072A(E)-C

Troublerésa II PLUS

Instruction Manual

Monitoring Software

Showa Denki

Introduction

Thank you very much for purchasing Showa Denki's

Troubleresa II PLUS abnormality detector.

As a specialist manufacturer of blowers and dust collectors, Showa Denki is dedicated to creating products based on "flow technology" and "rotating machinery technology."

The Troubleresa II PLUS is a simple diagnostic device,

developed utilizing our wealth of expertise in maintenance and repairs. To get the best performance from this product and to ensure safe use and a long, trouble-free life, please take the time to read this instruction manual carefully.

This manual is targeted at the following persons:
Among persons having knowledge about rotating machinery and peripheral device,

- Persons who install and connect control units
- Persons who perform daily control (inspection and maintenance) of rotating machinery
- Persons who supervise the site

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1. Cautions for use of this product

(1) The purpose of this software is to communicate with “Showa Denki’s Troubleresa II PLUS MiruTEN (Sub Unit) and Remote Unit”. It is impossible to communicate with devices other than specified ones.

(2) After installation of this software, do not open, move, change, delete, etc. files or folders In the “C:¥Program Files¥ShowaDenki”.
Doing so may cause this software not to start normally. Use specified files or folders only.
We do not take responsibility for problems that occur when this product is used in a way other than as specified, such as by opening, moving, changing, or deleting files or folders other than the precise ones indicated.

(3) To start this software, double-click the shortcut of “ Troubleresa II PLUS” created on the desktop. Or, double-click the application of “ Troubleresa II PLUS” in “C:¥Program Files¥ShowaDenki” to start the monitoring software.

(4) Before starting the “Troubleresa II PLUS” software, terminate other programs.
Although a CVS file can be opened during startup of this software, if the file size is large, theoperations of PC and this software may become unstable. If using a large-size file, it is recommended to move the CSV file to flash memories, etc. and then open it by another PC.

(5) Before starting this software, check that the power supply for the remote unit and the LAN cable are properly connected.

(6) When terminating this software, disconnect the communication if connecting with the remote unit and record setting until termination, CSV files, etc. in the PC.
If starting this software again, start communication with the previous setting.
*If this product is stopped, Remote Unit device information cannot be collected.
In addition, CSV files will not be Remote Unit.

(7) This instruction manual is prepared for “Troubleresa II PLUS ver2.00.00”.
Note that this software is subject to updating due to our company's circumstances.
This manual screen is designed for viewing a computer running Windows 7 or Windows 8 (8.1). For support for other operating systems and how to operate after a system update, please contact the PC manufacturer, the shop where you made your computer purchase, or the support center for your specific OS.

(8) Use this software by account having an administrative right.
Failure to do so may not allow this software to start or operate normally.

2. Personal computer (IP address) setting method

Set the IP address of the personal computer (hereinafter referred to as PC) in which the monitoring software to communicate with the MIruTEN (Sub Unit) and the remote unit was installed.

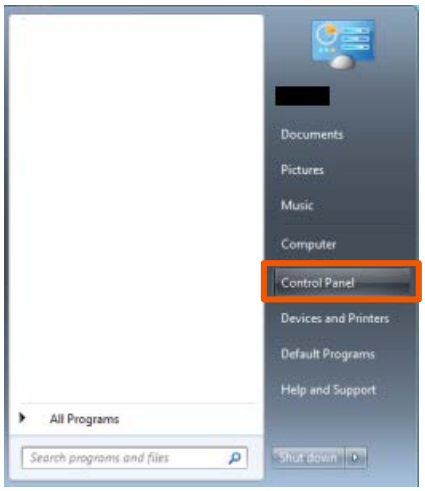
① In the case of Windows 7

Press the “Windows” key to open the Context menu.

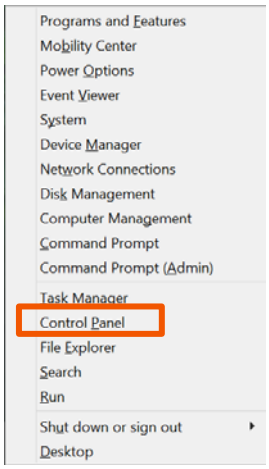
In the case of Windows 8 (8.1) or 10

Press the “Windows” key and the “X” key at the same time to open the Context menu.

② Select “Control panel (R)”.

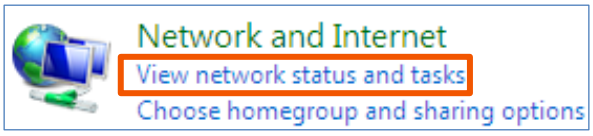


In the case of Windows 7

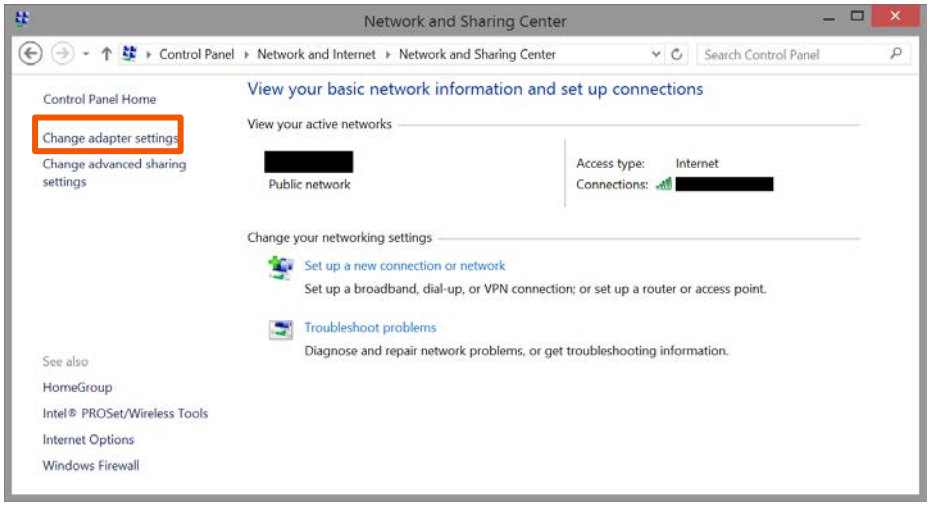


In the case of Windows 8 (8.1) or 10

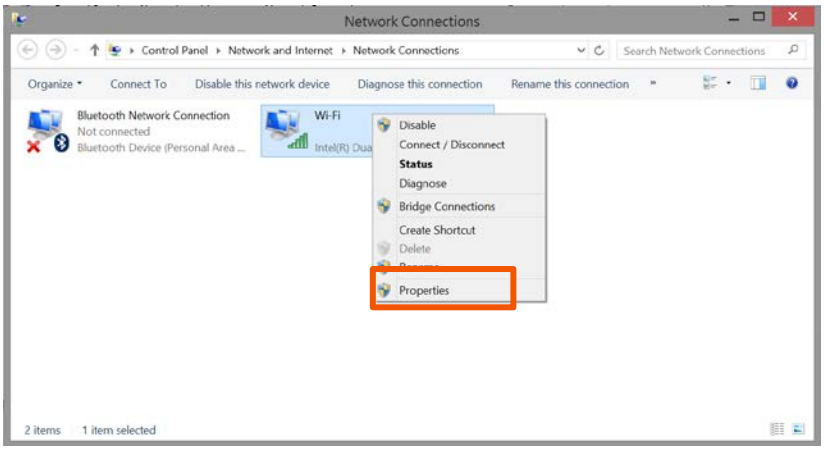
③ Click “View network status and tasks” of “Network and Internet”.

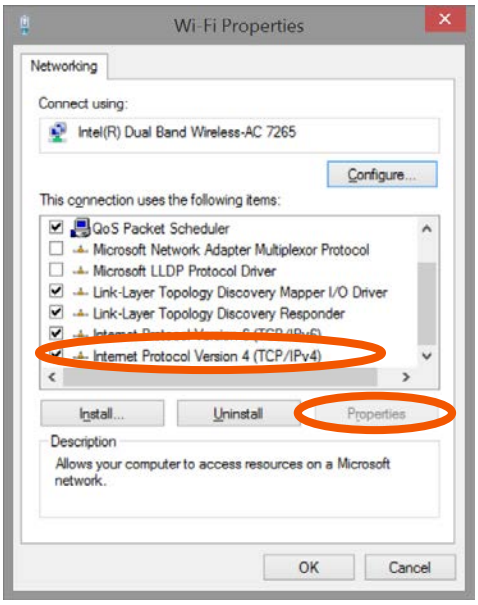


④ Select “Change adaptor settings”.



⑤ Right-click on the icon of the Ethernet to which the remote unit is connected and click “Property (R)”.





⑥ Select the “Internet Protocol Version 4 (TCP/IPv4)” and click the “Properties”.

⑦ Put a checkmark on the “Use the following IP address” and input values in the “IP address”, “Subnet mask” and “Default gateway”.

You do not have to input values in “Preferred DNS server” or “Alternate DNS server”

⑧ Finally click the “OK”.

Setting is completed by the above steps.

3. Startup guide

The convenient initial setting method when using this product (hereinafter referred to as monitoring software) for the first time is described.
For each function and detailed setting, refer to “Function Description Section” from Page 16.

Icon detail list

MiruTEN

Remote Unit

Separating the MiruTEN and Remote Unit by color

	Not set (Gray)	: The Remote Unit which was registered but not set. Cannot perform monitoring until completion of setting.
	Setup (Blue)	: Shows the Remote Unit which underwent setting but is not monitoring. Starts monitoring from “Communication Connection” menu.
	Under communication (Green)	: The Remote Unit which is monitoring according to the set conditions.
	Communication error (Orange)	: The Remote Unit for which communication is Disconnected and monitoring is suspended due to failures, etc.
	Occurrence of error (Red)	: The RemoteUnit is detecting an error. Check the error. The display “Occurrence of error” is not returned to the original status until “Cancel” is performed.

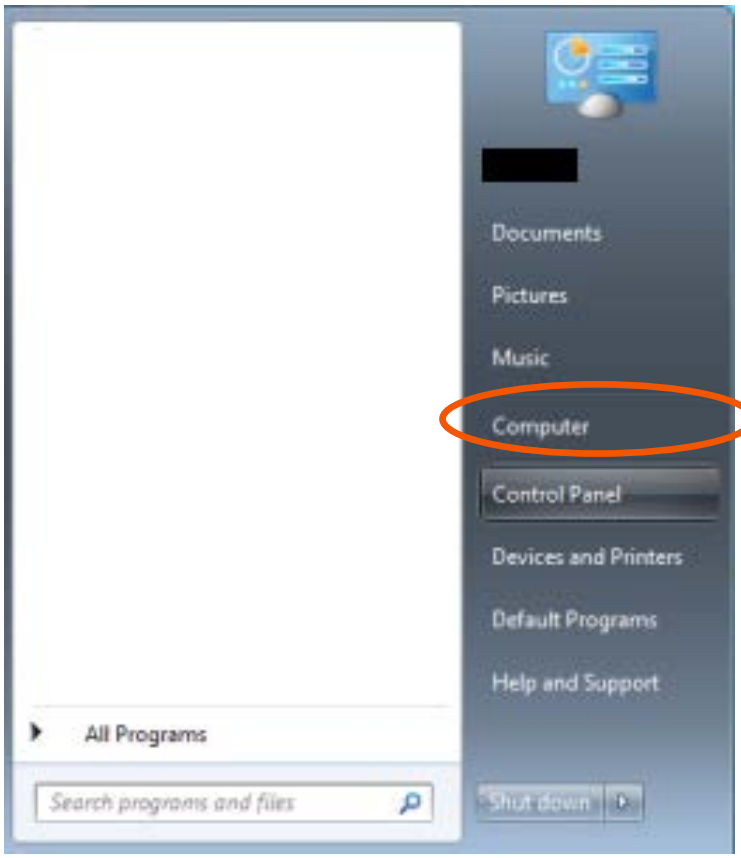
Color of characters
Characters in black show a Remote Unit which was manually set and characters in white show a Remote Unit which was set according to recommended setting.

[1] Install method

① Insert this product into the optical drive of PC capable of reading a CD-R.

② The setup program will automatically start up after a while.
Install this software according to the indications on the screen.

*If the software will not start up even after inserting the disc, click the “Start” and “Computer” on the desktop screen and start up the drive into which the installation disc was inserted. (The operation method varies depending on OS.)



Selecting the “Start” button on the lower left part of the screen will display the start menu.

Select
“Computer”
“Drive (Blu-ray, DVD etc.)”
in this order.

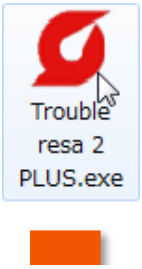
After the setup program starts up, proceed with installation as prompted by the instructions shown on the screen.

*Uninstallation

① Open CONTROL PANEL.
② Choose UNINSTALL.
③ Choose Trouble resa II PLUS for uninstallation.

*Be sure to set the IP address of remote unit, cancel the PC sleep function and disable automatic updating. (Refer to “8. Appendix” on Page 61.)

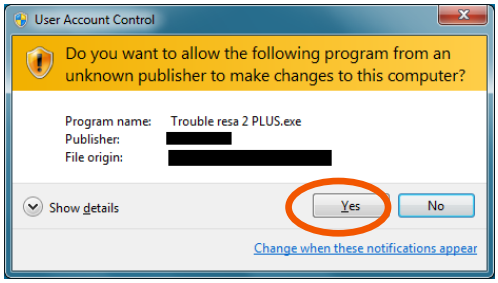
[2] Startup of software



Double-click the icon to start the software.

*The administrative right is required.

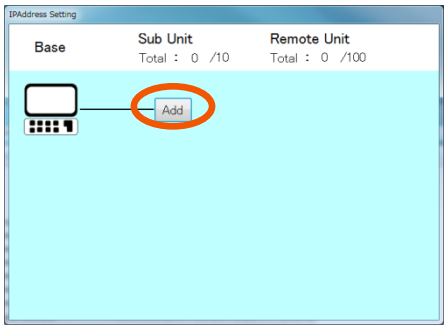
Select the “YES” on the screen of administrative right.



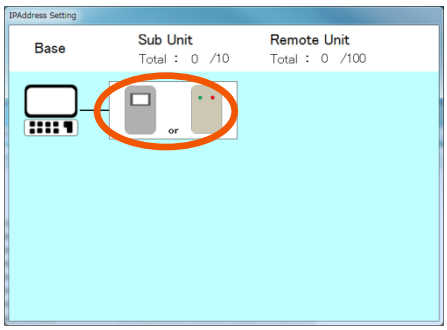
[3] Selection of use language

It is necessary to set the display language of this software when starting up the software initially. Select the display language of this software from Japanese or English.

[4] Registration of MiruTEN or Remote Unit



① Push the “Add” button.

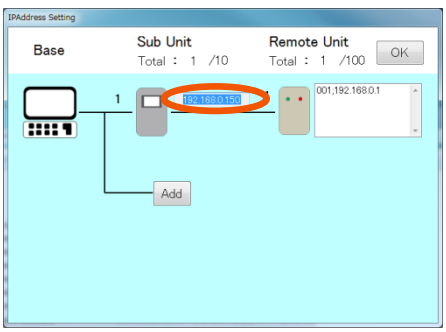


② In the case where the MiruTEN is installed:

•Icon of MiruTEN (left side) → To ③

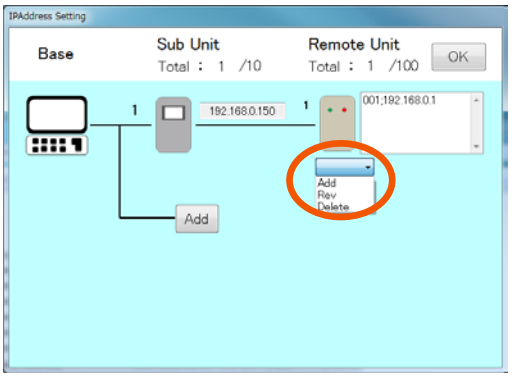
In the case where only the Remote Unit is installed:

•Icon of Remote Unit (right side) → To ⑦ on P9

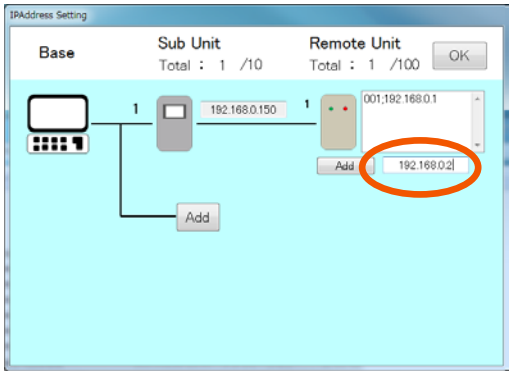


③ Edit the IP address of the Miru TEN which was added.

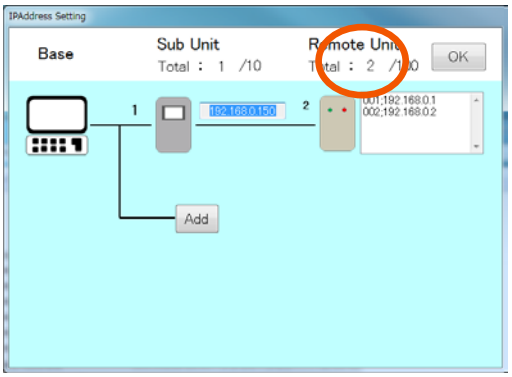
Input the IP address.



④ Push the icon of the Remote Unit and select the “Add” from the list shown below.

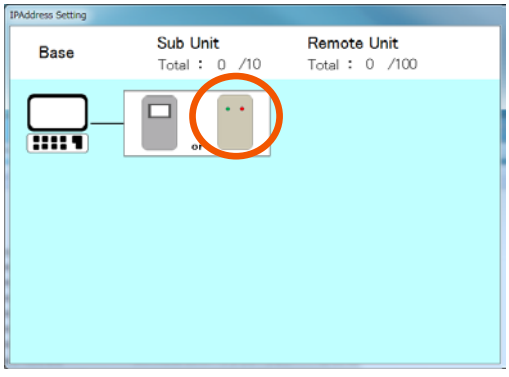


⑤ Input the IP address of the Remote Unit to be used.

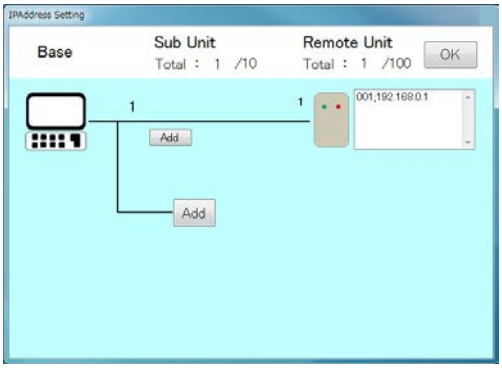


⑥ After completion of inputting, push the “Add” button again. One Remote Unit will be added.

⑦ In the case where only the Remote Unit is installed, select the icon of the Remote



Select the icon of the Remote Unit.

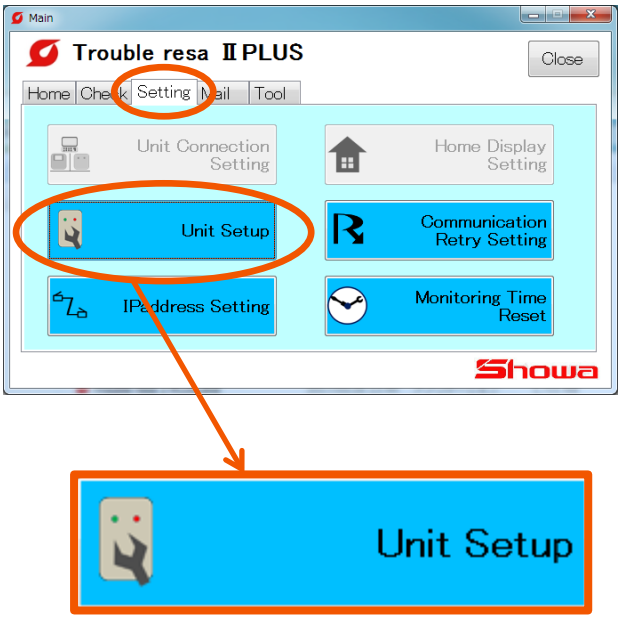


The following steps are the same as the steps from ④ to ⑥.

*For change and deletion of the Miru TEN and Remote Unit IP address, refer to Pages 39 to 42 of the “Function description”.

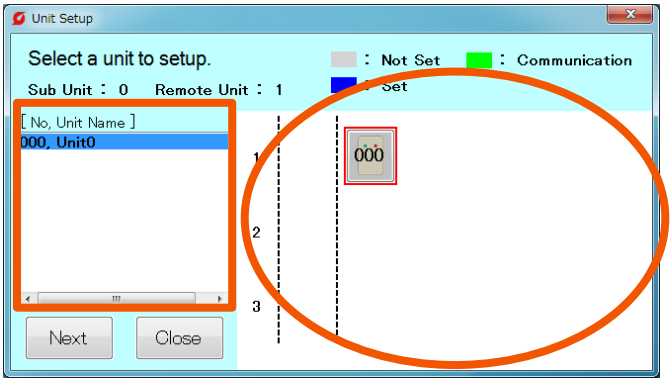
*RemoteUnit information will be recorded as a CSVfile only while the monitoring software is running. Data collected after software communication is stopped will not be recorded.

[5] Setting of Remote Unit

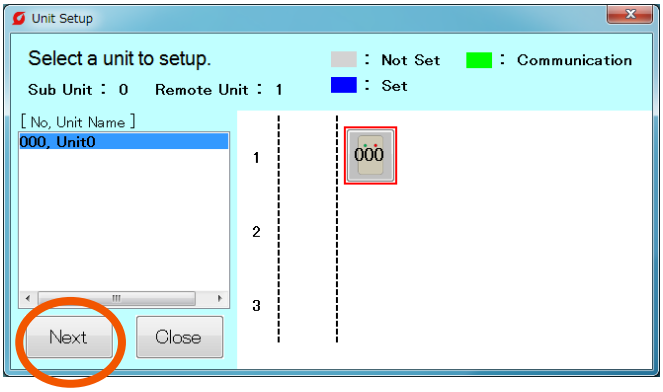


① Select the “Setting” tab.

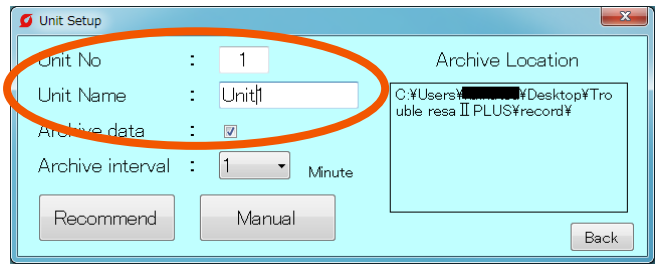
② Push the “Unit Setup” button.



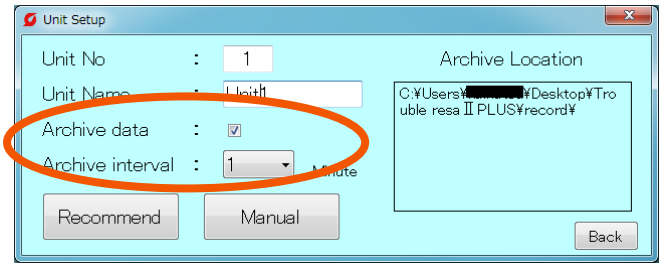
③ Select a Remote Unit to be set.
(Within the circle)
It is possible to select a unit from the list on the left side.
(Within the square)



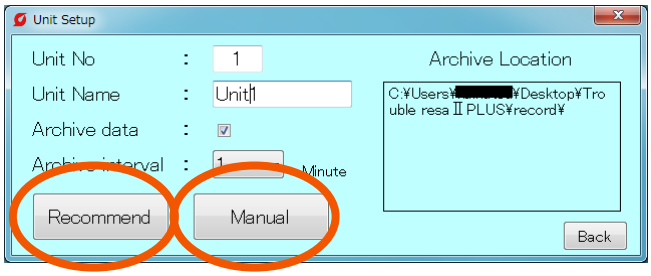
④ Select the Remote Unit and push the “Next” button.



⑤ Input the “Unit No” and “Unit Name”.

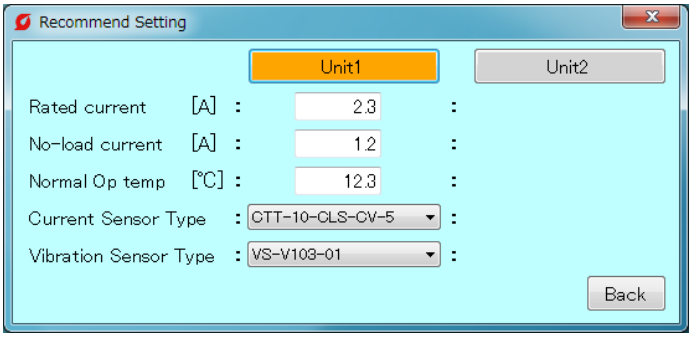


⑥ Save the information of Remote Unit as a CSV file during communication. To save the CSV file, put a checkmarkon the “Archive data” and select the storage cycle.
Save the CSV file in the place shown on the right side of the screen.

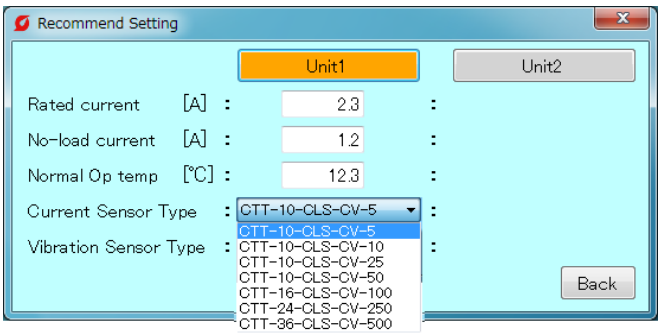


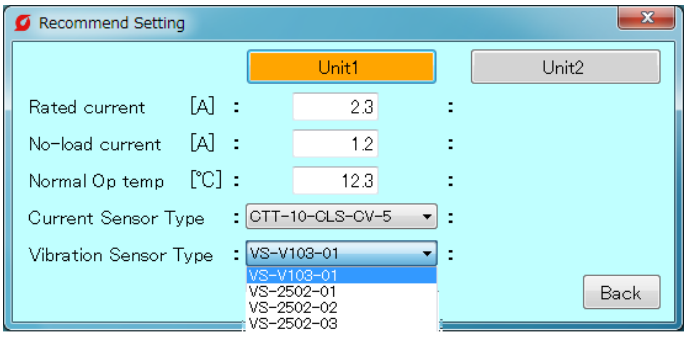
⑦ Select the “Recommende” button or the “Manual” button.
Recommend → To P12 ③
Manual → To P13 ⑨

⑧ In the case of “Recommend Setting”:

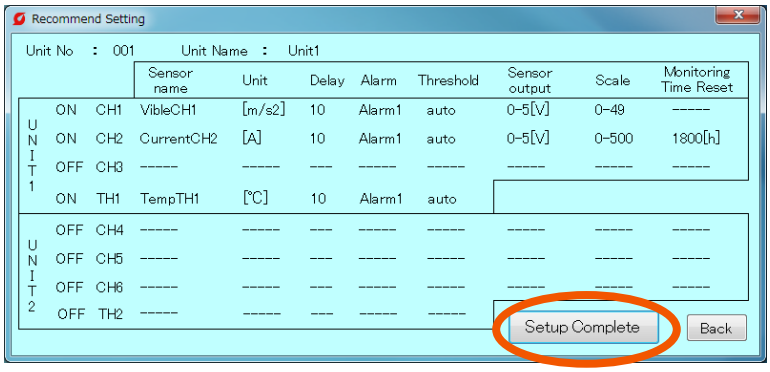


・Input the “Rated current”, “No-load current” and “Nomal Op temp”.





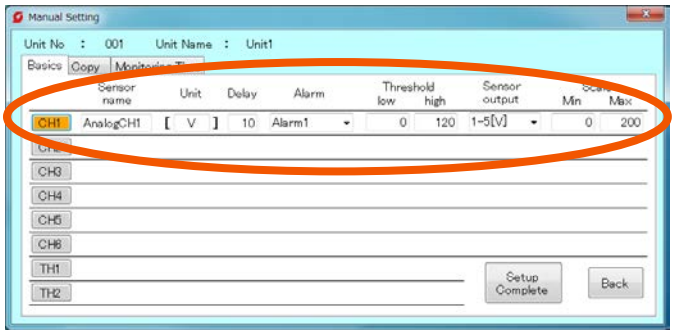
・Select the type of “Current Sensor Type” and “Vibration sensor Type” to be used.



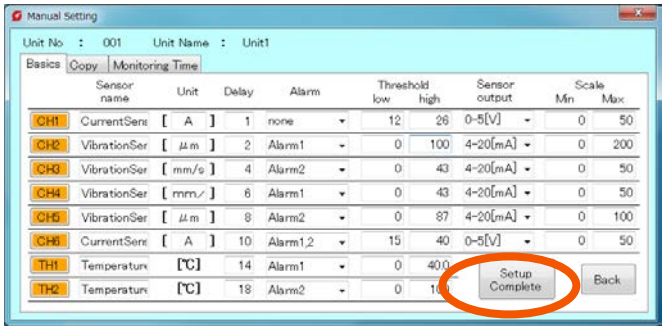
・Check the set details and push the “Setup Complete” button.

⑨ In the case of “Manual Setting”:

・Select the “Analog input (hereinafter referred to as CH) and “Temperature input (hereinafter referred to as TH) connected to the sensor.

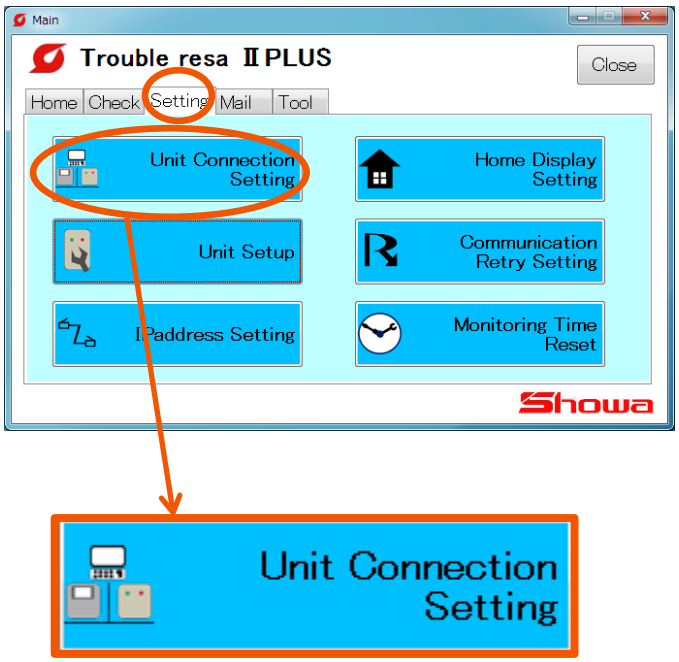


・Input the “Sensor name”, “Unit”, “Delay”, “Alarm”, “Threshold (low and high)”, “Sensor output” and “Scale (Min and Max)”.



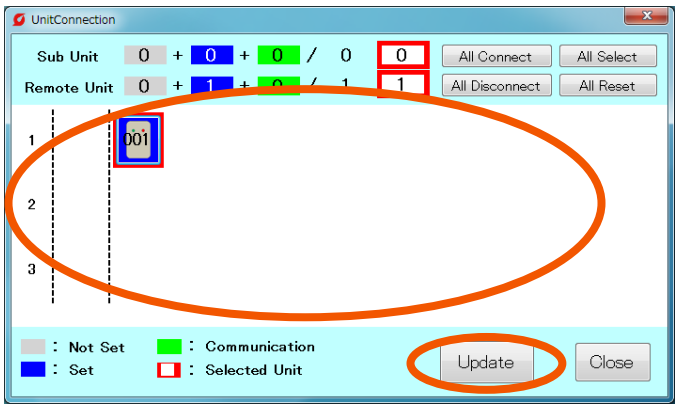
・After completion of inputting, push the “Setup Complete” button on the lower right of the screen.

[6] Unit Connection Setting



① Select the “Setting” tab.

② Push the “Unit Connection Setting” button.



③ Select a Remote Unit that will perform communication (monitoring)

④ Push the “Update” button.

*Every time pushing the “Connection Update” button, the “Communicating (Green)” and “Set Up (Blue”) are switched.

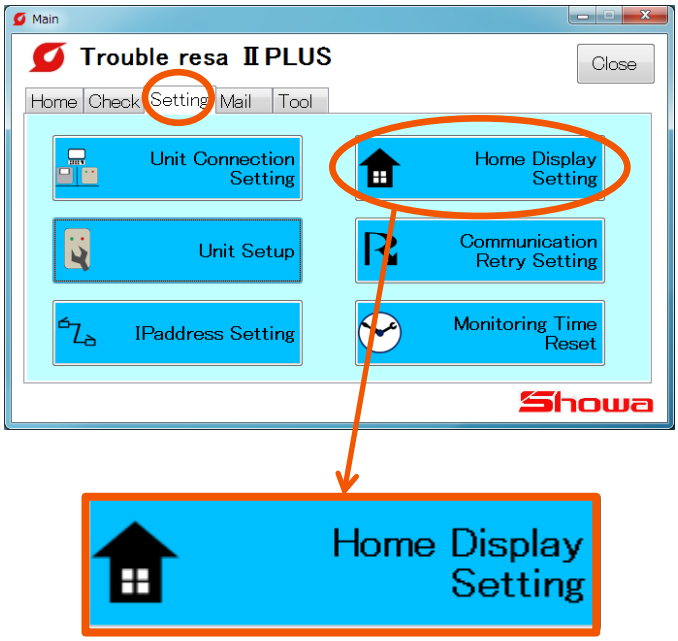
“Communicating” : Communication with this software starts and is monitoring the RemoteUnit

“Set Up” : Shows the Remote Unit setting completion conditions. The unit is not monitoring the Remote Unit.

“Communicating” (Green)

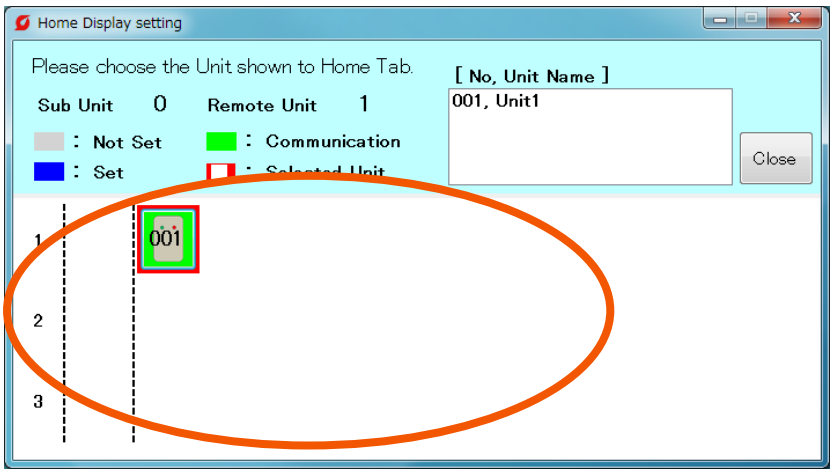
“Set Up” (Blue)

[7] Home Display setting

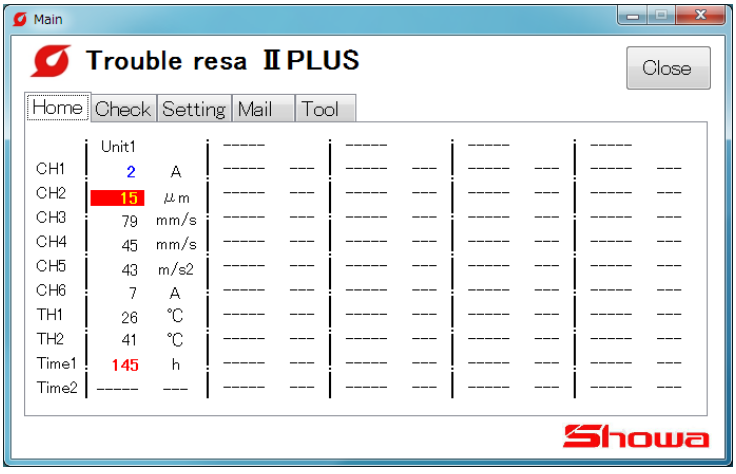


① Select the "Setting" tab.

② Push the "Home Display Setting" button.



③ Select the Remote Unit (Communicating: Green) displayed on the "Home" tab. (MAX 5)



④ Closing the screen starts monitoring of the selected Remote Unit.

4. Function description

Icon detail list

MiruTEN

Remote Unit

Separating the MiruTEN and Remote Unit by color

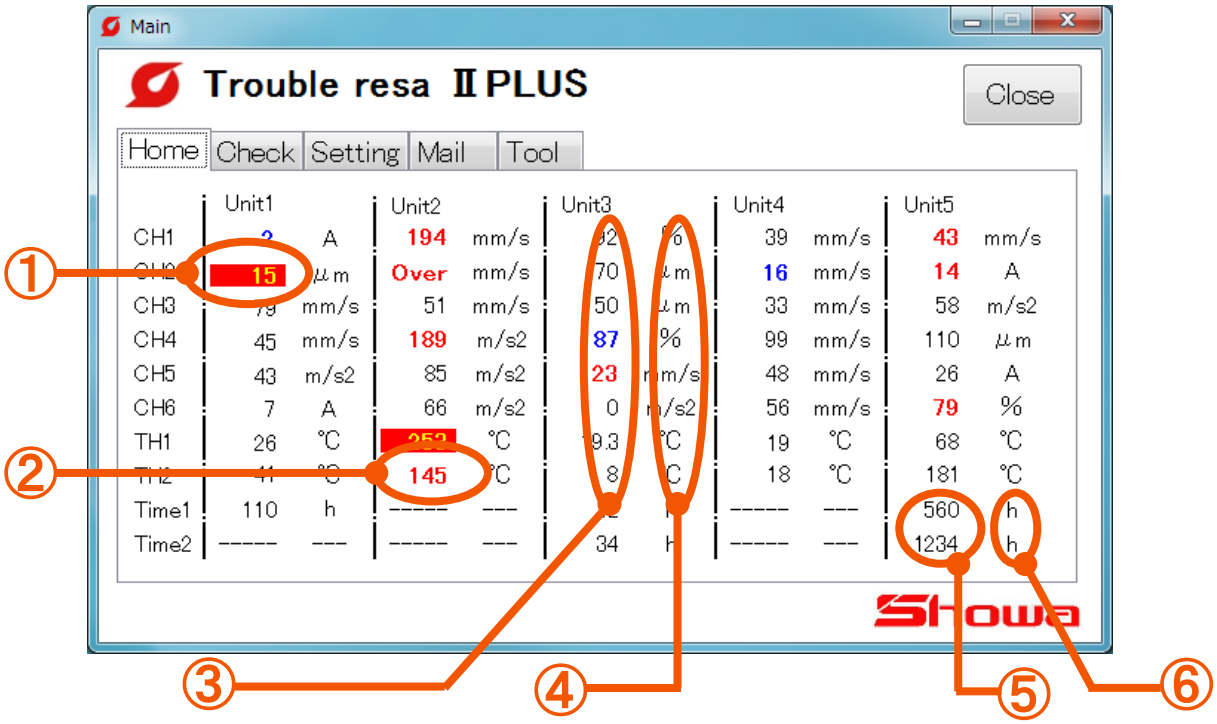
	Not set (Gray)	: The Remote Unit which was registered but not set. Cannot perform monitoring until completion of setting.
	Setup (Blue)	: Shows the Remote Unit which underwent setting but is not monitoring. Starts monitoring from “Communication Connection” menu.
	Under communication (Green)	: The Remote Unit which is monitoring according to the set conditions.
	Communication error (Orange)	: The Remote Unit for which communication is Disconnected and monitoring is suspended due to failures, etc.
	Occurrence of error (Red)	: The RemoteUnit is detecting an error. Check the error. The display “Occurrence of error” is not returned to the original status until “Cancel” is performed.

Color of characters
Characters in black show a Remote Unit which was manually set and characters in white show a Remote Unit which was set according to recommended setting.

About the “Home” tab display

On the Home screen after setting, pointing the cursor displays several pieces of information.

* For setting method for remote unit to be displayed on the home screen, refer to [2-4] Home display setting.



9 mm/s
190 mm/s

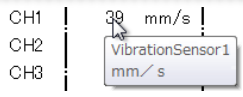
①An error is occurring:
Shows the conditions where the excess in threshold exceeding the delay time is observed, which the software judges it as abnormal.

138 mm/s
16 mm/s

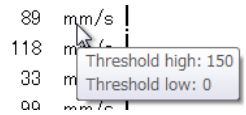
②Exceeds the upper-limit threshold value or falls below the lower-limit threshold value:
Values that have exceeded their Threshold value are shown in red.
Values that are below a lower limit threshold value are shown in blue.
(The unit doesnot judge it as abnormal.)

Over mm/s
Under mm/s

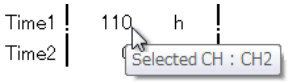
③Over, Under:
Values detected by a Remote Unit may also appear as “Over” or “Under” alerts in red, under the following conditions.
“Over” : Valtage output ≧ 5.1 [V], Current output ≧ 20.4 [mA] or Temperature ≧ 300 [℃]. “Under” : Temperature < 0 [℃].



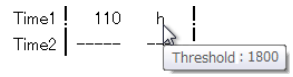
④Sensor value (CH name):
Pointing the cursor over the values of sensor displays the CH name.



⑤Unit (threshold value):
Pointing the cursor over the unit of sensor value displays the threshold value. (The upper side shows the upper-limit threshold value and the lower side shows the lower-limit threshold value.)



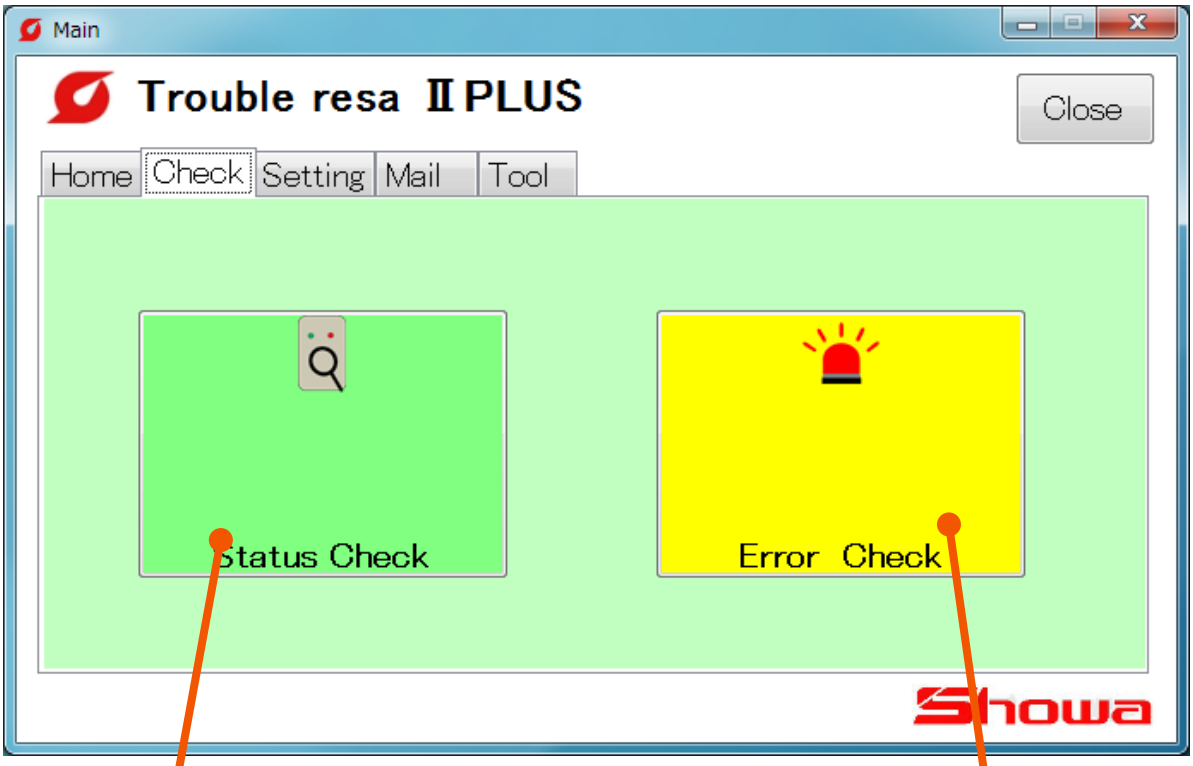
⑥Monitoring time (CH number):
Pointing the cursor over the value of operation time displays the CH number for which the time is being monitored.



⑦Unit (threshold value):
Pointing the cursor over the unit of operation time displays the threshold value.

[1] “Check” tab

It is possible to check the measurement data of the Remote Unit, monitoring conditions and error history.



Status Check

For the Remote Unit under monitoring, check the sensor value and displays graphics. (P19 to 23)

Error Check

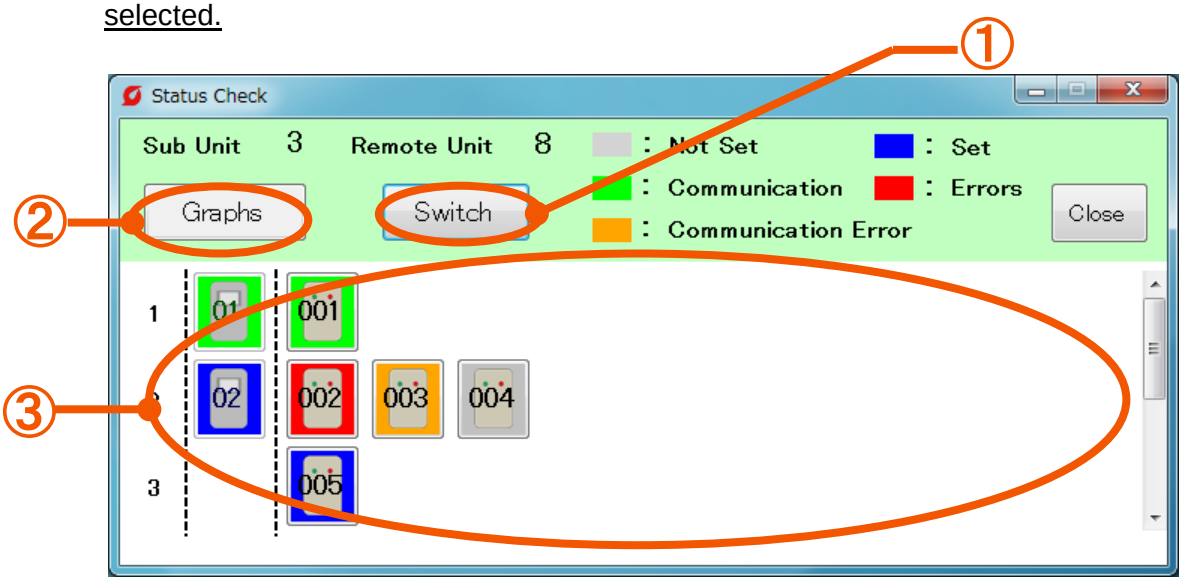
Check the current error and cancel the error judgement. It is also possible to check the error history in the past. (P24 to 26)

[1-1] Status Check

(1) Check of monitoring conditions

It is possible to check the conditions of Remote Units which are communicating.

＊Only Remote Units which are communicating (green) or abnormal (red) can be selected.

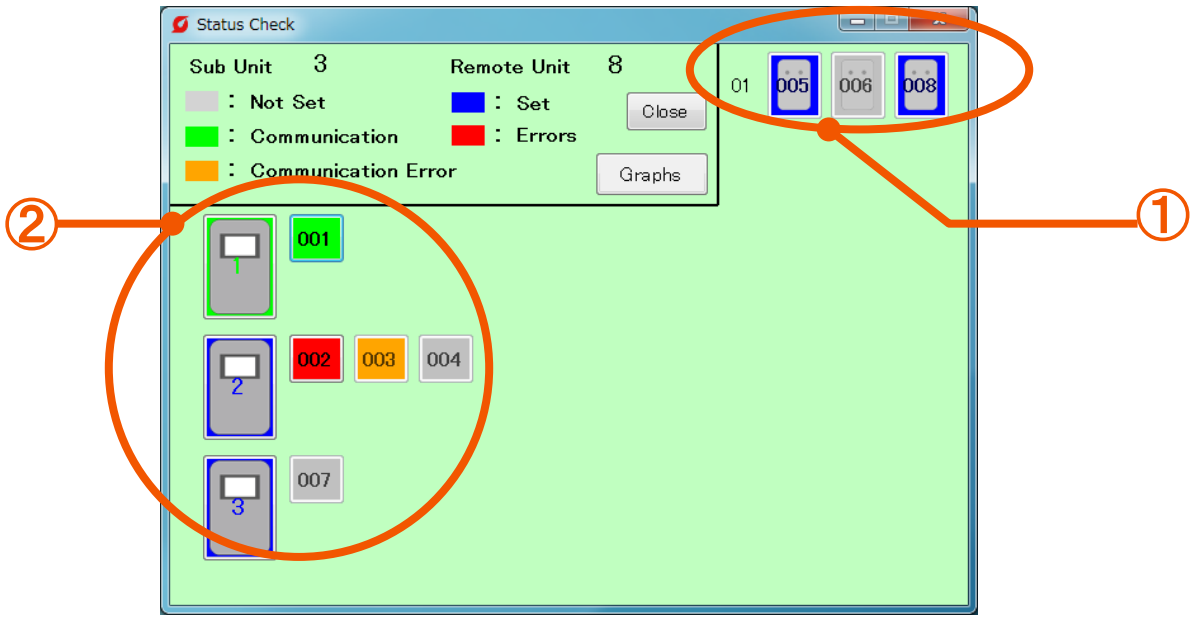


①**Swich** : Changes the screen display type. To (2)

②**Graphs** : Displays the graph of selected Remote Units. To P22(5)

③**List of Remote Units** : Displays the conditions of selected Remote Units. To P20 and 21

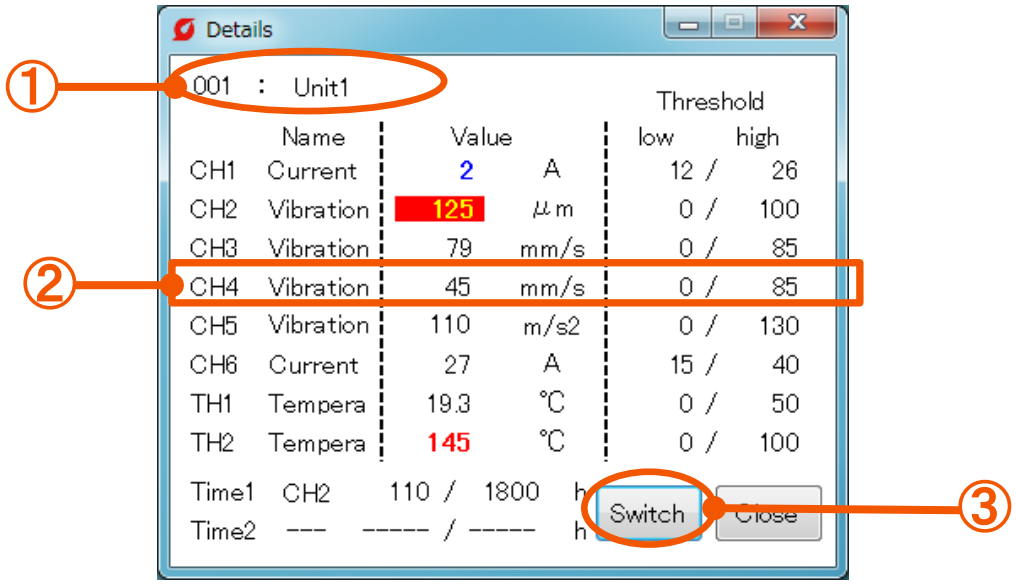
(2) Check of monitoring conditions (After display change in (1))



①**Single Remote Unit** : Displays Remote Units which are monitored directly by this software not via MiruTEN.

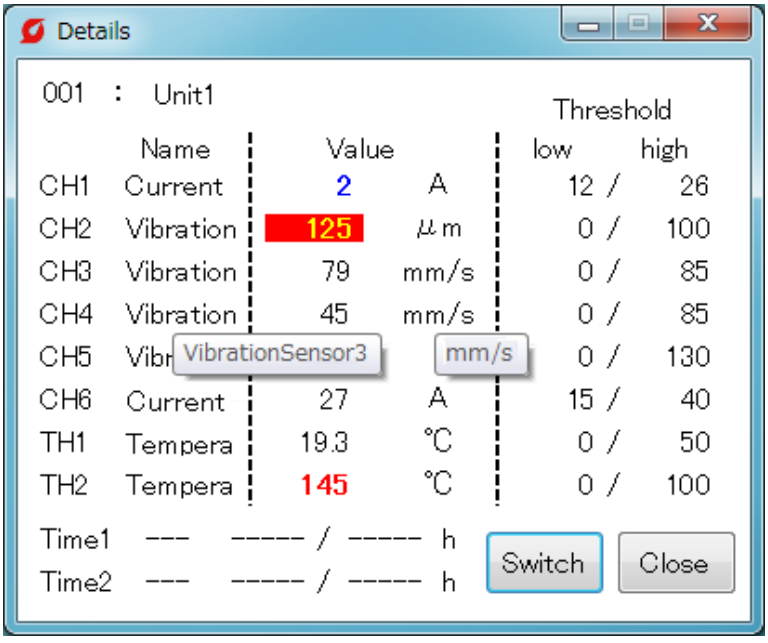
②**Remote Units connected to MiruTEN** : Displays Remote Units connected to MiruTEN

(3) Details (Numerical display)



①Unit No and Unit name	: Shows the selected Remote Unit number and name.
②Sensor value	: Displays the “Name”, “Sensor Value”, “Unit” and “Threshold value” for each CH.
③“Switch” button	: Changes the display type.

*When pointing the cursor to name and unit of each CH, a hidden area can be checked.



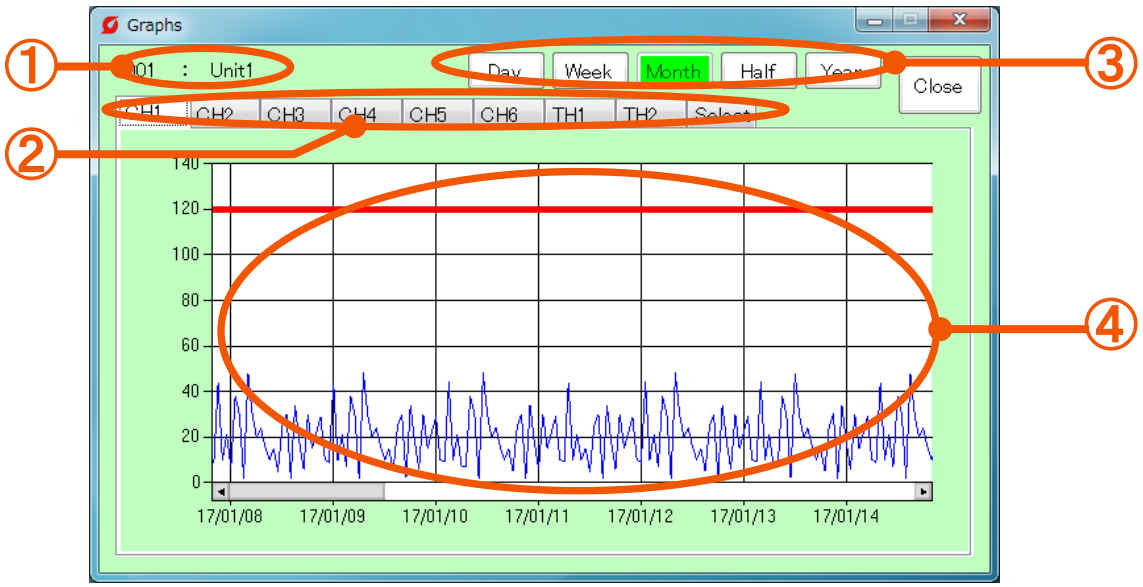
(4) Details (Graphic display)

①Unit No and Unit name	: Shows the selected Remote Unit number and name.
②Sensor value	: Displays the CH and sensor value. Pointing the cursor over values displays the name of Remote Unit and unit.
③Gauge display	: Changes the display type.
④"Switch" button	: Displays sensor values (green) and threshold values (red) by bar graphs.

*When pointing the cursor to a number of each CH, unit and threshold value are displayed.

(5) Graphs (“CH”)

Displays the graph of each sensor value.



①Unit No and Unit name : Shows the number and name of Remote Unit which is currently displayed.

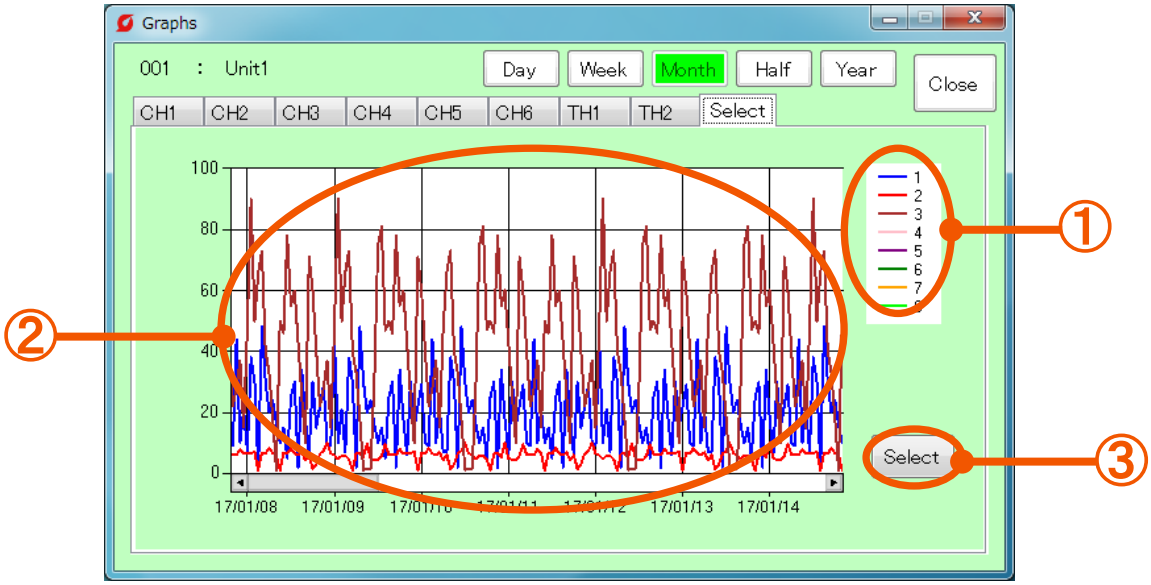
②CH selection : Displays the graph of each tab (CH).

③Change of display term : Displays the graph for selected term. (One day, one week, one month, 6 months, one year)

④Sensor value : The red line shows the threshold value and the blue line shows the sensor value.

(6) Graphs (“Selection” tab)

Pushing the “Select” tab selects plural graphs and shows them by comparison.



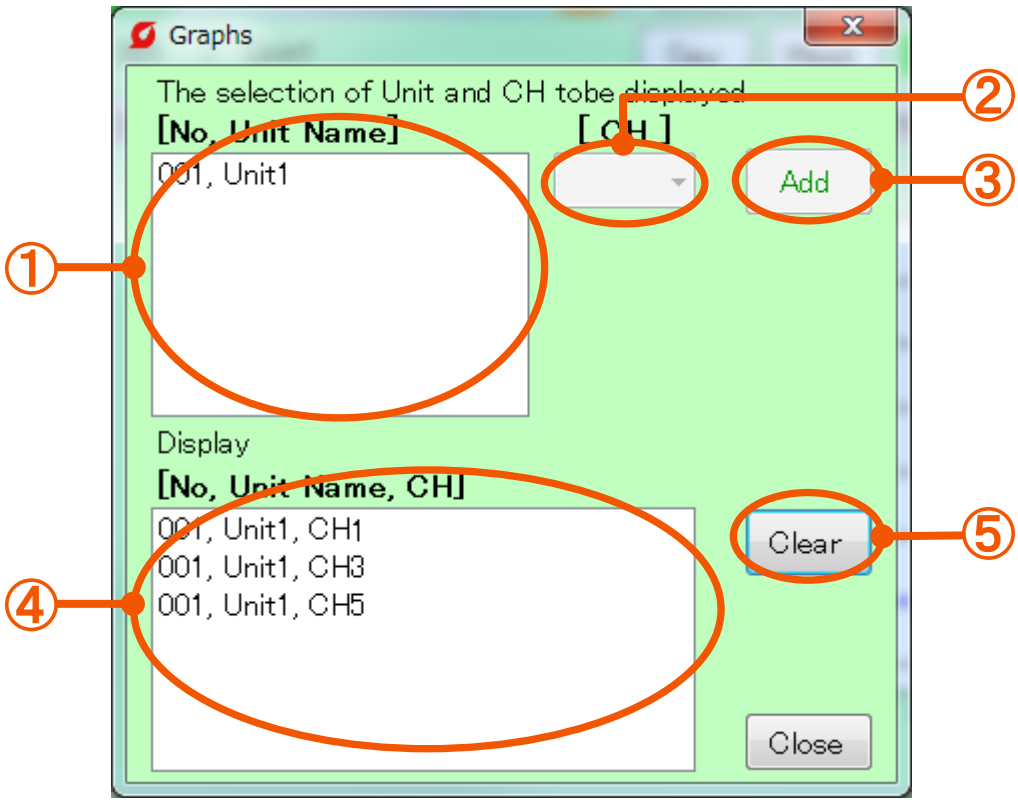
①Graph display color : Shows the list of colors to be used for graphs. (up to 8 items (max))

②Graph : Displays selected CH graphs on one screen.

③“Select” button : Displays the CH selection screen. To P23 (7)

(7) CH selection screen

Select the CH to be displayed by the “Select” tab.



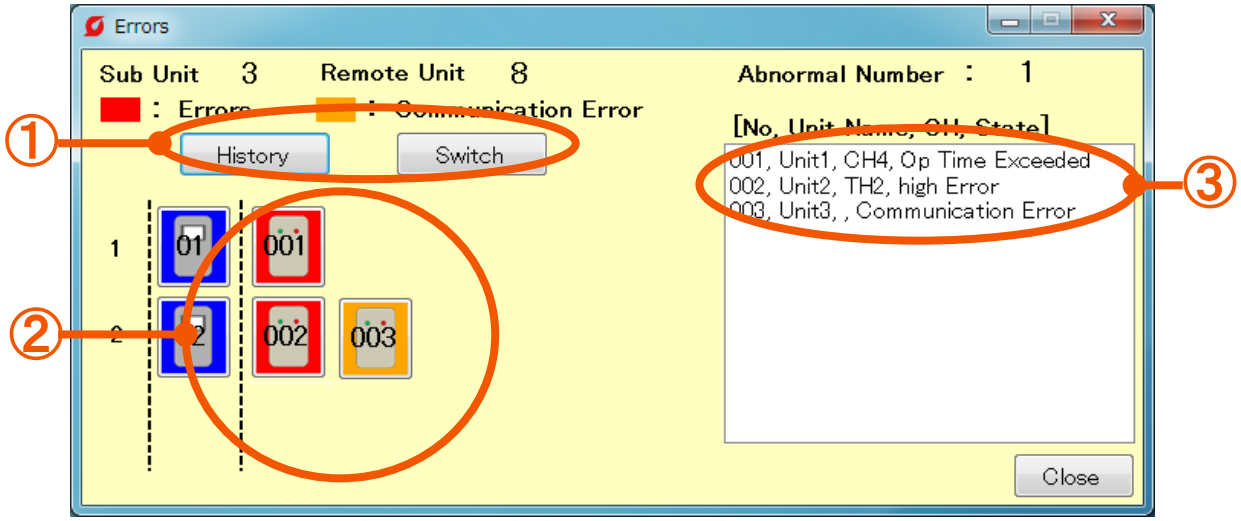
①**List of Remote Units**	: Select Remote Units to be displayed.
②**CH selection**	: Select the “CH” of the selected Remote Unit.
③**“Add” button**	: Adds the graph of the selected Remote Unit and CH.
④**List of displayed CH**	: List of graphs which are currently displayed
⑤**“Clear” button**	: Deletes all the graphs in (6)② on Page 22.

*Graphic display is not automatically updated.Close the screen and display the screen again for updating.

[1-2] Error check

(1) Check errors

Check errors of Remote Unit and error history in the past. Also cancel errors here.



①**"History" button** : Displays the error history in the past. To P26 (3)
"Switch" button : Changes the display type.

②**Remote Unit which is currently judged as abnormal** : Displays a Remote Unit which was judged as abnormal.
Selecting the Remote Unit displays the details of errors and cancels them.→ To P25 (2)(3)

③**List of error details** : Displays the list of Remote Units which were judged as abnormal.

*Error details are displayed in the order of "Remote Unit line number, Remote Unit number, Remote Unit name, CH in which an error is occurring, and type of error".

*Type of errors

low error : The sensor value falls below the lower-limit threshold value.

high error : The sensor value exceeds the upper-limit threshold value.

Communication error : The communication with the Remote Unit is disconnected.due to failures, etc.
(Ex:The power plug of Remote Unit is disconnected, the LAN cable of Remote Unit is disconnected, etc.)

Excess in operation time : The total monitoring time exceeds the threshold value.

*Delay of up to 10 minutes occurs until an error displayed on the MiruTEN side is displayed on the monitoring software side.

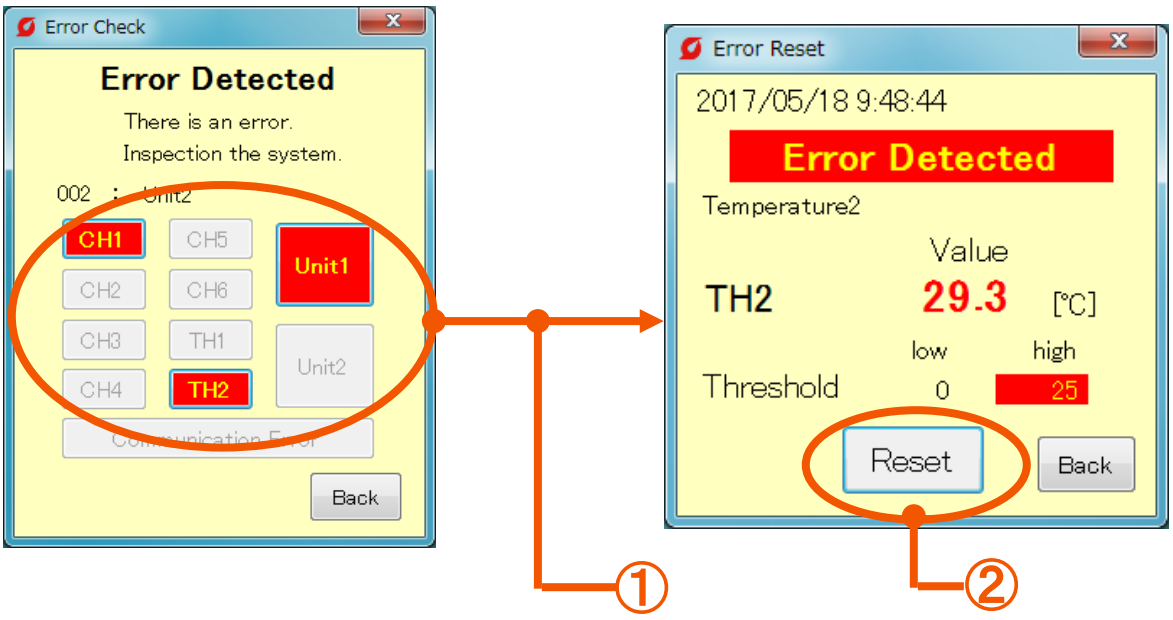
(2) Cancel errors of Remote Units.(P25)

(3) Clear an error in Miru TEN.(P25)

(4) Check errors in the past.(P26)

(2) Cancel errors of Remote Units

Selecting the Remote Unit in which an error is currently occurring (red) on the error screen allows you to check the error and cancel the abnormal judgment.



①**CH in which an error is currently occurring** : Displays the CH in which an error is currently occurring in red among selected Remote Units. Select the CH which is currently judged as abnormal.

②**"Reset" button** : Cancels the abnormal judgement of selected CH.

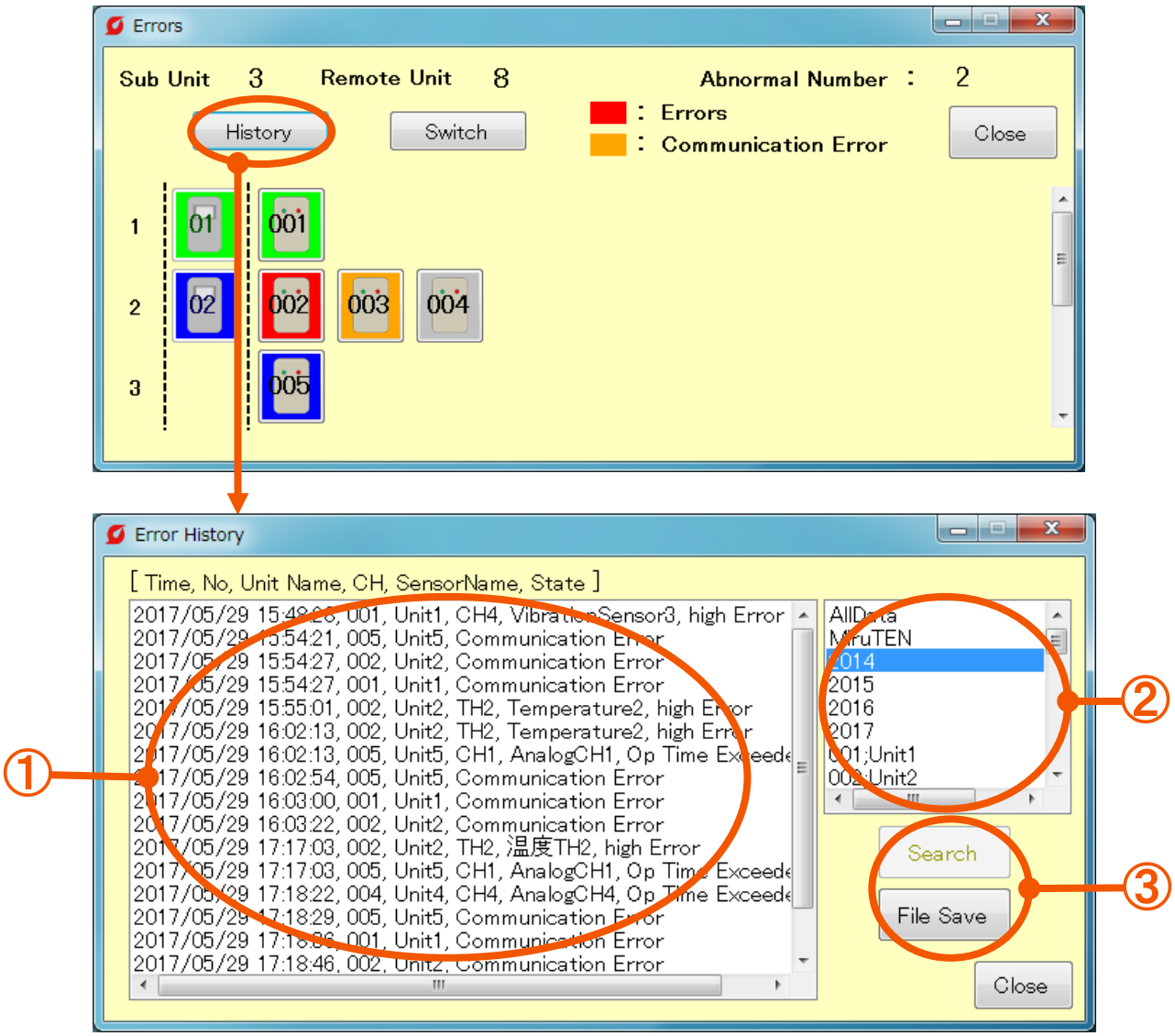
* In the case where the sensor value exceeds the threshold value, the software judges it as abnormal again after the set delay time.

(3) Clear an error in MiruTEN.

Clear an error at MiruTEN main body. For the method, refer to "(7) Display of error details and error history" on Page 34 of Instruction Manual for MiruTEN.

(3) Check errors in the past

Selecting the “History” button on the error screen allows you to check errors in the past.



①List of error history : Displays the list of errors which occurred in the past.

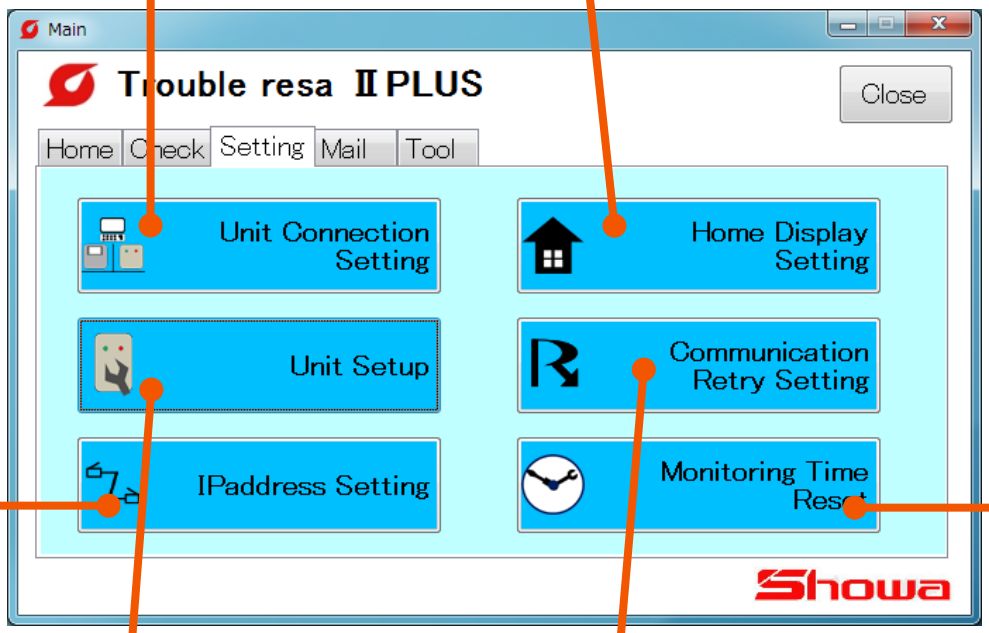
②Retrieval item : Displays items according to year and Remote Unit number from the list ①.

③Retrieval : Displays the list ① again based on the details selected in ②.

Ex) In the case of checking the history of errors occurred in 2014:
(1)Select “2014” in ② Retrieval item.
(2)Push the ③ “Search” button.
(3)Displays the list of history of errors occurred in 2014 only.

File storage : Saves the list displayed in ① as “ErrorHistory.txt” file. Pushing the “Save File” displays the storage place of “ErrorHistory.txt” file. If saving it as it is, push “Yes”, if changing the storage place, push “No”.For operations after that, follow the instructions on the screen.

[2] “Setting” tab



Unit Connection Setting

Start and stop monitoring of the Remote Unit according to the set conditions.(P28)

Home Display Setting

Select (set) the Remote Unit displayed on the “Home” tab. (P43)

Unit Setup

Set the monitoring conditions of each Remote Unit. Set the name, number, threshold value, and type of sensors. (P29 to 33)

Communication Retry Setting

Sets the time until automatic recovery after communication disconnection from MiruTEN or Remote Unit.(P44)

IPaddress Setting

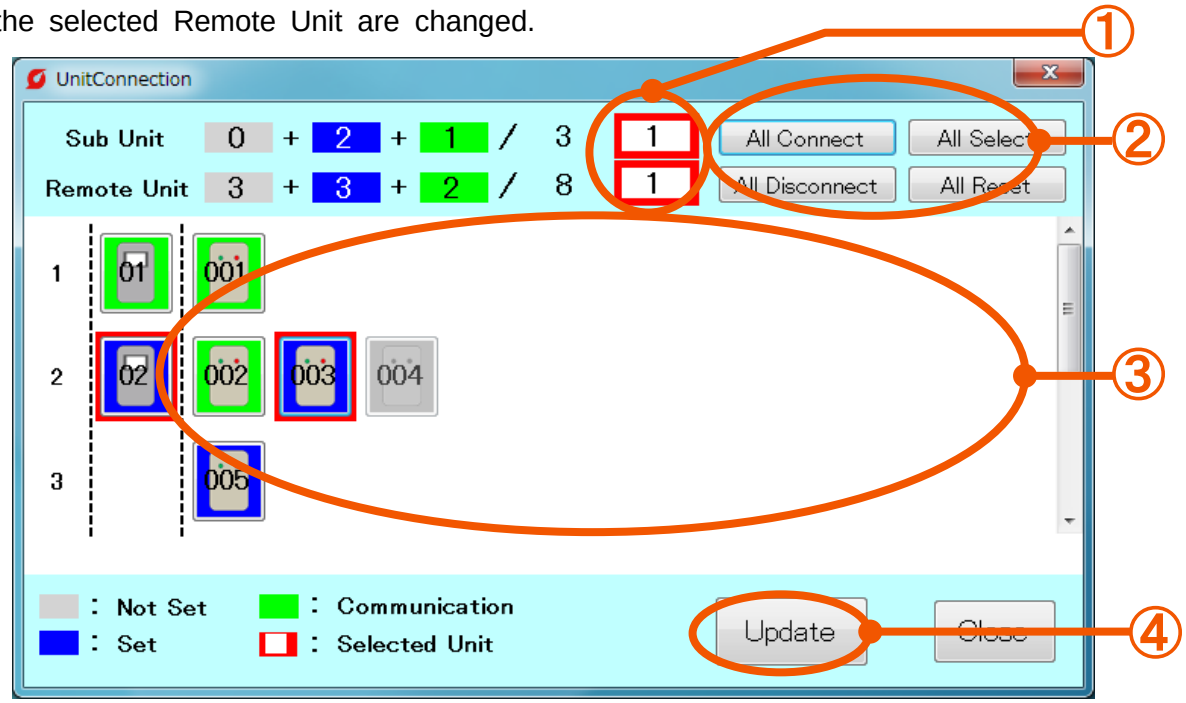
Sets the IP address and number of MiruTEN and Remote Units in the network. (P34 to 42)

Monitoring Time Reset

Displays the operation time (maintenance time) set in the Remote Unit. (P45)

[2-1] Unit Connection Setting

Select a Remote Unit which will start or stop monitoring. Every time pushing the "Update" button, the "Communicating (Green)" and "Set Up (Blue")" of the selected Remote Unit are changed.



① **Selected unit number** : Displays the number of selected MiruTEN and Remote Units.

② **All connect** : Select all Remote Units which underwent setting.
All Disconnect : Select all Remote Units which are communicating.
All Select : Select all Remote Units.
All Reset : Cancel all Remote Units.

③ **List of Remote units** : Selected Remote Units are enclosed with a red frame.

④ **"Update" button** : After completion of selection of Remote Unit, push this button. Use this button to change the start and stop of monitoring for selected Remote Units.

* "Not set" Remote Unit (gray) cannot be selected (communicated).

* Every time pushing the "Update" button, the "Communicating (Green)" and "Set Up (Blue")" are changed.

"Communicating" : The unit starts communication with this software and is monitoring the Remote Unit.

"Set Up" : Shows the Remote Unit setting completion conditions. Monitoring of the Remote Unit is not performed.

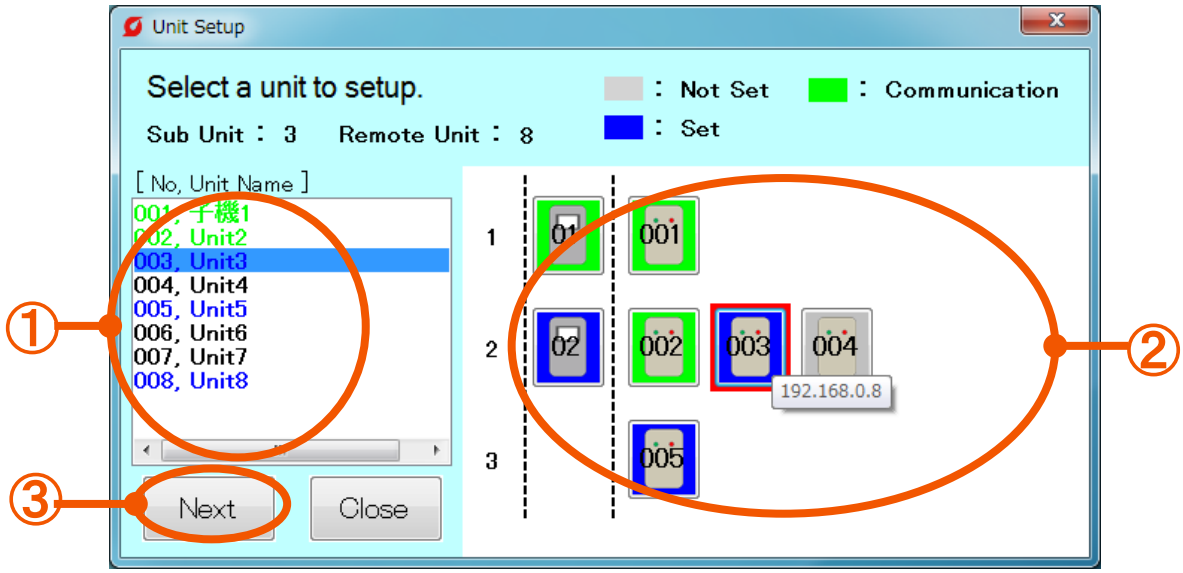
Every time pushing the "Update" button, the "Communicating" and "Set Up" of the selected Remote Unit are exchanged.

"Communicating" (Green) "Set Up" (Blue)

[2-2] Unit Setup

(1) Setting of Remote Unit (Selection of Remote Unit)

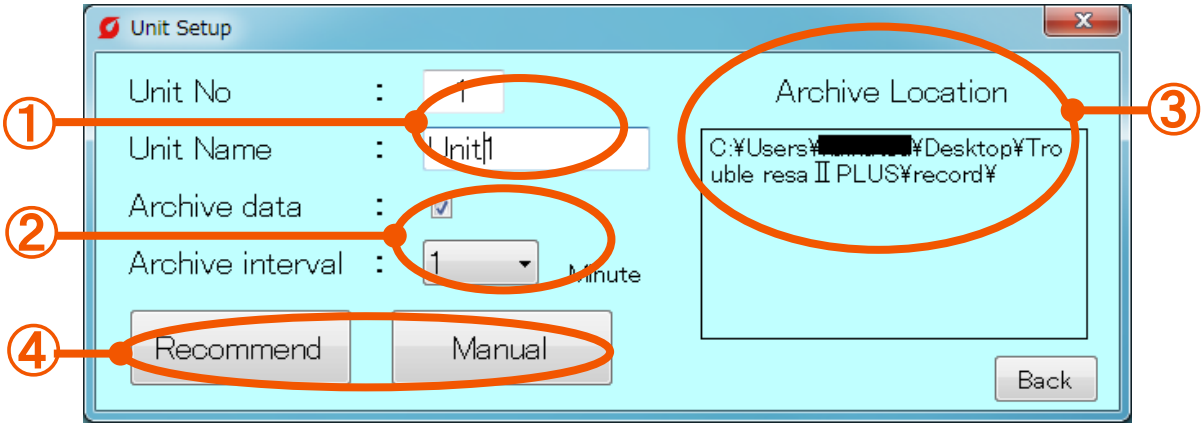
Select a Remote Unit to be set.



① **Information on Remote Unit** : Displays the list of registered Remote Units.
② **List of MiruTEN/Remote Unit** : Displays the MiruTEN and Remote Units. (Setting of MiruTEN cannot be made.)
③ **"Next" button** : After selecting the Remote Unit, push the button. → to (2)

(2) Setting of Remote Unit (Basic setting)

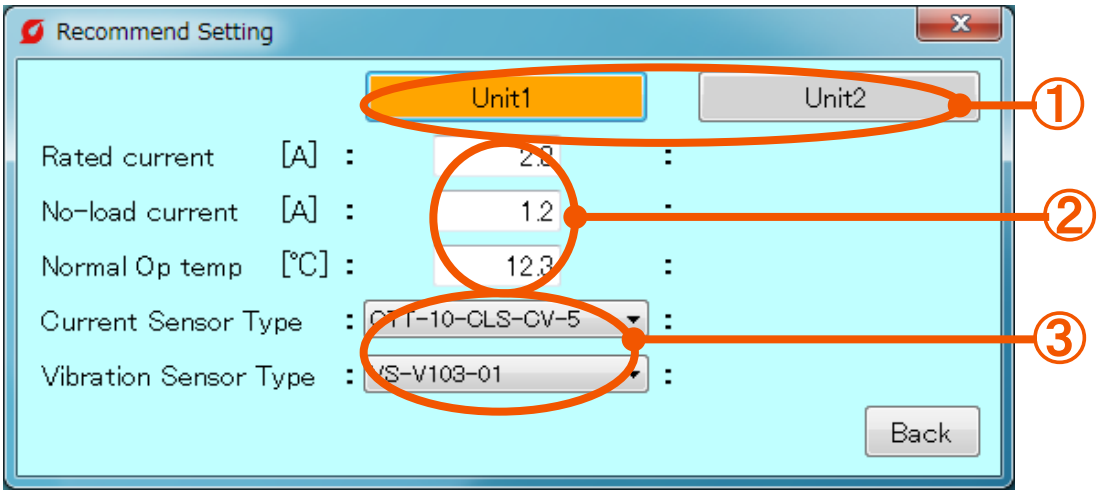
Set the Remote Unit number and name, data storage destination, etc.



① **Unit No and Unit name** : Input the selected Remote Unit name and number.
② **Archive data and Archive interval** : Putting a checkmark saves the information on Remote Unit as a CSV file during communication. (Select one from 5 intervals; 1 min, 5 min, 10 min, 30 min and 60 min.)
③ **Archive Location** : Designate a place where the CSV file is stored.
④ **Recommend** : Starts to perform recommended setting of Remote Unit. To P30(3)
Manual : Starts to perform manual setting of Remote Unit. To P32(5)

(3) Recommend Setting

Setting each item in the recommended setting mode calculates threshold values automatically.



① **Selection of set device** : One Remote Unit can monitor up to 2 devices in recommended setting. Note that the sensor connection position varies between devices 1 and 2. (For further details, refer to Page 20 of the instruction manual for Remote Unit.)

② **Rated current** : Input the electric current value when the device operates normally.

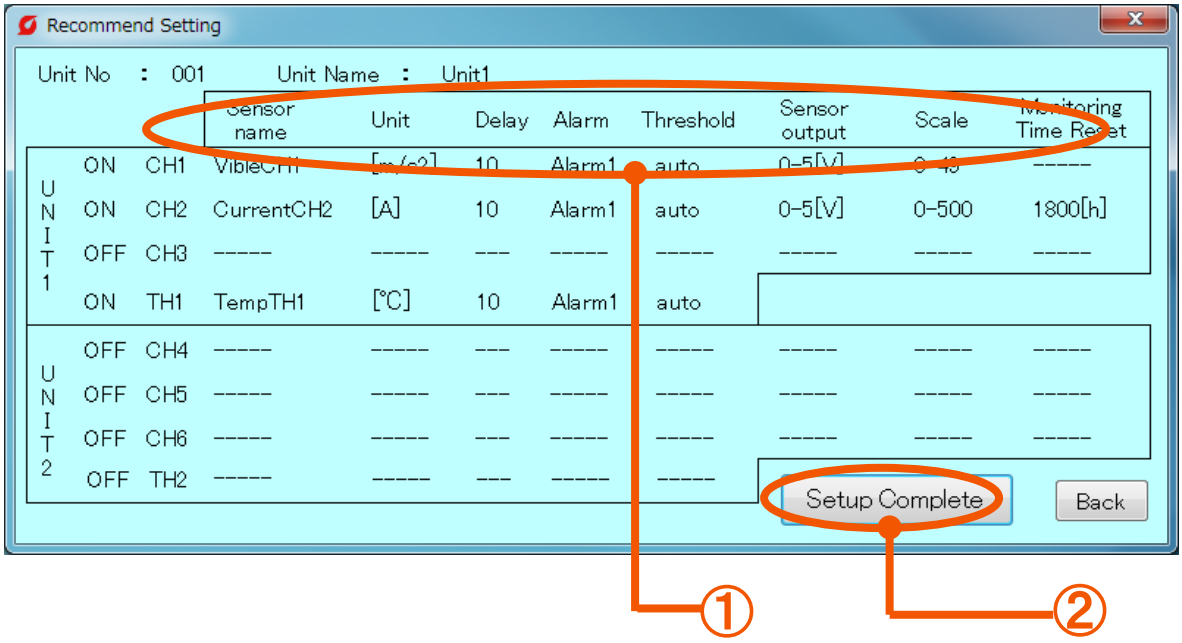
No-load current : Input the electric current value when the single device operates.

Normal Op temp : Input the ambient temperature when the device operates normally.

③ **Type of sensor** : Select the type of the current and vibration sensor connected to the Remote Unit.

(4) Recommend Setting

The details fed back in the recommend setting mode are displayed.



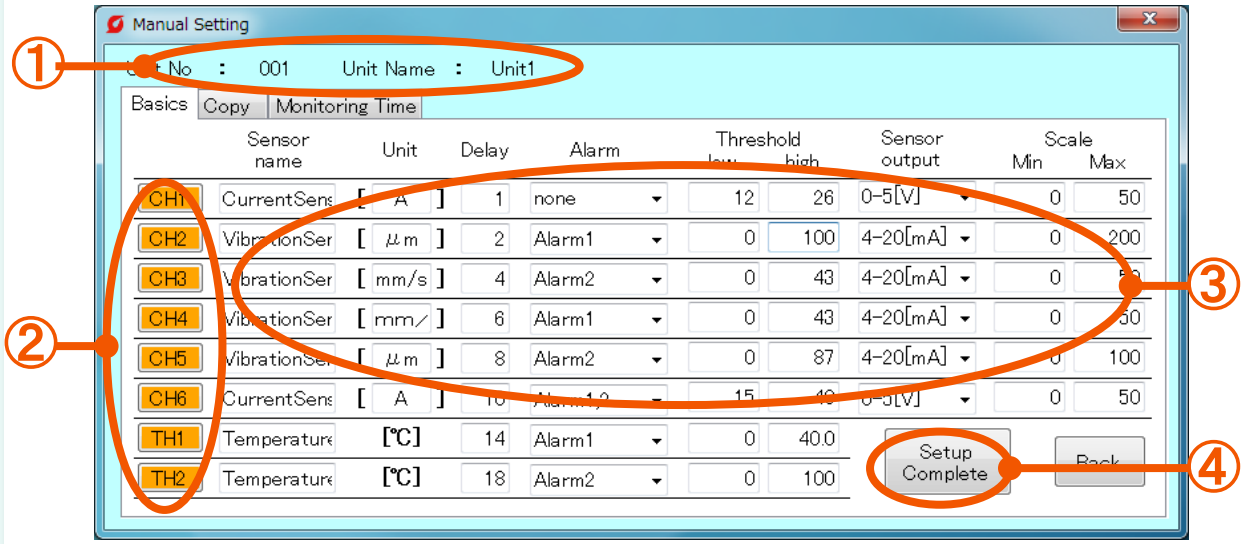
① **Sensor name** : Displays the name of connected sensor.
Unit : Displays the unit of the value of connected sensor.
Delay : Displays the delay time.
Alarm : Displays the external output of the Remote Unit Which will be started up when judged as abnormal.
Threshold : Calculates automatically from each setting.
Sensor output : Displays the output of the selected sensor.
Scale : Displays the scale of the selected sensor.
Monitoring Time Reset : Displays the threshold value of the operation time.
② **"Setup Complete" button** : Check the set details and push this button.

* Since the sensor name, unit, delay time, abnormal contact, CH to be maintained and threshold value are set in default, it is impossible to change them.

Monitoring does not start even after setting was completed. To start monitoring, it is necessary to perform "Unit Connection Setting". (P28)

(5) Manual Setting (basic function)

Input the threshold value and type of sensors manually.



① **Unit No and and Unit name** : Displays the Remote Unit. number and name.

② **Selection of CH** : Select the “CH” and “TH” connected to the sensor.

③ **Sensor name** : Input the name of sensor. (Within 10 characters)

Unit : Input the unit of connected sensor. (Within 5 characters)

Delay : Shows the time until the software judges as abnormal after exceeding the upper limit threshold (or falling below the lower limit threshold). Unless the value continues to exceed the upper limit threshold (or continues to fall below the lower limit threshold), the unit does not judge as abnormal. The recommended delay time is 10 sec. (0 to 120 sec)

Alarm : Select external output for the Remote Unit to be started up when judged as abnormal (abnormal contact 1 (R1) and abnormal contact 2 (R2)).

Threshold : Input the reference value, for error judgment.
(If 0 is input to the lower limit, threshold judgment at the lower limit if not performed.)

Sensor output : Select the analog output of the connected sensor.

Scale : Input the measurement lower and upper limit values for the connected sensor

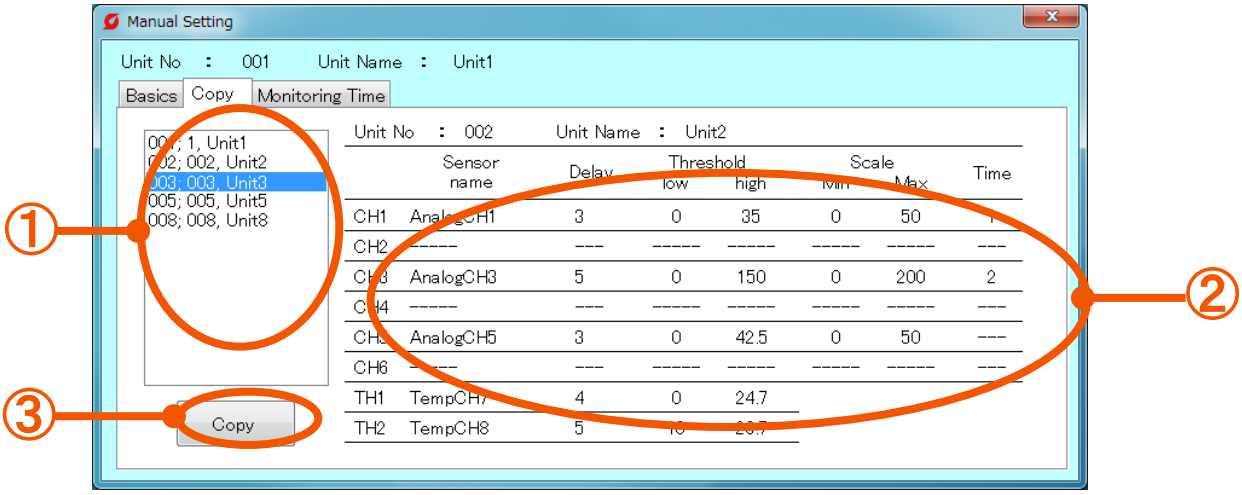
④ “**Setup Complete**” : Register set details.

* Threshold and scale values can be input up to one place of decimals.

Monitoring does not start even after setting was completed. To start monitoring, it is necessary to perform “Unit Connection Setting”. (P28)

(6) Manual Setting (Copy function)

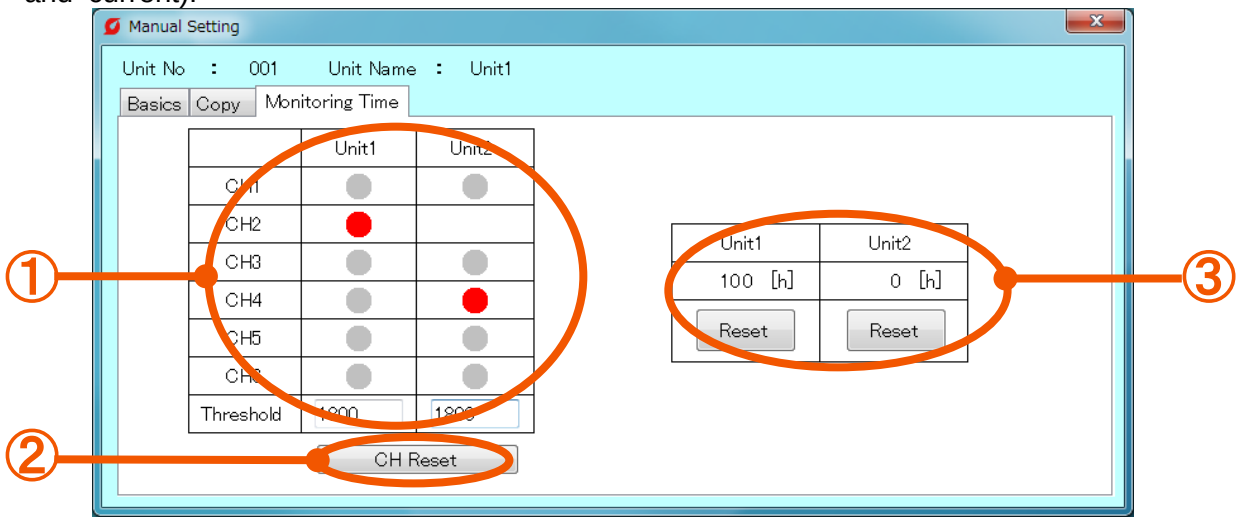
It is possible to copy the details set in the Remote Unit to the currently-selected Remote Unit



① **List of Remote Units** : List of Remote Units which underwent setting.
② **Set details** : Displays the set details of the copy source.
③ **"Copy" button** : Copies over the set details displayed in ② to the currently-selected Remote Unit.

(7) Manual Setting (Maintenance function)

Monitors the operation time of devices. The operation time of devices is counted only while the devices are operating (while the sensor is detecting the vibration and current).

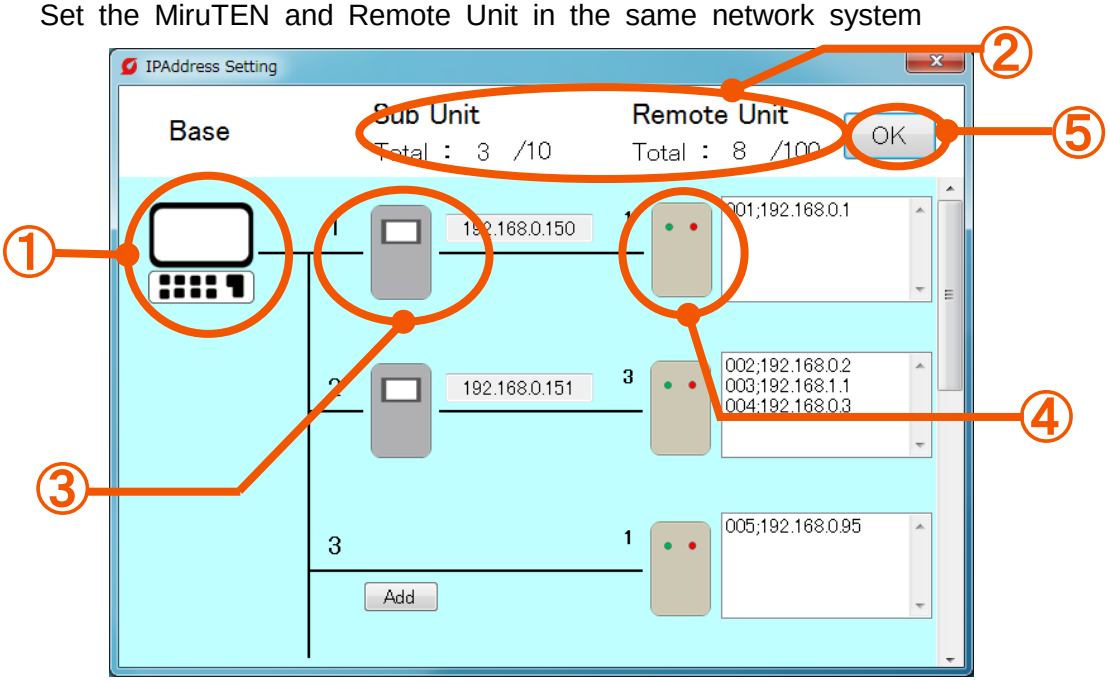


① **CH selection** : Select a CH which monitors operation time.
Threshold value : Input the threshold value for operation time.
② **CH Reset** : Reset the details set in ①
③ **Current count** : Shows the operation time counted up by the selected Remote Unit. Pushing the Reset button returns the count to zero.

[2-3] IPAddress Setting

(1) Setting of MiruTEN and Remote Unit in the network system

Set the MiruTEN and Remote Unit in the same network system



①	**PC icon**	: Displays a PC in which this software was installed.
②	**No. of registered Units**	: Displays number of MiruTEN and Remote Units registered in the network. (Current/Max)
③	**MiruTEN icon**	: Displays the MiruTEN. Add, Rev and Delete the IP address.
④	**Remote Unit icon**	: Displays the Remote Unit. Add, Rev and Delete the IP address.
⑤	**"OK" button**	: Registers the set details.

For the following setting methods, refer to pages where details are described.

(2) Add MiruTEN Units in the network → P.35

(3) Add a Remote Unit (single) in the network → P.36

(4) Add a MiruTEN in the Remote Unit (single) → P.37

(5) Add Remote Units → P.38

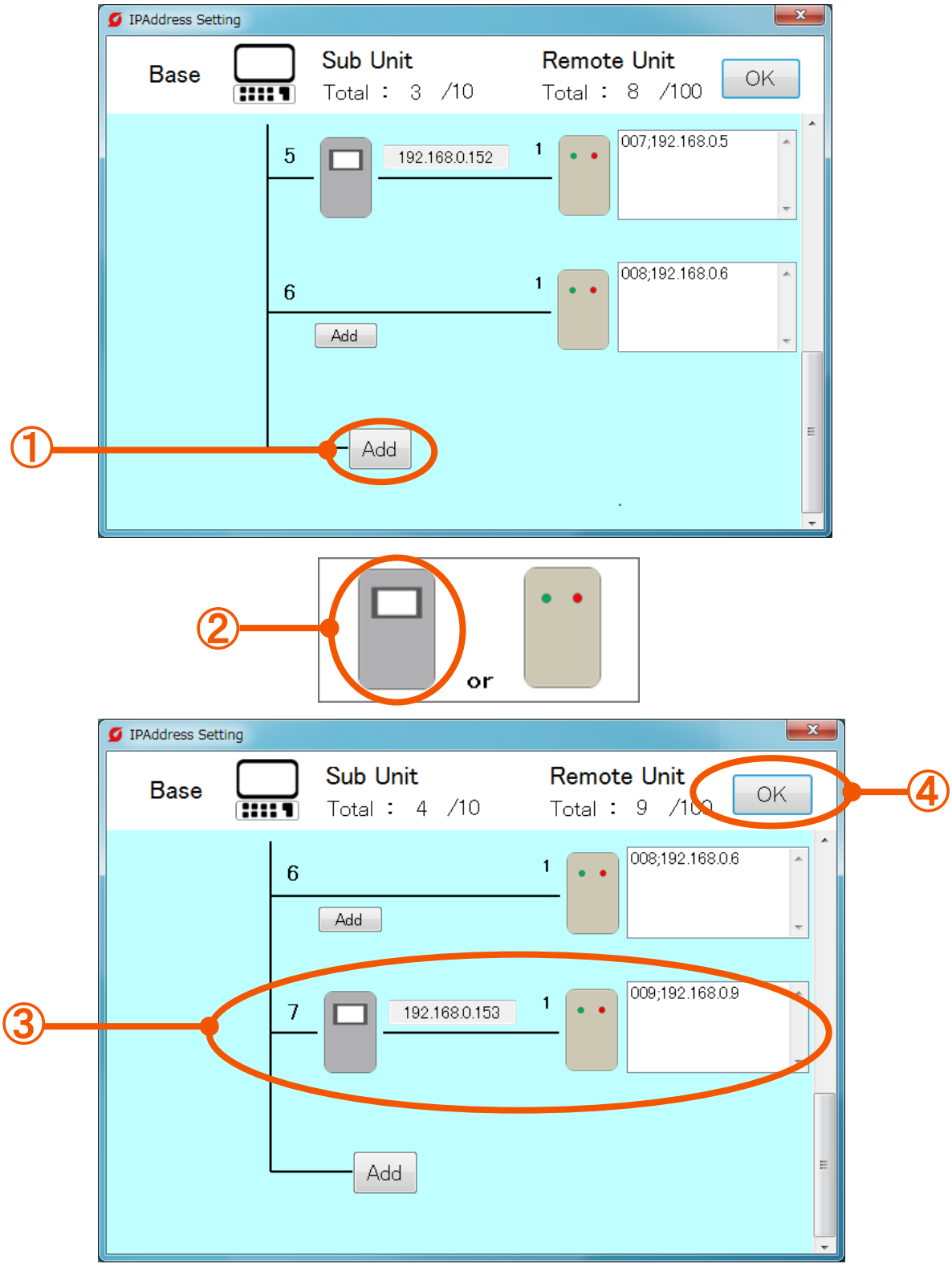
(6) Delete Remote Units connected to MiruTEN → P.39

(7) Delete MiruTEN → P.40

(8) Change the IP address of MiruTEN → P.41

(9) Change the IP address of Remote Units. → P.42

(2) Add MiruTEN in the network



Operate according to the following steps.

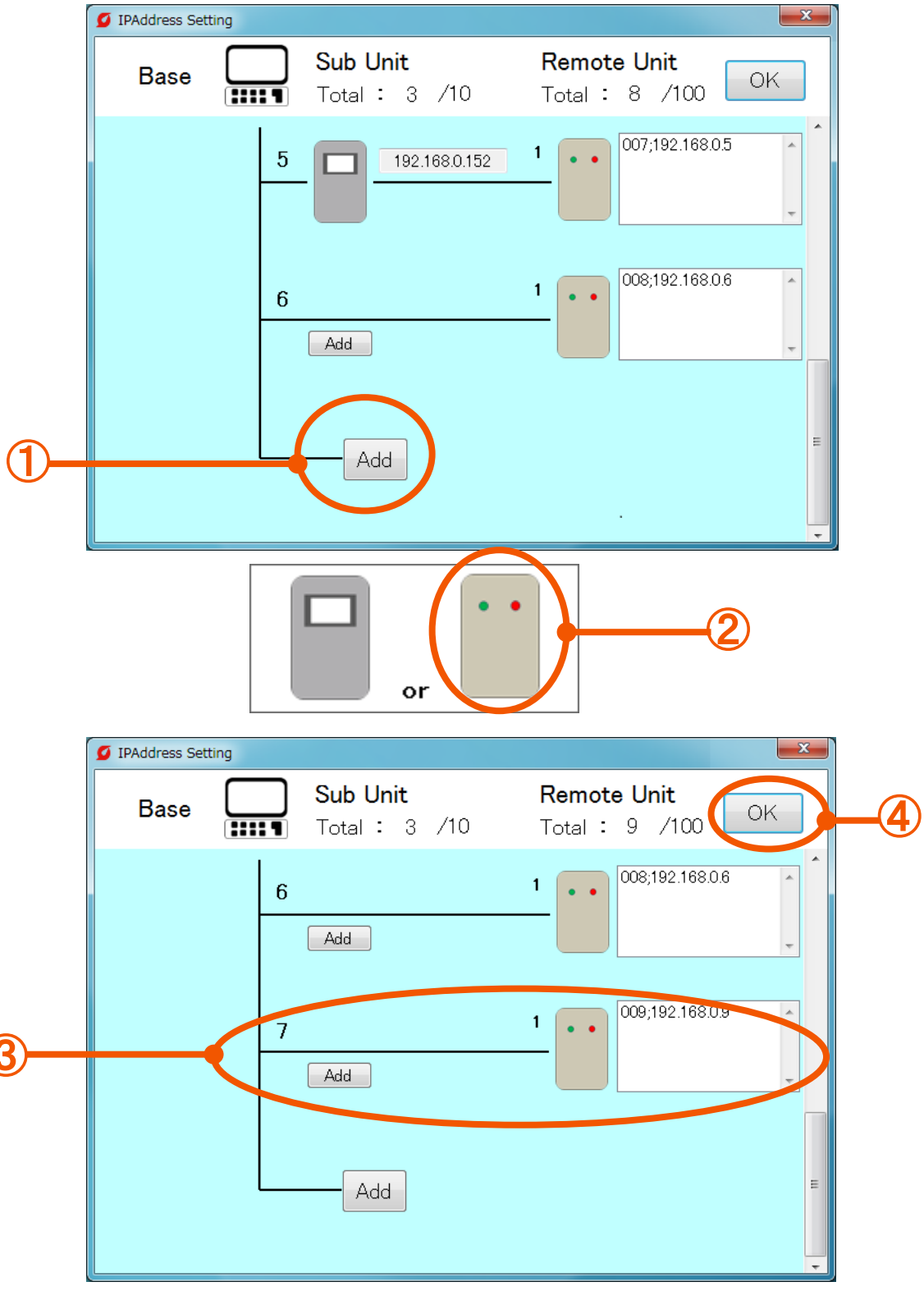
① Push the “Add” button.

② Select the MiruTEN.

③ After selection, set the IP address of the MiruTEN or Remote Unit.

④ Push the “OK” button to end the setting.

(3) Add a Remote Unit (single) in the network



Operate according to the following steps.

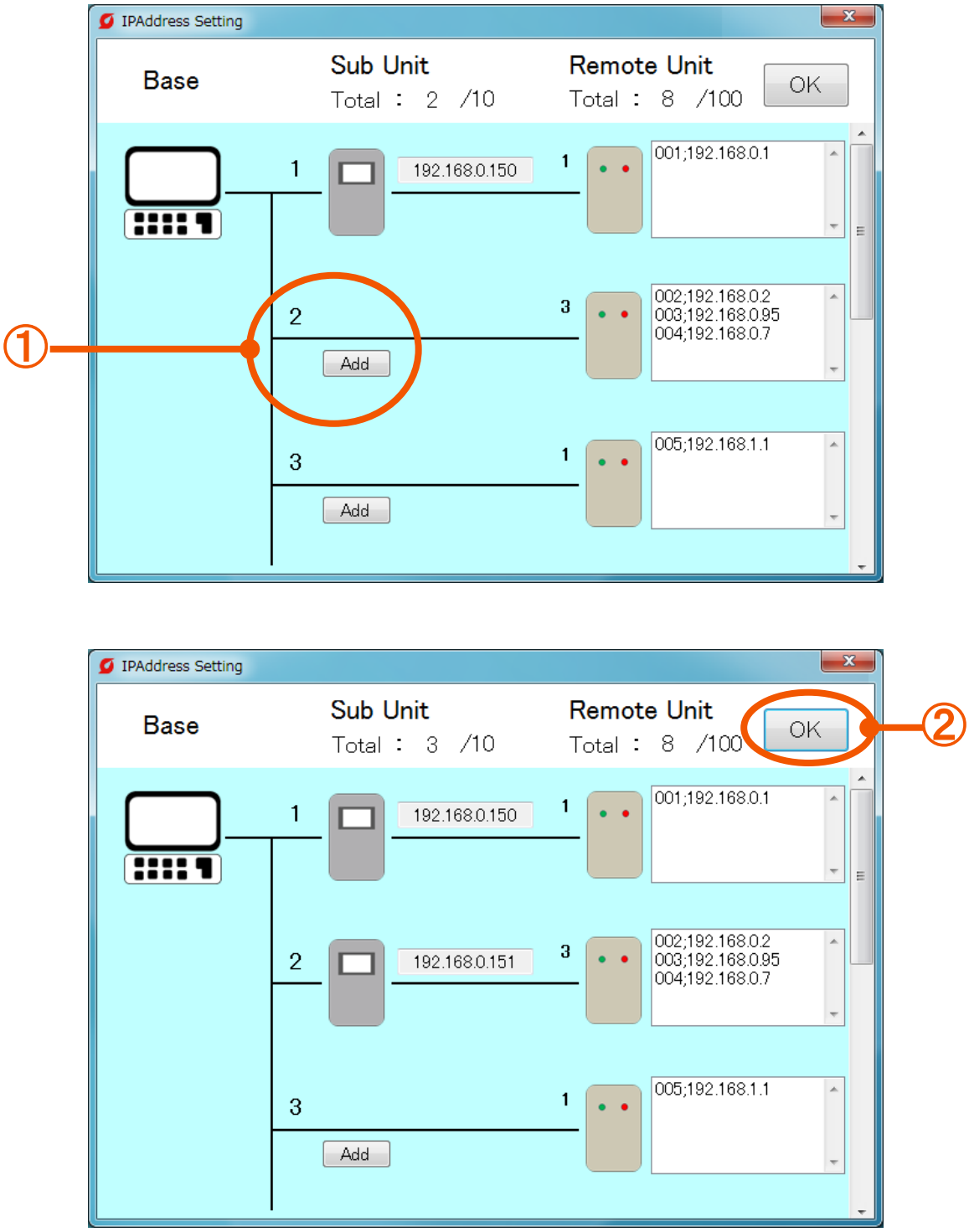
① Push the “Add” button.

② Select the MiruTEN.

③ After selection, set the IP address of the MiruTen or Remote Unit.

④ Push the “OK” button to end the setting.

(4) Add a MiruTEN to the Remote Unit (single)

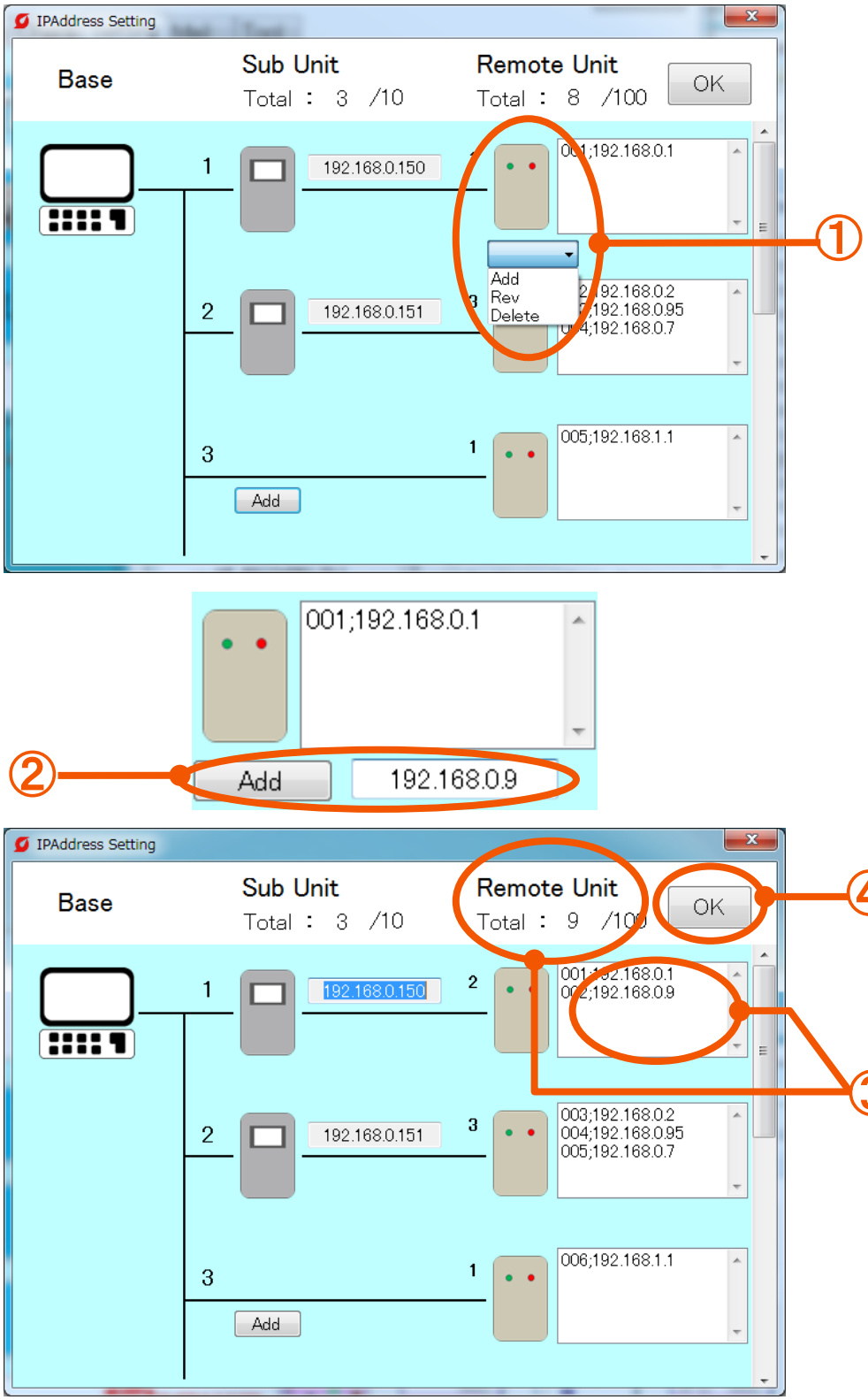


Operate according to the following steps.

① Push the “Add” button.

② Push the “OK” button to end the setting.

(5) Add a Remote Unit



Operate according to the following steps.

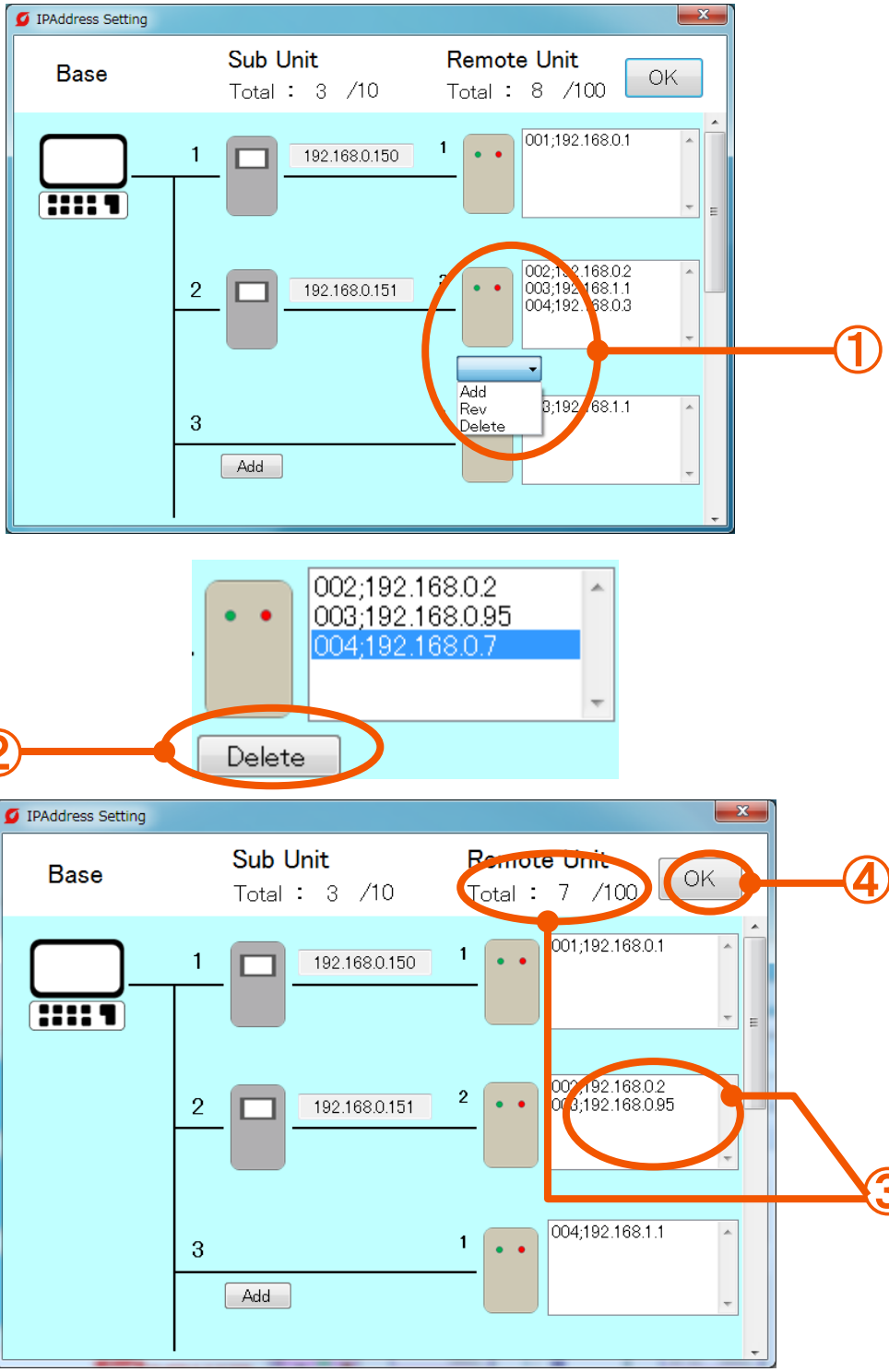
① Select the Remote Unit icon and select the “Add” from the list.

② Input the IP address of Remote Unit and push the “Add” button again.

③ Check that total number of Remote Units increases and IP address is registered.

④ Push the “OK” button to end the setting.

(6) Delete Remote Units connected to MiruTEN



Operate according to the following steps.

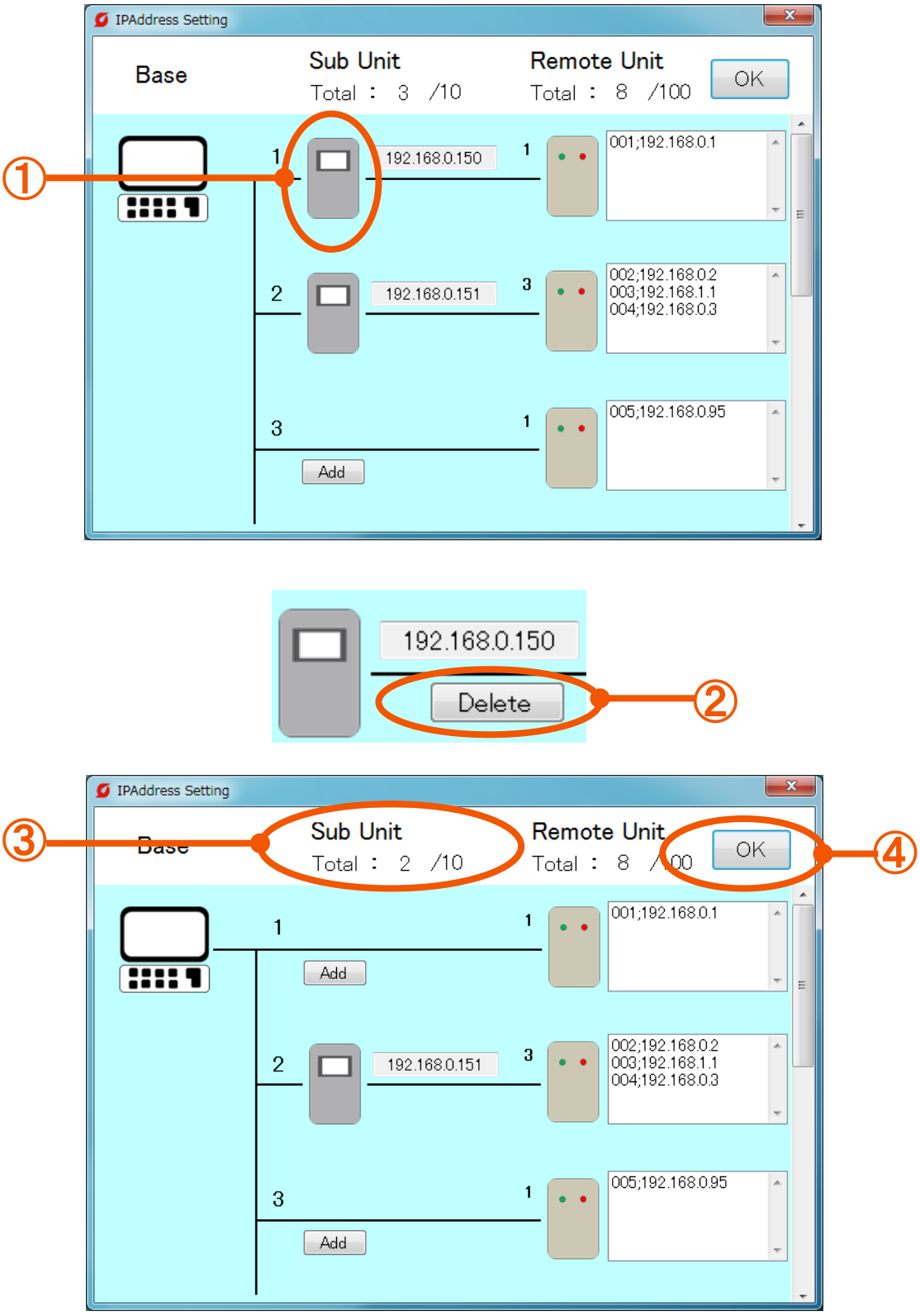
① Select the Remote Unit icon and select the “Delete” from the list.

② Select the IP address of Remote Unit to be deleted and push the “Delete” button again.

③ Check that total number of Remote Units decreases and IP address of the selected Remote Unit is deleted.

④ Push the “OK” button to end the setting.

(7) Delete MiruTEN



Operate according to the following steps.

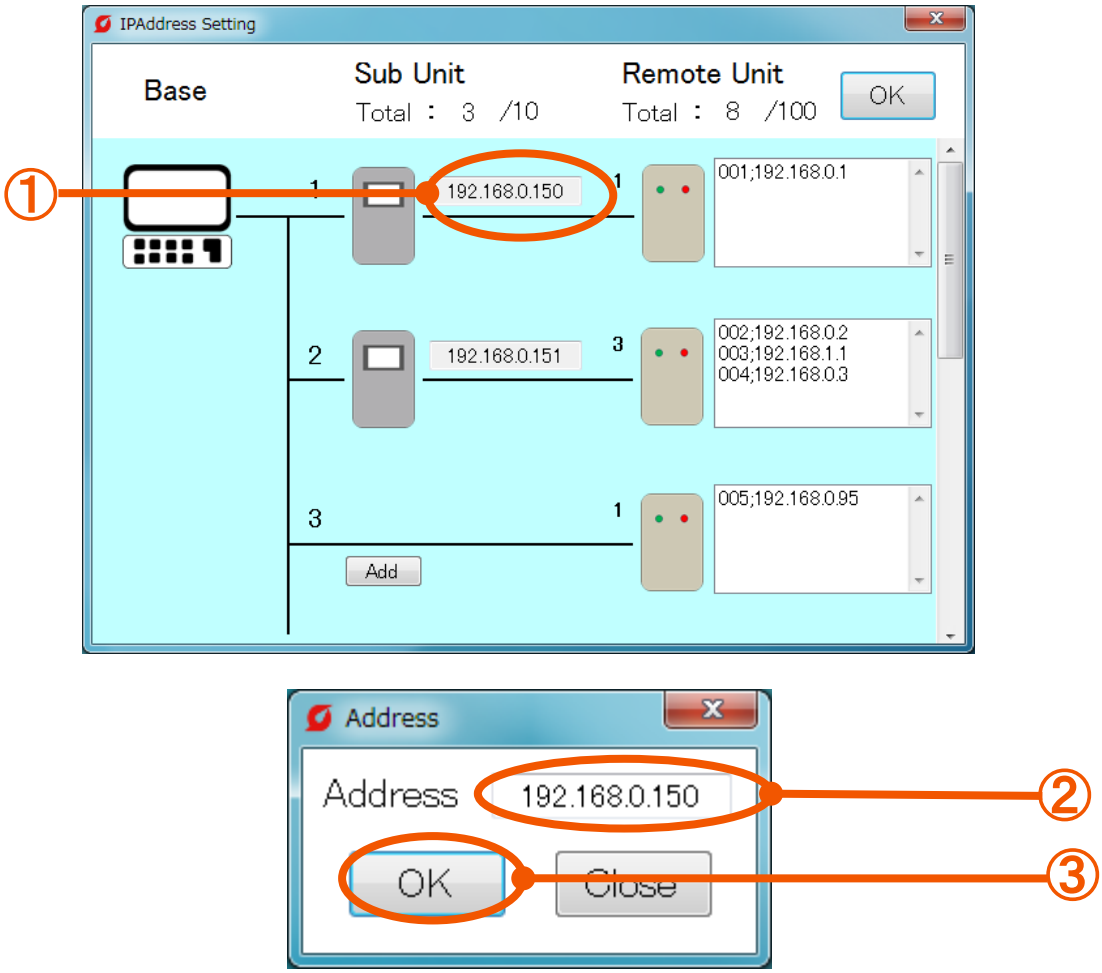
① Select a MiruTEN icon.

② Push the “Delete” button.

③ Check that total number of MiruTEN Units decreases and the icon is deleted.

④ Push the “OK” button to end the setting.

(8) Change the IP address of MiruTEN



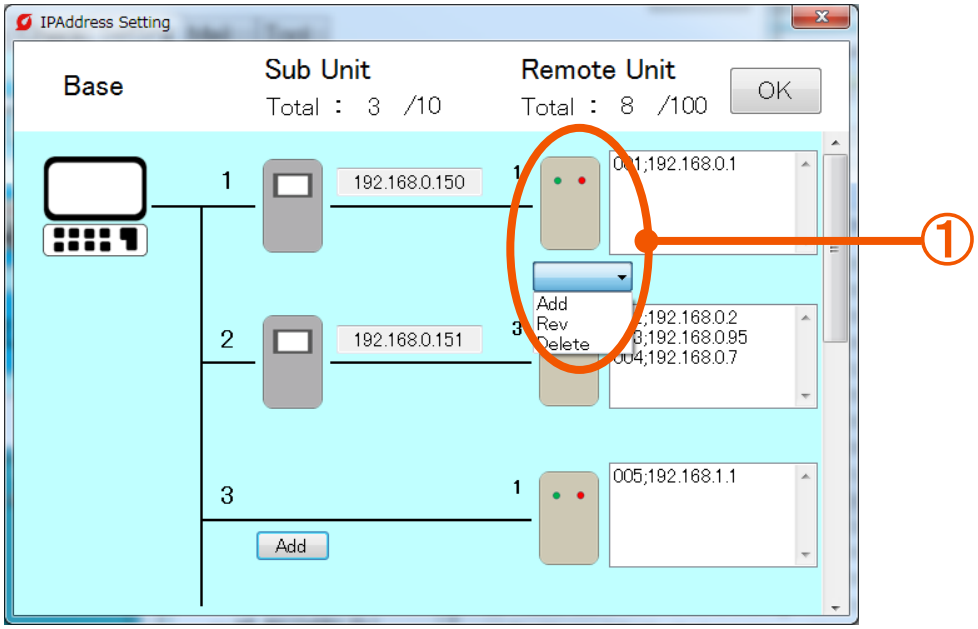
Operate according to the following steps.

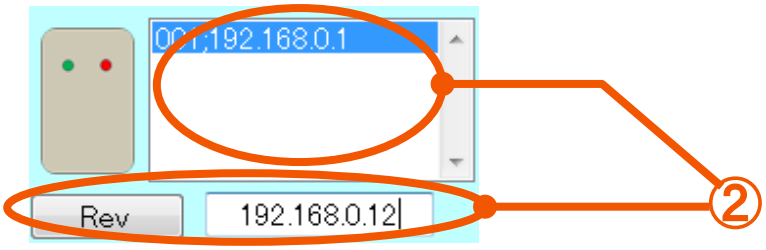
① Select the IP address of MiruTEN.

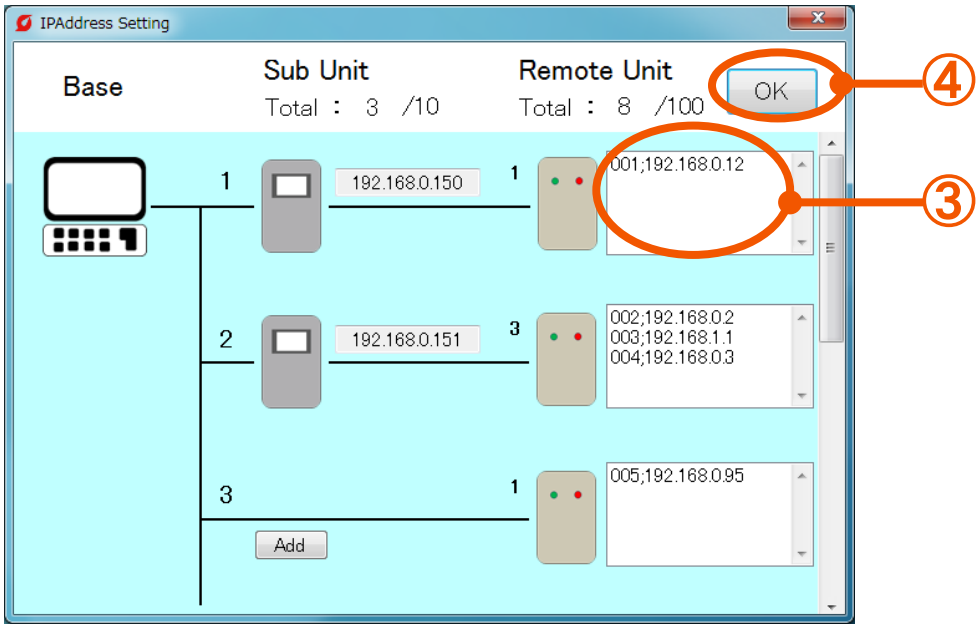
② Input a new IP address on the displayed window.

③ Push the “OK” button to end the setting.

(9) Change the IP address of Remote Unit







Operate according to the following steps.

① Select the icon of Remote Unit and select the “Rev” from the list.

② Select the IP address of Remote Unit from the list and input a new IP address. After completion of inputting, push the “Rev” button again.

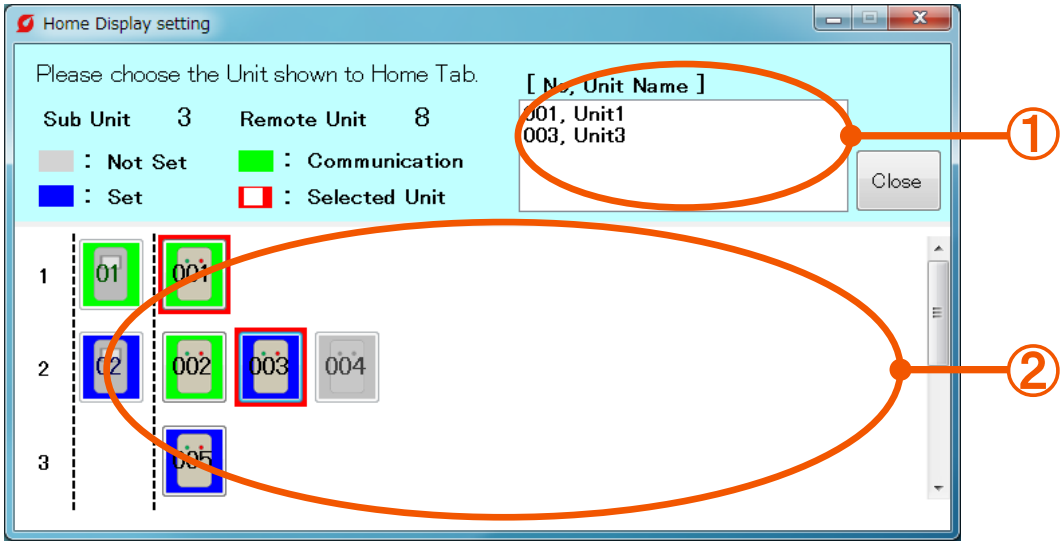
③ Check that the IP address is correctly changed.

④ Push the “OK” button to end the setting.

[2-4] Home Display setting

Displays the information on designated Remote Units (up to 5 units) on the home screen

(1) "Home" tab setting method



① **Remote Units which are currently selected** : Displays the list of currently-selected Remote Units. Select up to 5 units.

② **List of Remote Unit** : Displays the list of Remote Units. Select Remote Units (up to 5 units).

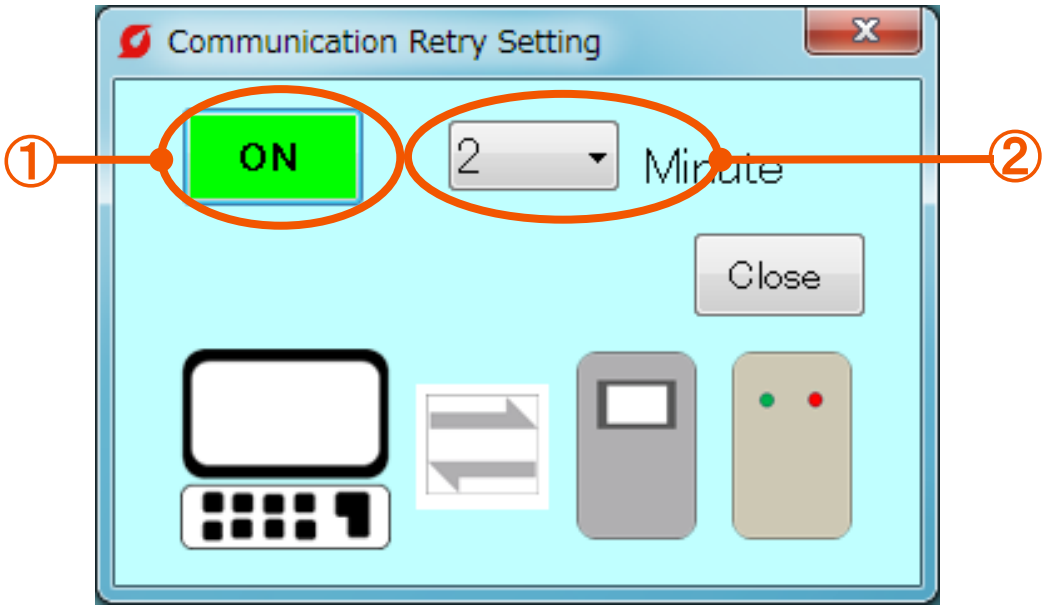
* Selecting the Remote Unit to close the screen displays the "Home" tab automatically.

* It is possible to select only Remote Units which are communicating.

[2-5] Communication Retry Setting

(1) Set the automatic recovery time

Set the time until communication is automatically recovered from disconnection of communication due to disconnection between monitoring software and Remote Unit and MiruTEN.



① **"ON and OFF" button** : Clicking this button switches between ON and OFF of communication automatic recovery setting.

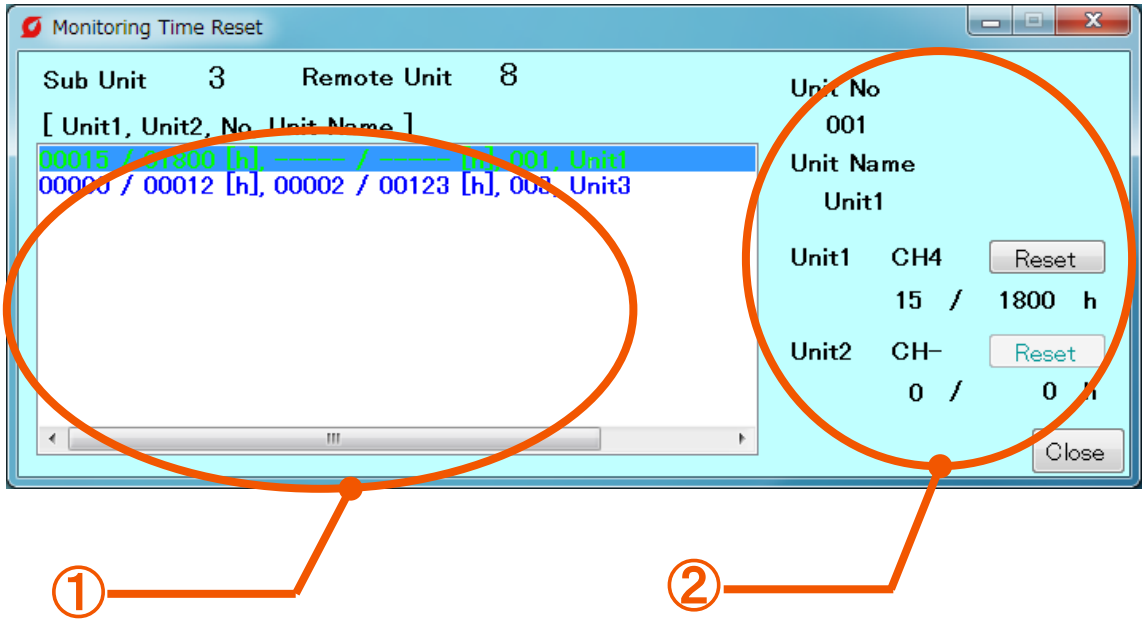
② **Recovery Time** : Select the time until the system judges as communication Error from the list. The time can be set to 1 min to 10 min in increment of 1 min.

Ex) In the case where the time is set to 2 minutes, reconnection is made for 2 minutes after disconnection, and if communication is not restarted even after 2 minutes, it is judged as communication error.

[2-6] Monitoring Time Reset

(1) Check the monitoring time

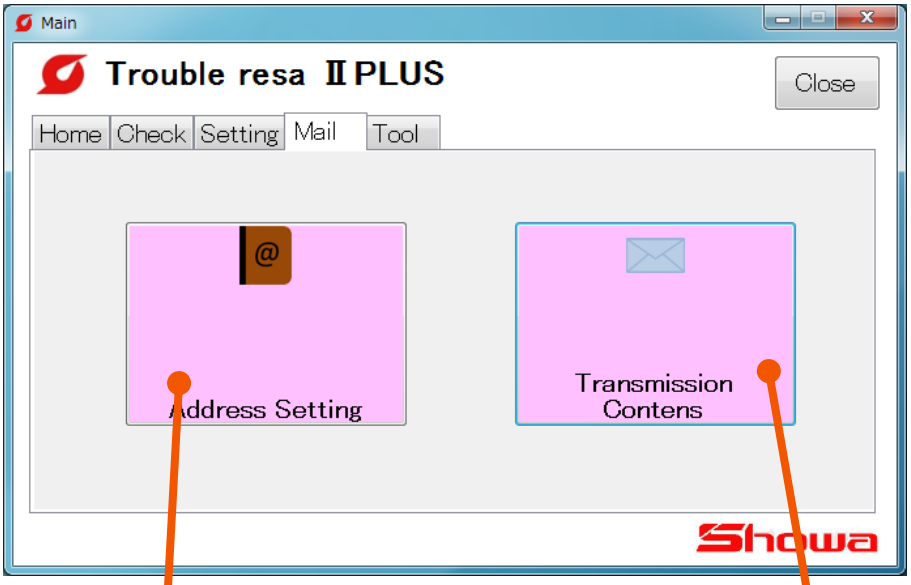
Check the set “Monitoring time” and reset the counted operation time.



① **List of Remote Unit** : List of Remote Units for which maintenance time is set. Select one from the list.

② **Set details** : Shows the details for Remote Unit selected in ①. “Unit No”, “Unit name” and “Set Maintenance time 1 and 2” from the top. Pushing the “Reset” resets the counted operation time to 0.

[3] “Mail” tab



Mail address

Sets the mail addresses for sending destination (To) and sending source (From) and sends a test mail.
(P47 to 50)

Mail setting

Sets the mail sending conditions (timing) and mail text.
(P51 to 54)

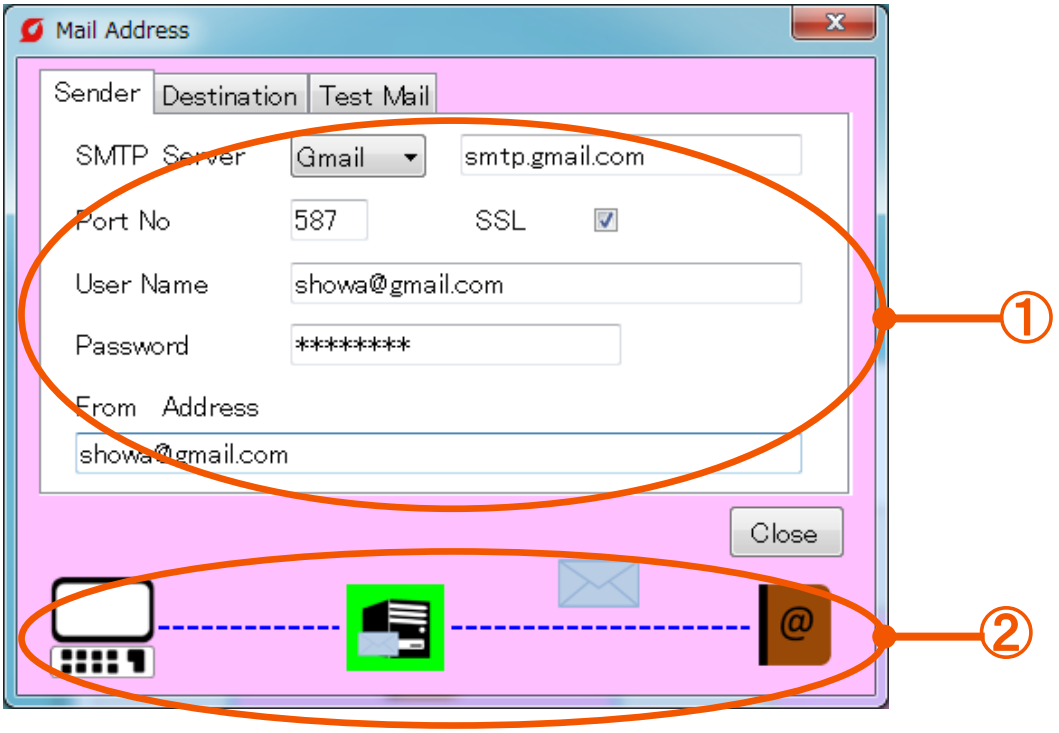
[3-1] Address Setting

(1) Register the mail addresses for sending destination and sending source

Register the mail addresses.

Prepare accounts in advance by which mails can be sent.

(Ex: Yahoo! mail account, Gmail account, etc.)



① **Server information** : Input the server information (sending source)

SMTP server : Server of sending source

Port number : Number for data communication

SSL : A function to encode communication.
Prevents data tapping and falsification by a third party.

User name : Mail password for account.

Password : Login password for account

From address : Mail address for account

* Server information varies depending on accounts (servers) to be used.

* For description for each account, check the details on the next page.

② **Icon** : Click icons to change the “Server”, “Address” and “Test mail” tabs.

List of server information by provider

・In the case of using Yahoo or Gmail account (recommended):)

SMTP server	Yahoo	“smtp.mail.yahoo.co.jp” is displayed.
	Gmail	“smtp.gmail.com” is displayed
Port number	Yahoo	“587” is displayed.
	Gmail	
SSL	Yahoo	Not provided
	Gmail	Provided
User name	Yahoo	Input the mail address for account.
	Gmail	
Password	Yahoo	Input the login password for account.
	Gmail	
From address	Yahoo	Input the mail address for account.
	Gmail	

・In the case of using other accourss

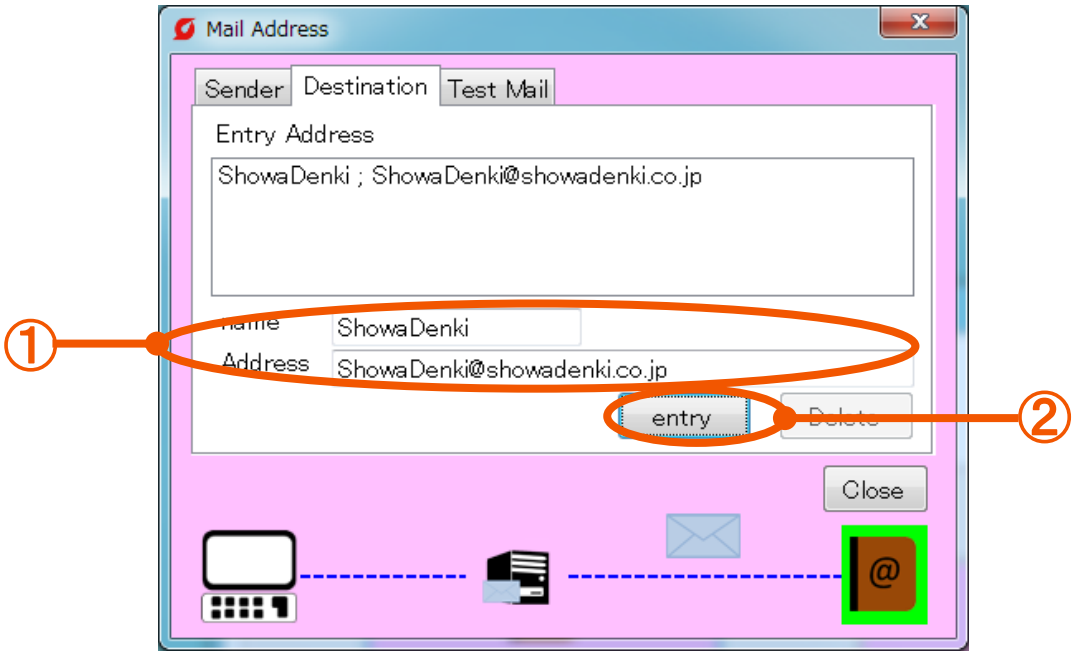
・Set the tag to “Other”.

Setting details from ① vary depending on providers to be used (contracted).

Check the setting details of account to be used.

(2) Registration of address (sending destination)

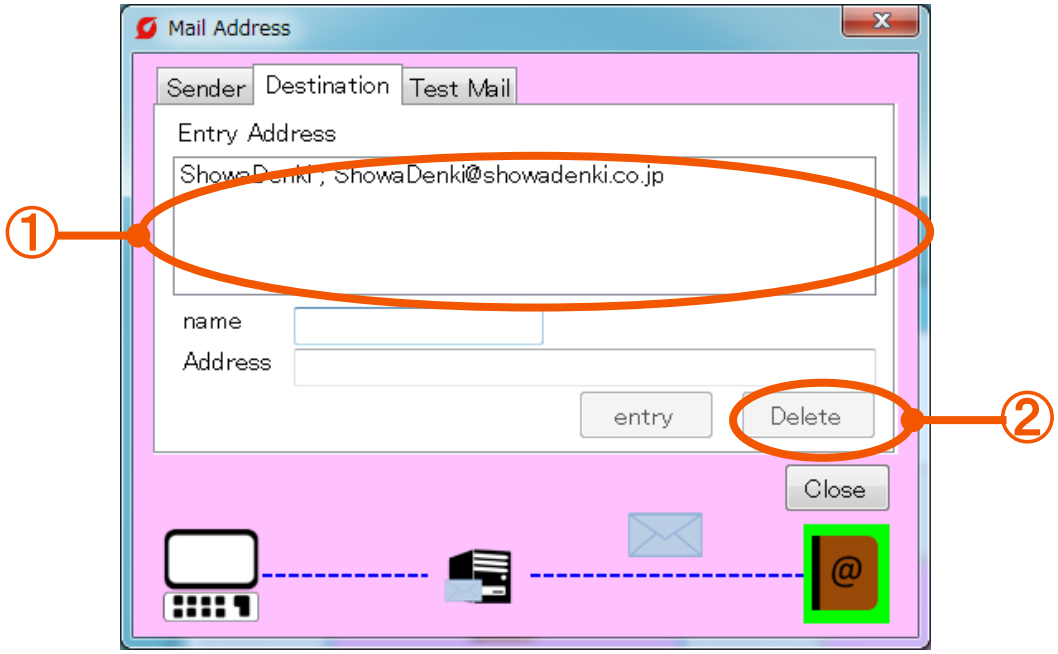
Register the address of sending destination.



① **Name/address** : Input the name and address to be registered.
② **"entry" button** : Push this button after inputting.

(3) Deletion of address (sending destination)

Delete the registered address.

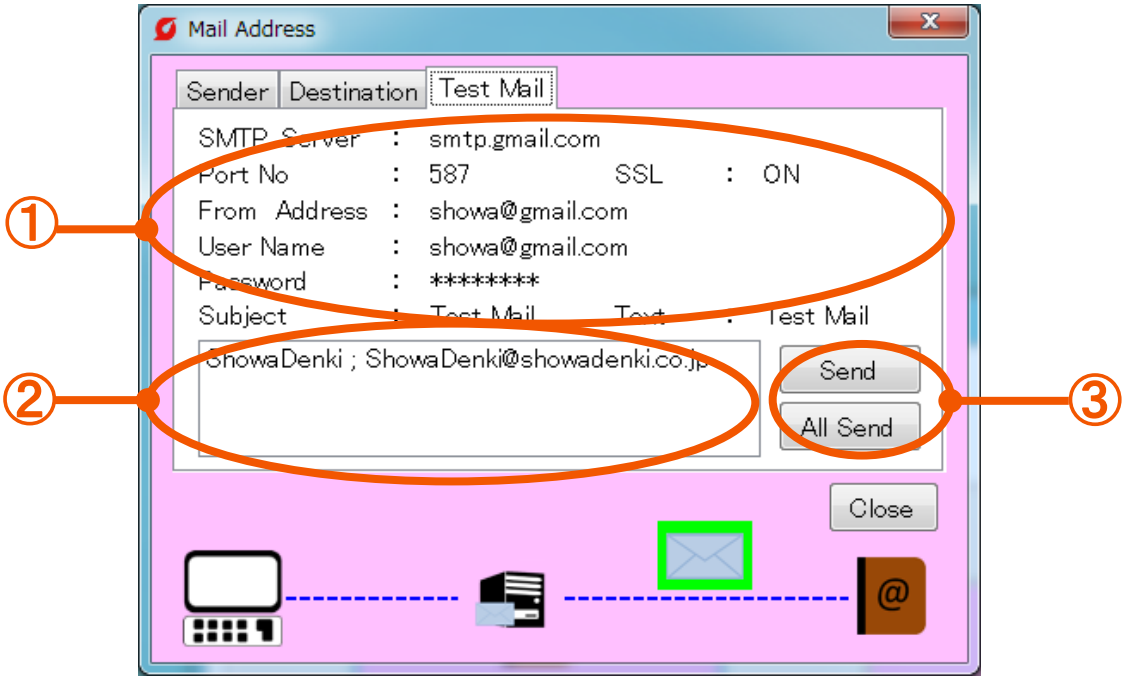


① **Registered address** : Select an address to be deleted.
② **"Delete" button** : After selection of address, push this button.

* The deleted address cannot be restored.

(4) Sending a test mail.

On the “Test mail” tab, check the setting and communication conditions by sending A temporary mail.



① **Setting details** : Show the details set on the “Server” tab. → To P.47 (1)
The mail is sent with a title and message “test mail” in Japanese or “Test mail” in English.

② **Registered address** : Select an address to which a mail is sent.

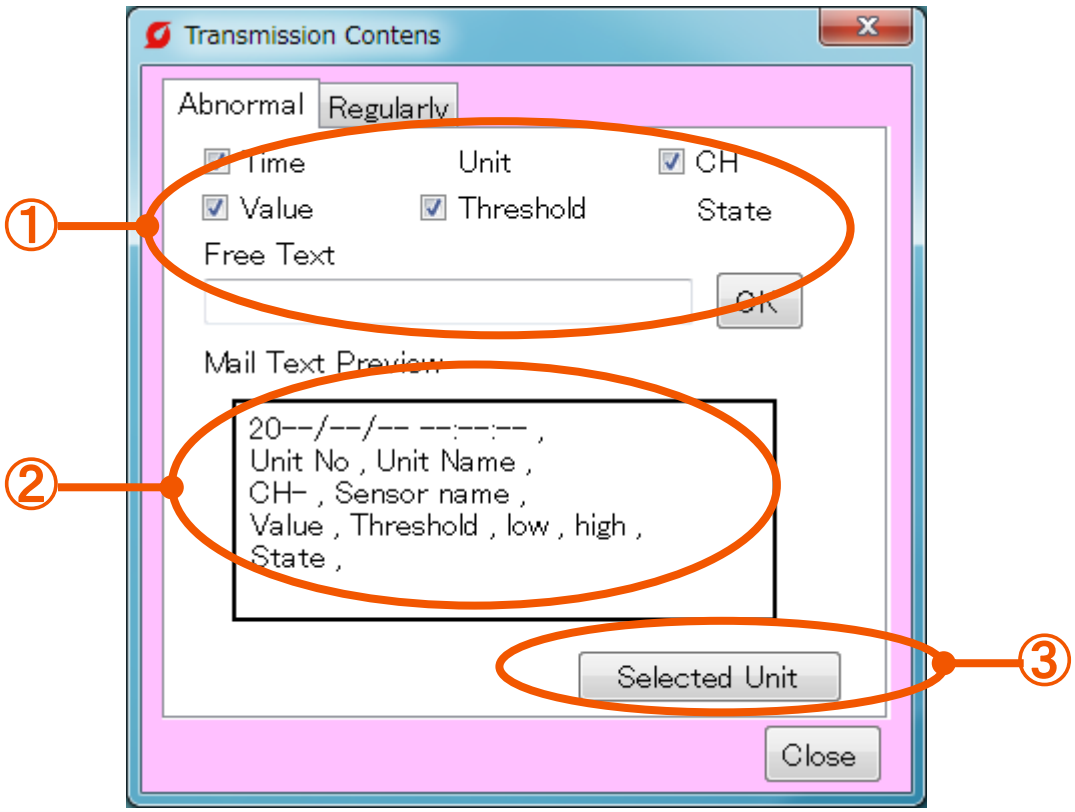
③ **“Send” button** : Sends a mail to the address which was selected in ②.

“All send” button : Sends mails to all addresses displayed on ②.

[3-2] Sending details

The mail sending timing can be set to 2 types: Upon occurrence of error and regular communication.
With the “Abnormal” tab, a mail is sent when judged as “Abnormal”. With the “Regular” tab, a mail is sent at a specified time in a day.

(1) “Abnormaol” tab



① **Edition of main text** : Select the following items and edit them to set the mail text.

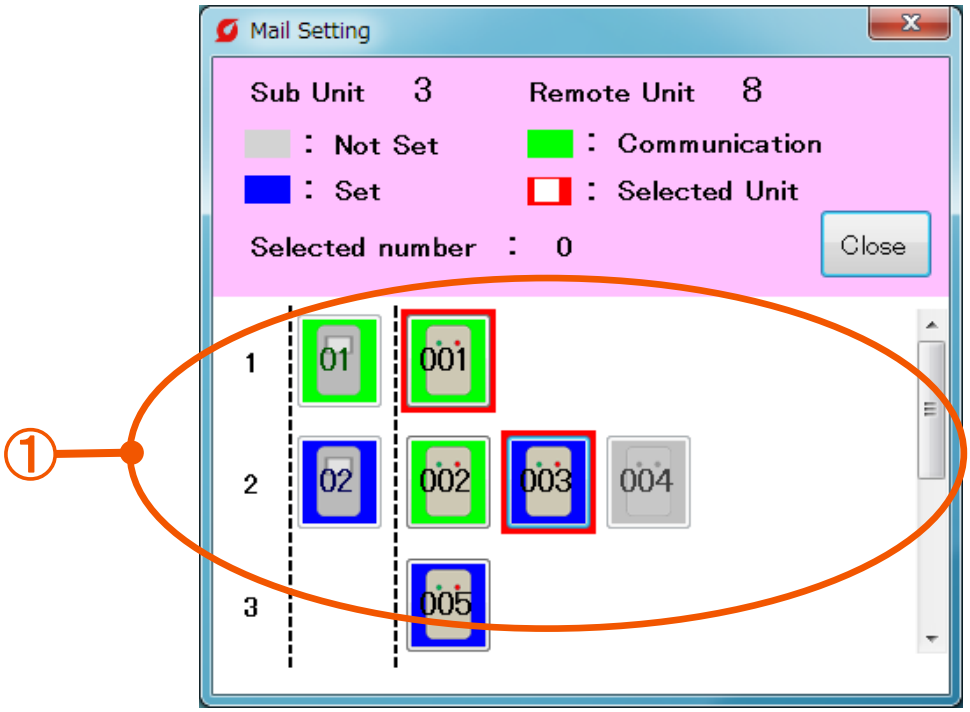
Time	: Time when judged as “abnormal”.
Remote Unit name	: Remote Unit name and number
CH	: CH which is judged as abnormal and sensor name.
Current value	: Sensor value when judged as abnormal
Threshold value	: Threshold value which was set in Remote Unit.
Conditions	: Sends an applicable item from “Lower limit error”, “Upper limit error” and “Communication error”.
Free	: Input an arbitrary sentence. After inputting, be sure to select the “OK” button. (A blank space permissible and up to 128 two-byte characters)

* The “Remote Unit name” and “Condition” are always described in the main text of mail regardless of set details.

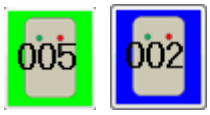
② **Mail main text** : Mail text set in ①
③ **Selection of Remote Unit** : Select a Remote Unit to which a mail is sent
→ To P52 (2)

(2) Setting a Remote Unit to which a mail is sent (“Abnormal” tab)

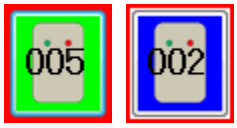
Set a Remote Unit to which a mail is sent when an error occurs.



①**List of Remote Units** : Select a Remote Unit.The circumference of the selected Remote Unit turns red.



: **Not selected**

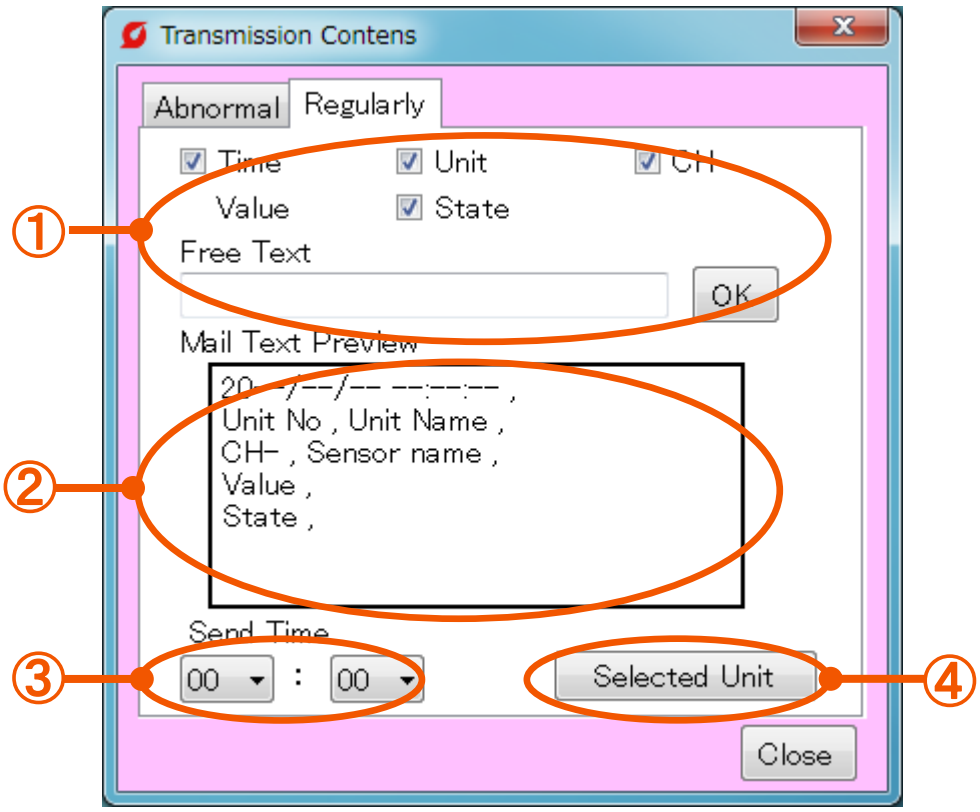


: **Under selection**

* Not set (gray) Remote Units cannot be selected.

(3) “Regular” tab

A set mail is sent at the designated time.



①Edition of main text : Select the following items and edit them to set the mail text.

Time	: Time when a mail is sent.
Remote Unit name	: Remote Unit name and number.
CH	: CH and sensor name.
Current value	: Sensor value of set CH.
Conditions	: Sends an applicable item from “No error”, “low error”, “high error” and “Communication error”.
Free	: Input an arbitrary sentence. After inputting, be sure to select the “OK” button. (A blank space permissible/up to 128 two-byte characters)

* “Current value”is always described in the main text regardless of set details.

②Mail main text : Mail text set in ①.

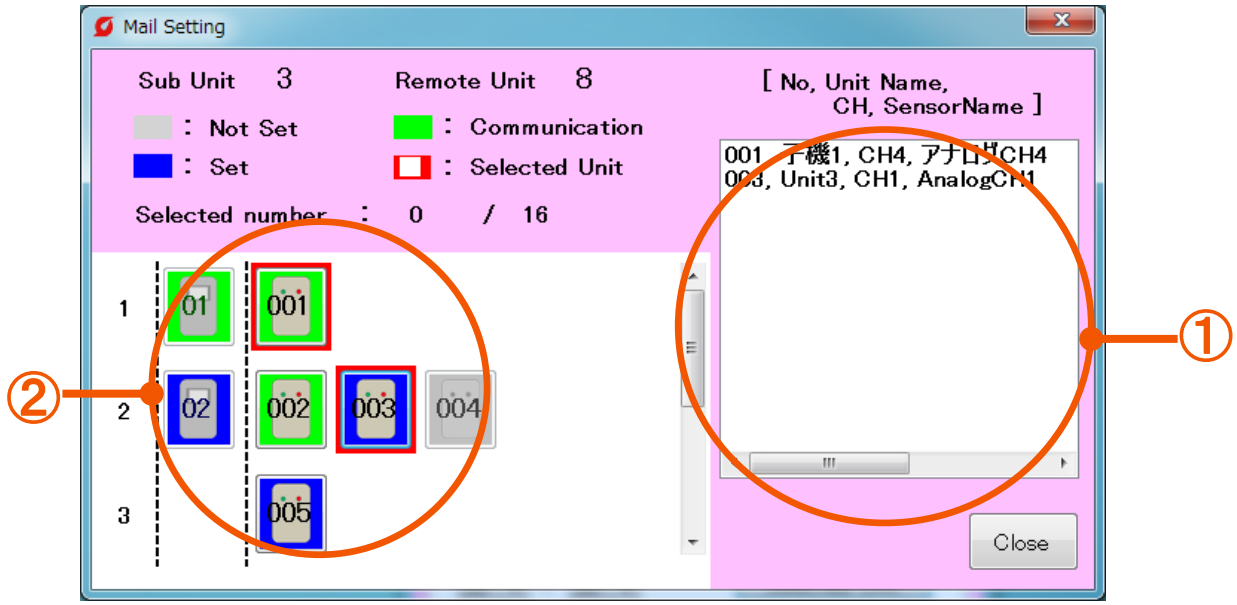
③Sending time : Time at which the mail is sent.

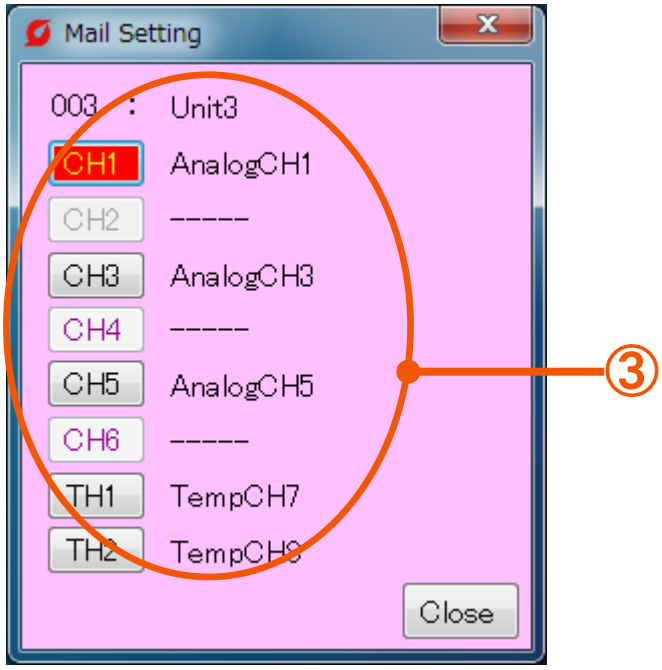
④Selection of Remote Unit : Select a Remote Unit and CH to which a mail is sent

→ To P54 (4)

(4) Setting of Remote Unit to which a mail is sent (“Regular” tab)

Information for 16CH (max) is sent regularly. Select a CH.





①**Information on Remote Unit** : Displays the list of selected Remote Units and CH.
②**List of Remote Units** : Select a Remote Unit of CH to which a mail is sent.
③**List of CH** : Select a CH

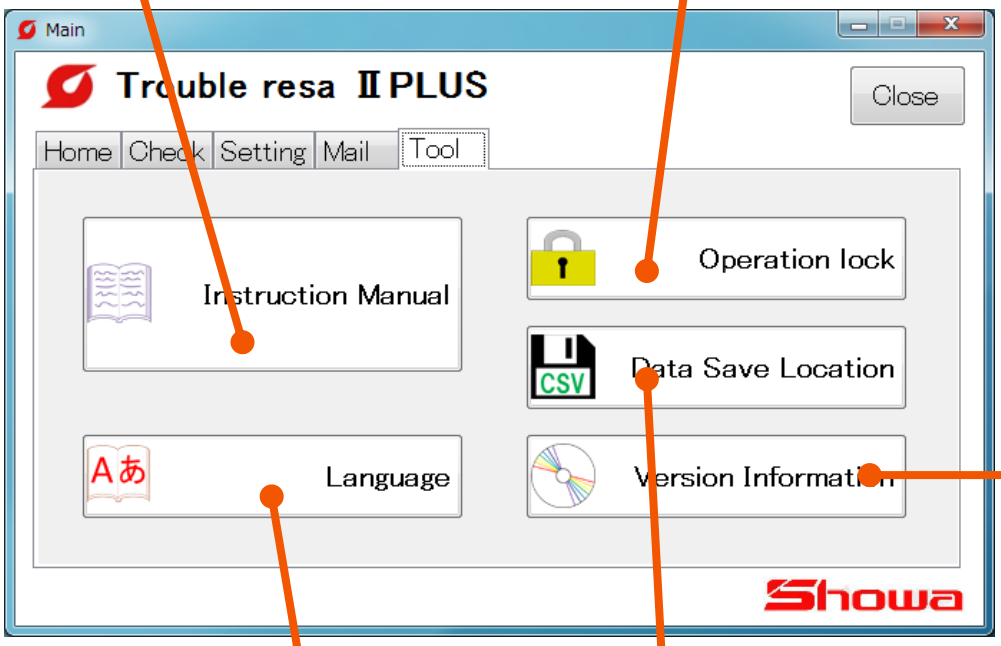
[4] “Tool” tab

Instruction manual

Displays the Instruction Manuals for Monitoring Software, MiruTEN and Remote Unit in PDF format. (P56)

Operation lock

Limits the screen display setting. (P57)



Language

Switches the language display between English and Japanese. (P56)

Data Save Location

Checks and changes the storage place for measurement data (CSV file). (P58)

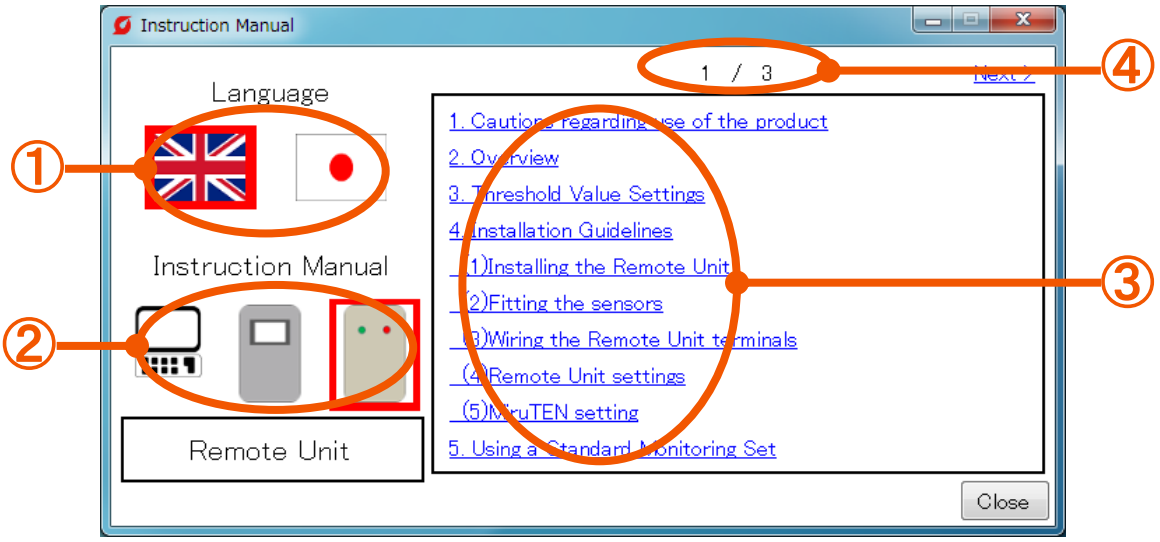
Version information

Displays the information on the Monitoring Software.(P59)

[4-1] Instruction manual screen

(1) Instruction Manuals for Monitoring Software, MiruTEN and Remote Unit

It is possible to select each PDF instruction manual in English or Japanese.

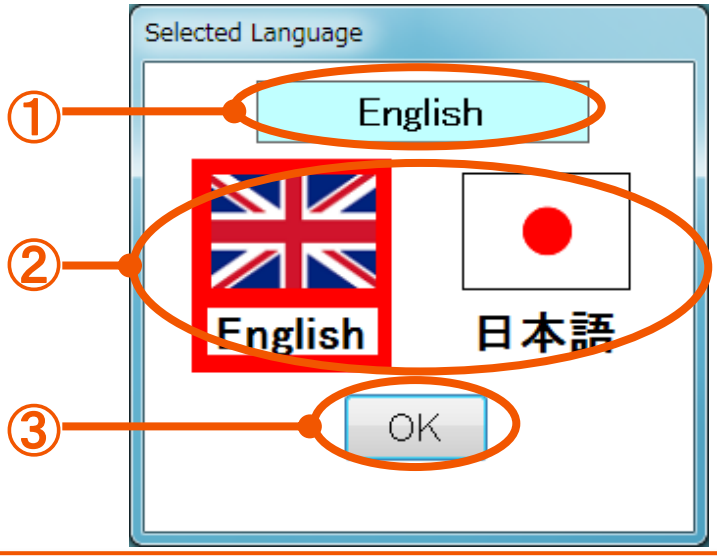


①Language	: Select the language of the Instruction Manual to be displayed.
②Instruction manual	: Icons for Monitoring Software, MiruTEN and Remote Unit from the left. When selected, items for each Instruction Manual are displayed in ③.
③Index	: The Instruction Manual of product in selected in ② is displayed by item.
④Page	: Shows current page / total page.

[4-2] Selected Language

(1) Switch display language

Switch the display language.



①Current language	: Displays the currently-selected language.
②Language icon	: Select the language to be displayed.
③"OK"button	: Displays the selected language.

[4-3] Operation lock

(1) Set a password (only at the first time)

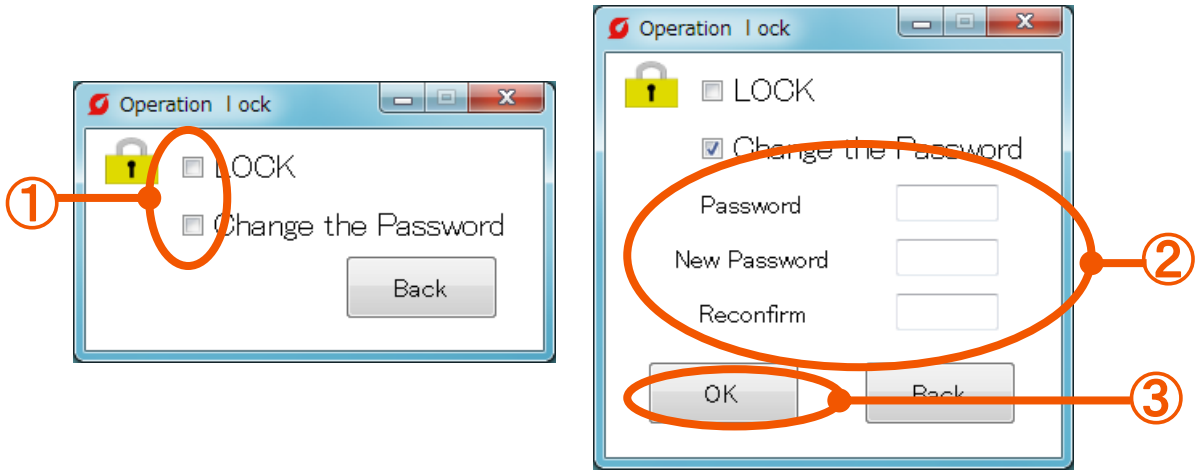
Setting a password allows you to limit the Remote Unit setting, communication connection, network system display and setting.

①**Check box** : To set a password, put a checkmark on the check box. The password input screen will be displayed.

②**Password input box** : Input a password.

<u>* Up to 4 one-byte figures can be set as a password.</u>

(2) Change a password



①**Check box** : Check the “Password change”. When the “LOCK” is checked, it is impossible to check.

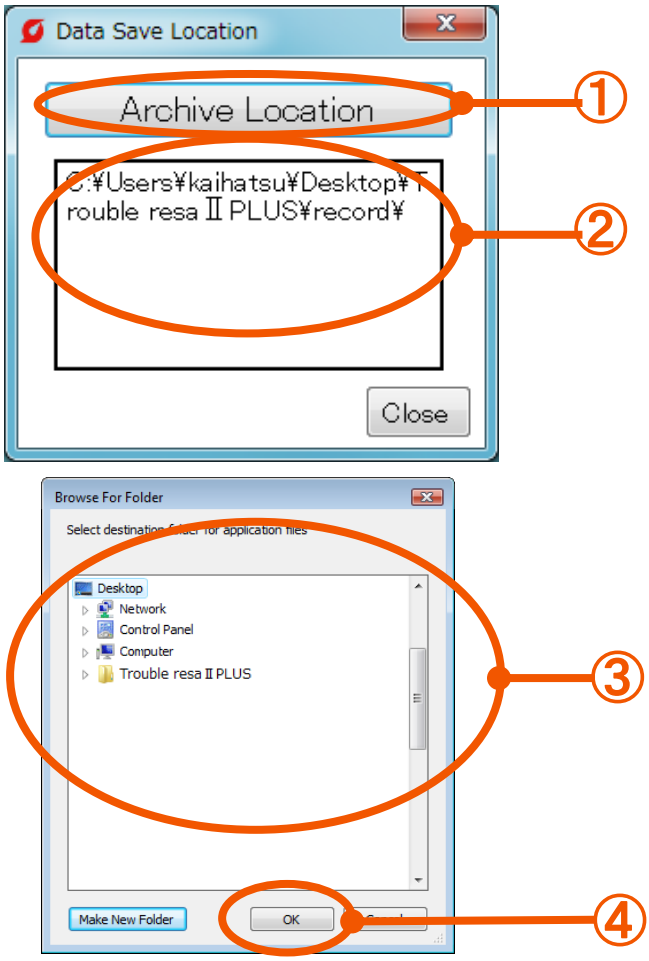
②**Password input box** : Input passwords in the “Password”, “New password” and “Recheck”.

③**”SET” button** : Changes the current password to the new password.

<u>* When the “LOCK” is checked, it is necessary to input the password in “Setting of Remote Unit”, “Communication Connection” and “Network syste”.</u>

[4-4] Data Save Location

(1) Set the storage destination for measured value data of remote units.



① **"Storage destination"button** : Changes the storage destination. → To ③

② **Current storage destination** : Displays the currently-set file storage destination. Clicking it opens the folder.

③ **List of folders** : Displays folders in the PC. To create a new folder, select the "New Folder Creation" on the lower left.

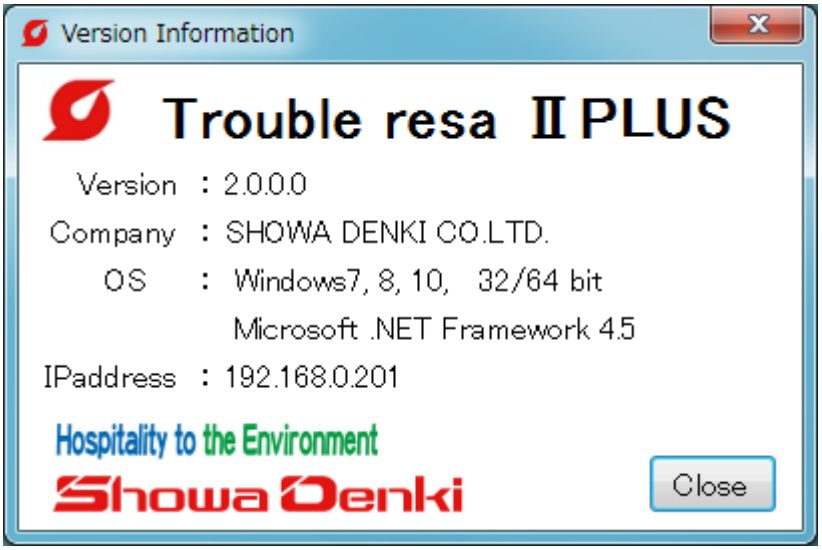
④ **"OK"button** : Select the storage destination and push the "OK" button.

* If there is a Remote Unit under monitoring (communication), it is impossible to change the storage destination.

[4-5] Version Information

(1) Check the information on Monitoring Software.

The version information on Monitoring Software can be checked.



* Note

(1) The details in this manual are subject to change without notice.

(2) When contacting our company, inform us of the type and manufacturing numberdescribed on the product nameplate.

Microsoft、Windows、and Microsoft.Net Framework are registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

5. Specifications

Monitoring Software (FCM-BM2P)

Function	**Display of Remote Unit conditions, setting of Remote Unit, logging, graphic display, abnormality display**
Number of connectable units	**MiruTEN : 10 units, Remote Unit : 100 units**
Other	**TCP/IP MODBUS communication**

6. Hardware operation environment

Items	**Performance**	**Remarks**
PC	**PC capable of running Windows**	
OS	**Windows®7 32bit/64bit** **Windows®8、8.1 32bit/64bit** **Windows®10 32bit/64bit**	**Compatible only with Japanese version.** *** Windows RT is not supported**
CPU	**Pentium 2GHz min**	
Memory	**2GB min**	
Disk space	**200MB min**	
Resolution	**1280 × 768 or higher (recommended)**	
Other	**Microsoft .NET Framework 4.5**	
	Network interface : Ethernet	
	CD、DVD drive **(only needed for installation)**	

7. Support regulations

(1) Support period

The product shall be guaranteed for one year from the day of delivery.

(2) We shall not compensate for damages due to failures during use of this product.

(3) This product is assumed to be used in Japan.

- This guarantee is effective only in Japan.
- Using this product in foreign countries shall not be covered under warranty.
- For using this product in countries other than Japan, consult with the nearest branch and sales office.

(4) If there is no nameplate, you may not accept warranty from us.

(5) For on-site repair, consult with the nearest sales office.

For the following items, refer to the use license agreement.

(1) Use license agreement

(2) Limited warranty

(3) Indemnity liability

(4) Transfer

8. Appendix

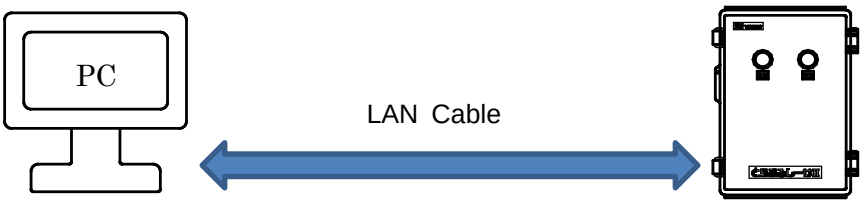
[1] How to display the browser screen

The IP address of the Remote Unit at delivery is set as “192.168.0.1,” and the subnet mask is set as “255.255.255.0.”
After changing the IP address of the PC to be used to set the Remote Unit to an appropriate value (ex.: 192.168.0.123), connect the Remote Unit to the PC using a LAN cable. Open the Internet browser to set the Remote Unit.
Procedures are as follows.

①Connect the Remote Unit to the power supply.

②Connect the Remote Unit to the PC for settings using a LAN cable.

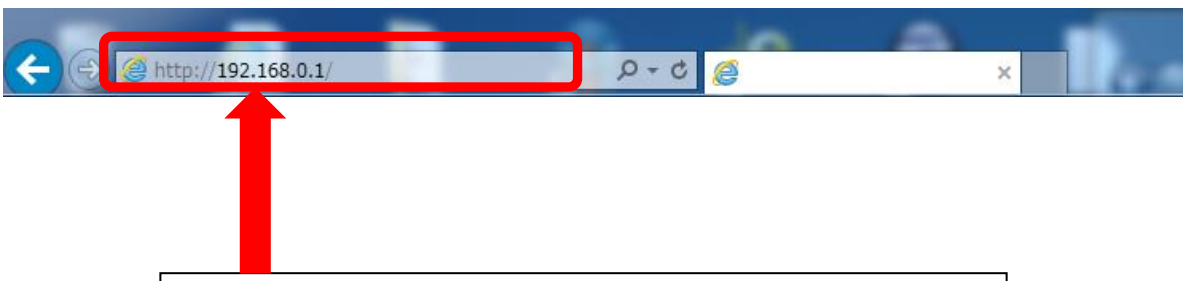
③Set the IP address of the PC for settings.



PC for settings
IP address :
(ex.)192.168.0.123
Subnet mask :
(ex.)255.255.255.0

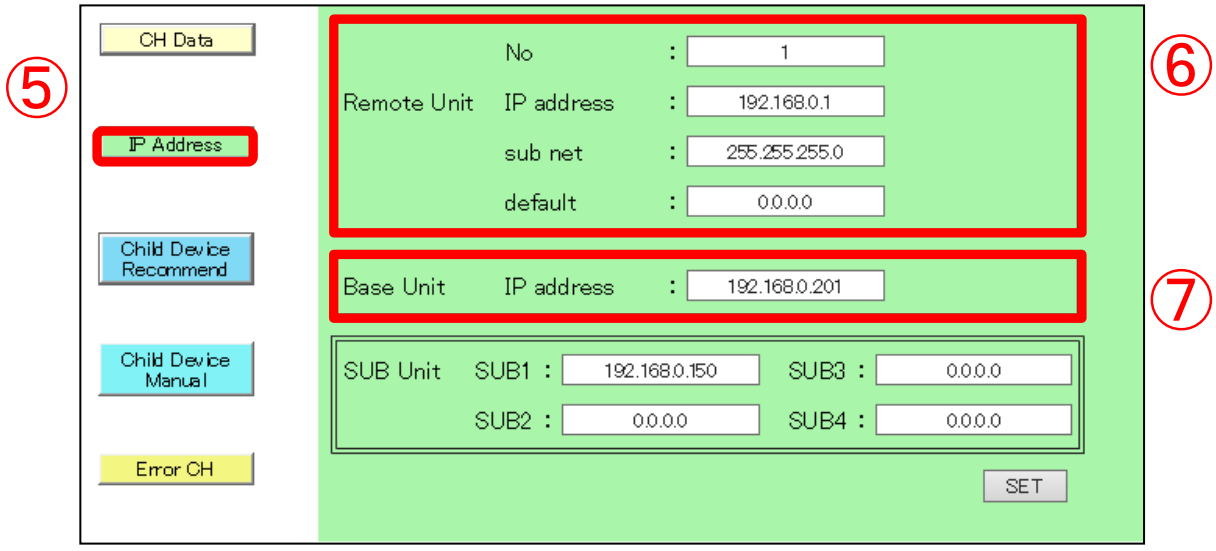
TroubleresaⅡPLUS
IP address :
192.168.0.1(initial setting)
Subnet mask :
255.255.255.0(initial setting)

④Open the Internet browser (Internet Explorer), enter the IP address of the Remote Unit in the address column as “(ex.)192.168.0.1,” and open the setting screen by pressing “Enter”.



Input “192.168.0.1” and press ”Enter”

※Internet Explorer versions IE8~ IE11 are recommended



⑤ Select [IP address] from the setting items.

⑥ Enter

[No.] : Number of the Remote Unit to be set

[IP address] : IP address of the Remote Unit

[sub net] : Subnet mask of the Remote Unit

[default gateway] : Default gateway (IP address of the router) *1

⑦ Enter

[Base Unit] : IP address of the PC with the monitoring software installed.

* Note - - - Base units which are not registered in [Base Unit] [SUB Unit SUB1~ 4] cannot be communicated with.

Finally, click the [SET] button on the bottom right corner of the screen.

*1 If the IP address changes, turn off the power to the Remote Unit. The IP address will be switched when the power is turned on again.

[2] Cancellation of PC sleep mode

While using this product (under communication with MiruTEN or Remote Units), do not make the PC in sleep mode.

All communications are cut in the sleep mode. The power supply for the display monitor can be turned off. Cancel the sleep mode according to the following steps.

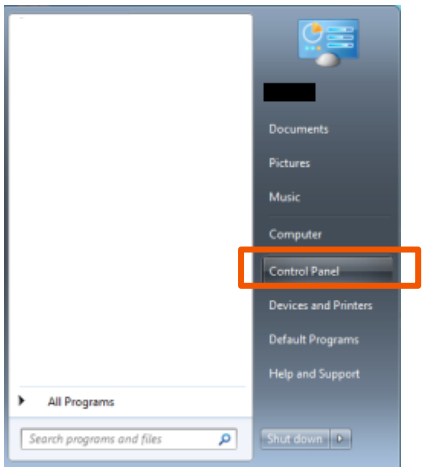
① In the case of Windows 7

Press the “Windows” key to open the Context menu.

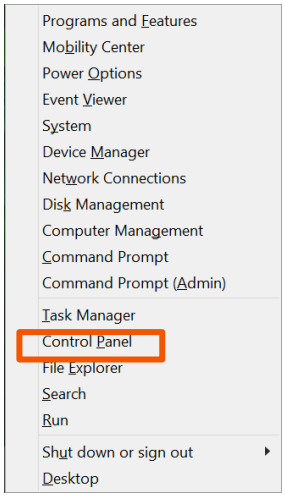
In the case of Windows 8 (8.1) or 10

Press the “Windows” key and the “X” key at the same time to open The Context menu.

② Select “Control panel (R)”.

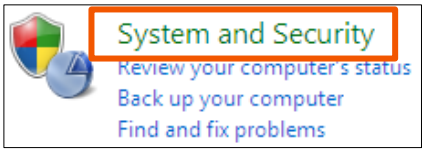


In the case of Windows7

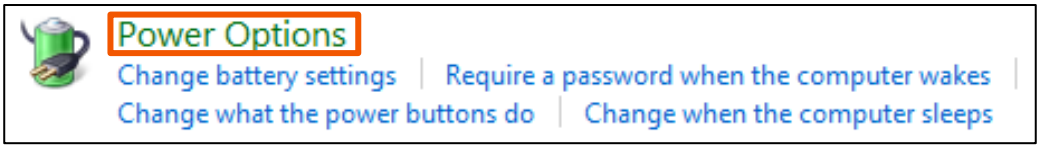


In the case of Windows8 (8.1) or 10

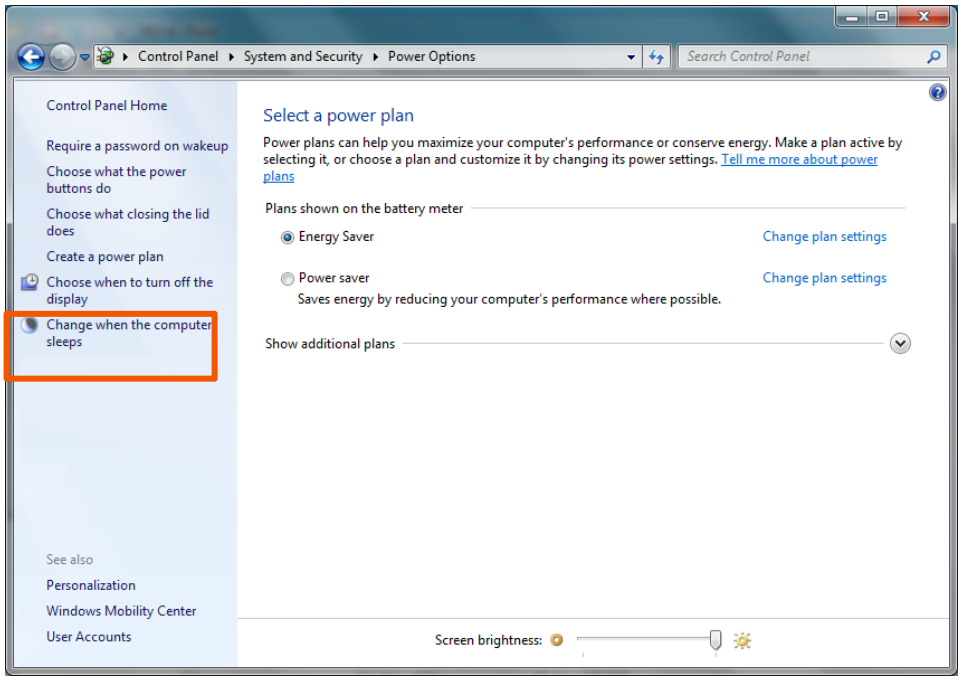
③ Click “System and Security”.



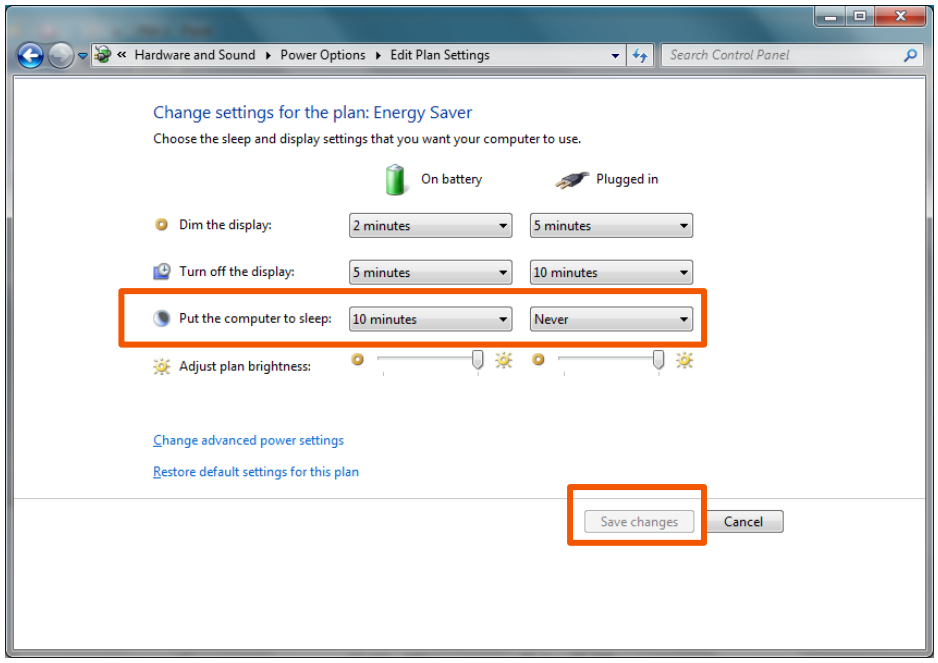
④ Click “Power Options”.



⑤ Click “Change when the computer sleeps”.



⑥ Select “Never” from the list of “Put the computer to sleep” and click “Save changes”.



[3] Check of “Microsoft.NET Framework 4.5”

It is essential to install the Microsoft .NET Framework 4.5 to operate this product normally.

Check that it has been installed according to the following steps.

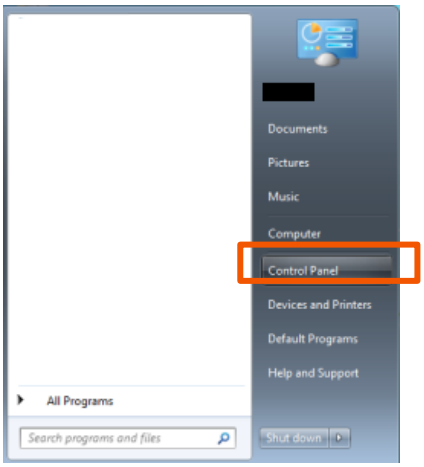
① In the case of Windows 7

Press the “Windows” key to open the Context menu.

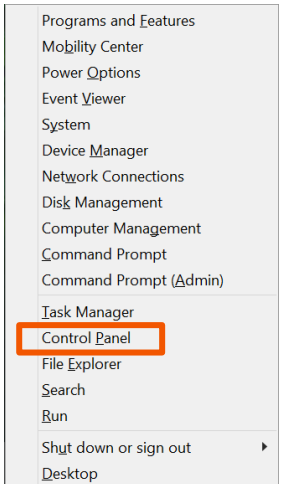
In the case of Windows 8 (8.1) or 10

Press the “Windows” key and the “X” key at the same time to open The Context menu.

② Select “Control panel (R)”.

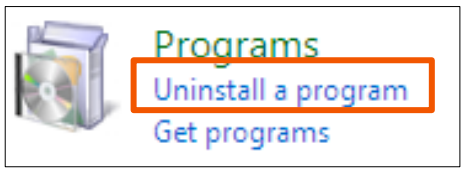


In the case of Windows7



In the case of Windows8 (8.1) or 10

③ Click “Uninstall a program”.



④ Check that “Microsoft .NET Framework 4.5” is included in the list.

* If the “Microsoft .NET Framework 4.5” is not installed, connect the internet and download it from the “Microsoft official website”

The following PCs are not guaranteed.

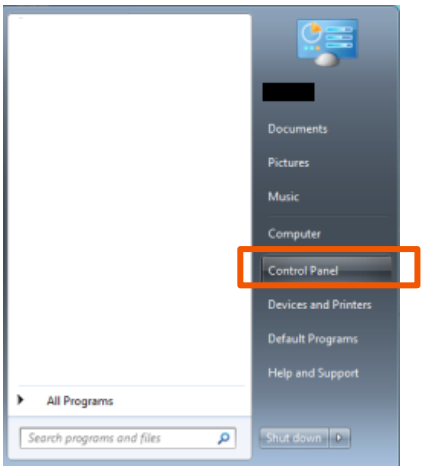
- ◆ Home-made PCs or assembled PCs using assembly parts
- ◆ PCs in which OS updating and version up and expansion of Peripheral devices not guaranteed by manufactures were made.

[4] Disable the automatic updating of Windows Update.

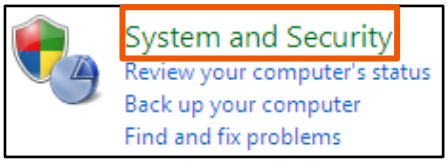
If the Windows OS is automatically updated and the PC is restarted, the communication with the MiruTEN or Remote Unit is disconnected. The steps for disabling the automatic updating are as follows.

(1) In the case of Windows 7

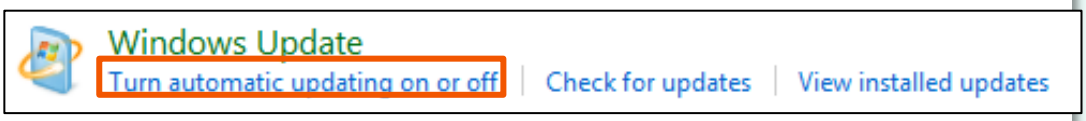
① Press the “Windows” key and open the context menu, and select “Control Panel”.



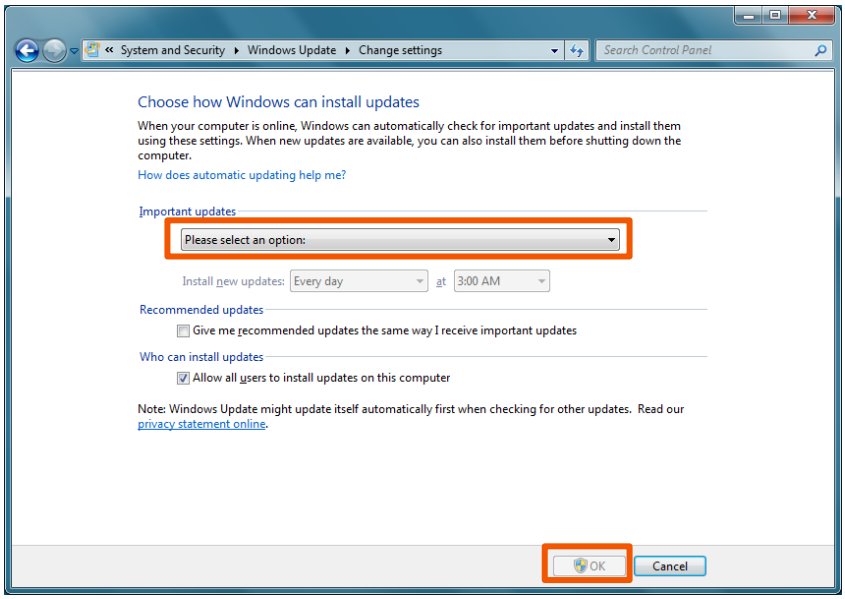
② Select “System and Security”。



③ Select “Windows Update”－”Turn automatic updating on and off”

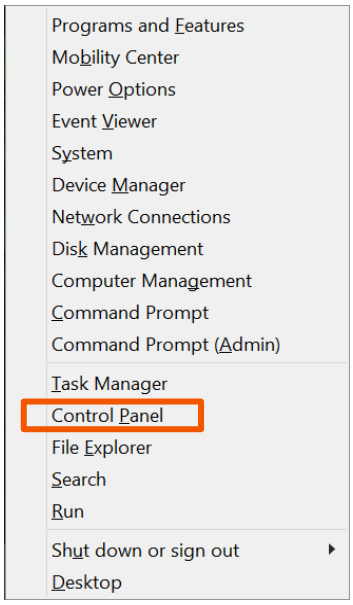


④ Select “Never check for updates” int the list and click “OK” to complete the setting.



(2) In the case of Windows 8 (8.1)

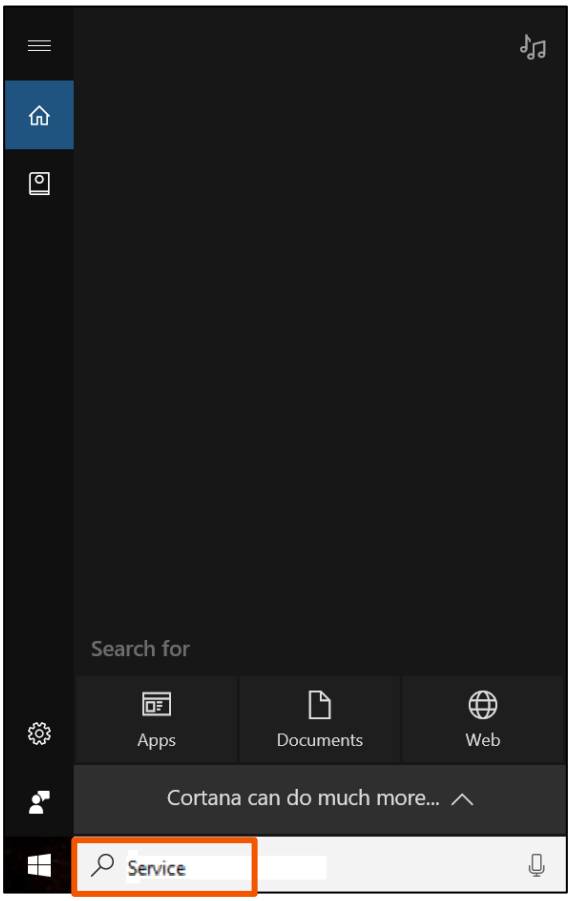
① Press the “Windows” key and the “X” key at the same time to open the Context menu.



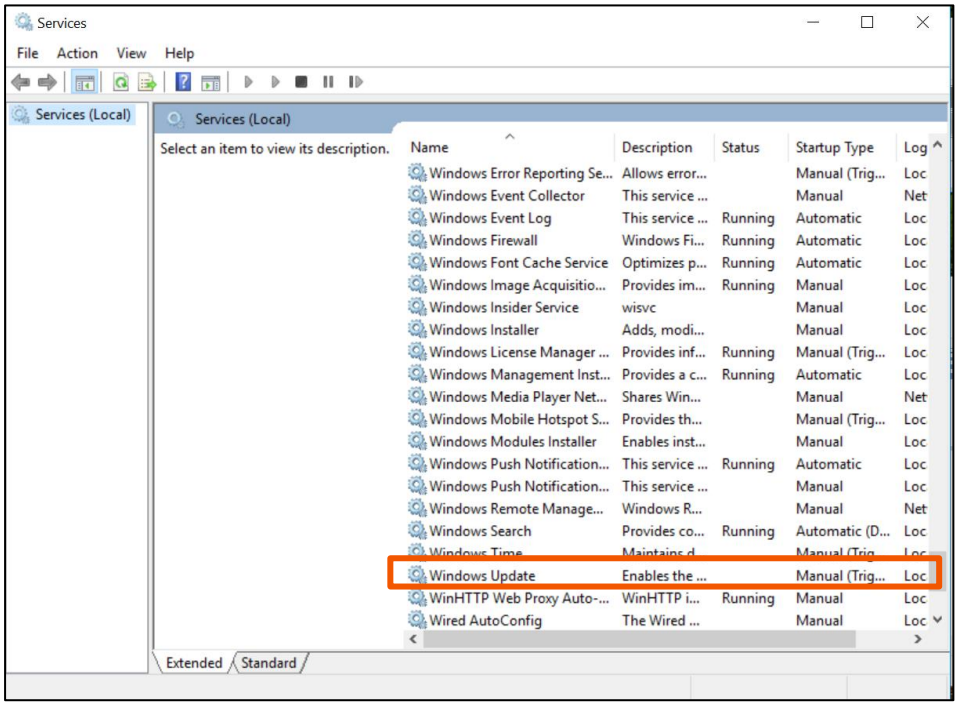
For operations after that, refer to (1) Windows 7 ②～④.

(3) In the case of Windows 10

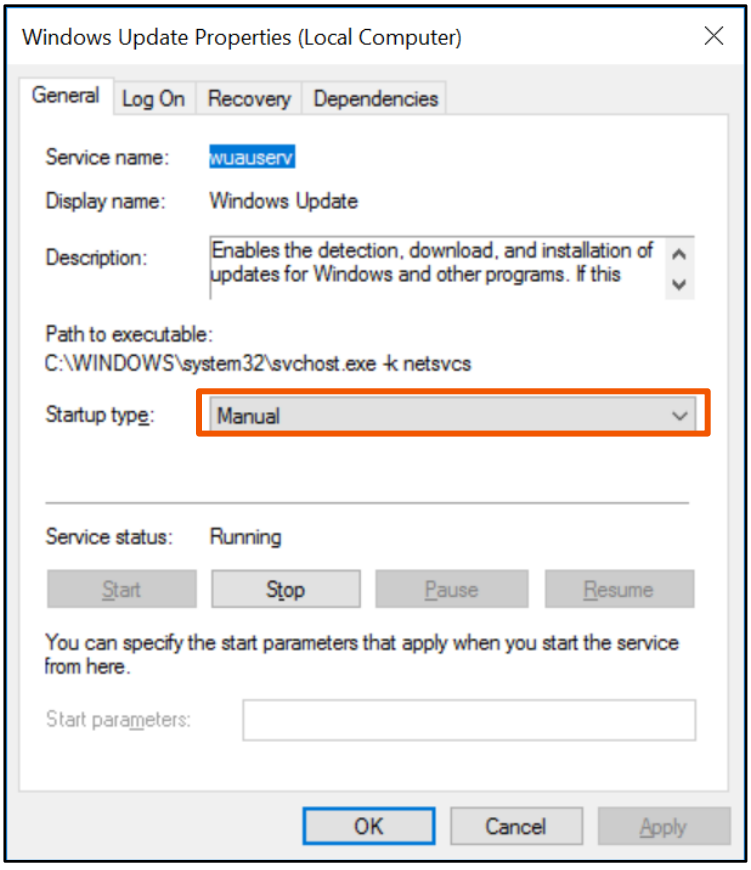
① Press the “Windows” key and input “Service” int the search box. Select “View local services” from the search results.



② Double-click “Windows Update” in the list and open a window to be set.



③ Select “Disabled” from the list of “Startup type” Press “OK” and complete the setting.



*** After the automatic updating is disabled, update of OS is not performed. After disconnection of communication with MiruTEN and Remote Units, carry out updating.**

Memo

Memo