



Optical Interferometric Gas
Concentration Meter

FI-8000

Data Logger Management Program

SW-FI-8000(EX)

Operating Manual

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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 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(256 points) collected by the data logger function featured in FI-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 chart formats.
- Chart data can be printed and stored on paper.
- Past data can be stored.
- Manual copying of data is no longer necessary.
- 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.

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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.

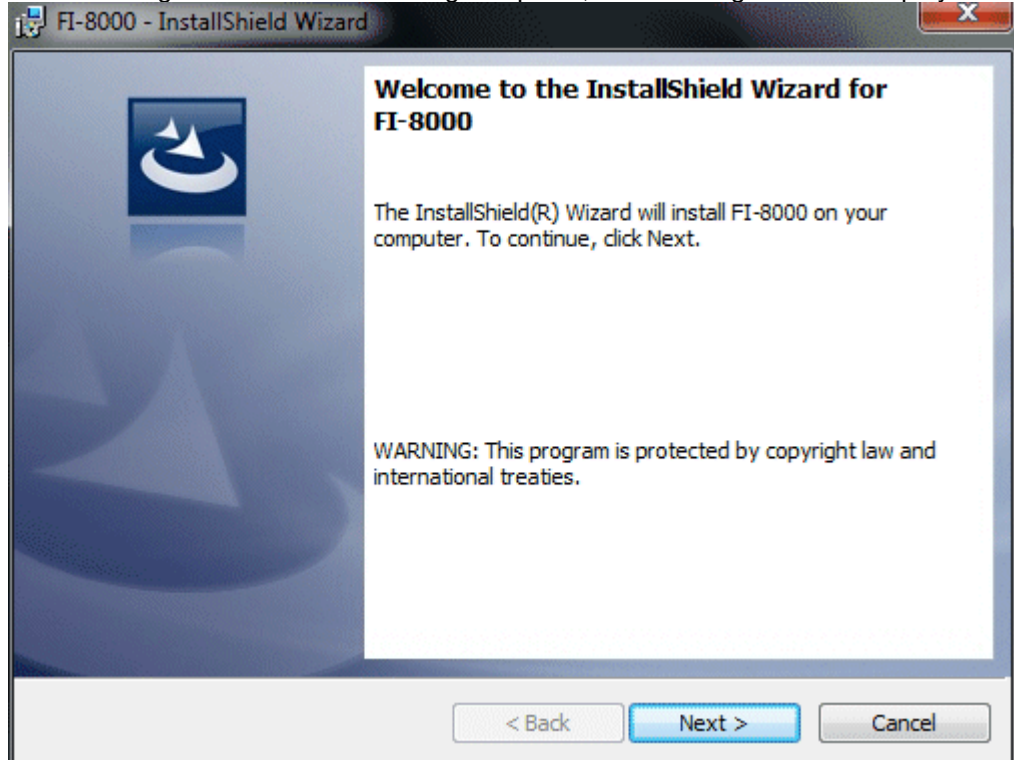
When the PC does not support the auto-start function of the CD-ROM, operate as follows:

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.

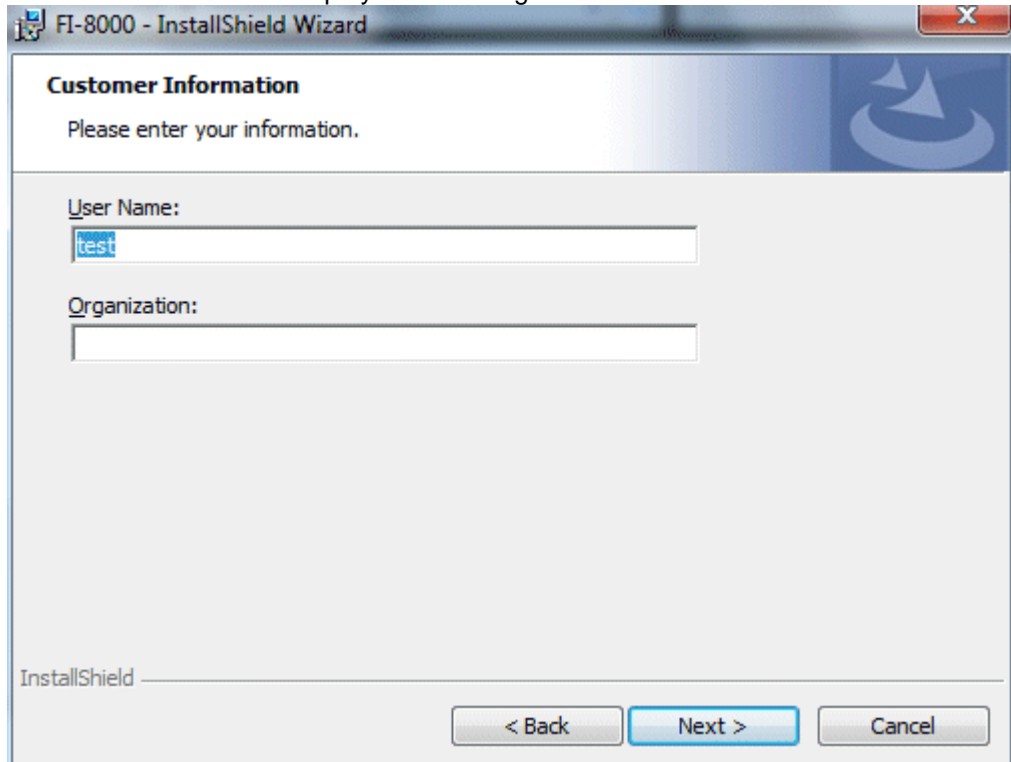


Click the Next button to continue the installation, or the Cancel button to abort the installation.

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

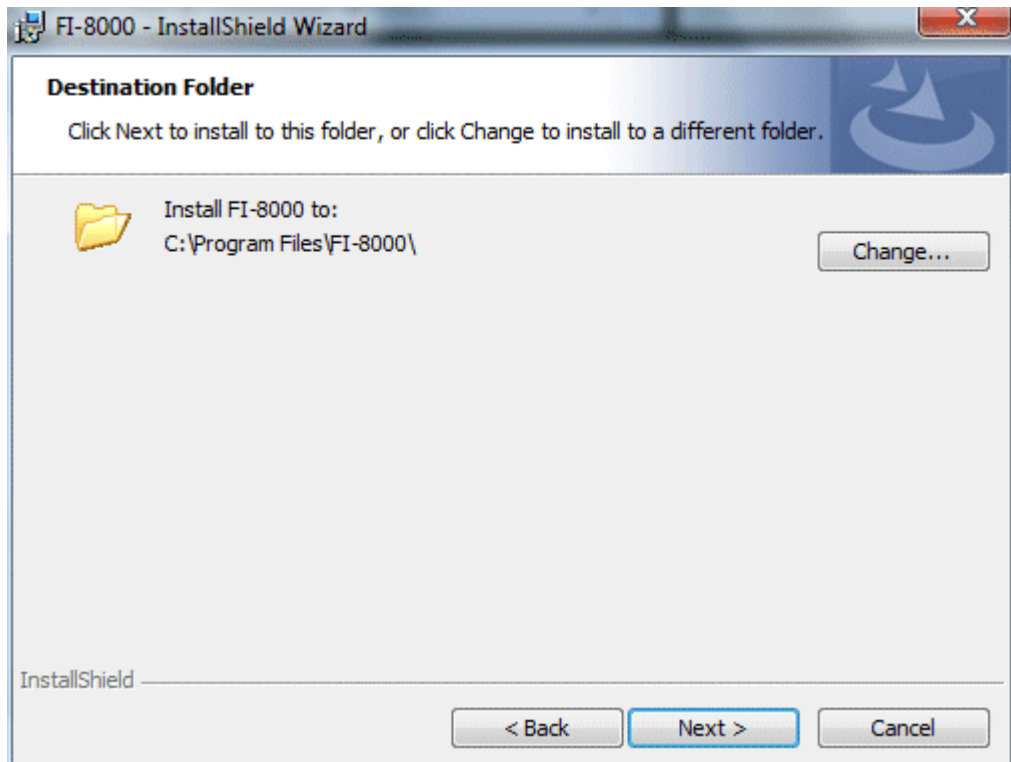
- **Customer Information**

Click the Next button to display the following screen.



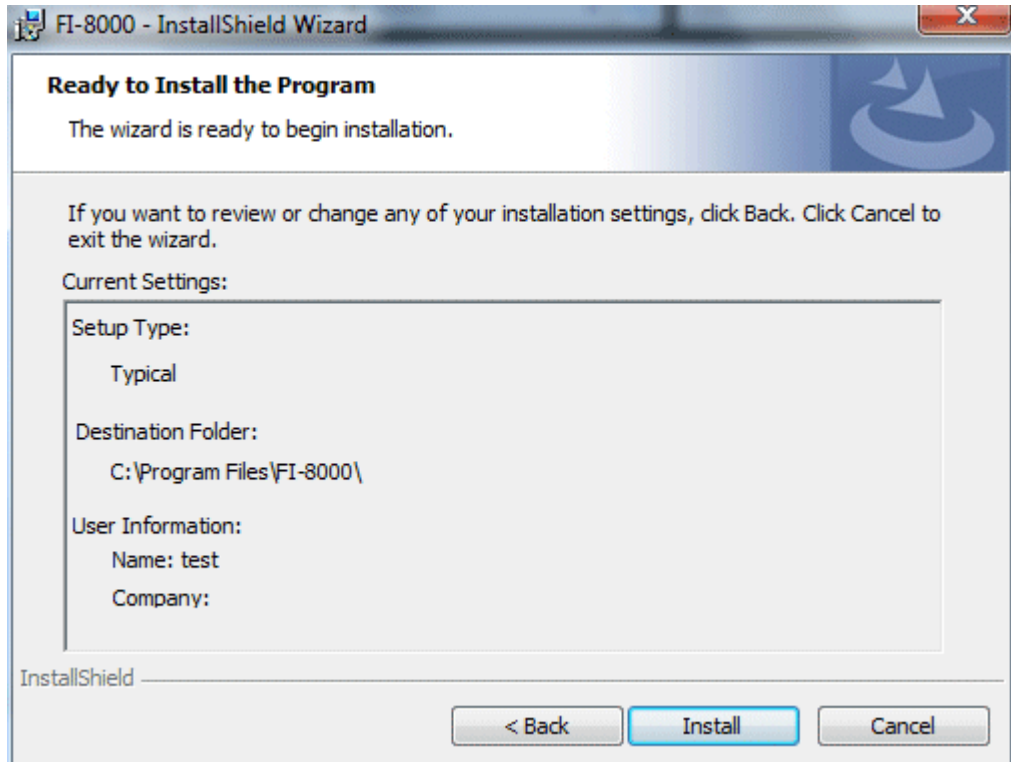
Click the Next button.

- **Destination Folder**



Click the Next button.

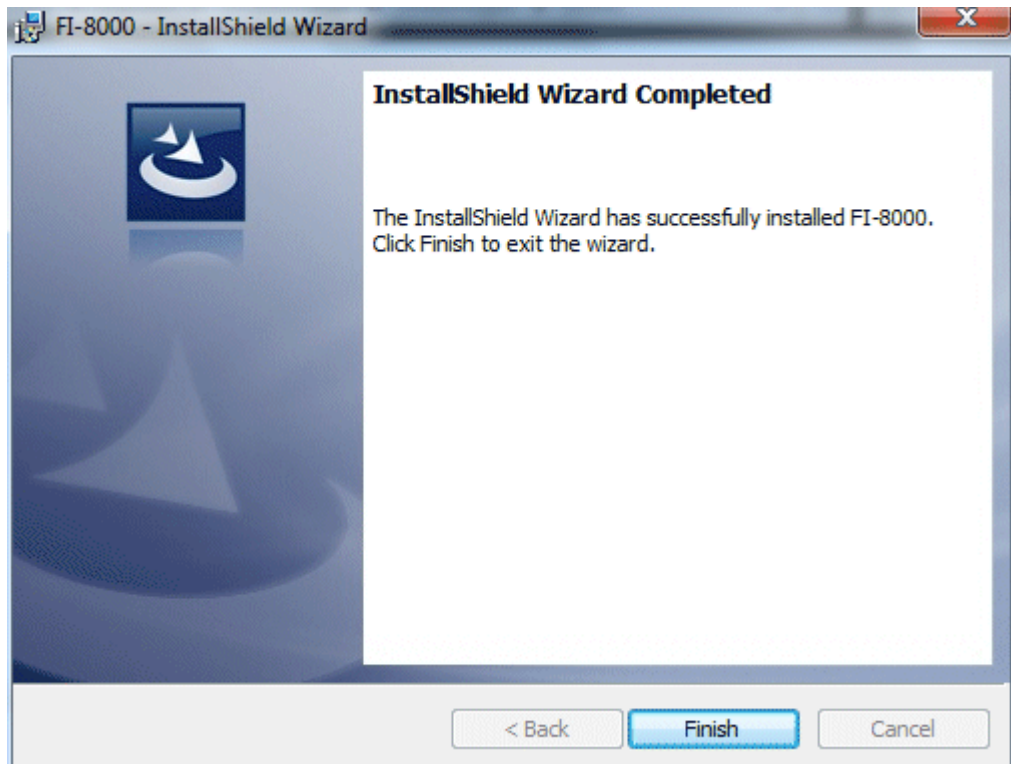
- **Start setup**



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, F18000.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 installing 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.

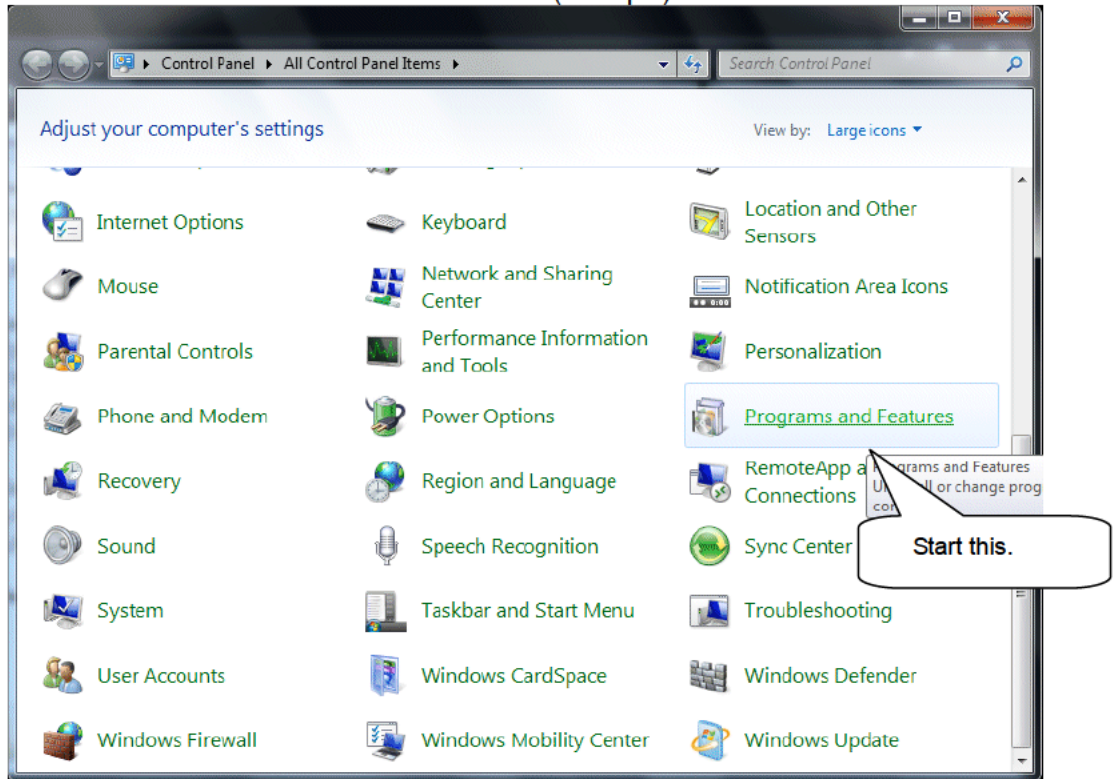
When using a computer connected to the network, use with sufficient considerations on security settings.

2-4. Uninstallation

- Startup

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

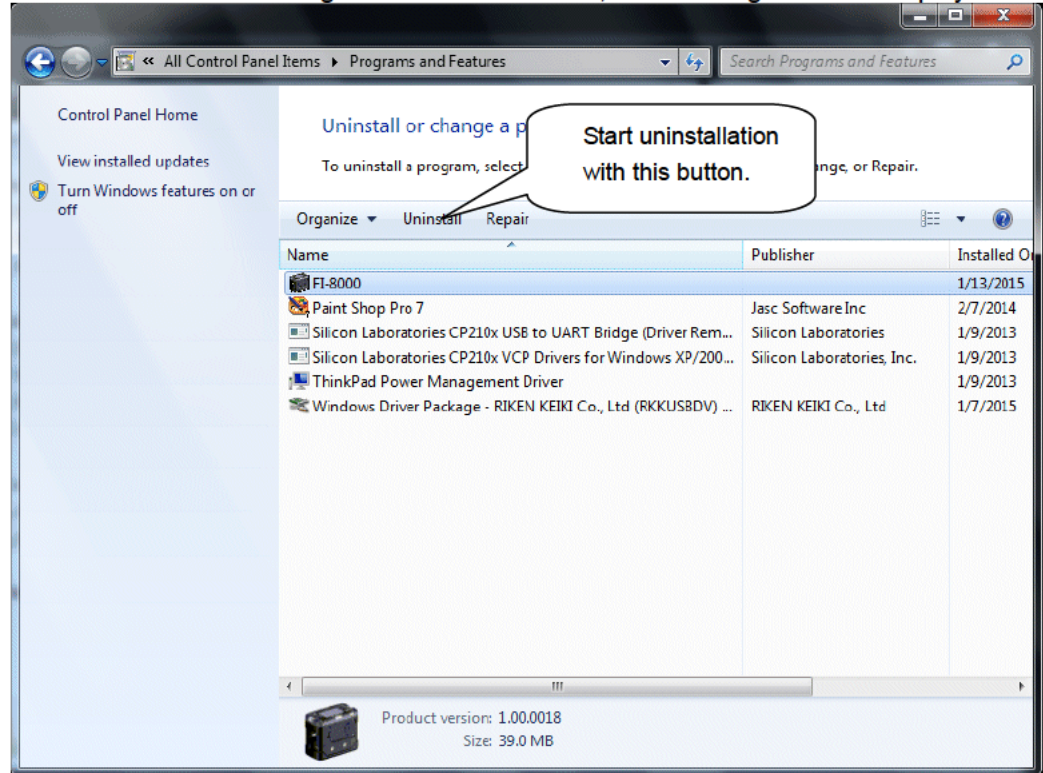
Control Panel (example)



From the Control Panel, double-click Programs and Features to start.

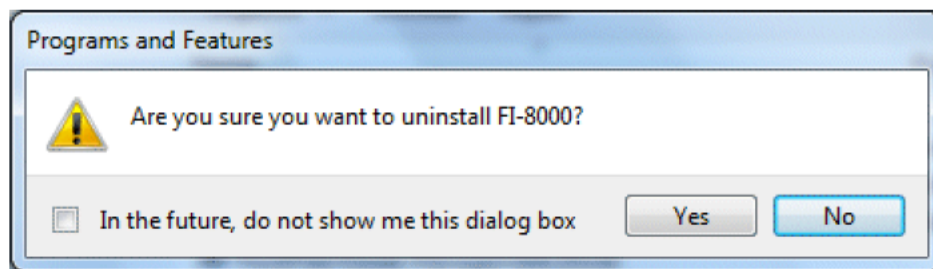
- **Select FI-8000**

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



- **Start deletion**

Select FI-8000 and click the Uninstall 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.

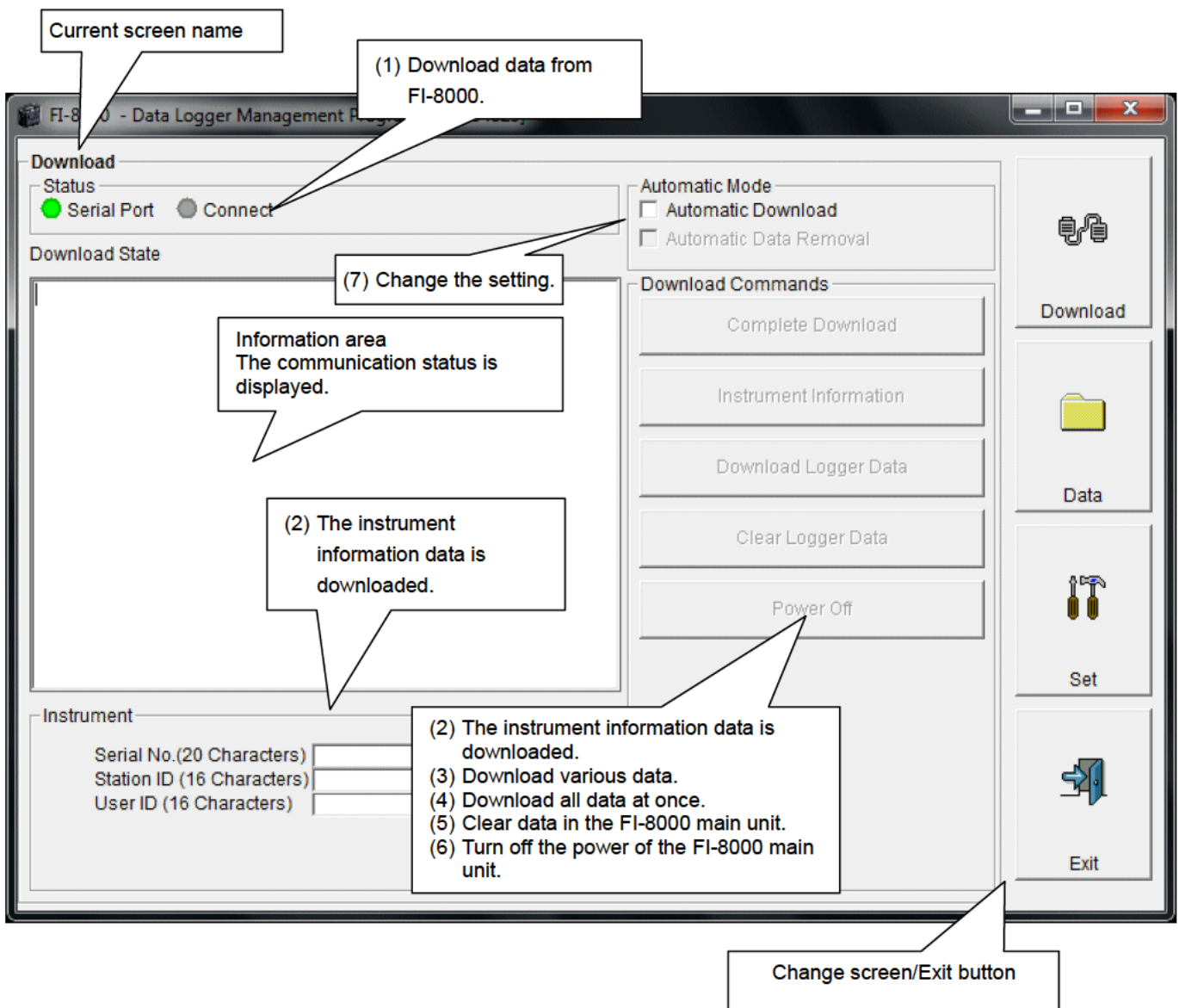
3

How to Operate

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

3-1. Download screen

After the splash screen, the download screen is displayed.



To perform data communication, place the FI-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 FI-8000

- Prepare the main unit

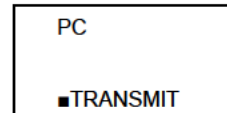
1. Start the software.
2. With the FI-8000 main unit powered off, move it to a position capable of communication.
3. Turn on the FI-8000 main unit.

CAUTION:

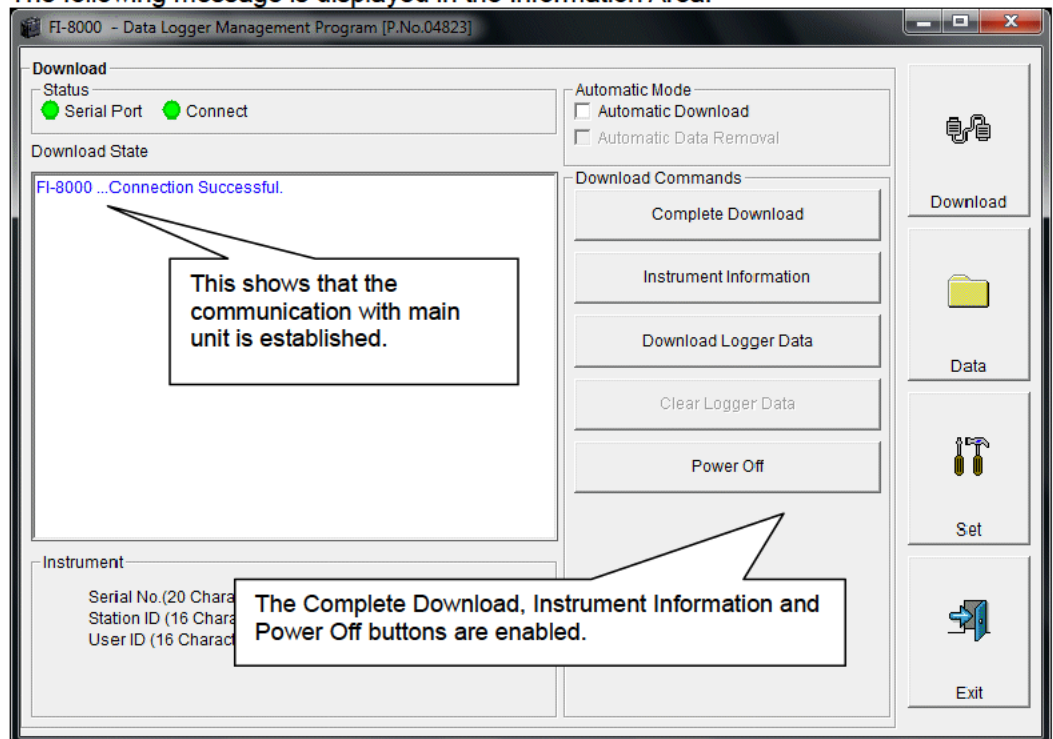
Make sure to turn on the power of FI-8000 after placing it to a position capable of communication.

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 FI-8000 main unit. →
(Due to the display resolution of FI-8000, the message will be somewhat difficult to read.)



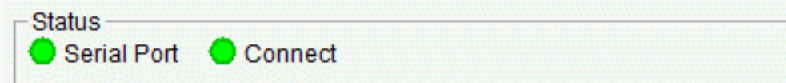
The following message is displayed in the Information Area.



CAUTION:

If the content of the Information Area is different from above, turn off the power of the FI-8000 main unit, check the position of the unit, 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

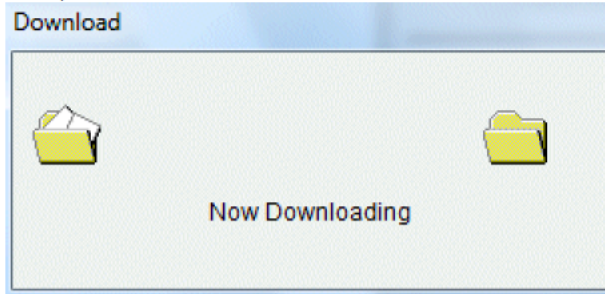
Connect:

- Communication ready: Gray
- Communication in progress: Green

(2) Download instrument information

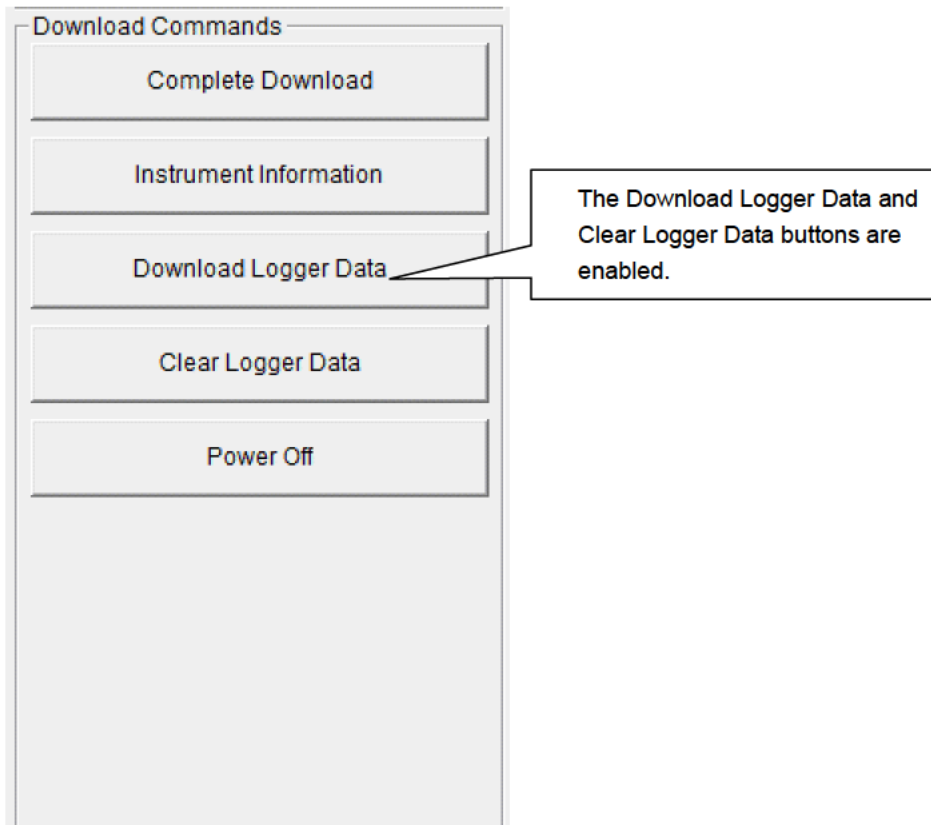
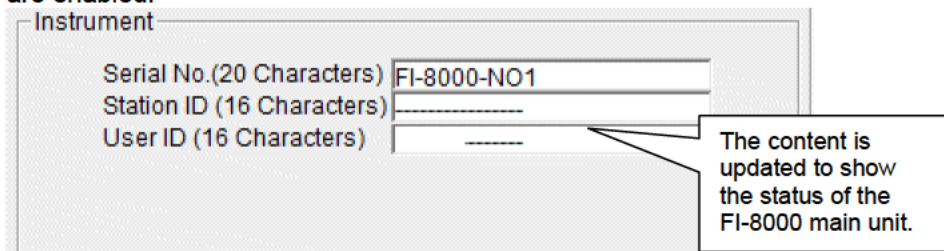
- Download instrument information

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.

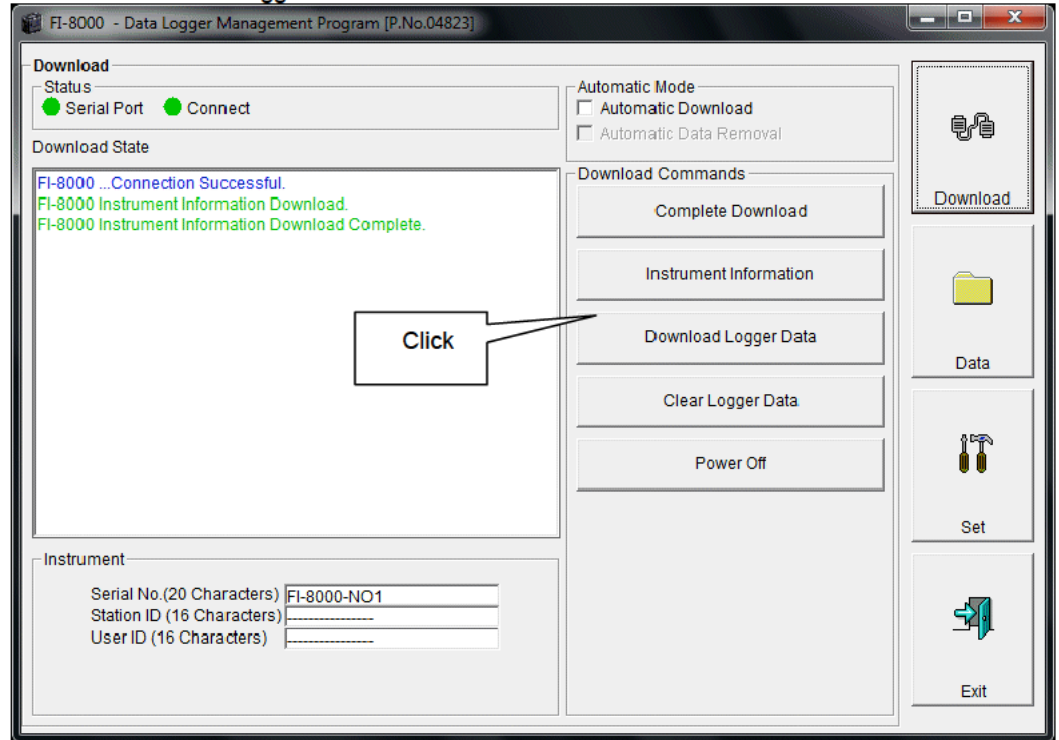


(3) Download data

- Snap 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:

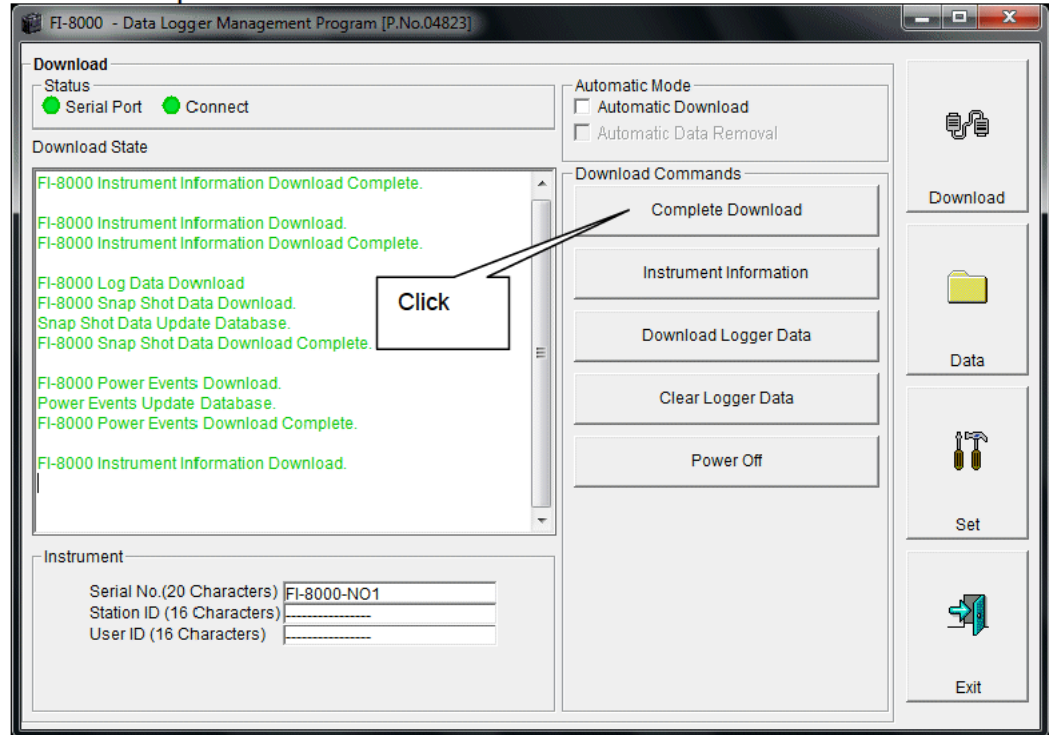
During download of each data, other data accesses are prohibited. Therefore, other download buttons and the Set button are disabled.

(4) Complete download

- Complete download

The Complete Download button downloads Instrument Information, Snapshot and Power Events data at once.

Click the Complete Download button.



The download status is displayed in the information area.

CAUTION:

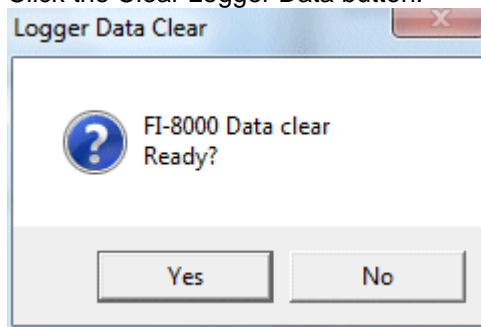
During download of each data, other data accesses are prohibited. Therefore, other download buttons and the Set button are disabled.

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

- **Data clear**

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

Click the Clear Logger Data button.



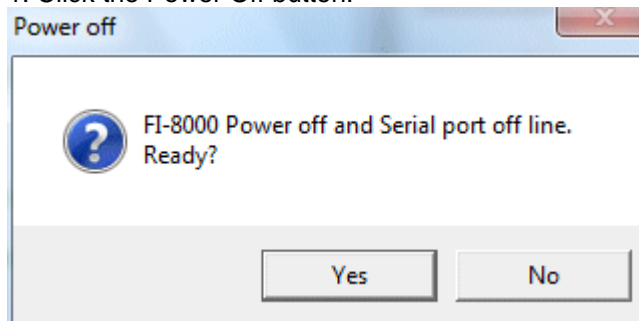
Click Yes to start clearing the data.

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

- **Power OFF**

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

1. Click the Power Off button.

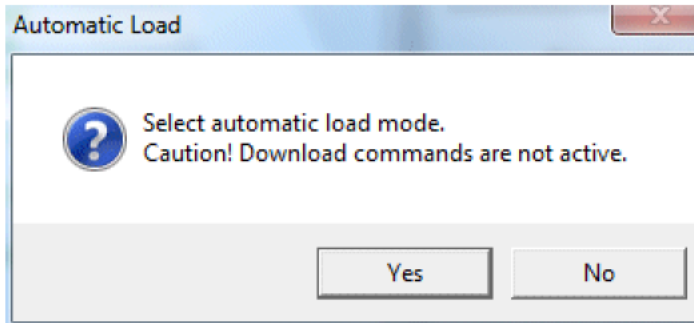
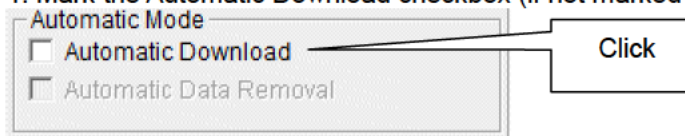


Click the Yes button to start the power off process of the FI-8000 main unit. After the serial port of the PC is initialized, it will be reset to the data download ready status.

(7) Switch to automatic mode

- **Automatic Download**

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



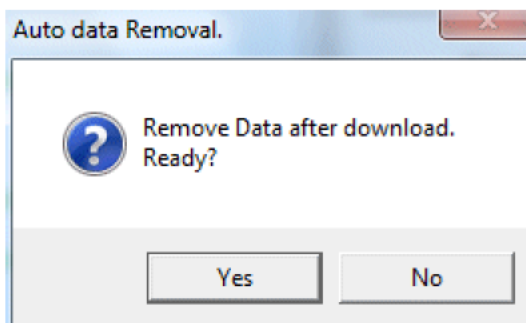
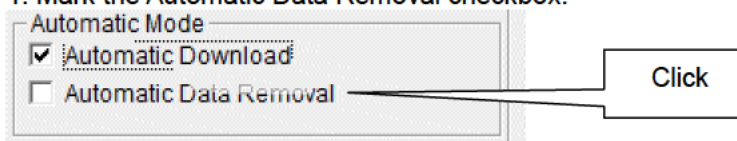
Click Yes to switch to Automatic Download.
Click No to cancel mode change.

In this mode, after the FI-8000 main unit is powered on, the PC automatically downloads complete data and then turns off the power of the FI-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.

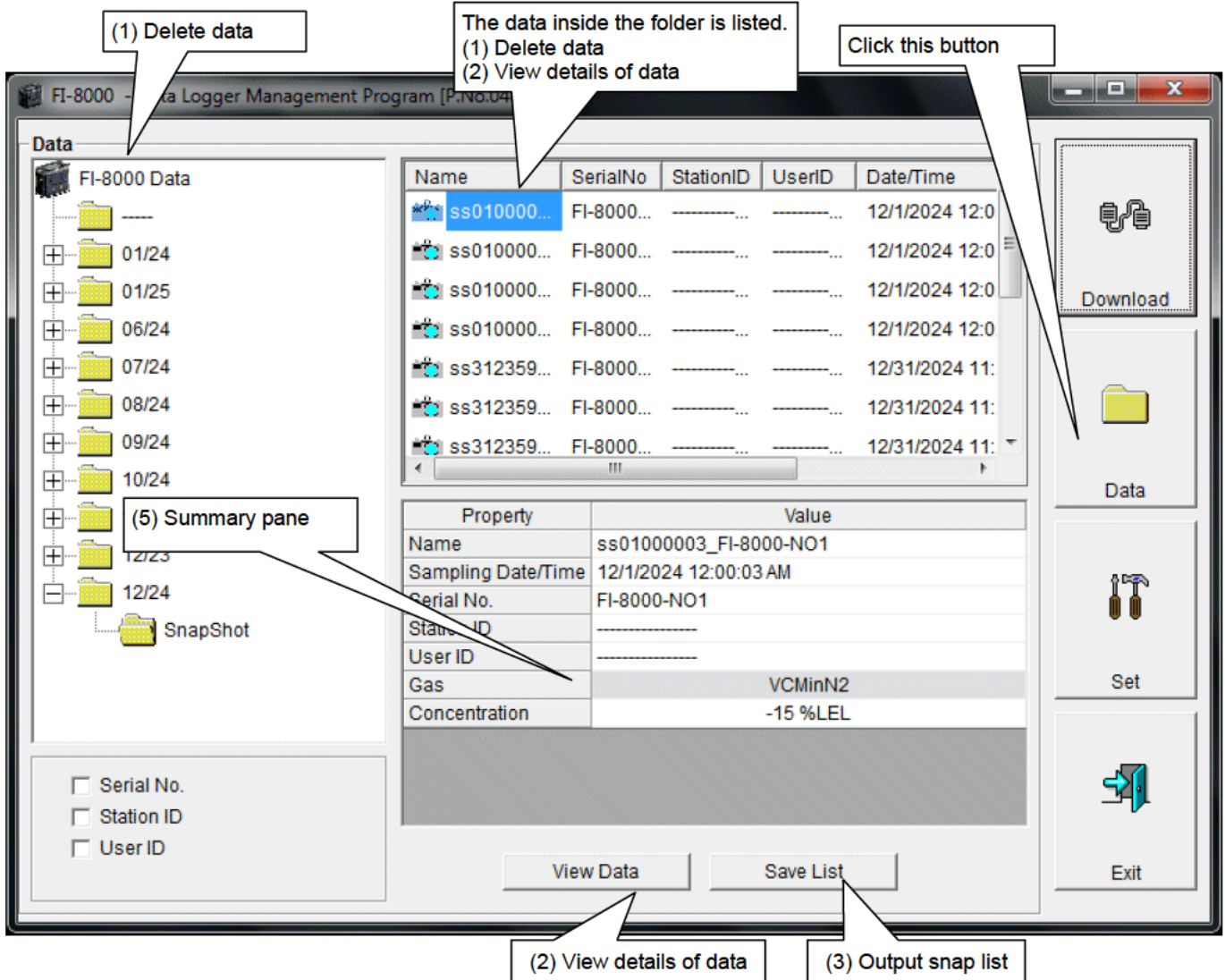


Click Yes to automatically remove data stored in FI-8000 after downloading complete data.

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

3-2. 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.



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.

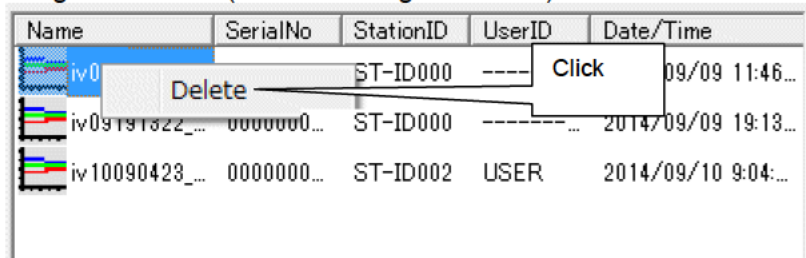
File name: ss15152831_12345678901234567890 = Snapshot, 15th day, 15:28:31 (Sampling date/time)

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).

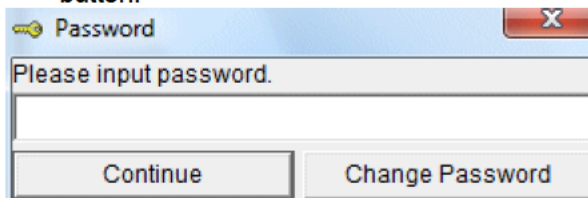


Name	SerialNo	StationID	UserID	Date/Time
iv0		ST-ID000	----	09/09 11:46...
iv09191322_...	0000000...	ST-ID000	-----	2014/09/09 19:13...
iv10090423_...	0000000...	ST-ID002	USER	2014/09/10 9:04:...

The Delete menu is displayed. Click Delete.

- **Input password**

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



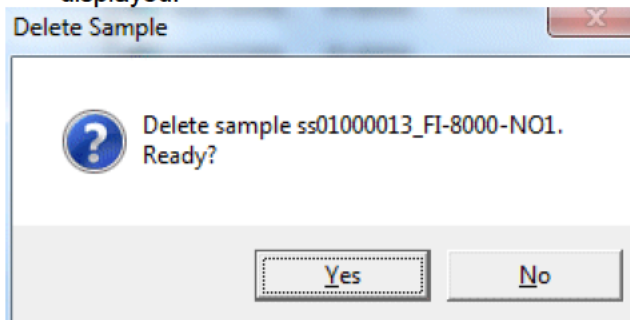
Password

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 Sample

Delete sample ss01000013_FI-8000-NO1.
Ready?

Yes 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

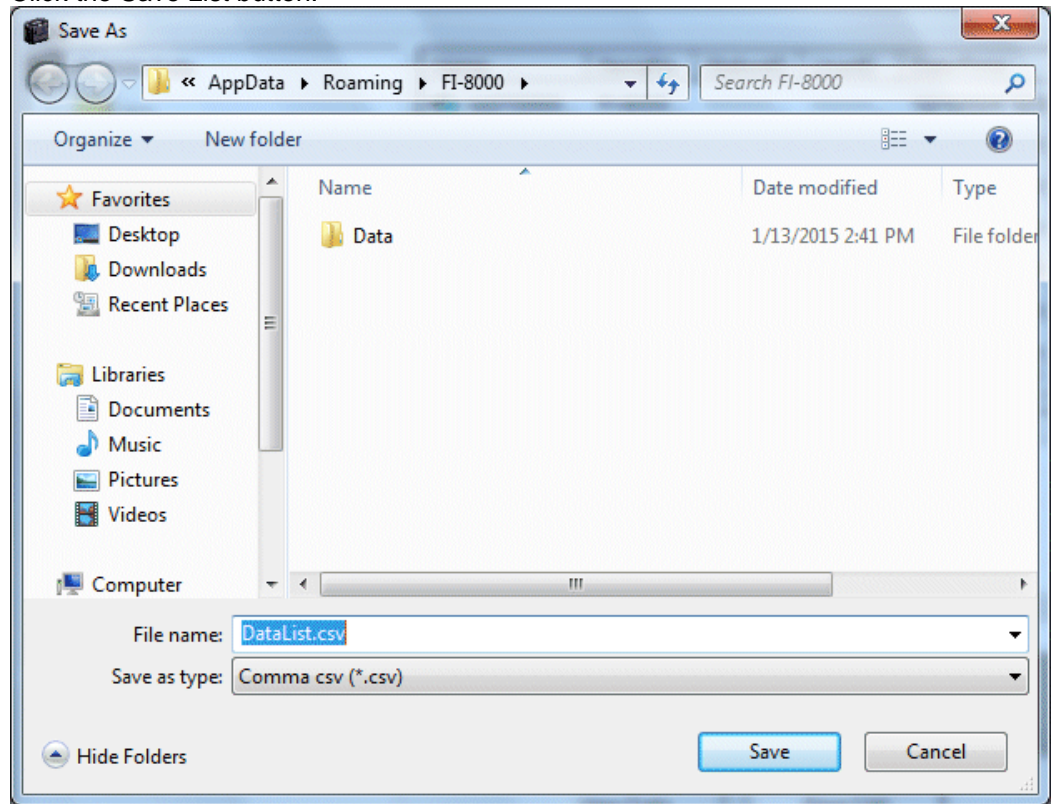
2. Double-click the data to be viewed in detail.

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

(3) Output snap list

- **Save list**

Save the list displayed in the upper section of the screen as a csv file.
Click the Save List button.

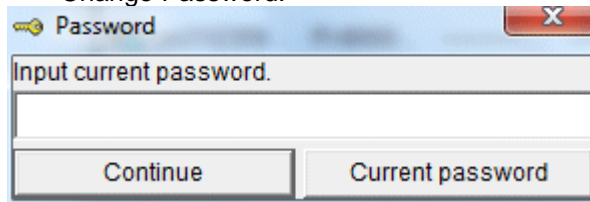


Specify the location and the file name, and click the Save button to store the data.

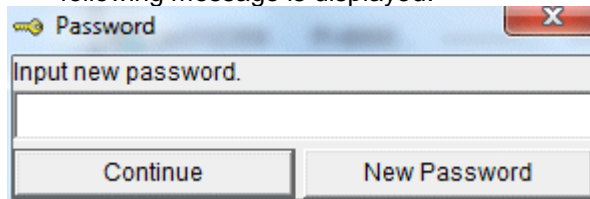
(4) Change password

- **Input password**

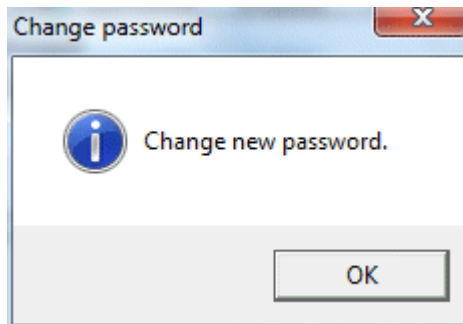
1. Display the Password dialog in the same way as deleting the data, and click Change Password.



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 "rki". (Case-sensitive)

(5) Summary pane

- Details**

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

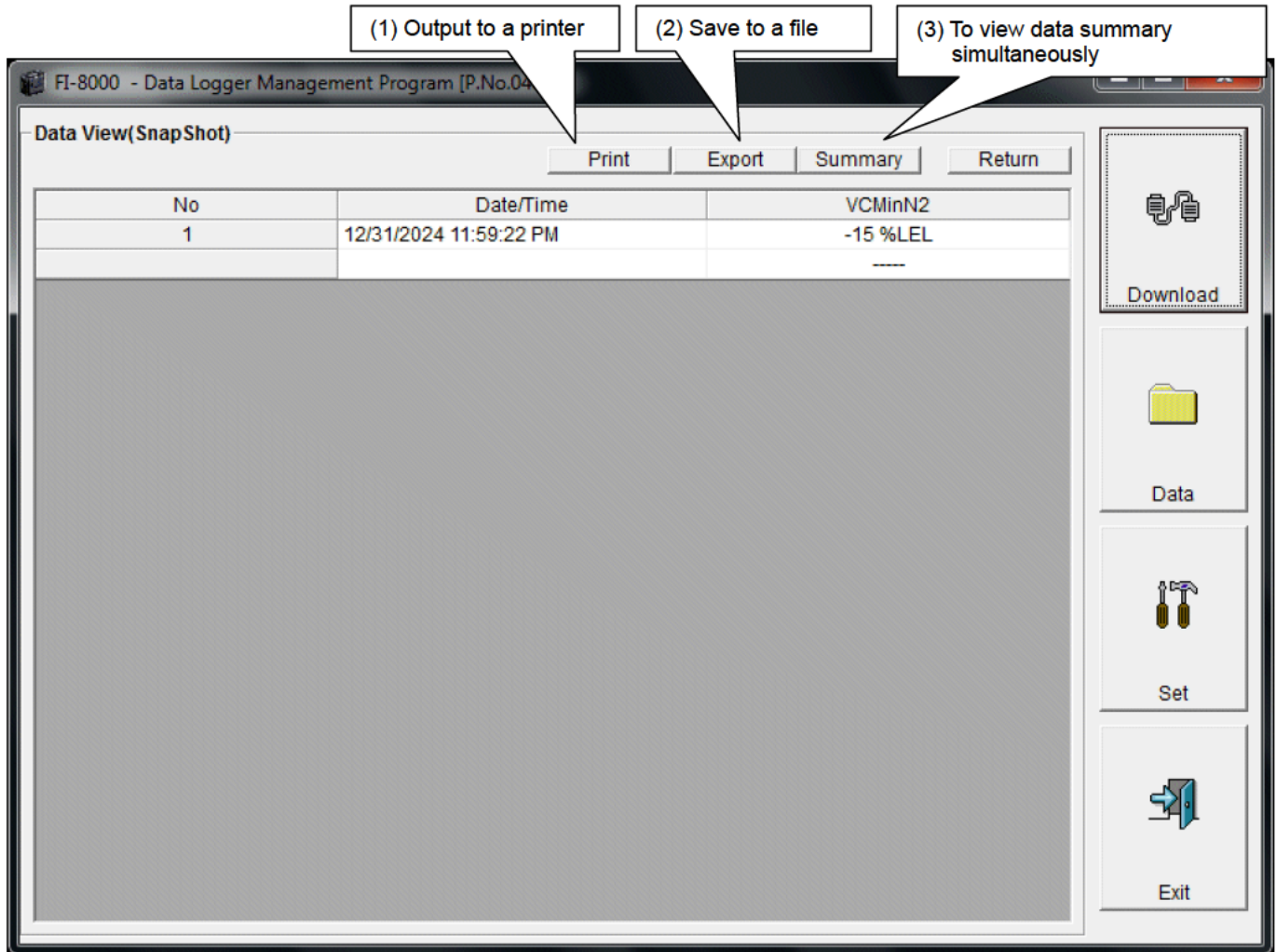
Snapshot

Property	Value
Name	ss01000003_FI-8000-NO1
Sampling Date/Time	12/1/2024 12:00:03 AM
Serial No.	FI-8000-NO1
Station ID	-----
User ID	-----
Gas	VCMInN2
Concentration	-15 %LEL

Name : Data name
 Sampling Date/Time : Recorded time
 Serial No./Station ID/User ID : Status of the FI-8000 main unit
 Gas : Gas
 Concentration : Concentration at sampling time

3-3. Data View screen

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

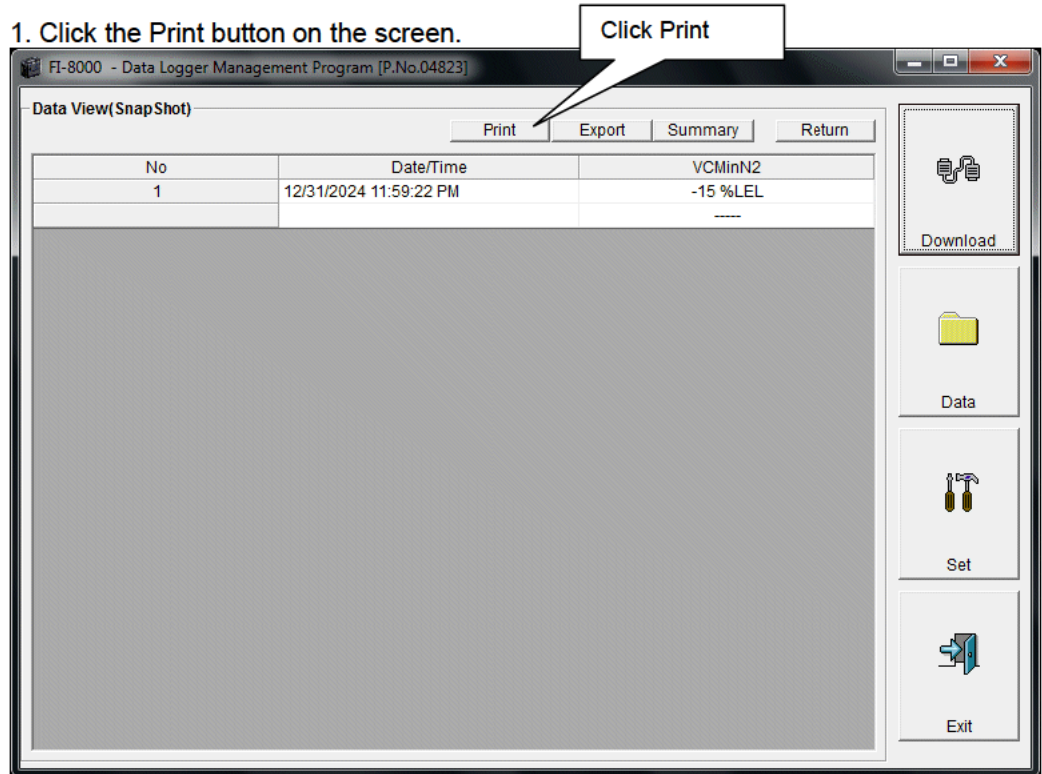


(1) Output to a printer

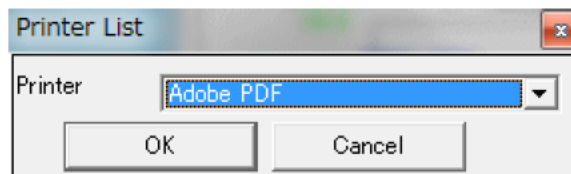
- **Print**

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 (snapshot)

FI-8000 Data Logger (Snap Shot)			1/13/2015 2:58:33 PM
Property	Value		
Name	ss31235922_FI-8000-NO1		
Sampling Date/Time	12/31/2024 11:59:22 PM		
Serial No.	FI-8000-NO1		
Station ID	-----		
User ID	-----		
No	Date/Time	VCMInN2	
1	12/31/2024 11:59:22 PM	-15 %LEL	

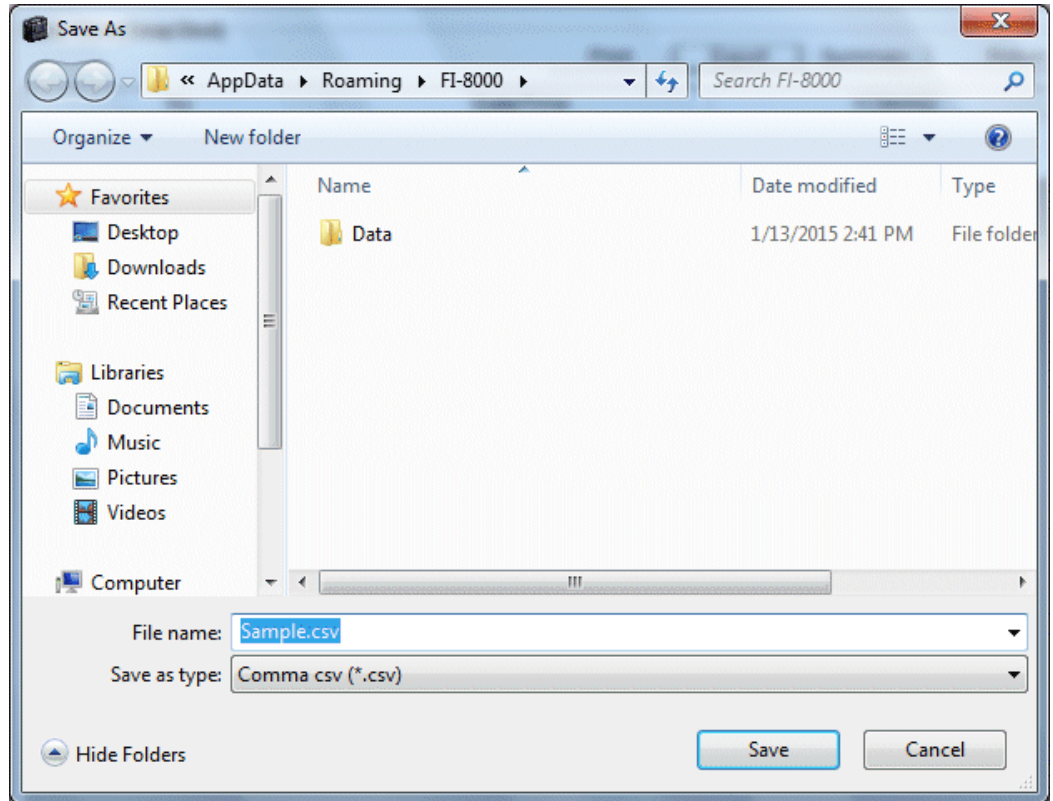
Notes on printer settings

- (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.)
- If Print Setting is changed in this program, when a printout is required from another application, check Print Setting of that application.

(2) Save to a file

- **Save**

1. Click the Save button on the screen.

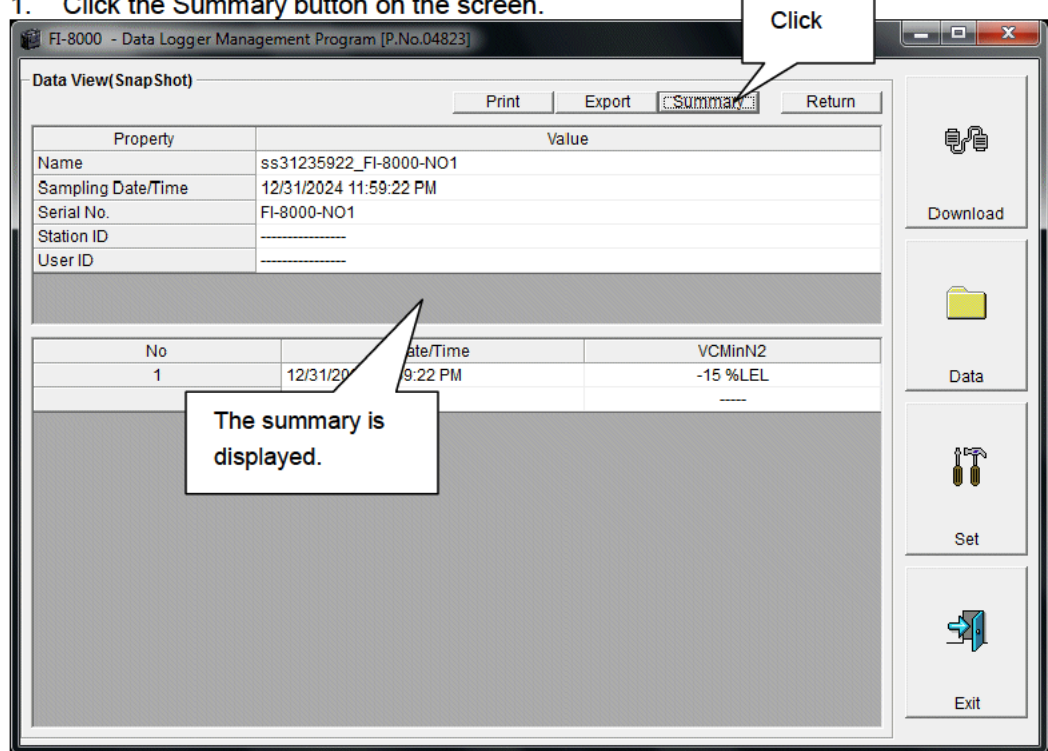


Specify the location and the file name, and click the Save button to store the data. Click the Cancel button to cancel the save operation.

(3) To view data summary simultaneously

- Summary view

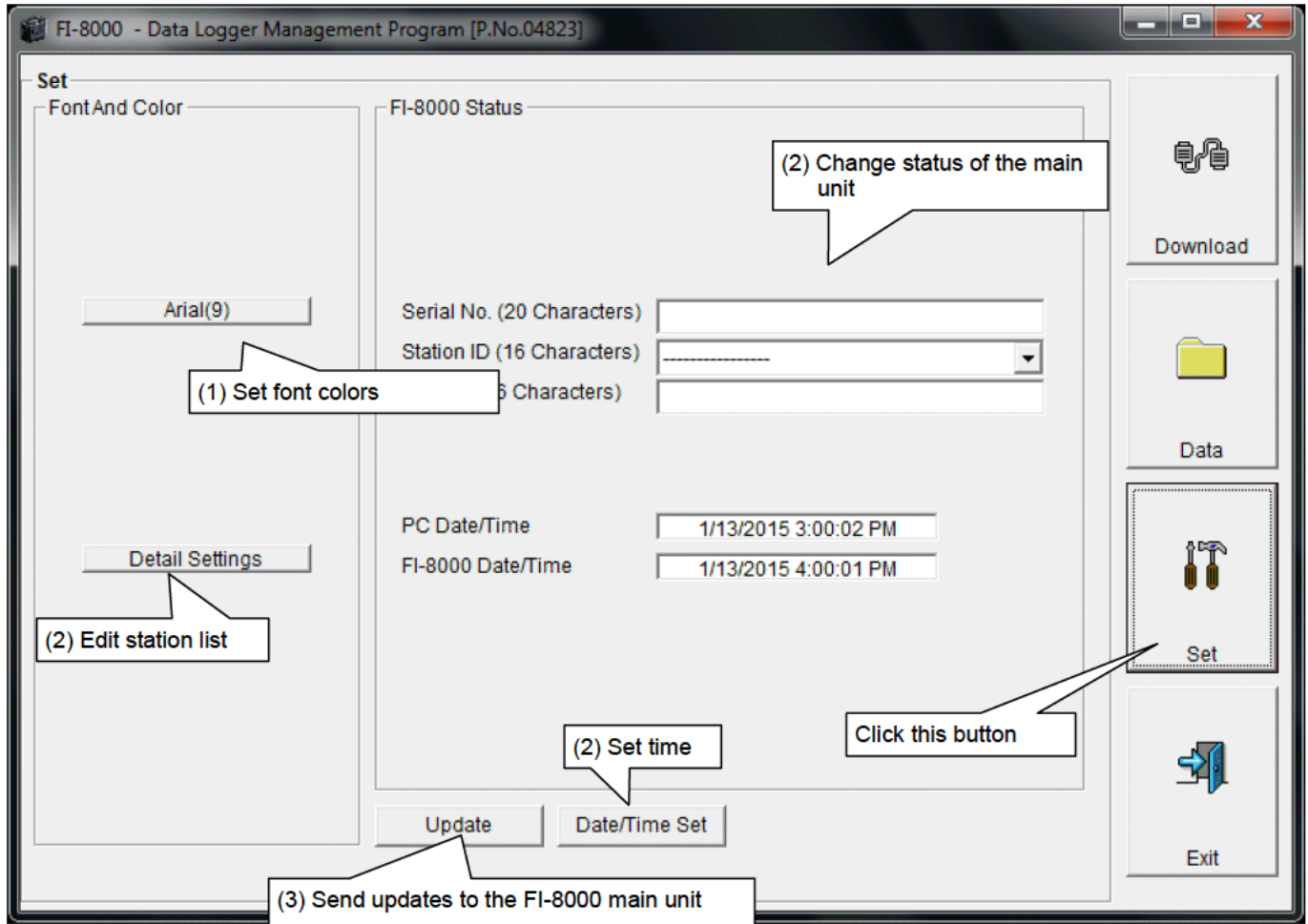
1. Click the Summary button on the screen.



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

3-4. Set screen

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



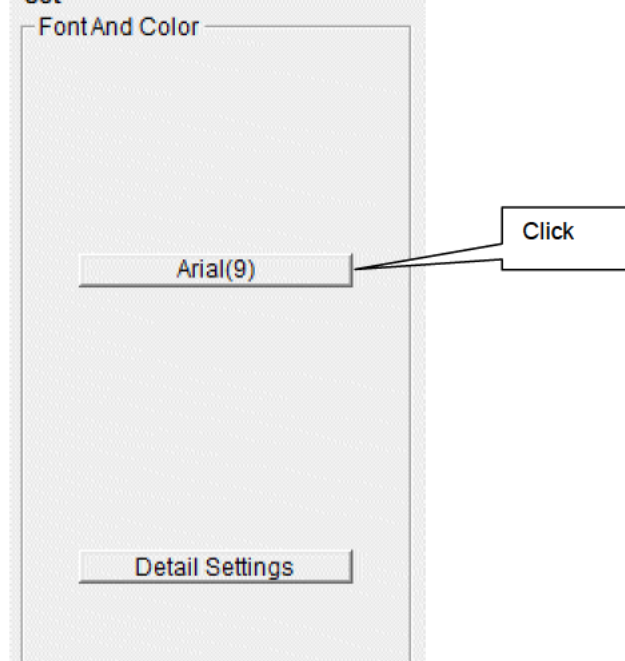
CAUTION: The data specified and/or changed must be sent to the FI-8000 main unit using the Update button.

CAUTION: The font setting is applied on the next startup.

(1) Change font colors

- Change the font

1. Click the area that displays the font.



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

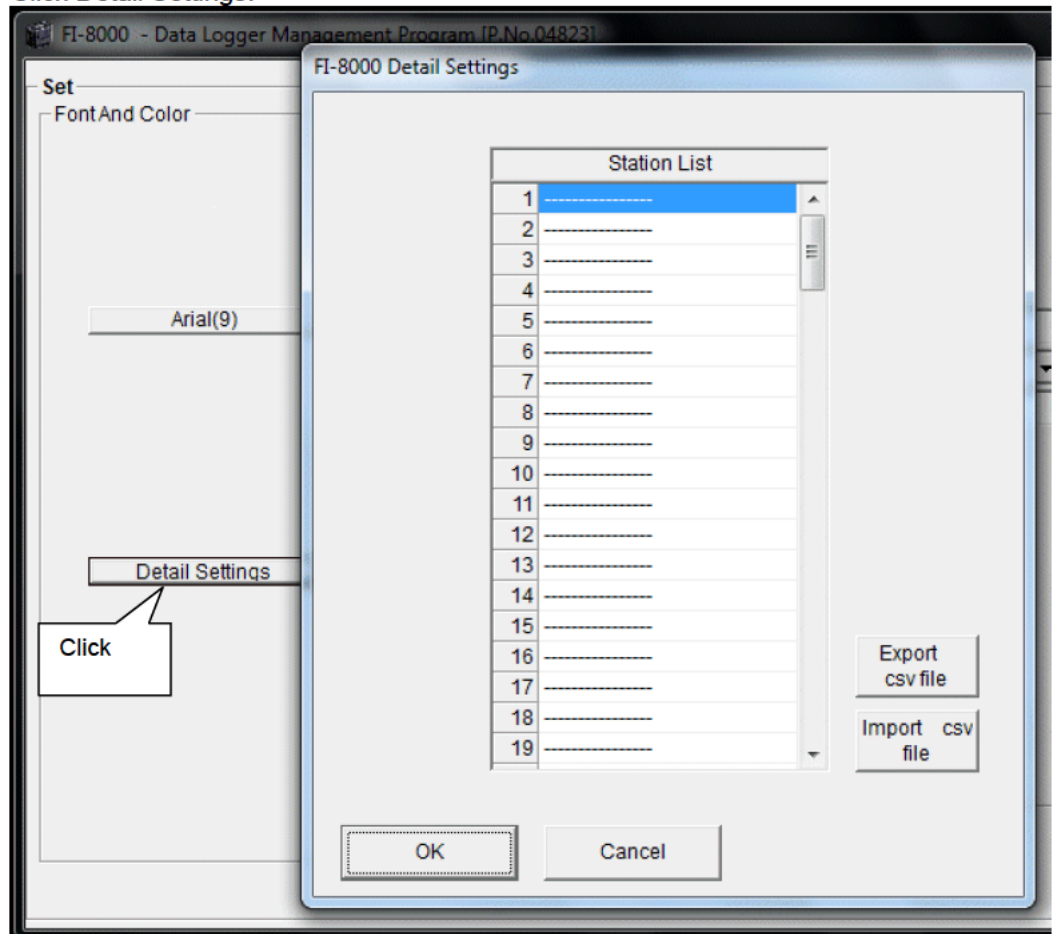
CAUTION:

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

(2) Change status of the main unit

- Edit station list

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



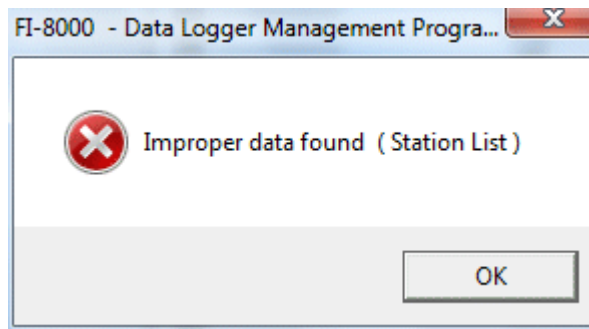
The edit dialog is displayed. The station list contains stations up to Number 128. Up to 16 characters of alphabets, numerics, spaces, hyphens and asterisks can be entered.

*** In the FI-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.

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 FI-8000 main unit (FI-8000 Date/Time) to the set time of the PC (PC Date/Time).

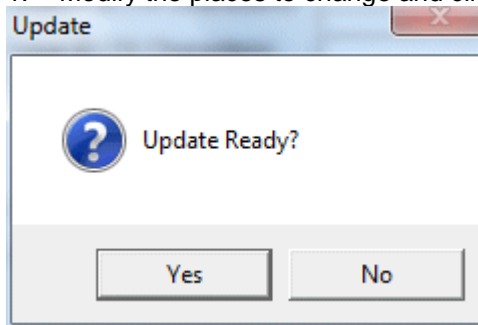
CAUTION: The date/time areas cannot be entered directly.

CAUTION: The settings of the FI-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 FI-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 FI-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 folder specified by "Start in" in the Properties tab of the shortcut created at installation.

- 1) File name: FI8000.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 folder specified by "Start in" in the Properties tab of the shortcut created at installation. 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 FI-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 FI-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 FI-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.

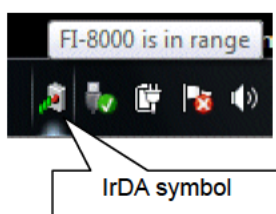
7-2. Display of communication ready status

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.

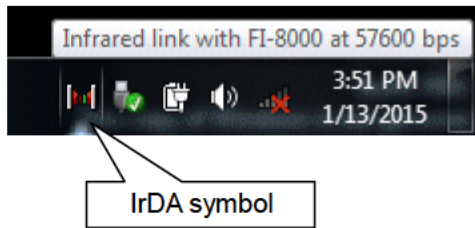
CAUTION: The displayed content might differ depending on the operating system and IrDA driver settings.

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



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

7-2-2. Task bar icon when communication between the data logger program and the FI-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 FI-8000 at xxxx bps" is displayed.

* "xxxx" shows communication rate, 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 FI-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 FI-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
FI8000.exe	FI-8000 main unit
RkIrDA11.ocx	Infrared communication component
RKComm.ocx	Serial communication component
Filemove.avi	Animation file that shows that data download is in progress

8-2. Current directory during operation

File name	Details
FI8000.ini	FI-8000 initialization file
FI8000.DAT	File for data downloading
FI8000.mdb	Database file (Microsoft Jet 3.6 database)
Data	Save directory for trend data files
SerialLog.log	Recording of data that flowed through communication port since startup of the program (for investigation and maintenance)

CAUTION: Files are created after startup of the program.

9

Software Specifications

Name of product (name of program)	FI-8000 Data Logger Management Program
Model	SW-FI-8000(EX)
Executable file name	FI8000.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