



PT0E-1542

Portable Multi-Gas Monitor
GX-6000
PID List Setting Program
SW-GX-6000PID(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 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 edit the PID list (list of gases for reading VOC) for GX-6000. This software can be used to perform the following.

- The PID list (list of gases for reading VOC) displayed on the GX-6000 main unit can be edited.
- Frequently selected gas types can be registered in a user list (up to 30 types) to facilitate selection of gas types in the main unit.
- An alarm setpoint can be set for each gas.
- Gas names (short names) displayed on the measurement screen of GX-6000 can be changed. (The default setting is "VOC".)

**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, Windows 8 and Windows 10. Please note that it cannot be used on other operating systems.

When installing this program, 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.

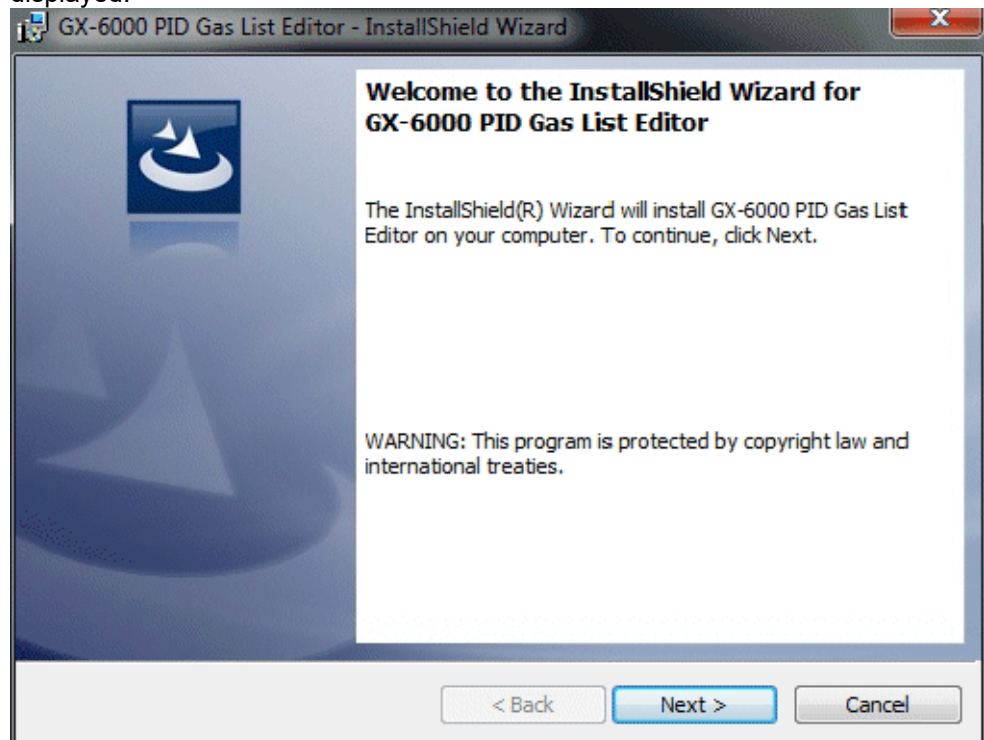
When the PC does not support the auto-start function of the CD-ROM, operate as follows:

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

2-3. Installation procedure

- **Launch the Setup Program**

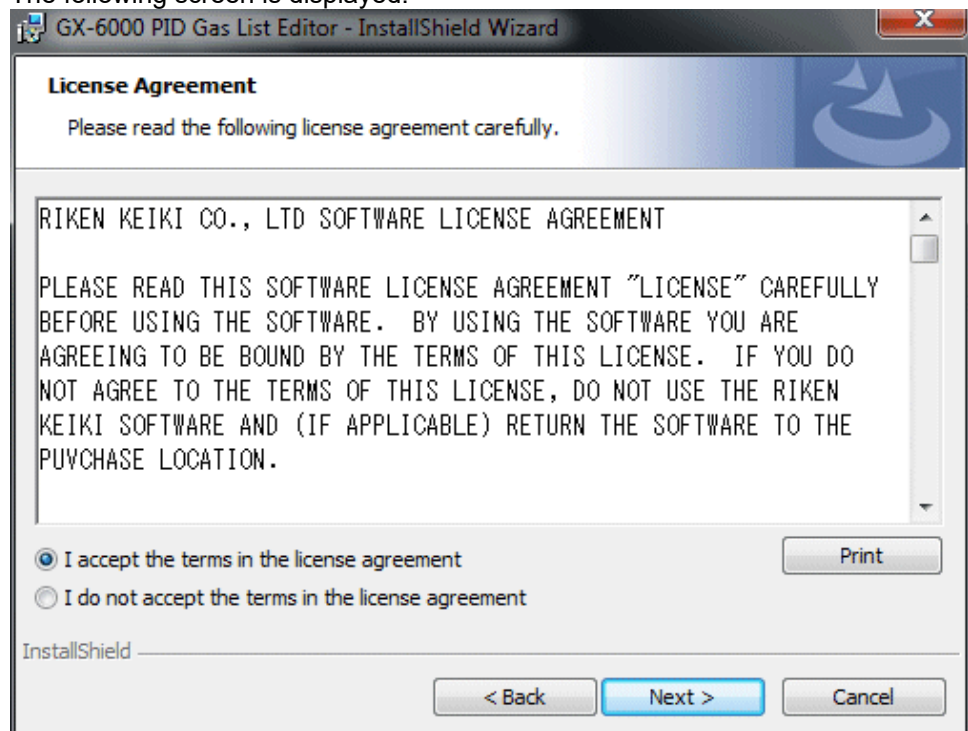
After inserting the CD-ROM or starting setup.exe, the following screen is displayed.



- **Accept the license agreement**

Click the "Next" button.

The following screen is displayed.



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

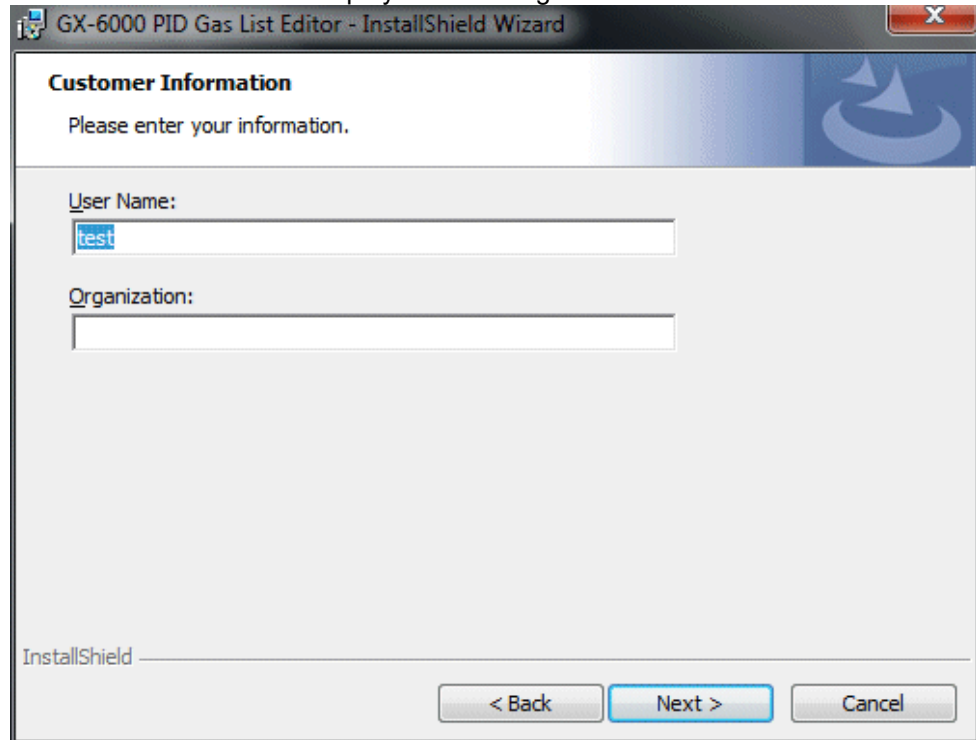


CAUTION

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

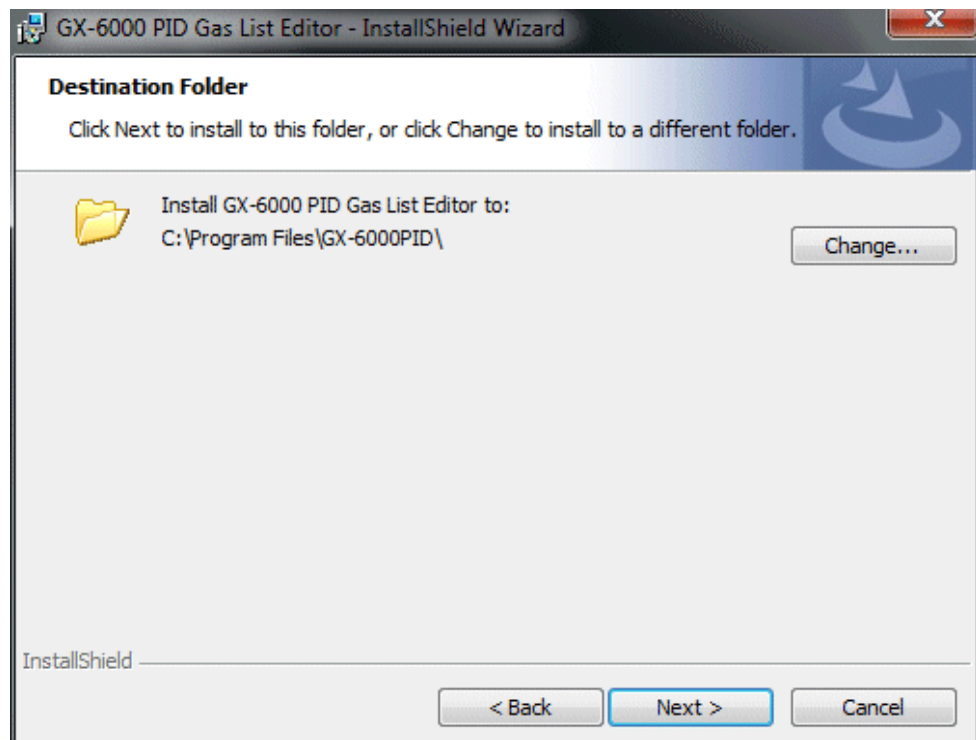
- **Customer Information**

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



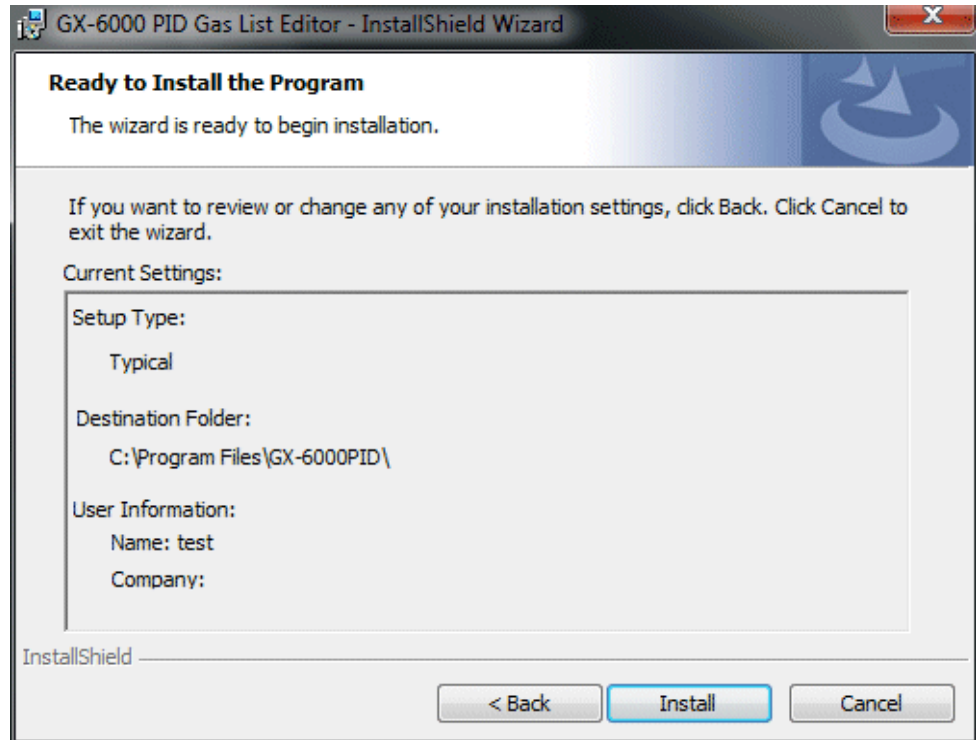
Click the "Next" button.

- **Destination Folder**



Click the "Next" button.

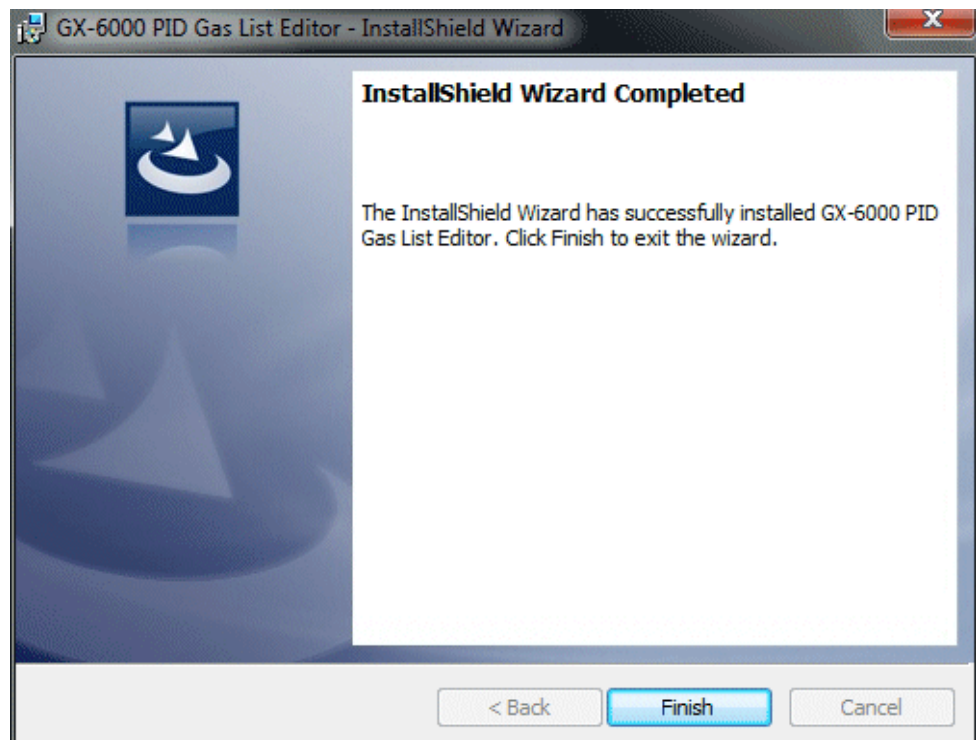
- **Ready to Install the Program**



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**

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, GX6000.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 Microsoft Windows 7/Windows 8/Windows 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.

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.)

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

When installing on a network-connected PC, 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.

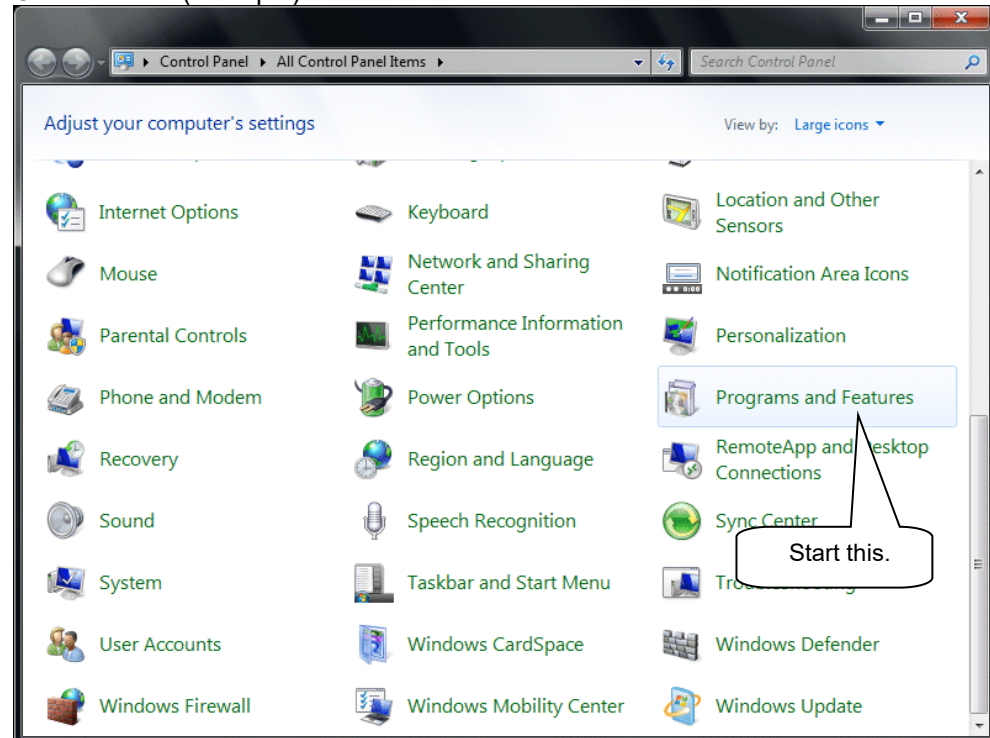
When using a computer connected to the network, use with sufficient considerations on security settings.

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)

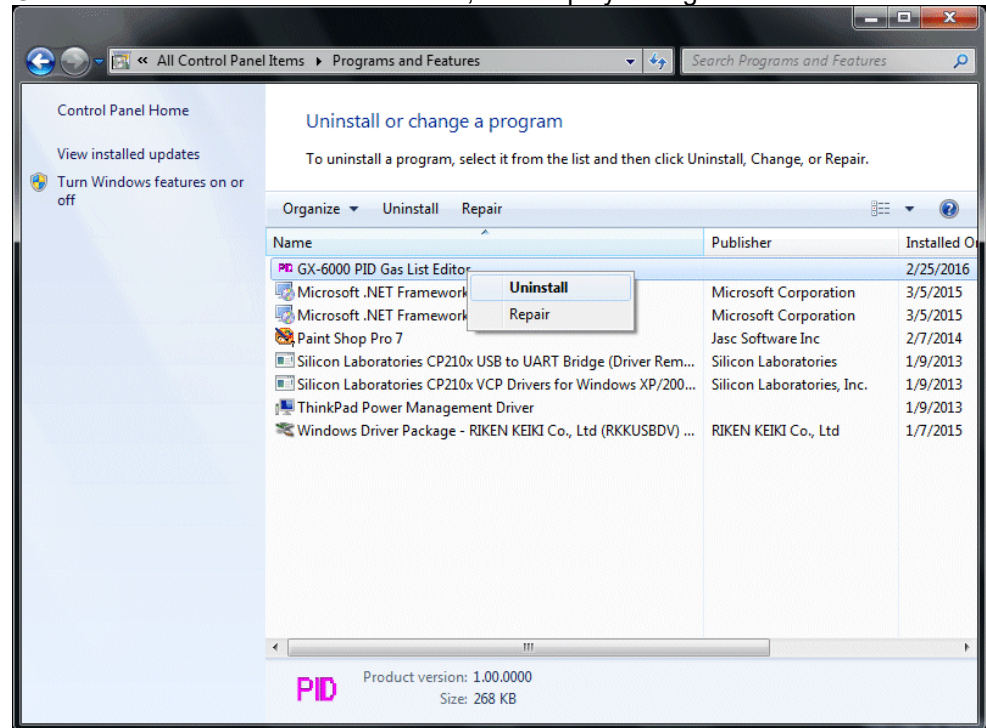


From the Control Panel, double-click "Programs and Features" to start.

- **Select GX-6000 PID Gas List**

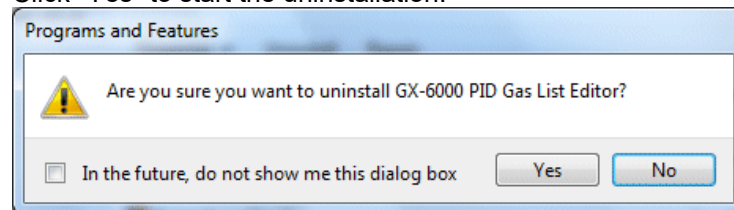
The following screen is displayed.

From the Control Panel, select Add or Remove Programs. Select "GX-6000 PID Gas List Editor" from the screen below, and display the right-click menu.



- **Start deletion**

Click "Yes" to start the uninstallation.



CAUTION

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

3

How to Operate

Double-click the "GX-6000" desktop shortcut, or click the "Start Menu", select "Programs" and click the GX-8000 program icon.

Immediately after starting the application, the default PID list (list of gases for reading VOC) is displayed. When the default PID list has been edited (by selecting "Keep the current list" when exiting), data of the last saved list is displayed.

The screenshot shows the 'GX-6000 PID Gas List Editor' window. The interface includes a menu bar with 'Download', 'Upload', 'Open', and 'Save' buttons. A 'Show User List' checkbox is present, and the 'DataVersion' is displayed as 201310. The main area is a table with columns for Gas name, Formula, Factor, Short name, and various alarm thresholds. At the bottom, a status bar shows '658/658 item(s)' and '0 error(s)', along with a 'Check All' checkbox.

Callout (1) points to the 'Download' button: (1) Download and display the PID list of GX-6000 currently in communication.

Callout (2) points to the 'Show User List' checkbox: (2) Mark the checkboxes for all gas types.

Callout (3) points to the 'Upload' button: (3) Upload the edited PID list to GX-6000.

Callout (4) points to the 'Detector off' button: (4) Turn off the power of the main unit.

Callout (5) points to the 'Save' button: (5) Save the edited PID list.

Callout (5) points to the 'Open' button: (5) Open the saved PID list.

Callout: The data version is displayed.

Callout: From the total number of gases for the PID list that is open (right), the number of gases with their checkboxes marked is displayed (left).

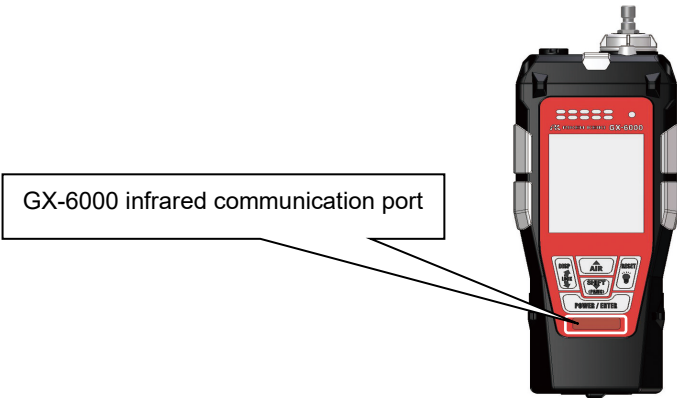
| Gas name | Formula | Factor | Short name | [ppb] 1st Alarm | [ppb] 2nd Alarm | [ppb] STEL | [ppb] TWA | [ppm] Alar |
|-------------------|---------|--------|------------|-----------------|-----------------|------------|-----------|------------|
| Acetaldehyde | C2H4O | 3.4 | VOC | 5000 | 10000 | - | - | 400.0 |
| Acetamide | C2H5NO | 2 | VOC | 5000 | 10000 | - | - | 400.0 |
| Acetic acid | C2H4O2 | 36.2 | VOC | 5000 | 10000 | - | - | 400.0 |
| Acetic anhydr... | C4H6O3 | 4 | VOC | 5000 | 10000 | - | - | 400.0 |
| Acetoin | C4H8O2 | 1 | VOC | 5000 | 10000 | - | - | 400.0 |
| Acetone | C3H6O | 0.7 | VOC | 5000 | 7500 | - | - | 500.0 |
| Acetophenone | C8H8O | 0.6 | VOC | 5000 | 10000 | - | - | 400.0 |
| Acetyl bromide | C2H3BrO | 3 | VOC | 5000 | 10000 | - | - | 400.0 |
| Acetyl glycine... | C4H7NO3 | 2 | VOC | 5000 | 10000 | - | - | 400.0 |
| Acrolein | C3H4O | 3.2 | VOC | 5000 | 10000 | - | - | 400.0 |
| Acrylic Acid | C3H4O2 | 2.7 | VOC | 5000 | 10000 | - | - | 400.0 |
| Alkanes, nr, C... | | 1 | VOC | 5000 | 10000 | - | - | 400.0 |
| Allyl alcohol | C3H6O | 2.1 | VOC | 5000 | 10000 | - | - | 400.0 |
| Allyl bromide | C3H5Br | 3 | VOC | 5000 | 10000 | - | - | 400.0 |

To perform data communication, place the GX-6000 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 PID list data from GX-6000

- **Prepare the main unit**

1. Start the software.
2. With the GX-6000 main unit powered off, move it to a position capable of communication.



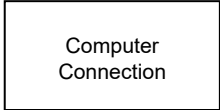
3. Turn on the GX-6000 main unit.



CAUTION

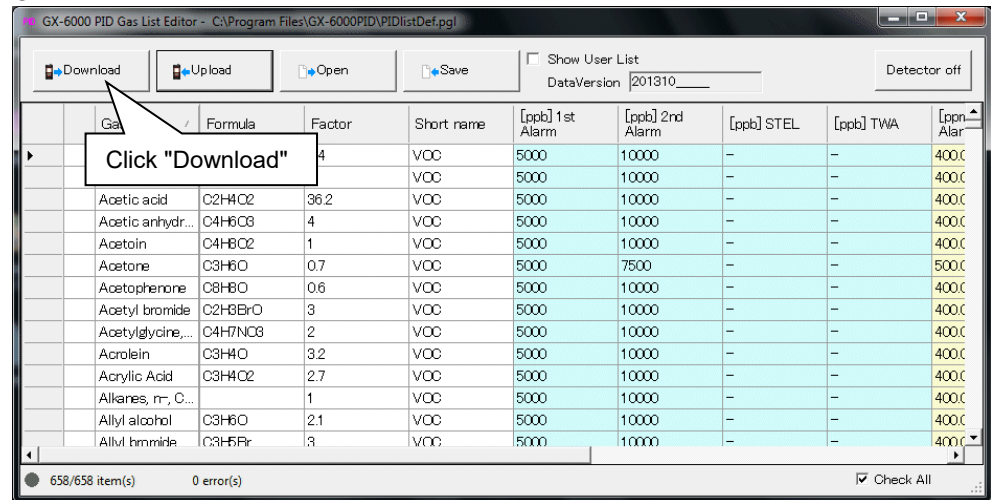
Make sure to turn on the power of GX-6000 after placing it to a position capable of communication.
Communication will not be established when it is placed at a position capable of communication with the power turned on.

The message will be displayed as shown on the right on the LCD screen of the GX-6000 main unit. →
(Due to the display resolution of GX-6000, the message will be somewhat difficult to read.)

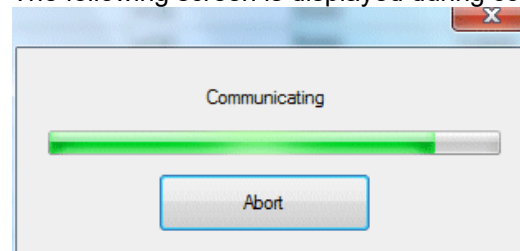


- Download the PID list

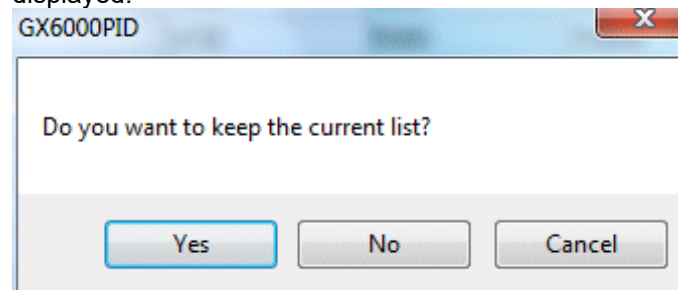
The PID list can be downloaded from the GX-6000 main unit. Click "Download".



The following screen is displayed during communication.



The PID list on the screen is updated, and the download complete screen is displayed.



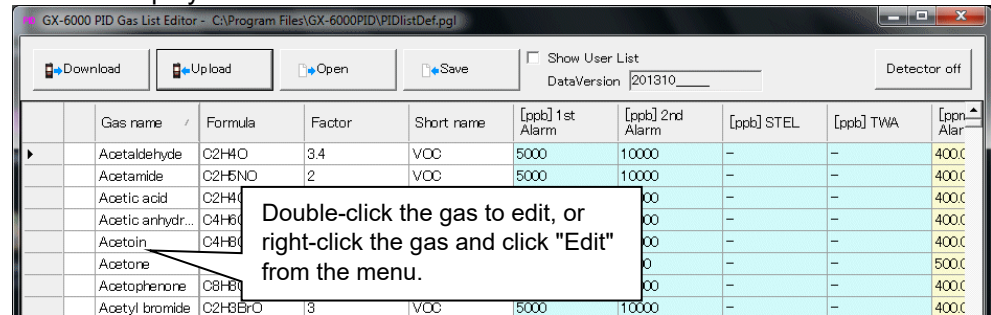
The serial number of GX-6000 is displayed on the window title.

- * In the downloaded list, only the gases uploaded on the GX-6000 main unit are displayed. When not all gases are set as the upload target, the list will be shorter than the default list.

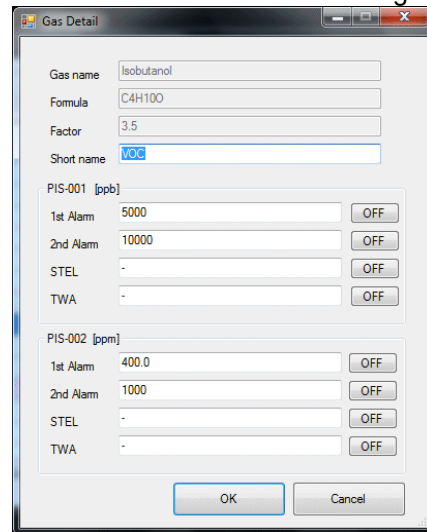
(2) Edit various data

- Set short name and alarm setpoint

On the PID list, double-click the gas to edit, or right-click the gas and click "Edit" from the displayed menu.



The edit screen for the selected gas is displayed.



The short name and alarm setpoints can be edited.

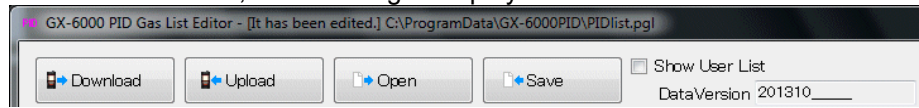
| Item | Description | |
|------------------|---|---|
| Gas name | Not editable | |
| Chemical formula | Not editable | |
| Factor | Not editable | |
| Short name | 1 - 3 single-byte characters (Default: VOC) | |
| PIS-001A | 1st Alarm | ≤ 40000, 1st Alarm ≤ 2nd Alarm (Default: 5000) |
| | 2nd Alarm | ≤ 40000, 1st Alarm ≤ 2nd Alarm (Default: 10000) |
| | STEL | ≤ 40000, (Default: -) |
| | TWA | ≤ 40000, (Default: -) |
| PIS-002A | 1st Alarm | ≤ 4000, 1st Alarm ≤ 2nd Alarm (Default: 400.0) |
| | 2nd Alarm | ≤ 4000, 1st Alarm ≤ 2nd Alarm (Default: 1000) |
| | STEL | ≤ 4000, (Default: -) |
| | TWA | ≤ 4000, (Default: -) |
| PIS-003 | 1st Alarm | ≤ 100, 1st Alarm ≤ 2nd Alarm (Default: 5.00) |
| | 2nd Alarm | ≤ 100, 1st Alarm ≤ 2nd Alarm (Default: 10.00) |
| | STEL | ≤ 100, (Default: -) |
| | TWA | ≤ 100, (Default: -) |

* For PIS-003, 1st alarm, 2nd alarm, and TWA alarm operate only when measuring in normal mode. In benzene select mode, only the STEL alarm operates during STEL measurement.

OFF Turn off each setpoint. "-" is displayed.

OK Reflect the setting to the PID list screen.

If edited, the following is displayed on the window title.



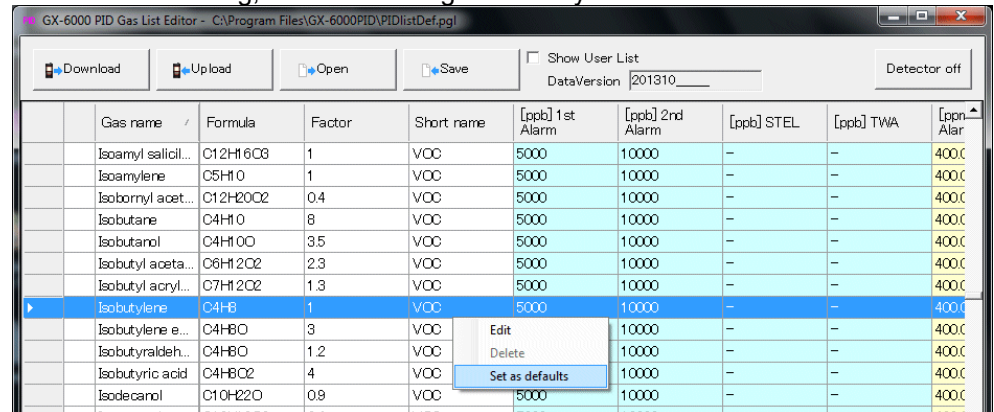
Cancel Discard the edited content to return to the PID list screen.

- **Set the gas displayed by default**

One gas type can be selected so it is displayed at the next startup of the GX-6000 main unit.

Right-click the gas to set as default, and select "Set as defaults" from the displayed menu.

The background color for the gas set as default changes to pink. In the default setting, the calibration gas "Isobutylene" is set.



CAUTION

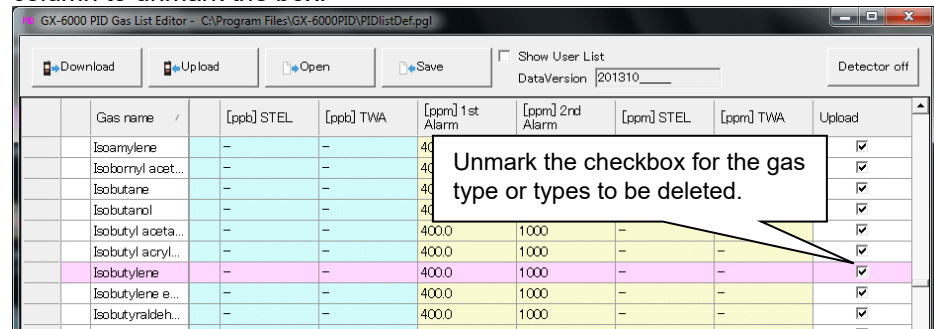
When the default gas is changed to another gas in the GX-6000 main unit, the last selected gas in the main unit is selected at the next startup of the main unit.

- **Set the gas displayed on the GX-6000 main unit**

Gases that are not to be selected can be deleted from the PID list. By retaining only gases that are to be selected in the list, gas selection in the GX-6000 main unit will be easier.

By default, all gases are selected.

For the gas to be deleted from the PID list, click the checkbox at the rightmost column to unmark the box.



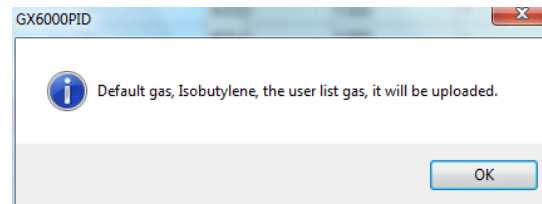
When "Check All" at the bottom right of the screen is marked, all gases will be selected. When the box is unmarked, all checkboxes except the following three types will be unmarked.

<Gases that are always selected>

- (1) Gas set by default (see "Set the gas displayed by default")
- (2) "Isobutylene"
- (3) Gases set on the user list (see "Set user list")

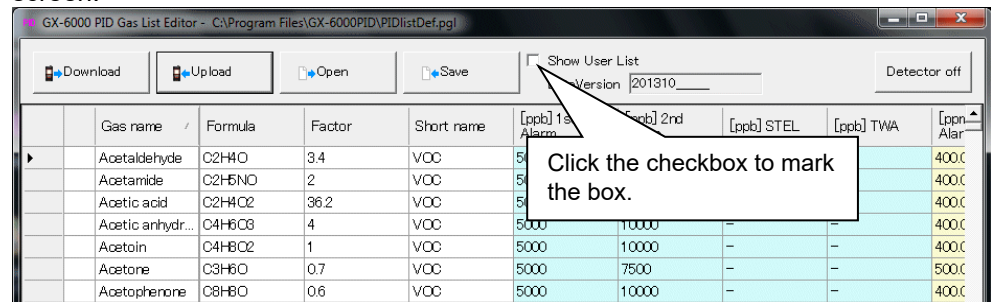
When unmarked, the following screen is displayed.

• **Set user list**

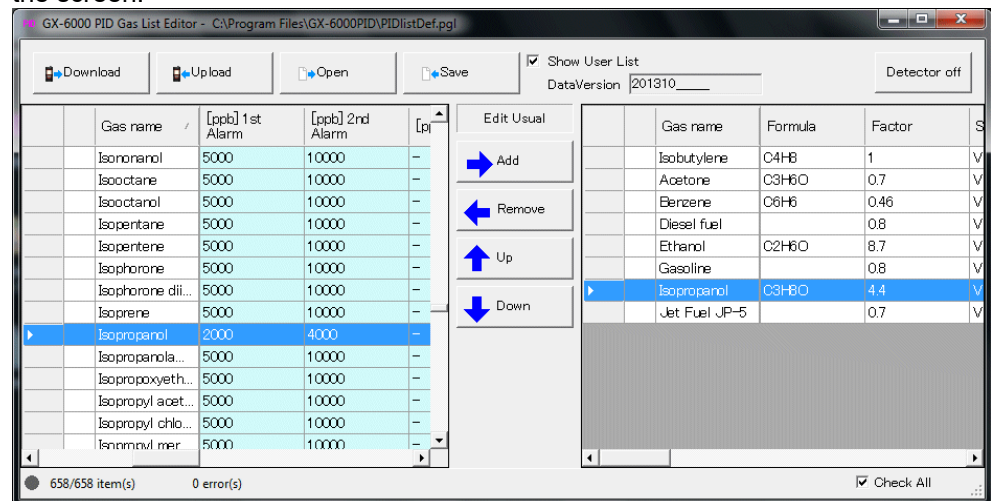


To facilitate selection of frequently selected gases in the GX-6000 main unit, up to 30 favorite gas types can be set in the user list.

Mark the "Show User List" checkbox to display the user list at the right half of the screen.



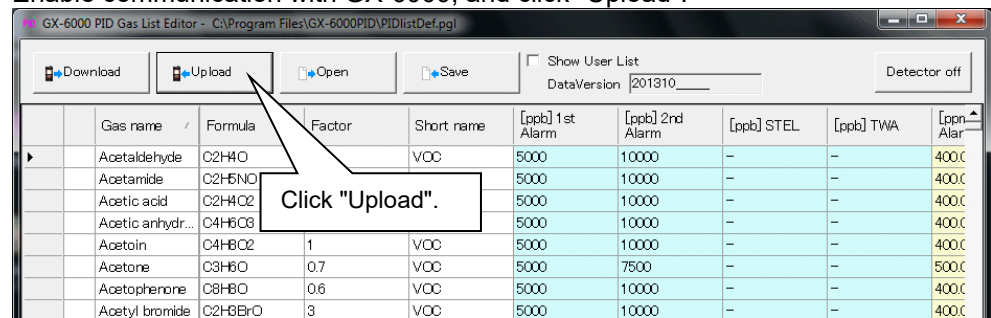
Items can be added, deleted or reordered using the arrow buttons at the middle of the screen.



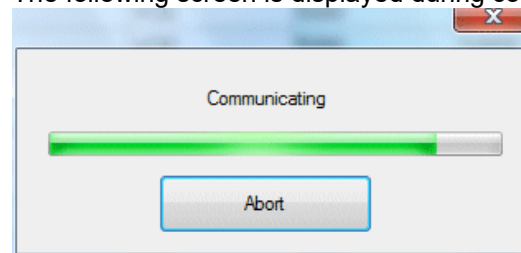
* The calibration gas "Isobutylene" is automatically registered on the gas list and cannot be deleted.

(3) Upload PID list data to GX-6000

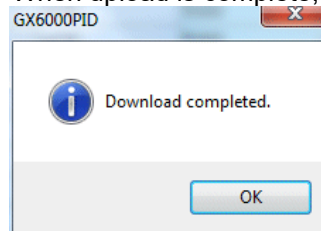
Update the PID list for the GX-6000 main unit.
Enable communication with GX-6000, and click "Upload".



The following screen is displayed during communication.



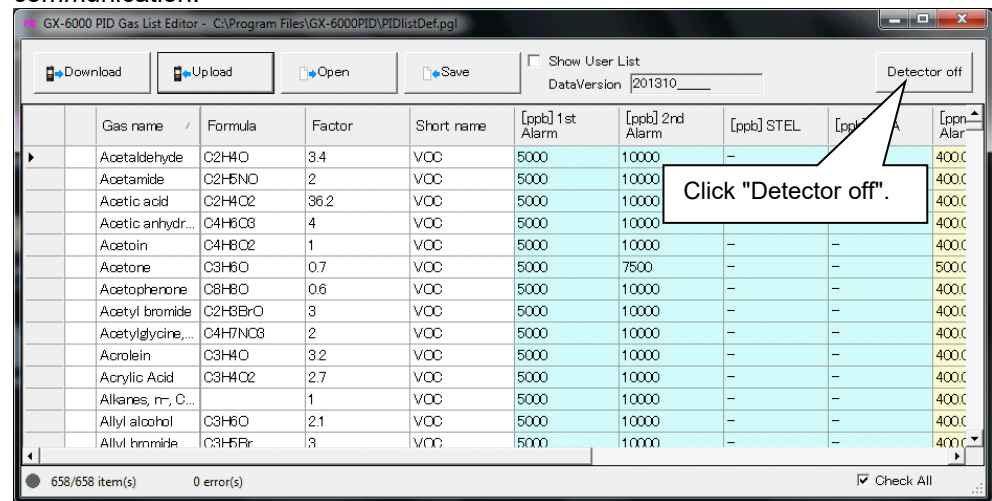
When upload is complete, the following screen is displayed.



(4) Turn off the GX-6000 main unit

- Power OFF

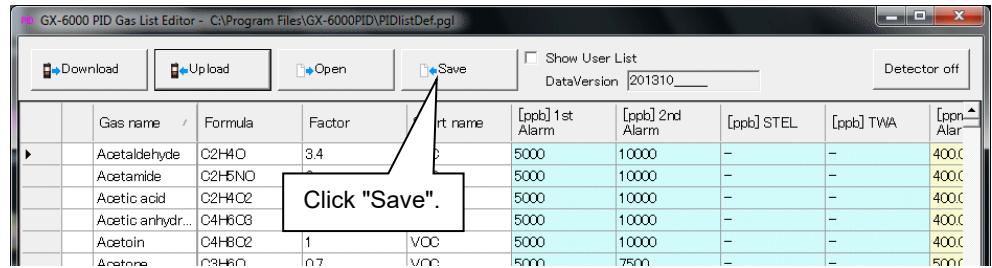
Click "Detector off" to turn off the power for the GX-6000 main unit during communication.



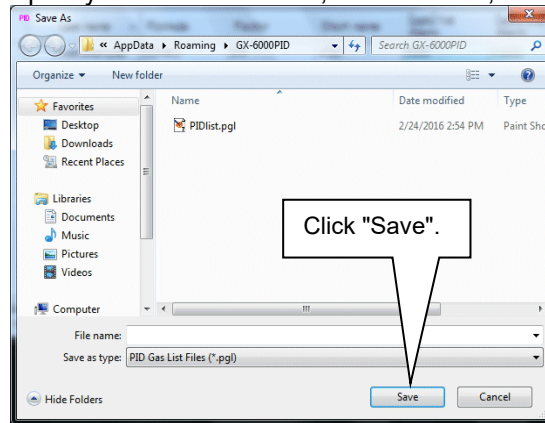
(5) Save and load files

- Save files

The edited PID list can be saved under any name.
Click "Save".

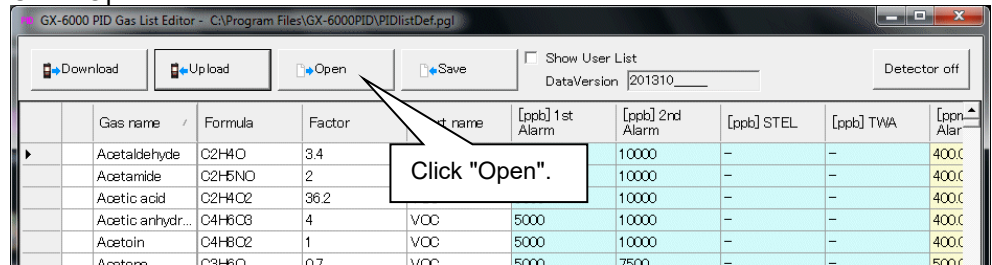


Specify the file destination, name the file, and click "Save".

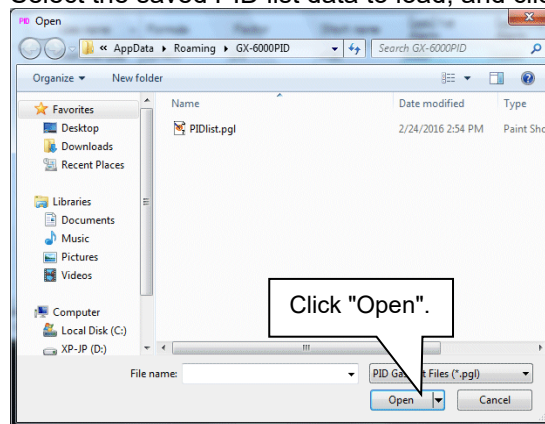


- Load files

The saved PID list data can be opened.
Click "Open".

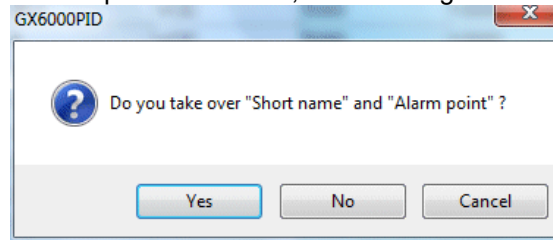


Select the saved PID list data to load, and click "Open".



After "Open" is selected, the following confirmation message is displayed.

After "Open" is selected, the following confirmation message is displayed.



Yes : When gas names in PID list to be opened and the on-screen PID list match, the short name and the alarm setpoint for the on-screen PID list is reflected on the list.
After that, the content of the list to be opened is displayed.
The file name and "It has been edited" are displayed on the window title.

No : Only the content of the PID list to be opened can be displayed.

*** The default list is saved in the installation folder. (Data name: PIDlistDef.pgl)**
The steps in "Load files" can be followed to revert to the default list.

4

Operating Precautions

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

- (1) When downloading data, check that GX-6000 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.

5

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 device, or prevent its interference. |
| Error occurs during communication. | There is a scattered light outside. | Eliminate the device that uses IR. |
| | The GX-6000 main unit has been moved during communication. | Do not move the GX-6000 main 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.

6

IrDA Specifications

6-1. About infrared communication

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



CAUTION

This program can establish communication with the GX-6000 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.

6-2. Display of communication ready status

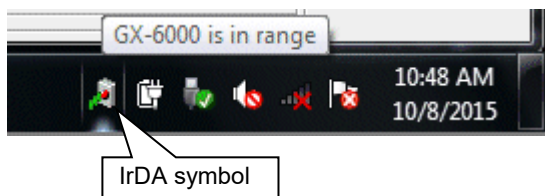
At the start of communication, the operating system recognizes existence of an infrared device and displays an icon on the task bar. By that icon, the communication status can be understood to some extent.



CAUTION

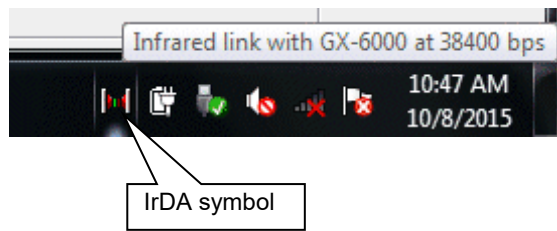
The displayed content might differ depending on the operating system and IrDA driver settings.

6-2-1. Task bar icon when the operating system recognizes GX-6000



The IrDA symbol is displayed, and when the cursor is pointed over the symbol, the message "GX-6000 is in range" is displayed.

6-2-2. Task bar icon when communication between the PID list setting program and the GX-6000 main unit is in progress



The IrDA symbol changes to an animation icon that shows communication, and when the cursor is pointed over the symbol, the message "Wireless link with GX-6000 at xxxx bps" is displayed.

* "xxxx" shows communication rate, which is normally 38400 bps.



CAUTION

Due to overhead in internal process of the GX-6000 main unit and/or the PID list setting program, there is little difference in overall communication time if the communication rate is 38400 bps or above. This is because a relatively long time is required to create data within the GX-6000 main unit and to analyze the downloaded data by the program.

7

File Structure

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

7-1. Installation directory

| File name | Details |
|-------------------|--|
| GX6000PID.exe | GX-6000 PID list setting program main unit |
| RKCommLibrary.dll | Communication component |
| PIDlistDef.pgl | Default PID list |

7-2. Current directory during operation

| File name | Details |
|-------------|---|
| PIDlist.pgl | The content retained in the list when exiting |

8

Software Specifications

| | |
|-----------------------------------|---|
| Name of product (name of program) | GX-6000 PID list setting program |
| Model | SW-GX-6000PID(EX) |
| Executable file name | GX6000PID.EXE |
| Supported OS | Microsoft Windows 7 Windows 8 Windows 10 |
| Program capacity | Main program: Approx. 180 KB/Library: Approx. 30 KB |
| Communication of the main unit | Infrared (conforming to IrDA 1.1 protocol) Standard communication settings Baud rate: 38400 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 Product warranty and registration card License agreement |