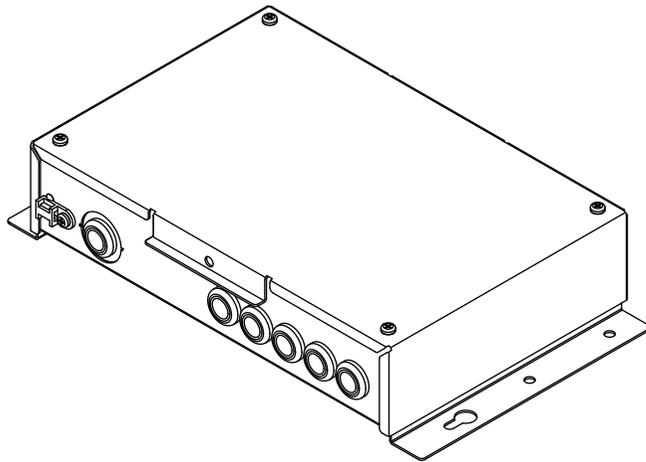




APPLICATION MANUAL

Tool for Converter

UTY-VMGX



KEEP THIS MANUAL FOR FUTURE REFERENCE

FUJITSU GENERAL LIMITED

PART NO. 9708437026

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5. DESCRIPTION OF THE SCREEN

6. OPERATION AFTER SETTING

*PC : Personal Computer

*PCB : Printed Circuit Board

Notice

Print the Application Manual in "Manual" folder of the attached DVD before starting the setting operation work from now. Prepare the Installation Manual attached to it.

1. OUTLINE

- Connecting the PC that is installed Tool for Converter to this convertor, the setting or the setting contents can be confirmed.

The main functions are as follows.

a) Setting

- Set the address of indoor and outdoor unit between open network and VRF system network.

b) Confirming

- Confirm the address setting of indoor and outdoor unit between open network and VRF system network.

1-1. System Outline

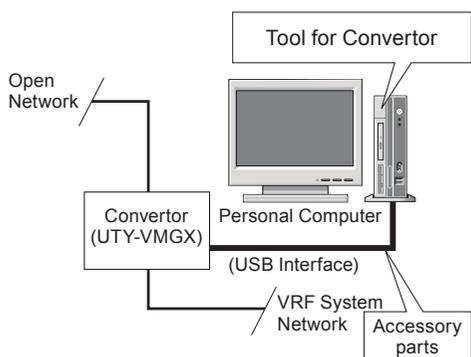


Fig. System Outline

- The layout of the system is shown in Fig. System Outline. Setting and confirming the Converter are performed using a PC. The USB interface of the PC is used to connect this Converter to the PC.

1-2. Setting & Confirming Flow

- The Setting & confirming flow is as follows. (Fig. Setting & Confirming Flow)
- Following are the work item during on line operation.

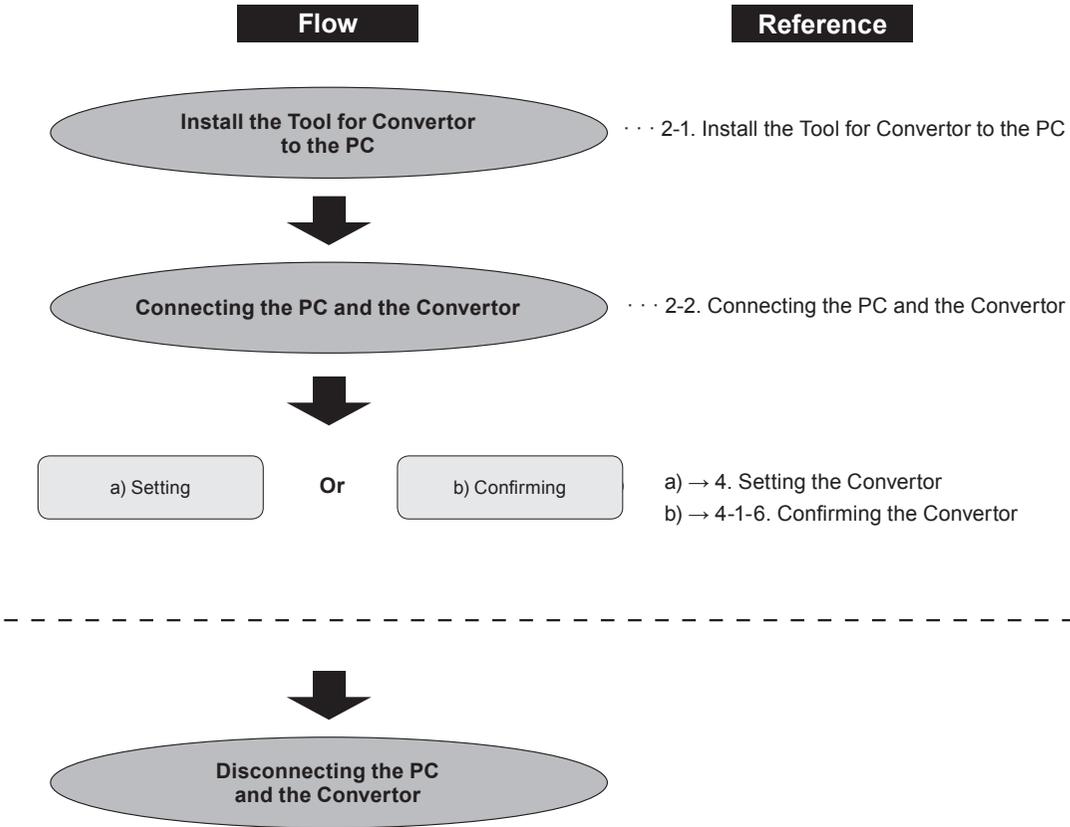


Fig. Setting & Confirming Flow

2. SETTINGS

- Install the application and connect the PC and Converter according to the following explanations.

2-1. Install the Tool for Converter to the PC.

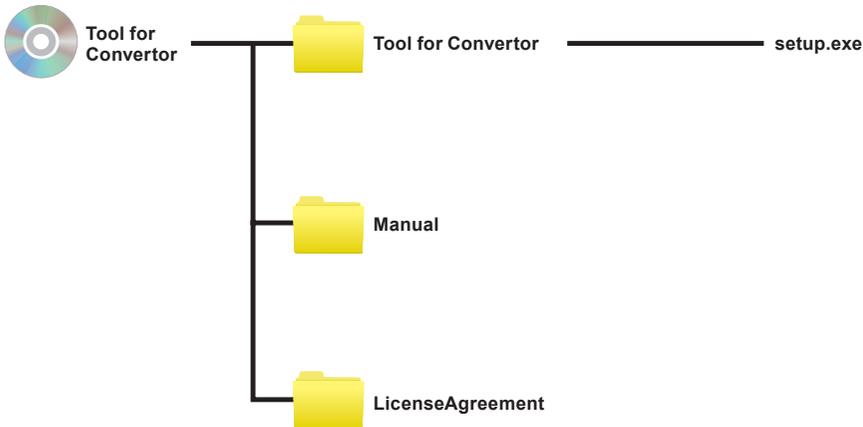
2-1-1. Operating Environment

- This program requires the following operating environment.

Personal Computer Specifications

Operating System	Microsoft® Windows® 7 SP1 (32/64-bit) Home Premium, Professional (*1) Microsoft® Windows® 8 (32/64-bit) (*1) Microsoft® Windows® 8.1 (32/64-bit) (*1) (*1) English, Chinese, French, German, Russian, Spanish, and Polish
CPU	At compatible machine that runs Microsoft® Windows®
Display	1366 x 768 dots or higher resolution
Interface	USB port (x1)
Software required	DVD drive
Hardware required	Adobe® Reader 11.0 or later Microsoft® .NET Framework 4.5

DVD Configuration (Accessory)



2-1-2. Install the Tool for Converter

- Follow the following procedure to install the Tool for Converter.

1 Double-click the file “setup.exe”.

- ◆ Follow the instructions on PC screen to install the Tool for Converter.

2-1-3. Uninstall the Tool for Converter

- Follow the method of uninstall of each PC about the method of uninstall of Tool for Converter.

2-1-4. Microsoft® .NET Framework 4.5 installation (OS used: Windows 7)

- When Microsoft® .NET Framework 4.5 is not installed to the PC, select the language to be used and download and install it from the download page of Microsoft® shown below.

<https://www.microsoft.com/en-US/download/details.aspx?id=30653>

2-2. Connecting the PC and Convertor

- Connect the PC to the Convertor with the included cable*. Follow the following procedure to connect the PC to the Convertor.

* Cable: USB (Type A) - miniUSB (Type B) (Fig. 1).

- This cable is packed in the carton of the Convertor.

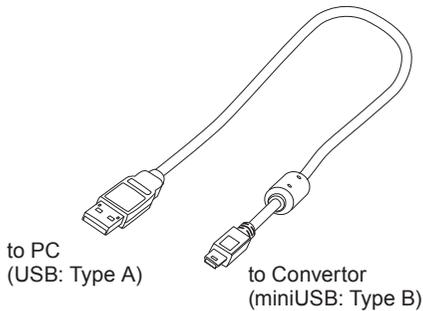


Fig 1. Connector Cable

- 1** Turn off the power of the Convertor.
- 2** Remove the cover of the Convertor using a screwdriver.
(Please refer to the Installation Manual)
- 3** Connect miniUSB (Type B) to the mini USB connector (CN61) on the PCB in the case. (Fig.2)
- 4** Connect the USB connector to the USB port of the PC.
- 5** The power supply of Convertor is turned on.

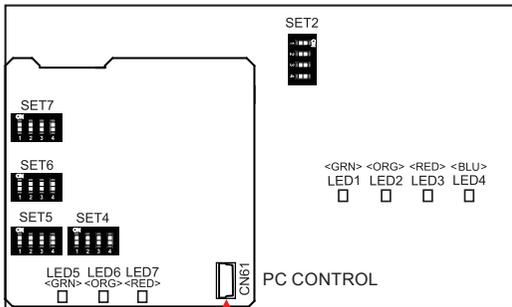


Fig 2. PCB Layout

Note

- Starting the Convertor under USB mode is necessary if the Convertor is set from PC with this application.

Check the LED display and confirm that the Convertor is started under USB mode.

During the Convertor starting as USB mode, the LEDs of Convertor perform [USB Mode Display (LED5, LED6 and LED7 flash simultaneously with 1.0 second interval)].

2-3. Driver installation (First time only)

- (1) Open the Device Manager.
- (2) Click on the additional USB devices in Ports.
- (3) Right-click.
- (4) Select Update driver.
- (5) Select "Browse my computer for driver software".
- (6) Specify and install the folder containing the inf file in accordance with the wizard.
- (7) inf file is in the folder where application is installed at 2-1-2.

It is in FUJITSU GENERAL LIMITED - Tool for Convertor - inf.

Used OS	Folder
Windows 7	FUJITSU GENERAL LIMITED - Tool for Convertor - inf - Win7
Windows 8	FUJITSU GENERAL LIMITED - Tool for Convertor - inf - Win8
Windows 8.1	FUJITSU GENERAL LIMITED - Tool for Convertor - inf - Win8.1

3. BASIC OPERATION

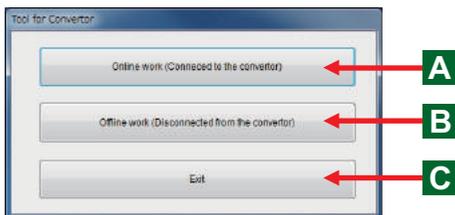
- The basic operation of the Tool for Converter is described in the following explanations.

3-1. Starting the Tool for Converter.

- 1** On the taskbar, click [Start] → [Programs] → [FUJITSU GENERAL LIMITED] → [Tool for Converter] → [Tool for Converter] The screen shown in the PC.
 - ◆ Start the Tool for Converter. Open the screen of “Connection environment” menu.

3-2. Selecting the “Connection environment” between the Converter and the Tool for Converter.

“Connection environment” menu



- Click the selected button of the “Connection environment” menu.

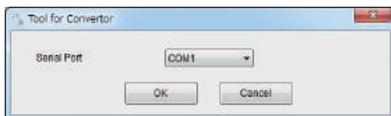
The items that can be selected are as follows.

- A** “Online work (Connected to the converter)” : Converter and Tool for Converter connect and perform the setting operation.

The serial port of USB connected Converter can be selected.

- (1) Select serial port [COM•••] with pull-down.
- (2) Click “OK” Button, The initial communication with Converter is performed.
- (3) If the communication is successful by (2), transit to [4-1].
- (4) If the communication is not successful by (2), return to “Tool for Converter / Serial Port” menu and perform the setting again.
- (5) If the setting is not performed, Click “Cancel” button, and return to “Connection environment” menu.

“Tool for Converter / Serial Port” menu



- B** “Offline work (Disconnected from the converter)”:

The Converter model name to be set from PC can be selected.

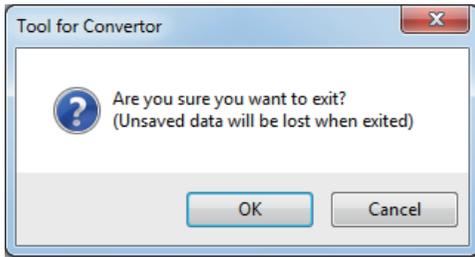
- * Only UTY-VMGX is displayed currently. It cannot be changed but can be confirmed only.

- (1) Confirm the model name displayed on the Text Box.
- (2) If it is the Converter model name you want to set, transit to [4-1] by clicking “OK” Button.
- (3) If it is not the Converter model name you want to set, return to “Connection environment” menu by clicking “Cancel” button.

“Tool for Converter / Model Name” menu



“Tool for Converter / Exit” menu



C “Exit” : End the Tool for Converter.

Confirm whether the application should be exited or not.

- (1) When “OK” button is clicked, unsaved data is deleted and the application is exited.
- (2) If the application is not exited, close “Tool for Converter / Exit” menu by clicking the “Cancel”.

Notice

Check the following if error occurs when beginning to communicate with Converter.

1. Is the cable connecting the Converter with PC disconnected?
2. Is the Converter set in “USB Mode”?

Confirm the followings again if the communication was unsuccessful for a number of times;

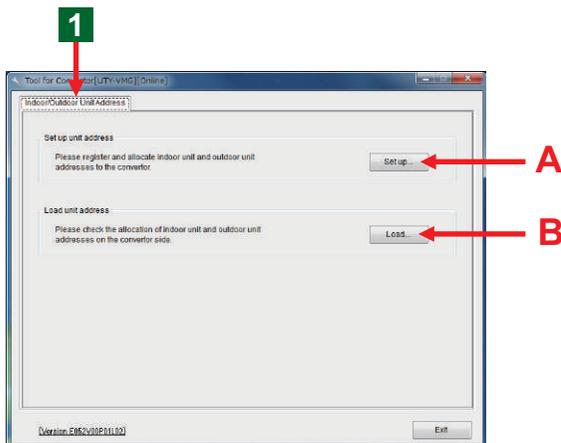
1. The USB cable connection between the Converter and PC
2. Whether the selected serial port number and the Converter connected serial port number are the same or not

It is the “Connection environment” of the relation of 1 to 1, the Tool for Converter and the Converter. Therefore, the trouble of the VRF system and BMS is not affected.

4. SETTING THE CONVERTOR

4-1. "Layout of Indoor / Outdoor Unit Address" data is made.

Main Screen / "Indoor/Outdoor Unit Address"



1 The screen of the "Indoor/Outdoor Unit Address" opens.

Note

The functions that can be selected are as follows.

A. "Set up unit address" :

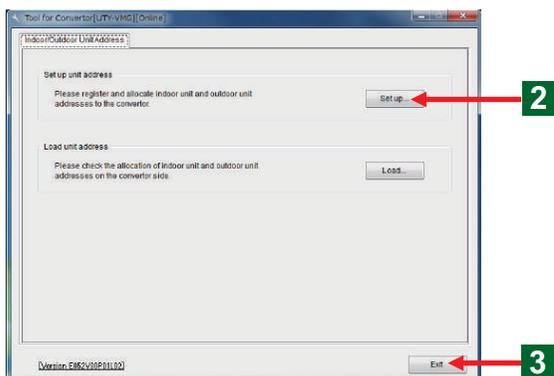
Make the "Layout of Indoor / Outdoor Unit Address" data and register the Converter. In addition, the file of the made setting information can be saved in PC. The saved PC data can be confirmed.

B. "Load unit address" :

The read of the "Layout of Indoor / Outdoor Unit Address" data registered in the Converter.

The Tool for Converter can confirm and save the data.

Main Screen / "Indoor/Outdoor Unit Address"



• Register the "Layout of Indoor / Outdoor Unit Address" data in the Converter.

2 Click the button of the "Set up...".

◆ The screen of the "Set up unit address" opens.

Note

In order to control the Indoor Unit and Outdoor Unit that exists in VRF system from BMS, the "Layout of Indoor / Outdoor Unit Address" is the related Address.

• End the Tool for Converter.

3 Click "Exit" button.

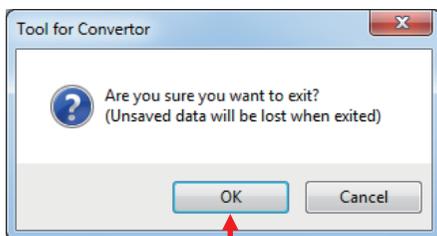
◆ The screen of the end confirmation opens.

4 Click "OK" button.

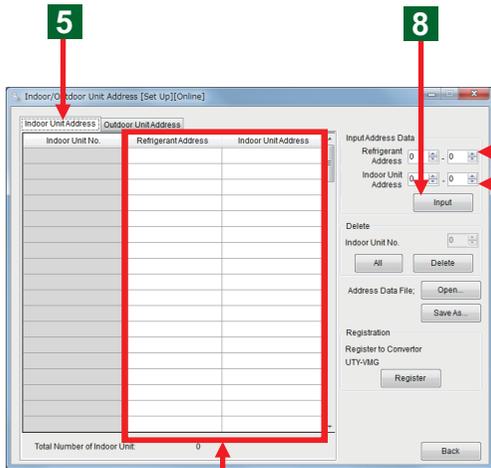
◆ End the Tool for Converter.

Notice

Delete the made information data when ending the application. Then end the operation after saving the necessary setting file.



“Set Up Unit Address” (Indoor Unit)



Display section of Address that has been Layout

- Begin setting the “Set Up Unit Address”.
- First, set the “Refrigerant Address” and the “Indoor Unit Address”.

5 Click the tab of the “Indoor Unit Address”

- Register the “Refrigerant Address” and the “Indoor Unit Address”.

6 Select the Address Number by clicking the “▲” “▼” button of the “Refrigerant Address”.

- ◆ Number can also be input by the Keyboard. The input range is shown on the Note below;

7 Select the Address Number by clicking the “▲” “▼” button of the “Indoor Unit Address”.

- ◆ Number can also be input by the Keyboard. The input range is shown on the Note below;

8 Click “Input” button.

Notice

Register the same “Refrigerant Address” of “Indoor Unit Address” and “Outdoor Unit Address” without excess and deficiency.

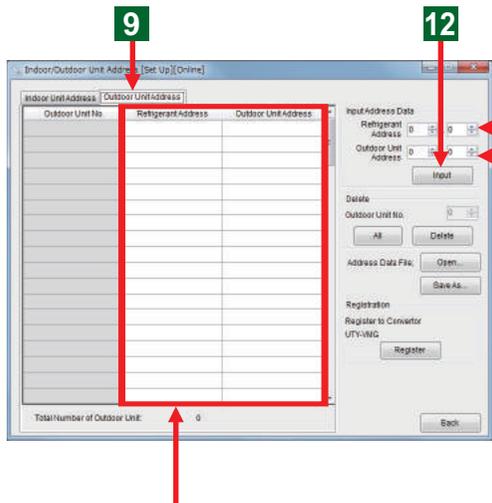
Note

The “Unit No.” is automatically allocated to the “Refrigerant Address” and the “Indoor/Outdoor Unit Address” in this tool.

Note

The “Refrigerant Address” can be input from 0 to 99.
The “Indoor Unit Address” can be input from 0 to 63.
The “Outdoor Unit Address” can be input from 0 to 3.

“Set Up Unit Address” (Outdoor Unit)



Display section of Address that has been Layout

For example: The attaching method of the Unit Address

Outdoor Unit	No. of Address		
Master	0	-	-
Master + Slave1	0	1	-
Master + Slave1 + Slave2	0	1	2

- Continue to register the “Refrigerant Address” and the “Outdoor Unit Address”.

9 Click the tab of the “Outdoor Unit Address”

10 11 Input the “Refrigerant Address” and the “Outdoor Unit Address”.

Refer to the “Example : the input method of address” as follows.

- ◆ Number can also be input from the Keyboard. The input range is shown on the Note below;

12 Click “Input” button.

Note

The “Unit No.” is automatically allocated to the “Refrigerant Address” and the “Indoor/Outdoor Unit Address” in this tool.

“Indoor Unit No.” is from 1 to 128.

“Outdoor Unit No.” is from 1 to 100.

Note

The “Refrigerant Address” can be input from 0 to 99.

The “Indoor Unit Address” can be input from 0 to 63.

The “Outdoor Unit Address” can be input from 0 to 3.

Note

The “Outdoor Unit Address” including the case of set up 1 outdoor unit must be set from 0. And then, set it in the order of 1, 2. Don’t jump the order of the number. Refer to the attachment of the “Outdoor Unit Address” on the left.

For example: the input method of address

Notice:

Prepare the data of the “Indoor/Outdoor Unit Address” and the “Refrigerant Address” registered in “VRF system” that can be understood at a glance before starting “Address” input. The setting method of the registered address is explained by using a case.

For example:

Register the following equipment address of the VRF system.

• VRF system

Refrigerant System: 6 Systems

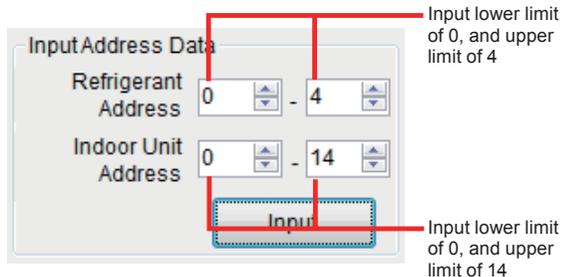
Outdoor Unit: 17 Units

Indoor Unit: 83 Units

Refrigerant System	Indoor Unit	Outdoor Unit
0	15	3
1	15	3
2	15	3
3	15	3
4	15	3
5	8	2
Total 6	Total 83	Total 17

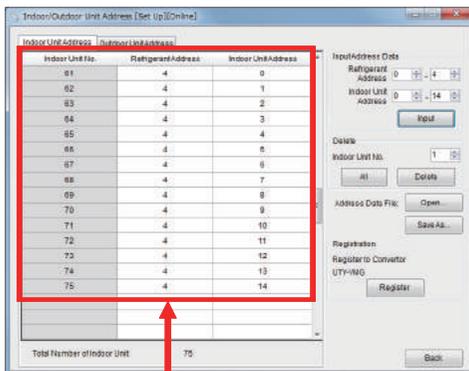
- Input the “Outdoor Unit Address” according to the instructed input method of the “Indoor Unit Address” and the same knacks till now.
- 2 or more “Refrigerant Address” and “Indoor Unit Address” can be input in a batch.

- (1) Input the “Refrigerant Address” from 0 to 4, and the “Indoor Unit Address” from 0 to 14.



Number can also be input from the Keyboard. The input range is shown on the Note

“Set Up Unit Address” (Indoor Unit) (Fig. 1)



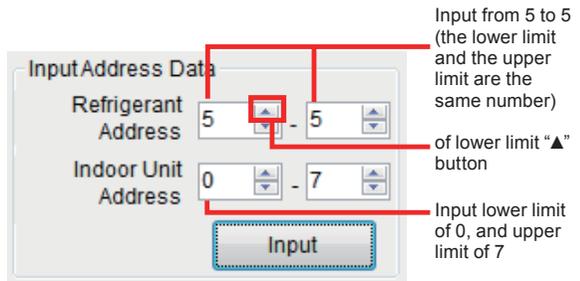
15 “Indoor Unit” each is set in the 0 to 4 system of the “Refrigerant Address”.

- (2) Click “Input” button.

◆ 15 Indoor Unit each is set in the 0 to 4 system of the “Refrigerant Address”. (Fig 1.)

- Register 5 of the “Refrigerant Address”. Register from 0 to 7 of the “Indoor Unit Address”.

- (1) Input 5 of the “Refrigerant Address”, and from 0 to 7 of the “Indoor Unit Address”.

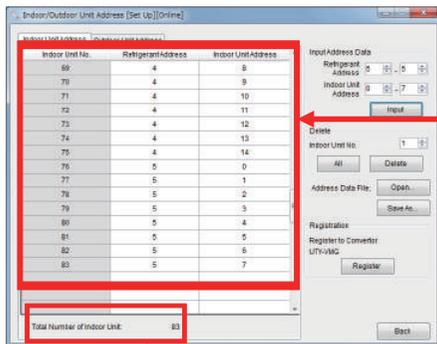


Number can also be input from the Keyboard. The input range is shown on the Note

- (2) Click “Input” button.

◆ 8 “Indoor Unit” is set in the 5 system of “Refrigerant Address”. (Fig. 2)

“Set Up Unit Address” (Indoor Unit) (Fig. 2)



8 “Indoor Unit” is set in the 5 system of “Refrigerant Address”. And then, the input equipment address is displayed on the upper part of this window.

Note

The “Refrigerant Address” can be input from 0 to 99.
 The “Indoor Unit Address” can be input from 0 to 63.
 The “Outdoor Unit Address” can be input from 0 to 3.

The setting is required so that the “lower limit” value does not exceed the “upper limit” value.

* If the “lower limit” value was set to exceed the “upper limit” value, the “upper limit” value is changed to the “lower limit” value forcibly.

Note

When the lower limit and the upper limit are in the state of the same number, if the “▲” button of the lower limit is clicked, the lower limit and the upper limit will switch at the same time. It is convenient when a single setting is input.

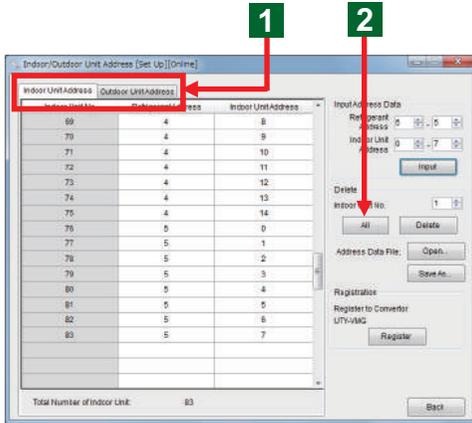
Note

The following information necessary for System Integration is automatically displayed.

A. “Indoor/Outdoor Unit” Display the total number of the unit.

4-1-1. Delete all data of “Layout of Indoor / Outdoor Unit Address”

“Set Up Unit Address”



- Delete all data of “Layout of Indoor / Outdoor Unit Address”.

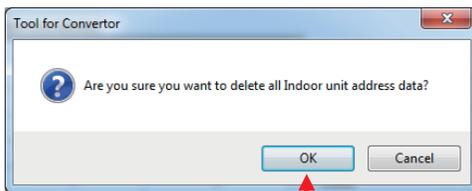
1 Click the tab of “Indoor Unit Address” or “Outdoor Unit Address” with the deleted Address.

2 Click the “All” button of the “Delete” section.

- ◆ Open the screen of “Are you sure to delete all Indoor Unit Address (Outdoor Unit Address) Data?.” for confirmation of deleting all data.

3 Click “OK” button.

- ◆ The address content of the opened “Indoor Unit Address” or “Outdoor Unit Address” was deleted.

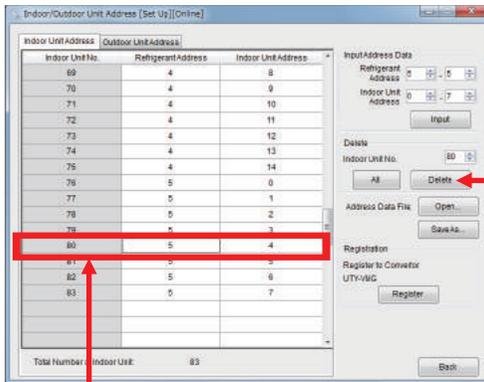


Note

If “All” button is clicked, all the address data will be deleted. It is not possible to regain. Please pay attention to it.

4-1-2. Delete any data of “Layout of Indoor / Outdoor Unit Address”.

“Set Up Unit Address”



- Delete any data of “Layout of Indoor / Outdoor Unit Address”.

[The selection method of the “Unit No.” on the display of Address List]

1 Click the “Unit No.” of the address list display.

- (1) The line of clicked “Unit No.” and “Indoor / Outdoor Unit Address” is selected.
- (2) The selected “Unit No.” is displayed in the window of “Delete” section.

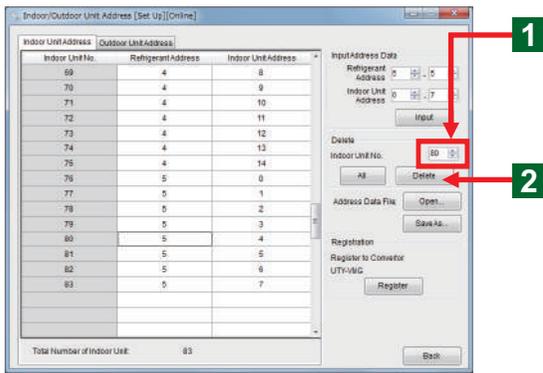
2 Click “Delete” button.

- ◆ The deleted “Unit No.” and “Indoor / Outdoor Unit Address” disappear.

Note

When any line is deleted, the Address of Unit No. below the deleted line will move up automatically.

“Set Up Unit Address”



[The setting method of the deleted “Unit No.” on the “Delete” section of the display]

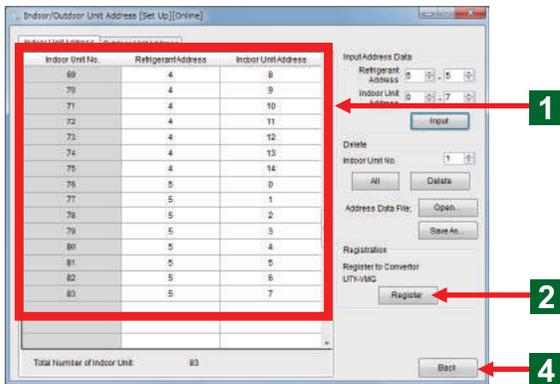
- 1** Click “▲” “▼” button to select the “Unit No.” in the “Delete” section.
 - ◆ Number can also be input from the Keyboard. The input range is the number of “Unit No.” which was already set.
- 2** Click “Delete” button.
 - ◆ The address list of the line of selected “Unit No.” was deleted.

Note

In case of Address of any “Unit No.” was deleted, the “Unit No.” below the deleted one will move up automatically. If the number of “Unit No.” exceeds the input allowable range, it is changed to the maximum number of “Unit No.” which was already set.

4-1-3. Register the data of “Layout of Indoor / Outdoor Unit Address” in the Converter.

“Set Up Unit Address”



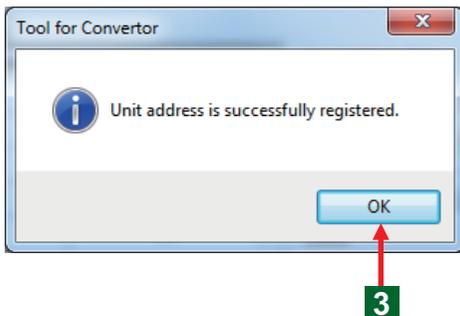
- Register the data of “Layout of Indoor / Outdoor Unit Address” in the Converter.

- 1** Confirm the information data of the “Layout of Indoor / Outdoor Unit Address”.
- 2** Click “Register” button.
 - (1) The screen of registration confirmation is displayed. Click “OK” button.
 - (2) Register the information data of the “Layout of Indoor / Outdoor Unit Address” in the Converter
 - (3) After “Register” is completed, the screen of the “Unit address is successfully registered.” opens.
- 3** Click “OK” button.

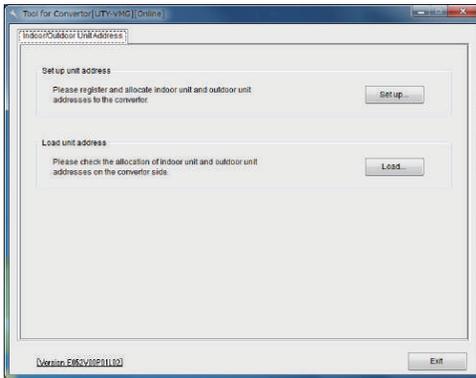
- ◆ The screen of “Tool for Converter” closes.

Note

“Register” information data in the Converter becomes effective only in case of the “Connection environment” menu is in “Online work” state. In case of using on the “Offline work” state, after a necessary file is saved once, switch to “Online work” state by restarting the Tool for Converter. (For detail, refer to 3-2)



Main Screen/
 “Indoor/Outdoor Unit Address” :

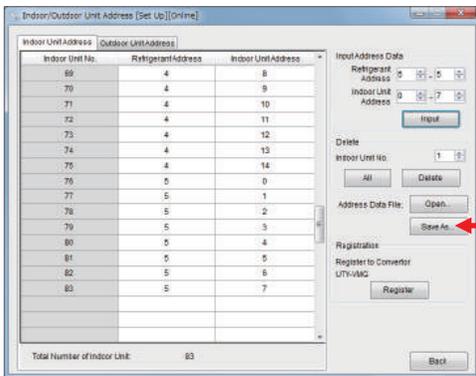


- After each operation ends, return to the main screen.

- 4 Click “Back” button.
 - ◆ The Main Screen opens.

4-1-4. Saving the file of the “Layout of Indoor / Outdoor Unit Address” data registered in the Converter in PC.

“Set Up Unit Address”

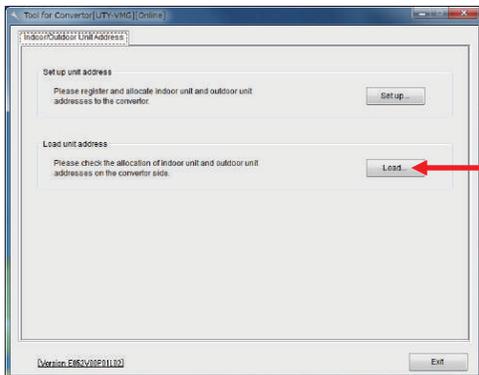


- Save the file of the “Layout of Indoor / Outdoor Unit Address” data made in PC.

- 1 Click “Save As...” button.
 - ◆ The window of “Save As...” opens.
- 2 Select a file saving directory.
- 3 Fill in the “File name” when saving it.
- 4 Click the “Save” button.
 - ◆ Start saving.

4-1-6. Confirming the read in of the “Layout of Indoor / Outdoor Unit Address” data registered in the Converter.

“Indoor/Outdoor Unit Address”



- Confirm the read in of the “Layout of Indoor / Outdoor Unit Address” information data registered in the Converter.

1 Click the “Load” button.

- ◆ The screen of the “Load Unit Address” opens. The previous data might be displayed. Press the button of step **2** to display the new data.

2 Click “Load” button.

- (1) Read in the “Layout of Indoor / Outdoor Unit Address” that has already been set the Converter.
- (2) Use tab to switch the display of the read in “Indoor Unit Address” and “Outdoor Unit Address” in the display section.
- (3) After “Load” is completed, the screen of the “Unit address is successfully loaded.” opens.

3 Click “OK” button.

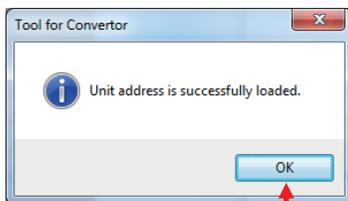
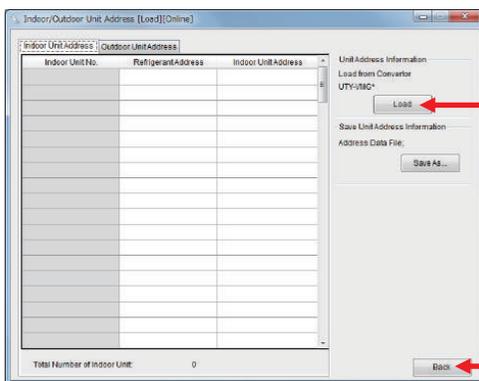
- ◆ That screen closes.

- Confirm the information data of the read in address. Refer to 4-1-7 when that file of data is saved.

4 Click “Back” button.

- ◆ The Main Screen opens.

“Load Unit Address”



Note

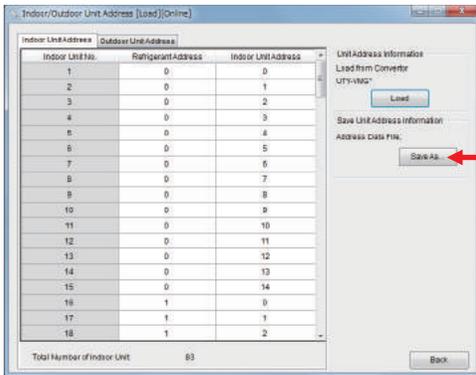
“Load” information data from the Converter becomes effective only in case of the connection environment menu is in “Online work” state. In case of using on the “Offline work” state, after a necessary file is saved once, switch to “Online work” state by restarting the Tool for Converter. (For detail, refer to 3-2)

Note

The data that displayed on the “Load Unit Address” will not erase even if the display of the “Indoor/Outdoor Unit Address” is returned with “Back” button. In addition, in case the display of the “Load Unit Address” is open, pay attention that the content of previous “Load Unit Address” will be displayed, when “Load Unit Address” is not made.

4-1-7. Saving the file of the data of the “Layout of Indoor / Outdoor Unit Address” read in from the Converter.

“Load Unit Address”

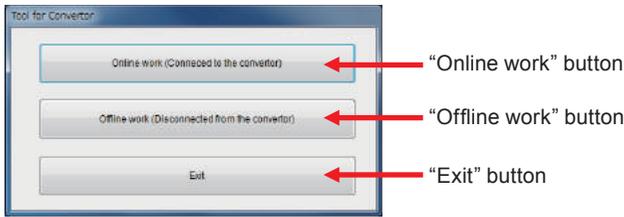


- Here, the file of the information data of “Layout of Indoor / Outdoor Unit Address” was saved in PC.

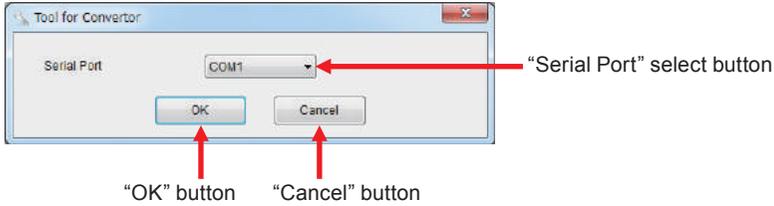
- 1** Click “Save As...” button.
 - ◆ The window of “Save As...” opens.
- 2** Select a file saving directory.
- 3** Fill in the “File name” when saving it.
- 4** Click the “Save” button.
 - ◆ Start saving.

5. DESCRIPTION OF THE SCREEN

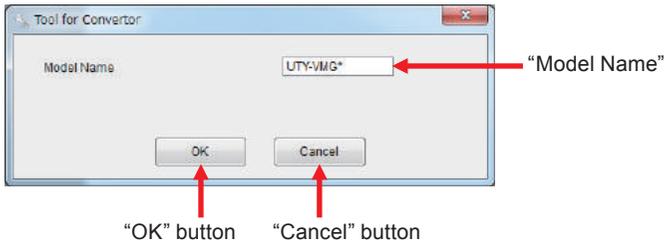
“Connection environment” menu screen



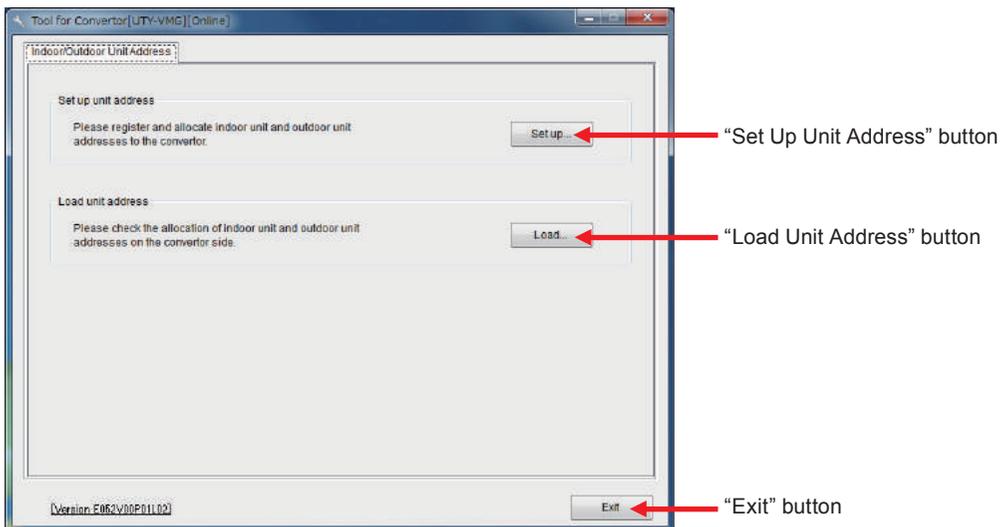
When selecting “Online Work”



When selecting “Offline Work”



Main Screen / “Indoor/Outdoor Unit Address” screen



Set Up Unit Address screen

Display section of "Refrigerant Address"

"Indoor Unit Address" switching tab

"Outdoor Unit Address" switching tab

Display section of "Indoor/Outdoor Unit Address"

Refrigerant Address Range setting button

Indoor Unit Address Range setting button

"Input" button

"Unit No." select button

"Delete" button

"All" button

"Open" button

"Save As..." button

"Register" button

"Back" button

Display section of "Unit No." (Number is assigned automatically)

Display the total unit

Total Number of Indoor Unit: 0

The screenshot shows a software window titled "Indoor/Outdoor Unit Address [Setup][Online]". It features two tabs: "Indoor Unit Address" and "Outdoor Unit Address". The "Indoor Unit Address" tab is active, displaying a table with columns for "Indoor Unit No.", "RefrigerantAddress", and "Indoor UnitAddress". To the right of the table is a control panel with several sections: "Input Address Data" containing two numeric input fields for "Refrigerant Address" and "Indoor Unit Address", each with a range setting button; an "Input" button; a "Delete" section with a "Unit No." select button, an "All" button, and a "Delete" button; an "Address Data File" section with "Open..." and "Save As..." buttons; and a "Registration" section with a "Register" button. At the bottom left, there is a "Total Number of Indoor Unit:" label with a value of "0". A "Back" button is located at the bottom right.

Load Unit Address screen

Display section of "Refrigerant Address"

"Indoor Unit Address" switching tab

"Outdoor Unit Address" switching tab

Display section of "Indoor/Outdoor Unit Address"

"Load" button

"Save As..." button

"Back" button

Total Number of Indoor Unit: 0

The screenshot shows a software window titled "Indoor/Outdoor Unit Address [Load][Online]". It features two tabs: "Indoor Unit Address" and "Outdoor Unit Address". The "Indoor Unit Address" tab is active, displaying a table with columns for "Indoor Unit No.", "RefrigerantAddress", and "Indoor UnitAddress". To the right of the table is a control panel with two sections: "Unit Address Information" containing a "Load" button, and "Save Unit Address Information" containing a "Save As..." button. At the bottom left, there is a "Total Number of Indoor Unit:" label with a value of "0". A "Back" button is located at the bottom right.

6. OPERATION AFTER SETTING

- The steps to proceed to the normal operation of Converter after Converter setting completion by this application are shown below.

- 1** Complete the setting from the Tool for Converter
- 2** Exit the application
- 3** Remove the USB cable connected to PC and the Converter
- 4** Start up the Converter as the main power supply
- 5** The contents set from PC are reflected on the Converter