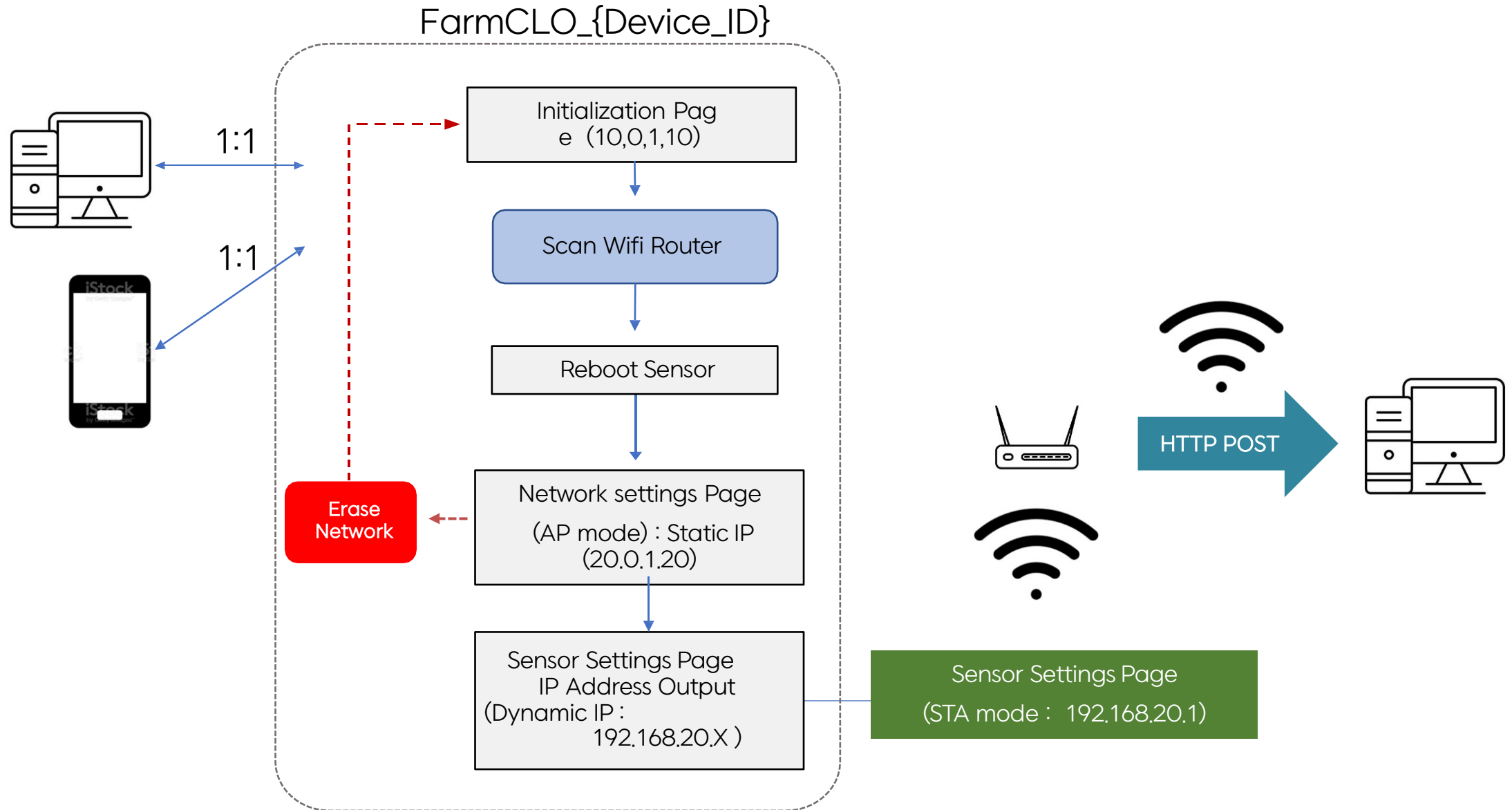


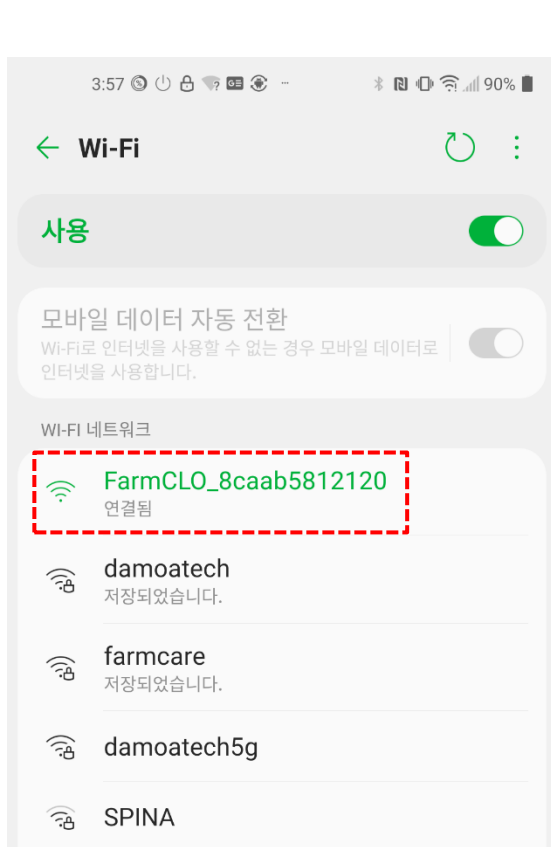
# DamoTech Soil Monitoring Sensor

Install manual V.1

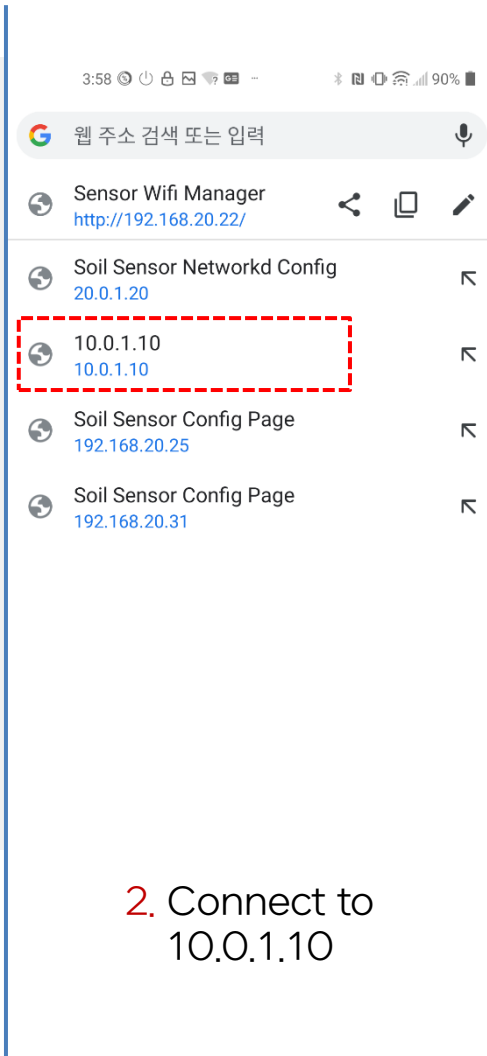
# Installation overview



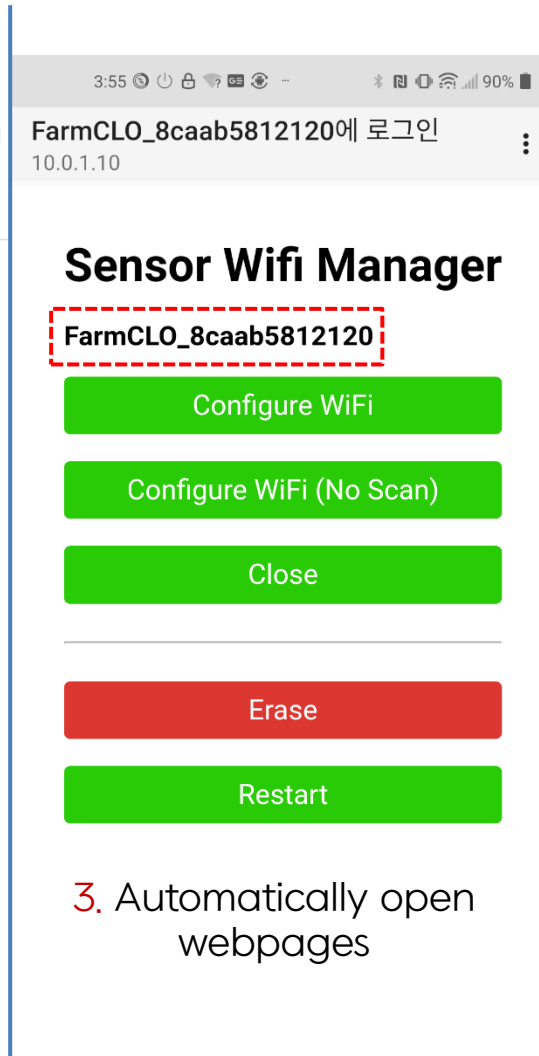
# Initial settings Page 1



1. WiFi access



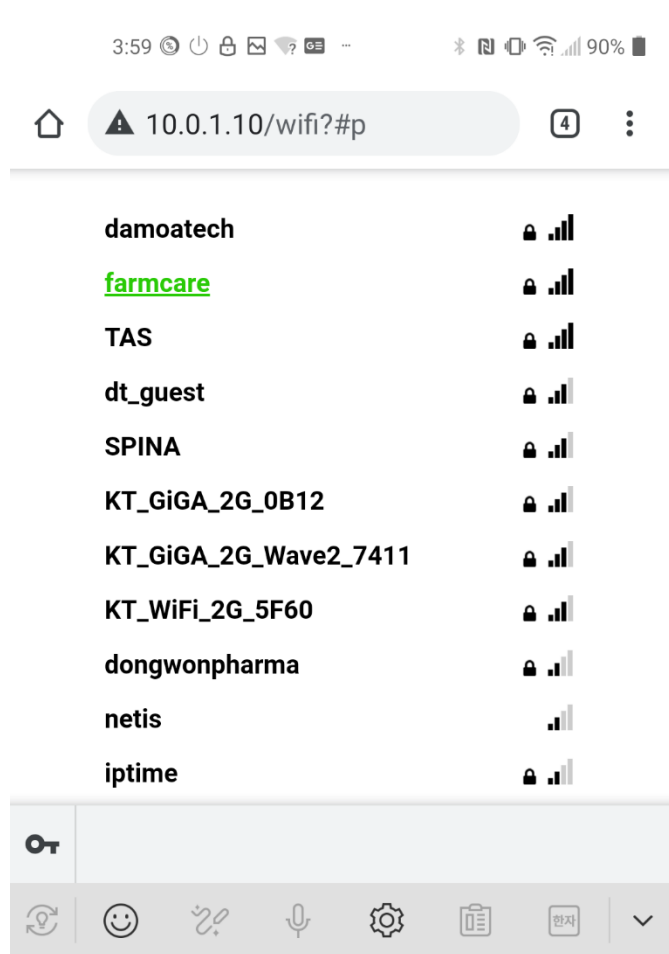
2. Connect to 10.0.1.10



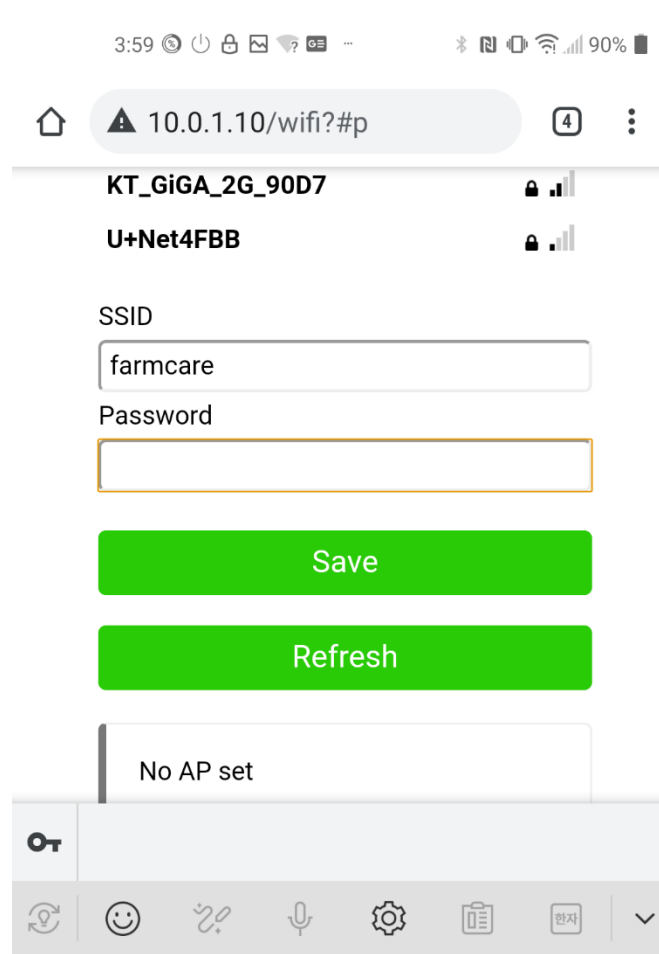
3. Automatically open webpages

- Sensor acts as Web Server
- "FarmCLO\_8caab5812120" Search for ap to connect directly
  - (No passwd)
  - Access IP address : 10.0.1.10
  - Ip address is set to the same because each sensor is a server.
- Sensor has no network information at all.
- Full name : FamCLO\_{MAC Address}
  - Sensor's unique ID : {MAC Address}
- Configure WiFi
  - Scan the AP connected by Sensor to connect the selection
- Configure WiFi (No Scan)
  - Connect by typing SSID/PW directly without Scan
- Erase
  - Initialize network settings (used when you want to reset network settings)

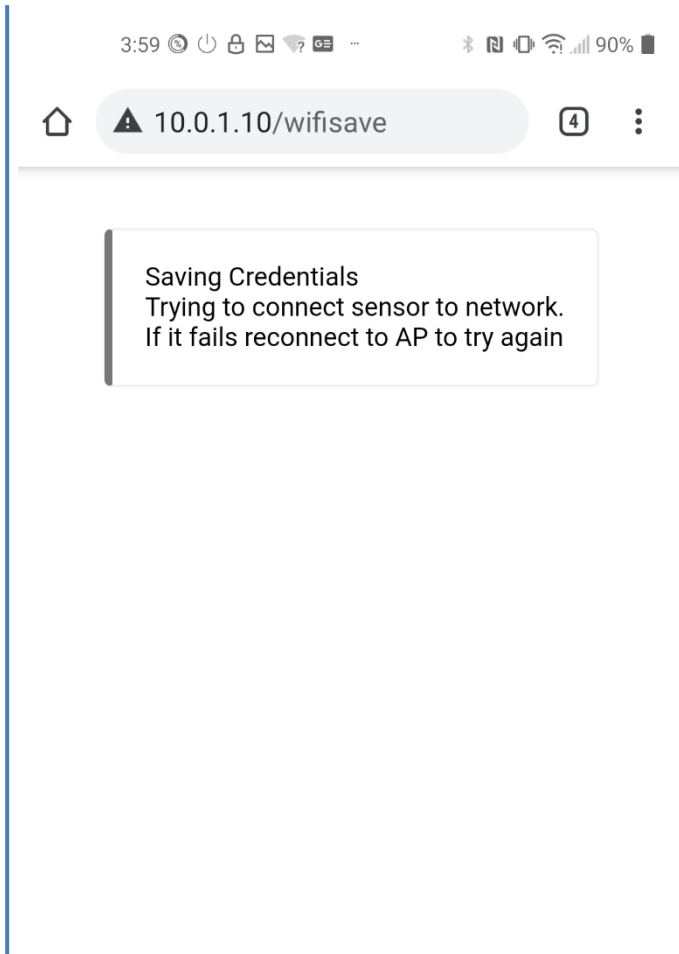
# Initial settings Page 2



1. Select the SSID you want to connect

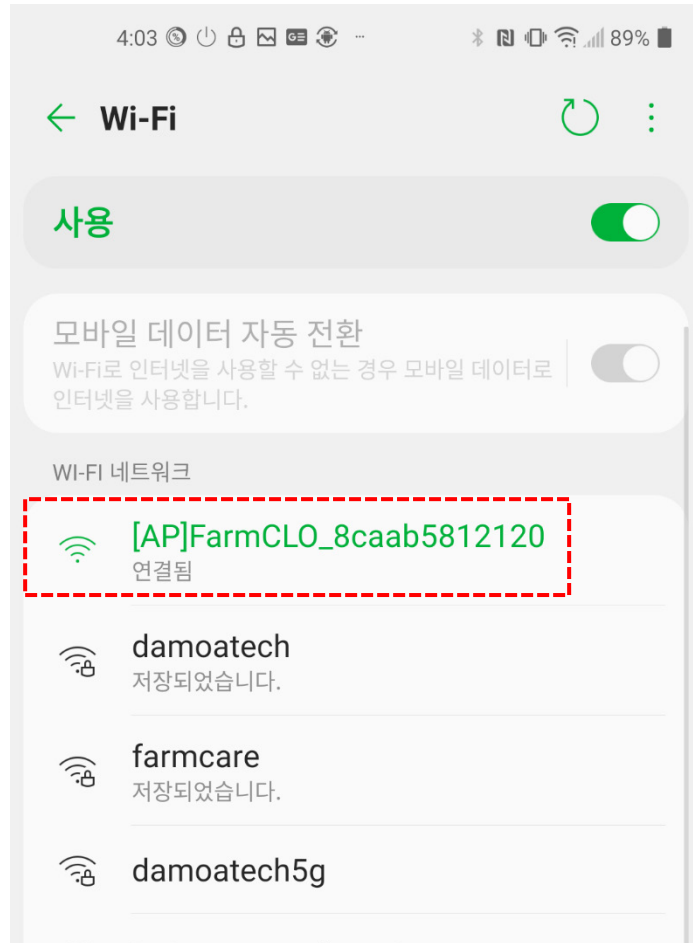


2. Password input

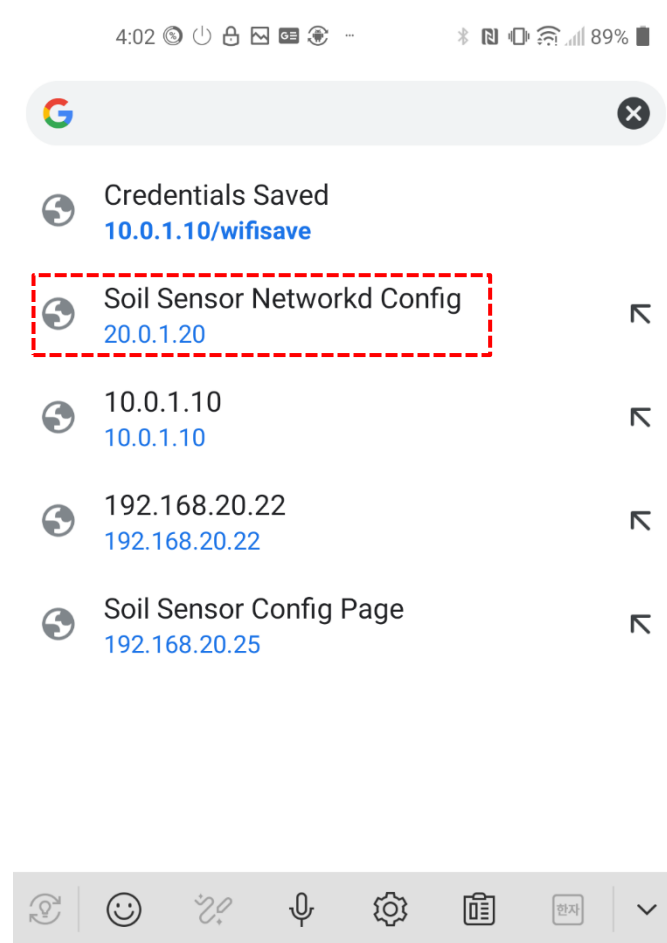


3. Save button press > Sensor reboot

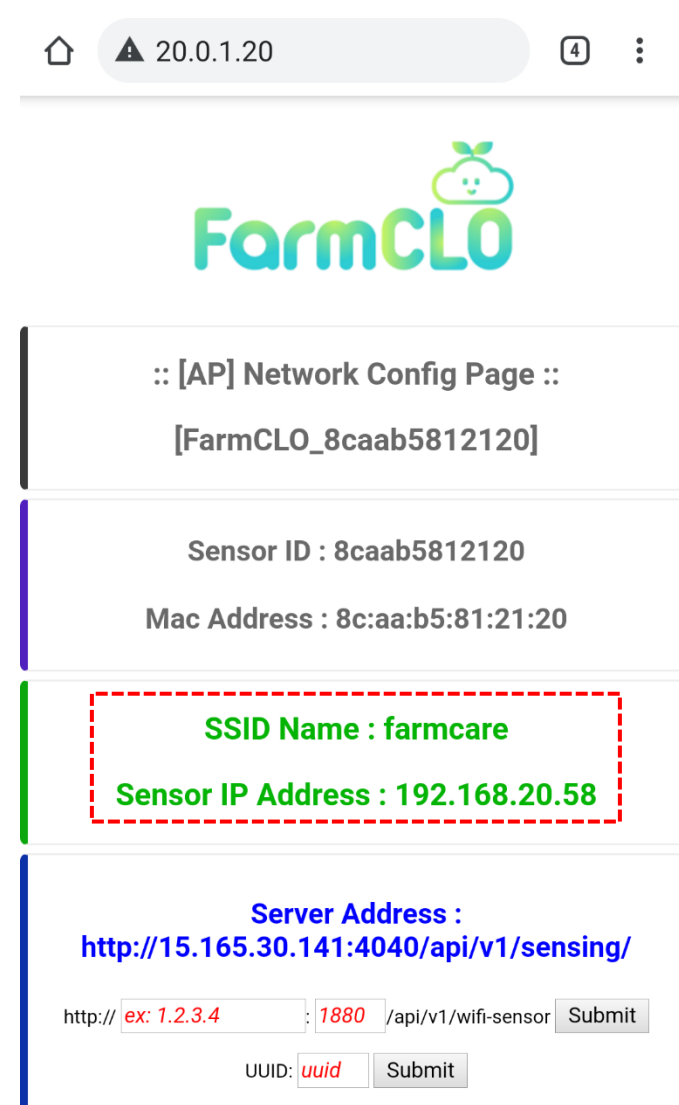
# Initial settings Page 3



“[AP]FarmCLO\_8caab5812120”  
Search for ap to connect directly  
(No passwd)

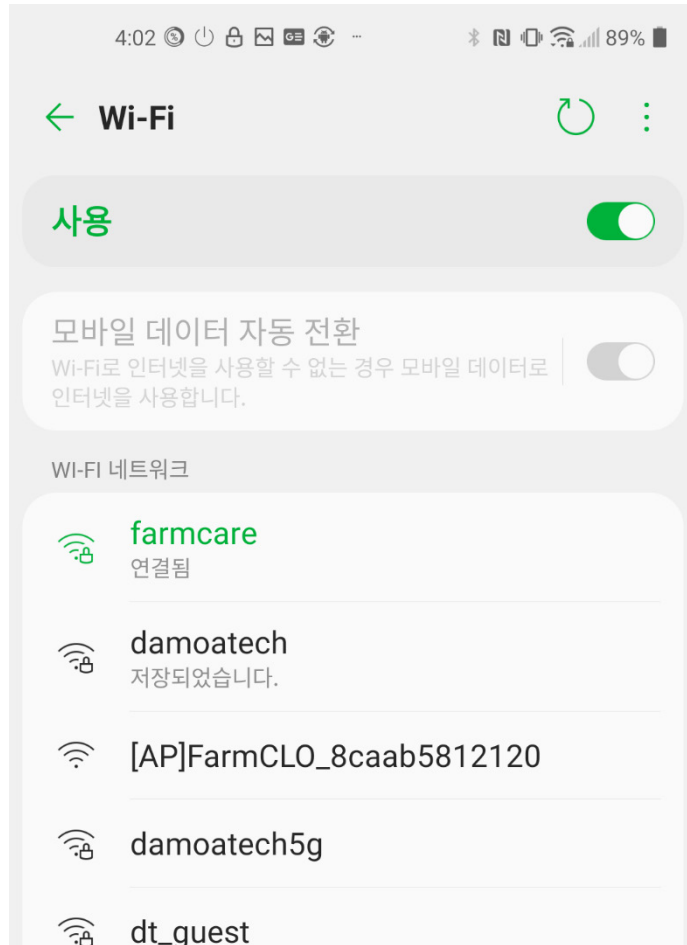


Connect to 20.0.1.20 from a web  
browser

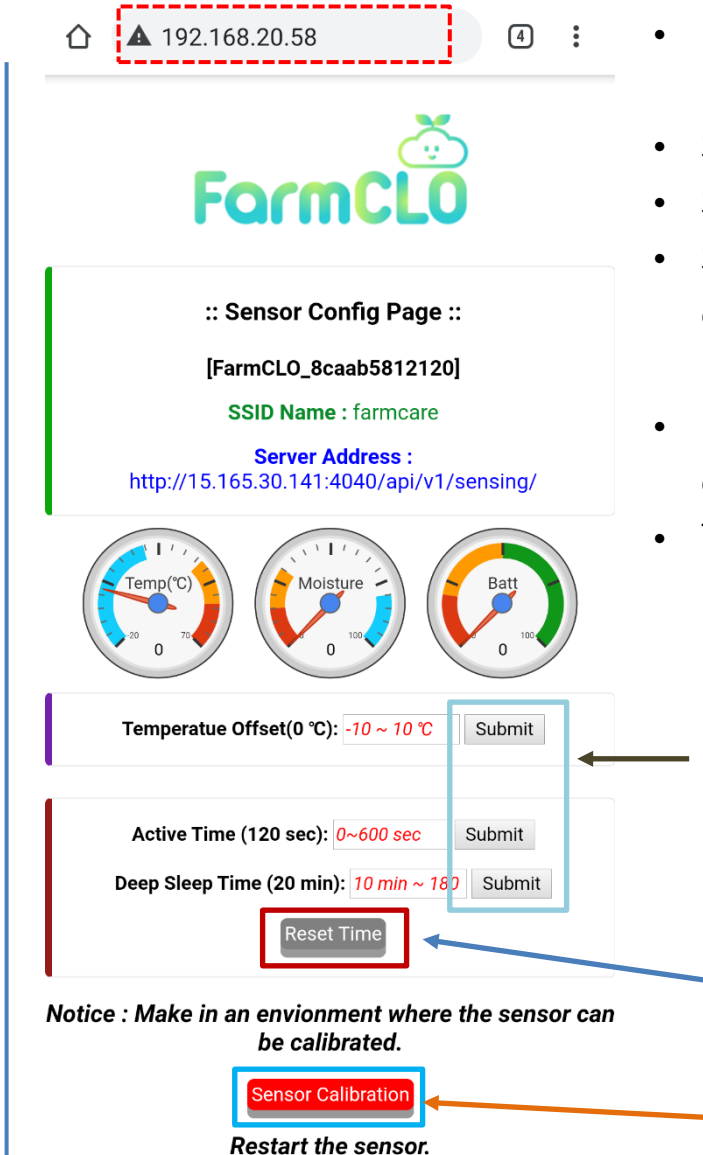


Check the individual IPs of the  
sensor

# Initial settings Page 4



Connect to the AP to which the sensor is connected



Connect to your IP address with a web browser(192.168.20.xx)

- From the AP that belongs to the same network to the Sensor, access to granted IP address.
- SSID Name : Connected SSID
- Sensor Name : Sensor name = FarmCLO\_{Sensor ID}
- Server Address : HTTP Port with server address to post, the default value is the Damoatech server address.
- Measuring cycle : Sensor measurement cycles setting (15 to 180 minutes)
- Temperature Offset (-10~10)
  - When the temperature does not fit, set offset
- **After submitting from all settings, wait 12 seconds then refresh the page to complete the rest of the setup**  
**Active time settings after all settings are finished Set to 0 to minimize battery consumption**  
**Reset to reset time by setting the sensor to at least 10 seconds for resetting**
- Sensor Calibration : Sensor Initialization
  - **Must be removed from the Soil and then executed.**

# Network settings Page : Separate server users (DamoaTech Server users do not apply)



:: [AP] Network Config Page ::

[FarmCLO\_8caab5811254]

Sensor ID : 8caab5811254

Mac Address : 8c:aa:b5:81:12:54

SSID Name : farmcare

Sensor IP Address : 192.168.20.50

Server Address : <http://15.165.30.141:4040/api/v1/sensing>

http://  :  /api/v1/wifi-sensor

UUID:

Notice : Erase all network information.

Erase Network

Example

Sensor acts as Web Server

"[AP]FarmCLO\_8caab5811254" Search for ap to connect directly (No passwd)

- Access IP address : 20.0.1.20
- Ip address is set to the same because all sensors are Server.

SSID Name : connected SSID

Sensor Name : Sensor name = FarmCLO\_{Sensor ID}

Sensor ID : {MAC} without ":"

Server Address : Enter the server address and Port you want to connect to, and then click Submit

UUID : It is specified automatically. (Don't enter)

Erase Network : Delete network information (change to default to all network information)

# Sensor Settings Page

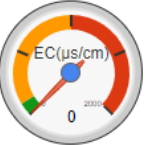
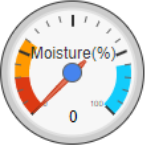
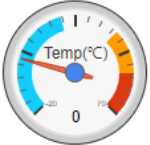


:: Sensor Config Page ::

[FarmCLO\_8caab5811254]

SSID Name : farmcare

Server Address : <http://15.165.30.141:4040/api/v1/sensing>



Temperature Offset(0 °C):

Active Time (600 sec):

Deep Sleep Time (10 min):

Notice : Make in an environment where the sensor can be calibrated.

Restart the sensor.

Example

- Access to the IP address granted to Sensor from Devices on the same network
- SSID Name : connected SSID
- Sensor Name : Sensor name = FarmCLO\_{Sensor ID}
- Server Address : HTTP SERVER ADDRESS TO POST
  - The default value is the Damootech server address.
  - Measuring cycle : Sensor measurement cycles (15 to 180 minutes)
- Temperature Offset (-10~10)
  - When the temperature does not fit, set offset
  - Sensor Calibration : Sensor Initialization
  - Must be removed from the soil(do not touch pine) and executed.

**Active time settings after all settings are finished**

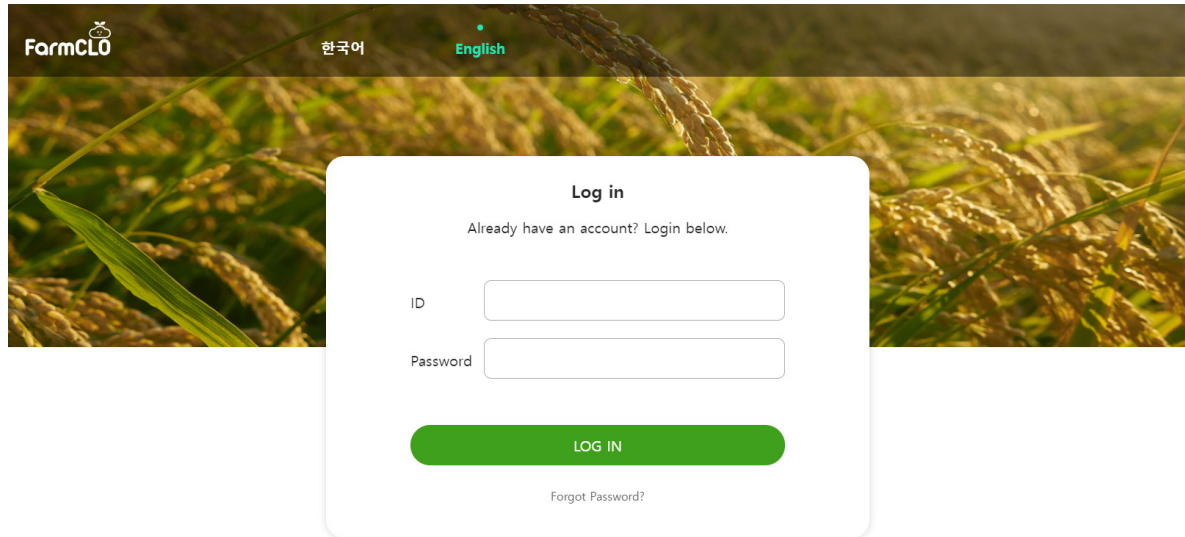
**When using the battery: Set to 0 to minimize consumption**

- Always-on power: Keep default



# Server Sensor Registration: DamoTech Server Users Only

- To use the apps offered by DamoTech, you must register your product.
- The product buyer can inform us of the product warranty or the number affixed to the top.
- Email address : [info@damoatech.com](mailto:info@damoatech.com)
  - Please provide the buyer's name, address, email address and contact information.
  - User IDs and passwords will be notified at we will inform you.



The image shows a login form for FarmCLO. The background is a close-up of golden rice stalks. The form is white with a green 'LOG IN' button. It includes fields for 'ID' and 'Password', a 'Forgot Password?' link, and a 'Log in' header with a link to 'Already have an account? Login below.'.

**FarmCLO** 한국어 English

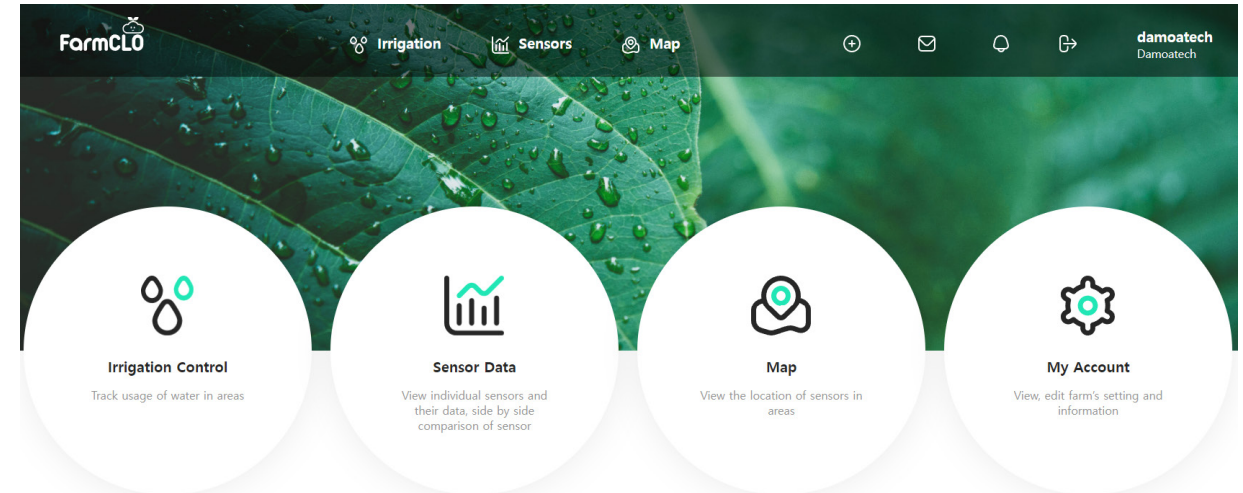
**Log in**  
Already have an account? Login below.

ID

Password

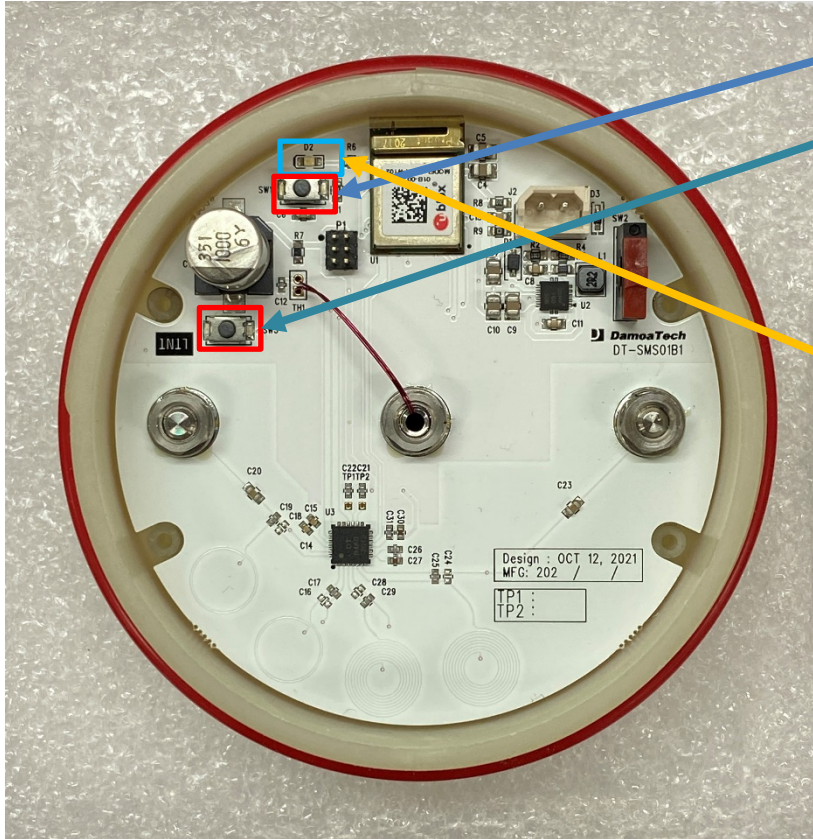
**LOG IN**

[Forgot Password?](#)



LOG IN

# How to factory reset

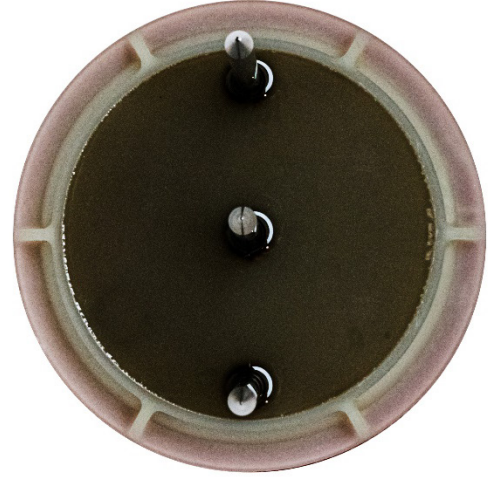


1. Switch at 11 o'clock = Power Reset button
2. Switch at 9 o'clock = button for Factory Reset
3. Press and hold the 9 o'clock button and push and release the 11 o'clock button.
4. Release the 9-hour button when the blue LED is lit

If the above methods don't work,

1. Please try with a different network device. (Laptop or Android phone (LG or Samsung recommended) iPhone possible (time-consuming, xiaomi unavailable))
2. There should be no problem connecting 1:1 without internet.
3. Please try again to delete your current network information.
4. If you try the above and you are not connected, please send it to our headquarters.

# Product Photos



# Product Specifications

Spec	description	Remarks
Name	Soil sensor	
Model	DT-SMS01B	
Power voltage	DC 5V (USB)	
Power consumption	0.1W ~ 0.5W	
Size	80(L) x 120(H) x 80(W)	
Weight	120g	Battery, cable excluded
Network interface	WIFI 802.11b/g/n	
Frequency of use	2.4Ghz	
WIFI encryption	WEP/WPA/WPA2	
Moisture(VWC)	0% – 100%	
Soil temperature	-40 °C – 70°C	
EC	0 – 5000dS/m	
Material	Nylon66 + GF30, SUS304	
Warranty Period	1year	
Operating temperature range	-20°C – 70°C	
KC Authentication Number	R-R-dMt-DT-SMS01B	

# Product Description

1. Use Volumetric Water Contents (VWC).
2. Represents the ratio of the total volume of the soil, including moisture, to the moisture volume
3. Moisture measurement methods are divided into FDR, TDR, and ADR methods. – Reference Decagon YouTube–
  1. The FDR method is frequency analysis
  2. TDR method is time analysis
  3. ADR method is amplitude analysis
  4. The method used by DamoaTech uses a method of measuring dielectric permittivity like FDR.
4. The moisture value of the soil sensor represents the relative value, not the absolute moisture value of the soil.
5. The Rural Promotion Agency and the Agricultural Fractalization Foundation (FACT) are also conducting tests by measuring only the amount of change. – Contact FACT
6. It means the amount of moisture in the soil.

## Warranty

Product : DT- Series  
Form : Agricultural instruments  
Product Number :

Warranty Period : 1 year from the date of purchase  
Product Purchase Date :

Address :  
Name :

Thank you very much for purchasing DamoaTech's products. This warranty promises to repair the products used as written in the warranty regulations and specifications, instruction manuals and precautions free of charge in the event of a failure within the warranty period.

**Damoatech Co., Ltd.**

#604, 723 Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do  
South KOREA  
TEL : +82-70-4369-0904

## Quality Regulations

1. If you are requesting a free repair, please provide a warranty. If the warranty period has elapsed, the actual cost will be settled.
2. Even within the warranty period, the following cases will be paid and settled for actual expenses in accordance with the company's service regulations.
3. If a foreign object is injected into the product and fails
  - A. If the product is damaged or functionally damaged by dropping or impacting the product.
  - B. Failure occurs due to applied voltage outside the voltage range
  - C. You have not followed the precautions set out in the instruction manual.
  - D. The customer randomly repairs, modifies, or disassembles the product and fails.
  - E. When failure occurs due to natural disasters (lightning, fire, feng shui, earthquake, etc.)
  - F. The part is obsolete and has caused a failure.
  - G. Failure is caused by other negligence of the customer

Manufacturer : Damoatech Co., Ltd.  
#604, 723 Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do  
South KOREA  
TEL : +82-70-4369-0904



## Warning

- a. 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.
- b. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- c. **RF Exposure:** This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and any part of your body.

## contact

Technical Inquiry

Tel : +82-70-4369-0904

E-mail : [info@damootech.com](mailto:info@damootech.com)

Please contact us for other undeterred details and we will respond to them.

The contents stated to improve the product are subject to change without prior notice.

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Gyeonggi-do, South KOREA  
TEL : +82-70-4369-0904