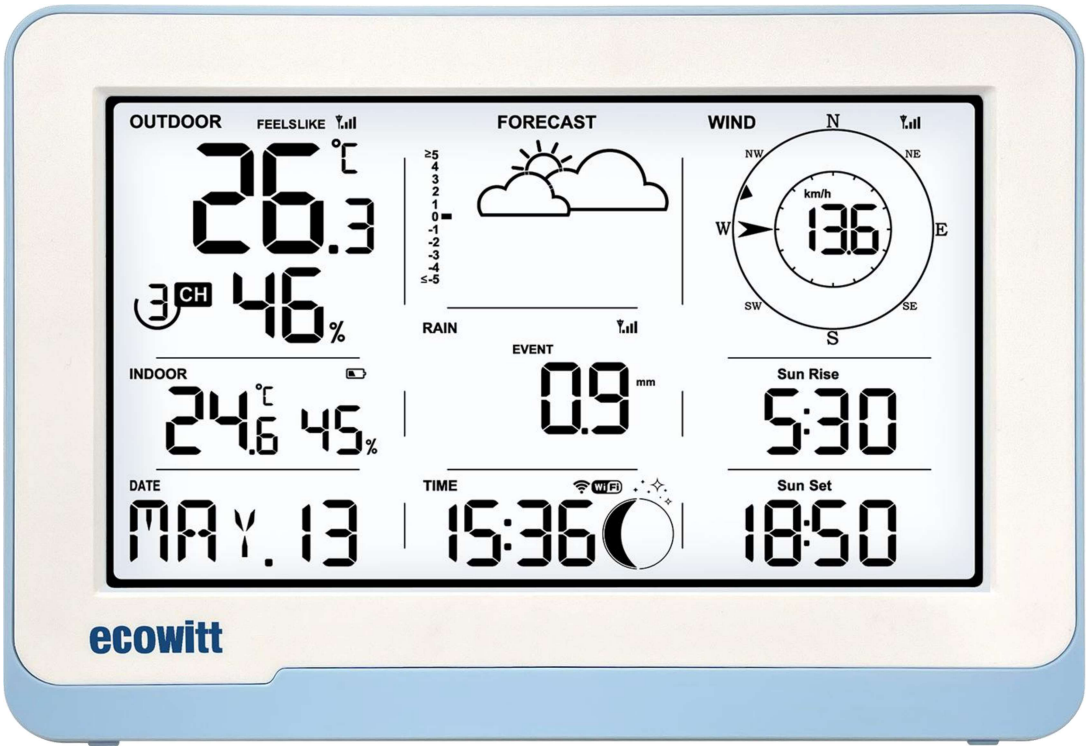
ecowitt®



Weather Station Receiver Manual

Model: WS3800

https://s.ecowitt.com/FD6USP

Table of Contents

1. Introduction

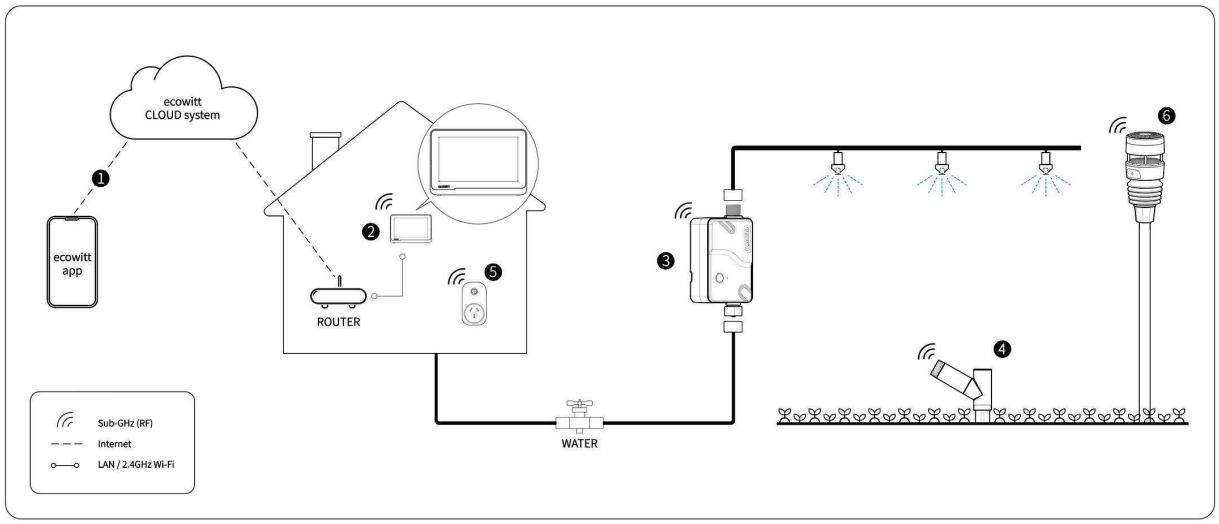


Figure 1: How Ecowitt system works

Thank you for your purchase of Ecowitt WS3800 weather station receiver.

Ecowitt WS3800 is a 7.5" Wi-Fi LCD large screen weather station receiver. Supports monitoring indoor and outdoor conditions, it has built-in temperature, humidity, and barometric pressure sensors, and can connect almost all Ecowitt transmitters with the same RF frequency to use together, to get accurate weather data including wind speed, wind direction, rainfall, UV, solar radiation, outdoor temperature, outdoor humidity, dew point, feels like, CO_2, PM1.0, PM2.5, PM10 and more.

Meanwhile, it supports connecting IoT devices, such as WFC01 and AC1100, to achieve smart control through Ecowitt App, which is a powerful weather station receiver.

WS3800 supports connecting to a 2.4 GHz Wi-Fi network for viewing data from anywhere on your phone, tablet, and computer browser, all for free.

Just so you know, the WS3800 needs to be used with optional sensors to obtain outdoor weather data and is not a standalone product.

The following user guide provides step by step instructions for installation and operation. Use this manual to become familiar with your professional weather station and save it for future reference.

2. Installation

2.1 Part List

1 x WS3800 Weather Station Receiver

1 x User Manual

1 x DC to USB Cable

2.2 Wi-Fi Configuration

2.2.1 Power-up

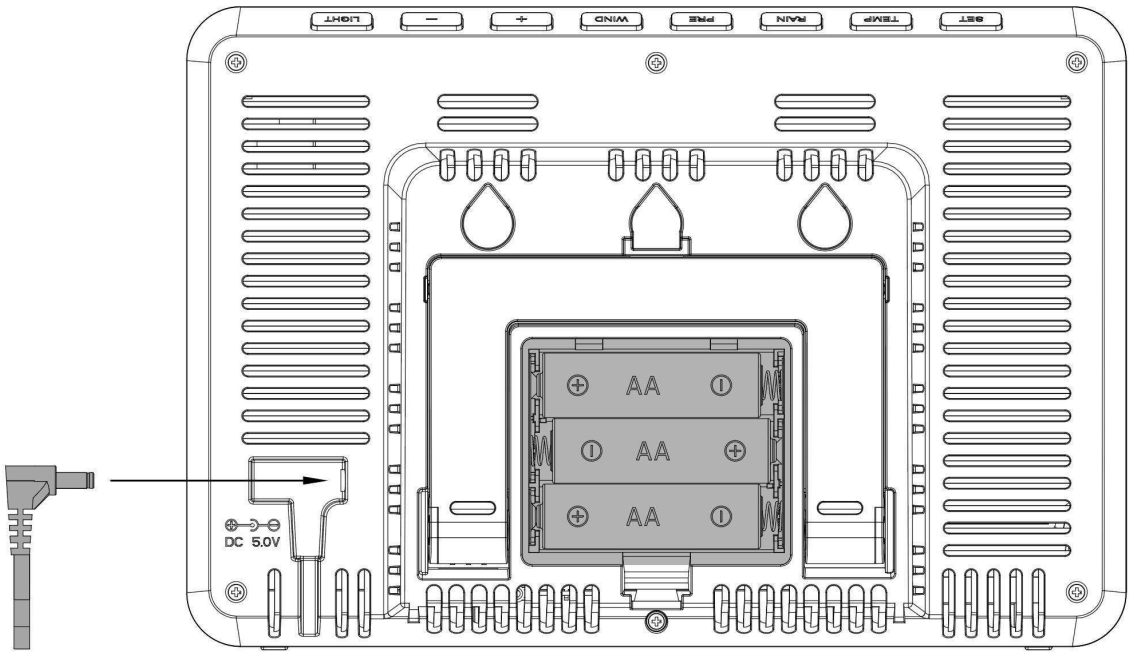


Figure 2

Insert the 5V 1A Power Adapter into an outlet, and then plug it into the Power Jack on the back of the station. Optional: Insert 3 fresh AA alkaline or lithium batteries (not included) into the Battery Compartment to power the station on.

The software version number and frequency are displayed for 1 second, then the full screen is displayed for 3 seconds and finally enters normal mode.

2.2.2 Download the Ecowitt App

Visit the App Store or Google Play Store or scan the QR code below to download the free Ecowitt App onto your mobile device.

Open the Ecowitt App, follow the on-screen setup instructions to create an account, add a new device, and follow **Section 2.2.3** or **2.2.4** below to connect your station to your Wi-Fi network.

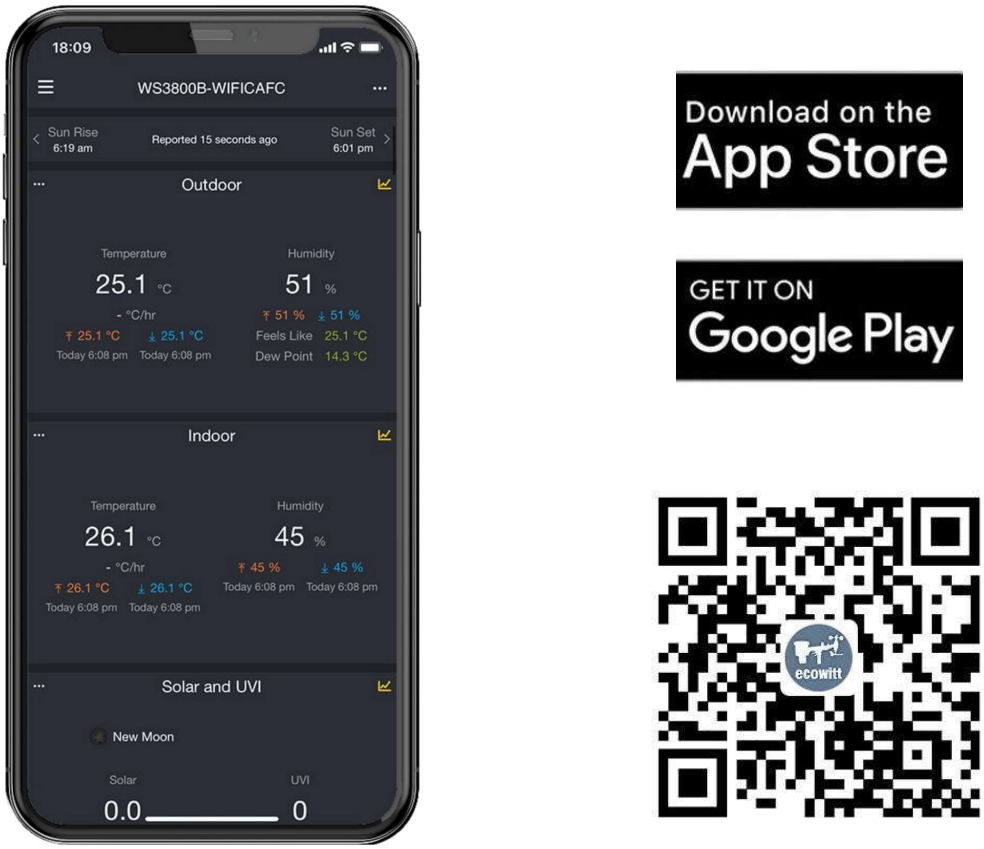


Figure 3: Download Ecowitt App

Note: For **Section 2.2.3** or **2.2.4** below （2 ways to complete Wi-Fi configuration）, you'll need your Wi-Fi network name (SSID) and password.

2.2.3 Connect the Station to Wi-Fi via Ecowitt App

(1) Open Ecowitt App →"My Devices"→"Add New Devices"→click WS3800 icon→choose WiFi Provisioning：

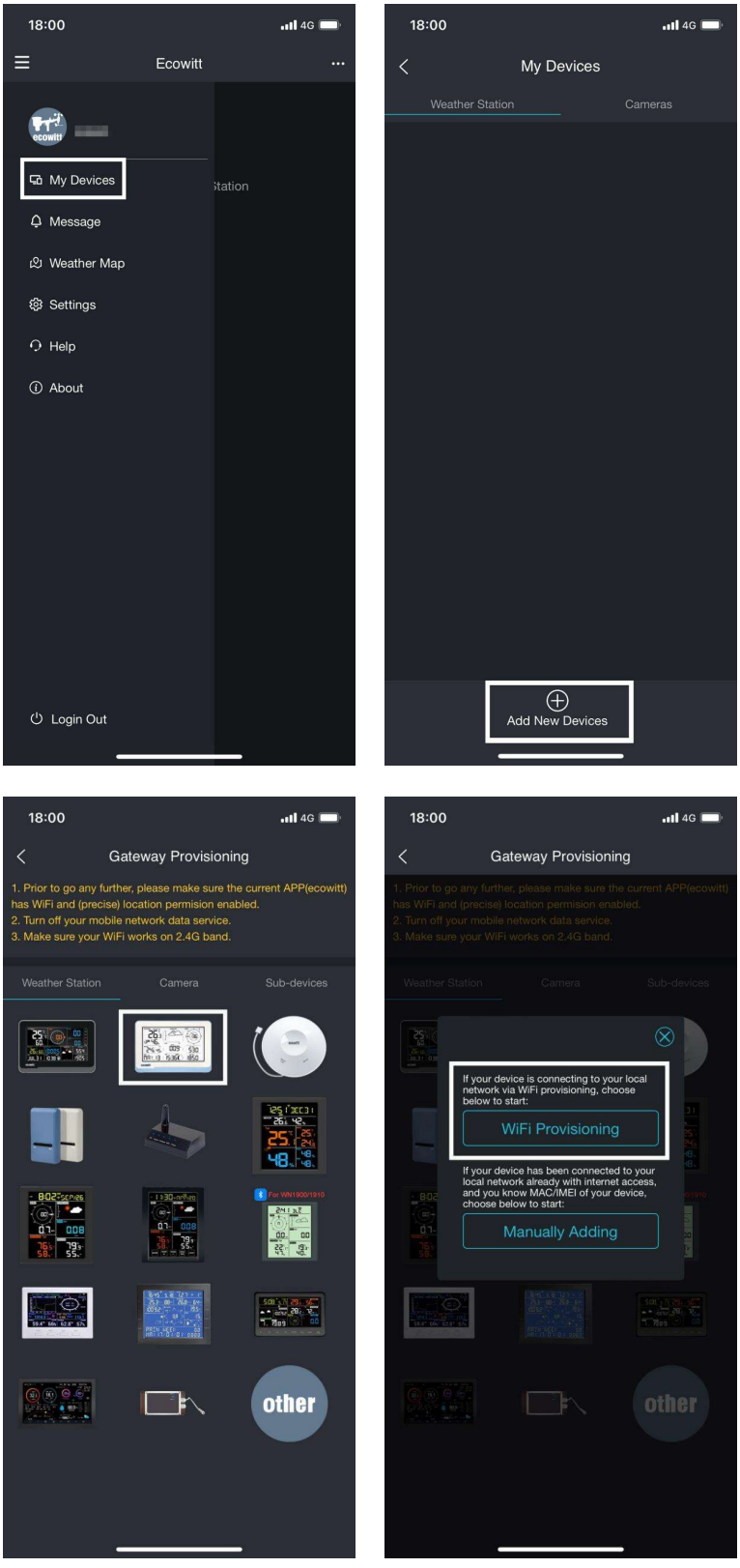


Figure 4

(2) Hold WS3800's button TEMP + - for more than 2s in normal mode will turn on its hotspot, Wi-Fi icon will flash fast on the screen. Use mobile phone to connect to the hotspot "WS3800x-WIFIxxxx" emitted by WS3800. Then tick "Operation Completed"→"Next".

Note: WS3800x-WIFIxxxx, the first x represents the frequency, A=868MHz, B=915MHz, C=433MHz, xxxx represents the last 4 digits of the product MAC address.

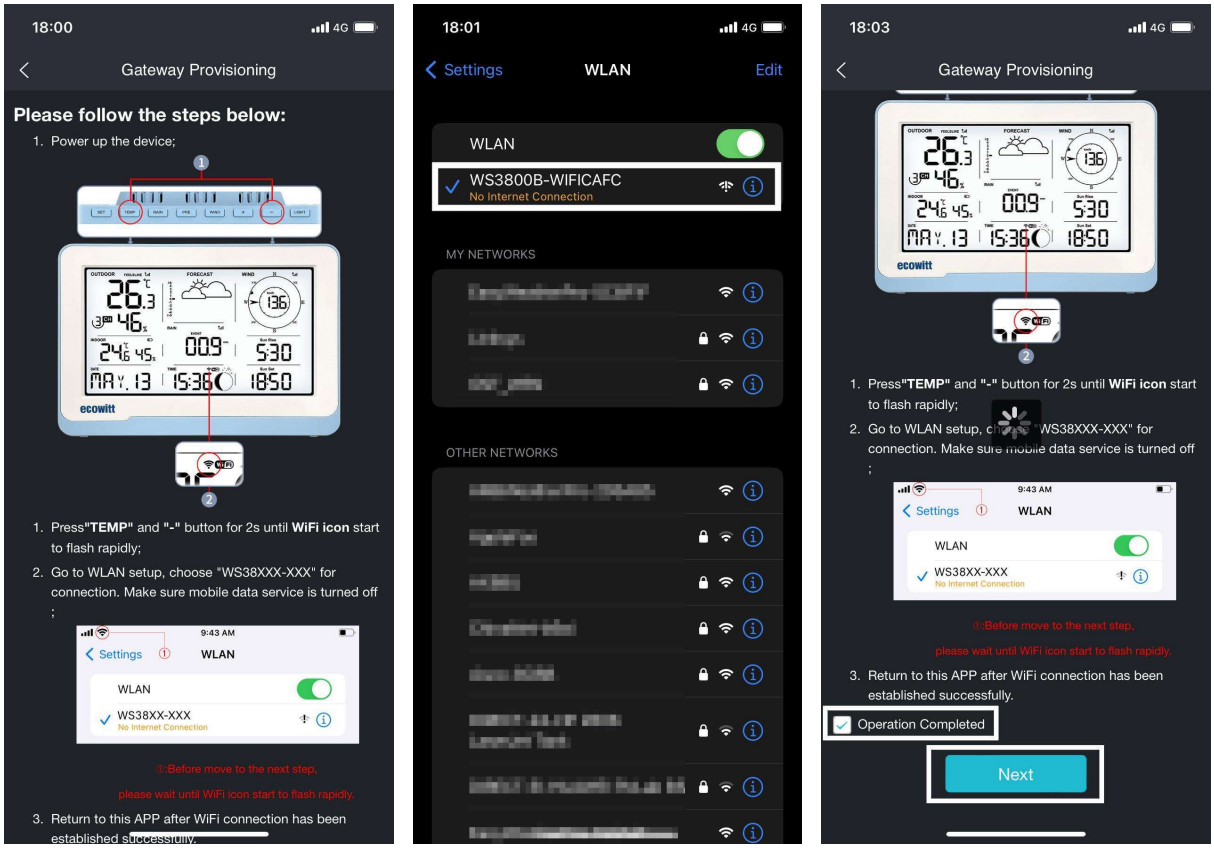


Figure 5

(3) Allow location access, recommend selecting "While Using the App". Then return to the Ecowitt App.

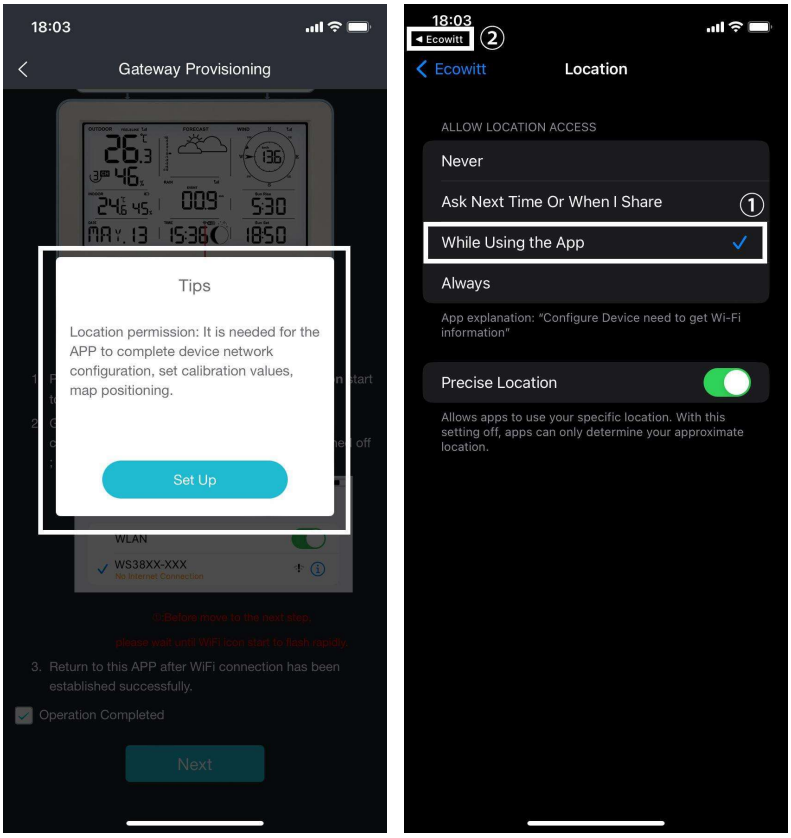


Figure 6

(4) Fill in the Wi-Fi SSID and password, then click "Submit".

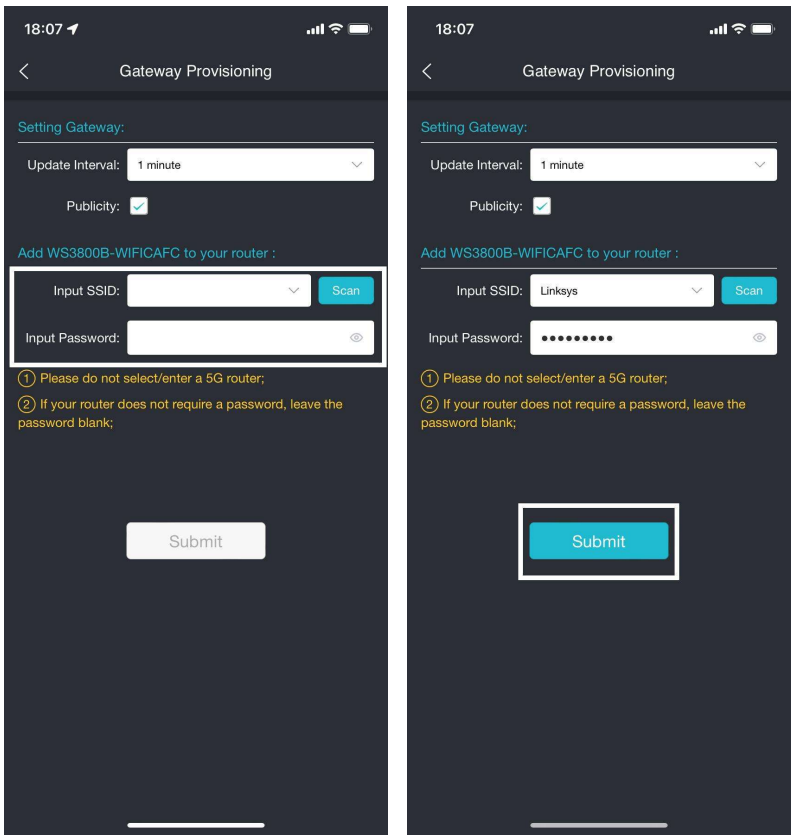
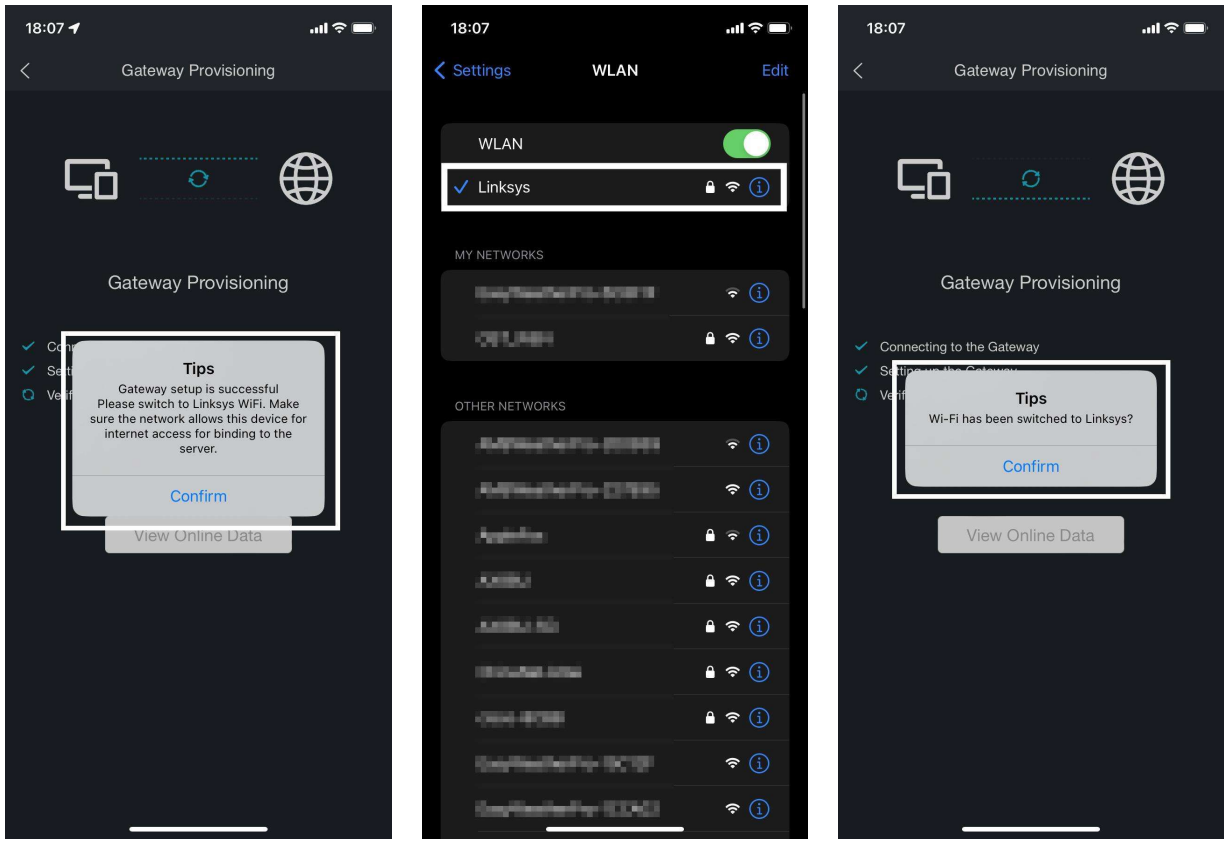


Figure 7

(5) Now the gateway setup is successful. Switch the network of phone to the same Wi-Fi WS3800 is connected to. WS3800 has been successfully added to the App, then the data can be viewed online.



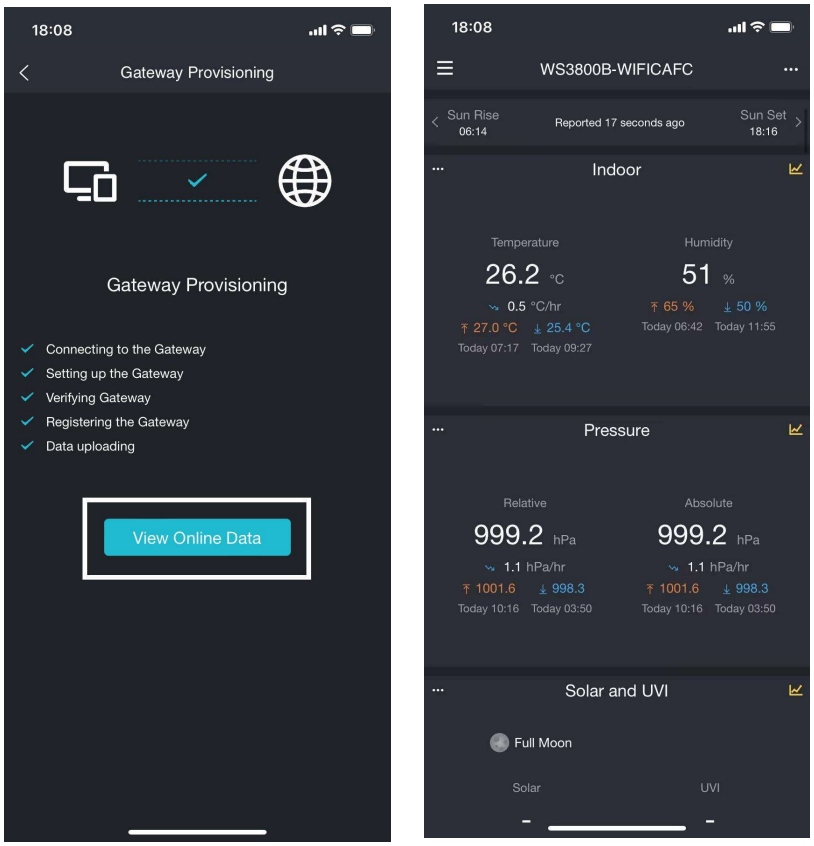


Figure 8

Note: If you are unable to connect the WS3800 to Wi-Fi using the Ecowitt App, we recommend using the setup via Embedded Web Page 192.168.4.1 on the next page.

2.2.4 Web Page 192.168.4.1

(1) Hold TEMP + - to turn on WS3800's hotspot and connect to this hotspot with your mobile device. Use mobile browser to search the URL: 192.168.4.1. No password is set by default. Click login.

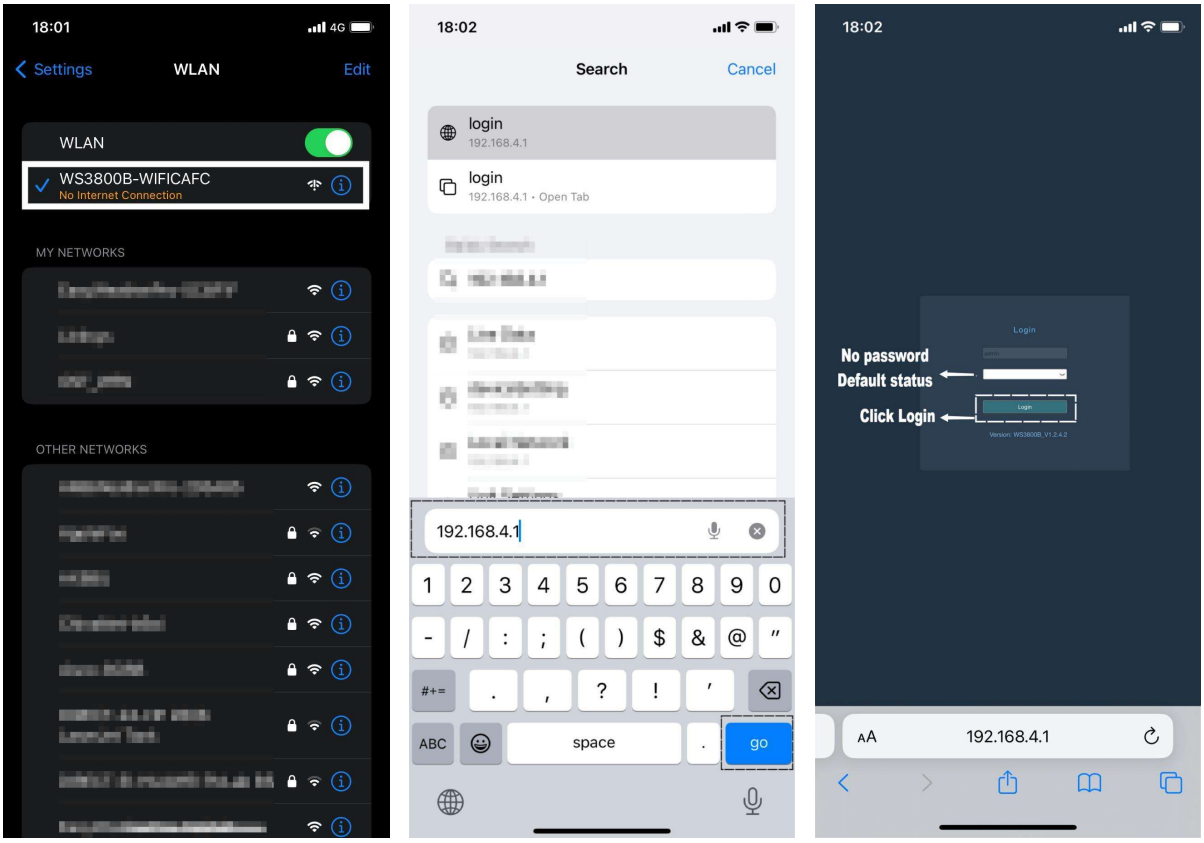


Figure 9

(2) Click Local Network. Input the name and password of the router.

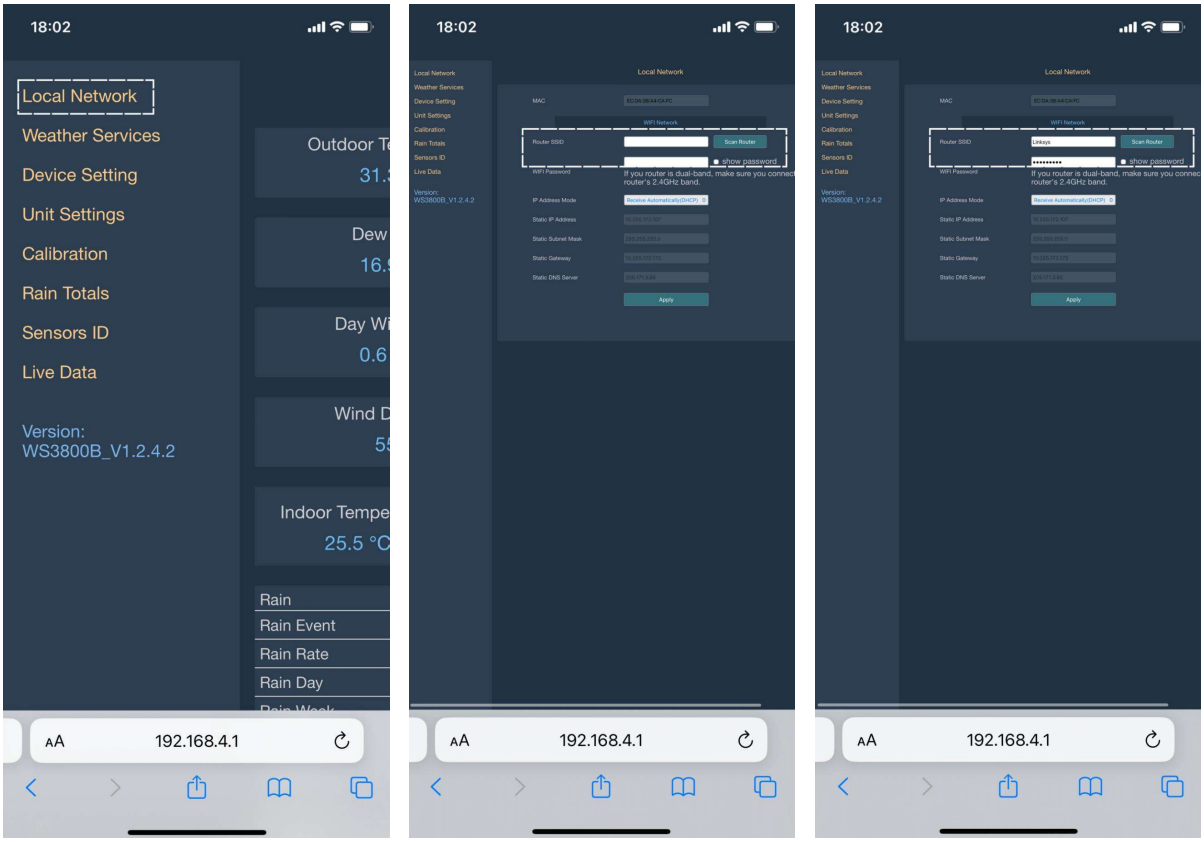


Figure 10

(3) Now the WS3800 is successfully connected to the Wi-Fi router. Copy the MAC address for the following steps.

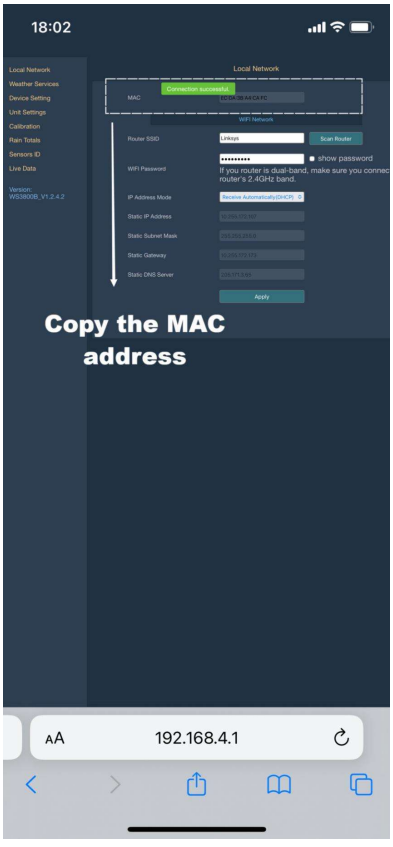


Figure 11: Copy the MAC address

(4) Switch the network of phone to the same Wi-Fi WS3800 is connected to. Open Ecowitt App →"My Devices"→ "Add New Devices" →click WS3800 icon →choose Manually Adding.

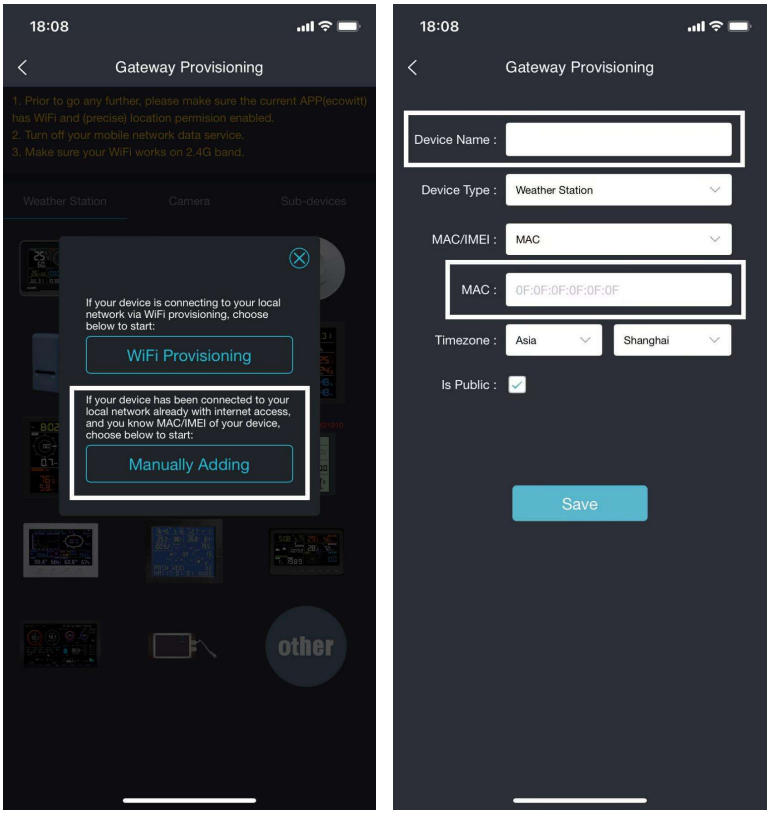


Figure 12

(5) Edit the Device Name and paste the MAC address copied in step (3) into the box, and click "Save", then the data can be viewed online.

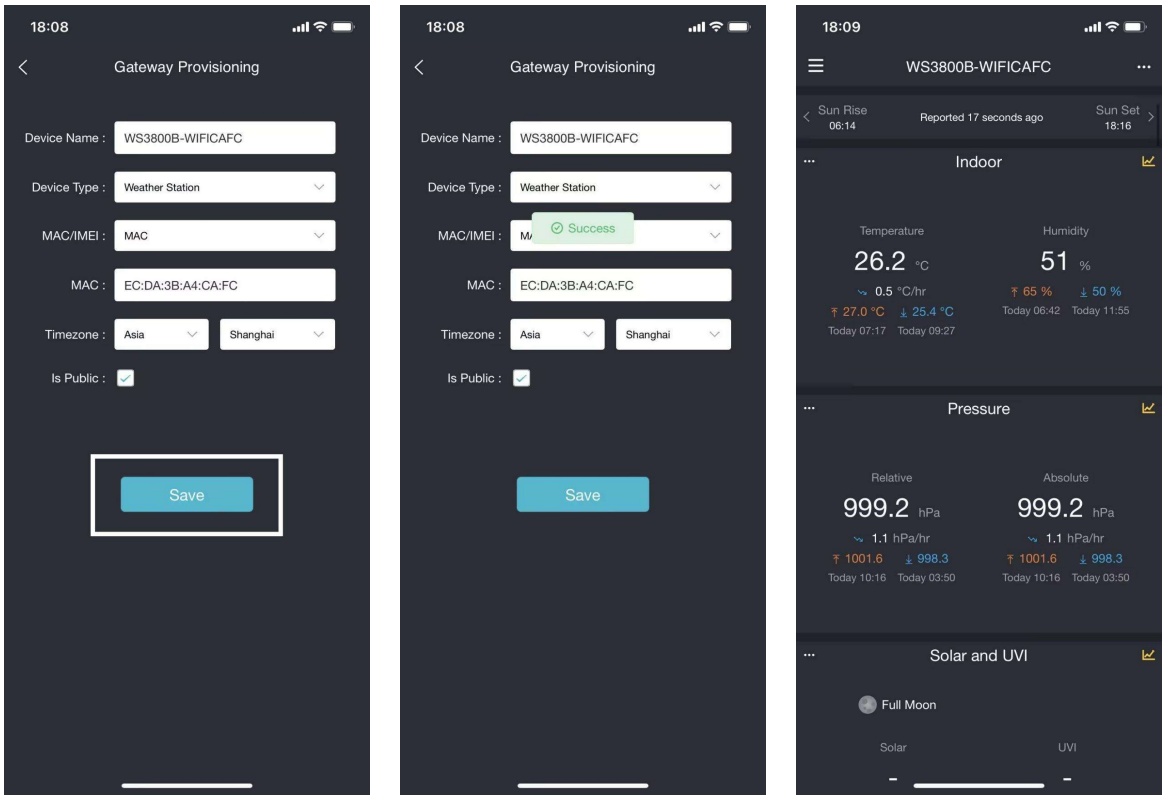


Figure 13

2.2.5 Device Location, Timezone, DST, and Data Public

After completing the Wi-Fi configuration, follow these steps for Device location, Timezone, DST (Daylight Saving Time), and Data public settings.

1. Click on "My Devices".
2. Click on the "..." icon.
3. Set the Device's location and Timezone on this interface. Tick "Auto DST" and "Is Public" when necessary.
4. Click "Save", then reboot the WS3800 device, the WS3800 will automatically synchronize time and DST.

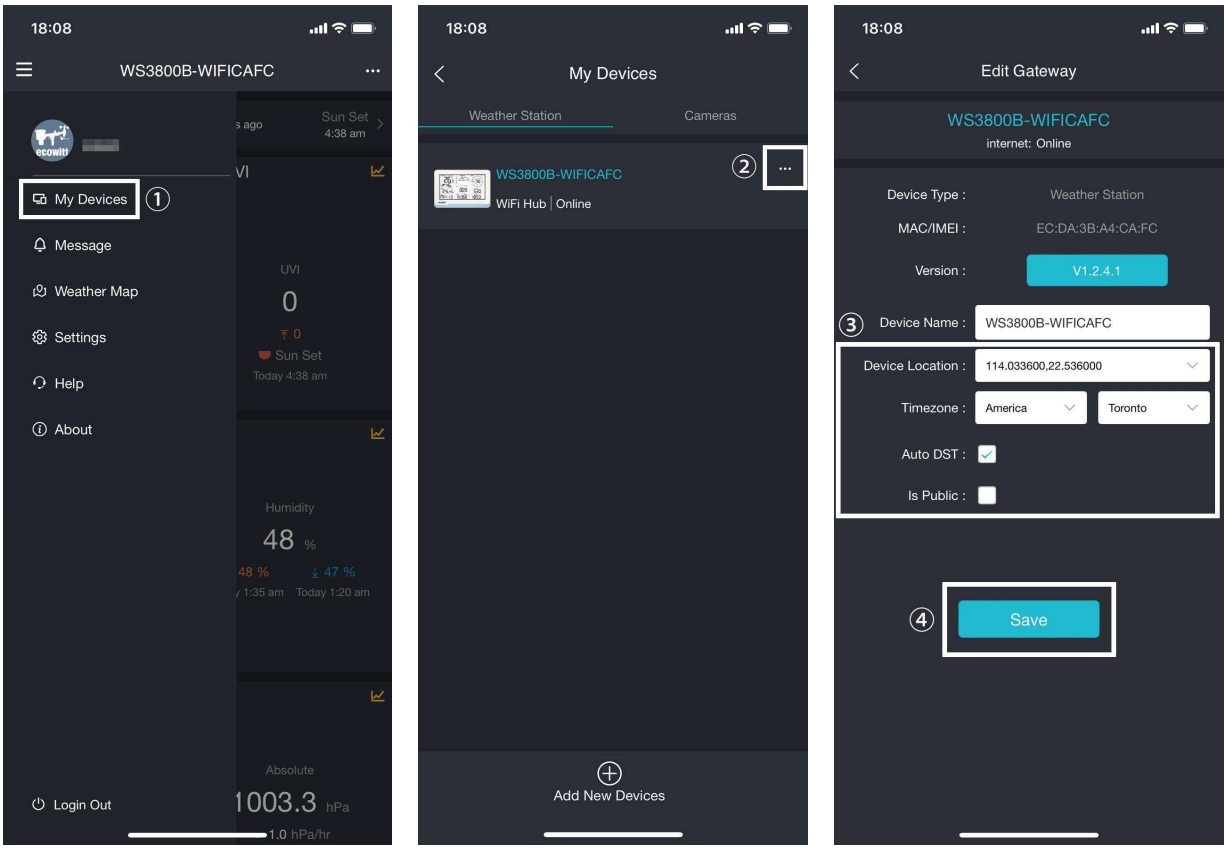


Figure 14: Related settings via Ecowitt App

Note: After completing the above Wi-Fi configuration and related settings, the WS3800 screen will display a stable Wi-Fi signal tower, auto time zone, and DST (when necessary).

Figure 15: WS3800 sync App related settings

2.2.6 Replacing Wi-Fi Router

If you want to change your router, follow **Section 2.2.3** or **2.2.4** again after restoring the gateway to its factory settings (Hold SET + LIGHT for a factory reset).

2.3 Adding Sensors

To pair the optional sensors (refer to **Section 4** for more optional sensors) with the WS3800, please do as follows:

1. Power the sensor on and place it next to the console.
2. Wait for 1~2 minutes, check whether the console will pick up the sensor data automatically and display it on the screen or App.
3. If data is not received from a registered sensor, the RF icon will decrease the signal by one frame; if data is received, the RF icon will increase the signal by one frame.
4. If data is not received, try the following: after making sure the phone and WS3800 are connected to the same Wi-Fi network, open the Ecowitt App→Sensor ID→enter the Sensor Management page.
5. In the Sensor Management page, find the sensor you want to pair, select the ID number box and register it.
6. Once successful, you may return to the main interface to check the data.
7. If you know exactly the sensor ID, and want the WS3800 to pair that sensor only, you may enter the sensor ID, and save the change to make it effective.

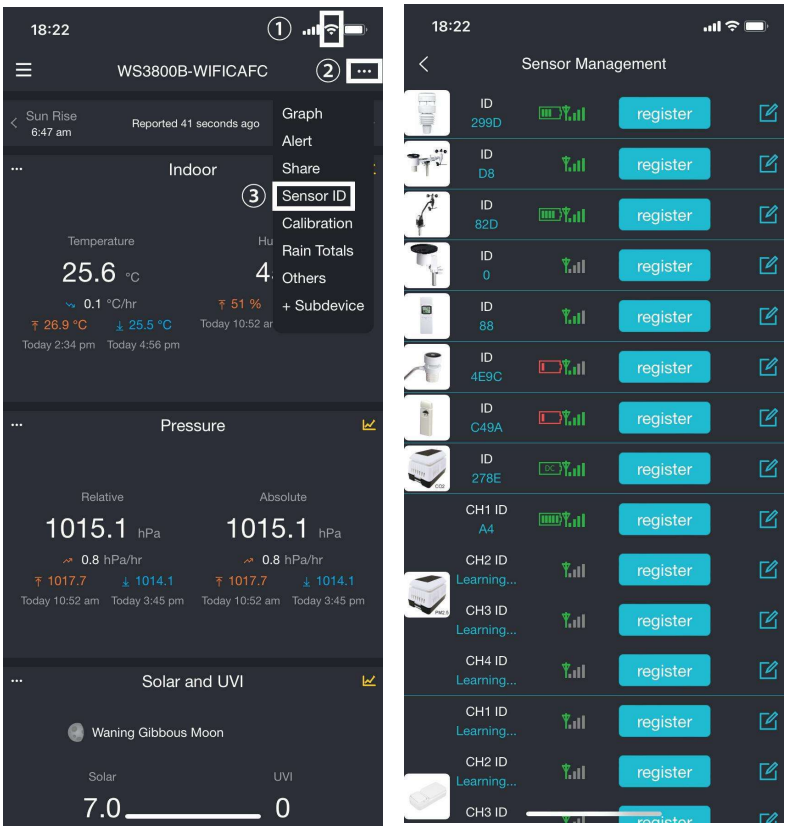


Figure 16: Sensor ID page

2.4 Upload Data to Server

After the Wi-Fi configuration is successful, data can be uploaded to the following weather station servers:
A. ecowitt.net (Default upload to this server)
B. wunderground.com
C. weathercloud.net
D. wow.metoffice.gov.uk
E. Customized servers

Upload servers management:

(1) Ensure that the mobile phone and WS3800 receiver are using the same Wi-Fi.
(2) Ecowitt App → "..." at the top right corner → "Others" → "DIY Upload Servers".

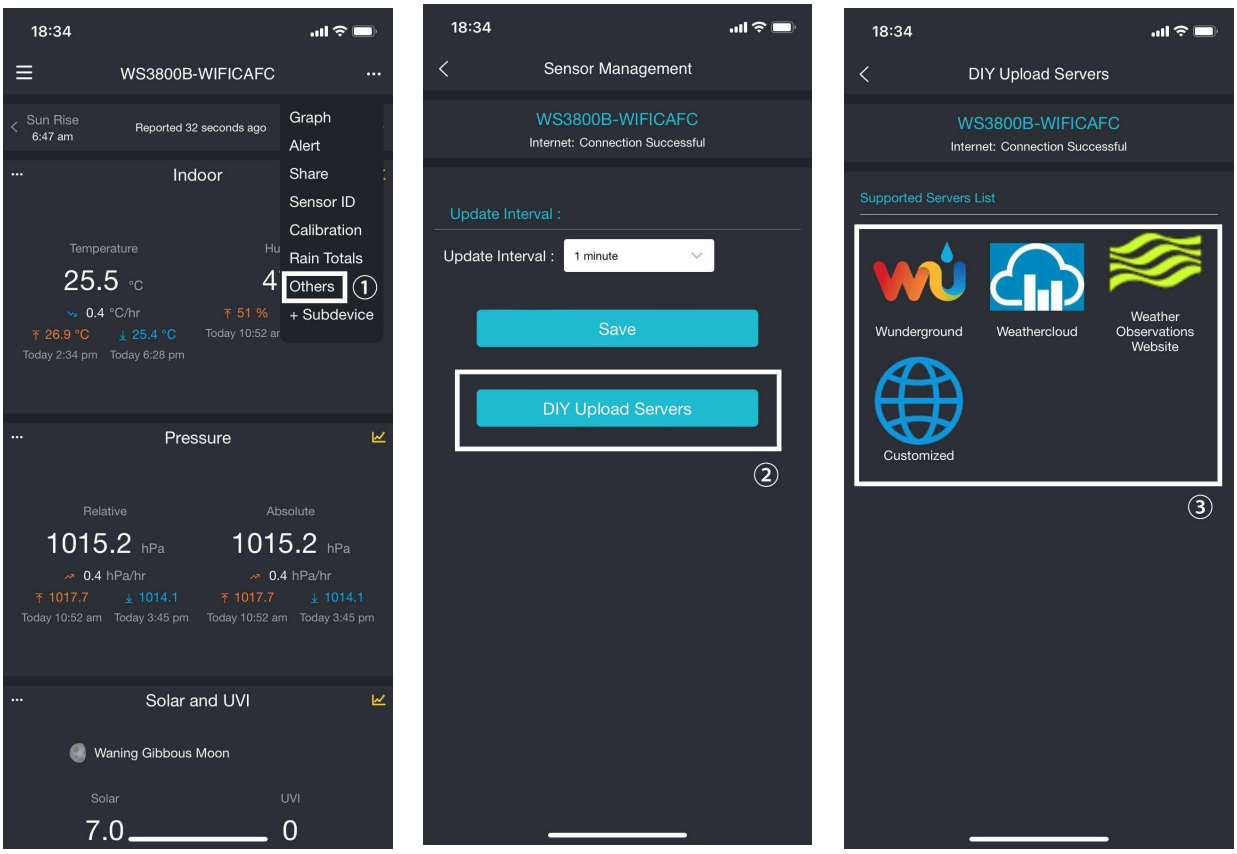


Figure 17: Upload data to server

3. Instructions for Use

3.1 Multiple Views and Size

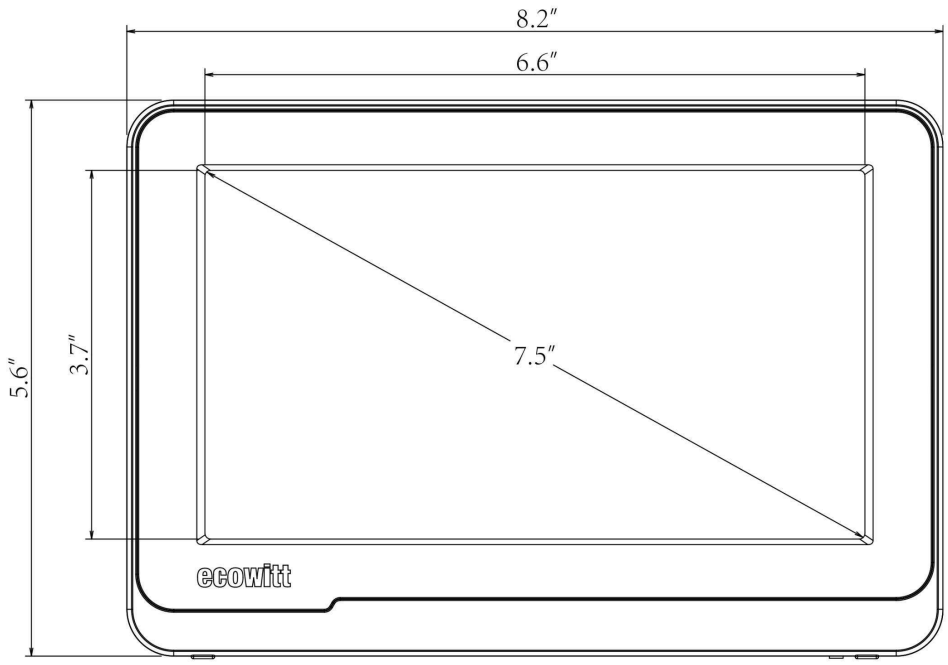


Figure 18: Main view

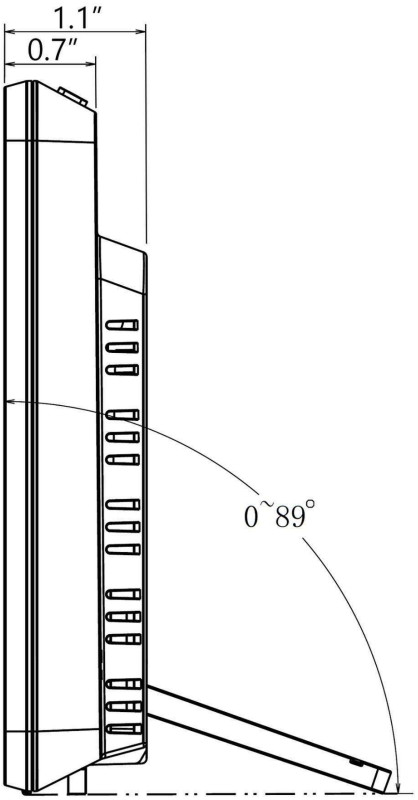


Figure 19: Right view

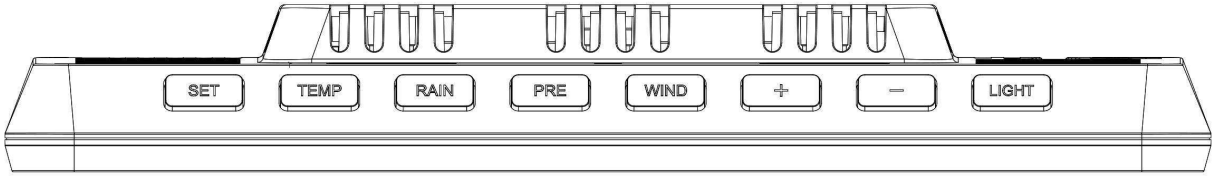


Figure 20: Top view

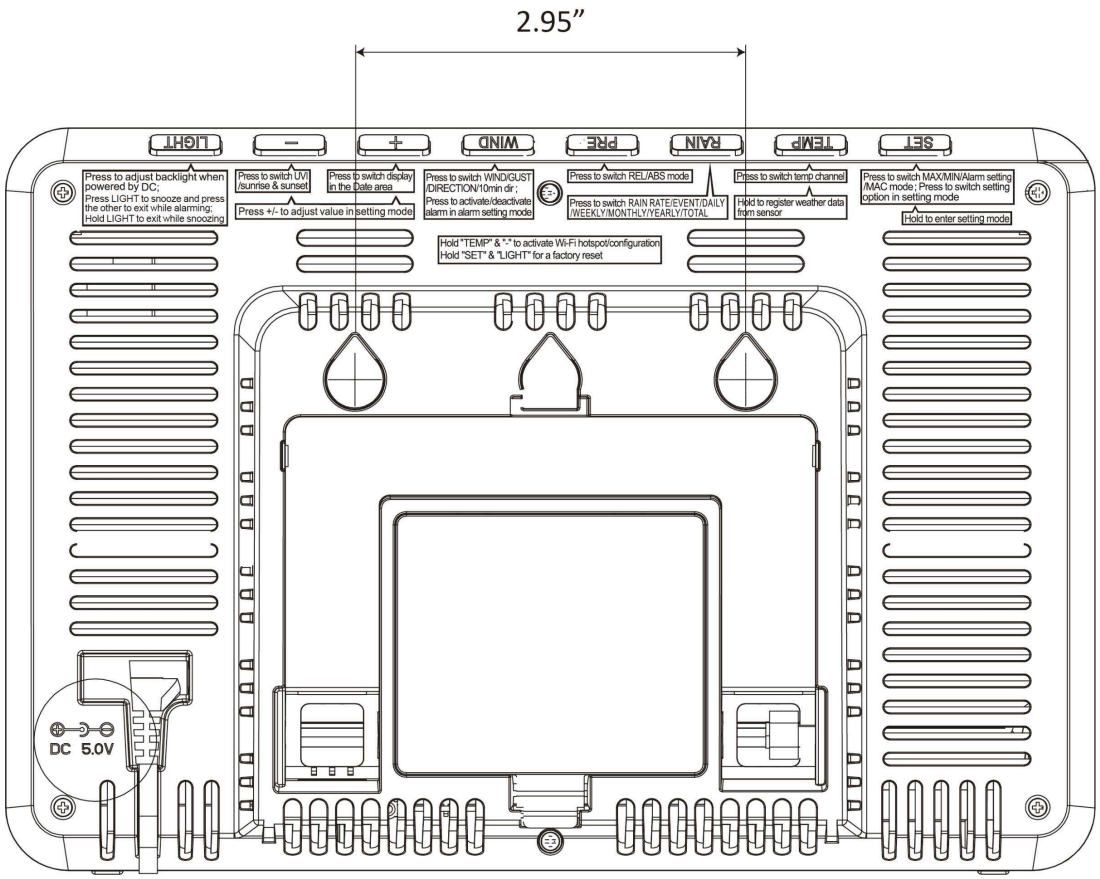


Figure 21: Rear view (Refer to Section 3.5 for Button functions)

3.2 Features

- 7.5" LCD display
- 8 physical buttons
- Support DC powered and 3 x AA alkaline or lithium batteries powered (3 fresh AA batteries (not included) can only run for 24H. Only used as a short-term backup power)
- Calendar, date, time, moon phase, sunrise, and sunset
- Built-in temperature humidity sensor, and barometric pressure sensor
- Support displaying indoor temperature, humidity, pressure, and changing trend
- Support receiving and displaying 8 channels temperature and humidity sensor data
- Support receiving and displaying wind speed, wind direction, rainfall, UV, solar radiation, feels like, dew point, CO_2, PM1.0, PM2.5, PM10, and AQI data

- Weather forecast: Sunny, Partly Cloudy, Cloudy, Rainy, Stormy, Snowy and Storm Snowy
- Record Max & Min value
- Alarm & Snooze function
- Support unit setting
- Support DST (Daylight Saving Time)
- RST function (Clear daily max/min values)
- Support backlight adjustment under DC power supply
- Can be used as a Wi-Fi gateway to support the reception of more sensors' data, which can be viewed through the web page
- Support Wi-Fi configuration on the web page (192.168.4.1), view more sensor data, set up server, set up calibration parameters, set up sensor ID
- Data storage on Ecowitt server: https://ecowitt.net
- Support uploading data to the weather station server after connecting to the Wi-Fi network:
  - ecowitt.net (Default upload to this server)
  - wunderground.com
  - weathercloud.net
  - wow.metoffice.gov.uk
  - Customized servers
- Support optional sensors, please refer to **Section 4**