



Portable Combustible Gas Monitor

NP-1000

Data Logger Management Program

SW-NP-1000

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/>

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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, Microsoft Windows 8 and Microsoft Windows 10, such as selecting commands, setting dialog boxes, etc. 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 NP-1000 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.
- 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 Microsoft Windows 7, Microsoft Windows 8 and Microsoft 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.

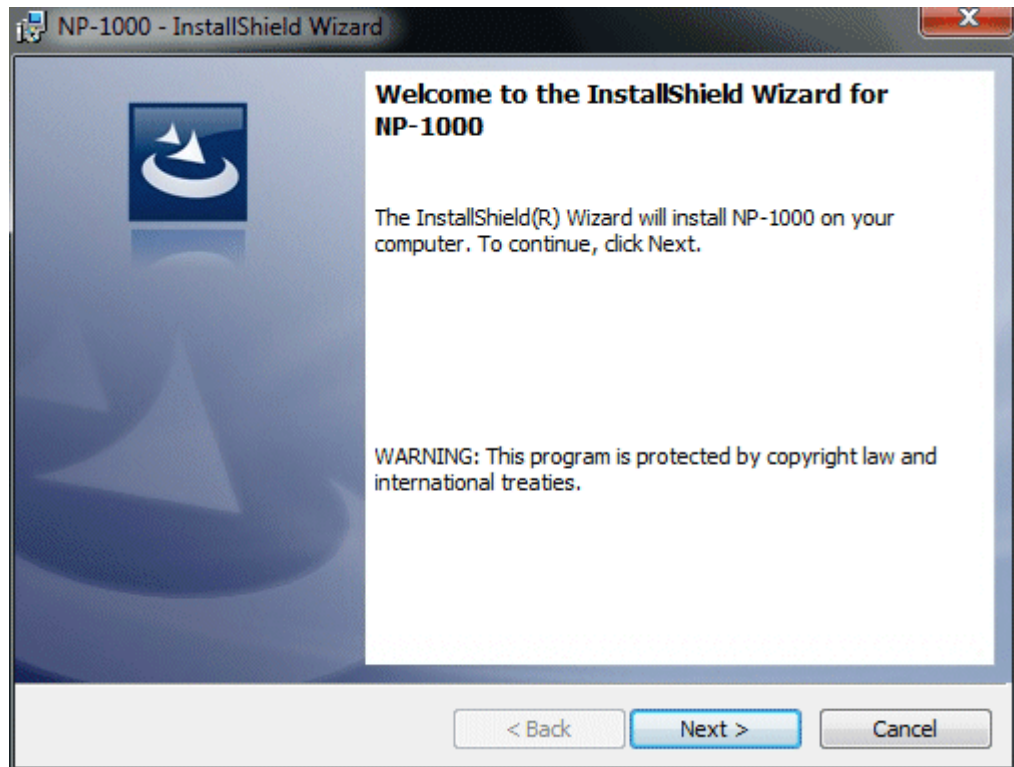
When the PC does not support the auto-start function of the CD-ROM, operate as follows:

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.

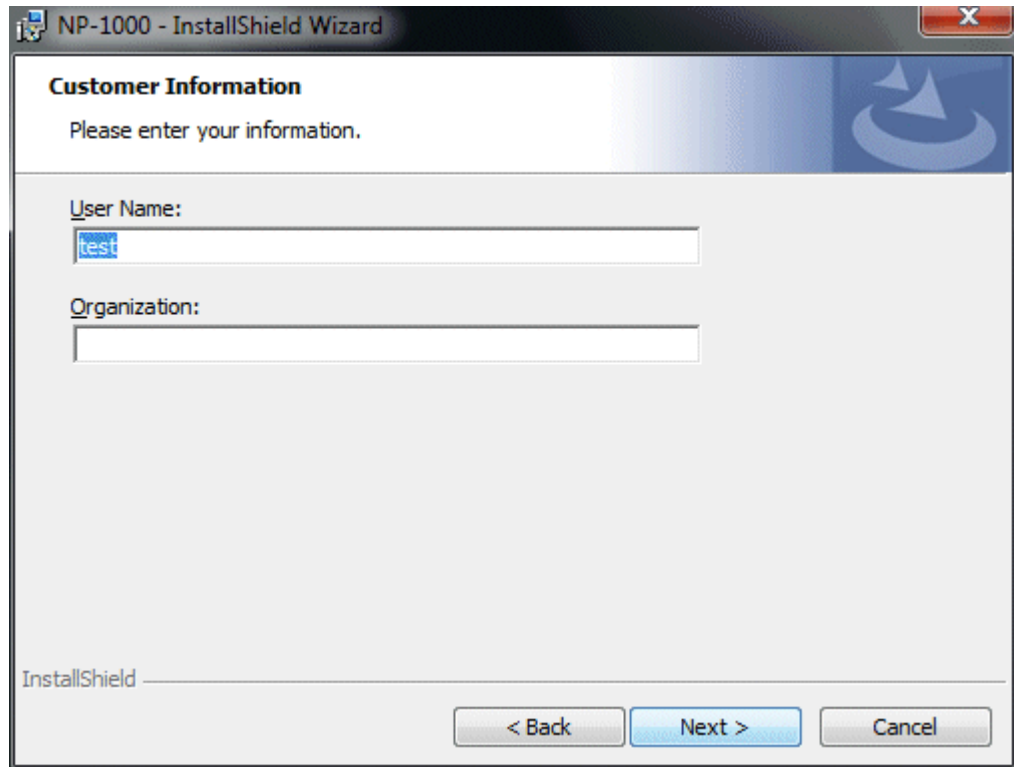


CAUTION

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

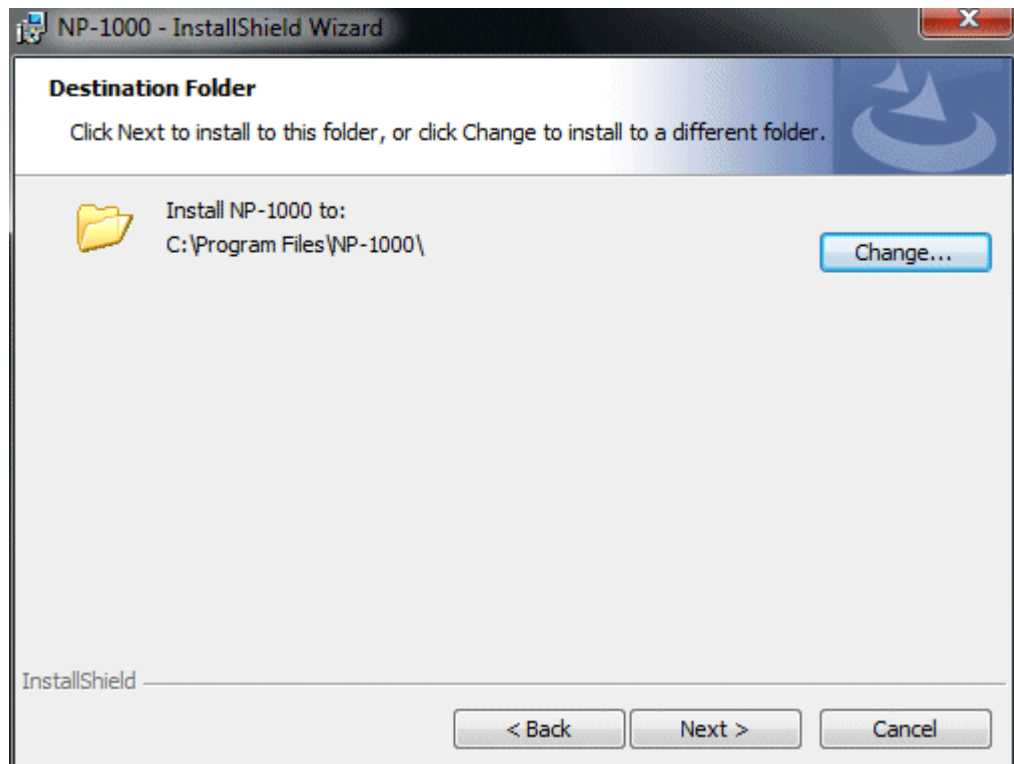
- **Customer Information**

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



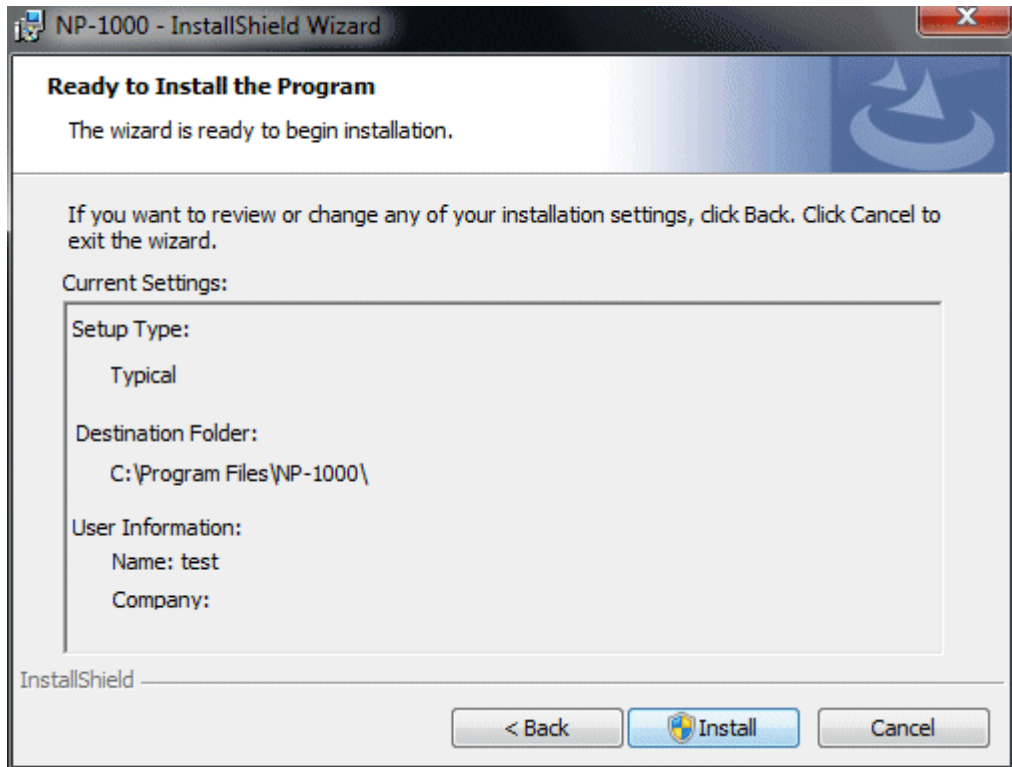
Click the "Next" button.

- **Destination Folder**



Click the "Next" button.

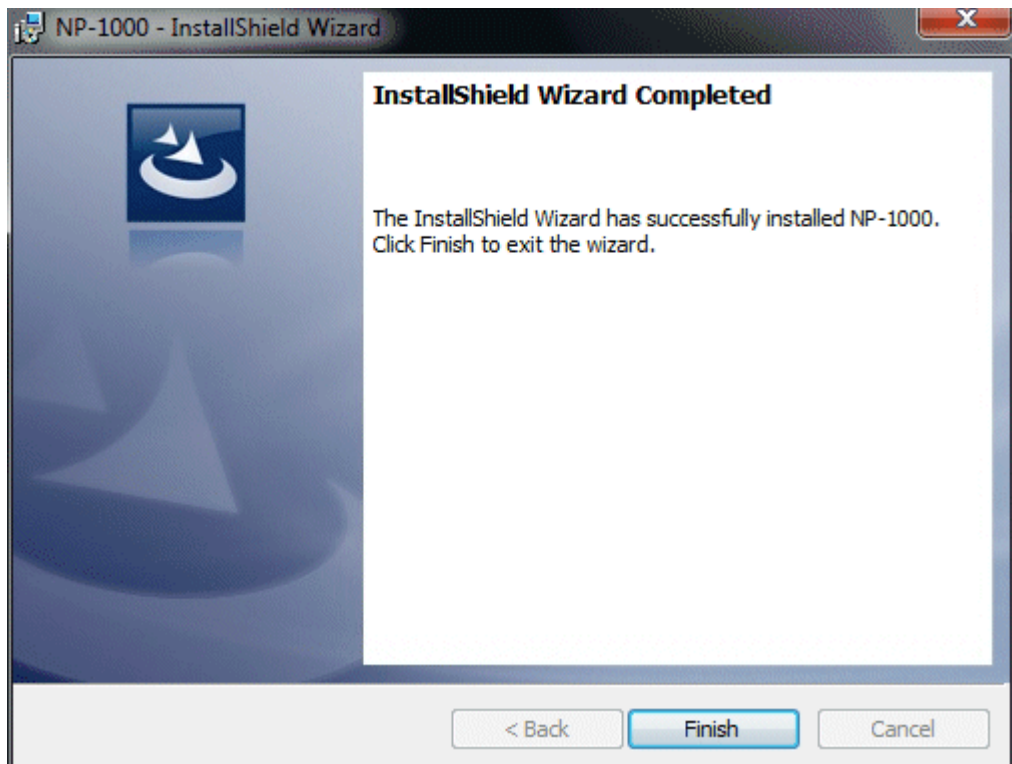
- **Start setup**



Click the "Next" button to start installation.

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

- **Complete**



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, NP1000.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 XP/Vista/7

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 Microsoft Windows 7, Microsoft Windows 8 or Microsoft Windows 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 Microsoft Windows 7, Microsoft Windows 8 or Microsoft Windows 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.

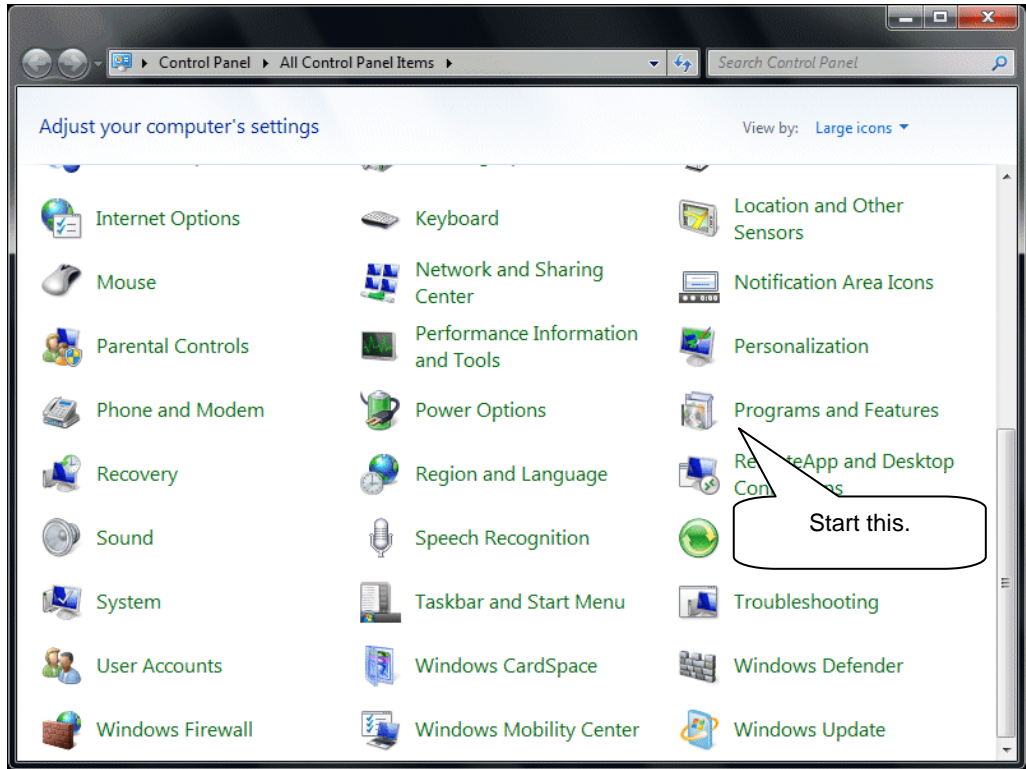
When using a computer connected to the network, use with sufficient considerations on security settings.

2-4. Uninstallation

- **Startup**

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

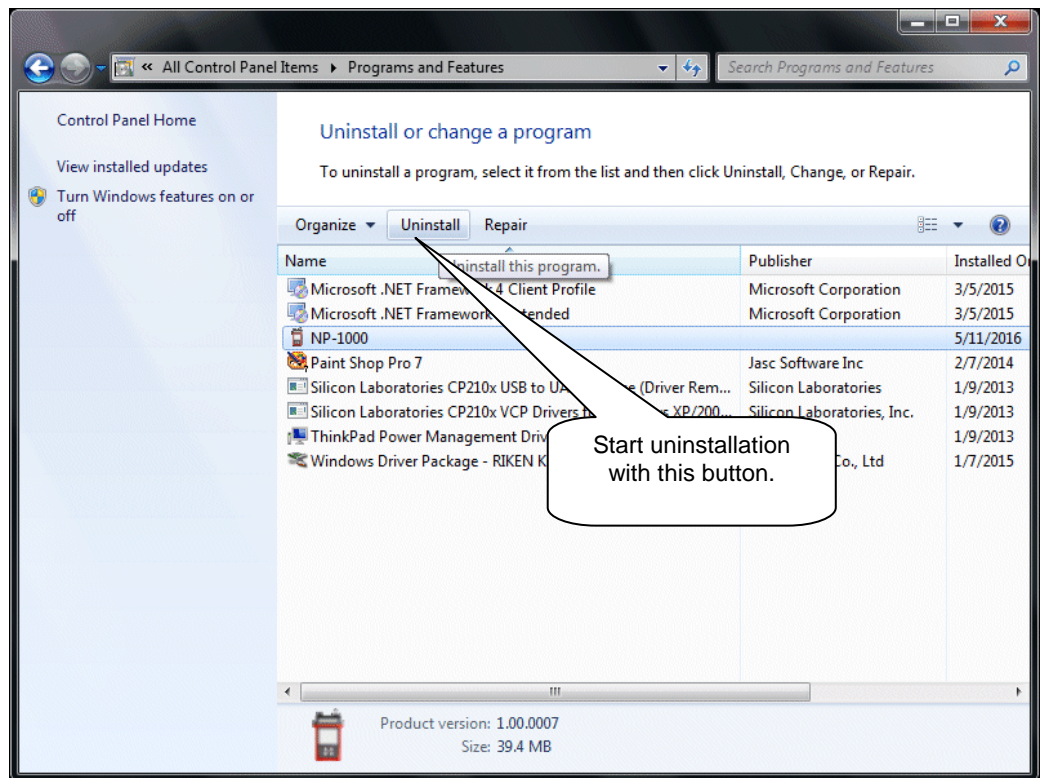
Control Panel (example)



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

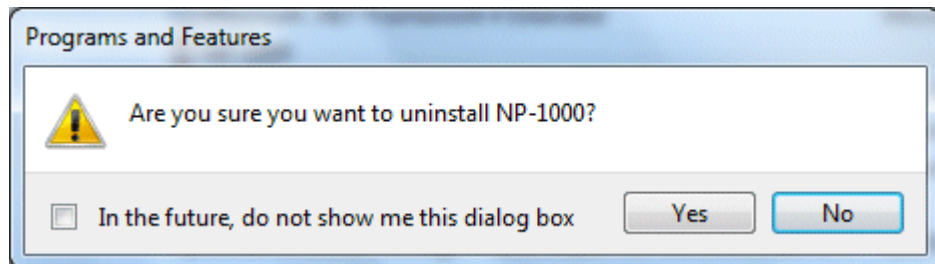
- **Select NP-1000**

When "Programs and Features" is double-clicked, the following screen is displayed.



- **Start deletion**

Select "NP-1000" 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.

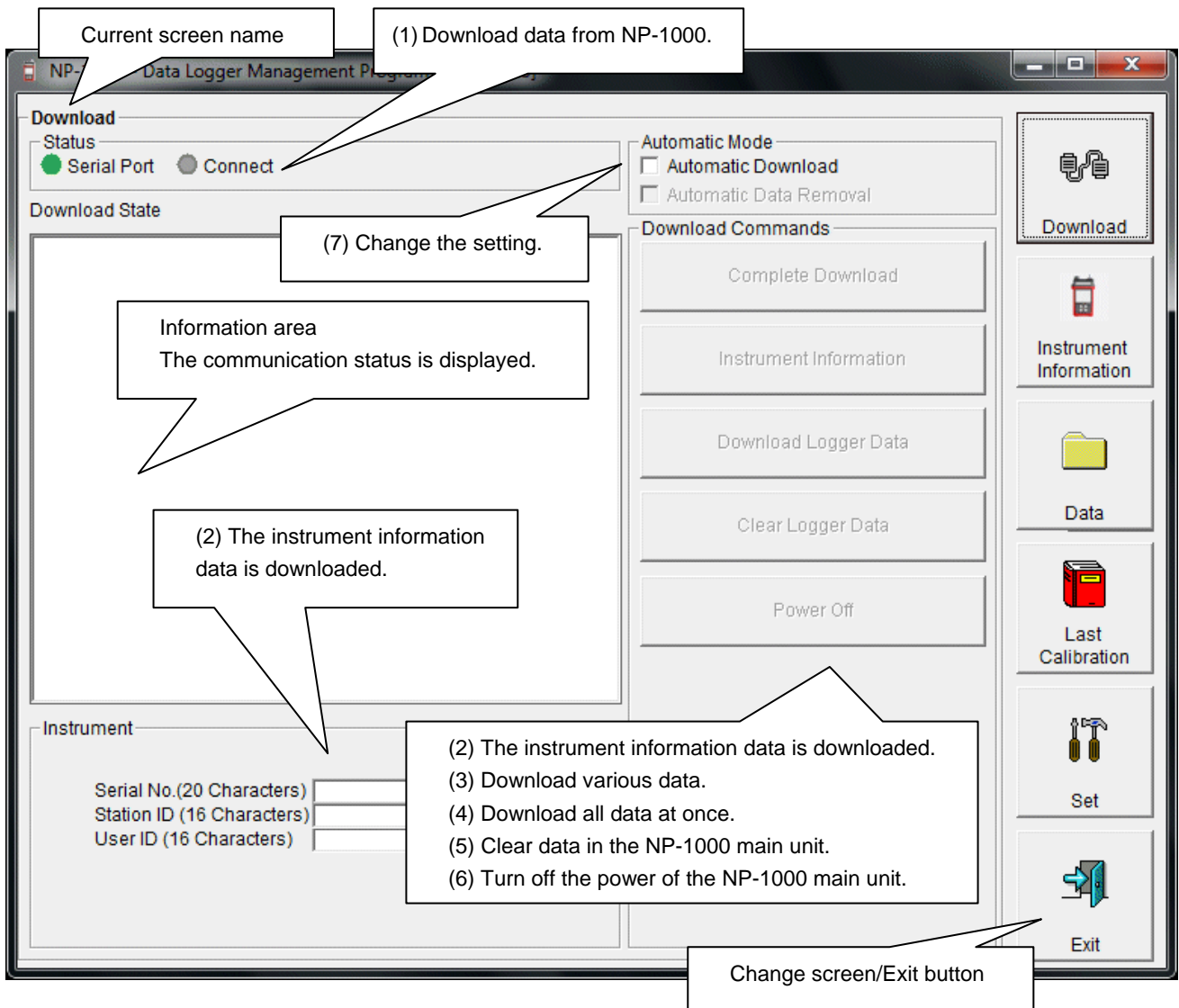
3

How to Operate

Double-click the "NP-1000" desktop shortcut, or click the Start Menu, select "Programs" and click the NP-1000 program icon.

3-1. Download screen

After the splash screen, the download screen is displayed.



To perform data communication, place the NP-1000 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 NP-1000

• **Prepare the main unit**

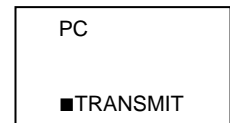
1. Start the software.
2. With the NP-1000 main unit powered off, move it to a position capable of communication.
3. Turn on the NP-1000 main unit.



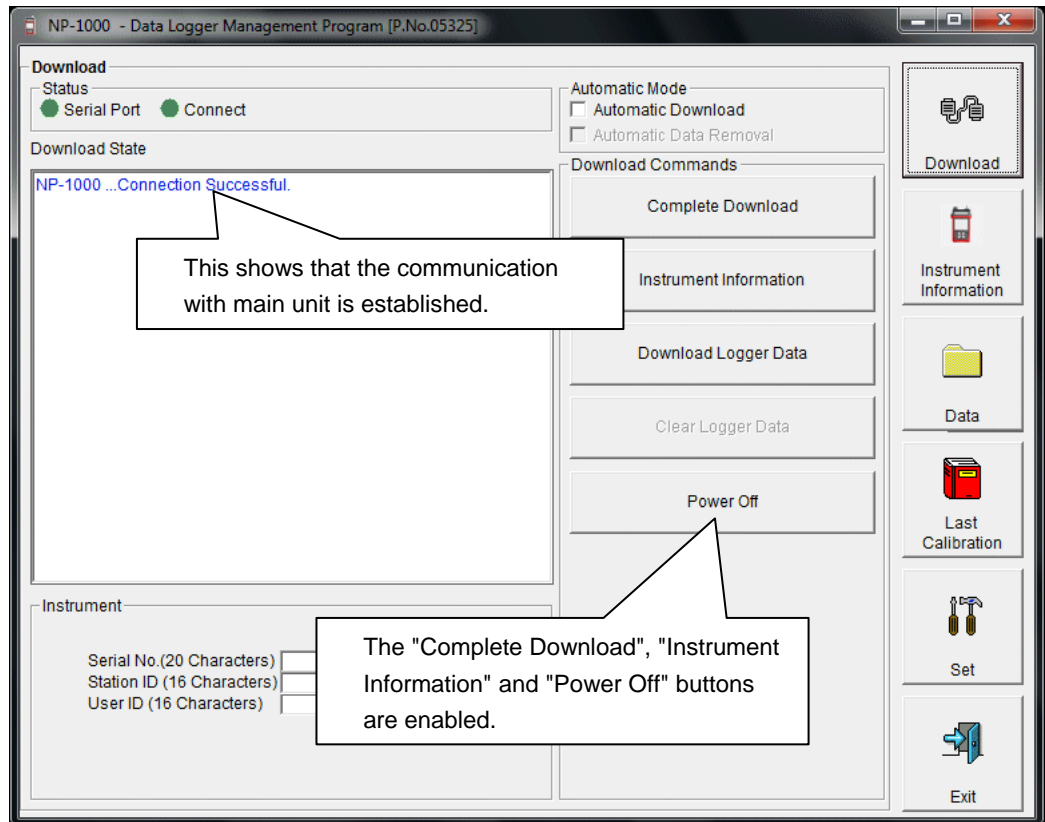
CAUTION

Make sure to turn on the power of NP-1000 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 NP-1000 main unit. →
 (Due to the display resolution of NP-1000, 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 NP-1000 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:

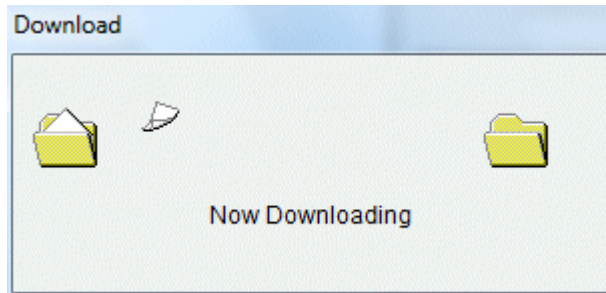
Communication ready: Gray

Communication in progress: Green

(2) Download instrument information

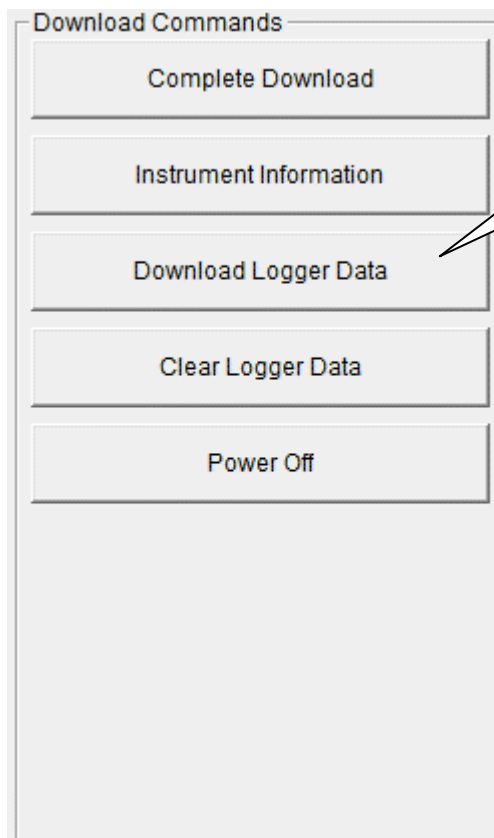
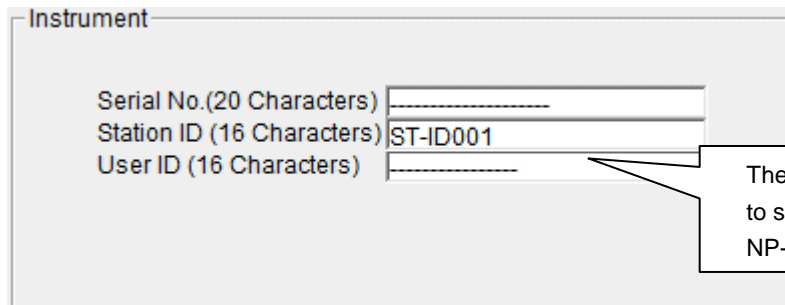
- **Download instrument information**

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.

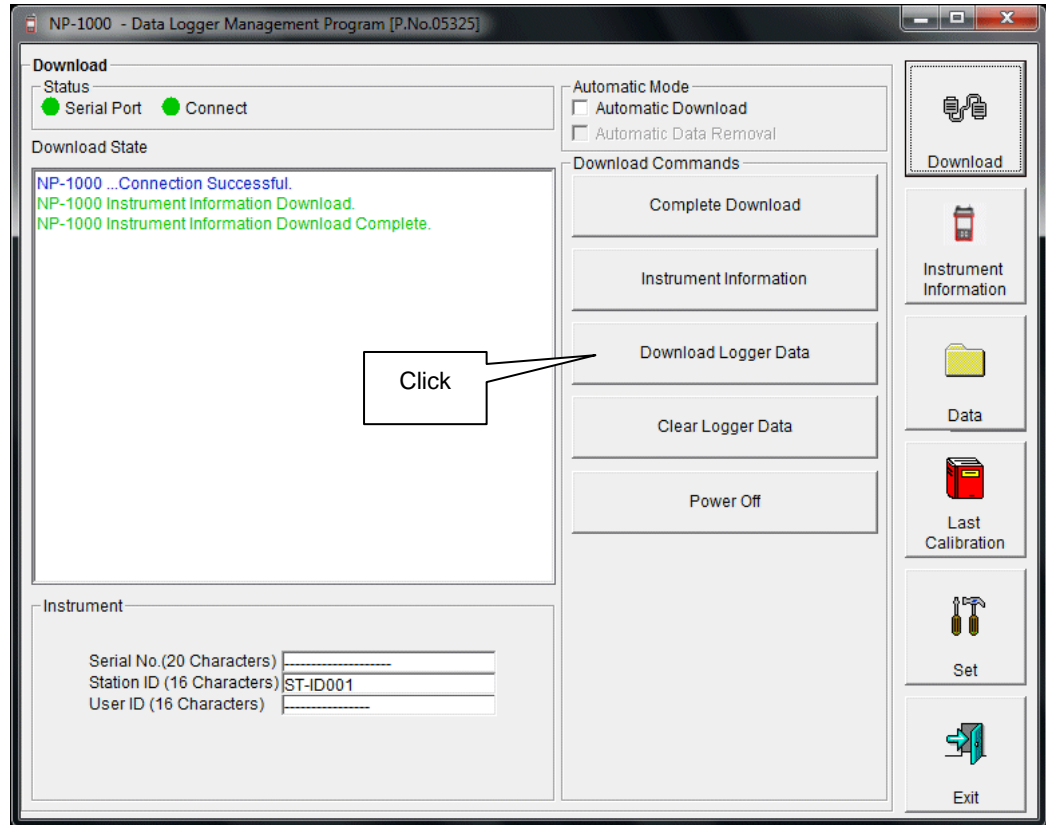


(3) Download various data

- 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

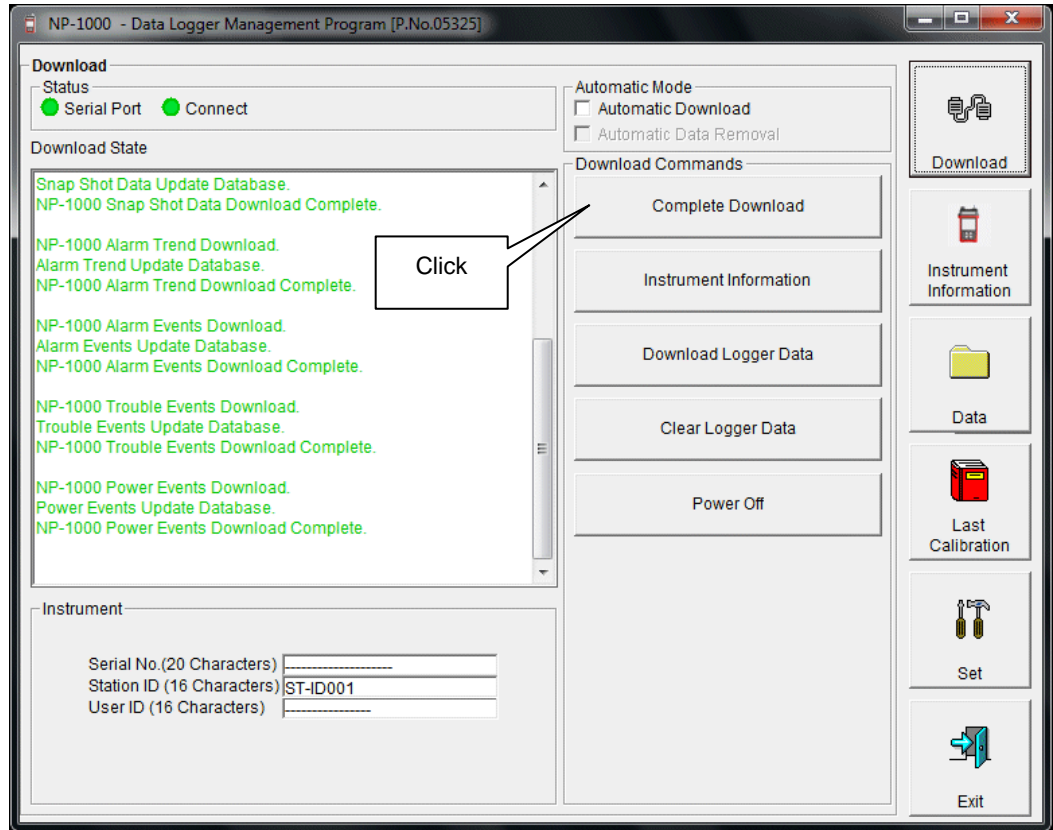
During download of each data, other data accesses are prohibited. Therefore, other download buttons and the "Set" button are disabled.

(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

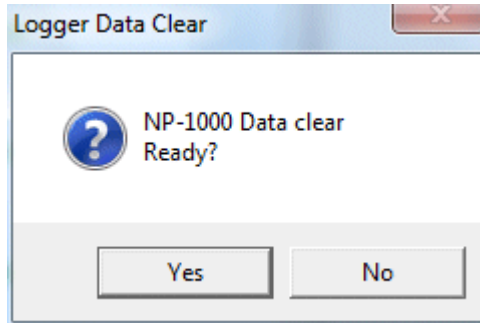
During download of each data, other data accesses are prohibited. Therefore, other download buttons and the "Set" button are disabled.

(5) Clear data in the NP-1000 main unit

- **Data clear**

Use the "Clear Logger Data" button to delete various data stored inside NP-1000.

Click the "Clear Logger Data" button.



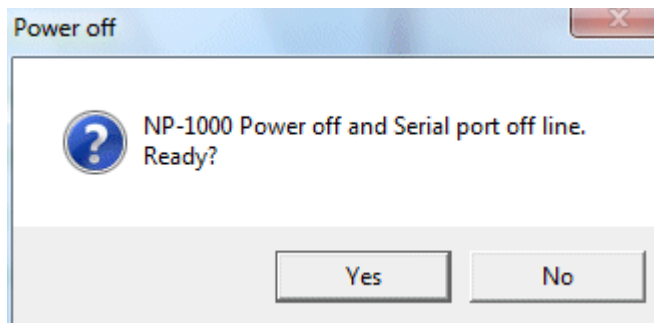
Click "Yes" to start clearing the data.

(6) Turn off the power of the NP-1000 main unit

- **Power OFF**

Use the "Power Off" button to turn off the power of the NP-1000 main unit and initialize the serial port of the PC.

1. Click the "Power Off" button.

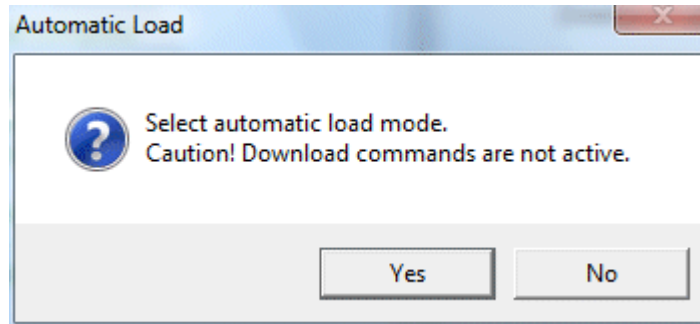
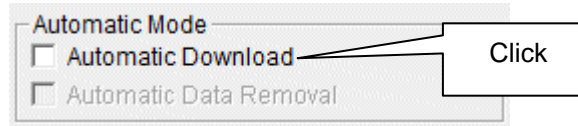


Click the "Yes" button to start the power off process of the NP-1000 main unit. After the serial port of the PC is initialized, it will be reset to the data download ready status.

(7) Switch to automatic mode

- **Automatic Download**

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



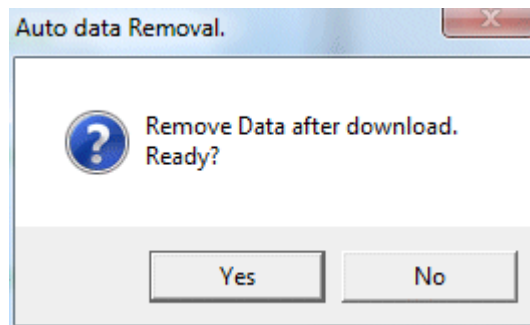
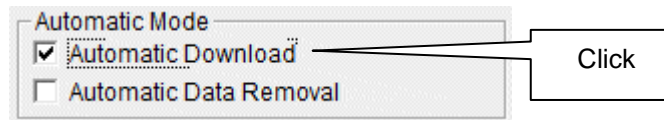
Click "Yes" to switch to Automatic Download.
Click "No" to cancel mode change.

- **Automatic Data Removal**

In this mode, after the NP-1000 main unit is powered on, the PC automatically downloads complete data and then turns off the power of the NP-1000 main unit. During automatic download, manual download is not available.

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 NP-1000 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 NP-1000 main unit.

(1) Data source type

(2) Status information

(3) Calibration history information

Click this button

(4) Sensor alarm setpoint information

Instrument Information [Connected]						
NP-1000 Status						
Serial No. (20 Characters)						
Station ID (16 Characters)	ST-ID001					
User ID (16 Characters)						
Calibration History						
Gas	Calib.Date	Before	After	A.Cal.	Cal.Due(Days)	
CH4(100.0VOL)	5/10/2016 2:43:40 P	100.2	100.0	100.0	89	
Last Bump Test						
Gas	Bump Test Date	Test Result	Concentration	Bump Test Due		
CH4(100.0VOL)	5/10/2016 2:43:40 P	100.2	100.0	29		
Warning and Alarm point						
Gas	Warning	Alarm				
CH4(100.0VOL%)	10.0	50.0				



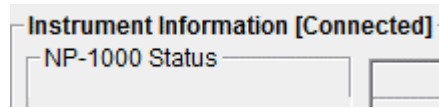
CAUTION

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**

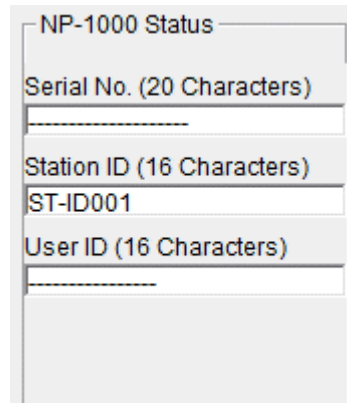
When the information of the multi-gas monitor main unit is displayed, the text Connected is displayed.



(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(100.0VOL)	5/10/2016 2:43:40 P	100.2	100.0	100.0	89

Contents:

- Gas: Measured gas name (full scale)
- 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)

- **Bump test history details**

Last Bump Test				
Gas	Bump Test Date	Test Result	Concentration	Bump Test Due
CH4(100.0VOL)	5/10/2016 2:43:40 P	100.2	100.0	29

Contents:

- Gas: Measured gas name (full scale)
- Bump.Date: Date of last bump test
- Test Result Concentration: Last test result concentration
- Test Gas Concentration: Last test gas concentration
- Bump.Due(Days): Guaranteed operation time without another bump test (when the remaining time reaches 1 month, this item is displayed in red to indicate a warning)

(4) Sensor alarm setpoint information

- **Details**

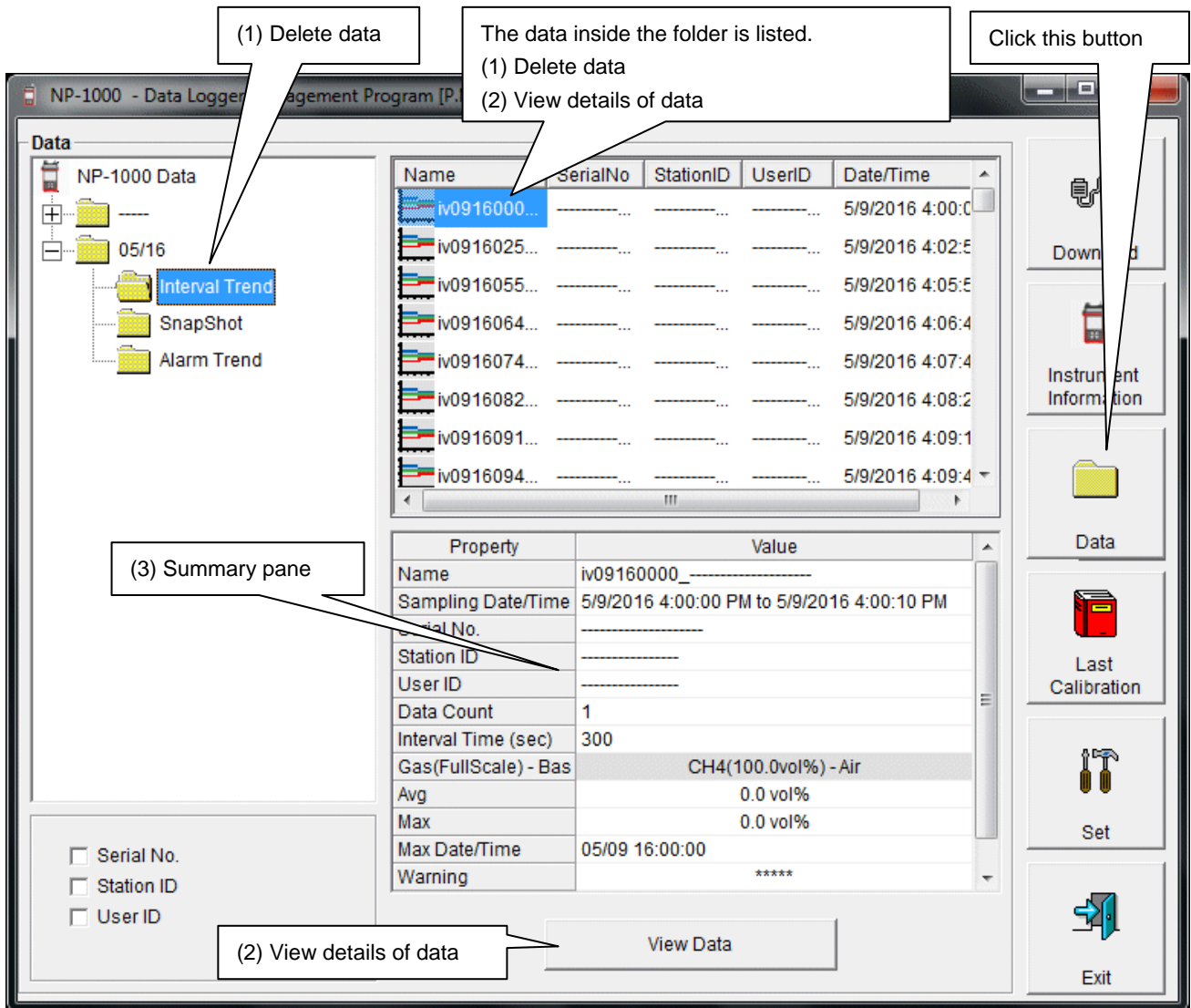
Gas	Warning and Alarm point	
	Warning	Alarm
CH4(100.0VOL%)	10.0	50.0

Contents:

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



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: 03/11 = Data of March 2011.

File name: 22111930_3EB = Interval trend, 22nd day, 11:19:30 (Start date and time of logging)

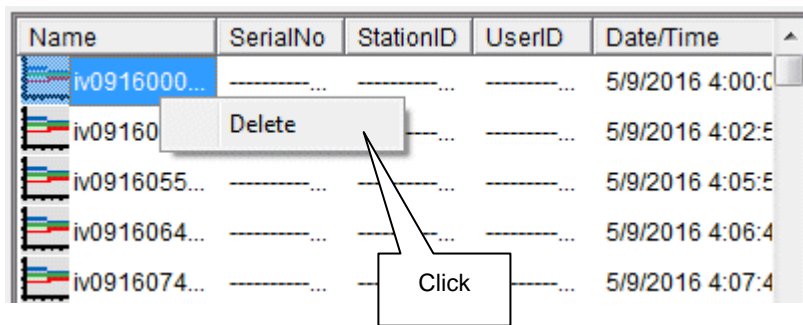
al26150419_3EB = Alarm trend, 26th day, 15:04:19 (Date and time of alarm occurrence)

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. 4.

(1) Delete data

- **Delete**

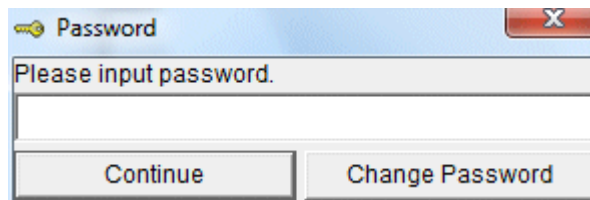
1. Click to select the data or folder to delete.
2. Right-click there (without moving the mouse).



- **Input password**

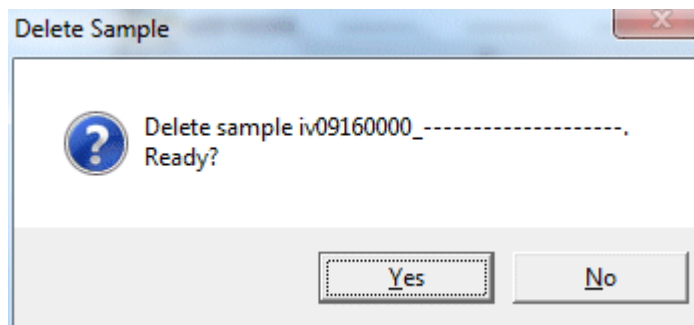
The Delete Menu is displayed. Click "Delete".

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



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.



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	iv09160000_-----
Sampling Date/Time	5/9/2016 4:00:00 PM to 5/9/2016 4:00:10 PM
Serial No.	-----
Station ID	-----
User ID	-----
Data Count	1
Interval Time (sec)	300
Gas(FullScale) - Bas	CH4(100.0vol%) - Air
Avg	0.0 vol%
Max	0.0 vol%
Max Date/Time	05/09 16:00:00
Warning	*****

- Name: Data name
- Sampling Date/Time: Start and end of sampling date/time
- Serial No./Station ID/User ID: Status of the NP-1000 main unit
- Data Count: Number of sampled data
- Interval Time (sec): Sampling interval (sec)
- Gas(FullScale) - Base: Gas (full scale) - Base
- 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

Alarm events

DateTime	Gas	Event
5/9/2016 4:19:57 PM	Ar(100.0vol%)	WARNING
5/9/2016 4:18:22 PM	Ar(100.0vol%)	WARNING
5/9/2016 4:16:04 PM	CH4(100.0vol%)	WARNING
5/9/2016 4:10:15 PM	CH4(100.0vol%)	WARNING
5/9/2016 4:03:53 PM	CH4(100.0vol%)	ALARM
5/9/2016 4:03:50 PM	CH4(100.0vol%)	WARNING
5/9/2016 4:03:34 PM	CH4(100.0vol%)	WARNING

- DateTime: Date and time when the event occurred
- Gas: Naturally occurring or produced gas
- Event: Event type

Alarm trend

Property	Value
Name	al09160334_-----
Alarm Date/Time	5/9/2016 4:03:34 PM
Serial No.	-----
Station ID	-----
User ID	-----
Data Count	720
Interval Time (sec)	5
Gas(FullScale) - Bas	CH4(100.0vol%) - Air
Value	11.8 vol%
Warning	10.0 vol%
Alarm	50.0 vol%

Name: Data name
 Alarm Date/Time: Date/time when the alarm is occurred
 Serial No./Station ID/User ID: Status of the NP-1000 main unit
 Data Count: Number of sampled data
 Interval Time (sec): Sampling interval
 Gas(FullScale) - Base: Gas (full scale) - Base
 Value: Concentration when the alarm is occurred
 Warning: First alarm setpoint
 Alarm: Second alarm setpoint

Calibration history

DateTime	Gas	Before	After
5/9/2016 4:14:30 PM	CH4(100.0vol%	100.3 vol%	100.0 vol%
5/9/2016 3:58:42 PM	CH4(100.0vol%	120.0 vol%	100.0 vol%

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

Trouble events

DateTime	Gas/Body	Event
5/10/2016 5:04:46 PM	CH4(100.0vol%)	Fail(Air)
5/10/2016 2:26:23 PM	CH4(100.0vol%)	Fail(Span)
5/10/2016 11:16:39 AM	CH4(100.0vol%)	Fail(Air)
5/10/2016 10:42:43 AM	Body	Fail(FLOW)
5/10/2016 10:41:44 AM	CH4(100.0vol%)	Fail(Air)

DateTime: Date and time when the event occurred
 Gas/Body: Naturally occurring or produced gas, or the NP-1000 main unit (Body)
 Event: Event type

Bump test

DateTime	Gas	Test Result	Concentration	Judge
5/10/2016 2:43:11	CH4(100.0vol%)	16.3 vol%	100.0 vol%	FAIL
5/10/2016 2:42:11	CH4(100.0vol%)	100.2 vol%	100.0 vol%	PASS

DateTime: Date and time when the event occurred
 Gas: Gas
 Test Result: Test result concentration
 Concentration: Test gas concentration
 Judge: Test judgment

Snapshot

Property	Value
Name	ss09161958_-----
Sampling Date/Time	5/9/2016 4:19:58 PM
Serial No.	-----
Station ID	-----
User ID	-----
----	----
----	----
Gas(FullScale) - Base	Ar(100.0vol%) - N2
Concentration	21.3 vol%

Name: Data name
 Sampling Date/Time: Recorded date/time
 Serial No./Station ID/User ID: Status of the NP-1000 main unit
 Gas(FullScale) - Base: Gas (full scale) - Base
 Concentration: Gas concentration of the recorded date/time

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	CH4(100.0vol%)
1	5/10/2016 4:55:45 PM	AIR
2	5/10/2016 4:55:55 PM	0.0 vol%
3	5/10/2016 4:56:05 PM	0.0 vol%
4	5/10/2016 4:56:15 PM	0.0 vol%
5	5/10/2016 4:56:25 PM	0.0 vol%
6	5/10/2016 4:56:35 PM	0.0 vol%
7	5/10/2016 4:56:45 PM	0.0 vol%
8	5/10/2016 4:56:55 PM	0.0 vol%
9	5/10/2016 4:57:02 PM	CAL ON
10	5/10/2016 4:57:05 PM	0.0 vol%
11	5/10/2016 4:57:15 PM	0.0 vol%
12	5/10/2016 4:57:25 PM	0.0 vol%
13	5/10/2016 4:57:35 PM	0.0 vol%
14	5/10/2016 4:57:45 PM	0.0 vol%
15	5/10/2016 4:57:55 PM	0.0 vol%
16	5/10/2016 4:58:05 PM	0.0 vol%
17	5/10/2016 4:58:15 PM	0.0 vol%
18	5/10/2016 4:58:25 PM	0.0 vol%
19	5/10/2016 4:58:35 PM	0.0 vol%
20	5/10/2016 4:58:45 PM	0.0 vol%
21	5/10/2016 4:58:55 PM	0.0 vol%
22	5/10/2016 4:59:05 PM	0.0 vol%
23	5/10/2016 4:59:15 PM	0.0 vol%
24	5/10/2016 4:59:25 PM	0.0 vol%
25	5/10/2016 4:59:35 PM	0.0 vol%
26	5/10/2016 4:59:45 PM	0.0 vol%
27	5/10/2016 4:59:53 PM	CAL OFF
28	5/10/2016 4:59:55 PM	0.0 vol%
29	5/10/2016 5:00:05 PM	0.0 vol%
30	5/10/2016 5:00:15 PM	0.0 vol%
31	5/10/2016 5:00:23 PM	CAL ON
32	5/10/2016 5:00:25 PM	0.0 vol%

- 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.

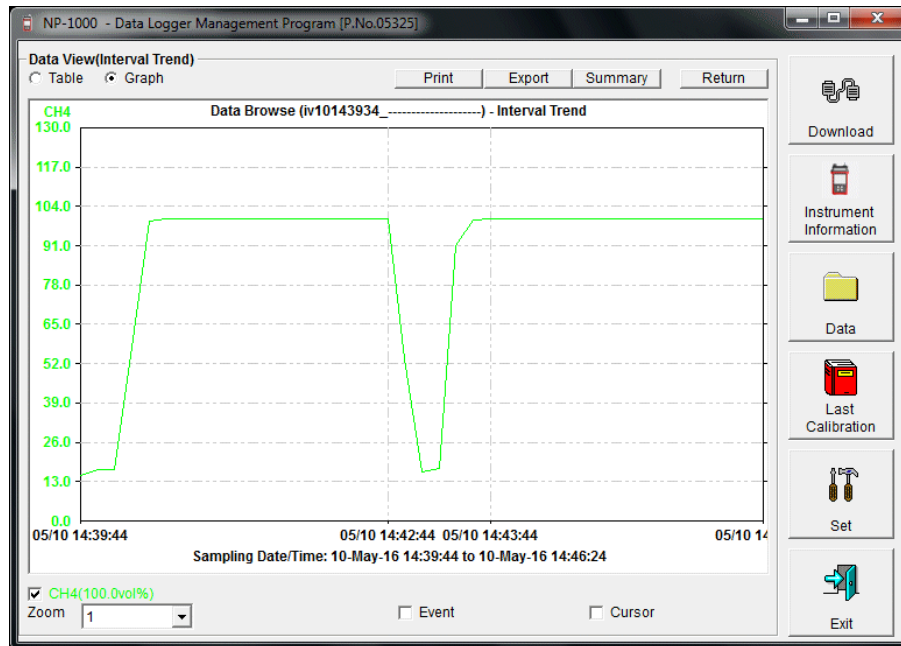
ID	Date/Time	CH14100 Over(%)
345	5/6/2016 4:02:19 PM	---
347	5/6/2016 4:02:24 PM	---
348	5/6/2016 4:02:28 PM	---
349	5/6/2016 4:02:34 PM	---
350	5/6/2016 4:02:39 PM	---
351	5/6/2016 4:02:44 PM	---
352	5/6/2016 4:02:49 PM	---
353	5/6/2016 4:02:54 PM	0.0 voff%
354	5/6/2016 4:02:59 PM	0.0 voff%
355	5/6/2016 4:03:04 PM	0.0 voff%
356	5/6/2016 4:03:09 PM	0.0 voff%
357	5/6/2016 4:03:14 PM	1.6 voff%
358	5/6/2016 4:03:19 PM	2.0 voff%
359	5/6/2016 4:03:24 PM	2.0 voff%
360	5/6/2016 4:03:29 PM	0.0 voff%
361	5/6/2016 4:03:34 PM	20.5 voff%
362	5/6/2016 4:03:39 PM	20.5 voff%
363	5/6/2016 4:03:44 PM	11.0 voff%
364	5/6/2016 4:03:49 PM	84.9 voff%
365	5/6/2016 4:03:54 PM	79.7 voff%
366	5/6/2016 4:03:59 PM	67.5 voff%
367	5/6/2016 4:04:04 PM	0.0 voff%
368	5/6/2016 4:04:09 PM	0.0 voff%
369	5/6/2016 4:04:14 PM	0.0 voff%
370	5/6/2016 4:04:19 PM	0.4 voff%
371	5/6/2016 4:04:24 PM	6.7 voff%
372	5/6/2016 4:04:29 PM	8.0 voff%
373	5/6/2016 4:04:34 PM	8.8 voff%
374	5/6/2016 4:04:39 PM	8.8 voff%
375	5/6/2016 4:04:44 PM	8.8 voff%
376	5/6/2016 4:04:49 PM	---
377	5/6/2016 4:04:54 PM	---

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

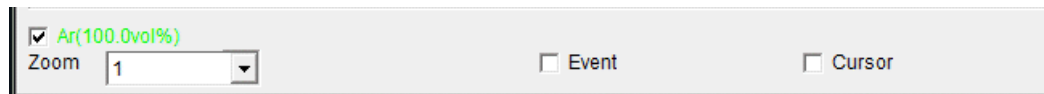
(1) Switch between table and graph views

- **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 $Y_{max} = \{\text{int}(x / 10) + 1\} * 10$. If full scale is below 10, the equation will be $Y_{max} = \{\text{int}(x) + 1\}$, where "int" means to round off the decimal part.



CAUTION

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

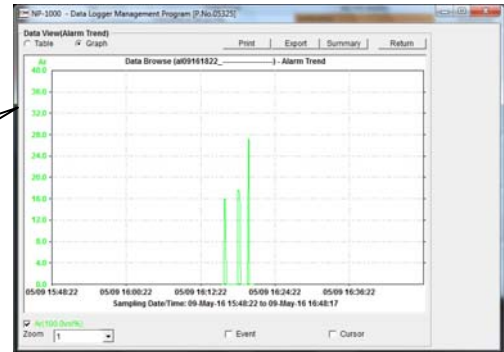
Data that contains only events cannot be drawn as a graph, because no concentration data is included.

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.

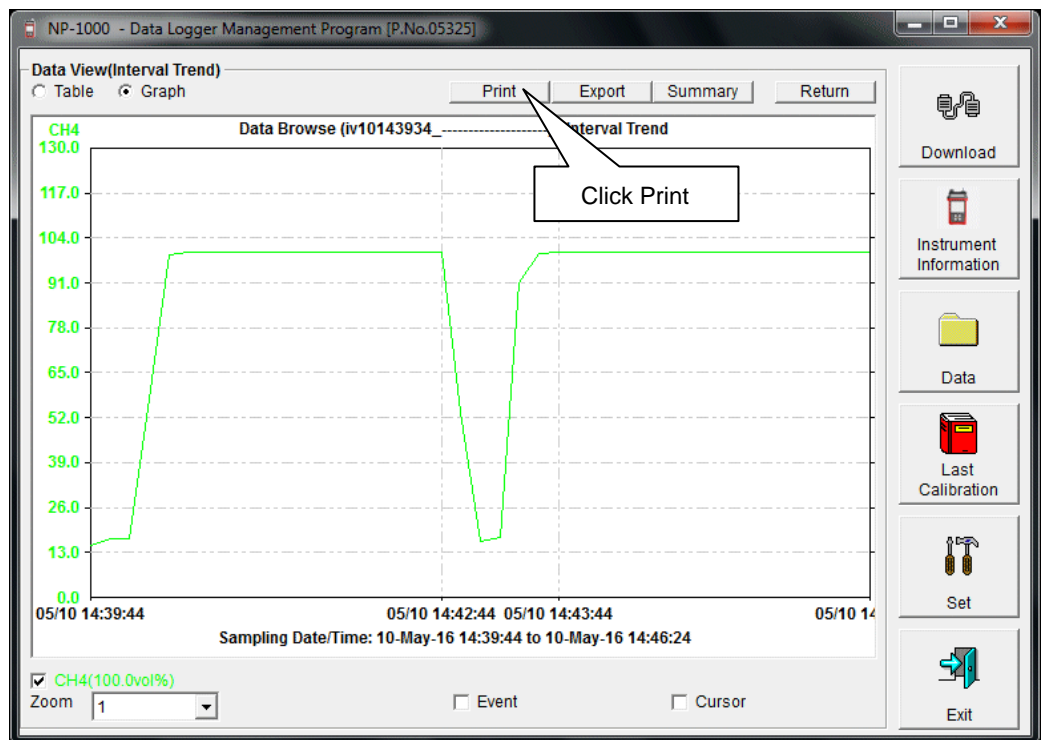


(2) Output to a printer

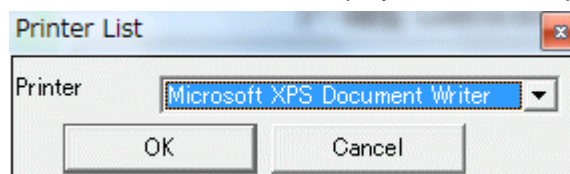
- **Print**

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

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

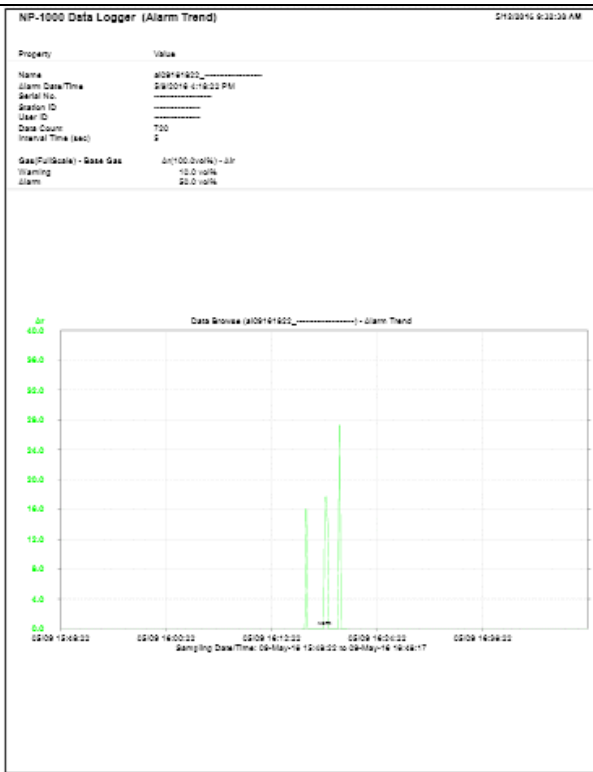


The Printer List screen is displayed. Select the printer to use and click the "OK" button.



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)

NP-1000 Data Logger (Interval Trend) 2/10/2016 9:32:32 AM

Property	Value
Name	NP1000_1000_1000
Sampling DataTime	2/10/2016 4:22:45 PM to 2/10/2016 4:00:26 PM
Serial No.	-----
Station ID	9710001
User ID	-----
Data Count	96
Interval Time (sec)	10
Gas(FullScale) - Base Gas	CH4(100.0vol%) - Air
Avg	0.0 vol%
Max	0.0 vol%
Max DataTime	02/10 16:26:45
Warning	-----
Alarm	-----

No	Date/Time	CH4(100.0vol%)
1	2/10/2016 4:22:45 PM	AIR
2	2/10/2016 4:22:35 PM	0.0 vol%
3	2/10/2016 4:22:25 PM	0.0 vol%
4	2/10/2016 4:22:15 PM	0.0 vol%
5	2/10/2016 4:22:05 PM	0.0 vol%
6	2/10/2016 4:21:55 PM	0.0 vol%
7	2/10/2016 4:21:45 PM	0.0 vol%
8	2/10/2016 4:21:35 PM	0.0 vol%
9	2/10/2016 4:21:25 PM	0.0 vol%
10	2/10/2016 4:21:15 PM	CUL ON
11	2/10/2016 4:21:05 PM	0.0 vol%
12	2/10/2016 4:20:55 PM	0.0 vol%
13	2/10/2016 4:20:45 PM	0.0 vol%
14	2/10/2016 4:20:35 PM	0.0 vol%
15	2/10/2016 4:20:25 PM	0.0 vol%
16	2/10/2016 4:20:15 PM	0.0 vol%
17	2/10/2016 4:20:05 PM	0.0 vol%
18	2/10/2016 4:19:55 PM	0.0 vol%
19	2/10/2016 4:19:45 PM	0.0 vol%
20	2/10/2016 4:19:35 PM	0.0 vol%
21	2/10/2016 4:19:25 PM	0.0 vol%
22	2/10/2016 4:19:15 PM	0.0 vol%
23	2/10/2016 4:19:05 PM	0.0 vol%
24	2/10/2016 4:18:55 PM	0.0 vol%
25	2/10/2016 4:18:45 PM	0.0 vol%
26	2/10/2016 4:18:35 PM	0.0 vol%
27	2/10/2016 4:18:25 PM	CUL OFF
28	2/10/2016 4:18:15 PM	0.0 vol%
29	2/10/2016 4:18:05 PM	0.0 vol%
30	2/10/2016 4:17:55 PM	0.0 vol%
31	2/10/2016 4:17:45 PM	0.0 vol%
32	2/10/2016 4:17:35 PM	CUL ON
33	2/10/2016 4:17:25 PM	0.0 vol%
34	2/10/2016 4:17:15 PM	0.0 vol%
35	2/10/2016 4:17:05 PM	0.0 vol%

Printout example (calibration history)

NP-1000 Data Logger (Calibration History) 2/10/2016 9:32:32 AM

Property	Value
Serial No.	-----
Station ID	-----
User ID	-----
Last Download	2/11/2016 2:02:48 PM

No	Date/Time	Gas	CH4(100.0vol%)
1	2/9/2016 4:16:00 PM	Before	100.0 vol%
		After	100.0 vol%
2	2/9/2016 2:58:40 PM	Gas	CH4(100.0vol%)
		Before	100.0 vol%
		After	100.0 vol%
3	2/14/2016 10:35:00 AM	Gas	CH4(100.0vol%)
		Before	0.0 vol%
		After	---

Printout example (alarm events)

NP-1000 Data Logger (Alarm Event) 2/10/2016 9:32:32 AM

Property	Value
Serial No.	-----
Station ID	-----
User ID	-----
Last Download	2/11/2016 1:58:48 PM

No	Date/Time	Gas	Event
1	2/9/2016 4:19:27 PM	Air(100.0vol%)	WARNING
2	2/9/2016 4:16:00 PM	Air(100.0vol%)	WARNING
3	2/9/2016 4:16:00 PM	CH4(100.0vol%)	WARNING
4	2/9/2016 4:16:15 PM	CH4(100.0vol%)	WARNING
5	2/9/2016 4:03:50 PM	CH4(100.0vol%)	ALARM
6	2/9/2016 4:03:50 PM	CH4(100.0vol%)	WARNING
7	2/9/2016 4:03:50 PM	CH4(100.0vol%)	WARNING

Printout example (bump test)

NP-1000 Data Logger (Bump Test) 2/10/2016 9:36:05 AM

Property	Value
Serial No.	-----
Station ID	9710001
User ID	-----
Last Download	2/11/2016 1:58:48 PM

No	Date/Time	Gas	CH4(100.0vol%)
1	2/10/2016 2:02:10 PM	Gas	CH4(100.0vol%)
		Test Result	18.0 vol%
		Concentration	100.0 vol%
		Judge	Pass
2	2/10/2016 2:02:16 PM	Gas	CH4(100.0vol%)
		Test Result	100.0 vol%
		Concentration	100.0 vol%
		Judge	Pass
3	2/10/2016 2:02:27 PM	Gas	CH4(100.0vol%)
		Test Result	100.0 vol%
		Concentration	100.0 vol%
		Judge	Pass

Printout example (trouble events)	Printout example (snapshot)																																																							
<p>NP-1000 Data Logger (Trouble Event) 2/12/2016 9:30:32 AM</p> <table border="1"> <thead> <tr> <th>Property</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Serial No.</td> <td>27-0001</td> </tr> <tr> <td>Station ID</td> <td></td> </tr> <tr> <td>User ID</td> <td></td> </tr> <tr> <td>Last Download</td> <td>2/11/2016 1:59:58 PM</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>No.</th> <th>DateTime</th> <th>Gas/Body</th> <th>Event</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2/10/2016 8:00:00 PM</td> <td>CH4(100.0val%)</td> <td>Fail(LM)</td> </tr> <tr> <td>2</td> <td>2/10/2016 8:28:00 PM</td> <td>CH4(100.0val%)</td> <td>Fail(Span)</td> </tr> <tr> <td>3</td> <td>2/10/2016 11:16:30 AM</td> <td>CH4(100.0val%)</td> <td>Fail(LM)</td> </tr> <tr> <td>4</td> <td>2/10/2016 10:42:00 AM</td> <td>Body</td> <td>Fail(FLOW)</td> </tr> <tr> <td>5</td> <td>2/10/2016 10:41:00 AM</td> <td>CH4(100.0val%)</td> <td>Fail(LM)</td> </tr> </tbody> </table>	Property	Value	Serial No.	27-0001	Station ID		User ID		Last Download	2/11/2016 1:59:58 PM	No.	DateTime	Gas/Body	Event	1	2/10/2016 8:00:00 PM	CH4(100.0val%)	Fail(LM)	2	2/10/2016 8:28:00 PM	CH4(100.0val%)	Fail(Span)	3	2/10/2016 11:16:30 AM	CH4(100.0val%)	Fail(LM)	4	2/10/2016 10:42:00 AM	Body	Fail(FLOW)	5	2/10/2016 10:41:00 AM	CH4(100.0val%)	Fail(LM)	<p>NP-1000 Data Logger (Snap Shot) 2/12/2016 9:30:19 AM</p> <table border="1"> <thead> <tr> <th>Property</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Name</td> <td>220161922_</td> </tr> <tr> <td>Sampling DateTime</td> <td>2/12/2016 4:19:28 PM</td> </tr> <tr> <td>Serial No.</td> <td></td> </tr> <tr> <td>Station ID</td> <td></td> </tr> <tr> <td>User ID</td> <td></td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>No.</th> <th>DateTime</th> <th>Gas/Body</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2/12/2016 4:19:28 PM</td> <td>21.5 vol%</td> </tr> <tr> <td></td> <td></td> <td>WARNING</td> </tr> </tbody> </table>	Property	Value	Name	220161922_	Sampling DateTime	2/12/2016 4:19:28 PM	Serial No.		Station ID		User ID		No.	DateTime	Gas/Body	1	2/12/2016 4:19:28 PM	21.5 vol%			WARNING
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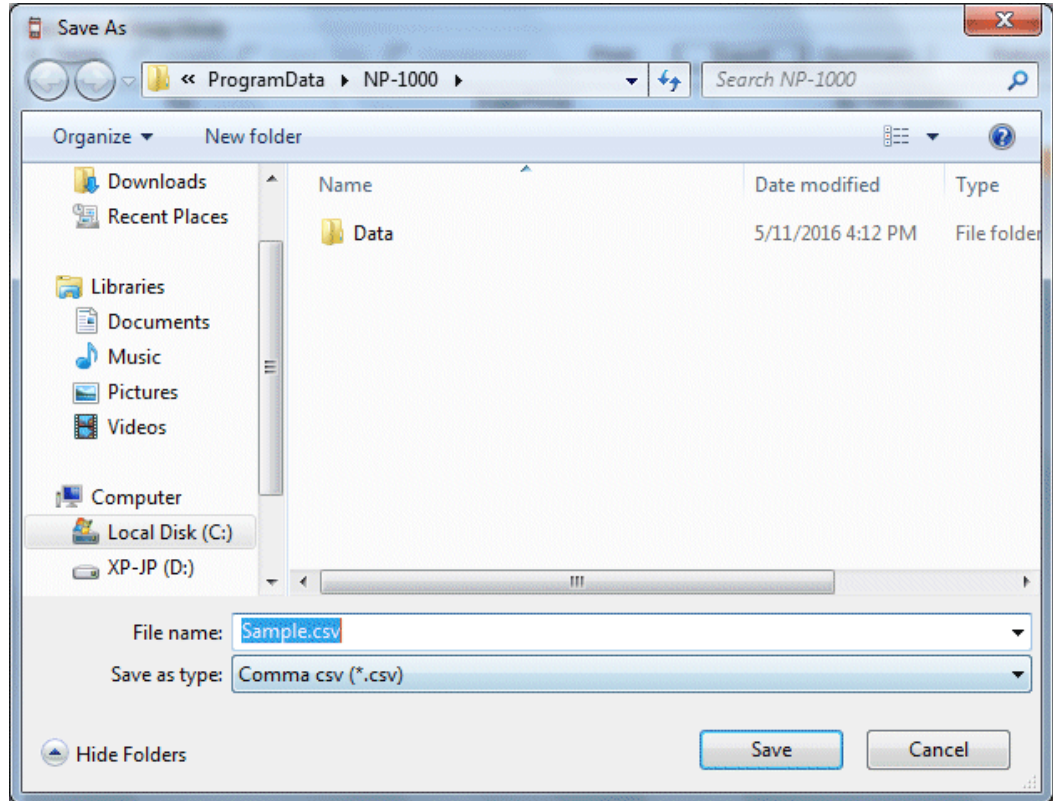
Note on printer settings

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

(3) 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.



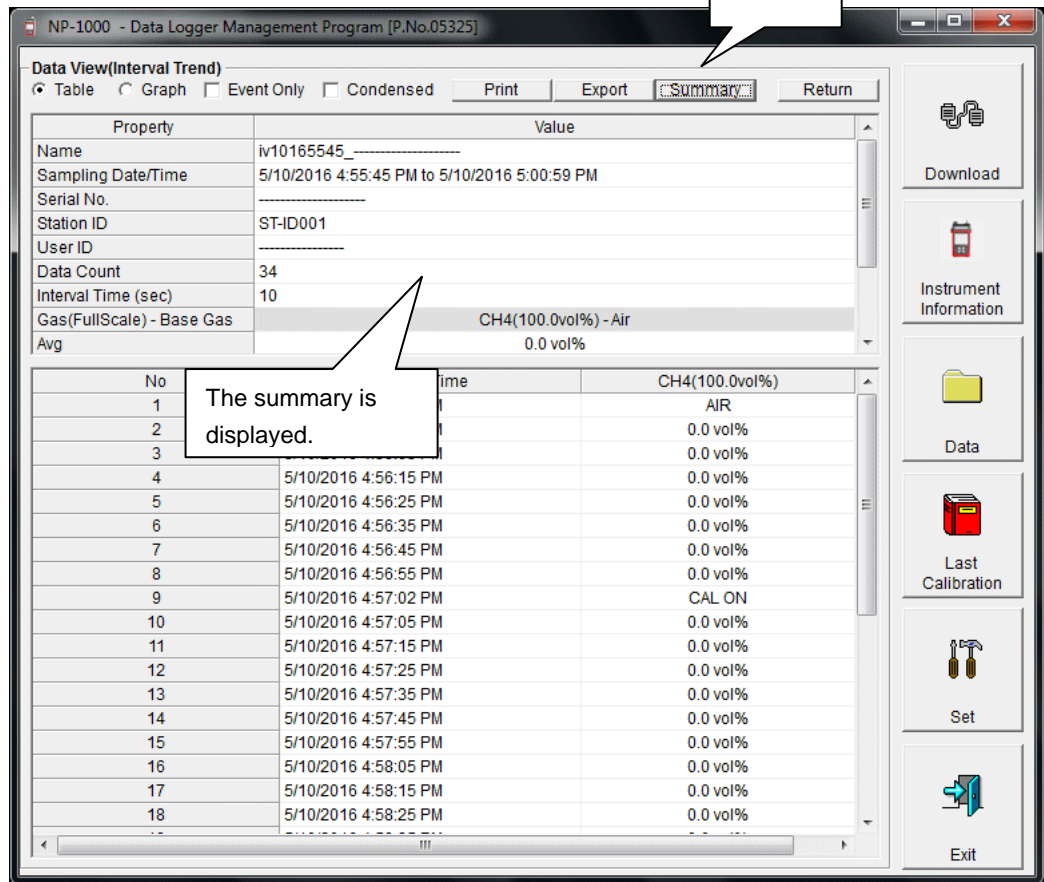
CAUTION

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.

(4) To view data summary simultaneously

• **Summary view**

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

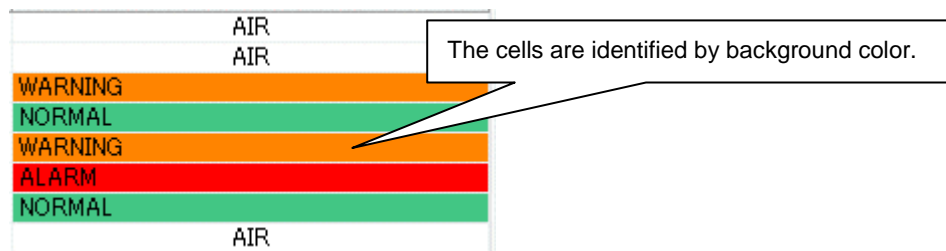


When the "Summary" button is clicked, the summary view is cleared.

(5) Table details

• **Event color**

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

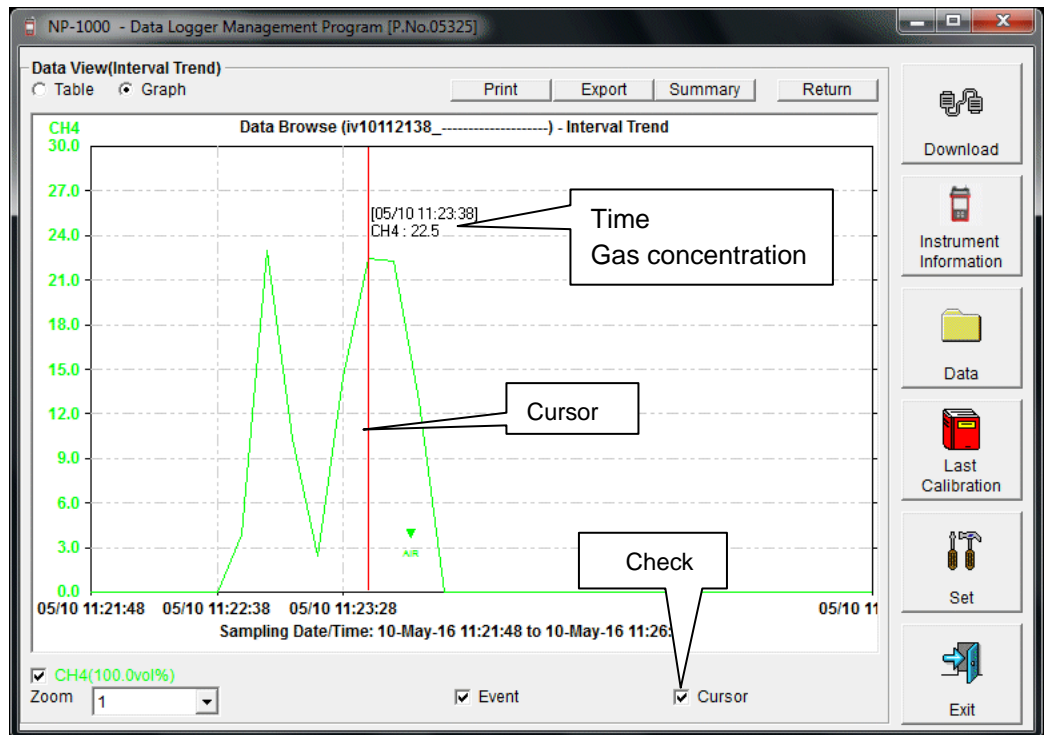


FAIL:	Gray	Fault
WARNING:	Orange	First alarm
ALARM:	Red	Second alarm
NORMAL:	Deep green	Recovery from the above state
OVER:	Light red	Over full scale

(6) 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 bump test is displayed similarly.

The screenshot shows the NP-1000 software interface with two main sections: 'Last Calibration' and 'Last Bump Test'. Each section has radio buttons for 'Need Calibration/Need Bump Test', 'Calibration Date/Bump Test Date', and 'Calibration Record/Bump Test Record', along with a 'Print' button. Below these are tables with columns for No., SerialNo, UserID, StationID, CH4, and Last Download. A sidebar on the right contains buttons for Download, Instrument Information, Data, Last Calibration, Set, and Exit. Callouts provide instructions: (1) Change displayed contents (pointing to the radio buttons), (2) Output to a printer (pointing to the Print button), (3) Delete data and (4) Change password (pointing to the table), and 'Click this button' (pointing to the Last Calibration button).



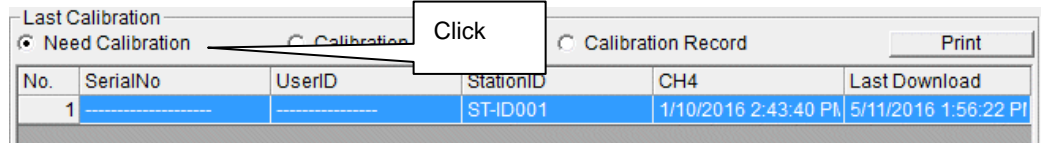
CAUTION

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

(1) Change displayed contents

- **Expired data**

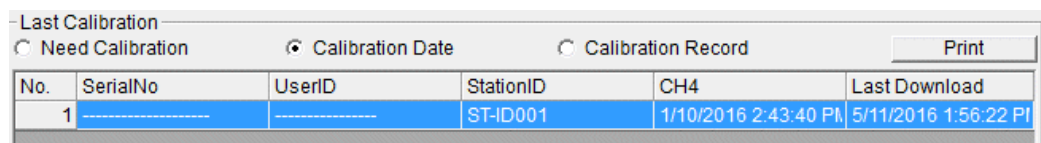
1. Click the "Need Calibration" radio button.



Among the NP-1000 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**

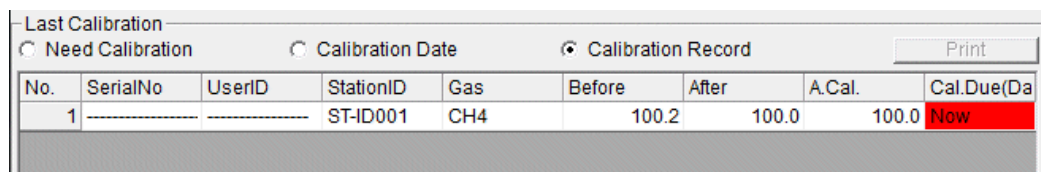
1. Click the "Calibration Date" radio button.



Data for the NP-1000 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.



Data for NP-1000 main units connected in the past is listed in the same format as the Instrument Information screen.

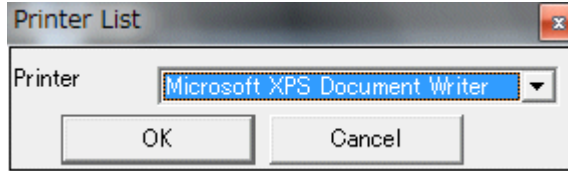
For details on the displayed items, see "3-2. Instrument Information screen, (3) Calibration history information".

(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.

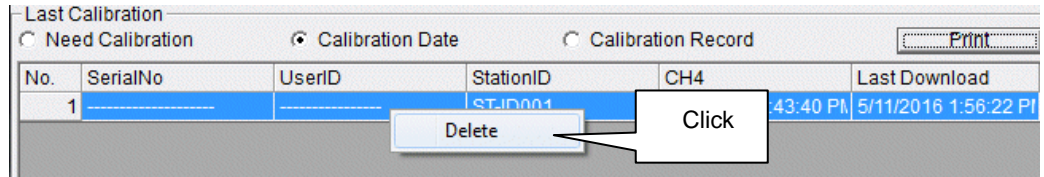


NP-1000 Data Logger (Last Calibration)						5/12/2016 8:41:36 AM
No.	SerialNo	UserID	StationID	CH4	Last Download	
1			ST-ID001	1/10/2016 2:43:40 PM	5/11/2016 1:56:22 PM	

(3) Delete data

- **Delete**

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

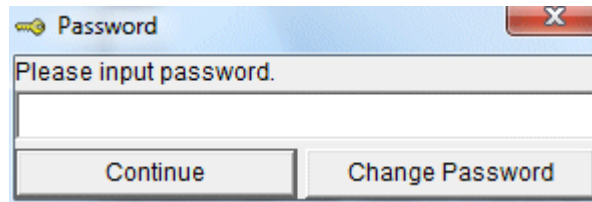


CAUTION

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

- **Input password**

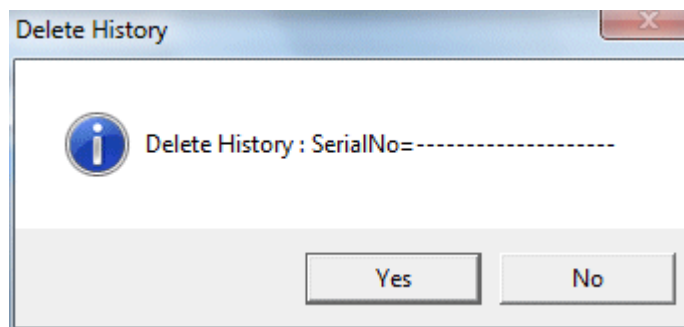
1. When the "Delete" button is clicked, the Password dialog is prompted. Enter the password and press the "Continue" button.



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.

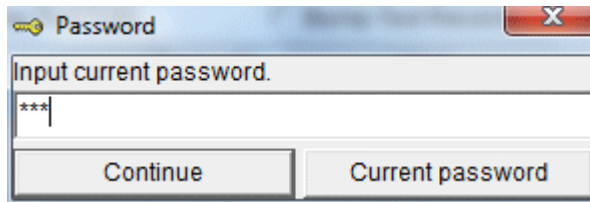


Click the "Yes" button to delete the data.
Click the "No" button to cancel deletion of data.

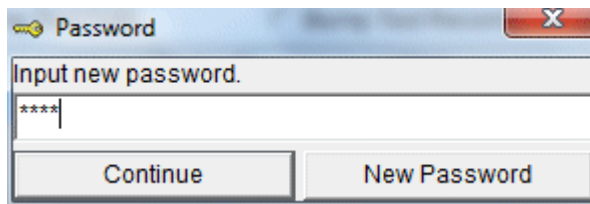
(4) Change password

- **Input password**

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

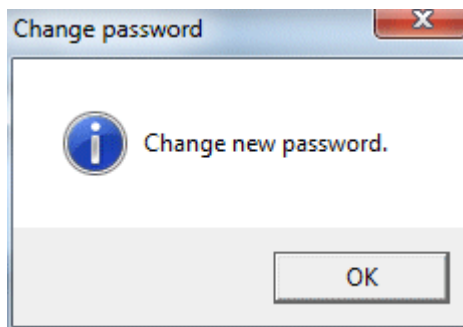


2. Enter an appropriate password and click the "Current password" button. The following message is displayed.



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 "Rki". (No case-sensitive)

3-6. Set screen

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

(1) Set font and graph colors

(2) Change status of the main unit

(2) Set time

(3) Send updates to the NP-1000 main unit

Click this button

Sensor	Warning	Alarm	Auto Cal.
Gas	10.0	50.0	100.0
CH4(100.0VOL%)			



CAUTION

The data specified and/or changed must be sent to the NP-1000 main unit using the "Update" button.



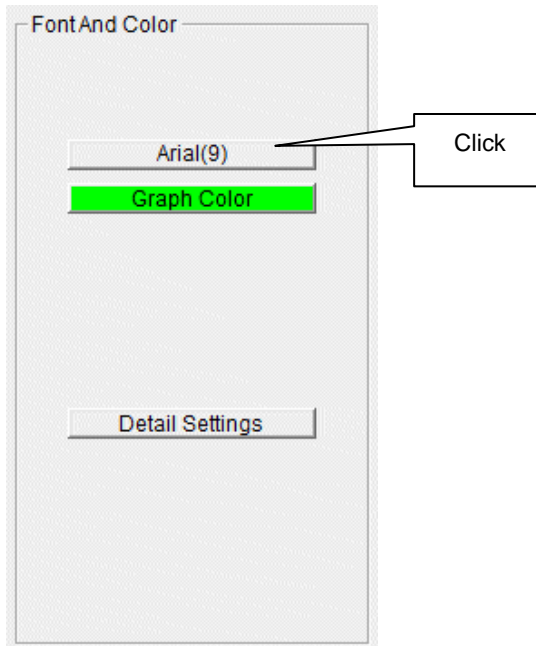
CAUTION

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.



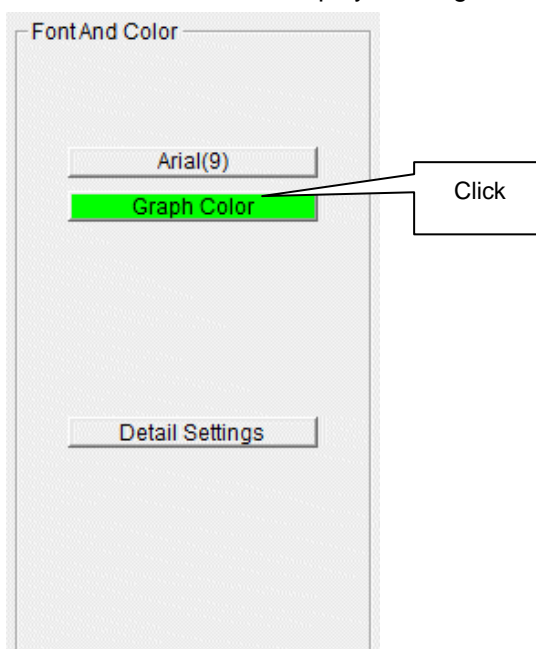
CAUTION

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.

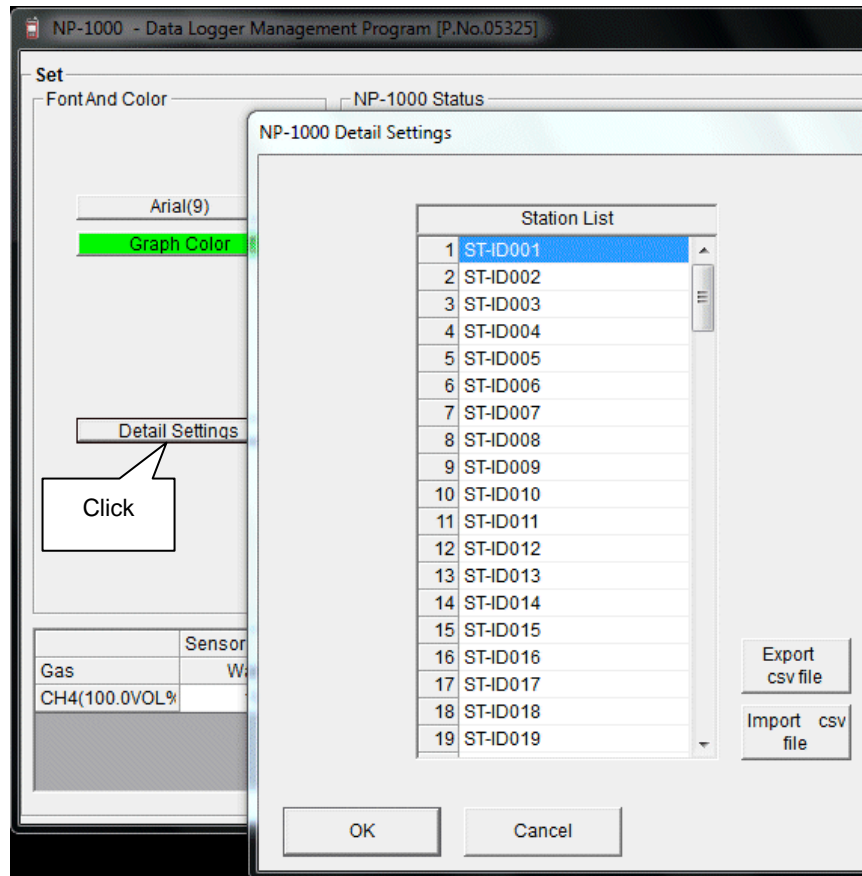


The color selection dialog is displayed. Specify an appropriate color.

(2) Change status of the main unit

- **Edit station list**

1. Edit the station list.
Click Detail Settings.



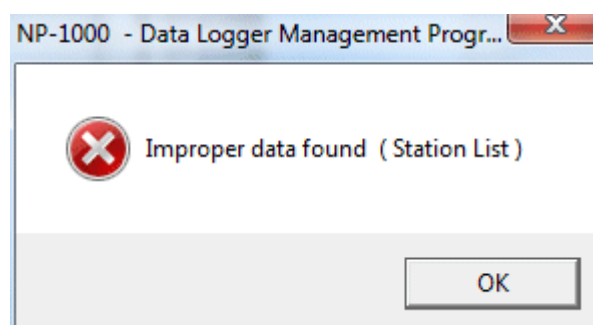
The edit dialog is displayed. The station list contains stations up to Number 128. Up to 16 characters of alphabets, numerics, spaces, hyphens and slashes can be entered.

*** In the NP-1000 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.

NP-1000 Status

Serial No. (20 Characters)

Station ID (16 Characters)

User ID (16 Characters)

Interval Trend Time (Sec)

PC Date/Time

NP-1000 Date/Time

The contents of Serial No. (20 Characters) can be changed.
Interval Trend Time (Sec), Station ID (16 Characters), and User 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 NP-1000 main unit (NP-1000 Date/Time) to the set time of the PC (PC Date/Time).



CAUTION

The date/time areas cannot be entered directly.



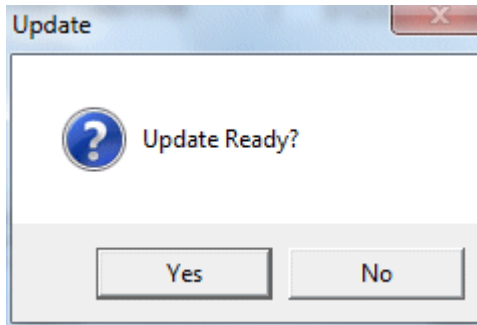
CAUTION

The settings of the NP-1000 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 NP-1000 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 NP-1000 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 NP-1000 program.

- 1) File name: NP1000.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 NP-1000 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 NP-1000 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 NP-1000 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 NP-1000 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 an IrDA-USB converter.

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
NP1000.exe RklrDA11.ocx Filemove.avi	NP-1000 main unit Infrared communication component Animation file that shows that data download is in progress

8-2. Current directory during operation

File name	Details
NP1000.exe RklrDA11.ocx Filemove.avi	NP-1000 main unit Infrared communication component Animation file that shows that data download is in progress
NP1000.ini NP1000.dat NP1000.mdb Data Serial.log	NP-1000 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)	NP-1000 Data Logger Management Program
Model	SW-NP-1000
Executable file name	NP1000.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

Manual Log

Rev.	Amendment	Issue data
0	First issue	2017/3/2