logger (Bump Test)
 1/13/2010 10:32:21 AM

Property	Value
Serial No.	12345678901234567890
Station ID	No 1
User ID	1234567890123456
Last Download	1/8/2010 3:33:32 PM

No	Date/Time	CH4(100%LEL)	CO2(40.0vol%)	H2S(100.0ppm)	CO(300ppm)	---(-)
1	1/8/2010 2:45:10 PM	Test Result	72 %LEL	12.4 vol%	---	---
		Concentration	50 %LEL	12.0 vol%	---	---
		Judge	FAIL	PASS	---	---

Printout example (trouble events)

GX-8000 Data Logger (Trouble Event) 1/13/2010 10:34:47 AM

Property	Value
Serial No.	12345678901234567890
Station ID	No. 1
User ID	1234567890123456
Last Download	1/8/2010 3:23:23 PM

No.	Date/Time	Gas Body	Event
1	1/8/2010 3:22:26 PM	Body	Flow(FLOW)
2	1/8/2010 3:21:45 PM	Body	Flow(FLOW)
3	1/8/2010 3:20:34 PM	Body	Flow(FLOW)
4	1/8/2010 3:20:01 PM	CH(100%LEL)	Flow(Sera.)
5	1/8/2010 2:42:01 PM	CO(300ppm)	Flow(Sera.)
6	1/8/2010 2:42:01 PM	H2S(100 ppm)	Flow(Sera.)
7	1/8/2010 1:51:30 PM	Body	Flow(FLOW)
8	1/8/2010 1:51:30 PM	Body	Flow(FLOW)
9	1/8/2010 1:32:01 PM	Body	Flow(FLOW)
10	1/8/2010 1:23:34 PM	Body	Flow(FLOW)
11	1/8/2010 1:20:15 PM	Body	Flow(FLOW)
12	1/8/2010 1:08:32 PM	Body	Flow(FLOW)
13	1/8/2010 1:01:32 PM	Body	Flow(FLOW)
14	1/8/2010 11:52:02 AM	Body	Flow(FLOW)
15	1/8/2010 11:41:31 AM	Body	Flow(FLOW)
16	1/8/2010 11:27:54 AM	Body	Flow(FLOW)
17	1/8/2010 11:27:45 AM	Body	Flow(FLOW)
18	1/8/2010 11:18:55 AM	Body	Flow(FLOW)
19	1/8/2010 10:59:20 AM	Body	Flow(FLOW)
20	1/8/2010 10:57:18 AM	Body	Flow(FLOW)
21	1/8/2010 10:22:42 AM	Body	Flow(FLOW)
22	1/8/2010 10:21:51 AM	Body	Flow(FLOW)
23	1/8/2010 9:28:15 AM	Body	Flow(FLOW)

Printout example (bar hole)

GX-8000 Data Logger (Bar Hole) 1/13/2010 10:38:08 AM

Property	Value
Name	102100000_
Sampling Date/Time	1/8/2010 1:09:52 PM to 1/8/2010 1:10:23 PM
Serial No.	12345678901234567890
Station ID	ST-0000
User ID	1234567890123456
Interval Time (sec)	20

Gas(FullScale)	CH(100%LEL)	CO(40 Dv/Fs)	H2S(100 Dv/Fs)	CO(300ppm)
Avg	0 %LEL	0.0 v/Fs	---	---
Max	0 %LEL	20.0 v/Fs	---	---
Max Date/Time	01/08 13:09:53	01/08 13:09:54	---	---
Min	---	20.0 v/Fs	---	---
Min Date/Time	---	01/08 13:09:54	---	---
Sampling	10 %LEL	18.0 v/Fs	---	---
Alarm	80 %LEL	28.0 v/Fs	---	---
STL	---	---	---	---
TYA	---	---	---	---

Printout example (snapshot)

GX-8000 Data Logger (Snap Shot) 1/13/2010 10:42:51 AM

Property	Value
Name	xx10146607_12345678901234567890
Sampling Date/Time	1/13/2010 3:56:07 PM
Serial No.	12345678901234567890
Station ID	ST-0002
User ID	1234567890123456

No.	Date/Time	CH(100%LEL)	CO(40 Dv/Fs)	H2S(100 Dv/Fs)	CO(300ppm)
1	1/13/2010 3:56:07 PM	100 %LEL OVER	20.0 v/Fs	0.0 ppm	0 ppm



Note on printer settings

- (1) Detailed printer settings depend on the printer used. Please see the operation manual of the printer.
- (2) This program does not support Print Area setting. Therefore, usage such as printing only part of the selected data is not possible.
- (3) Copies can be changed only when the setting is available from the printer.
When the setting is changed in this way, the change affects other applications subsequently used. (For example, when Copies is changed to 2, a printout operation from another application might also result in two copies.)

When printer settings are changed in this program and then a printout is required from another application, check printer settings of that application before printing.

(3) Printing CALIBRATION REPORT

● **CALIBRATION REPORT**

The instrument is capable of viewing or printing CALIBRATION REPORT for a passed calibration.

CALIBRATION REPORT					
ISSUE DATE	3/13/2014				
LABORATORY NAME					
LABORATORY ADDRESS					
REPORT NUMBER	923c6840-ec8b-4c25-ad35-7265ffab52bb-3				
GAS DETECTOR DATA	Serial	-----			
	Manufacturer	RIKEN KEIKI			
	Model	GX-8000			
	Station ID	ST-ID000			
	User ID	-----			
STANDARD OR REGULATION USED					
TRACEABILITY					
CALIBRATION RESULT	GAS	CH4(%LEL)	O2(vol%)	H2S(ppm)	
	Range	0-100%LEL	0-40.0vol%	0-100.0ppm	
	Gas concentration	50 %LEL	12.0 vol%	25.0 ppm	
	Reading before calibration	47 %LEL	11.9 vol%	25.5 ppm	
	Reading after calibration	50 %LEL	12.0 vol%	25.0 ppm	
	Result	PASS	PASS	PASS	
ENVIRONMENTAL CONDITIONS					
OBSERVATIONS					
EXECUTOR					

1/1

CAUTION:
Can not print CALIBRATION REPORT, if the calibration is not performed successfully.

●CALIBRATION REPORT window

1. To open “Report” menu, right-click on the calibration history that you would like to print.

① Right-click on the calibration history that you would like to print as CALIBRATION REPORT.

② Open “Report” menu

No	Date/Time		H4(100%LEL)	O2(40.0vol%)	2S(100.0ppm)	CO(500ppm)	H4(100.0vol%)	---
1	11/28/2016 3:52:1	Before	---	---	---	---	50.0 vol%	37
		After	---	---	---	---	49.6 vol%	36
4	11/28/2016 3:38:1	Before	---	---	---	---	3.1 vol%	34
		After	---	---	---	---	8.0 vol%	34
5	3/13/2014 11:28:1	Before	47 %LEL	11.9 vol%	25.5 ppm	---	---	---
		After	50 %LEL	12.0 vol%	25.0 ppm	---	---	---
6	3/13/2014 11:25:3	Before	0 %LEL	20.9	---	---	---	---
		After	---	---	---	---	---	32
7	3/13/2014 11:25:1	Before	0 %LEL	20.9 vol%	0.0 ppm	---	---	31
		After	---	---	---	---	---	31
8	3/13/2014 11:24:3	Before	0 %LEL	20.9 vol%	0.0 ppm	---	---	30
		After	---	---	---	---	---	30
9	3/12/2014 4:03:13	Before	---	---	25.0 ppm	---	---	29
		After	---	---	---	---	---	29
10	3/12/2014 4:02:22	Before	---	20.9 vol%	---	---	---	28
		After	---	---	---	---	---	28
11	3/12/2014 4:01:41	Before	---	---	---	---	0.0 vol%	27
		After	---	---	---	---	---	27
12	3/12/2014 4:00:01	Before	0 %LEL	---	---	---	---	26
		After	---	---	---	---	---	---

CAUTION:

If a calibration has been performed successfully, values appear on the sheet : “Before” and “After”.

When a calibration has failed or NOT been performed, [.....] will appear. If all gas concentration shows [.....], you could not open CALIBRATION REPORT.

- Clicking "Report" menu opens CALIBRATION REPORT window. You can enter some information at this page.

Calibration Report						
Align <input checked="" type="radio"/> Left <input type="radio"/> Center					Print	Close
ISSUE DATE	3/13/2014					
LABORATORY NAME						
LABORATORY ADDRESS						
REPORT NUMBER	923c6840-ec8b-4c25-ad35-7265ffab52bb-3					
GAS DETECTOR DATA	Serial	-----				
	Manufacturer	RIKEN KEIKI				
	Model	GX-6000				
	Station ID	ST-ID000				
	User ID	-----				
STANDARD OR REGULATION USED						
TRACEABILITY						
CALIBRATION RESULT	GAS	CH4(%LEL)	O2(vol%)	H2S(ppm)		
	Range	0-100%LEL	0-40.0vol%	0-100.0ppm		
	Gas concentration	50 %LEL	12.0 vol%	25.0 ppm		
	Reading before calibration	47 %LEL	11.9 vol%	25.5 ppm		
	Reading after calibration	50 %LEL	12.0 vol%	25.0 ppm		
	Result	PASS	PASS	PASS		
ENVIRONMENTAL CONDITIONS						
OBSERVATIONS						
EXECUTOR						

CAUTION:

The information you can enter is ;

- LABORATORY NAME
- LABORATORY ADDRESS
- STANDARD OR REGULATION USED
- TRACEABILITY
- ENVIRONMENTAL CONDITIONS
- OBSERVATIONS
- EXECUTOR

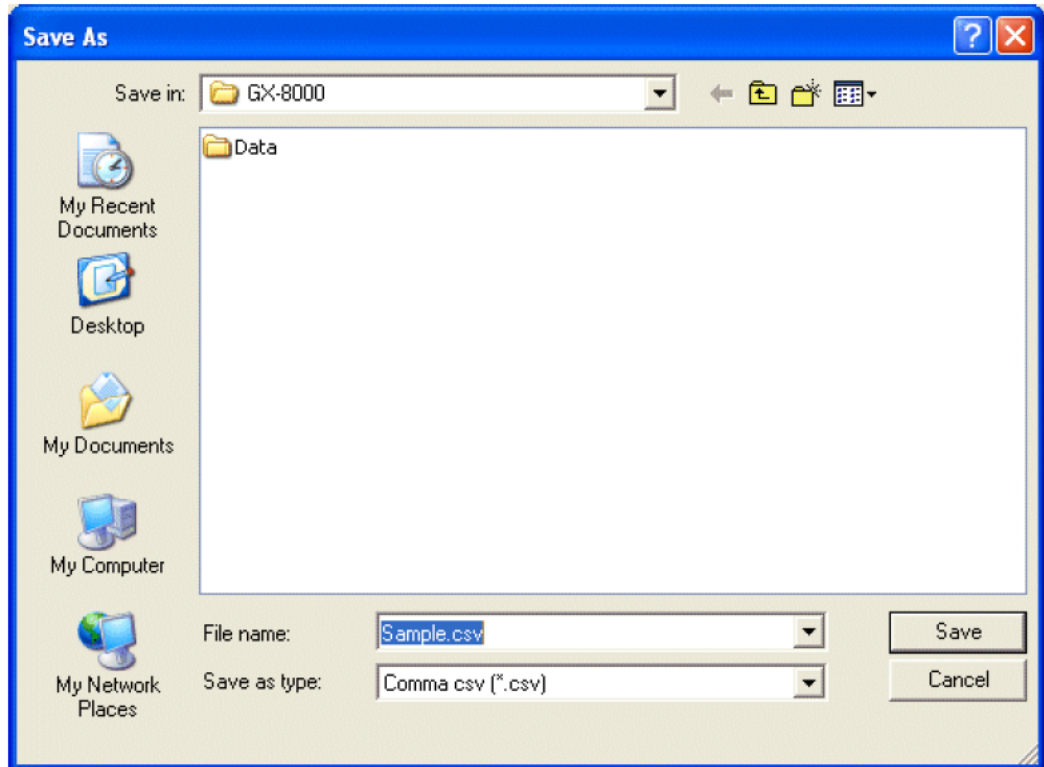
Information is saved if the calibration report is printed. If it is not printed and click "Close", the information entered is not saved.

A calibration report which is not entered any information shows most recent entered information from other CALIBRATION REPORT.

(4) Save to a file

- Save

1. Click the "Save" button on the screen.



Specify the location and the file name, and click the "Save" button to store the data. Click the "Cancel" button to cancel the save operation.



CAUTION

When a table is displayed, the content of the table is saved in the Excel CSV format.
When a graph is displayed, the bitmap of the graph is saved.

(5) To view data summary simultaneously

- Summary view

1. Click the "Summary" button on the screen.

The screenshot shows the GX-8000 Data Logger Management Program interface. At the top, there are buttons for 'Print', 'Export', 'Summary', and 'Return'. The 'Summary' button is highlighted with a callout box containing the word 'Click'. Below these buttons is a table with the following data:

Property	Value
Name	iv09114907_-----
Sampling Date/Time	1/9/2010 11:49:07 AM to 1/9/2010 11:55:08 AM
Serial No.	-----
Station ID	ST-ID001
User ID	-----
Data Count	39
Interval Time (sec)	10
Gas(FullScale)	CH4(100%LEL) O2(40.0vol%) H2S(100.0ppm) CO(500ppm)
Avg	0 %LEL 20.8 vol% 5.1 ppm 0 ppm

Below the table is a line graph titled 'Interval Trend' showing data for CH4, O2, H2S, and CO over time. A callout box points to the graph with the text 'The summary is displayed.' At the bottom of the graph, there are checkboxes for 'CH4(100%LEL)', 'O2(40.0vol%)', 'H2S(100.0ppm)', and 'CO(500ppm)', all of which are checked. There is also a 'Zoom' dropdown menu set to '1'.

When the "Summary" button is clicked, the summary view is cleared.

(6) Table details

• **Event color**

The cells that display gas concentration are painted according to the event occurred at that time.

CO (500ppm)

ALARM
WARNING
NORMAL
WARNING
ALARM
32
203
206
206
206
OVER
401
500
500
500
500
STEL
500
500

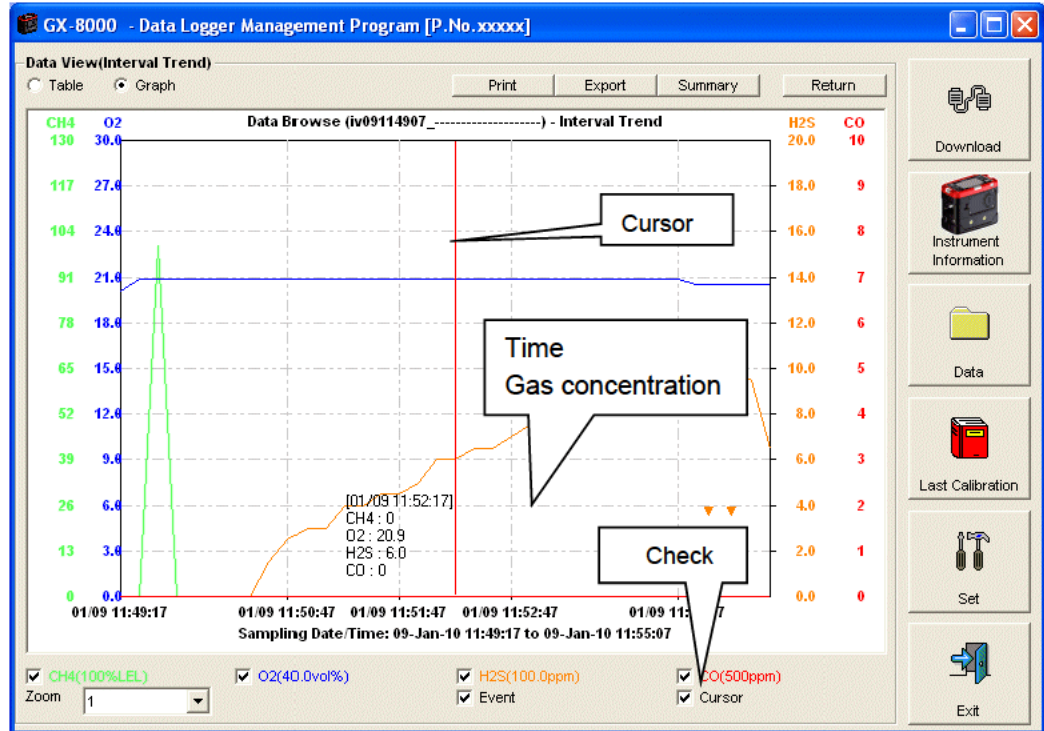
The cells are identified by background color.

- | | | |
|----------|--------------|-------------------------------|
| FAIL: | Gray | Fault |
| WARNING: | Orange | First alarm |
| ALARM: | Red | Second alarm |
| STEL: | Pink | STEL alarm |
| TWA: | Light purple | TWA alarm |
| NORMAL: | Deep green | Recovery from the above state |
| OVER: | Light red | Over full scale |

(7) Graph details

- **Cursor**

1. Click the "Cursor" checkbox to display a cursor on the graph.

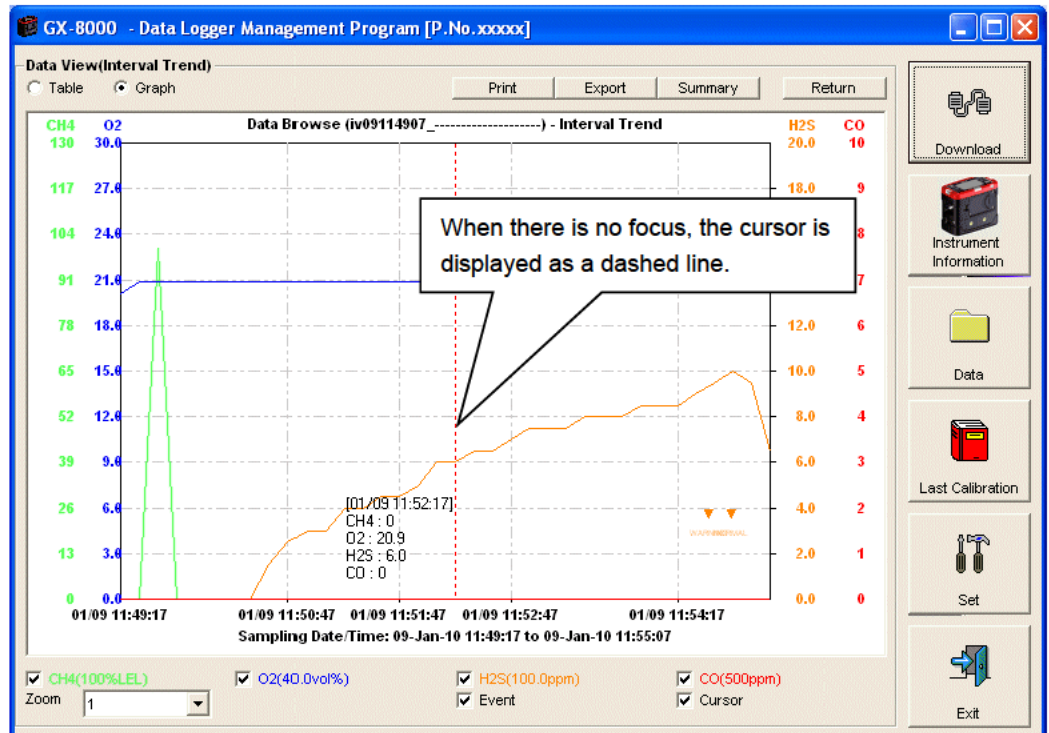


Use the left and right keys to move the cursor left and right, and the up and down keys to move the time and concentration views up and down. The Shift key can be used together to speed up the cursor.



CAUTION

Cursor operation is not available when a window irrelevant to the program is opened and the focus is moved outside the graph area. The cursor itself is displayed as a dashed line. To restore focus, click inside the graph area.



3-5. Last Calibration screen

The expiration dates of the data downloaded in the past can be checked.

The screenshot shows the 'Last Calibration' window in the GX-8000 Data Management Program. The window title is 'GX-8000 - Data Management Program [P.No. xxxxx]'. It features three radio buttons: 'Need Calibration' (selected), 'Calibration Date', and 'Calibration Record'. A 'Print' button is located in the top right corner of the table area. The table contains the following data:

No.	SerialNo	UserID	StationID	CH4	O2	H2S	CO	CH4	Last Downl
1	-----	-----	ST-ID001	1/1/2008	1/1/2008	1/1/2008	1/1/2008	1/1/2008	1/9/2010 1:4
2	11234567890	17890123456	No 1	1/6/2010 2:4	1/6/2010 2:4	1/1/2008	1/1/2008	----	1/6/2010 3:0
3	11234567890	17890123456	ST-ID009	----	1/1/2008	----	----	----	1/5/2010 4:2
4	11234567890	17890123456	ST-ID003	----	1/1/2008	----	----	----	1/5/2010 3:5
5	-----	-----	ST-ID002	----	1/1/2008	----	----	----	1/5/2010 3:4
6	10123456789	-----	-----	----	1/1/2008	----	----	----	1/5/2010 10:0

Callouts and buttons:

- (1) Change displayed contents: Points to the table header.
- (2) Output to a printer: Points to the 'Print' button.
- (3) Delete data: Points to the table.
- (4) Change password: Points to the table.
- Click this button: Points to the 'Last Calibration' button in the right sidebar.

The right sidebar contains buttons for: Download, Instrument Information, Data, Last Calibration, Set, and Exit.



CAUTION

This table is read-only. Modification of the table is not supported.

(1) Change displayed contents

• **Expired data**

1. Click the "Need Calibration" radio button.

No.	SerialNo	UserID	StationID	CH4	O2	H2S	CO	CH4	Last Downlc
1	-----	-----	ST-ID001	1/1/2008	1/1/2008	1/1/2008	1/1/2008	1/1/2008	1/9/2010 1:4
2	I1234567890	I7890123456	No 1	1/6/2010 2:4	1/6/2010 2:4	1/1/2008	1/1/2008	-----	1/6/2010 3:0
3	I1234567890	I7890123456	ST-ID009	----	1/1/2008	-----	-----	-----	1/5/2010 4:2
4	I1234567890	I7890123456	ST-ID003	----	1/1/2008	-----	-----	-----	1/5/2010 3:5
5	-----	-----	ST-ID002	----	1/1/2008	-----	-----	-----	1/5/2010 3:4
6	I0123456789	-----	ST-ID000	----	1/1/2008	-----	-----	-----	1/5/2010 10:

Among the GX-8000 main units connected in the past (in other words, the main units from which Instrument Information data is downloaded), this table extracts and displays the records which have an expired calibration date.

• **List view**

1. Click the "Calibration Date" radio button.

No.	SerialNo	UserID	StationID	CH4	O2	H2S	CO	CH4	Last Downlc
1	-----	-----	ST-ID001	1/1/2008	1/1/2008	1/1/2008	1/1/2008	1/1/2008	1/9/2010 1:4
2	I1234567890	I7890123456	No 1	1/6/2010 2:4	1/6/2010 2:4	1/1/2008	1/1/2008	-----	1/6/2010 3:0
3	I1234567890	I7890123456	ST-ID009	----	1/1/2008	-----	-----	-----	1/5/2010 4:2
4	I1234567890	I7890123456	ST-ID003	----	1/1/2008	-----	-----	-----	1/5/2010 3:5
5	-----	-----	ST-ID002	----	1/1/2008	-----	-----	-----	1/5/2010 3:4
6	I0123456789	-----	ST-ID000	----	1/1/2008	-----	-----	-----	1/5/2010 10:

Data for the GX-8000 main units connected in the past is listed. (Of the data with the same serial number, user ID and Station ID, the newest data is displayed.)

• **Detailed view**

1. Click the "Calibration Record" radio button.

No.	SerialNo	UserID	StationID	Gas	Before	After	A. Cal.	Cal.Due(D)
1	-----	-----	ST-ID001	CH4		0	0	50 Now
				O2		0.0	0.0	12.0 Now
				H2S		0.0	0.0	25.0 Now
				CO		0	0	50 Now
				CH4		0	0	50 Now
2	301234567890	567890123456	No 1	CH4		49	50	50 Remaining
				O2		12.0	12.0	12.0 Remaining
				H2S		0.0	0.0	25.0 Now
				CO		0	0	50 Now
3	301234567890	567890123456	ST-ID009					-----
				O2		0.0	0.0	12.0 Now

Data for GX-8000 main units connected in the past is listed in the same format as the Instrument Information screen.

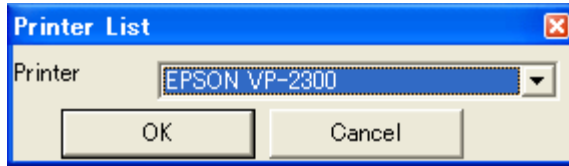
For details on the displayed items, see "3-2. Instrument Information screen, (3) Calibration history information".

(2) Output to a printer

- **Print**

The last calibration date of each unit can be printed out using “Need Calibration” or “Calibration Date”.

The Printer List screen is displayed. Select the printer to use and click the "OK" button.



GX-8000 Data Logger (Last Calibration)										1/13/2010 10:47:51 AM
No.	SerialNo	UserID	StationID	CH4	O2	H2S	CO	CH4	Last Download	
1	-----	-----	ST-ID001	1/1/2008	1/1/2008	1/1/2008	1/1/2008	1/1/2008	1/9/2010 1:49:20 PM	
2	12345678901234567890	12345678901234567890	1	1/6/2010 2:45:40 PM	6/2010 2:45:40 PM	1/2008	1/1/2008	-----	1/6/2010 3:02:51 PM	
3	12345678901234567890	12345678901234567890	ST-ID009	-----	1/1/2008	-----	-----	-----	1/5/2010 4:24:03 PM	
4	12345678901234567890	12345678901234567890	ST-ID003	-----	1/1/2008	-----	-----	-----	1/5/2010 3:52:55 PM	
5	-----	-----	ST-ID002	-----	1/1/2008	-----	-----	-----	1/5/2010 3:44:44 PM	
6	01234567890123456789	-----	ST-ID000	-----	1/1/2008	-----	-----	-----	1/5/2010 10:41:42 AM	

(3) Delete data

• **Delete**

1. Move the mouse to the data that needs to be deleted, and right-click the data.

Last Calibration									
<input type="radio"/> Need Calibration <input checked="" type="radio"/> Calibration Date <input type="radio"/> Calibration Record Print									
No.	SerialNo	UserID	StationID	CH4	O2	H2S	CO	CH4	Last Downl
1	-----	-----	ST-ID001	1/1/2008	1/1/2008	1/1/2008	1/1/2008	1/1/2008	1/9/2010 1:4
2	I1234567890	:7890123456	No 1	1/5/2010 2:4	1/5/2010 2:4	1/1/2008	1/1/2008	-----	1/5/2010 3:0
3	I1234567890	:7890123456	ST-ID009	-----	1/1/2008	-----	-----	-----	1/5/2010 4:2
4	I1234567890	:7890123456	ST-ID003	-----	-----	-----	-----	-----	1/5/2010 3:5
5	-----	-----	ST-ID002	-----	1/1/2008	-----	-----	-----	1/5/2010 3:4
6	I0123456789	-----	ST-ID000	-----	1/1/2008	-----	-----	-----	1/5/2010 10:



CAUTION

Deletion of data is available only in Need Calibration and Calibration Date views.
It is not available in the Calibration Record view.

• **Input password**

1. When the "Delete" button is clicked, the Password dialog is prompted. Enter the password and press the "Continue" button.

Password ✕

Please input password.

Continue
Change Password



CAUTION

When "Continue" is pressed without entering the password, the delete operation is canceled.

2. When "Continue" is pressed with an appropriate password, the following message is displayed.

Delete History ✕

Delete History : SerialNo=12345678901234567890

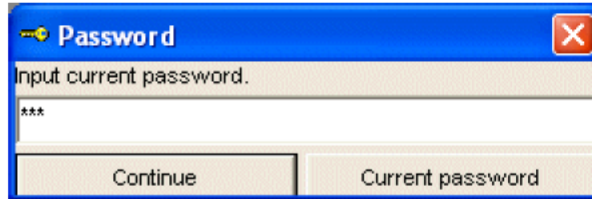
Yes
No

Click the "Yes" button to delete the data.
Click the "No" button to cancel deletion of data.

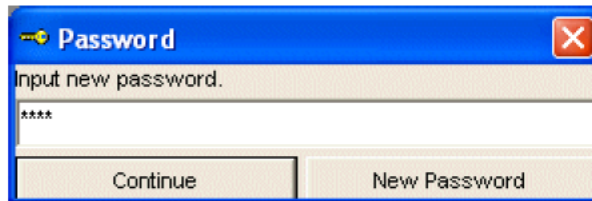
(4) Change password

- **Input password**

1. Display the Password dialog in the same way as deleting the data, and click "Change Password".



2. Enter an appropriate password and click the "Current password" button. The following message is displayed.



3. Enter the new password and click the "New Password" button.
4. The Password dialog is prompted again. Enter the same new password and click "New Password".



Click "OK" to update the password.



CAUTION

The password immediately after installation is "Riken ". (Case -sensitive)

3-6. Set screen

In this screen, display settings of the screen and the detailed settings of the unit can be specified.

Font And Color

Arial(8.25)

Graph Color

Graph Color

Graph Color

Graph Color

Graph Color

Detail Settings

GX-8000 Status

Serial No. (20 Characters)

Station ID (16 Characters) ST-ID002

User ID (16 Characters)

Interval Trend Time (Sec) 10

PC Date/Time 1/13/2010 10:55:15 AM

GX-8000 Date/Time 1/13/2010 10:55:19 AM

Update Date/Time Set

Sensor	Warning	Alarm	STEL	TWA	Auto Cal.
Gas					
CH4(100%LEL)	10	50	----	----	50
O2(40.0VOL%)	19.5	18.0	----	----	
H2S(100.0ppm)				10.0	
CO(500ppm)				25	50
CH4(100VOL%)				----	50

Download

Instrument Information

Data

Last Calibration

Set

Exit

(1) Set font and graph colors

(2) Change status of the main unit

(2) Edit station list

(2) Set time

(3) Send updates to the GX-8000 main unit

Click this button



CAUTION

The data specified and/or changed must be sent to the GX-8000 main unit using the "Update" button.



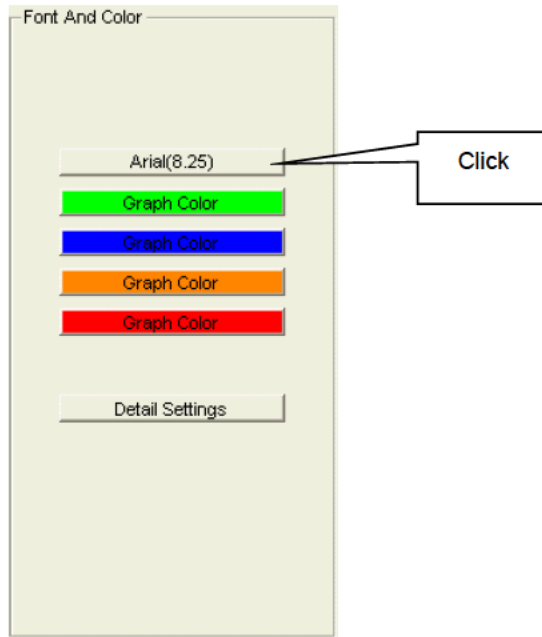
CAUTION

The font setting is applied on the next startup.

(1) Change font and graph colors

- **Change the font**

1. Click the area that displays the font.



The font setting dialog is displayed. Specify an appropriate font.



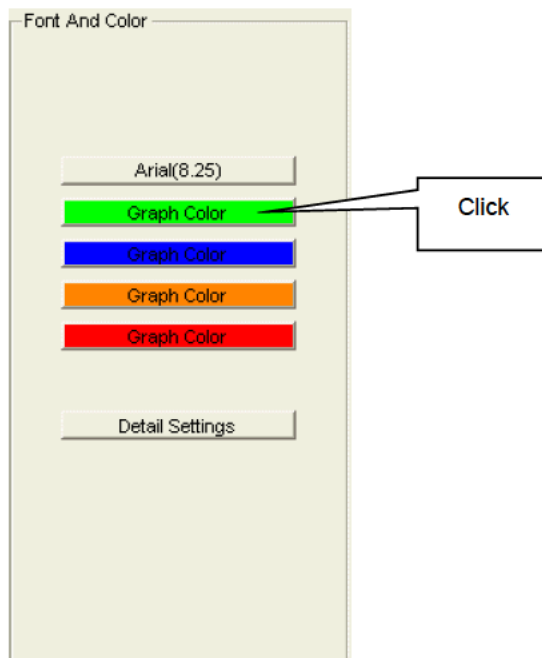
CAUTION

When an extremely large font is used, the screen might be hard to view. This change will be effective on the next startup.

- **Change the graph color**

The display colors mapped for the gases in the graph can be changed.

1. Click the area that displays each gas.

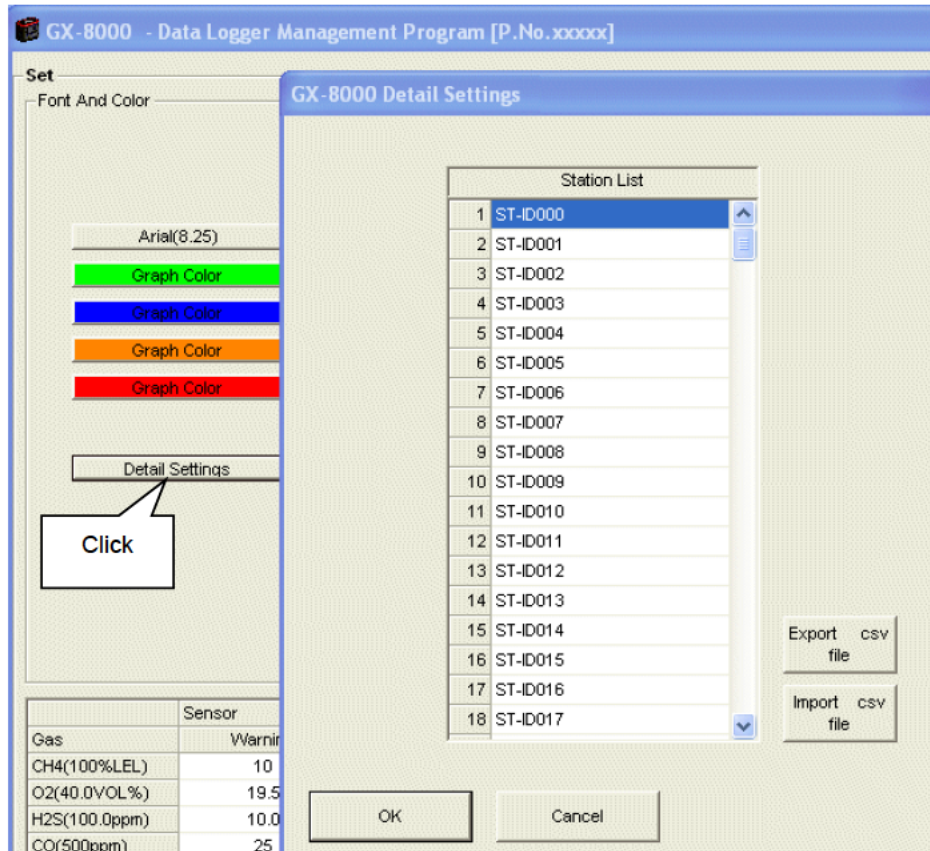


The color selection dialog is displayed. Specify an appropriate color

(2) Change status of the main unit

● Edit station list

1. Edit the station ID list.
Click Detail Settings.



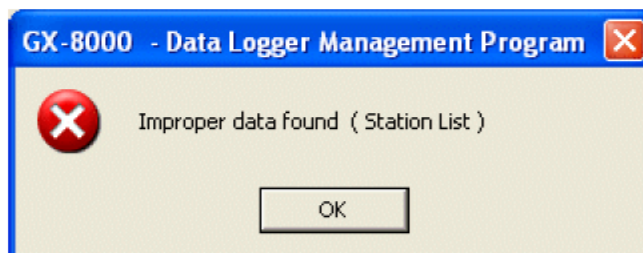
The edit dialog is displayed. The station list contains stations up to Number 256. Up to 16 characters of alphabets, numerics, spaces, hyphens and asterisks can be entered.

*** In the GX-8000 main unit, only the first eight characters are displayed. We recommend to use up to eight characters of only upper-case alphabets and/or numerics.**

Export csv file: The data is exported to a file. A text file is created using the "Number,data" format.

Import csv file: Data is loaded from a text file that follows the "Number,data" format. If the data contains unsupported letters, or the data is too long, the background color of the corresponding cells is changed to red.

*** If any cells have red background, **OK** cannot be selected.**



- **Change**

2. In the status area, change the desired data.

GX-8000 Status

Serial No. (20 Characters) [-----]

Station ID (16 Characters) [ST-ID002]

User ID (16 Characters) [-----]

Interval Trend Time (Sec) [10]

PC Date/Time [1/13/2010 10:59:48 AM]

GX-8000 Date/Time [1/13/2010 10:59:52 AM]

[Update] [Date/Time Set]

The contents of "Serial No. (20 Characters)" and "User ID (16 Characters)" can be changed.

Interval Trend Time (Sec) and Station ID (16 Characters) can be selected and changed from the list.

The "Date/Time Set" button can be used to align the internal clock of the GX-8000 main unit ("GX-8000 Date/Time") to the set time of the PC ("PC Date/Time").



CAUTION

The date/time areas cannot be entered directly.



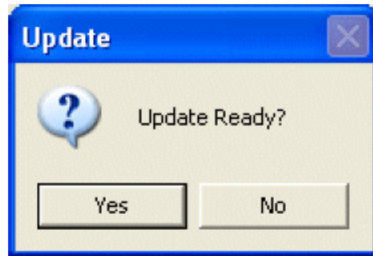
CAUTION

The settings of the GX-8000 main unit are not modified except Date/Time Set by this change. Make sure to click Update to send the change request process to the main unit.

(3) Send updates to the GX-8000 main unit

- Send updates

1. Modify the places to change and click the "Update" button.



When the "Yes" button is clicked, the changes are sent to the GX-8000 main unit and stored there.

When the "No" button is clicked, update is canceled.



CAUTION

The changes cannot be undone. Before clicking "Update", it is possible to revert to the data stored in the main unit by clicking the "Instrument Information" button on the Download screen to download the instrument information data.

4

Data Maintenance

Depending on usage (such as loading data many times in a single day), the number of data might increase drastically. In such a case, it might be difficult just to find the desired data. In addition, there is a possibility of losing valuable data caused by an unexpected trouble of the PC.

To prepare for such unexpected events, a periodical backup of the data is recommended.

4-1. Details of data storage structure

Data is stored in the installation folder of the GX-8000 program.

- 1) File name: GX8000.mdb
File type: Microsoft Jet 3.6 database file

- 2) File name: Data
File type: Folder Trend data files are organized under year/month folders

4-2. Backup

Although it depends on usage, we recommend the data to be copied to another hard disk device or an auxiliary storage device (such as an MO drive or CD-R drive).

To restore data, copy it to the installation folder of the GX-8000 executable. The program searches for data on startup and the data will be available to view.

5

Operating Precautions

When using the program, take sufficient considerations on the following points:

- (1) When downloading data, check that GX-8000 is placed at an appropriate position. If the position is not appropriate, download cannot be performed properly.
- (2) When downloading, avoid similar operations using another application. (For example, performing IR communication during data download)
- (3) Do not kill the program (for example, by using Ctrl + Alt + Del). This program saves setting parameters on the shutdown process to prepare for the next startup. Therefore, if the program is killed, the next startup might fail.
- (4) Do not modify a data file directly.

6

Troubleshooting

Symptoms	Causes	Solutions
Communication is not possible.	The position of the main unit is inappropriate. An obstacle is in the way.	Change the position of the main unit.
	There is another device that uses IR.	Turn off the other devices, or prevent its interference.
Error occurs during communication.	There is a scattered light outside.	Eliminate the device that uses IR.
	The GX-8000 main unit moved during communication.	Do not move the unit during communication.
Something is wrong in the communication data.	There is a scattered light outside.	Eliminate the device that uses IR.

If an error still persists despite the above actions, please contact RIKEN KEIKI.

7

IrDA Specifications

7-1. About infrared communication

Communication with the main unit is performed via infrared communication (IrDA protocol). Check that the computer to be used is capable of infrared communication. Also, place the units so the infrared communication port of the main unit and the communication port of the PC directly face each other, and prevent interference of other lights.



CAUTION

This program can establish communication with the GX-8000 main unit only in an environment with IrDA enabled. Check that the PC has a built-in IrDA device, and that it is enabled. If the computer does not have a built-in IrDA device (this applies to most desktop PC and some notebook PC), use a separately sold IrDA-USB converter.

7-2. Display of communication ready status

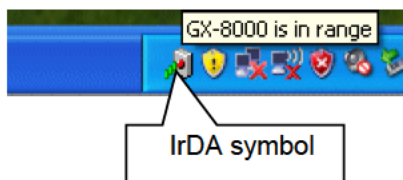
At the start of communication, the operating system recognizes existence of an infrared device and displays an icon on the task bar. By that icon, the communication status can be understood to some extent.



CAUTION

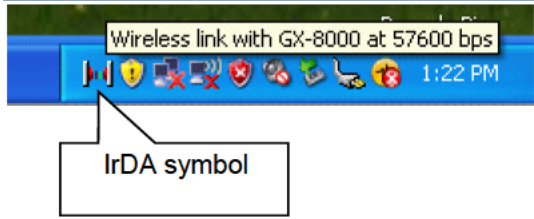
The displayed content might differ depending on the operating system and IrDA driver settings.

7-2-1. Task bar icon when the operating system recognizes GX-8000



The IrDA symbol is displayed, and when the cursor is pointed over the symbol, the message "GX-8000 is in range" is displayed.

7-2-2. Task bar icon when communication between the data logger program and the GX-8000 main unit is in progress



The IrDA symbol changes to an animation icon that shows communication, and when the cursor is pointed over the symbol, the message "Wireless link with GX-8000 at xxxx bps" is displayed.

* "xxxx" shows communication speed, which is normally 57600 bps. Depending on the environment, the rate might drop to a value around 38400 bps.



CAUTION

Due to overhead in internal process of the GX-8000 main unit and/or the data logger program, there is little difference in overall communication time if the communication rate is 38400 bps or above. This is because a relatively long time is required to create data within the GX-8000 main unit and to analyze the downloaded data by the data logger program.

8

File Structure

This chapter explains the details about file contents at installation and during operation.

8-1. Current directory immediately after installation

File name	Details
GX8000.ex RklrDA11.ocx Filemove.avi	GX-8000 main unit Infrared communication component Animation file that shows that data download is in progress

8-2. Current directory during operation

File name	Details
GX8000.ex RklrDA11.ocx Filemove.avi	GX-8000 main unit Infrared communication component Animation file that shows that data download is in progress
GX8000.ini GX8000.dat GX8000.mdb Data Serial.log	GX-8000 initialization file File for data downloading Database file (Microsoft Jet 3.6 database) Save directory for trend data files Recording of data that flowed through communication port since startup of the program (for investigation and maintenance)



CAUTION

Files and directories below the double line are created after startup of the program.

9

Software Specifications

Name of product (name of program)	GX-8000 Data Logger Management Program
Model	SW-GX-8000(EX)
Executable file name	GX8000.EXE
Supported OS	Microsoft Windows 7 Windows 8 Windows 10
Program capacity	Main program: Approx. 3 MB/Library: Approx. 5.2 MB (Uses up to 40 MB of disk space on installation)
Communication of the main unit	Infrared (conforming to IrDA 1.1 protocol) Standard communication settings Baud rate: 57600 bps (maximum) Data bit: 8 bits Stop bit: 1 bit Parity: Even parity
Transfer time	Maximum 3 minutes (standard communication setting, with maximum amount of data)
Medium	One CD-ROM
Package contents	Operating Manual (this document) Product warranty and registration card License agreement