

*WTH*

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WTH

System Manual

Ver 1.00  
SEBINE Technology, Inc.

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## **WTH**

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**\* WARNING \***

- Use only 3.6V Lithium battery.(more than 2400mAh)
- Be careful with battery orientation.(See 2. Device Summary)
- Never operate the Device with each different battery.

**\* CAUTION \***

**RISK OF EXPLOSION IF BATTERY IS REPLACED  
BY AN INCORRECT TYPE.  
DISPOSE OF USED BATTERIES ACCORDING  
TO THE INSTRUCTIONS**

**This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.**

**To maintain compliance with FCC's RF exposure guidelines, this equipment should be installed and operated with minimum separation distance of 20cm between the radiator and your body. Use only the supplied antenna.**

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

# WTH

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## 1. Outline

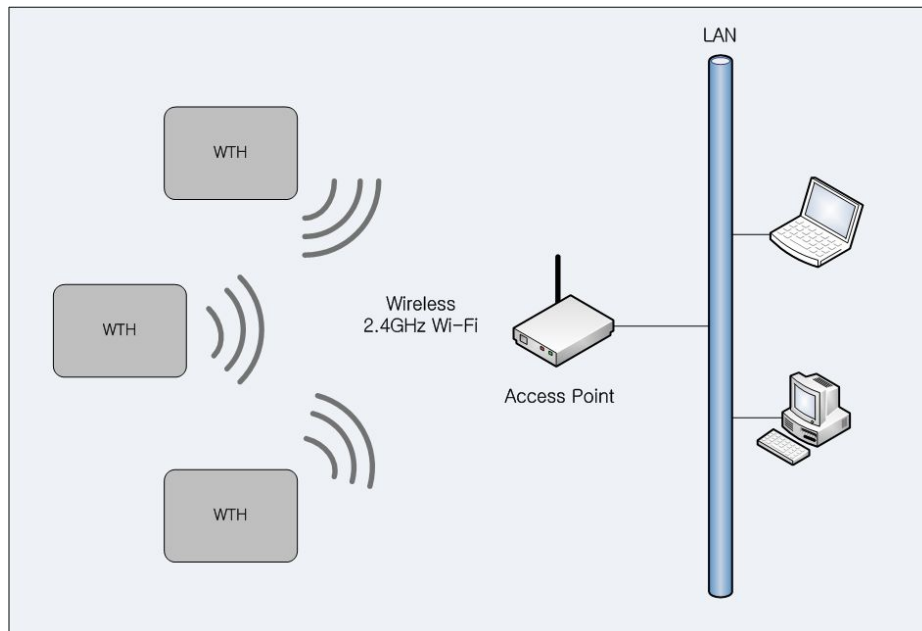
### 1.1 Product Introduction

WTH is a sensor to detect temperature and humidity wirelessly by using ISM 2.4GHz frequency bandwidth. WTH transmits the temperature, humidity, and smoke detection data at each user set-up period via UDP communication method. Users can configure their own setting for WTH via serial communication program.



※ Keep the filter of a sensor clean.

## 1.1.1 Product Application Examples



Product Application Examples

## 1.1.2 Product Application Area

- Department Store, Public Office, Gymnasium
- Museum, School, Manufacturing Factory
- Office Building, Movie Theater, Shipbuilding/Marine

## 1.1.3 Product Package

WTH main body, USB cable, User manual, Utility CD

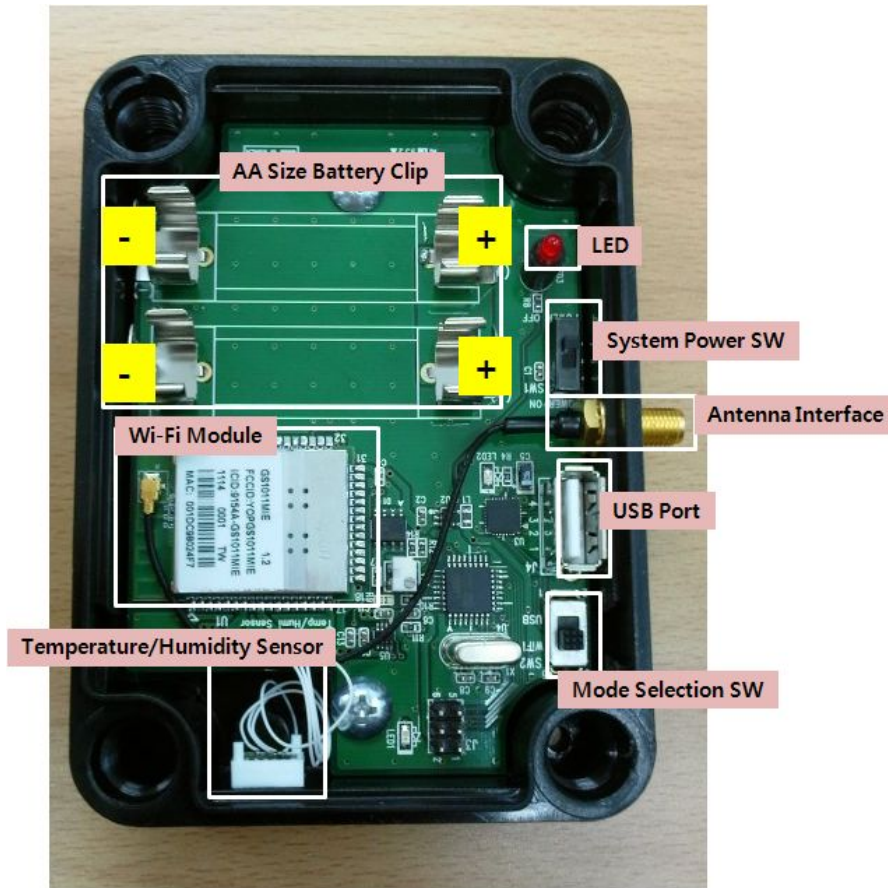
# WTH

## 1.2 Specification

Item	Specification		
Name	WTH		
Dimension	110mm(L)×80mm(W)×33mm(H)		
Housing	ABS		
Weight	300g (w/o Battery, Antenna)		
Power Supply	AA size 3.6Volt LITHIUM BATTERY 1EA or 2EA		
Current Consumption	Tx 190mA, Rx 140mA (@3.6Vdc)		
Operating Temperature	-40℃ ~ +85℃		
RF Features	<ul style="list-style-type: none"><li>• Frequency : 2412 ~ 2472 MHz</li><li>• Standard Supported: IEEE 802.11b</li><li>• Transmitter Power : Max. 7mW</li><li>• Modulation : IEEE 802.11b : DSSS : 1Mb/s and 2Mb/s IEEE 802.11b : CCK : 5.5Mb/s and 11Mb/s</li><li>• Channels: Europe - 13 channels USA - 11 channels</li></ul>		
Performance	<ul style="list-style-type: none"><li>• RF Data Rate: 1Mb/s to 11Mbps</li></ul>		
I/O Interface	<ul style="list-style-type: none"><li>• USB Connector</li></ul>		
Antenna Interface	<ul style="list-style-type: none"><li>• SMA(Female, Reverse)</li><li>• Impedance 50Ω</li></ul>		
Sensor	<table border="1"><tr><td>Temperature /Humidity</td><td><ul style="list-style-type: none"><li>• Accuracy Humidity : ±3.0      Temperature : ±0.4 @℃</li></ul></td></tr></table>	Temperature /Humidity	<ul style="list-style-type: none"><li>• Accuracy Humidity : ±3.0      Temperature : ±0.4 @℃</li></ul>
Temperature /Humidity	<ul style="list-style-type: none"><li>• Accuracy Humidity : ±3.0      Temperature : ±0.4 @℃</li></ul>		

WTH Specification

## 2. Device Summary



WTH inside

### 2.1 Power Supply

WTH operates using on or two AA size 3.6Volt LITHIUM BATTERIES. Be careful with battery orientation.

### 2.2 USB communication connection

To use WTH, proper setting is necessary for wireless environment to be installed. For setting, connect PC and WTH using USB cable provided in the package. For detailed settings after USB communication connection, see section 3.2.

### 2.3 LED Indicator

LED turns on during operation when serially connected battery power drops below 3.4V. The WTH may malfunction under 3.4V so batteries need to be changed.

## **3. Wi-Fi wireless communication environmental setting**

### 3.1 Wireless LAN(AP) setting

To use WTH, wireless LAN(AP) setting is needed for WTH connection.

#### 3.1.1 SSID setting(required)

When WTH is connected to wireless LAN(AP), SSID is being searched. Thus, SSID must be set on AP and SSID(network) notification function should be used.

#### 3.1.2 Password disabled setting for AP(required)

WTH does not use encrypted method for minimizing the system correct consumption. Thus, set password disabled for AP.

#### 3.1.3 DHCP disabled(option)

WTH does not use DHCP. Wireless LAN(AP) executes or stops DHCP server setting.

#### 3.1.4 MAC Address registration(option)

When password is disabled for wireless LAN(AP), the Mac address of WTH is registered to wireless LAN(AP) so that only the registered Mac Address is permitted. This prevents network overflow.



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## 3.2 WTH setting

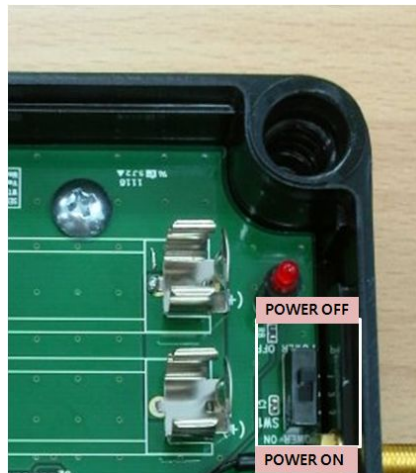
To use WTH, Wi-Fi wireless communication environment setting is necessary.

### 3.2.1 Connection between WTH and PC

To set the wireless communication environment for WTH, connect PC with WTH using the USB cable provided at product purchase. The connection sequence is shown below.

**※ Before connection, install USB driver of WTH.[See Appendix 1. USB driver installation]**

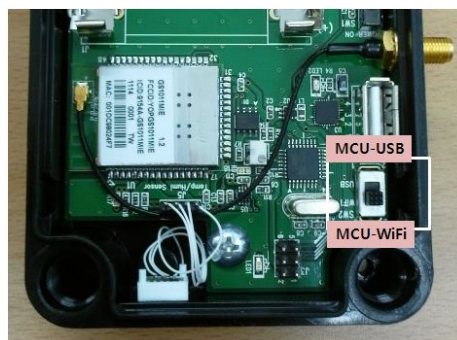
Step 1. With batter inserted at WTH, set System Power SW OFF.



WTH setting - POWER SW

Step 2. Connect one port of USB cable to PC, and the other port to WTH.

Step 3. Switch Mode Selection SW to USB side.



WTH setting - Mode Selection SW

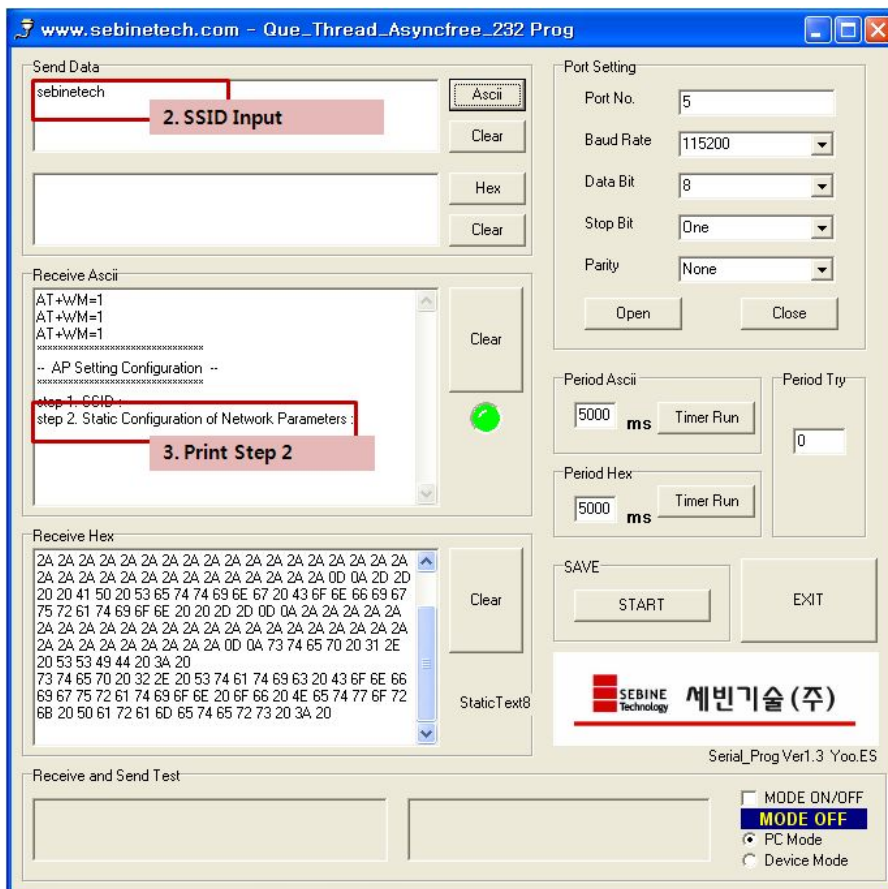


## 3.2.2 Wi-Fi wireless communication environment setting of WTH

### Step 1. SSID setting

Insert the SSID of wireless LAN(AP) to be connected with WTH.

- ▶ Data Format : <SSID>☐
- ▶ Example : **sebinetech**☐



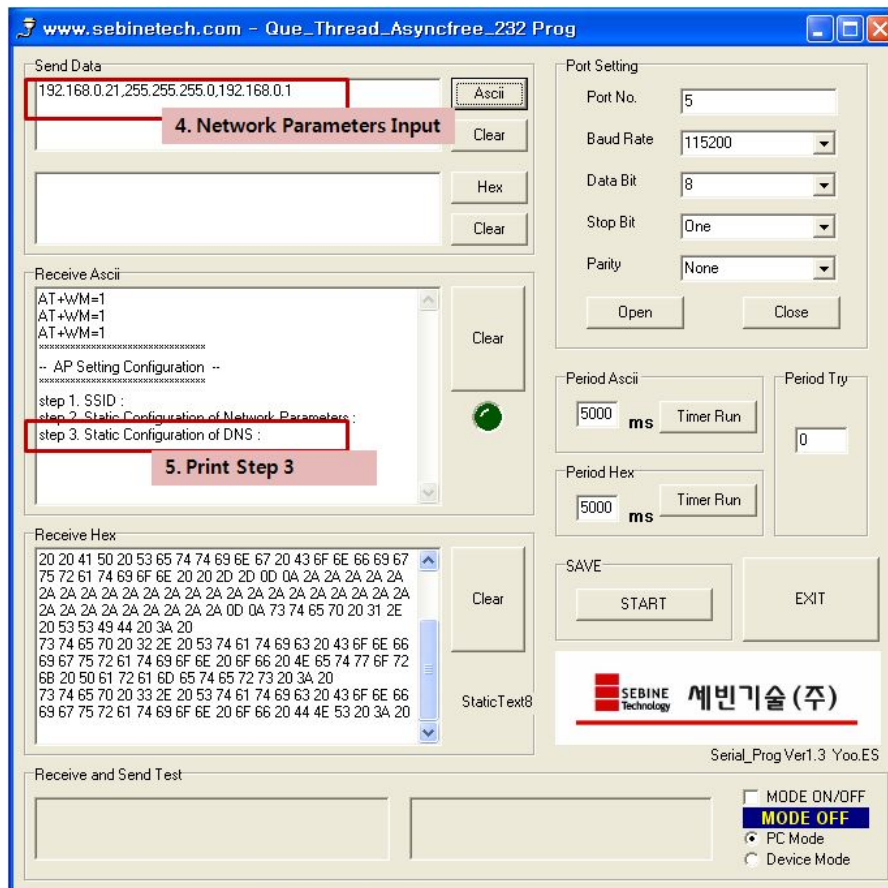
WTH setting - SSID Input

# WTH

## Step 2. Static Configuration of Network Parameters setting

Insert the information for WTH for connection to wireless LAN(AP).

- ▶ Data Format : <Src Address>,<Net-mask>,<Gateway>
- ▶ Example : 192.168.30.21,255.255.255.0,192.168.0.1

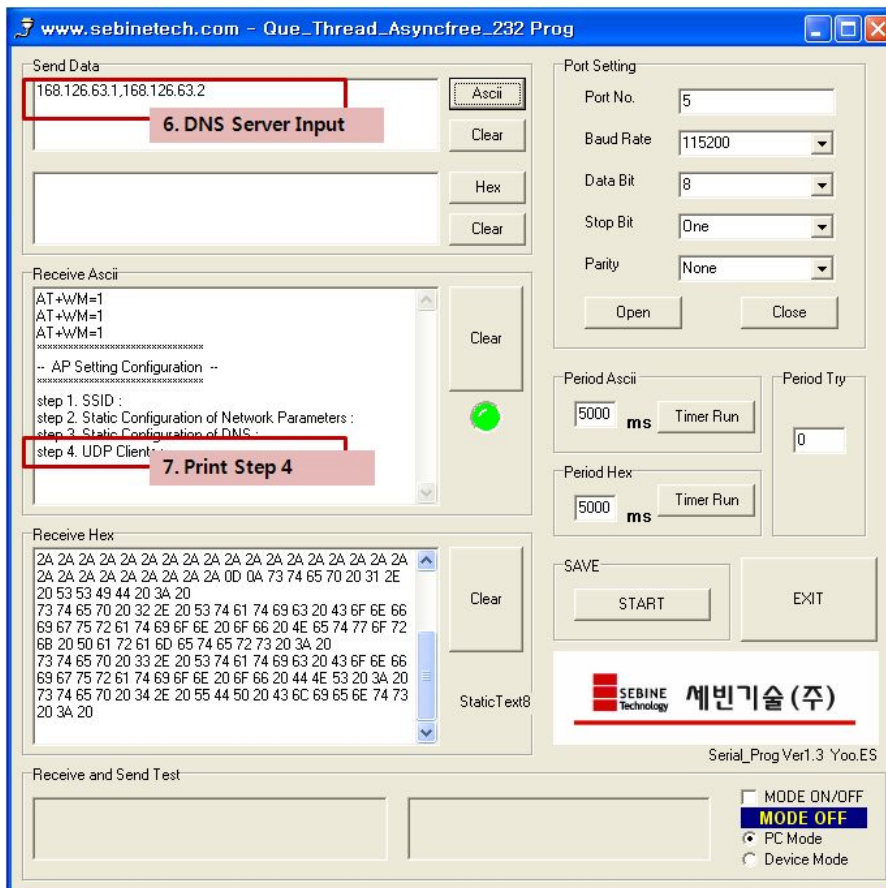


WTH setting - Network Parameters Input

## Step 3. Static Configuration of DNS setting

Insert DNS server info for WTH for connection to wireless LAN(AP).

- ▶ Data Format : <DNS1 IP>,<DNS2 IP>
- ▶ Example : 168.126.63.1,168.126.63.2

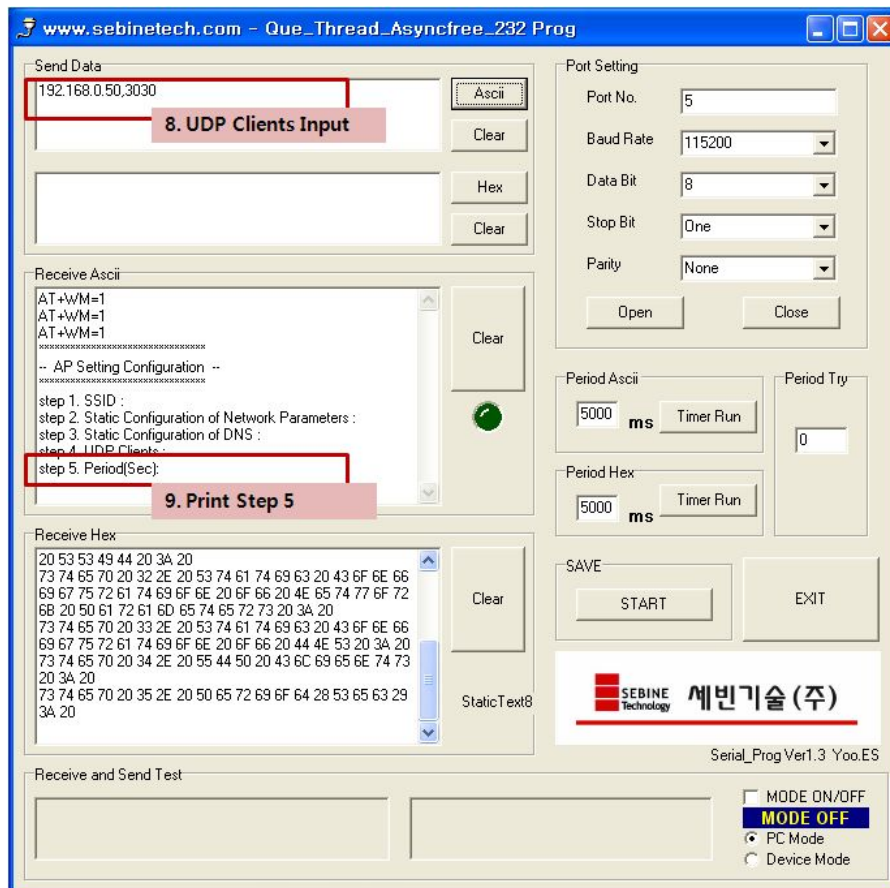


WTH setting - DNS Server Input

## Step 4. UDP Clients setting

Insert IP and Port number of server to which WTH sends data.

- ▶ Data Format : <Dest-Address>,<Port>
- ▶ Example : 192.168.0.50,3030



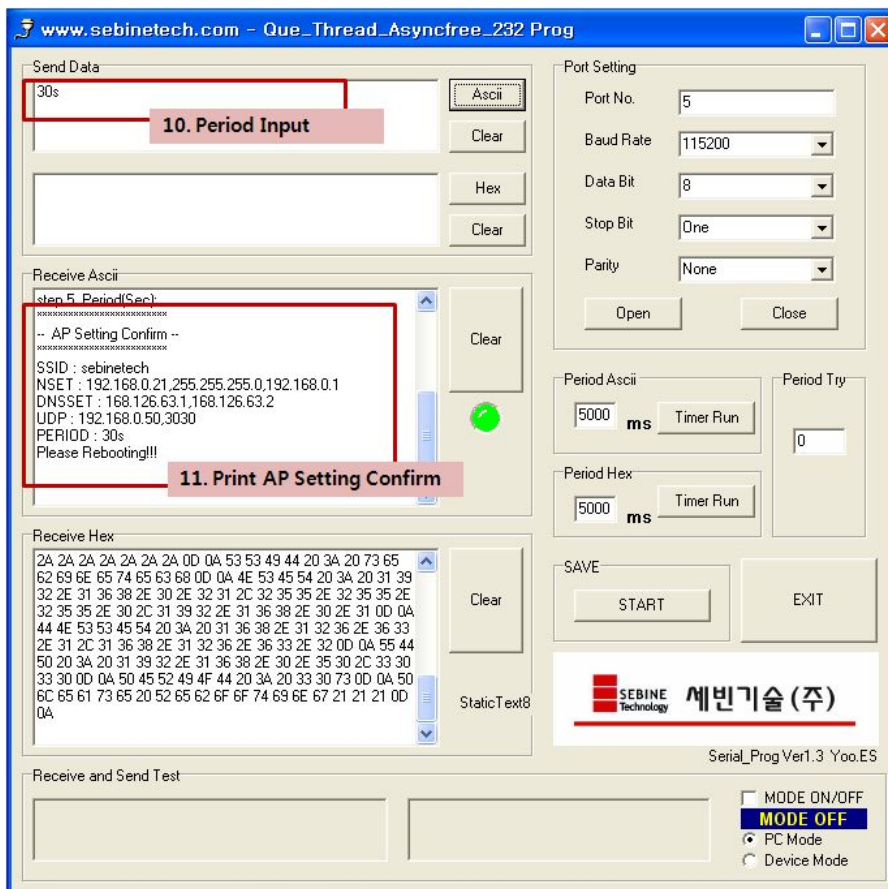
WTH setting - UDP Clients Input

# WTH

## Step 5. Period setting

Insert a period for WTH to send data.

- ▶ Data Format : **<time><time unit>**
  - ※ **<time> must be 2 digit**
- ▶ Example : **30s**
- ▶ **s : sec**
- ▶ **m : min**
- ▶ **h : hour**



WTH setting - Period Input



# WTH

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## 3.2.3 Disconnection between WTH and PC

When all settings are done, a message "Please Reboot!!" appears. Serial communication program is terminated. When necessary, device manager removes the device.

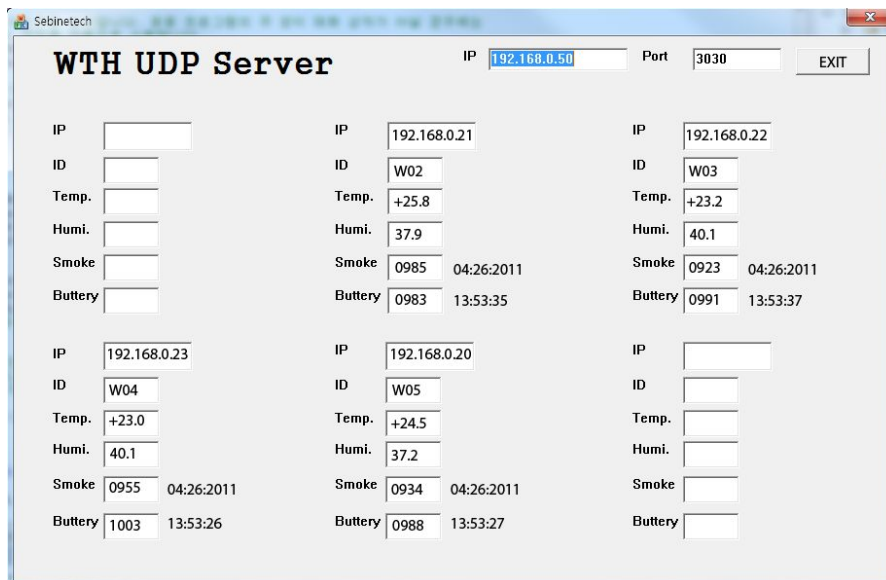
- Step 1. Shut down the serial communication program.
- Step 2. Set the System Power SW of WTH off.
- Step 3. Remove the port to WTH at device management and remove USB cable from WTH.
- Step 4. Set the Mode Selection SW to MCU.

## 3.2.4 WTH UDP Server Execution

From user manual and utility CD in package, run WTH Setup.msi to install the demo server. [Appendix 2. See WTH UDP Server installation guide]

## 3.2.5 Run and check of WTH

After all settings are done, run the installed WTH UDP Server and set the System Power SW of WTH to ON. If the setting of WTH is correctly done, data appear on demo server as shown below.

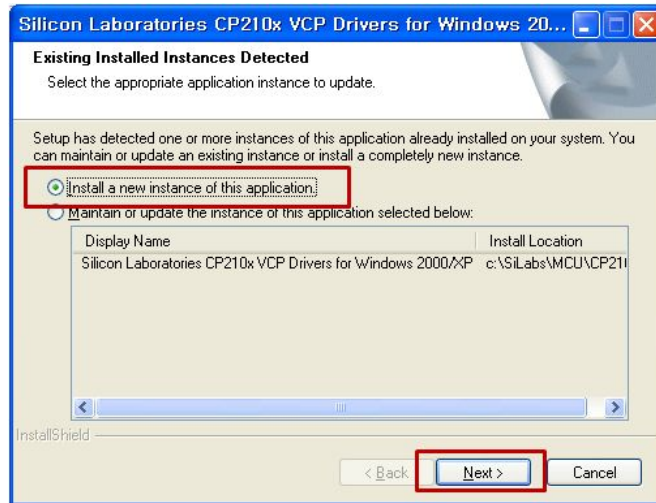


WTH operation check - demo server

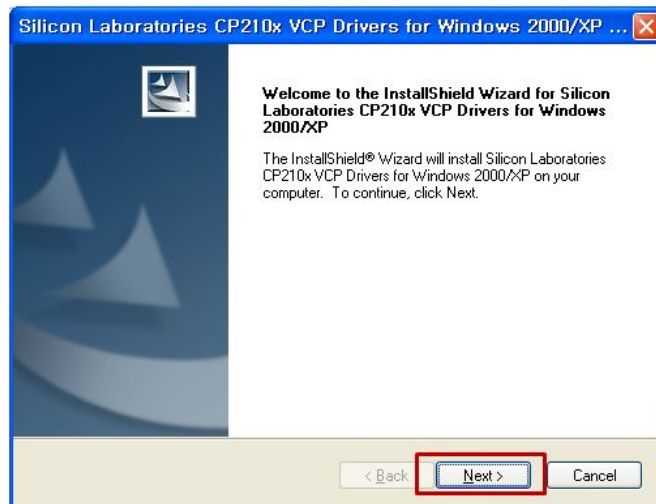


## Appendix 1. WTH USB Driver Installation

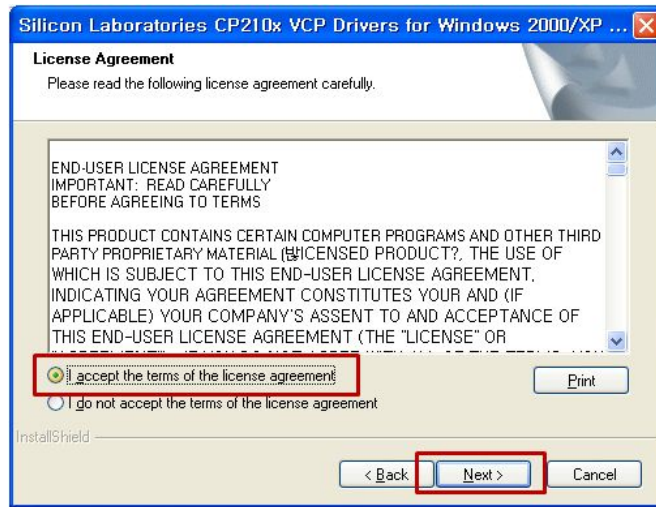
1. Run "CP210x\_VCP.exe" from user manual and utility CD in package. Install by following the procedure below.



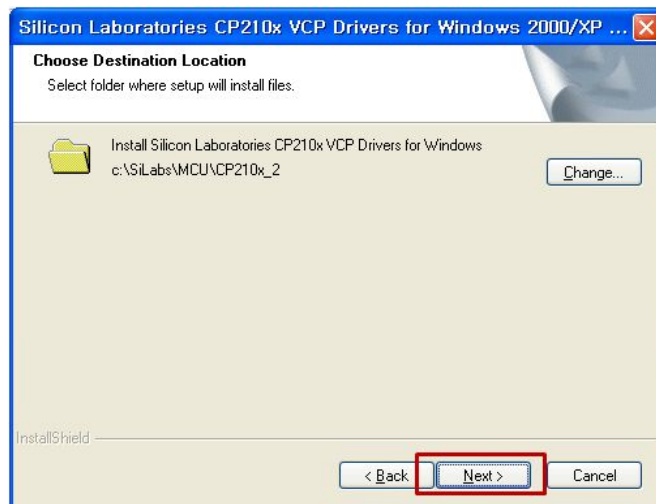
Step 1. USB Driver Installation



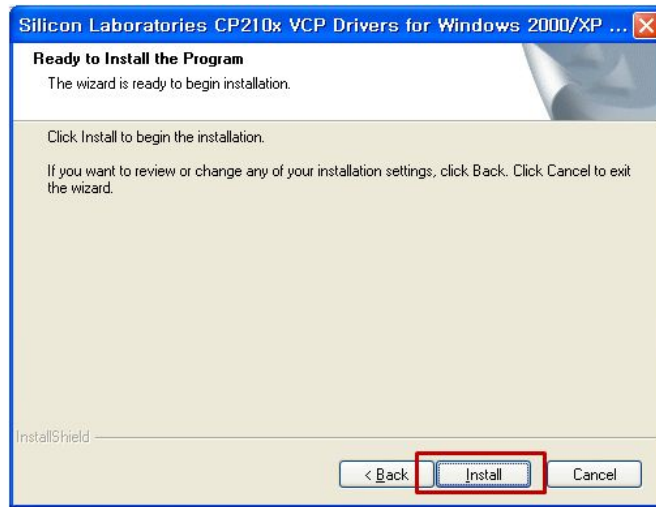
Step 2. USB Driver Installation



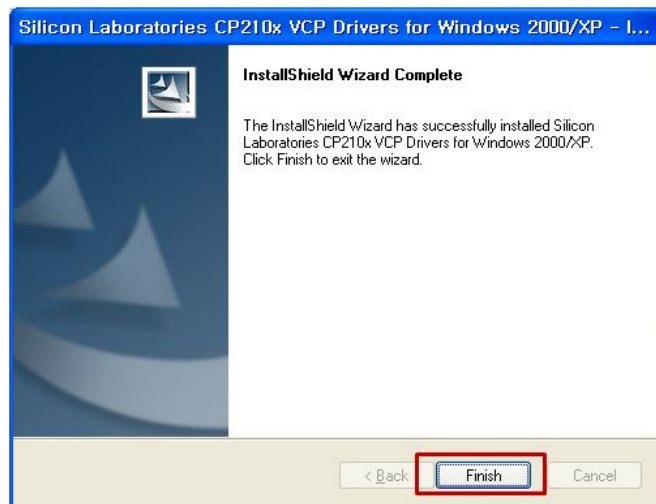
Step 3. USB Driver Installation



Step 4. USB Driver Installation - Default folder



Step 5. USB Driver Installation



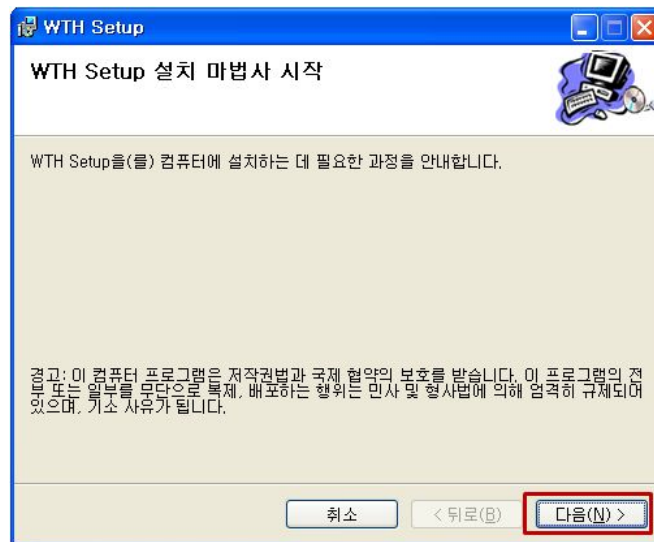
Step 6. USB Driver Installation Complete



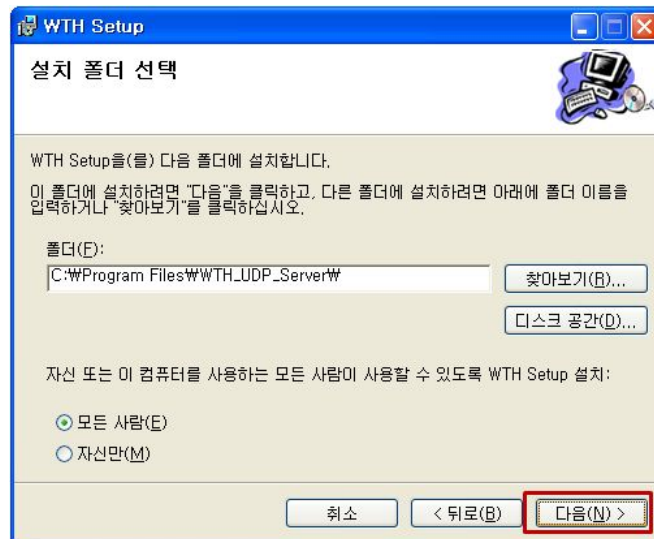
Step 7. USB Driver Installation - Window Device Manager

## Appendix 2. WTH UDP Server Installation

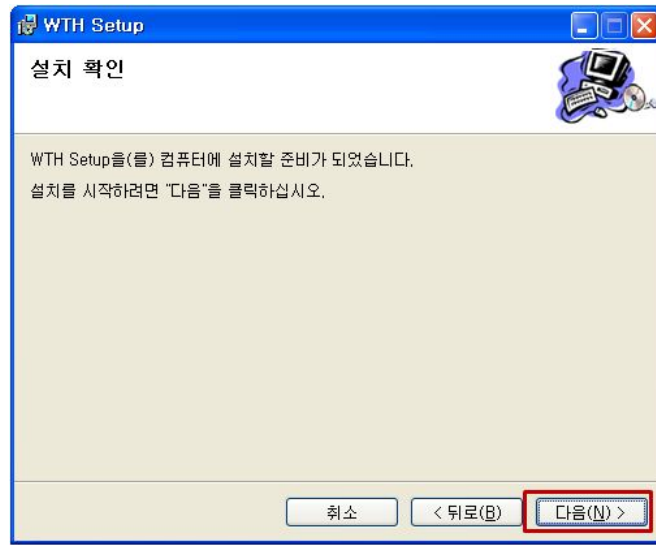
Run WTH Setup.msi from user manual and utility CD in package to install WTH UDP Server.



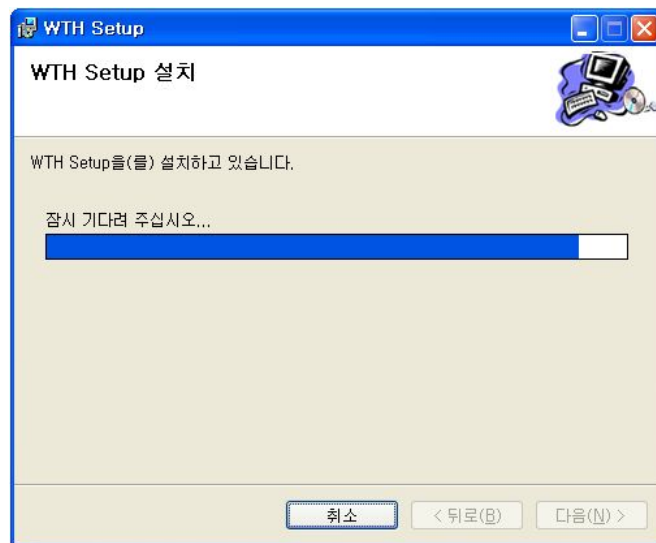
Step 1. WTH UDP Server Install



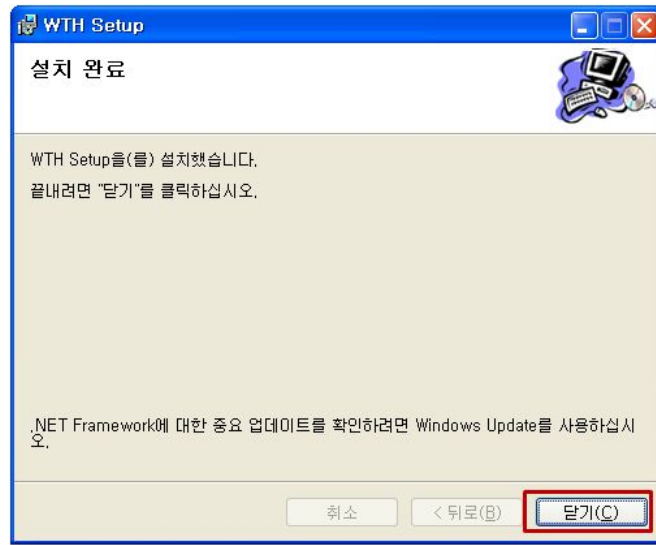
Step 2. WTH UDP Server Install



Step 3. WTH UDP Server Install



Step 4. WTH UDP Server Install



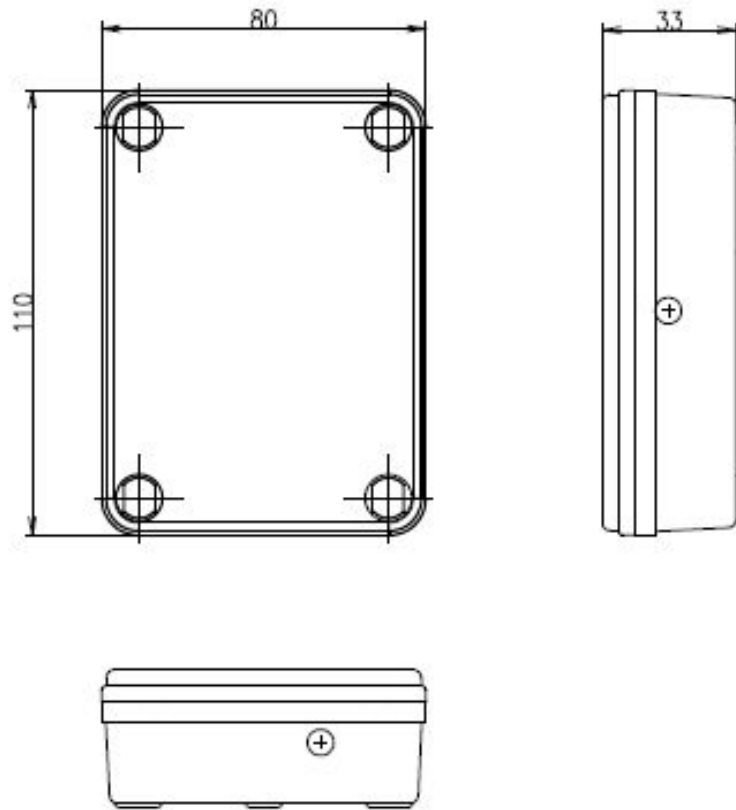
Step 5. WTH UDP Server Install

Appendix 3. Document Information

Version	H/W Version	Date	Changes
1.0	WTH-GS-SMK Ver1.2 SMK-NIS Ver1.0	2011.08.30	Initial Release Version



Appendix 4. Dimension



***WTH***

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SEBINE Technology, Inc.

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