

RIKEN

Optical Gas Concentration Sensor

Model S W - F I - 2 1

Data Logging Software

User s Guide

Precautions

- Read this User's Guide before operating instrument.
- Operate the instrument by following the instructions in the User's Guide.
- We do not hold ourselves responsible for any incorrect handling and accident happened by multipurpose operations.
- It is not subject to warranty products which was repair and remodeled by non authorized distributors, dealers and representatives appointed by us.



Warning

- "CD ROM" is used for the program distribution of the instrument.
- Absolutely not to use an ordinary CD player for reproduction. Because it may cause ear trouble or break a speaker by loud noise.

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Introduction

The operation procedures and remarks mentioned in this “User’s Guide” applied only for appropriate use of the instrument. Otherwise, we do not hold ourselves responsible.

The following basic common operations are not explained in this “User’s Guide.: Microsoft Windows 95, Windows 98, command selection of Windows NT4.0 and setting up of dialog box. If you are going to use the Windows first time, please read the Windows manual in advance to learn common operations.

To have a safety and effective operation, the following cautionary marks are used in this “User’s Manual”.

Danger

Means that the matter which causes a serious damage on the human bodies or lives directly.

Warning

If the instrument is not operated following the manual, it causes a serious damage on the human bodies or objects.

Caution

If the instrument is not operated following the manual, it may causes some damage on the human bodies or objects.

*** Note**

Advice on usage.

Caution

Necessity of pointing device

The software requires a pointing device such as a mouse touch pad. It cannot operate only using by keyboard.

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1 . Purpose and Features of Program

This program is a software to down load the Model FI-21 data gathered by the data logger, and use the data effectively.

There are the following advantages by down loaded data by the data logger:

- A list of the gathered data can be shown.
- Gathered data can be saved for Microsoft Excel.
- Able to confirm the operational status of the Model FI-21 while it is gathering data.
- Not necessary to copy the data manually.

Also, this program has a diagnosis function of the Model FI-21. There are following advantages for periodical diagnosis of the FI-21.

- Able to confirm the progress of the “stain” of the Intervention sensor by the figure which is helpful to predict the time for repair and change of the sensor.
- Able to confirm the progress of the “lowered light volume” of the intervention sensor by the figure which is helpful to predict the time for repair and change of the sensor.



Caution

It is strongly prohibited to copy or duplicate all or partially the content of this manual without our knowledge, except for the special regulation by law.

Due to the improvement of the instrument, the content of this User's Guide will be amended without prior notice.

It is necessary to agree with the “Agreement of Software Use “ prepared under a separate cover when the instrument is used. Please consent that we assume you have agreed to this agreement when the package of the instrument is opened.

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Microsoft, Windows 95, Windows 98, Windows NT are the registered trademarks of Microsoft Corporation in the U.S.A. for the U.S.A and other countries.

2. Installation and Un-installation

2 - 1 . Cautions of usage environment

This program is an operating system for Windows 95, Windows 98 and Windows NT 4.0 developed by Microsoft. Please note that the system cannot use other than the above mentioned PCs.

This program requires a maximum 10 MB hard disc when it is installed. Moreover, when you operate the system, it requires a hard discs capacity depending on numbers of data. Please use the system with enough capacity of a disc.



Caution

Usage of CD-ROM

- 1 . CD-ROM storage
Do not store the place where gets direct sun light and high humidity.
- 2 . Assigned CD-ROM Drive
Please avoid to use a slot-in type CD-ROM drive which may causes a difficulty in taking out a disc from the drive due to the attached label on the CD-ROM.
Please use a tray-type for CD drive when use.

2 - 2 . Installation

Insert a disk which stored data of the Model SW-FI-21 to a CD-ROM drive of a Windows-based PC. After a while, an install screen will automatically start.

If the PC is not corresponded to an automatic start transaction of CD-ROM, follow the below methods to start:

- 1 . Click the "Execute by designate the name" on "Start Menu" screen.
- 2 . Input "D:¥SETUP.EXE", and click "OK" button.

* Note

The above input data is assumed that the CD-ROM drive is D. Therefore, please confirm a CD-ROM drive No. of your PC when actually input.

Or,

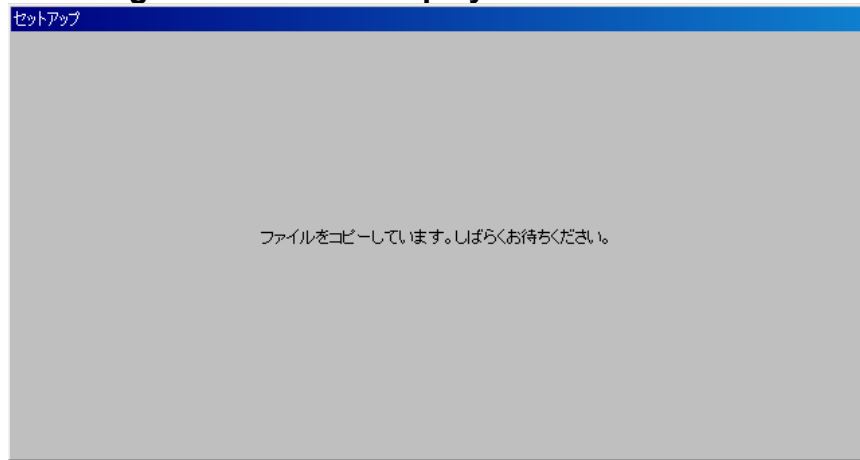
- 1 . Launch explore of the Windows.
- 2 . Click the CD-ROM drive and then double click the "SETUP" button in that drive.

Installing the Software

Launch set up

After inserting CD-ROM and starting SETUP.EXE, the following screen will be displayed.

Copying file.
Please wait for a while.

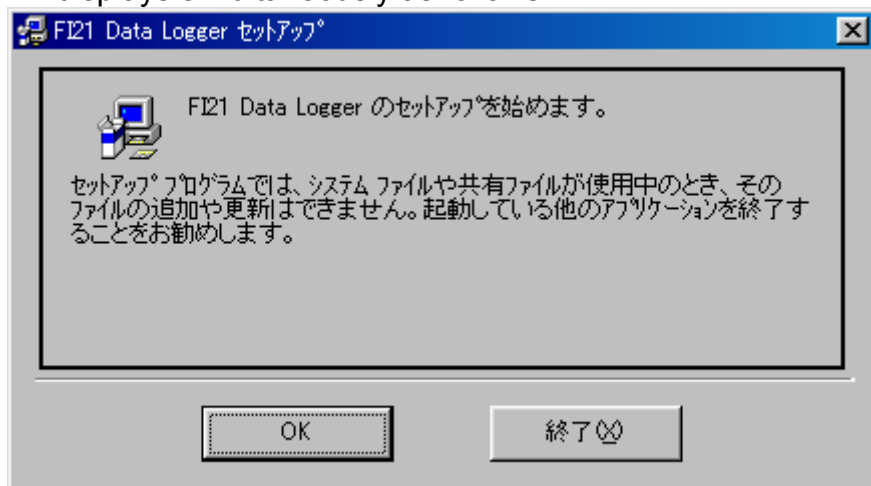


Personal computer system will start copying necessary files. Right after it finishes copy of files, "FI21 Data Logger Set Up" window displays simultaneously as follows.

Start Set up

Start FI21 Data
Logger set-up

In this set-up program, adding or renewal of the file cannot be done while the system and common files are used.



Click the "OK" button to install and click the "Exit" button to stop installation.

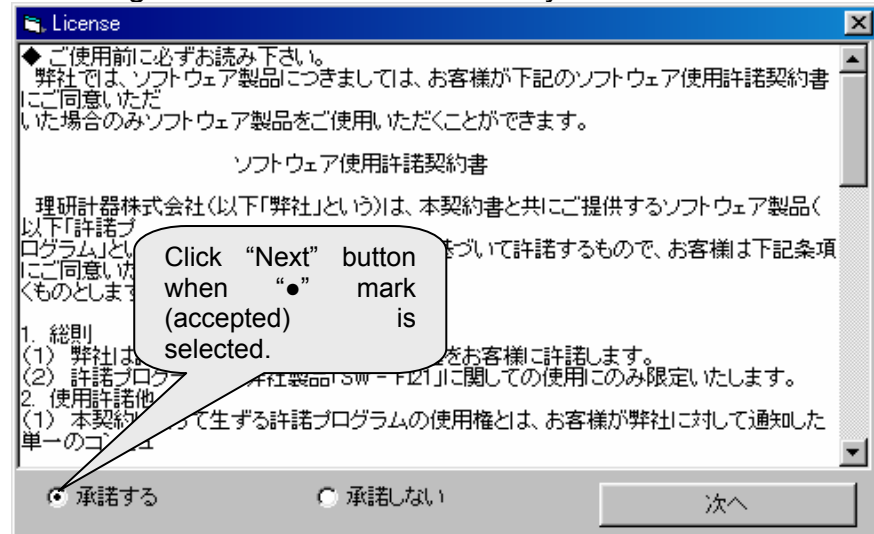
* Note

By following the instructions of display screen, if another application is on, finish the set-up system once. After finishing all other applications, restart the set-up.

Install

Agreement on
usage

Following screen will be shown when you click the “OK” button.



Installation will continue if you click the “Next” button when “Accepted” (marked with “●”) is selected.

Installation will finish if you click the “Next” button when “Not accepted” (marked with “○”) is selected.

* Note

Make sure to fully understand the content of the “Software Usage Agreement” before you start to install the software. The above message is also included in CD-ROM for installation.

Set-up
Click this button
to start set-up.

When click this
button, FI21 Data
Logger application
will be set up in
the appointed
directly.



If you click the “PC picture” button, the software will start the set-up necessary files for PC.

If you click the “Change Directory” button, the set-up directory will be changed accordingly.

If you click the “Exit” button, set-up will stop.

Installation

Group Setting

Set-up is to add items to a group which is displayed on the “program group” box. It is either available to input new group name or select a group name from existed group list.

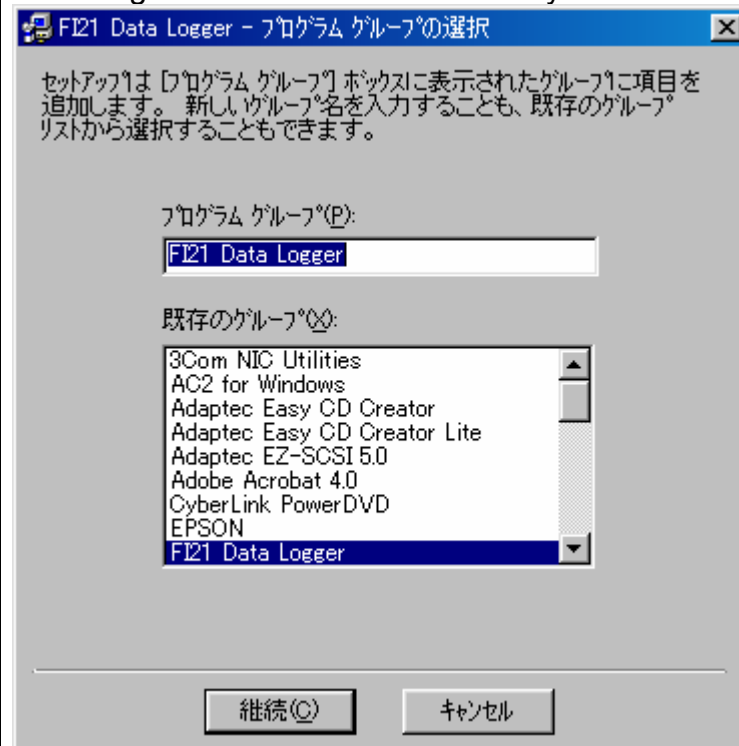
Continue / Cancel

File to set-up

Cancel

Set-up
Procedure

Following screen will be shown when you start the set-up.

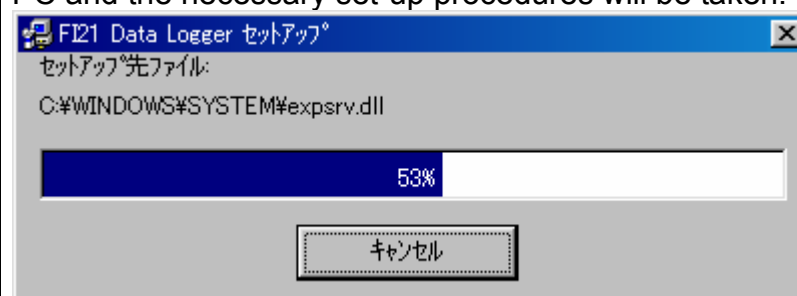


The name of this program, which is shown in the “program” included in the “start” menu of the Window’s screen task bar, can be changed.

If the change is not necessary, just click the “continue” button.

Set-up discontinues if you click the “cancel” button.

Following screen will appear when you click the “continue” button in the screen above. The necessary files are copied to PC and the necessary set-up procedures will be taken.



“Set-up Complete” message will be shown after copy and set-up procedures complete respectively

The program can be used right after set-up completes.



Caution

Save past data for re-install

Please note following when you re-install:

- 1 . Take un-installation procedure once before re-installation.
- 2 . Some data in the file is not completely erased when un-installation procedure was taken after using PC. In the data there is a "FI_Status.log" data, which is saved past PC status, in the file. Please save the data in another folder so that the data may used when maintaining instruments



Caution

Cautions for installation in Windows NT

The software requires the library such as various kinds of driver in the Windows system. The library will be set in automatically when the installation is conducted.

However, the user of the Windows NT installation, the authority of administration is required.

In this case, follow the instruction and log on as administrator and install the system library. Later re-launch of the system will be requested. After re-launch, try log on again as general user and install the application. (It is Ok if the Library, Application, CD-ROM and SETUP.EXE in a floppy disc are launched. Only when the necessary libraries are not in the system folder, installation by the authority of the administrator will be required.

Un-installation

2 - 3 . Un-installation

Launch

Un-installation will take place as follows: Firstly, click the “set-up” from the “start” menu of the task bar. And launch the “control panel” in the “set-up” menu.

Control Panel (Example)

Add and delete application



Select one object

Launch starts by double clicking the “Add and Delete of Application” in the Control Panel.

Un-installation

Select FI-21

Click the “Install” button when install new applications from floppy disk or CD-ROM.

Following software can be deleted automatically.

Click the “Add and Delete” button to select items, which you want to delete application or change its compositional file, in the following list.

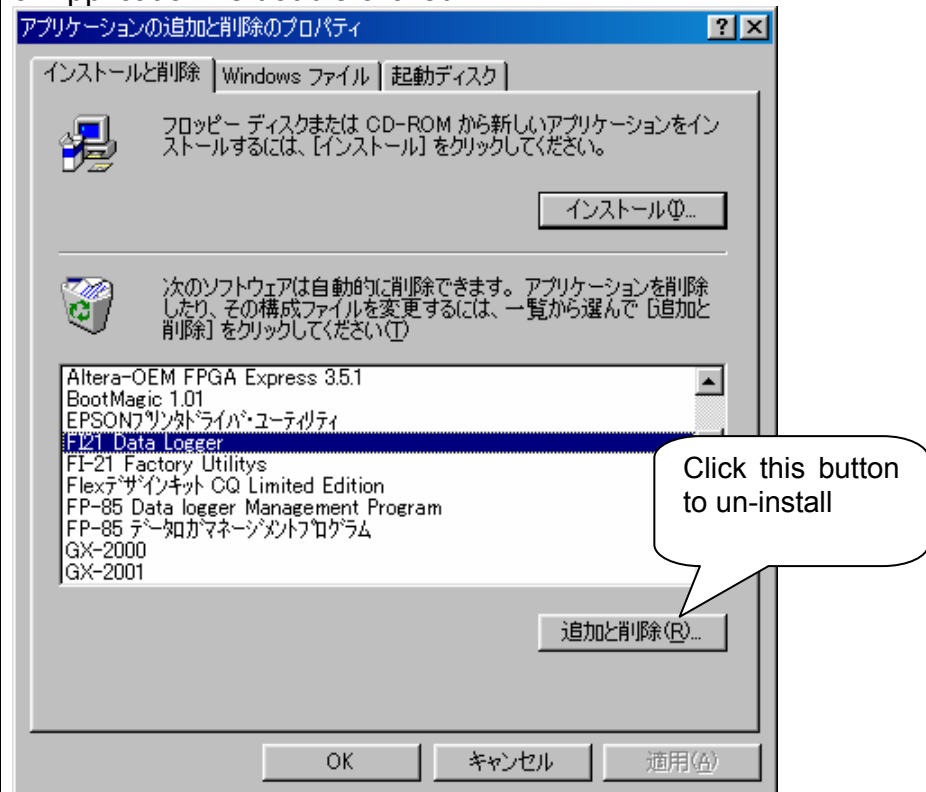
Delete FI21 data logger and all its components?

Yes / No

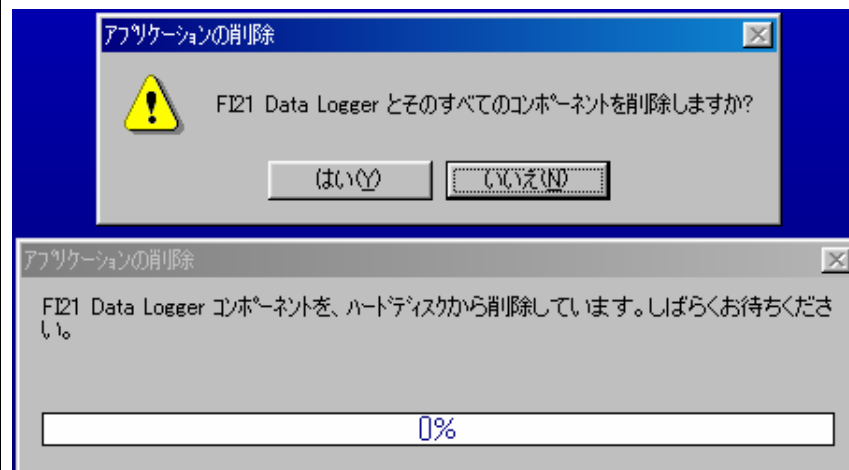
Deleting FI21 Data Logger component from the hard disc. Please wait for a while.

Start Deleting

The following screen will be displayed when the “Add and Delete of Application” is double clicked.



Select (click) "FI-21 Data Logger" and click the “Add and Delete” button.



When the “Yes” button is clicked, un-installation will start. When the “No” button is clicked, un-installation will stop.

Caution

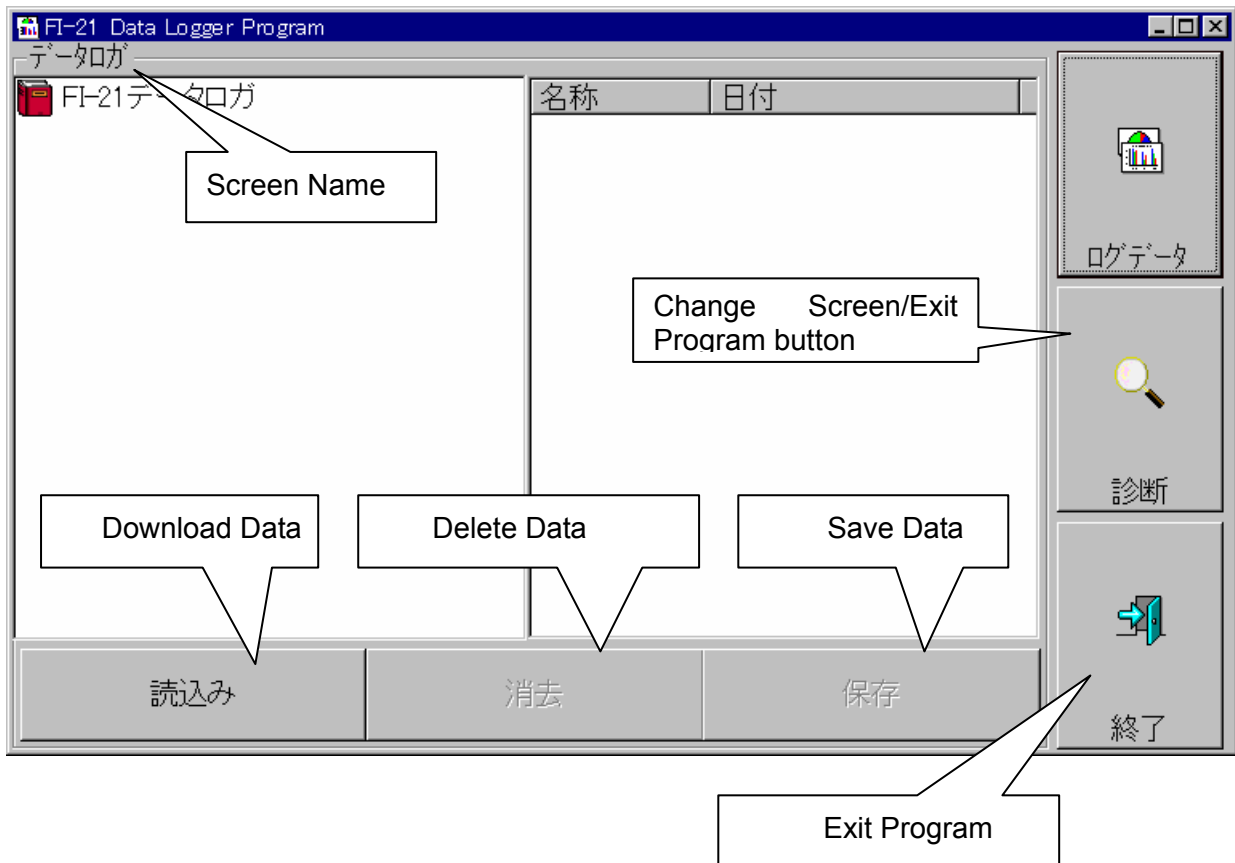
The message saying “Delete common component?” might appear on display screen while you are re-installing. If you select the “Delete All” button, it could affect to the other applications. Therefore, select the “Save All” button.

3. How to Operate

Click the start menu, then there is the FI-21 Data Logger in the “Program”.

3-1. Logger Data Screen

The following will be displayed on the screen when the FI-21 Data Logger program is clicked.



To communicate the data, connect the communication cable to the Model FI-21. Once PC's power is ON, it will judge automatically whether or not communication is possible. If it is possible, the PC will be ready to receive the data.

* Note

Use the special cable attached to the Model FI-21 as a communication cable.



How to Operate

(1) Download data from the FI-21

Preparation

Turn off the power of PC and connect the communication cable (RS-232C) to the RS-232C connector of PC.
Connect the communication cable to the Model FI-21.
Turn on the power of PC and launch software.
Turn on the power of the Model FI-21.



Caution

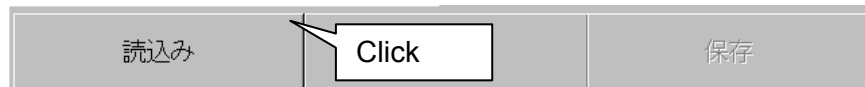
Make sure to connect the cable first and then turn on the power of the Model FI-21.
The communication will not be available even the cable is connected to the FI-21 even if the power is on.

Down load

The message on the right will be displayed on the liquid crystal screen of the Model FI-21.

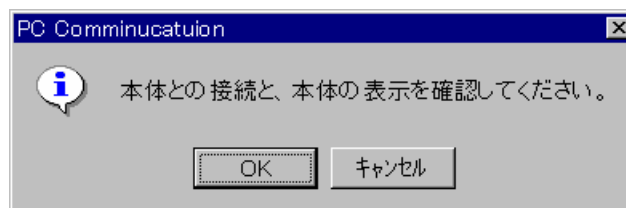
PC COMMUNICATION

Click the "Down load" button.



When message which confirms downloading the status appears, click the "OK" button to start down loading and click the "Cancel" button to cancel.

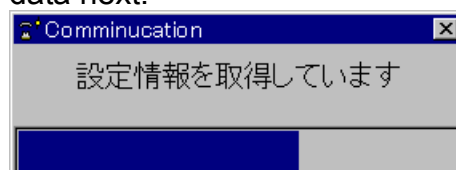
Confirming connection and display of the Model FI-21 respectively.



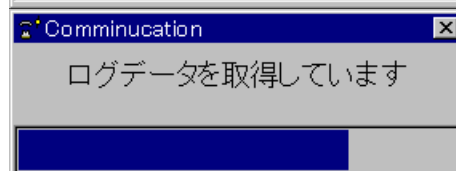
When the "OK" button is clicked, down load will start.

The setting information will be downloaded first and the log data next.

Acquiring setting information



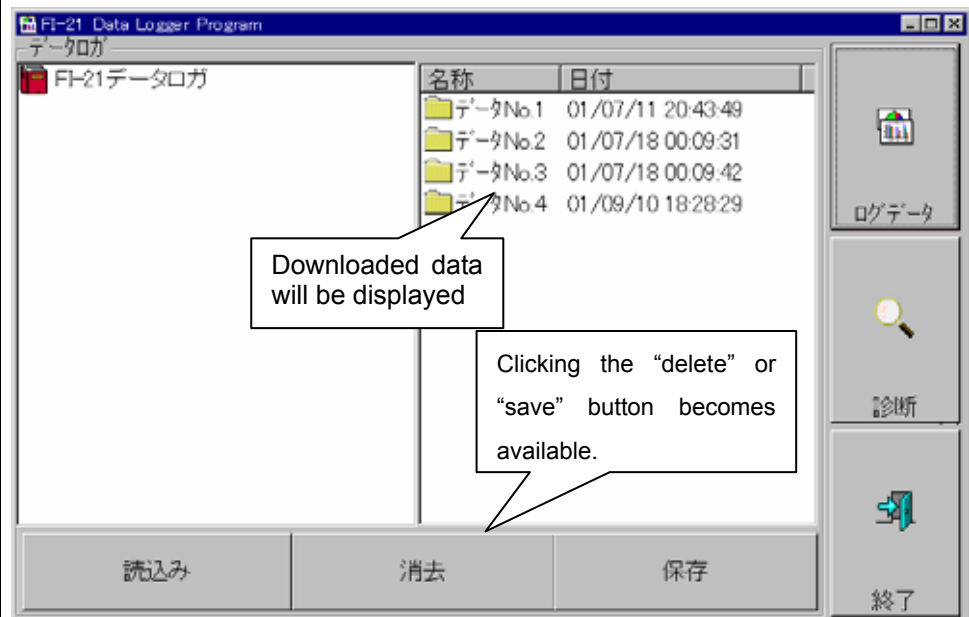
Acquiring logger data



How to Operate

Download continues

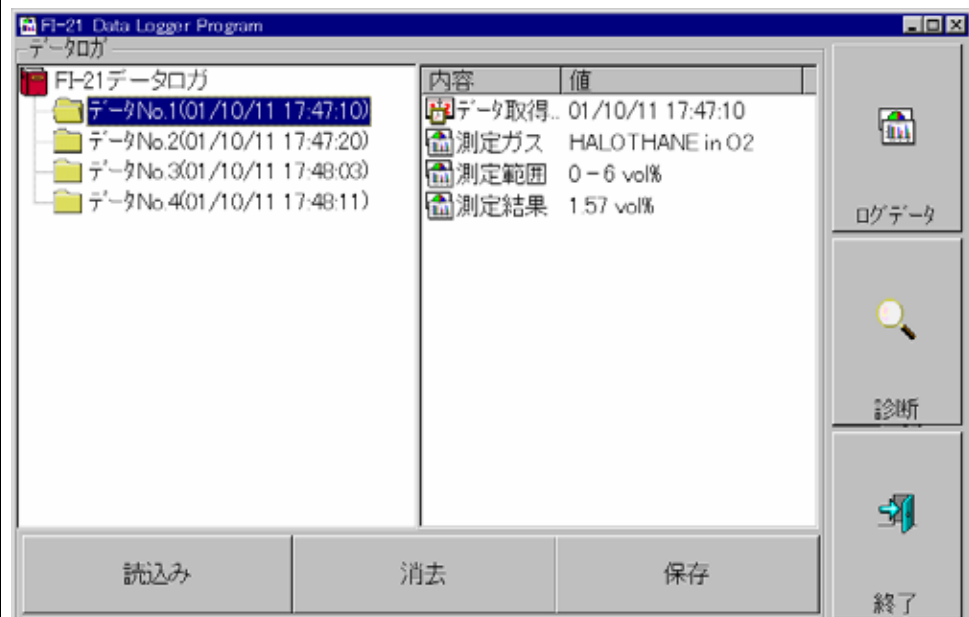
The following logger data will be displayed on the screen when data is normally downloaded.



It is able to operate the way of explore at the Windows (However, the data can be transferred and the name can be changed.)

Operation

The left side of the data logger screen is designed as tree structure. Whether or not to display the data on the screen can be selected by double clicking the "book" icon,



The details of the data can be seen by either clicking the left side of the folder icon (each data logger) or double clicking the right side of the folder icon.

How to Operate

(2) Delete data of the FI-21

Clear Data

This function can be used when you want to delete after you received the data.

* Note

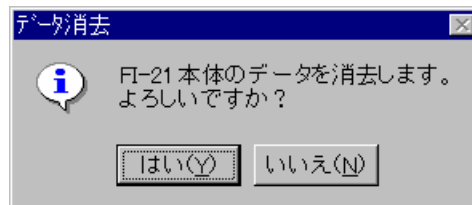
100 pcs of the logger data can be saved in the Model FI-21. It is recommended to download the data by using the afore-mentioned software and save the data in the instrument before clearing the data.

Click the "Clear" button.

When the message appears, click the "Yes" for clear and "No" for stop.

Is it OK to clear the FI-21 data?

Yes / No



! Caution

- Once the data is cleared, it will not be able to revive in the FI-21. And, please make sure to save the data by clicking the "Save" button before clearing the data because if the data is downloaded after clearing without saving, the previous data will be disappeared.
- The icon/internal transaction of FI-21 will be effective from the next launch

(3) Save down loaded data to PC

Save Data

Save the received data in a file

Click the “Save” button.

After the screen to select the file appeared, input the name of the file to save.



The message asking you to delete the data in the FI-21 will be displayed. Please select “Yes” to delete and “No” to keep the data as it is.

Please refer to the ”(2) to delete the data of the Model FI-21”.

(4) Finish Program

Exit from the Program

Click the “Exit” button.

Confirmation message will be displayed. Please click “Yes (Y)” to exit the program and “No (N)” to continue the program.

* Note

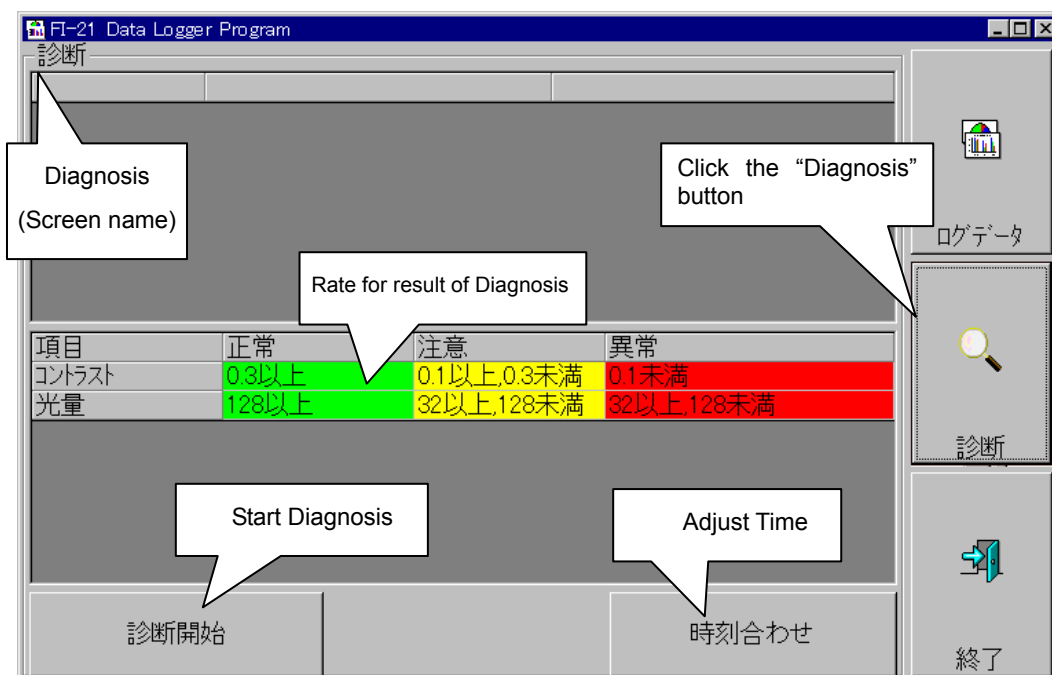
The sign of the “PC COMMUNICATION” is still displayed on the Model FI-21 screen even after the program finishes. However, please continue to operate by following the instructions from .

Turn OFF the power of the Model FI-21.

Take off the communication cable.

3 - 2 . Diagnosis Screen

When click the “Diagnosis” button located on right side end of the screen, the screen changes as follows. In this screen the main conditions of the FI-21 can be confirmed.



How to Operate

(1) Start Diagnosis

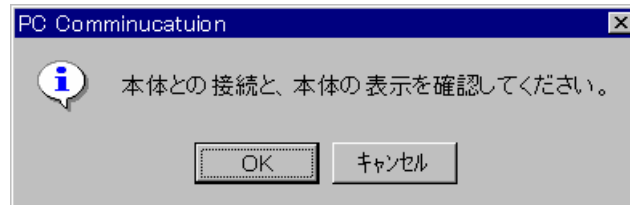
Content of Diagnosis

Confirm connection with and indication of the Model FI-21.

OK / Cancel

The diagnosis can measure volume of light and contrast of the interfere meter.

When click the “Diagnosis Start” button, the following message will be displayed on the screen.



When you click the “OK” button, diagnosis will start and when click the “Cancel” button, diagnosis will stop. The result of the diagnosis will be shown on the top of the screen as follows.



The result of the diagnosis rate will be shown by different colors.

Green (Normal) : It means the result is in normal condition.

Yellow (Caution) : It means that the contrast and the light volume are in caution conditions, the dirt and the light volume lowering of the interfere meter are in progress respectively. It is recommended to change or repair the sensor before the function is halted.

Red (Abnormal) : It means that the contrast and the light volume are extremely in abnormal conditions, the dirt and the light volume lowering of the interfere meter are in extreme condition as well. When this happens, the “ERROR” message will be shown on FI-21 and unable to measure. Please take an appropriate transaction immediately before this happens (when it becomes in caution condition)

Please take a periodical diagnosis to prevent abnormal movement of FI-21

How to Operate

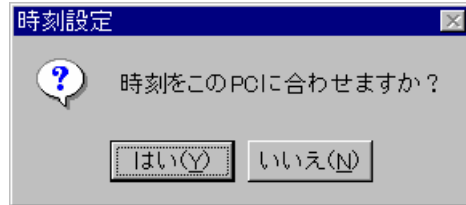
(2) Adjust Time

Use PC Time

Please click the “adjusting time” button to synchronize the time with the PC which is communicating.

Adjust the time
with PC?

Yes / No

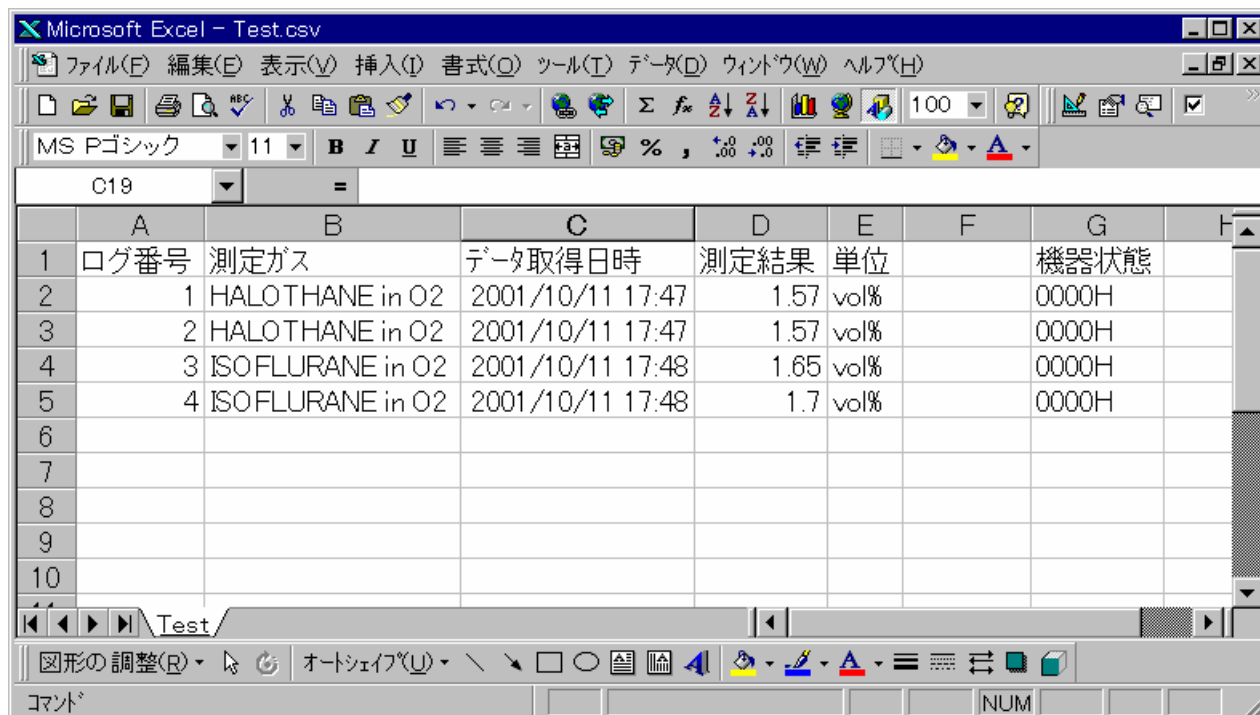


Send the present PC time to the FI-21 and adjust the time by clicking the “Yes” button. The transaction will stop when click the “No” button.

How to Operate

3 - 3 . Contents of data saved in PC

If the logger data is saved as CVS form file with punctuated by comma, the excel file manufactured by Microsoft can be opened.



The screenshot shows a Microsoft Excel window titled 'Microsoft Excel - Test.csv'. The spreadsheet contains the following data:

	A	B	C	D	E	F	G	H
1	ログ番号	測定ガス	データ取得日時	測定結果	単位		機器状態	
2	1	HALOTHANE in O2	2001/10/11 17:47	1.57	vol%		0000H	
3	2	HALOTHANE in O2	2001/10/11 17:47	1.57	vol%		0000H	
4	3	ISOFLURANE in O2	2001/10/11 17:48	1.65	vol%		0000H	
5	4	ISOFLURANE in O2	2001/10/11 17:48	1.7	vol%		0000H	
6								
7								
8								
9								
10								

The data is structured by the below contents:

- A : Logger No. (consecutive number from one)
- B : Measuring Gas ("Measuring Gas in Base Gas" Form)
- C : Received Data ("Year/Month/Date Hour: Minute" Form)
- D : Measuring Result
- E : Denomination
- G : Instrument Condition

*** Note**

- The decimal point of the measuring result data is saved depend on the setting details of the FI-21 when the data is installed. However, after the saved data by Excel is needed, the data will be processed to the form setting of each cell. (e.g. : Changed from "2.00" "2")
- The instrument condition shows the data of operation conditions when the FI-21 data was gathered. Please do not delete the data and keep them as they are so that we may analyze the data when abnormal condition will be occurred.
- The date and time of acquired data saves even the "second" data from the FI-21. However, the Excel sheet doesn't show the "second" data in the cell due to its function.

4. Data Maintenance

This program does not have a function to save downloaded data from the FI-21 automatically. When you control the data by PC, it is necessary to save the data in the CVS form whenever you use the program.

4 - 1 . Back-up

The possibility is not zero to lose the valuable data by unexpected PC trouble. It is recommended to copy the saved file to another hard disc or MO, CD-R or floppy disc.

5. Caution for Usage

Please consider the following items carefully when you use this program:

Please confirm whether the cable is connected to the serial port when you install the data. There is a possibility to cause a defective movement if other instruments are connected besides the cable. And, installing the incorrect data may cause some trouble to the operation of the program.

Please do not use the other application software which need the same serial port with the software of the FI-21 simultaneously.

Please do not exit the program compulsory (by operating Ctrl + Alt + Del)
The program saves the parameter when its taking the exit procedure and prepares for the next launch. Therefore, there is a possibility to cause some troubles if the program is exited compulsory. However, in some cases, compulsory might necessary because of locking. (Defect of the OS side) serial port.

Please do not directly re-write the data file.

6. Troubleshooting

These troubleshootings are not covered all the troubles. To assist to solve the items which mostly often happens are briefly mentioned.

Content of Failure	Major Cause	Treatment
Cannot communicate	Cable disconnection · deterioration	Confirm whether the cable is surely connected
	The power of the FI-21 is not ON.	Turn On the power of the FI-21 after connecting the cable to the FI-21,
	Turn ON the power before the cable is connected to the FI-21.	Confirm the “PC COMMUNITION” is shown on the LCD of the FI-21.
Error occurs while communicating	Disconnection of the communication cable	Confirm whether the cable is surely connected
Something is wrong with the data while communicating	The noise was on while communicating	Keep the cause of the noise away from the cable.

Even after you took measures mentioned above, the instrument does not recover to the normal condition, please contact with our service office.