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IP Discovery Instruction Manual

Approved by	Checked by	Drawn by	Designed by	Title	IP Discovery Instruction Manual	
Kamitani	Hosoda	Yashiro	Fujimoto	Drawing No.	C-41-02603	1/22



Introduction

Make sure to read this manual before and during operation for the correct operation.

About IP Discovery

IP Discovery is an application to configure and confirm the IP address of supported sensors.

Before use

Make sure to read the specification of the sensor before use.

Precautions

- Make sure to perform operations with a stable power supply listed in the product specification. Operating under unstable power supply may damage the device.
- Depending on the computer's performance and condition, communication with the sensor may be delayed, and therefore the display may get misaligned (out of synchronization).
- Graphics of the actual product may differ from the figures in this manual as these figures are used for explanatory purposes only.
- All information in this manual is subject to change without prior notice.
- If you have any inquiry about the product, contact the nearest distributor or sales representative.

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1. Compatible OS

■ Notes Regarding Compatible Sensors

Please note that the following sensors cannot connect to this app with firmware versions prior to the versions listed below.

- UST-10LX (ver.2.23)
- UST-20LX (ver.2.23)
- YVT-35LX (ver.443)

■ System requirements

PC	CPU	Pentium® IV processor of 800MHz or above
	RAM	512MB or above
	Hard disk	150MB minimum free space
Compatible OS	Microsoft® Windows 7 Professional	
	Microsoft® Windows 8.1	
	Microsoft® Windows 10	
Display	High color (16bit color) or above , 800 × 600 dot or above	

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2. Basic operation

This section explains the method of detecting IP settings of compatible sensor and changing the IP address. This section explains only the basic operation, please refer to the next chapter for detail explanation.

① Installing the application

Double click the installer.

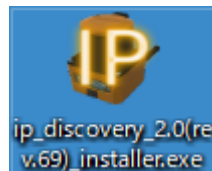


Figure 2. 1 Installer

Language selection screen appears, select the language you want to use and click OK.

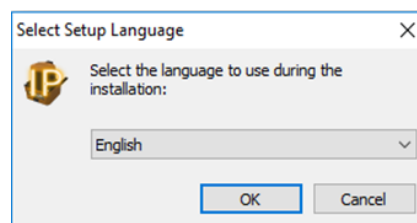


Figure 2. 2 Language selection

Select the installation location of the program file.

Click Next (N) to proceed with the default

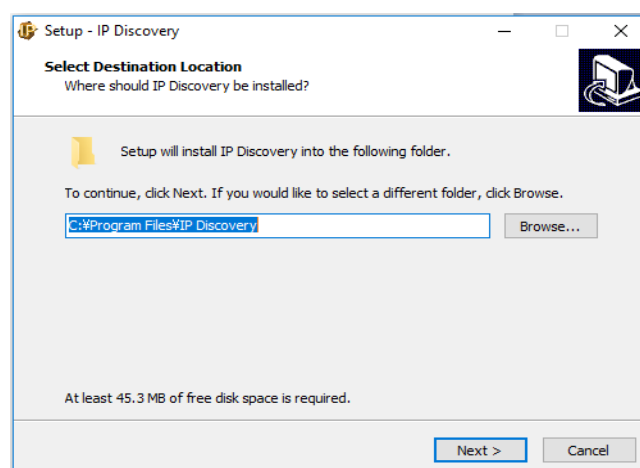


Figure 2. 3 Select installation location

The component selection screen will appear.

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Only "Full installation", is available therefore click "Next (N)>" to proceed.

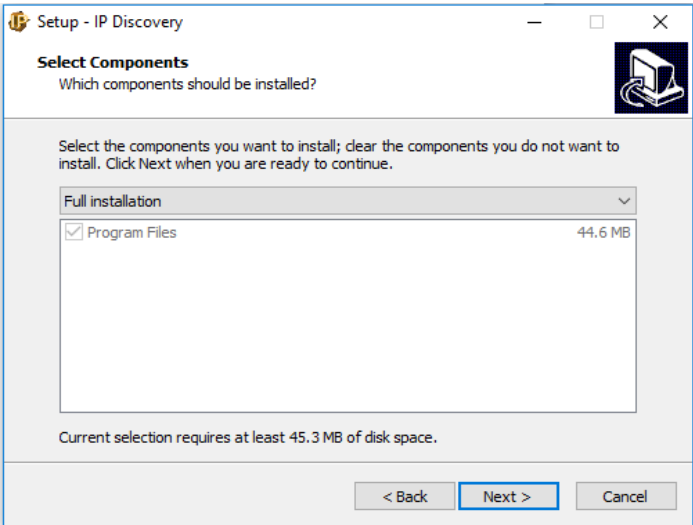


Figure 2. 4 Select component

Screen to specify the program group will appear.
Click "Next (N)>" to proceed with the default.

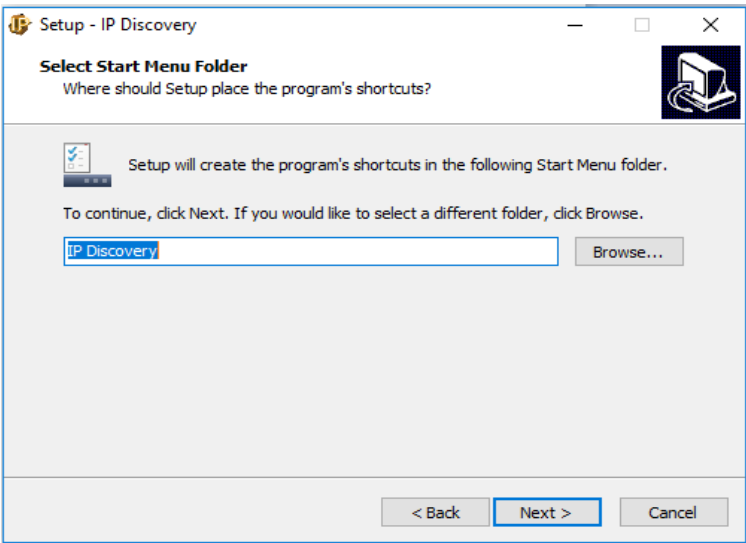


Figure 2. 5 Specify the program group

Additional task selection screen will appear.
Click "Next (N)>" to proceed with the default.

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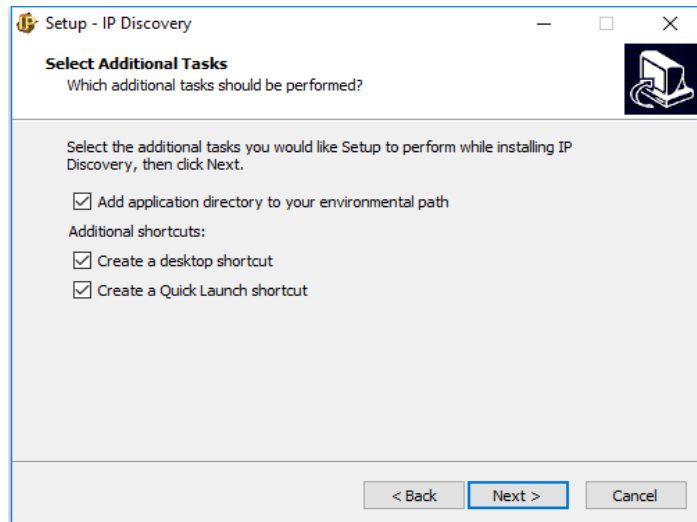


Figure 2.6 Select additional task

Installation will start.

After completing the installation, application will run automatically.

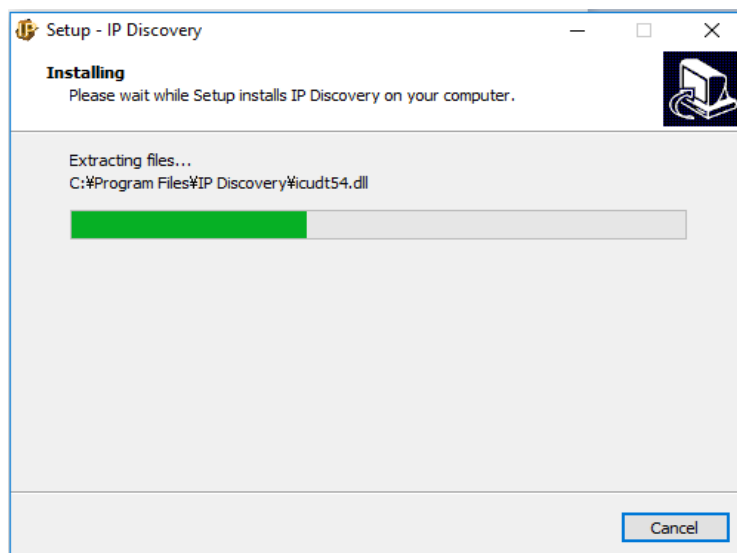


Figure 2.7 Installation in progress

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② Starting the application

Double-click the icon in Figure 2.8 to start the application.

When application starts, window as shown in the Figure 2.9 will be displayed.



Figure 2. 8 IP Discovery Icon

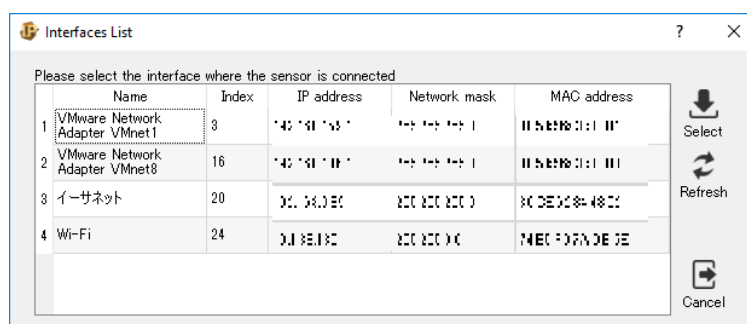


Figure 2.9 Interface list

* Figure 2. 9 shows the display on Windows 10. Depending on the OS of your PC, the displayed name in the list may differ. For example, in Windows 7, list will be displayed as local connection.

③ Interface selection

Click the interface to which the sensor is connected, then click the "Select" button.

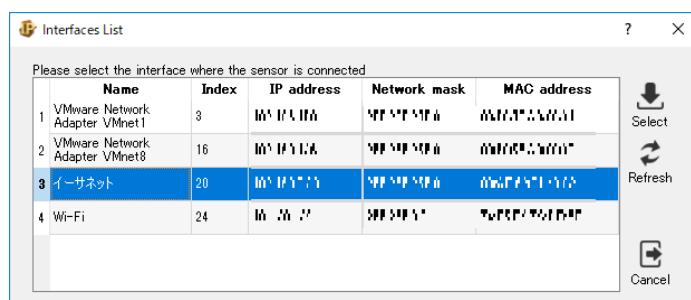


Figure 2. 10 Interface list selection screen

As shown in figure below, detected sensor will be displayed.

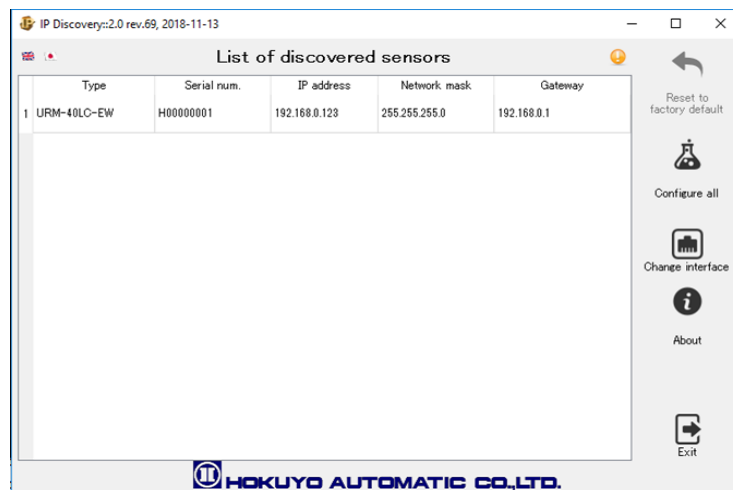


Figure 2. 11 Detected sensor list

* Initial letter “H” in the serial number shown in the Figure 2.11 may not be displayed in some sensor models.

④ IP address configuration

Click "Configure all" button.

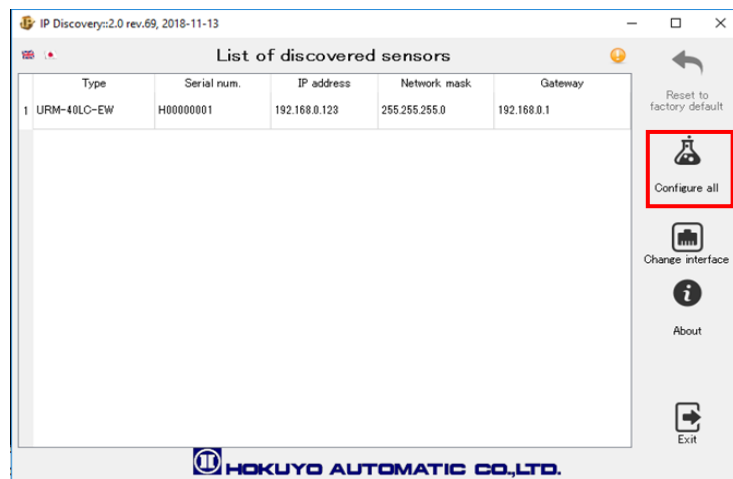


Figure 2. 12 IP address configuration button

As shown in Figure 2.13, the following window will be displayed.

	Serial num.	IP address	Network mask	Gateway	Write?
1	H00000001	192.168.0.123	255.255.255.0	192.168.0.1	☐

Base address Automatic

IP address: 192.168.0.10

Network mask: 255.255.255.0

Gateway address: 192.168.0.1

Buttons: Class A, Class B, Class C, Close

Right sidebar: Select all, Configure, Undo, Close

Figure 2.13 IP address configuration screen

Please enter new values in each item. (Refer to section 3.3 for details on entering the values)

	Serial num.	IP address	Network mask	Gateway	Write?
1	H00000001	192.168.0.123	255.255.255.0	192.168.0.1	☐

Tooltip: Select the sensor to configure, make sure the "Write?" flag is checked. Multiple sensors selection is possible.

Base address Automatic

IP address: 192.168.0.10

Network mask: 255.255.255.0

Gateway address: 192.168.0.1

Buttons: Class A, Class B, Class C, Close

Right sidebar: Select all, Configure, Undo, Close

Figure 2.14 Edit IP address

After input is complete, checkmark the “Write?” box as shown in the Figure 2.15: Red box) and click “Configure” button (Figure 2.15: Blue box) to complete IP address configuration.

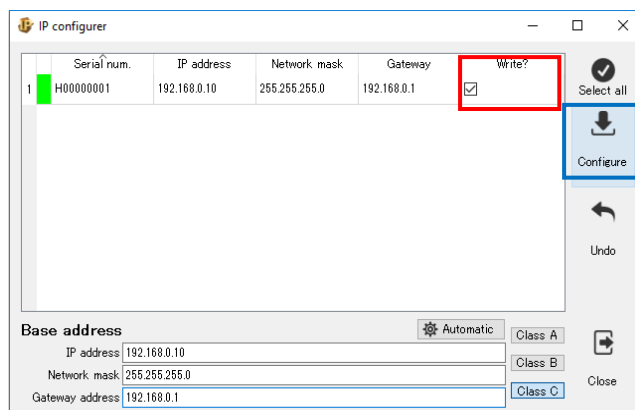


Figure 2.15 Configuration process

When you click the configure button, the configuration completed message will be displayed.



Figure 2. 16 Message after configuration completed

Please confirm the changed value in the "List of discovered sensors".

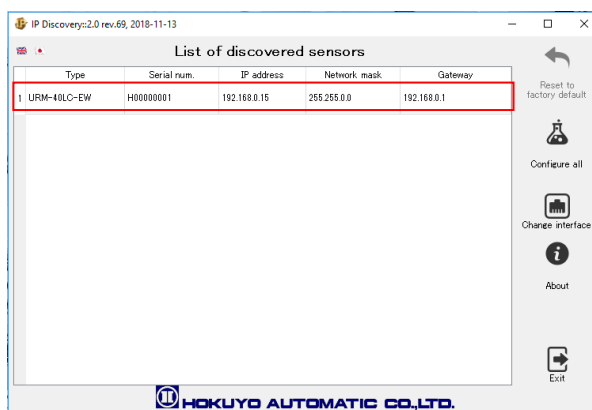


Figure 2. 17 Sensor list after configuration completed

- * When multiple sensors are connected to the PC, list of discovered sensors and the number of connected sensors are displayed on the IP address setting screen.

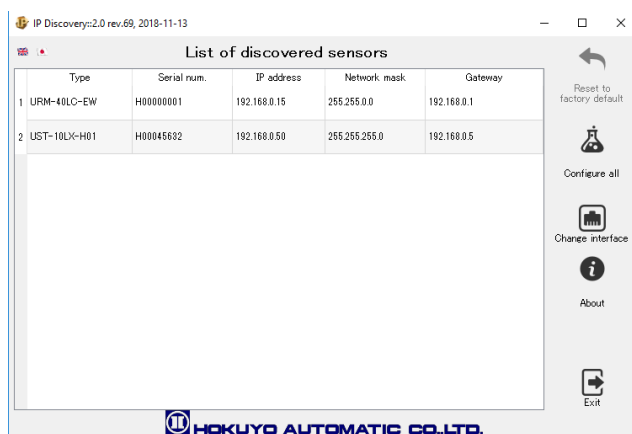


Figure 2.18 List of discovered sensors screen when two units are connected

If you put checkmark in all the “Write?” boxes, then it is possible to change the IP address of multiple sensors at the same time.

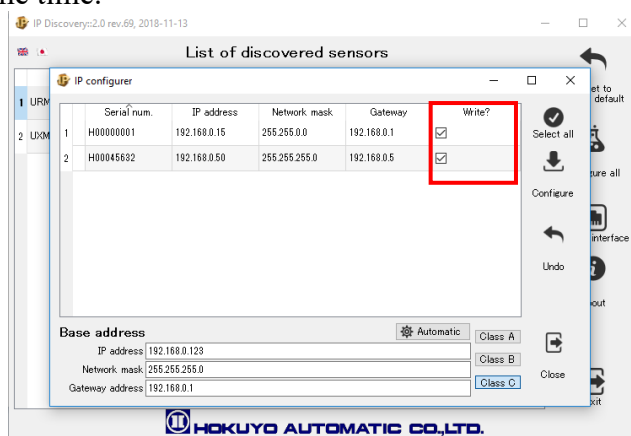


Figure 2.19 Change multiple IP address at the same time

3. Graphics

3.1 Interface selection

The active interface in your PC will automatically appear in the list.

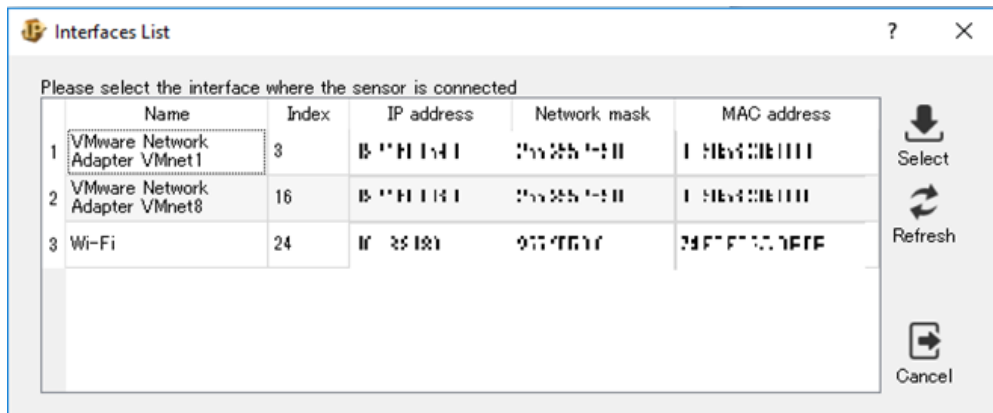


Figure 3.1 Interfaces list screen

If you add a new interface, click "Refresh" button to update the interface list.

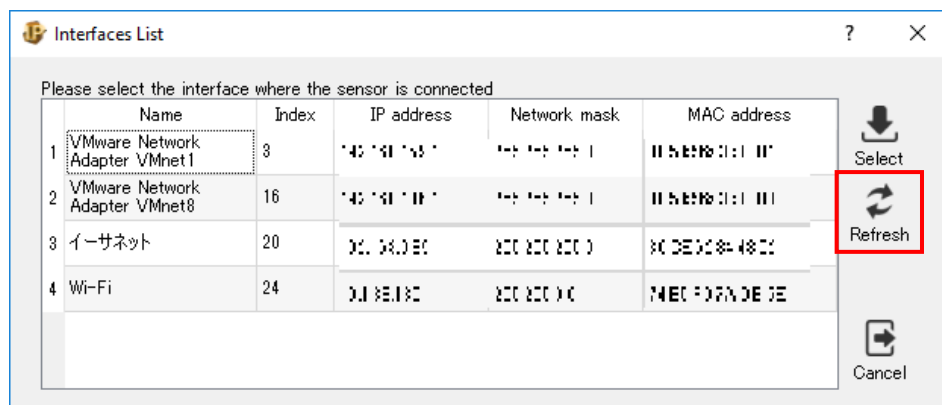


Figure 3.2 Screen when Refresh button is clicked after installing interface

Also, if you place the cursor on the list for a certain time, a note in the tooltip is displayed as shown in Figure 3.3.

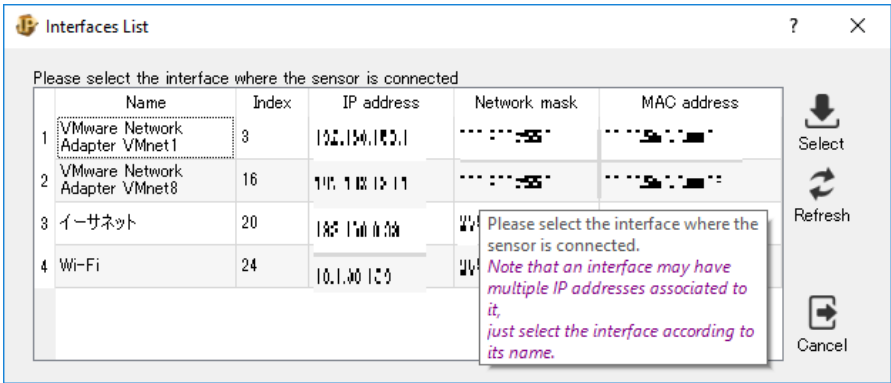


Figure 3. 3 Displays tool tip

When an interface on the list is clicked it will be highlighted as shown in the Figure 3.4. If “Select” button is clicked, Interfaces List window will close and a new window showing the sensors connected in the selected interface will be displayed.

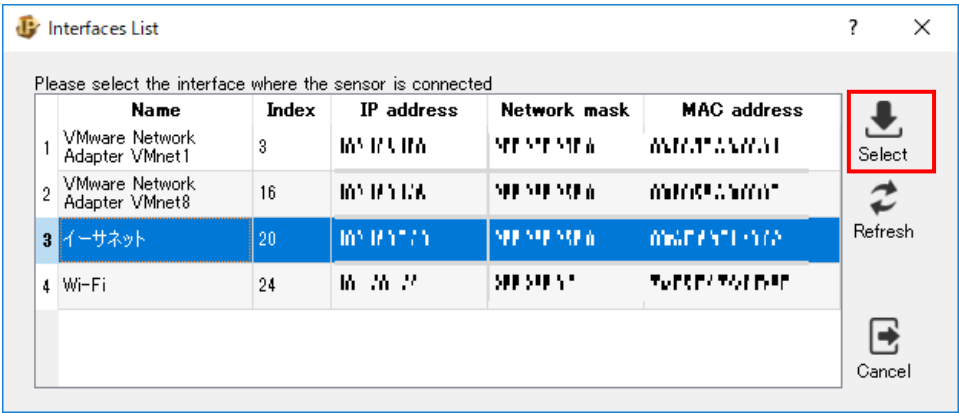


Figure 3. 4 Interface selection status

3.2 Main window

The window has the following functions, you can confirm the IP address and other parameters of the sensor.

① **Displays the sensor list**

The list of sensors connected to the interface will be displayed. You can confirm each sensor's serial no., IP address, Network mask, and Gateway.

② **Language selection**

You can switch the language to Japanese or English using the flag icon in the upper left corner of the application. Supported Language: English / Japanese

③ **Reset to factory default**

Reset the IP address, network mask, and gateway address of the sensor to factory default. **The button is only enabled when an item is selected in the list.**

④ **Displays IP address configuration screen**

If you click "Configure all" button, then "IP configure" screen will be displayed.
"Configure all" button is only enabled when there are items in the sensor list.

⑤ **Displays interface selection screen**

If you click "Change interface" button, then "Interfaces list" screen will be displayed.
(Refer to section 3.1)

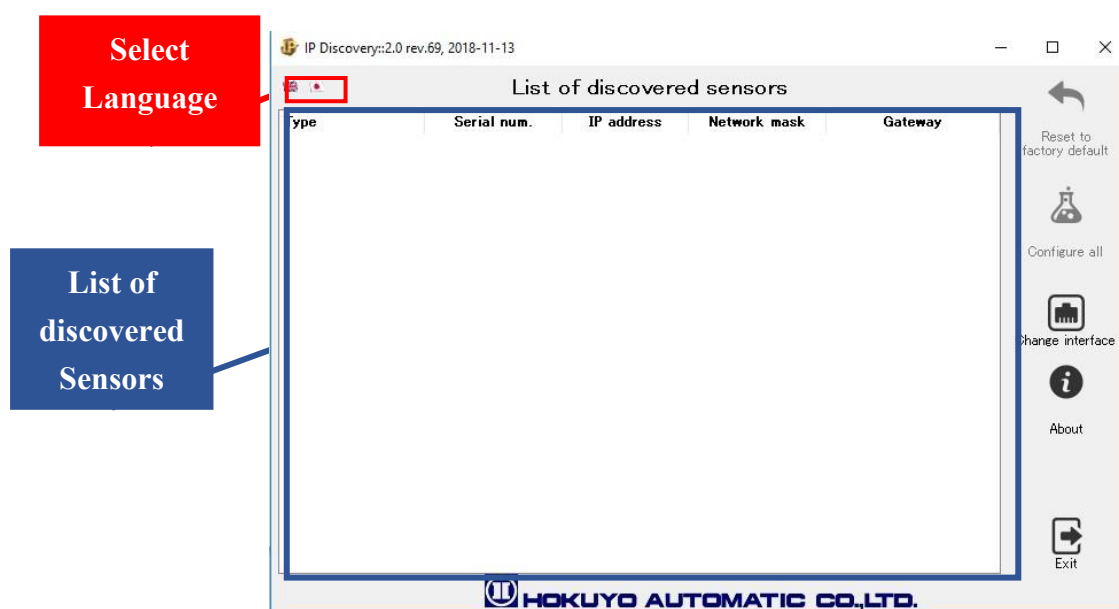


Figure 3.5 Sensor disconnected screen

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When the IP address of automatically detected sensors is different from the IP network of the connected PC, an icon will be displayed on the upper right of the screen as shown in Figure 3.6.

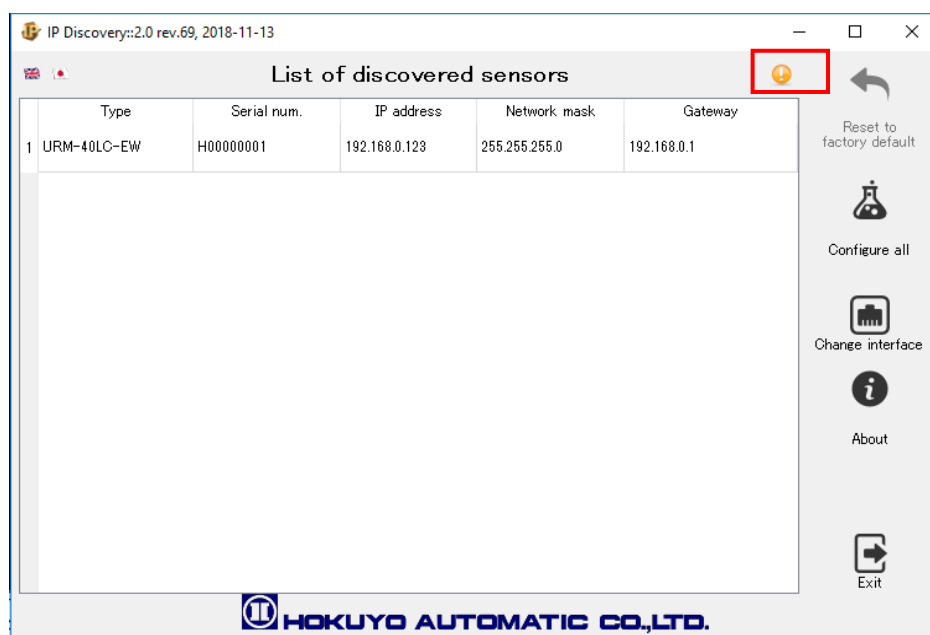


Figure 3. 6 Icon when IP network invalid

When you click the icon, a warning message as shown in figure 3.7 will be displayed. In this case, you may not be able to connect the sensor to applications other than IP Discovery. Check the IP address setting of the PC.

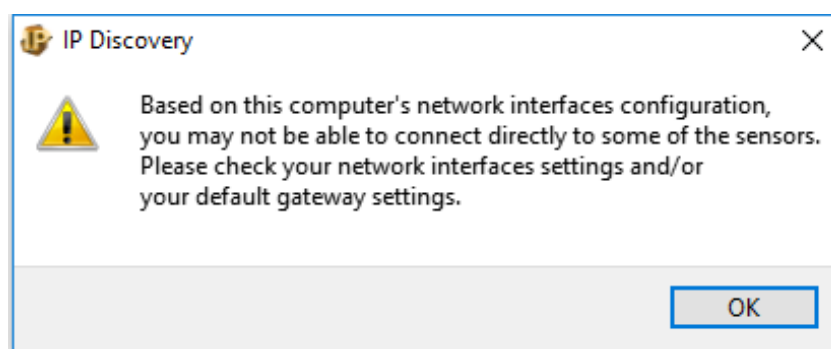


Figure 3. 7 Warning message when IP network invalid

3.3 IP address configuration

You can change the IP address configuration on the “IP configure” screen.

If you want to configure the sensor’s IP address double click the IP address, network mask, and gateway to edit where the serial number of the sensor is written.

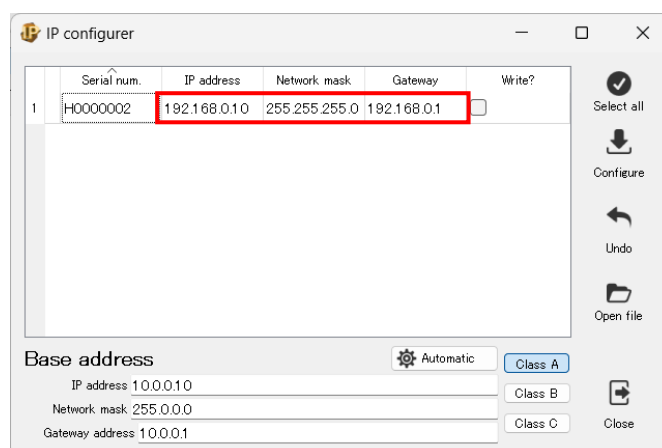


Figure 3.8 Edit IP address

Mark the check box on the corresponding “Write?” column of each sensor and click “Configure” button to apply the new setting. New configuration will not be applied if checkbox is not marked.

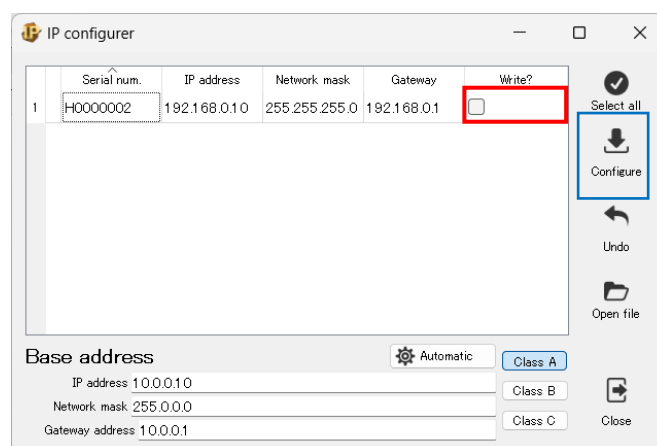


Figure 3.9 Base address setting screen

① **Select all**

It will check all the “Write?” checkboxes of sensors in the list.

② **Configure**

It will write the new configuration in all sensors whose “Write?” checkbox is marked.

③ **Undo**

Returns the IP setting values in the list to the actual setting in the sensor..

④ **Open file**

Reads csv files written in a specific format and applies the settings.

⑤ **Close**

Closes the "IP address configuration" window.

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3.3.1 Automatic setting function

This function allows configuration of multiple sensors in the increasing IP address number starting from the base address. This is useful when you want to configure multiple sensors at once. Template of each class with the base address setting is prepared as below. Value will be changed according to the template when the corresponding button is clicked. Network mask and Gateway address in all the selected sensor will be configured with the value in the template.

Template	IP address	Network mask	Gateway address
Class A	10.0.0.10	255.0.0.0	10.0.0.1
Class B	172.16.0.10	255.255.0.0	172.16.0.1
Class C	192.168.0.10	255.255.255.0	192.168.0.1

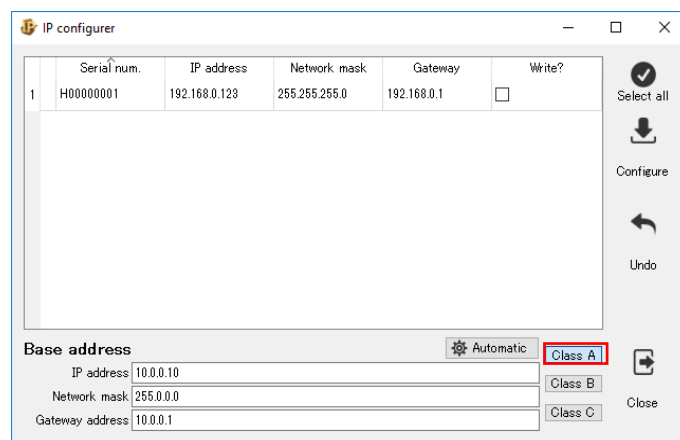


Figure 3. 10 Select Class A template

When "Automatic" button is clicked, address in increasing IP address number starting from the present base address are automatically set in each sensor. Finally, select the target for writing and press the write button to perform the write operation.

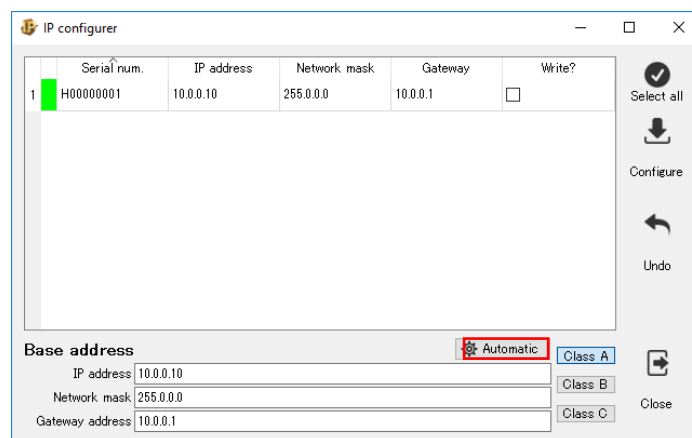


Figure 3. 11 Set the serial no. in the Class A template

3.3.2 Load settings from a csv file

This tool reads a csv file containing the addresses of multiple sensors and changes the IP addresses of all sensors in the list at once.

Use it when you want to manually set the IP order instead of using the sequential numbering feature.

The csv file format is as follows.

A csv file following this format is included in the installer's zip file. Please use that as a reference when creating your file.

```
Serial num,IP address,Network mask,Gateway
[Serial number],[ IP address],[ Network mask]*,[ Gateway]*
[Serial number],[ IP address],[ Network mask]*,[ Gateway]*
[Serial number],[ IP address],[ Network mask]*,[ Gateway]*
:
```

*Network mask and Gateway can be omitted. In that case, the values before the file was read will be retained.

Ex.)

```
Serial num,IP address,Network mask,Gateway
H0000001,192.168.0.10,255.255.255.0,192.168.0.1
H0000002,192.168.0.11,255.255.255.0,192.168.0.1
H0000003,192.168.0.13
```

[How to Set Up]

Click the “Open File” button to display the file selection screen.

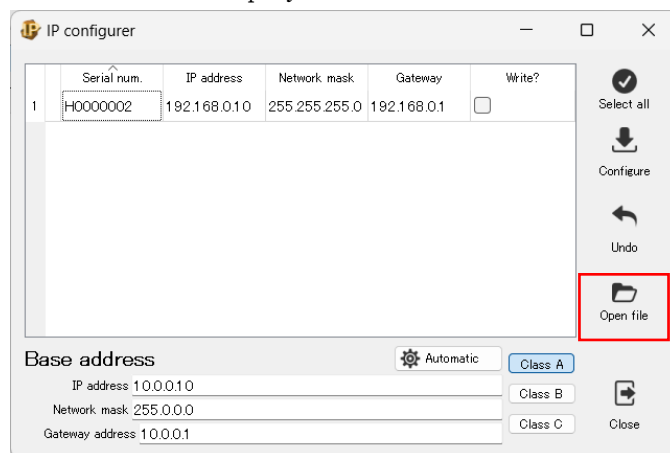


Figure 3-12 Open File Button

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From the file selection dialog, select the csv file you wish to configure and click the “Open” button.

After that, the address written in the file will be reflected in the sensor list. Please select the target devices for writing (“Write?” Column) and press the Configure button to apply the settings.

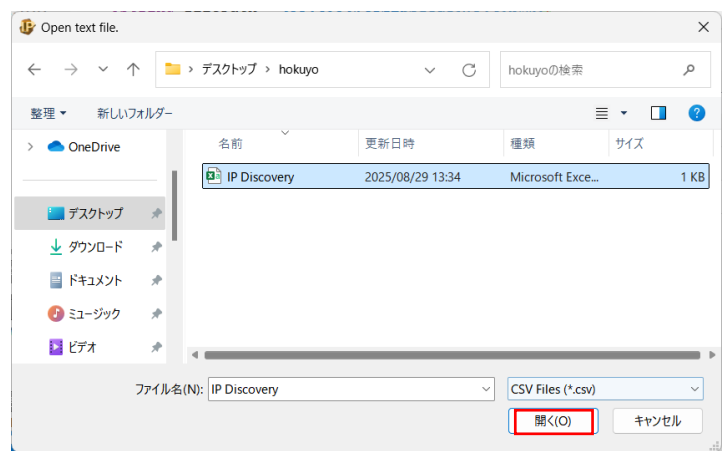


Figure 3-13 File Selection Dialog

If the address of the loaded file is invalid, the following message will be displayed.

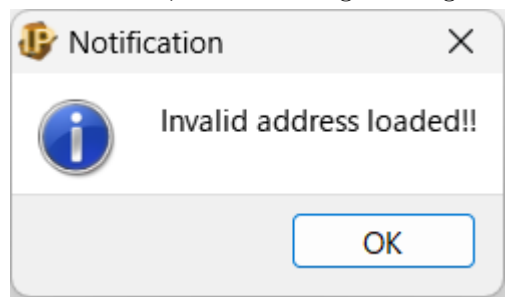


Figure 3-14 Invalid Address Loading Message

If an error occurs during file loading and the loading fails, the following message will be displayed.

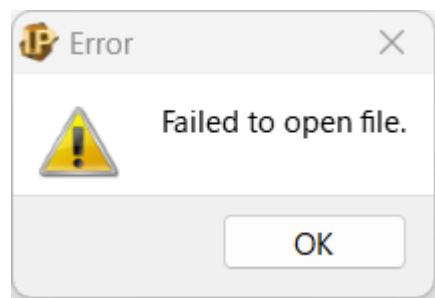
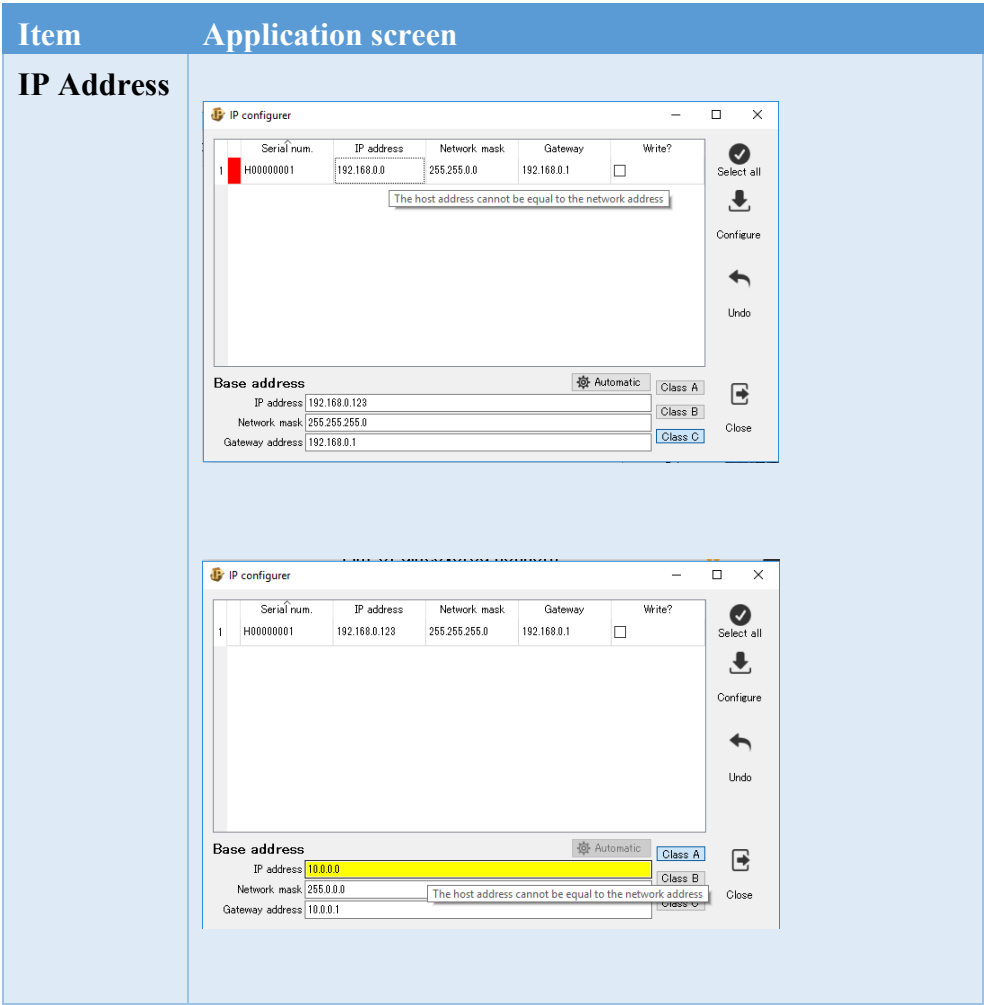


Figure 3-15 File loading error message

3.3.3 Invalid IP address configuration

An error occurs if IP address configuration of each sensor or each base address setting is invalid. Settings will not be reflected in such case.. When IP address configuration of a sensor is invalid, the bar on the left side of the corresponding sensor turns red, and a warning message will be displayed on the tool tip when mouse is moved to the input box. Also, it is not possible to check the "Write?" check box. If the base address is invalid the background of input value becomes yellow and a warning message is displayed on the tooltip when the cursor is moved to the input box. Also, it is not possible to click "Automatic" button.



Item Application screen

Network Mask

IP configurator

	Serial num.	IP address	Network mask	Gateway	Write?
1	H00000001	192.168.0.123	255.255.255.	192.168.0.1	☐

Invalid value

Base address Automatic Class A Class B Class C Close

IP address: 192.168.0.10
 Network mask: 255.255.255.0
 Gateway address: 192.168.0.1

IP configurator

	Serial num.	IP address	Network mask	Gateway	Write?
1	H00000001	192.168.0.123	255.255.255.0	192.168.0.1	☐

Base address Automatic Class A Class B Class C Close

IP address: 10.0.0.10
 Network mask: 255.0.0.
 Gateway address: 10.0.0.1 Invalid network mask

Gateway Address

IP configurator

	Serial num.	IP address	Network mask	Gateway	Write?
1	H00000001	192.168.0.123	255.255.255.0	192.168.0.	☐

Invalid value

Base address Automatic Class A Class B Class C Close

IP address: 192.168.0.10
 Network mask: 255.255.255.0
 Gateway address: 192.168.0.1

IP configurator

	Serial num.	IP address	Network mask	Gateway	Write?
1	H00000001	192.168.0.123	255.255.255.0	192.168.0.1	☐

Base address Automatic Class A Class B Class C Close

IP address: 10.0.0.10
 Network mask: 255.0.0.0
 Gateway address: 10.0.0. Invalid gateway address

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4. Troubleshooting

4.1 When sensor cannot be detected

Check the following if you cannot detect the sensor.

- ① Make sure that power supply to the sensor is ON
- ② Make sure that sensor is connected with PC
- ③ Make sure to select the connected interface
- ④ Make sure that sensor not communicating with another application
- ⑤ Make sure to permit the reception of UDP port 10940 in the firewall setting. (Depending on security of the software, it may be necessary to disable → enable the network adapter.)
- ⑥ If you cannot connect even if you checked all the items of ① ~ ⑤, disable the network setting where the sensor is connected using [Change adapter setting] in Windows, then confirm the connection after enabling the connection.

* You can open (Change adapter setting) screen with (Control Panel) → (Network and Internet) → (Network and Sharing center) → (Change adapter setting).

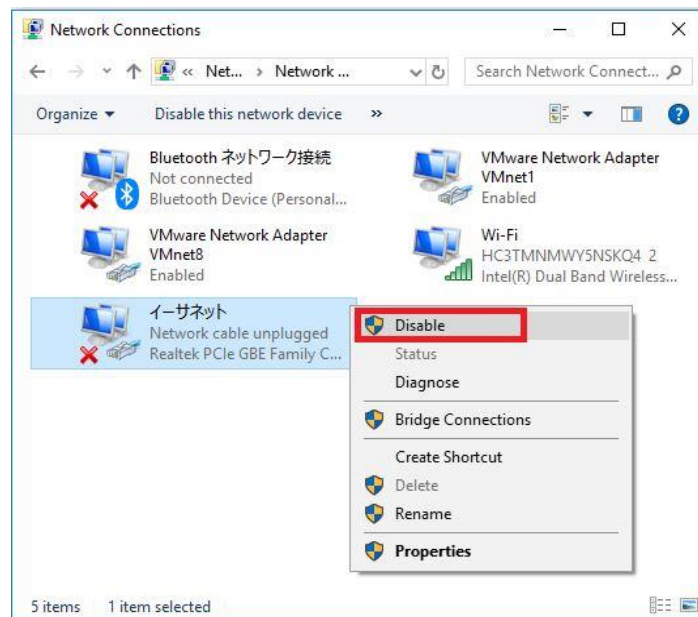


Figure 4. 1 Step 1 Disable the network to which the sensor is connected

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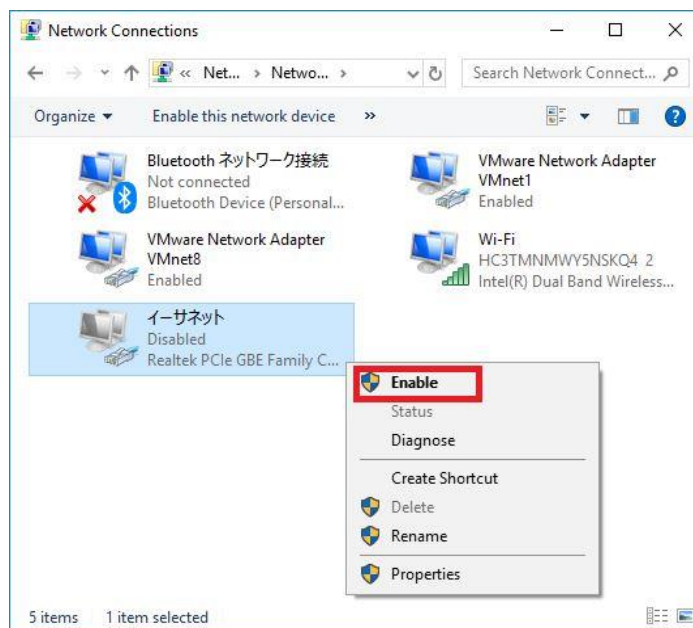


Figure 4. 2 Step 2 Enable the network to which the sensor is connected

5. Revision history

Version	Revision date	Details
First release	2018/1/30	—
Second revision	2018/11/26	List of compatible sensors, explanations, figures and trouble shooting chapters added in accordance with the application version change.
Third revision	2025/09/05	Added functionality to configure IP addresses from a csv file. ¹⁾

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