ecowitt®

4G & Wi-Fi Weather Station Mobile Gateway with External RF Antenna

Model: WS6210S

https://s.ecowitt.com/YVEJX9

Content

1.Package

The following items comprise the WS6210S and its accessories.

QTY	Item
1	WS6210S (4G & Wi-Fi Weather Station Mobile Gateway) Main Unit
1	External RF Antenna
6	Hose Clamp (3 * Fits pipe diameter: 46-70mm & 3 * Fits pipe diameter: 21-38mm. Choose according to the need)
2	Hose Clamp Brackets
4	M5*8 Screws
1	SD13 to USB power cable, length 50cm(19.7 inch)
1	Solar panel with cable, length 70cm(27.6 inch)
1	Galvanized Bracket for solar panel
3	Screws for solar panel
1	User Manual
1	Quick Start

Table 1 WS6210S unit and accessories

QTY	Item
8	AA rechargeable NiMH batteries
1	Nano-SIM card
1	Micro SD card 8G

Table 2 Accessories list (pre installed)

2. Construction & Layout

2.1 Multiple Views and Sizes

1. WS6210S Size (mm)

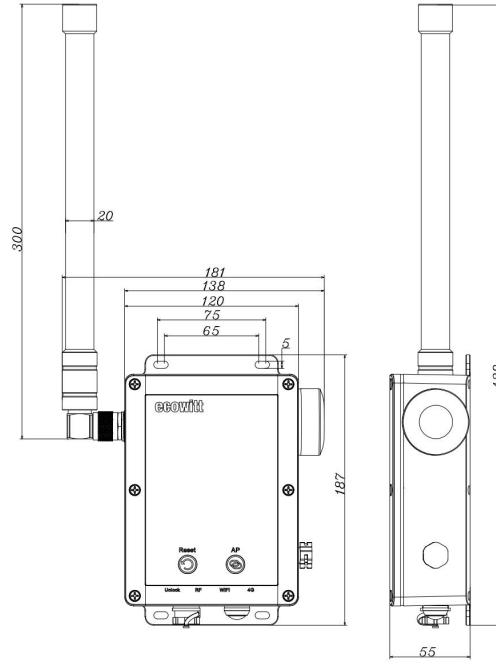
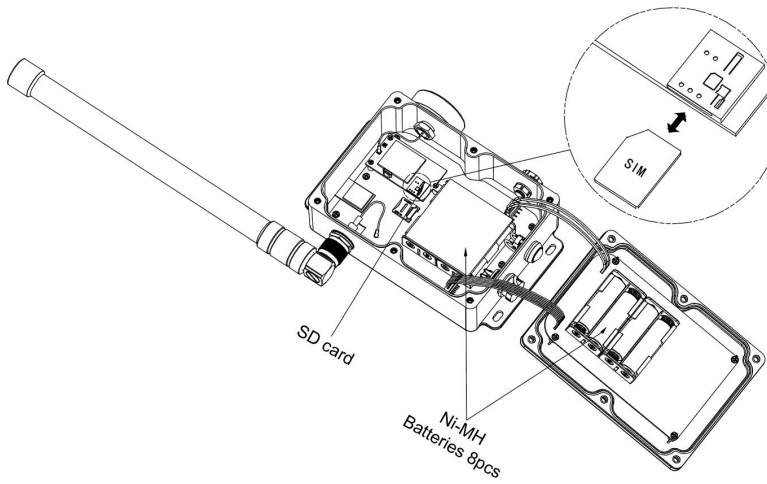


Figure 1

2.2 Layout

Inside


Outside	
 	① **2G/4G Antenna** Unable to open ② **Pressure Balance Valve** ③ **Power Switch** Press to power on/off ④ **RF antenna** Rotate to tighten / loosen ⑤ **Power Port** Left turn to unlock, right turn to lock

Table 3

2.3 Light Indicators

Light	Indicators
Unlock	● **Off:** Locked – key operation is prohibited ● **On:** Unlocked – key operation is possible.
RF	● **Flashes regularly:** Sensor Learning ● **Blinking once:** A successful reception of sensor signal.
Wi-Fi	● **Continuous blinking: AP** on. ● **Off**: Wi-Fi de-activated. ● **Fast blinking**: In Wi-Fi provisioning mode ● **Slow blinking**: Wi-Fi connected without internet ● **Steady on**: Wi-Fi connected with internet access
4G	● **Off:** Module is not recognized ● **Flashes quickly:** The module is under-recognizing ● **Blinks slowly:** When registering with the network ● **Flashes once every 5 seconds:** Successful network connection

Table 4

2.4 Touch Button

The device has two touch buttons： **Reset** and **AP**.

<table>
<tr><td colspan="2">Tap Reset & AP Button alternatively four times (tap interval < 1.5s) to unlock the WS6210S. The below buttons only work when the WS6210S is in the unlocked state.</td></tr>
<tr><td colspan="2"> 
</td></tr>
<tr><td>Reset Button

Hold the button for：
3 seconds: it will turn on the receiver and will be in sensor learning mode. The RF LED will flash two times per second for 3 minutes until the learning process is completed.
10 seconds: The gateway reboots to factory default settings. The four LEDs flash two times per second three times, then the device will reboot.</td><td>AP Button

Hold for 5 seconds:
Turn on the onboard Wi-Fi AP for 5 minutes. The device can be connected via IP address 192.168.4.1and SSID WS6210x-WIFIxxxx.</td></tr>
</table>

Table 5

3. Brief Introduction

Thank you for purchasing the Ecowitt WS6210S weather station receiver and transmitter. The WS6210S is a versatile wireless communication device supporting various wireless communication protocols. It is suitable for meteorological data collection and transmission. The product supports **WiFi and 4G** connections for receiving and processing multiple sensor data types.

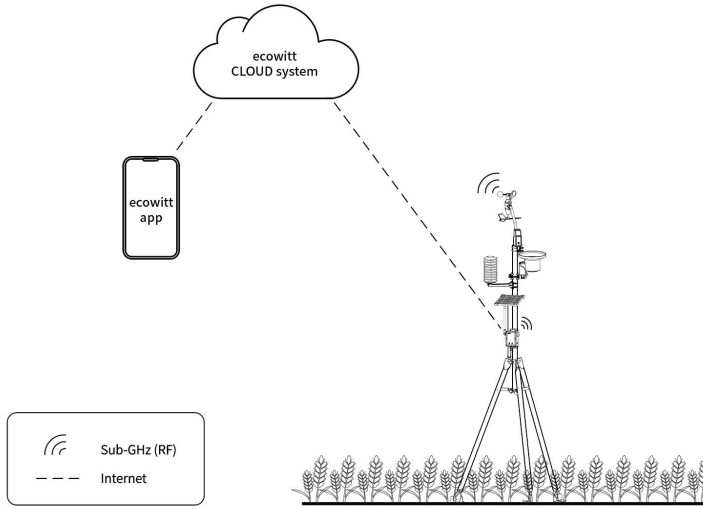


Figure 2 4G Scenario

Outdoor Use:

The product can use 4G for data transmission when used outdoors without power supply from the grid and without WLAN connectivity.

It can also be used outdoors via an available WLAN connection when permanent power supply via the electricity grid or other means (powerstation, powerbank) is available.

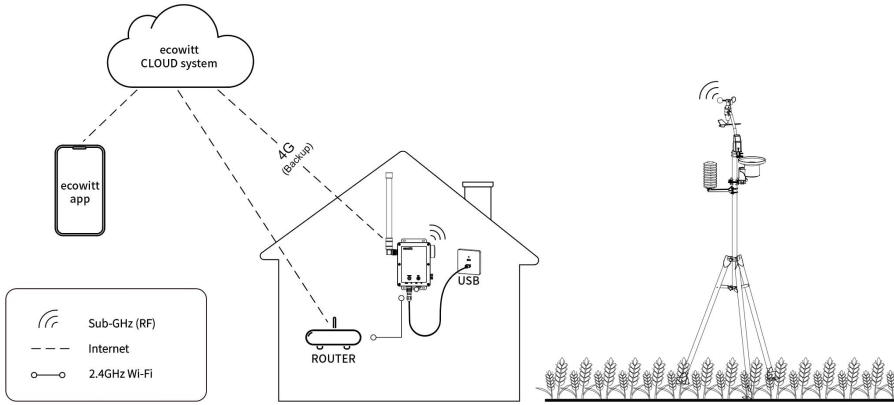


Figure 3 WIFI + 4G Scenario

Indoor Use:

When used indoors and WLAN connection is available, the product prioritizes Wi-Fi for data transmission. If Wi-Fi disconnects, it switches to 4G to maintain continuous data flow. (This is a configuration option, see Chapter 4.4)

The WS6210S is technically speaking a gateway, a display-less console, which needs to be used with optional sensors to obtain weather or other environment related 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 weather station and save it for future reference.

General Terms Used in the Manual:

Weather Station: Includes the console and sensors (or sensor array).

Gateway: Also known as a hub, it is a display-less console. Here, it refers to the WS6210S device.

Transmitter: Refers to the sensor.

Receiver: Refers to the console.

RF: Radio frequency. It refers to the ISM and SRD SUBG (Industrial, Scientific and Medical and Short Range Devices frequency bands below 1 GHz) for communicating between the gateway and its sensors. This frequency is not the same as the 4G modem or Wi-Fi working frequency. ISM/SRD bands are kept separate from 4G frequencies by national regulations to avoid interferences. Typical ISM/SRD frequencies are 915 (Americas, Australia, New Zealand), 868 (Europe), 433 (worldwide), 920 (Japan, Korea).

4G: A mobile data network standard (LTE): Long Term Evolution or 4th generation. WS6210S has a **built-in 4G modem** that can be configured to upload data via a 4G network. It needs a **SIM card** and 4G service coverage in the area where you want the WS6210S to be installed.

4. First Use

4.1 Installing the Antenna

Attach the external RF antenna by inserting it into the outlet and fixing it by turning the cap nut until it sits tight.

If you want to change the antenna angle, you will have to loosen the cap nut temporarily, turn the antenna into the wanted position and tighten the cap nut again.

Figure 4

4.2 Power on

1. Press the physical Power button to power it on. Four lights will turn on for 3s when powered on successfully as illustrated below:

Figure 5

2. When used for the first time, please charge the WS6210S using the included USB cable with an AC/DC adaptor or charge the batteries in an external charger before inserting them. When using the USB cable, the batteries will be fully charged in about 10 hours.

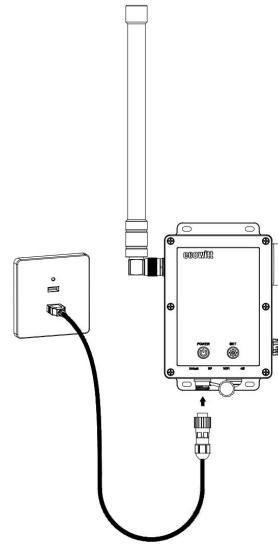


Figure 6

Note:

1. Do not use normal, non-rechargeable batteries ! This could result in battery leakage and will damage the device

2. To reboot the device you will need to unplug the USB cable, then press the physical power button twice.

4.3 Install the Ecowitt APP

1、Scan the QR code on the body of WS6210S to download the app.

Assure you have the location and Wi-Fi service enabled for the Ecowitt APP.

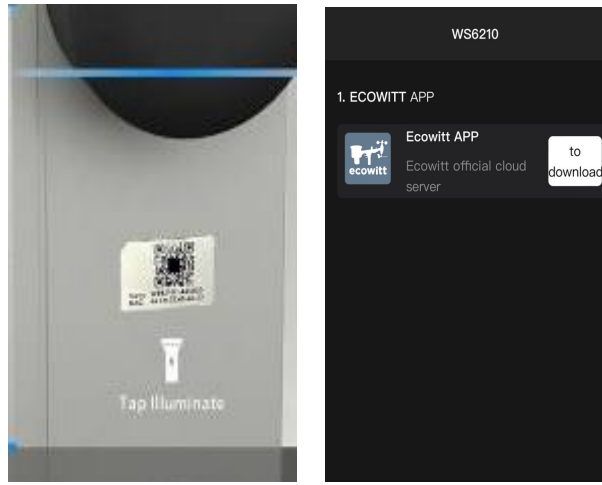


Figure 7

2、Run the "ecowitt" APP and register your account on ecowitt.net

3、Open the APP, tap on "menu" – "device" – "+add a new device"- choose the model of WS6210(S) from the product listing

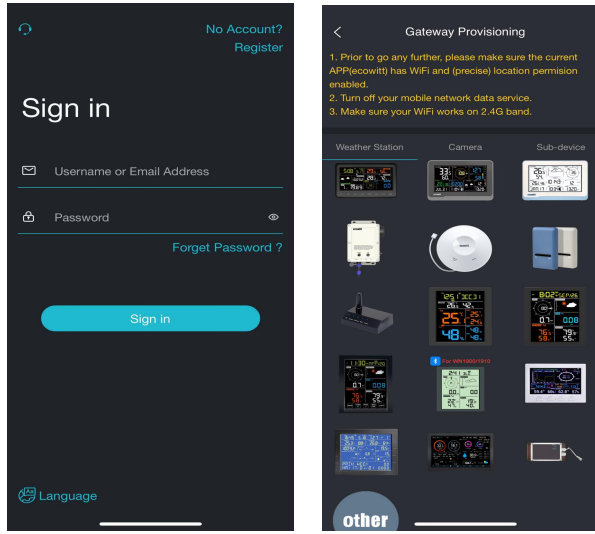


Figure 8

4.4 Working Mode

WS6210S has three basic networking modes available for uploading the data to weather services, like www.ecowitt.net, Weather Underground, WOW, WeatherCloud Uploading to a user chosen address (customized server) is possible too.

1. **Ecowitt SIM**: The device comes with a SIM card **pre-installed** in the factory. You can use the SIM card to upload data. The default package includes a prepaid **90-day (300MB)** service. If you want to use this for data uploading, please refer to **section 4.4.1** for the activation. You may extend the cellular data service by going through the SIM card renewal process on the "Ecowitt" app before the data service expires.
2. **Your (User's) SIM**: Open the housing of **WS6210S**, remove the **pre-installed** SIM card, and replace it with your SIM card. Please refer to **Section 4.4.2** for the setup.
3. **Wi-Fi:** If your location has **Wi-Fi and USB power access**, you may

refer to **Section 4.4.3** for the setup.

Note: If the QR code cannot be scanned, the device SIM card can be activated **via Wi-Fi connection**:

- Connect the device to Wi-Fi.
- Go to the Edit Gateway page.
- Tap SIM Card to activate it.

For detailed instructions, please refer to **Section 12.4: "Unable to Scan QR Code – How to Activate SIM Card?"**

Note1. Normal Mode

In Normal Mode, users can **remotely control** and configure device parameters via the Ecowitt **app (refer to section 9)**, including Sensor ID, Calibration, and other related settings.

Conditions for Normal Mode:

- The device is communicating via 2G/4G, or
- The device is communicating via Wi-Fi and powered by an external power source (USB power cable).

Example	Power Source	Communication Method (✓✓=prioritizes)	Mode	Description
Example 1	**Solar power**	✓✓ **2G/4G** Wi-Fi	✓ Normal Mode	When the device uses solar power, has Wi-Fi configured, and a 2G/4G SIM card is inserted, the system will automatically use 2G/4G for data transmission.
Example 2	**External USB power**	2G/4G ✓✓ **Wi-Fi**	✓ Normal Mode	When the device is powered by an external power source (USB cable), works via Wi-Fi, and the battery is fully charged, while a 2G/4G SIM card is also inserted, the system will automatically use Wi-Fi for data transmission.

Note2 Wi-Fi Low Power Mode

- **In Wi-Fi Low Power Mode,** supports Wi-Fi data transmission with solar power supply.
- In Wi-Fi Low Power Mode, the device **cannot be accessed remotely** through the Ecowitt app, and users **cannot configure** parameters such as Sensor ID or Calibration.

Conditions for Enabling Wi-Fi Low Power Mode:

- The SIM card is removed.
  (If a SIM card is inserted—even if not activated—the device will not enter Low Power Mode.)
- The device is not powered by an external power source.

Select the mode that is appropriate for you.

4.4.1 Ecowitt SIM

Ensure the provided **Ecowitt SIM card** is compatible with the operating service provider in your country. If the built-in SIM card is not supported in your region, replace the SIM card with your own. Refer to **Section 4.4.2**

Country/Region	Operator
Albania	Vodafone
Australia	Vodafone
Austria	H3G

Country/Region	Operator
Malaysia	Celcom/ Mi3G-UMobile
Malta	Vodafone
Mozambique	Vodafone

Brazil	Telefonica
Cambodia	Smart
Canada	Rogers
China	ChinaMobile/ Unicom
CongoDR	Vodafone
Czech Republic	Vodafone
Denmark	H3G
France	Bouygues Telecom/Orange
Germany	Vodafone
Ghana	Vodafone
Greece	Vodafone
Hong Kong, China	H3G
Hungary	Vodafone
Indonesia	Indosat
Ireland	H3G/Vodafone

Myanmar	MPT
Netherlands	Vodafone
New Zealand	OneNZ
Philippines	Smart
Portugal	Vodafone
Romania	Vodafone
Russian Federation	MTS
Saudi Arabia	STC
Singapore	Starhub
South Africa	Vodafone
South Korea	SKTelecom
Spain	Vodafone
Sweden	H3G
Taiwan, China	CHT/FET
Tanzania	Vodafone

Italy	H3G/Vodafone	Thailand	AIS/Truemove
Israel	Partner/Pelephone	UAE	Etisalat
Japan	KDDI AU	United Kingdom	H3G/Vodafone
Lesotho	Vodafone	USA	AT&T/T-Mobile
Macau, China	H3G	Vitenam	Vitenam Mobile

Table 6 Regions where the built-in SIM card service is supported

1. Tap on "menu" – "device" – "(+) add a new device"- choose the model of WS6210(S) from the product listing.
2. Tap on the button marked with "Ecowitt SIM Card."

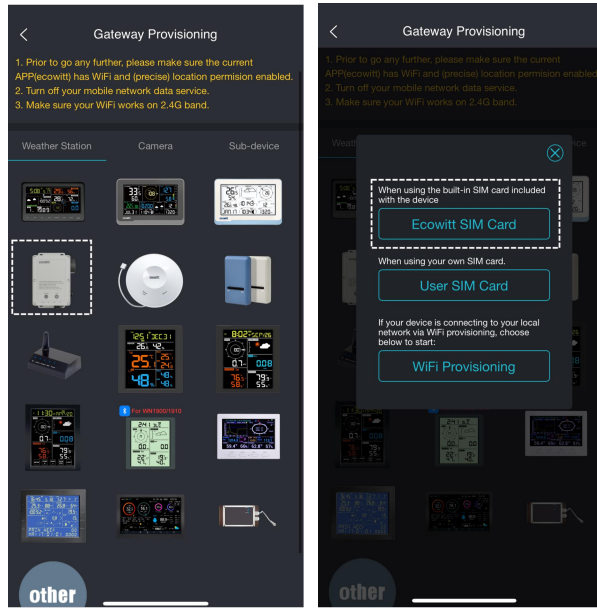


Figure 9

3. Scan the QR code on the device and bind it simultaneously.

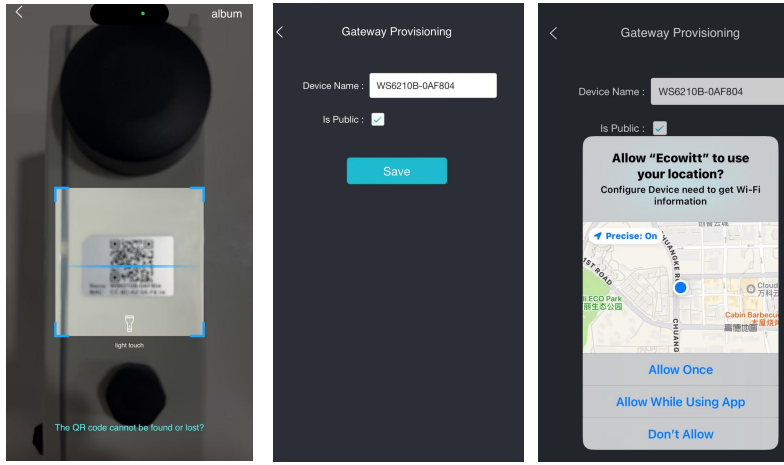


Figure 10

4. Select the country or region for the SIM card usage.

（*** Note**: that it cannot be changed once activated）

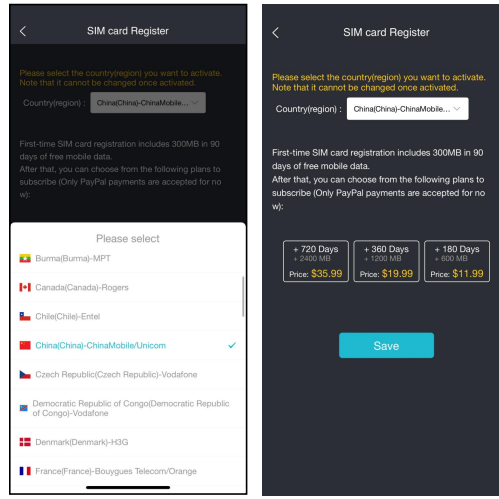


Figure 11

5. Reboot the WS6210S, then wait approximately **30-60 minutes** for the data to upload.

You can see the battery level on dashboard.
(the below picture shows the WS6210 running on battery only with no external power supply connected)

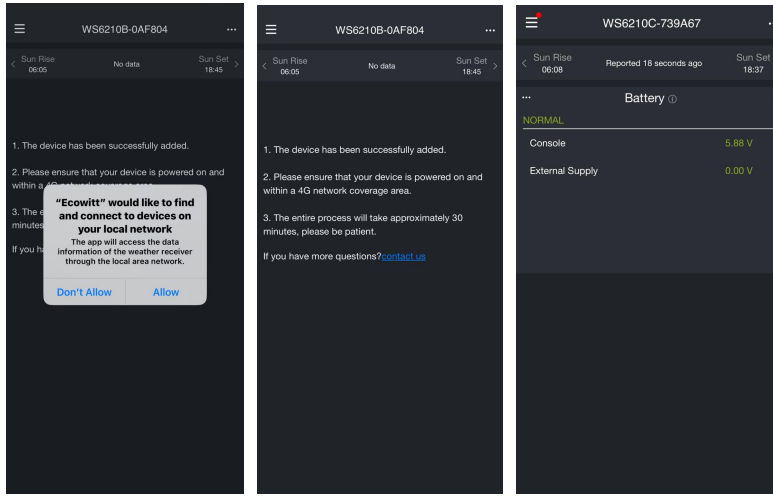


Figure 12

Note: If there is no data for more than 60 minutes, go to chapter **8.9 Modem Management** interface for detailed analysis.

4.4.2 use User's own SIM Card

4.4.2.1. Replace the SIM Card

(Note: Please refer to **Section12.1** for specific operations)

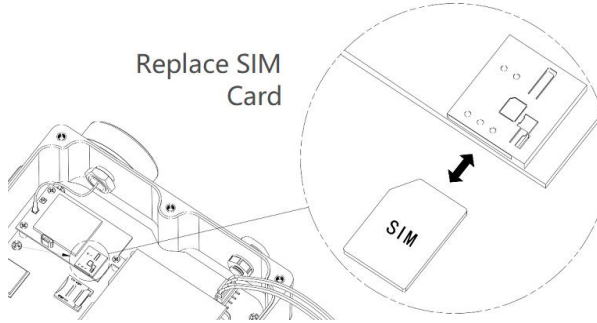


Figure 13

4.4.2.2. Tap on the cell marked with "User SIM Card"

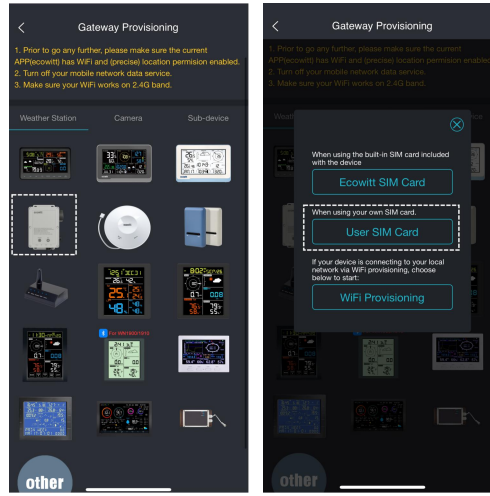


Figure 14

4.4.2.3. Fill out APN Settings and wait for the data to be uploaded.

APN: Access Point Name, used for data communication and can be edited. Correct APN settings are necessary for proper use if using a custom SIM card.

You can see the battery level on the ecowitt.net dashboard (Battery tile) or in the Ecowitt app dashboard view (main view).

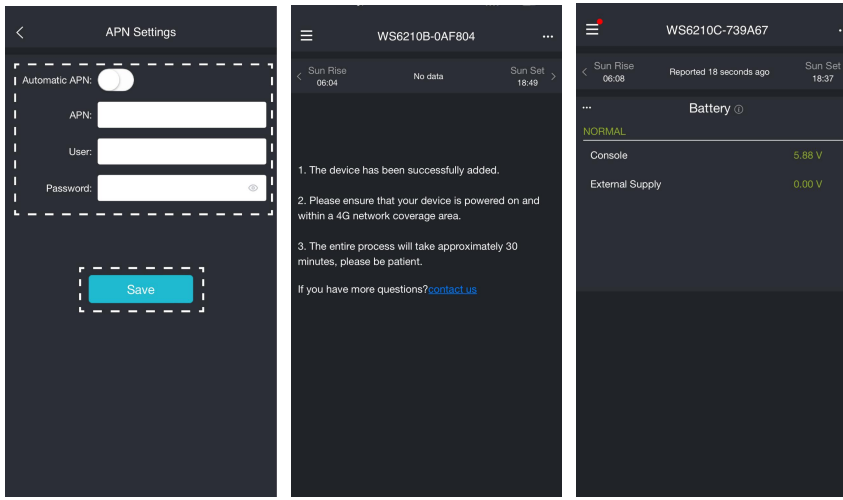


Figure 15

4.4.3 Wi-Fi Provisioning

Note1: Using **Wi-Fi** for data uploading consumes **much power** and usually requires the WS6210S console to be powered by connecting to a **USB power socket** instead of a solar panel.

Note2: Disabling your phone's mobile data service (switch on Flight Mode and then WLAN only) will help to avoid many difficult to spot network
problems during the registration (“pairing”) of the gateway with your network router. (As shown in the figure below)

Figure 16

4.4.3.1. Turn on the WS6210S' AP (WLAN Hotspot)

Make sure WS6210S is unlocked. Holding the AP Button for 5 seconds will turn on **WS6210S' Wi-Fi AP** for 5 minutes.

Figure 17

4.4.3.2. AP: access point.

The WS6210S has a built-in WiFi access point **(SSID WS6210x-WIFInnnn)** which can be used to access the device for configuration and data viewing (IP address **192.168.4.1**).

It can also be used to connect the device to a local wireless network (WLAN) by providing the router login credentials (SSID, password) and via that to the internet. The connection to the local network once established will also be maintained when the AP is switched off.

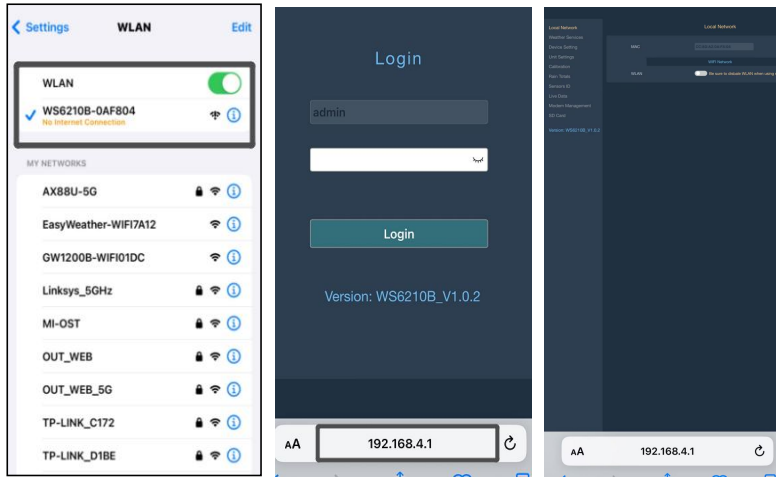


Figure 18

4.4.3.3. WIFI provisioning

Tap on "menu"-"device"-"(+) add a new device"-choose the model of WS6210(S) from the Product listing.

Tap on the cell marked with "WIFI provisioning".

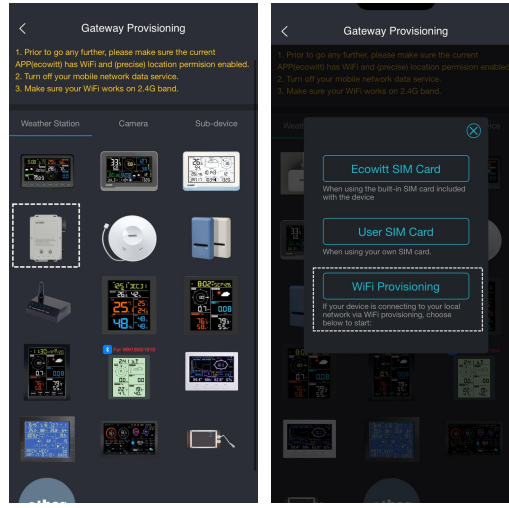


Figure 19

4.4.3.4. Connect to WS6210S' AP

In the wireless network list of your device (PC, tablet, Smartphone) select the SSID of the WS6210(S) (WS6210x-WIFIxxxx). Ignore a message you're your mobile device tlling that there is no internet connection. It won't be needed here. Keep the Wi-Fi connection even without an internet connection.

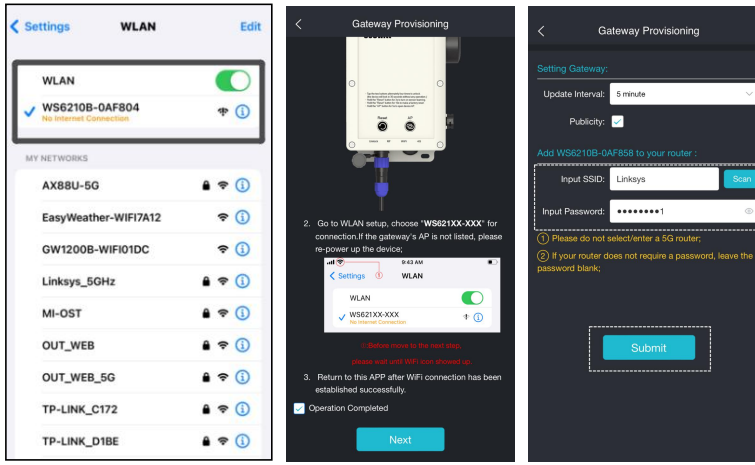


Figure 20

4.4.3.5. Switch the cellphone's WIFI to the same one as the WS6210S.

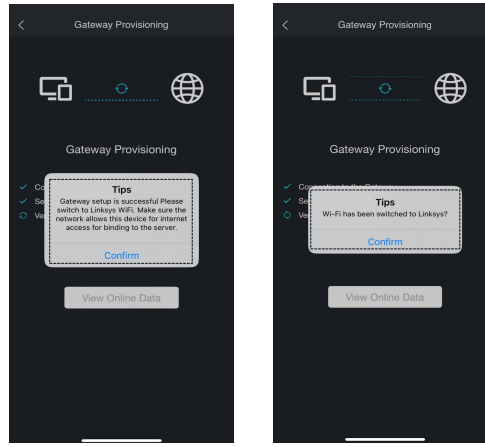


Figure 21

4.4.3.6. Wait for the data to be uploaded

You can see the battery level on the dashboard.

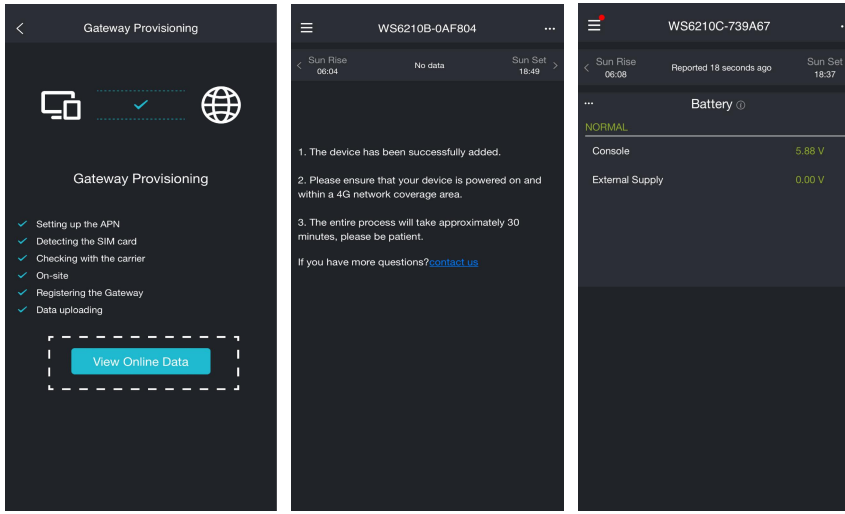


Figure 22

4.5 How to delete and reset the WS6210S

Press the WS6210S button with the text "Long press to delete" until the delete icon appears, press it, then choose Delete or Reset.

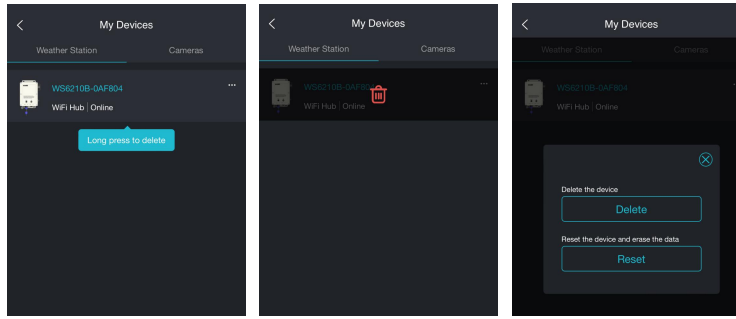


Figure 23

5. General Setting and Checkup

After completing the Network configuration, you can configure the device for its device name, location, Time zone, DST (Daylight Saving Time), and Data public settings.

1. Tap on Menu (top left) and then click on "Devices".
2. Click the "... " icon of the device list entry (there may be more than one if you already have other consoles) to open the editing page.

When there is also a red (New) icon visible, it shows that a newer firmware version is available and can be installed.

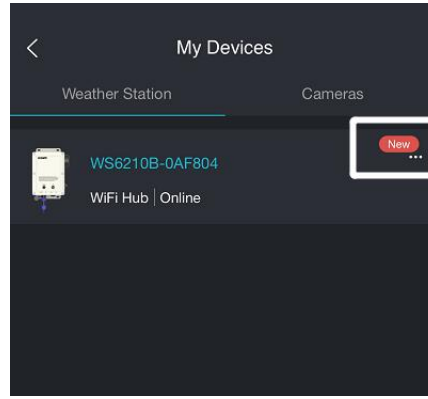


Figure 24

Version: The current firmware version is displayed here.

If an update is available, a **"yellow arrow"** will appear next to the version number. Tap on the version button to start the upgrade.

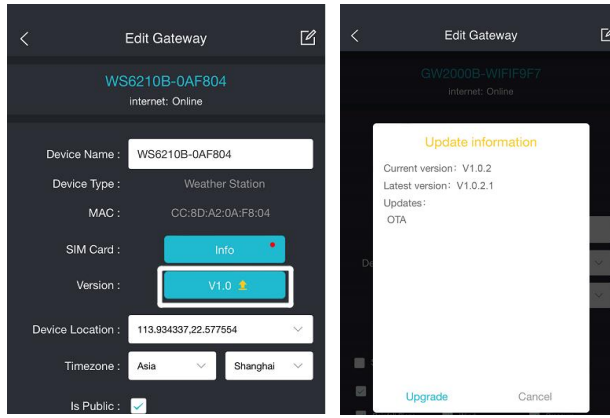


Figure 25

Device Name: You can edit your device name here if the default name needs to be changed.

Device Location: Your device's weather map location is determined by its coordinates. You can change its location by tapping the location cell to open the weather map. You can drag and drop your WS6210S gateway on the map; its coordinates will be updated automatically.

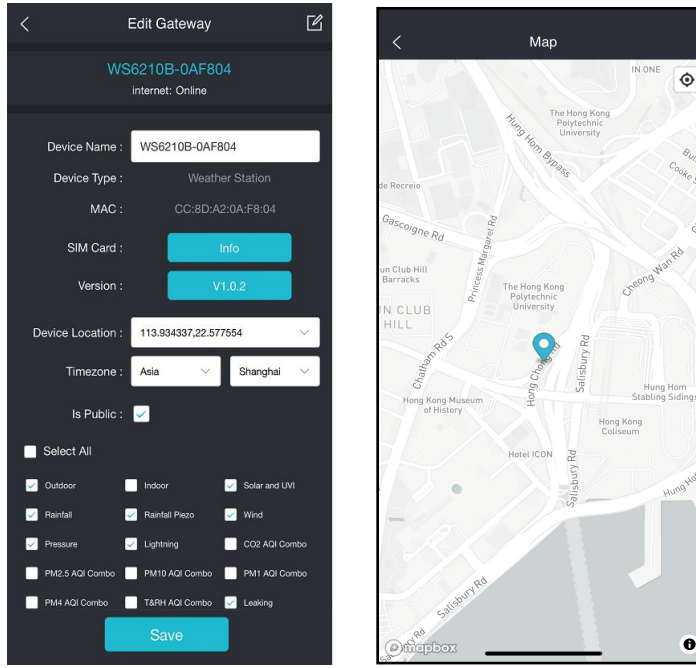


Figure 26

Note 1: After the above device setting is completed, return to the dashboard. If the network connection is successful, the dashboard will display as follows:

Figure 27 Connection is Succeed

Note 2: The above dashboard should appear immediately with a Wi-Fi connection, and a cellular connection will be activated within 60 minutes. If the device shows an offline status, please refer to **section 8.9 Modem Management** for more details.

Figure 28 Connection is failed

6. Sensor start up

1. Ensure the gateway is in sensor learning mode.

Hold the Reset button for 3 seconds will turn on the receiver and will put it into sensor learning mode. The RF LED will flash two times per second for 3 minutes until the learning process is completed.

2. Power up the sensor.

Power up your sensor array and additional sensors you own, and the Web-UI dashboard should be able to show the sensor data on the dashboard immediately after registration.

If all data looks normal, you can temporarily store the gateway and sensors to ensure that the system works. Then, refer to section 7 and complete the installation in its permanent location.

For sensor mounting, you may refer to the instructions of the specific sensor manual.

3. Sensor ID confirmation

Ensure that the sensor ID from which the receiver is receiving data matches the sensor ID on the label of the sensor array body.

You can check sensor ID on the Web-UI dashboard. Refer to **Section 8.7 Sensors ID** for detailed instructions.

7. Mounting

7.1 Solar Panel Size(mm)

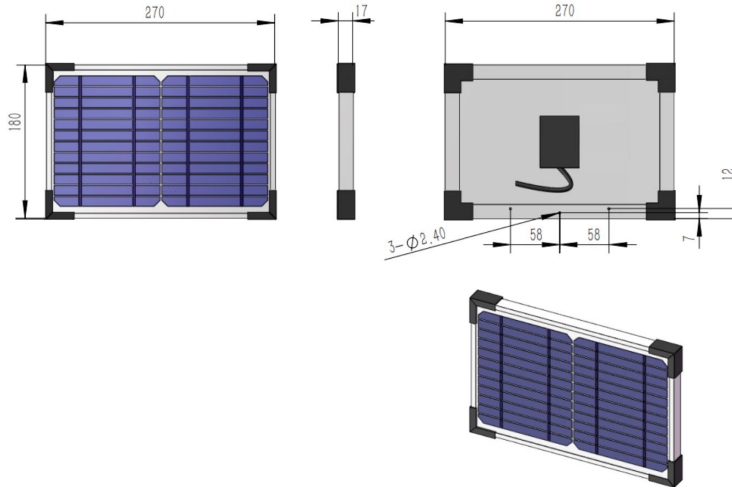


Figure 29

7.2 Mounting

Before installation, please ensure that the product has been set up correctly. You may skip this part until the setup is completed.

The accessory supports two ranges of pole width. Prepare a support pole with a diameter of 1.8-2.75 inches (46mm-70mm) or 0.83-1.50 inches (21mm-38mm) in an open field with adequate solar exposure. If you use the WS6210 in 4G mode, make sure that the 4G cell phone signal of your outdoor environment is sufficiently strong.

Tip: It is recommended to fully charge the device via USB cable before mounting.

1. Mount the Solar Panel onto the pole

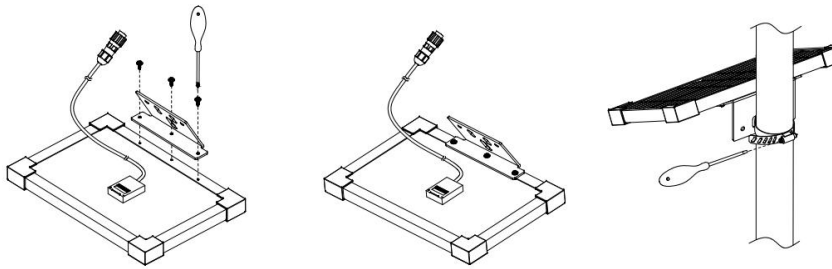


Figure 30

2. Tighten the screws to secure the enclosure

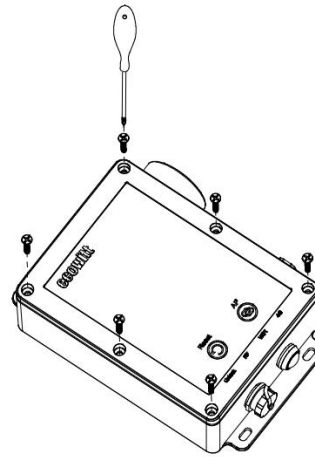


Figure 31

The enclosure is supposed to be closed during operation. If you need to replace the SD card or SIM card, you will need to open it. Otherwise, it should remain closed.

3. Mount the WS6210S onto the pole

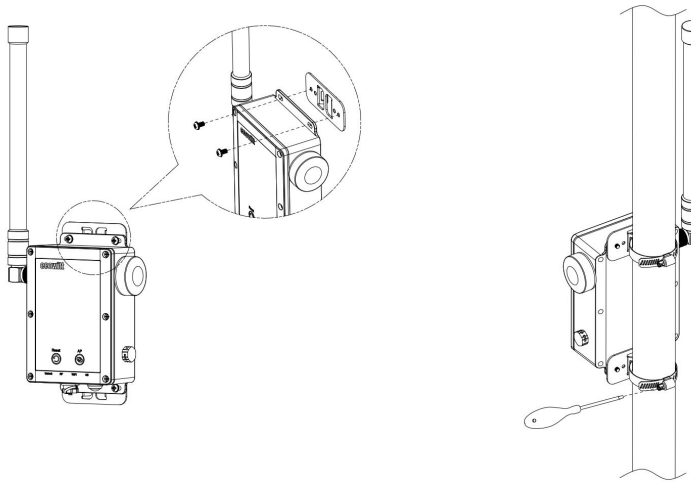


Figure 32

4. Mounting completed

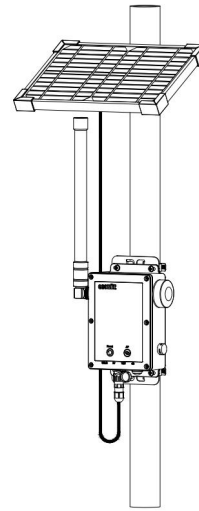


Figure 33

8. Configure the WS6210S locally with its inbuilt web browser interface (WebUI)

The Web UI is an essential tool for managing the device. You can use it to set up the network connection and check its status, set up weather services (WU, WOW, Weather Cloud, custom server), view live data, manage sensors, make calibrations, manage SD card files, and more.

How to Access the Web UI:

Make sure WS6210S is unlocked. Holding the AP Button for 5 seconds will turn on its Wi-Fi AP for 5 minutes. Connect your computing device (Smartphone, tablet, PC) to the WS6210S AP (SSID: WS6210x-WIFIxxxx). Enter 192.168.4.1 in the browser. Log in with the default username (admin) and the password, the latter being blank as a default.

If your gateway is connected to a local network, the WebUI can also be reached via the IP address the gateway has received or has been configured:

http://IP-address-of-the-gateway (e.g. http://192.168.1.123)

Setting changes, such as registered Sensor IDs, are saved three minutes after power-up. However, changes made via the web interface are saved immediately and retained even if power is lost.

8.1 Local Network

This page supports viewing or setting：

(1) MAC address

(2) WLAN: WLAN is the function of the gateway's own inbuilt Wi-Fi hotspot or access point , which is disabled by default

Note: Make sure to deactivate the WLAN when the system is run via the solar panel.

(3) IP Address Mode: Receive Automatically (DHCP) or Static

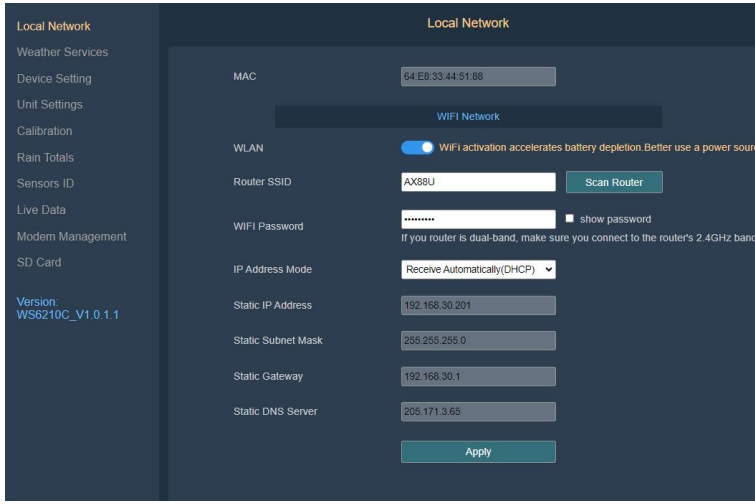


Figure 34

8.2 Weather Services

After the Network 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. one address of your choice (Customized server)

Note: Uploading data to the preset weather services (A-D) require an account and a station registration with their provider.

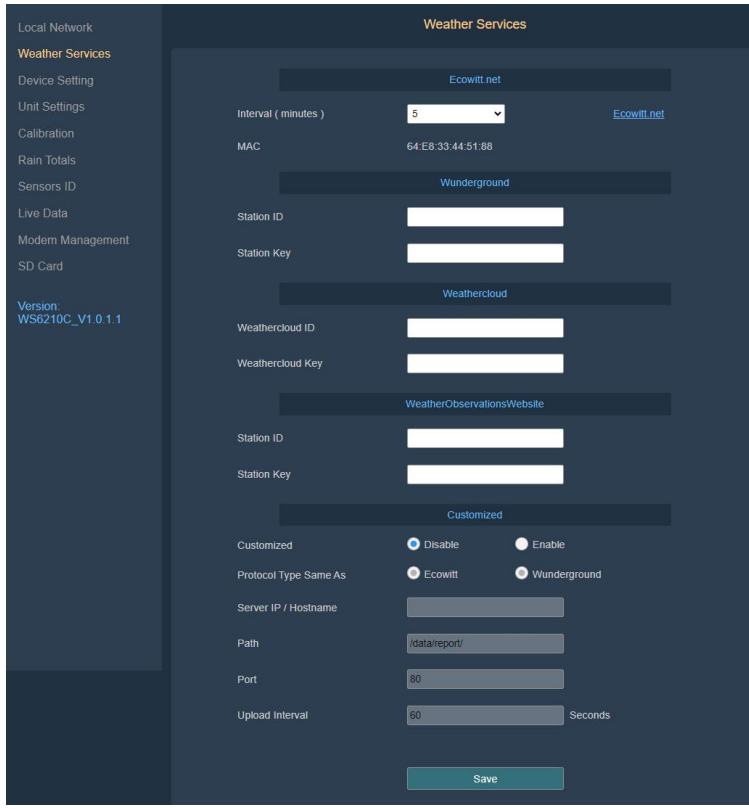


Figure 35

8.3 Device Setting

This page supports viewing or setting:

(1) Device sensor reception frequency (view only)

(2) Automatic Frequency Control (AFC): turn this option on when your location is busy on the sensor radio spectrum to improve signal reception.

(3) Temperature Compensation: Turn on this option to minimize sun light influence on outdoor temperature measurement if the outdoor temperature and humidity sensor installation site is not ideal. This option works with sensor arrays like WS69, WS80, WS90 and WS85 only.

(4) Auto Time zone: Your time zone setting on ecowitt.net will be applied here.

(5) Automatic firmware upgrade

(6) Device AP Auto OFF: Enabled by default, the AP automatically shuts down when no terminals are connected; disabling this option keeps the AP continuously running consuming additional energy. If using the system only solar-powered, do not disable this setting.

(7) Login & AP Password

(8) Restore default: During factory Reset, all indicators will flash 3 times (ON: 500ms; OFF: 500ms), followed by an automatic restart upon completion.

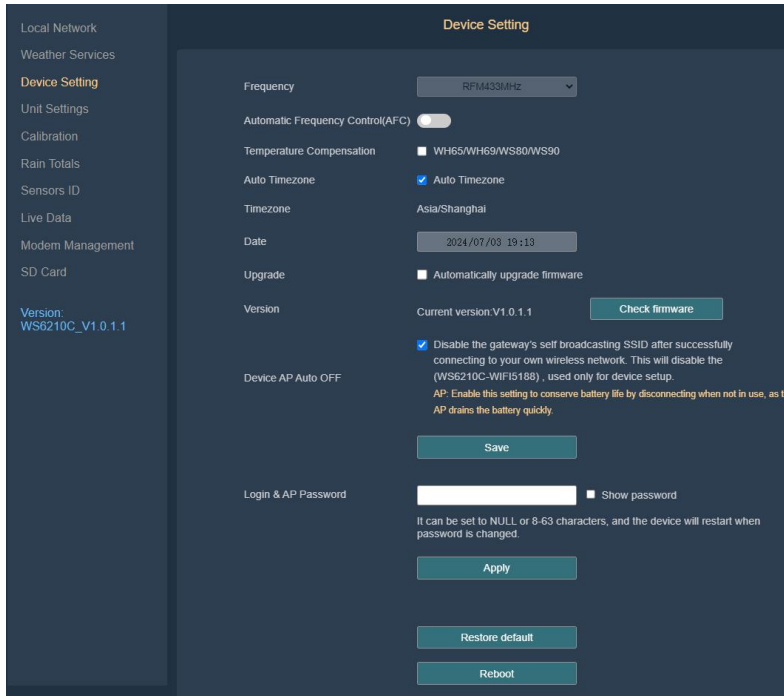


Figure 36

Through a factory reset all configuration and history data (e.g. rain totals) will get lost. It is good practice to keep note of your settings to be safe should the situation for a factory reset arise.

Data saved on the SD card will not be affected by a factory reset or a power outage.

8.4 Unit Settings

Supports the following unit settings:

(1) Temperature: ℃,℉

(2) Pressure: hPa, inHg, mmHg

(3) Wind: m/s, km/h, mph, knots

Note: Lightning distance units are the same as wind speed units:

Wind Speed Unit	Lightning Distance Unit
m/s, km/h, BFT(BFT can only be set in App/ website)	km
knots	nmi
mph, fpm(fpm can only be set in App/website)	mi

Table 7

(4) Rain: mm, in

(5) Solar Irradiance: Klux, W/㎡, Kfc

Settings applied via theWebUI do only apply to the WebUI view on data. They do not affect the unit settings in the apps (Ecowitt app, WS View

Plus app) or the ecowitt.net dashboard. Unit settings are individual for the medium used.

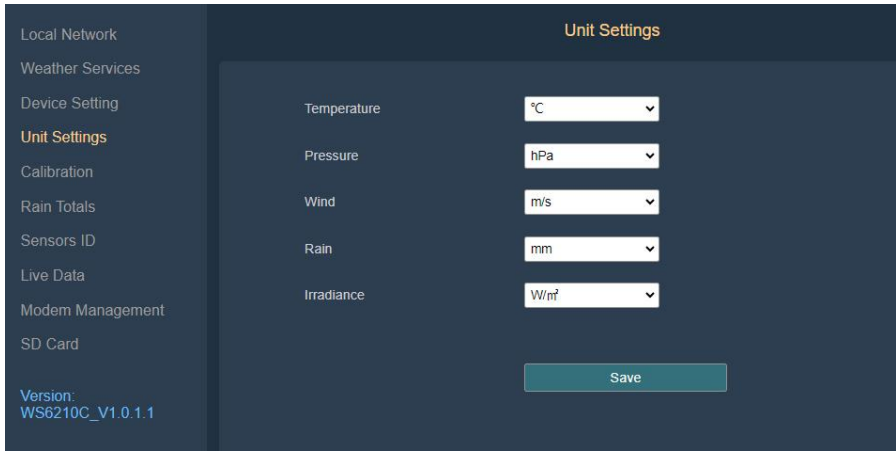


Figure 37

8.5 Calibration

This page supports the following data calibration:

(1) Solar Irradiance

(2) UV

(3) Wind Speed

(4) Indoor Temperature

(5) Indoor Humidity

(6) Absolute Pressure

(7) Relative Pressure

(8) Outdoor Temperature

(9) Outdoor Humidity

(10) Wind Direction

(11) Soil Moisture

(12) Multi-Channel Temperature & Humidity

(13) Multi-Channel Temperature

(14) Laser Distance Sensor

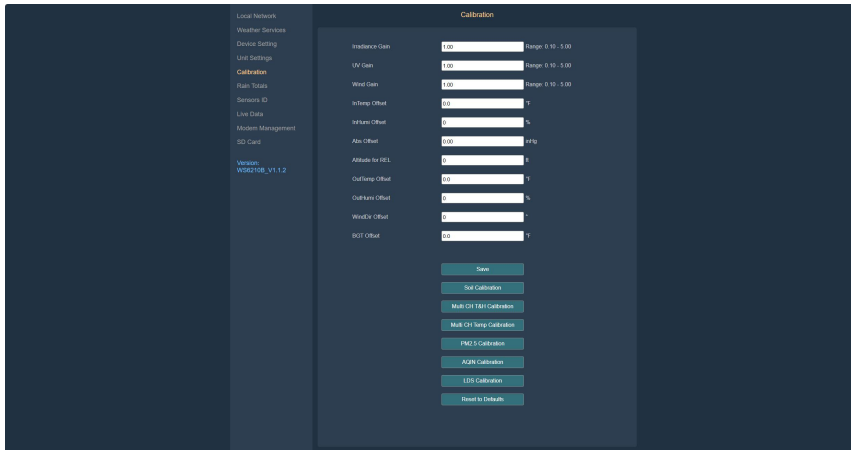


Figure 38

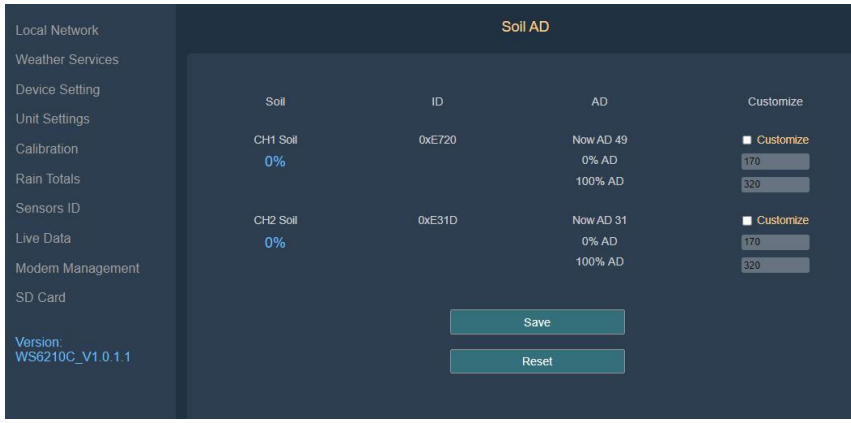


Figure 39

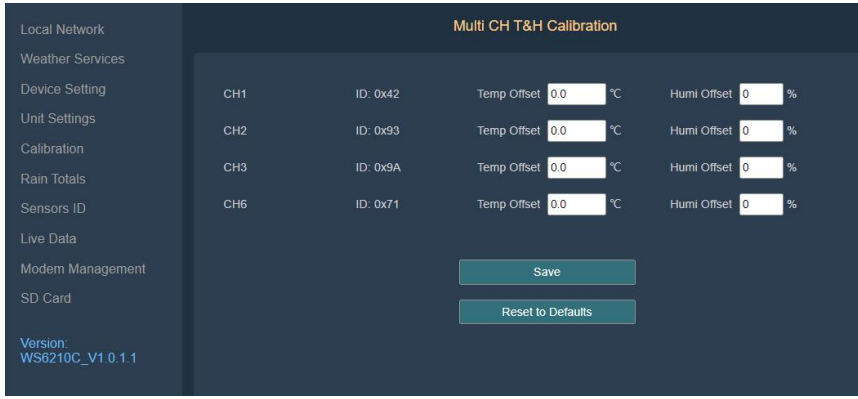


Figure 40

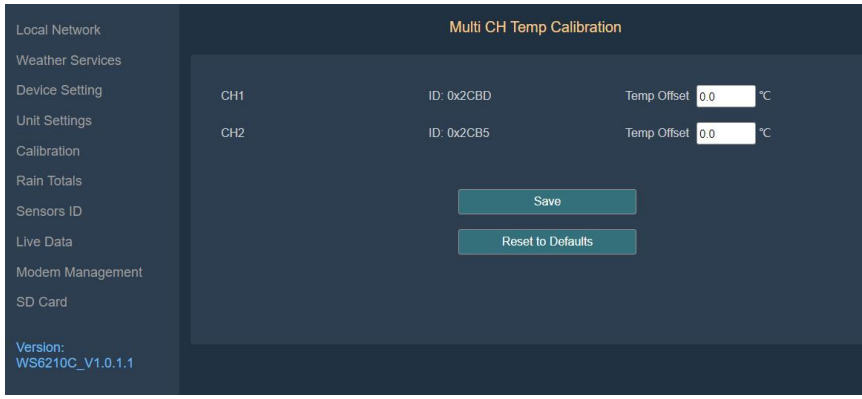


Figure 41

8.6 Rain Totals

This page supports settings such as:

(1) Choose traditional or piezoelectric rain gauge data to be uploaded to the WU server, as only one rain gauge data can be accepted when you have both our haptic rain gauge and tipping bucket type rain gauge.

(2) Rainfall calibration

(3) Rain reset time for **Daily Rain/Weekly Rain/Rainfall Season**

(4) For **Piezo Rain1~5 Gain calibration**

The piezoelectric rain gauge working principle: raindrops fall on the sensor's surface so that the monitoring panel produces a small mechanical vibration, the vibration of the mechanical stress produces a voltage difference corresponding to the amount of rainfall.

In practice, the measurement of precipitation by piezoelectric rain gauges is influenced by environmental factors such as wind, terrain, and debris. In the case of large rainfall intensity, rainfall intensity can be measured by the piezoelectric rain gauge, but the raindrops landing may have two impacts on the monitoring panel so that the measured rainfall value is larger; for minimal rainfall intensity, due to the vertical momentum is too small, so that the measured rainfall value is small. Therefore, it is necessary to calibrate the piezoelectric sensors for different rainfall intensities and the frequency of different rainfall types depending on the environment in which they are located.

WS90 and WS85 are weather sensor arrays equipped with piezoelectric rain gauges. To make your rain data more accurate, you can calibrate the rain sensor accuracy by yourself:

1. A reference is needed to record the rainfall value, and it is also important to be able to record the rain rate. Our WH40 rain sensor can be used for this purpose.

2. You can set five rain gain parameters covering five ranges of rain rates: Piezo Rain1through Piezo Rain5.

Piezo Rain 1; rain rate 0 - 3.99 mm/h

Piezo Rain 2: rain rate 4 – 9.99 mm/h

Piezo Rain 3: rain rate 10 – 29.99 mm/h

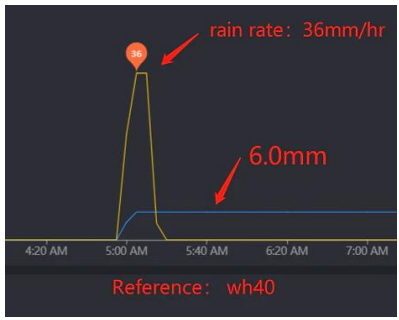
Piezo Rain 4: rain rate 30 – 59.99 mm/h

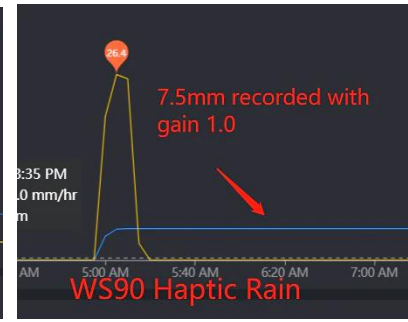
Piezo Rain 5: rain rate more than 60 mm/h

The gain value will be multiplied by the value provided by the sensor. Values smaller than 1 will reduce the original value, values greater than one will increase the original value.

We usually leave Rain1 as it is unless you can confirm that it consistently produces the same different result. Then you can adjust it to this value.

3. Please ensure that you record rain data as follows: set rain4 gain to 6/7.5, which equals 0.8. For easier management, set rain2, rain3, and rain5 all to 0.8 for now. Only when different rain rates are recorded, divide the ws90 rain by 0.8 to get 1.0 rain, and then recalculate (reference/ws90/0.8) to precisely adjust the corresponding rain gain setting.





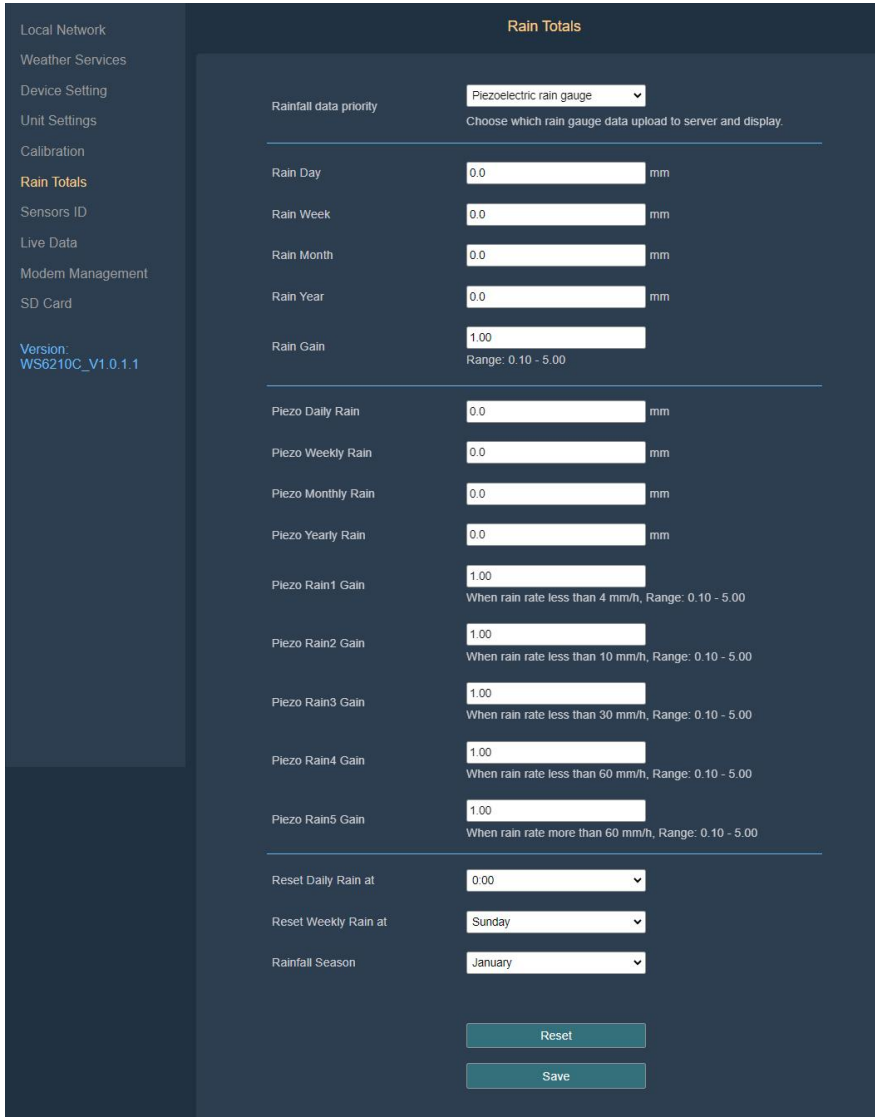

Local Network
Weather Services
Device Setting
Unit Settings
Calibration
Rain Totals
Sensors ID
Live Data
Modem Management
SD Card
Version:
WS6210C_V1.0.1.1
Rain Totals
Rainfall data priority
Piezoelectric rain gauge
Choose which rain gauge data upload to server and display.
Rain Day
0.0
mm
Rain Week
0.0
mm
Rain Month
0.0
mm
Rain Year
0.0
mm
Rain Gain
1.00
Range: 0.10 - 5.00
Piezo Daily Rain
0.0
mm
Piezo Weekly Rain
0.0
mm
Piezo Monthly Rain
0.0
mm
Piezo Yearly Rain
0.0
mm
Piezo Rain1 Gain
1.00
When rain rate less than 4 mm/h, Range: 0.10 - 5.00
Piezo Rain2 Gain
1.00
When rain rate less than 10 mm/h, Range: 0.10 - 5.00
Piezo Rain3 Gain
1.00
When rain rate less than 30 mm/h, Range: 0.10 - 5.00
Piezo Rain4 Gain
1.00
When rain rate less than 60 mm/h, Range: 0.10 - 5.00
Piezo Rain5 Gain
1.00
When rain rate more than 60 mm/h, Range: 0.10 - 5.00
Reset Daily Rain at
0:00
Reset Weekly Rain at
Sunday
Rainfall Season
January
Reset
Save

Figure 42

8.7 Sensors ID

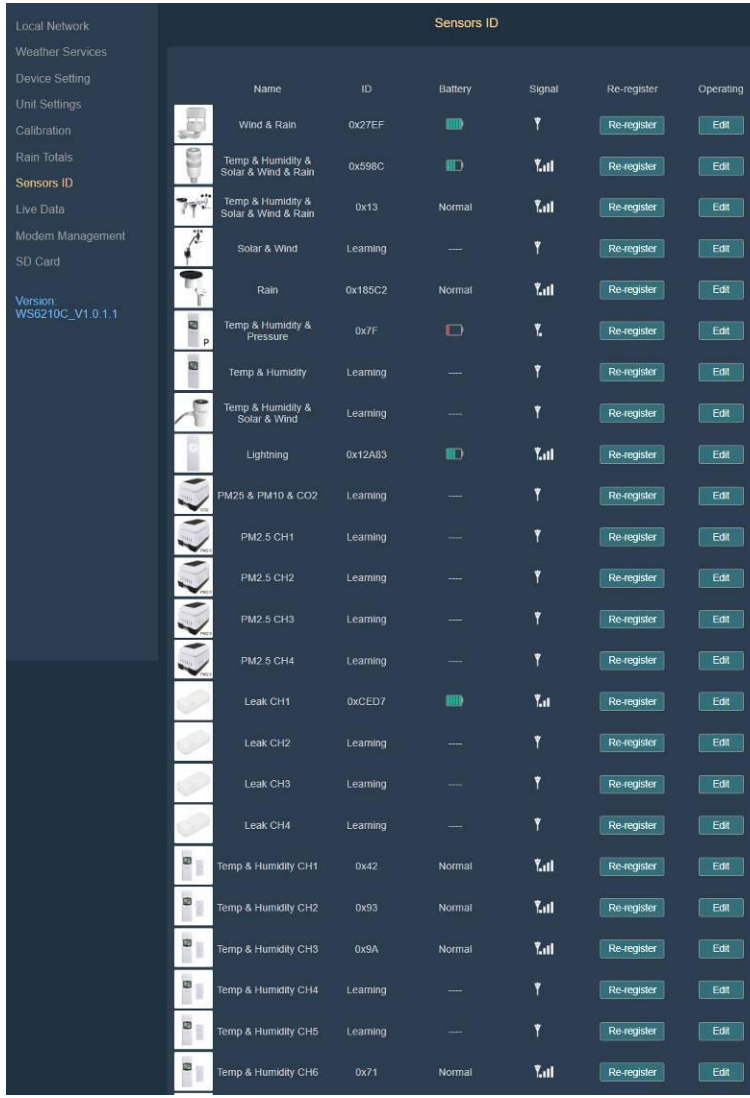
(1) Supports viewing and registering sensors and their ID.

(2) Viewing battery status, signal quality (bars) and signal strength (RSSI)

(3) By entering the "Edit" sub-page of a particular sensor, you may register the sensor by entering the sensor ID so that this sensor can be mandatorily assigned. You can also choose to disable the sensor.

It is good practice to disable all sensor ID slots of sensors which you don't have or don't use with your console/gateway in order to avoid the reception of "ghost" sensors from other weather stations in your neighbourhood.

(4) By entering the "Re-register," the gateway will search and register the sensor again to ensure its presence. If a new sensor is discovered, it will be displayed here with its sensor ID updated.


Local Network
Weather Services
Device Setting
Unit Settings
Calibration
Rain Totals
Sensors ID
Live Data
Modem Management
SD Card
Version:
WS6210C_V1.0.1.1
Sensors ID
Name
ID
Battery
Signal
Re-register
Operating
Wind & Rain
0x27EF
Re-register
Edit
Temp & Humidity & Solar & Wind & Rain
0x598C
Re-register
Edit
Temp & Humidity & Solar & Wind & Rain
0x13
Normal
Re-register
Edit
Solar & Wind
Learning

Re-register
Edit
Rain
0x185C2
Normal
Re-register
Edit
Temp & Humidity & Pressure
0x7F
Re-register
Edit
Temp & Humidity
Learning

Re-register
Edit
Temp & Humidity & Solar & Wind
Learning

Re-register
Edit
Lightning
0x12A83
Re-register
Edit
PM25 & PM10 & CO2
Learning

Re-register
Edit
PM2.5 CH1
Learning

Re-register
Edit
PM2.5 CH2
Learning

Re-register
Edit
PM2.5 CH3
Learning

Re-register
Edit
PM2.5 CH4
Learning

Re-register
Edit
Leak CH1
0xCED7
Re-register
Edit
Leak CH2
Learning

Re-register
Edit
Leak CH3
Learning

Re-register
Edit
Leak CH4
Learning

Re-register
Edit
Temp & Humidity CH1
0x42
Normal
Re-register
Edit
Temp & Humidity CH2
0x93
Normal
Re-register
Edit
Temp & Humidity CH3
0x9A
Normal
Re-register
Edit
Temp & Humidity CH4
Learning

Re-register
Edit
Temp & Humidity CH5
Learning

Re-register
Edit
Temp & Humidity CH6
0x71
Normal
Re-register
Edit

Figure 43


Temp & Humidity CH7 Learning ---- Re-register Edit
Temp & Humidity CH8 Learning ---- Re-register Edit
Soil moisture CH1 0xE720 Normal Re-register Edit
Soil moisture CH2 0xE31D Normal Re-register Edit
Soil moisture CH3 Learning ---- Re-register Edit
Soil moisture CH4 Learning ---- Re-register Edit
Soil moisture CH5 Learning ---- Re-register Edit
Soil moisture CH6 Learning ---- Re-register Edit
Soil moisture CH7 Learning ---- Re-register Edit
Soil moisture CH8 Learning ---- Re-register Edit
Temp CH1 0x2CBD Re-register Edit
Temp CH2 0x2CB5 Re-register Edit
Temp CH3 Learning ---- Re-register Edit
Temp CH4 Learning ---- Re-register Edit
Temp CH5 Learning ---- Re-register Edit
Temp CH6 Learning ---- Re-register Edit
Temp CH7 Learning ---- Re-register Edit
Temp CH8 Learning ---- Re-register Edit
Leaf Wetness CH1 0x3013 Re-register Edit
Leaf Wetness CH2 0x3031 Re-register Edit
Leaf Wetness CH3 Learning ---- Re-register Edit
Leaf Wetness CH4 Learning ---- Re-register Edit
Leaf Wetness CH5 Learning ---- Re-register Edit
Leaf Wetness CH6 Learning ---- Re-register Edit
Leaf Wetness CH7 Learning ---- Re-register Edit
Leaf Wetness CH8 Learning ---- Re-register Edit

Figure 44

8.8 The Live Data page

(1) Display real-time data of the connected sensors.

(2) Shows the WS6210S' battery voltage and the solar charging power supply voltage.

(3) You can edit the sensor name in a tile with a pencil icon by clicking the pencil icon. This name is only reflected on this device, it will not update your dashboard tile name at ecowitt.net or in an app.

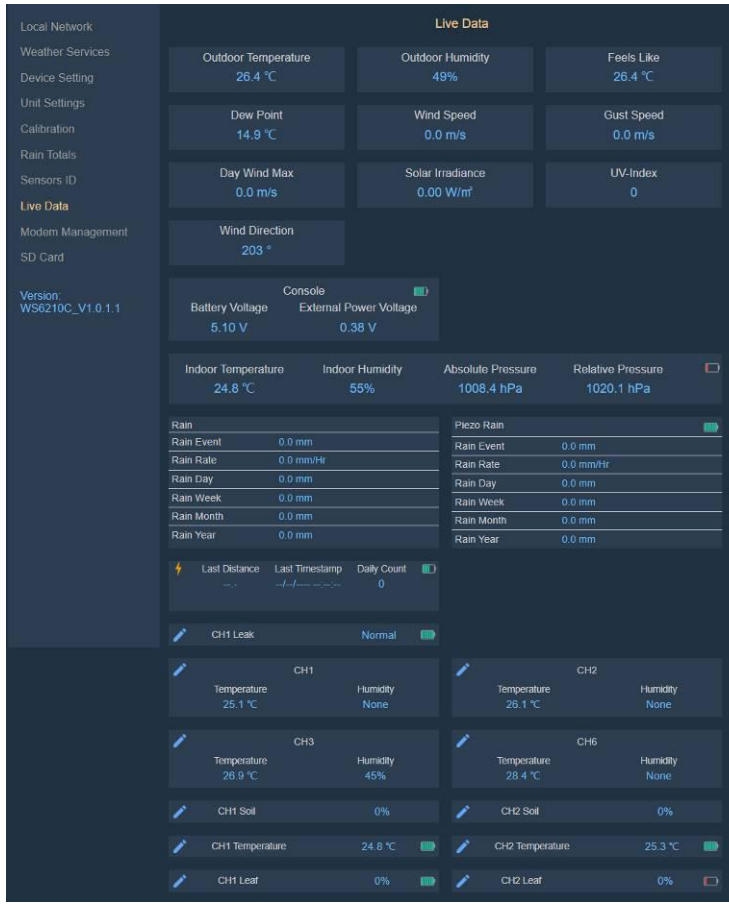


Figure 45

8.9 Modem Management

8.9.1 Management Page Description

(1) Display basic information of the Modem:

① **SIM Card:** Inserted or Not Inserted

② **RSSI:** Signal strength, used to measure signal quality

③ **IMSI:** International Mobile Subscriber Identity, used to identify a subscriber uniquely

④ **IMEI:** International Mobile Equipment Identity, used to identify the 4G module uniquely

⑤ **ICCID:** Integrated Circuit Card Identifier, a unique identifier for the SIM card

⑥ **IP address:** Currently assigned local area network IP address

⑦ **Registered Operator:** The operator with which the device is registered

⑧ **Network Standard:** Network protocol and frequency bands supported by the device

⑨ **APN:** Access Point Name, used for data communication and can be edited. Correct APN settings are necessary for proper use if using a custom SIM card

⑩ **Modem Model:** Model of the 4G module

⑪ **Modem Version:** Firmware version of the 4G module

(2) Support real-time display of Modem Log

(3) Support downloading Modem Log to local storage

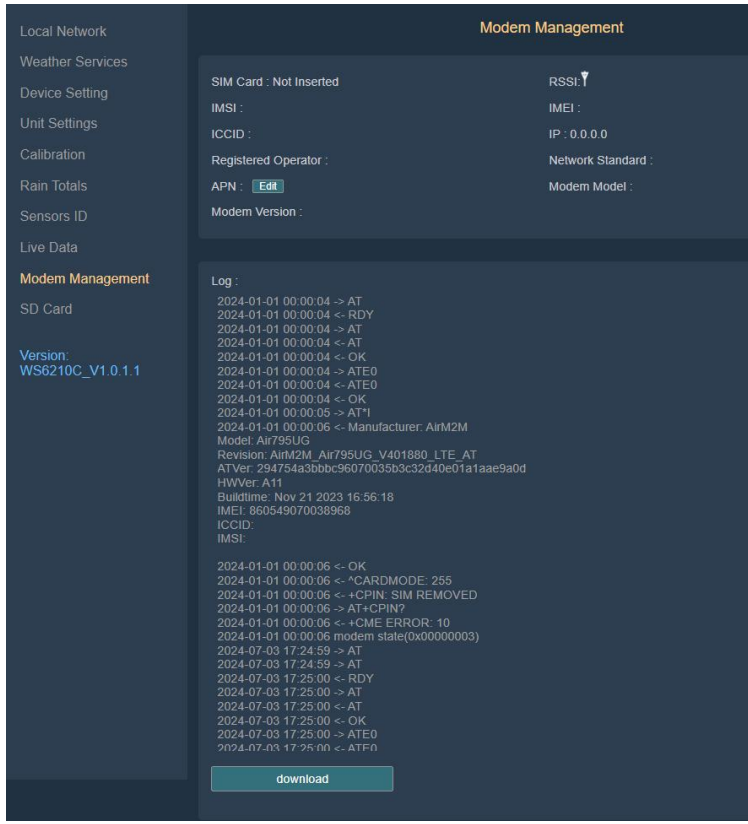


Figure 46

Check the top section to see if it was successful.

Click "Download" to download the SIM card data log.

The log file reveals the cellular network connection status in detail. It is useful when you need to investigate the connection in detail. Thus, downloading the log and sending it to customer support is quite useful when you seek help.

8.9.2 Troubleshooting Modem Issues

(1) Communication Issue with 4G Module

Symptom: On the Modem Management page of the WebUI, SIM Card status shows "Not Inserted" and the Log only displays "-> AT".

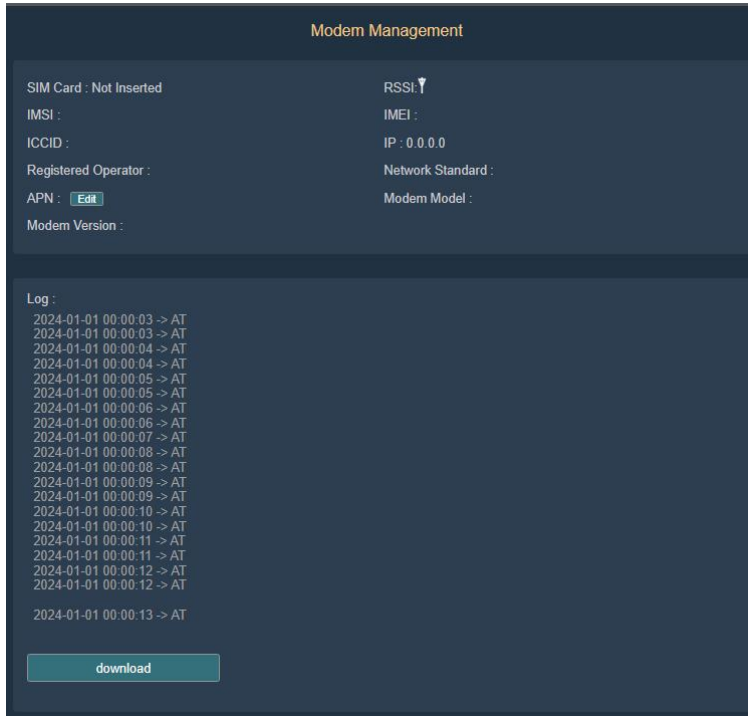


Figure 47

Analysis: Failure in communication between the main control and the module.

Solution: Try power cycling the device. If the issue persists, the 4G module may be damaged or there could be a circuitry issue, requiring replacement of the 4G module board.

(2) SIM Card Not Detected

Symptom: On the Modem Management page of the WEB UI, SIM Card status shows "Not Inserted" and the Log shows "-> AT+CPIN?" followed by "<- +CME ERROR: 10".

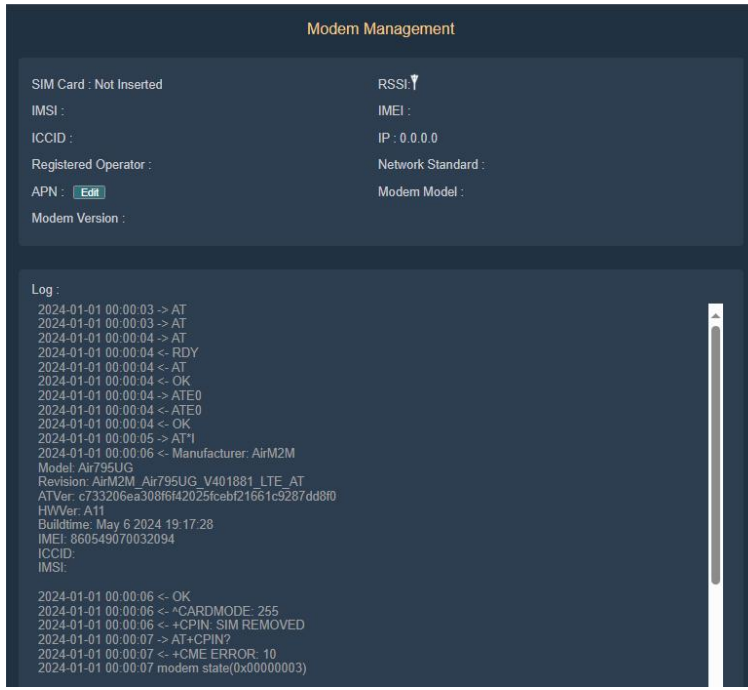


Figure 48

Analysis: Possible reasons include SIM card not inserted properly, loose SIM card, damaged SIM card, or faulty 4G module board.

Solution: Verify SIM card readiness, replace SIM card if necessary, or replace the 4G module board.

(3) Poor Network Signal Strength

Symptom: On the Modem Management page of the WEB UI, SIM Card status shows "Inserted" and the Log repeatedly shows "-> AT+CSQ" followed by "<- +CSQ: 99,99".

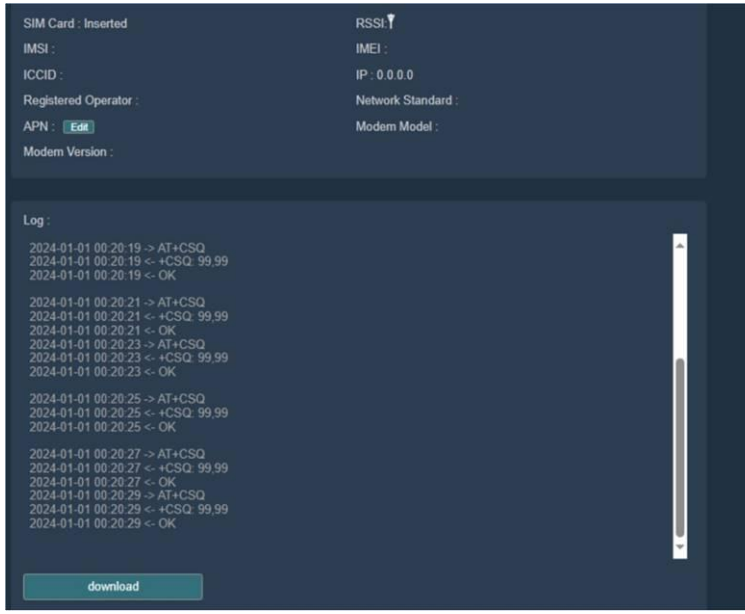


Figure 49

Analysis: Repeated occurrences of "-> AT+CSQ" and "<- +CSQ: 99,99" indicate poor network signal quality.

Solution: Check the antenna connection and verify SIM card quality.

(4) SIM Card Attach to Network Failure

Symptom: On the Modem Management page of the WEB UI, SIM Card status shows "Inserted" and the Log shows multiple occurrences of "<- +CREG: 0,5", "<- +CREG: 0,1", and "<- +CGATT: 0".

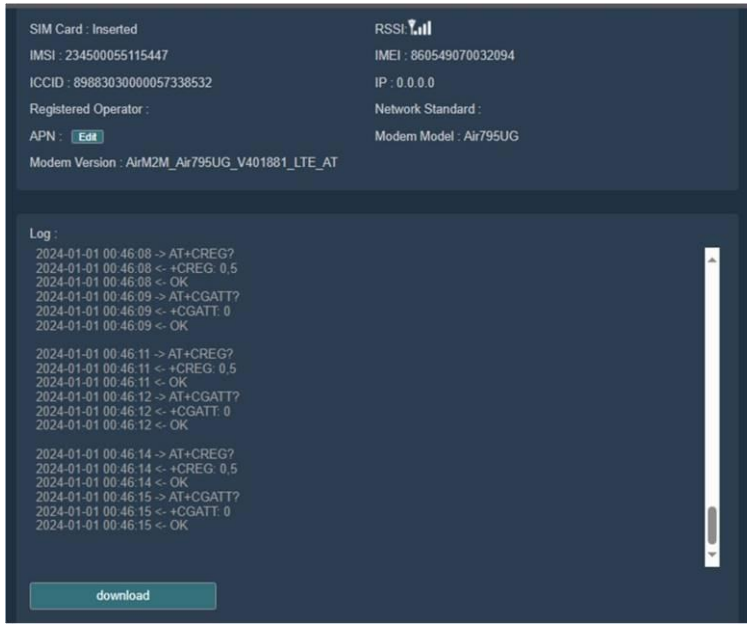


Figure 50

Analysis: "<- +CREG: 0,5" and "<- +CREG: 0,1" indicate successful registration, while "<- +CGATT: 0" indicates failure to attach to the network. This could be due to SIM card being tied to a specific IMEI or running out of data.

Solution: Check SIM card status (payment, validity) or replace SIM card if necessary.

(5) SIM Card Internet Connection Issue

Symptom: On the Modem Management page of the WebUI, SIM Card status shows "Inserted" and the 4G module obtains an IP address, but the Log displays "<- +CDNSGIP: 0,8".

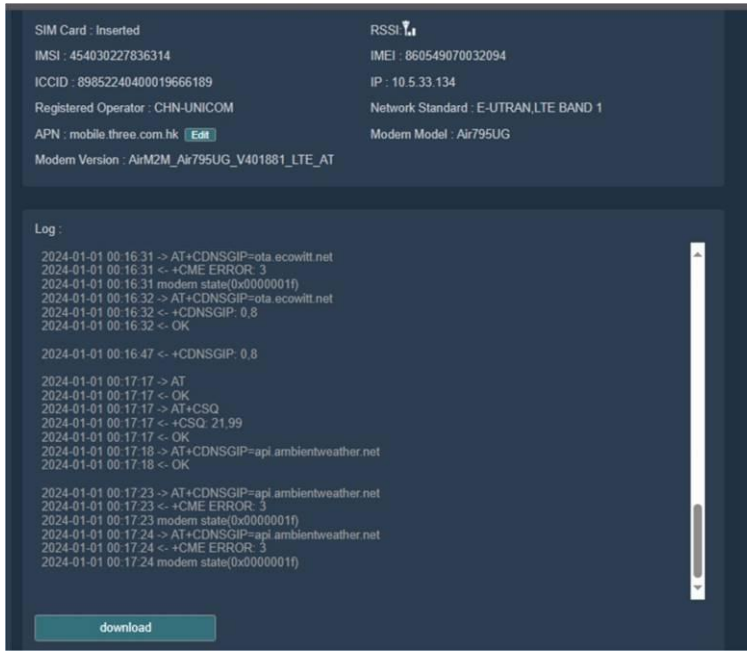


Figure 51

Analysis: Indicates a problem with the SIM card.

Solution: Check SIM card status (payment, validity) or replace SIM card if necessary.

8.10 SD Card Management

(1) **SD card file system format**: Only FAT32 is supported. For cards larger than 32GB, use the Rufus tool to format the SD card to FAT32. Download the tool from https://rufus.ie/en/.

Tip: When replacing with a higher-capacity card, please be mindful of the memory card's maximum read/write cycles and lifespan.

Hint: the maximum storage space for one month with all possible sensors in the maximum number connected to a WS6210 is ~0.1 GB

⇒ an 8 GB card can accommodate 6.67 years of data, a 32 GB SD card 26.67 years.

(2) **Real-time status display and hot-swap support**: The system monitors the SD card's status in real-time and allows for its insertion or removal without restarting the device.

(3) **SD card information display**: The interface shows detailed SD card information, including storage capacity and read/write speed.

(4) **Multi-level directory management**: The system adopts a multi-level directory structure for easy file categorization and management by users.

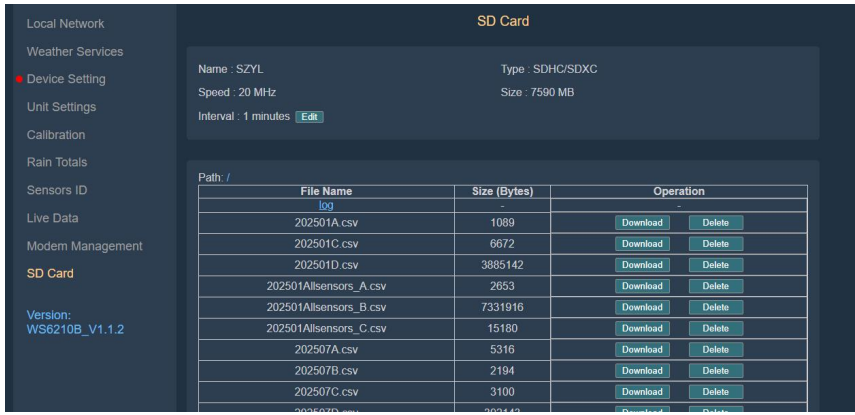
(5) **Sensor data storage**: Data collected by sensors is saved in .csv format in the root directory of the SD card, facilitating direct access and analysis of data.

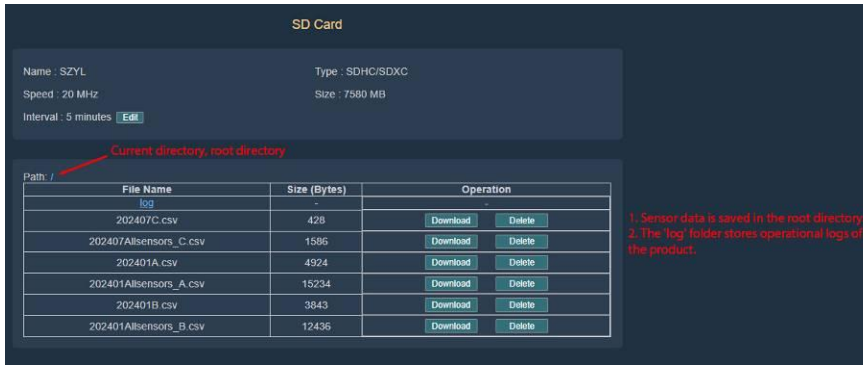
(6) **Log file management**: The system generates new log files daily, saved in .txt format. They are saved in the /log directory. All log files are automatically categorized and stored in respective folders by month, facilitating retrieval and management of historical data.

(7) **File filtering mechanism**: The system automatically filters out non-gateway-generated files, ensuring storage space is allocated for important data and avoiding unnecessary data redundancy.

(8) **File operations support**: Users can download and delete individual files, providing flexible file management capabilities.

(9) **Customizable save intervals**: The system allows users to adjust save intervals for data and log files according to specific recording needs.





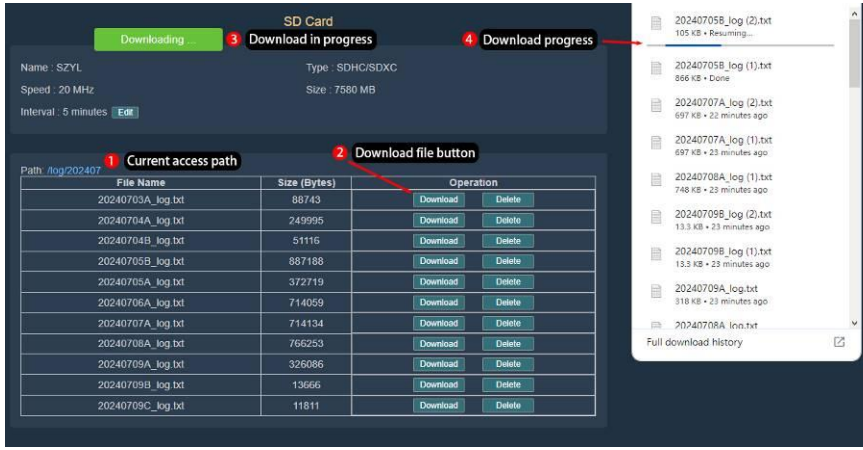


Figure 52

8.11 Firmware updates

Firmware Automatic Upgrade: If automatic firmware update is enabled on the web interface and new firmware is detected, the product will enter OTA (over the air, here: WiFi or 4G) mode and automatically restart upon completion. (Automatic check for updates is 24 hours)

Manual Upgrade: Access the local web page (either via the gateway AP **192.168.4.1** or via the local network http://IP-address-of-the-gateway, navigate to the device settings page, click on **"Check Firmware"**, and if a new version is found, click **"Upgrade Version".**

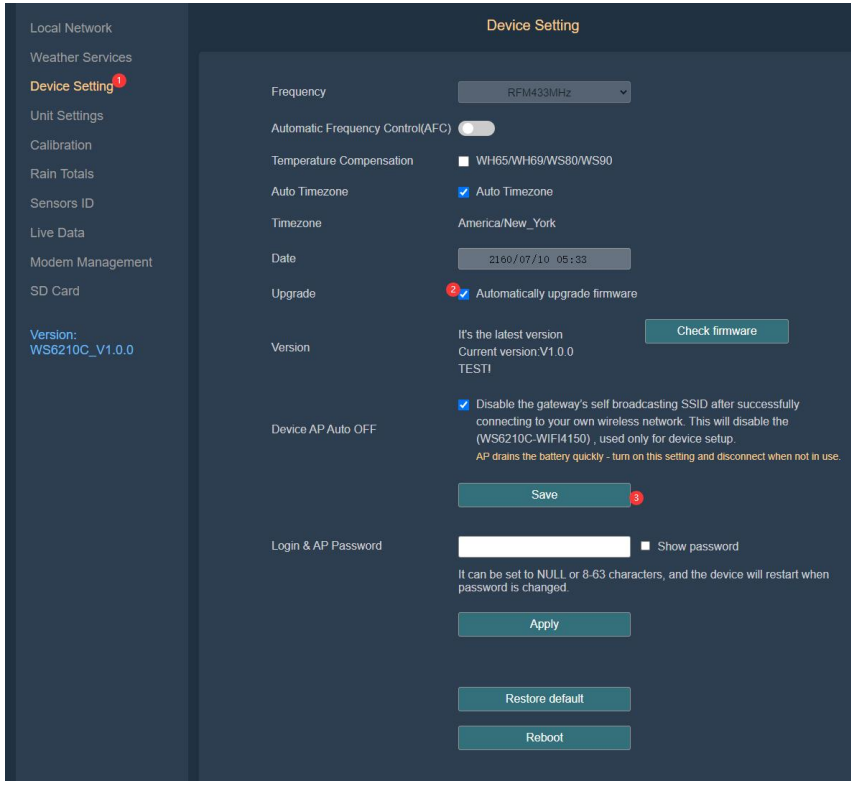


Figure 53

9. Ecowitt app Operation——Remote control

App remote control can only be realized when the device is in **Normal Mode(Refer to section 4.4)**.

In **Normal Mode**, users can remotely control and configure parameters via the ecowitt app, such as Sensor ID, Calibration, and other related settings.

Conditions for Normal Mode:

- Normal Mode is active when the device communicates via **2G/4G**.
- Normal Mode is also active when the device communicates via **Wi-Fi** and is **powered by the power cable** (**USB power access**).

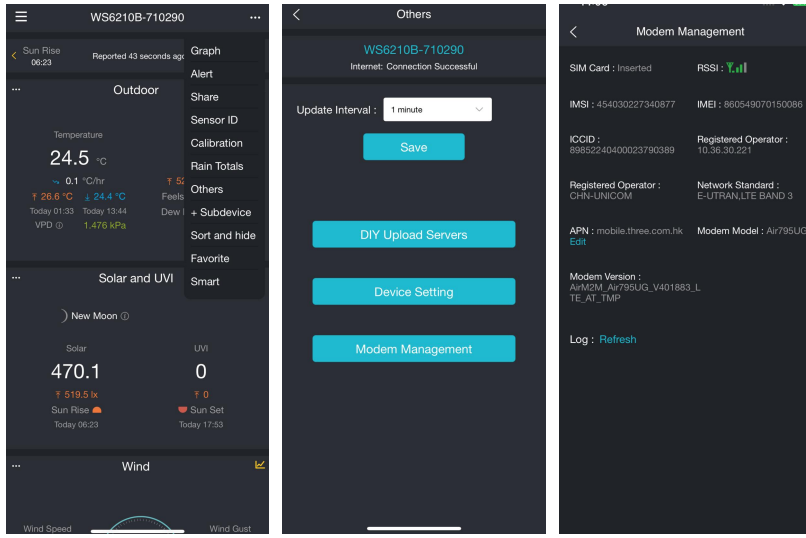


Figure 54 ecowitt app operations

10. Product Features

- Networking: Supports Wi-Fi and 4G, prioritizing Wi-Fi for data upload to the weather station server if available.
- Sensor Support: Receives data from almost all ecowitt sensors, viewable via a web interface and Ecowitt app.
- Web Functions: Supports web configuration, sensor data viewing, server settings, calibration parameters, and Sensor ID settings.
- IoT Functionality: Compatible with IoT devices: WFC01, WFC02 and AC1100.
- Automation: Automatic time zone and network time acquisition, unit settings.
- Models for 433MHz, 868MHz, 915MHz (and 920.9MHz) available.
- Integrated SD card data management: no extra APP or tools needed.

- **Enhanced RF antenna:** Reception range up to 200 m at 433 MHz and 300 m at 868/915 MHz (in open areas).

11. Specifications

Model	WS6210S
Name	4G & Wi-Fi Weather Station Mobile Gateway with External RF Antenna
Dimensions	428*138*55(mm) L*W*H
Weight	**879.5g (8 batteries involved)** **660g (WS6210S only)**
Material of Plastic Casing	PC
Sim card	Nano-SIM
SD card	8G Micro SD
Cellular and Wireless	Support LTE 3GPP Rel.13 technology, support 4G network
Supported Brand	4G LTE-FDD B1/B2/B3/B4/B5/B7/B8/B12/B13/B17/B18/B19/B20/B25/B26/B28/B66 4G LTE-TDD B34/B38/B39/B40/B41 2G GSM 850/900/1800/1900
RF Connection Frequency	920/915/868/433MHz (depending on local regulations)
RF Wireless Range	200 m(656 ft) at 433 MHz 300 m(984 ft) at 868/915 MHz (in open areas)
WLAN	802.11 b/g/n 2.4 GHz (802.11n, Max 150 Mbps)
WLAN Wireless Range	Over 30 meters (in open areas)
Power	**12V solar panel**

Model	WS6210S
Supply	(or DC power supply with USB connector, **input 5-15V**, not included)
Indicator Light	Unlock, RF, Wi-Fi, 4G
Button	Touch button: Reset, AP Physical button: Power
Operating Temperature	-20 to 60℃ (-4 to 140°F)
Port Material	2-core waterproof aviation connector
Battery Capacity	4800 mAh @5V
Battery Life	20 days (5-minute upload interval, AP off, not connected to IoT Sub device) 10 days (5-minute upload interval, AP off, connected to IoT Sub device)
Power Consumption	0.06W, 10mA (AP off, not connected to IoT) 0.12W, 20mA (AP off, connected to IoT) 0.9W, 150mA (AP on, connected to Wi-Fi, not connected to IoT) 0.96W, 160mA (AP on, connected to Wi-Fi, connected to IoT) 0.8W, 133mA(AP off, connected to WiFi, not connected to loT) 0.85W, 142mA（AP off, connected to WiFi, connected to loT) While in a 5-minute upload interval
USB charging	5V, 1A
Solar Panel charging power	7W

Model	WS6210S
Solar Panel Size	270*180*17(mm)L*W*H
Posting intervals	By default: 5 minutes The setting range is "off, 1, 2, 3, 4, 5, 10 minutes." Shortening the posting interval will increase power consumption
SD13 to USB power cable	Length 50cm(19.7 inch)
Solar panel cable	Length 70cm(27.6 inch)

Table 8

12. Miscellaneous

This section includes additional notes, tips, and miscellaneous information related to device operation.

12.1 Replacing the SD/SIM Card

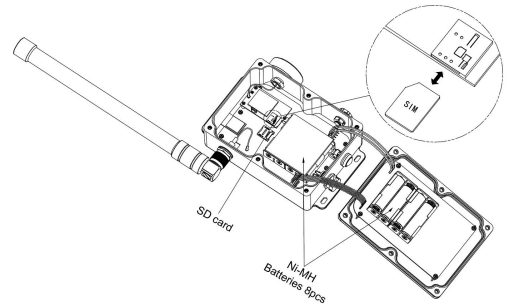
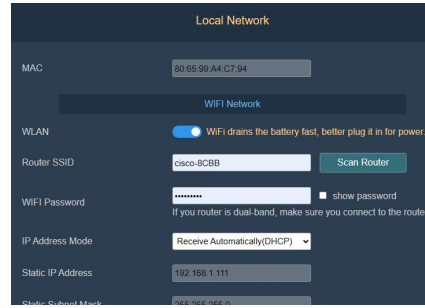
1. Locate the SD/SIM Card Slot Open the device casing with a Phillips screwdriver as per the manual's instructions	
2. Access the SD/SIM Card Slot	Press down on the cover and pry it open gently, using a fingernail or a similar tool.
3. Install the SD/SIM Card	Insert the **SD/SIM card** into the slot with the metal contacts facing down. Ensure it aligns correctly.
4. Close the SD/SIM Card Slot Cover	Push the cover back in place gently. Ensure it closes tightly; if not, recheck the card's placement.
5. Verify Proper Installation	Check if the SD/SIM card is functioning properly after installation.
6. Secure the Device Casing	Reattach the device casing securely.
7.Enter the correct APN.	To configure a new SIM card, please refer to Section **8.9** for instructions.

Table 9

12.2 Manually Adding

For users who have already set up the network, follow these steps to manually add the WS6210S device.

Instructions	Illustration
1.Obtaining MAC Address ***The MAC address can be found on the label of the device or via Embedded Web Page.**	 **label of the device**  **Embedded Web Page**

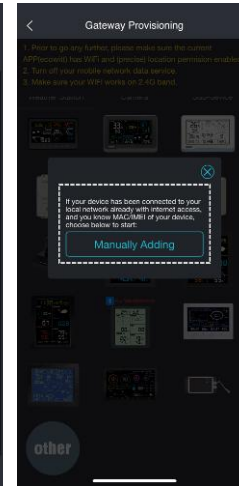
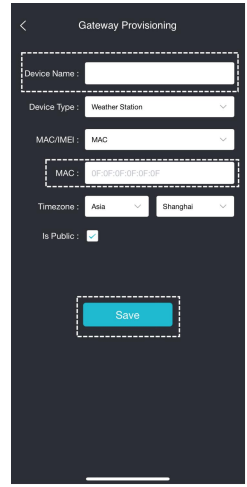
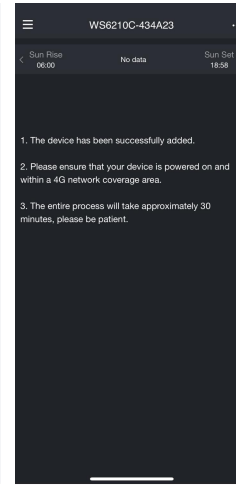
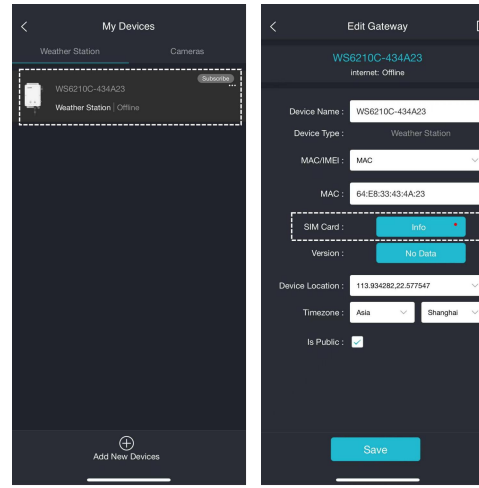
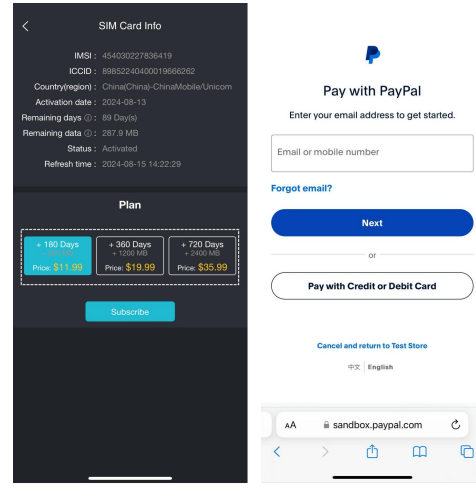
2.Click on Other, and choose Manually Adding.	 
3.Manually Enter the MAC Address. Then wait approximately 30-60 minutes for the data to upload when in 4G mode .	 

Table 10

12.3 SIM Card Renewal

Instructions	Illustration
1.When the SIM card is about to expire, the interface will display a "subscribe" icon. Click on the "...".	
2.Select the appropriate plan and click "subscribe."	

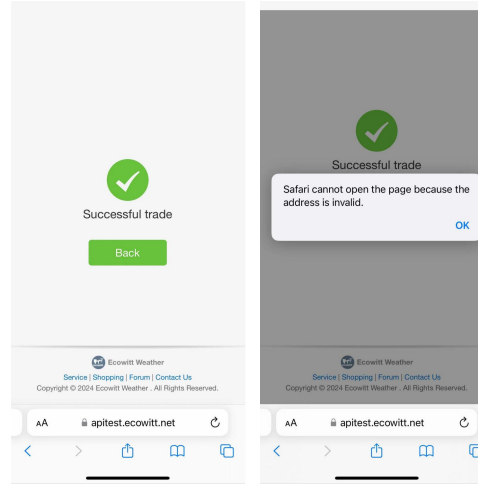
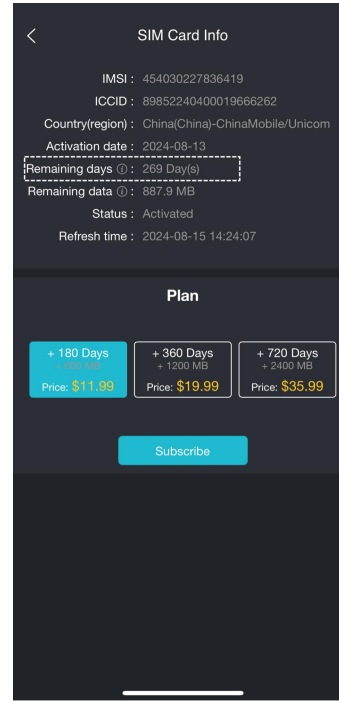
3.After successful payment, click "back." Please note that on ios, you cannot directly return to the Ecowitt app.	
4.Once the renewal is successful, check if the validity period has been updated.	

Table 11

12.4 Troubleshooting: Unable to Scan QR Code – Activating Pre-installed SIM Card

1. Customer Cannot Scan QR Code to Activate SIM Card

- If the QR code cannot be scanned for activation, follow the alternative connection procedure below.

2. Connect to Wi-Fi and Wait for Successful Upload

- Users need a temporarily available Wi-Fi network to activate the SIM card.
- Follow the **Section 4.4.3** to finish pairing the device with Wi-Fi and wait until the data is successfully uploaded to the server.

3. Access Device Details After Upload

- Once the upload is successful, go to My Devices.
- Select the WS6210S device, then tap the "..." icon in the top-right corner to enter the "Edit Gateway" .
- Tap **"Info"** to enter the SIM setting page.
- Tap **"Activate"** to activate the pre-installed SIM card.

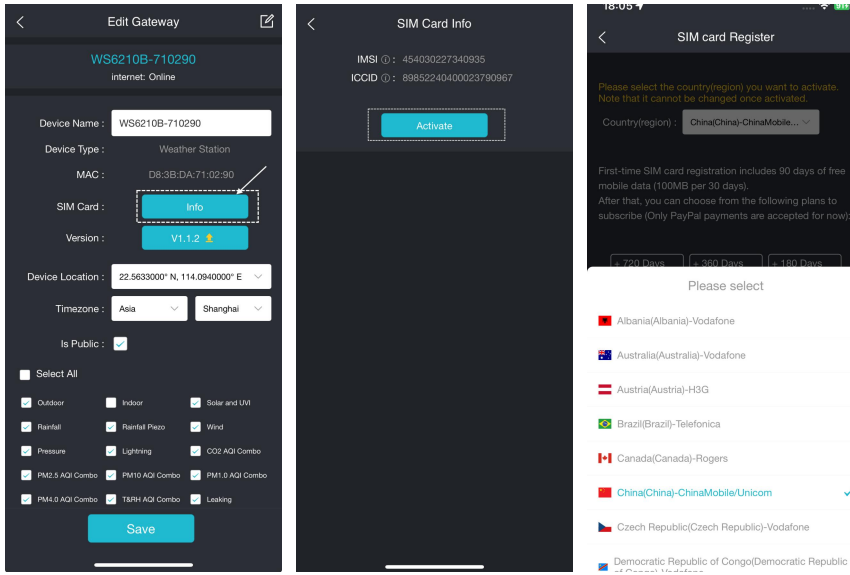


Figure 55

12.5 Adding a second solar panel

In certain locations the energy supply with the provided solar panel may not be sufficient to maintain a permanent operation of the WS6210(S).

For such cases an additional (second), solar panel is available with the needed adapter as accessory.

13. Offline Data Storage and Operation

WS6210S is equipped with an SD card slot that allows for local data storage. This ensures continuous operation and data recording even when there is no active network connection (**4G or Wi-Fi**).

13.1 Time Synchronization

When the network connection is lost, the device will continue to operate based on the last synchronized time before disconnection.

The internal clock will keep running, but the time will not automatically update until the network connection is restored and the device can synchronize with the time server again.

13.2 Data Recording and Storage

WS6210S will continue to record data locally on the SD card during offline periods.

The data will remain safely stored on the SD card and can be accessed manually if needed.

For WS6210S, even without solar power, the internal power supply can support **up to 14 days** of data storage.

13.3 Cloud Data Upload

Data collected during the offline period will not be uploaded to the Ecowitt Cloud, even after the network connection is restored.

Once the device reconnects to the internet, new data will continue to be uploaded automatically, but historical data stored on the SD card will **not** be re-uploaded unless manually retrieved and processed.

14. Optional Sensors

The product supports receiving data from various sensors, which can be used with the Ecowitt server for enhanced data services. The RF reception function will always be turned on to receive data from all registered sensors anytime.

14.1 Sensor Data Reception Priority

Please note that data processing is prioritized when there is more than one sensor array or a rainfall sensor for outdoor temperature, wind, rain and solar data where applicable registered in the gateway (sensor hierarchy).

Sensor Array Priority:WS85>WS90>WS80>WS68>WS69.

Piezo rainfall priority: WS85>WS90

Traditional rainfall Priority: WH40> WN20>WS69.

14.2 Sensors

The following sensors can be purchased separately. For more information, please visit our website: http://www.ecowitt.com. Select the model of the units with the same RF frequency as your gateway or display (the frequency is different for various countries because of regulations).

Notes:

(1) The max QTY in the following table indicates the maximum number of the same sensor model or type that can be connected to the WS6210S.

(2) Theoretically all the different sensor arrays (WS68, 69, 80, 85, 90) could be connected to one gateway at the same time, but due to the sensor hierarchy (see above) this would only make sense in a few special cases (e.g. WS85 + WS68 (get solar data from WS68). WS85 or WS90 + WS69 (get traditional rain data from the WS69).

Sensor Model	Max QTY	Picture	Functions
WS90	1		Outdoor temperature & humidity, light, UV, wind speed/direction, rainfall
WS85	1		Wind speed/direction, rainfall
WS80	1		Outdoor temperature & humidity, light, UV, wind speed/direction
WS69	1		Outdoor temperature & humidity, light, UV, wind speed/direction, rainfall
WS68	1		Light, UV, wind speed/ direction
WH40	1		Rainfall
WN32P	1		Indoor temperature, humidity, and pressure
WN32	1		Outdoor temperature and humidity
WH45/(WH46D)	1		WH45: CO_2, PM2.5, PM10, temperature and humidity WH46: CO_2, PM1.0, PM2.5, PM4.0, PM10, temperature and humidity

WN31	8*		Temperature and humidity
WN30			Temperature
WN36			Pool temperature
WH57	1		Lightning detection
WH41/WH43	4		PM2.5
WH55	4		Water leak detection
WH51L	16*		Soil moisture
WH51			Soil moisture
WH52			Soil Moisture & EC Sensor
WN34L/S/D	8		Temperature
WN35	8		Leaf wetness

Table 12 Optional sensors

*—Refers to the maximum number of sensors in this group. Any combin ation that sums up to the number mentioned is possible.

14.3 IoT Device

Sensor Model	Max QTY	Picture	Functions
WFC01	16*		Smart water timer
AC1100			Smart plug
WFC02			**Smart water timer**

Table 13 IoT device

*—See Above

15. Warranty

We disclaim any responsibility for any technical error or printing error or the consequences thereof.

All trademarks and patents are recognized.

We provide a 2-year limited warranty on this product against manufacturing defects or defects in materials and workmanship.

This limited warranty begins on the original date of purchase, is valid only on products purchased, and only to the original purchaser of this product. To receive warranty service, the purchaser must contact us for problem determination and service procedures.

This limited warranty covers only actual defects within the product itself and does not cover the cost of installation or removal from a fixed installation, normal set-up or adjustments, or claims based on misrepresentation by the seller, or performance variations resulting from installation-related circumstances.

Manufacturer: Shenzhen Fine Offset Electronics Co., Ltd.
Address: 4/F, Block C, JiuJiu Industrial City, Shajing Town, Baoan District, Shenzhen City, China

16. FCC

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance

could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception,

which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different

from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

To maintain compliance with RF Exposure guidelines, This equipment should be installed and operated with minimum distance between 20cm the radiator your body: Use only the supplied antenna.

IC Caution:

English:

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference.

2. This device must accept any interference, including interference that may cause undesired operation of the device.

French:

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. L'appareil ne doit pas produire de brouillage;

2. L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

17. Care and Maintenance

When batteries of different brand or type are used together, or new and old batteries are used together, some batteries may be over-discharged due to a difference of voltage or capacity. This can result in venting, leakage, and rupture and may cause personal injury.

• Do not mix Alkaline, Lithium, standard, or rechargeable batteries.

• Always purchase the correct size and grade of battery most suitable for the intended use.

• Always replace the whole set of batteries at one time, taking care not to mix old and new ones, or batteries of different types.

• Clean the battery contacts and also those of the device prior to battery installation.

• Ensure the batteries are installed correctly with regard to polarity (+ and -).

• Remove batteries from product during periods of non-use. Battery leakage can cause corrosion and damage to this product.

• Remove used batteries promptly.

• For recycling and disposal of batteries, and to protect the environment, please check the internet or your local phone directory for local recycling centers and/or follow local government regulations

18. Contact Us

18.1 After-sales Service

Order Issues:

If you encounter any missing or incorrect shipments of Ecowitt products purchased, please reach out to the respective platform's customer service from the store where you bought the product for assistance.

Usage Inquiries:

Our product is continuously changing and improving, particularly online services and associated applications. To download the latest manual, and additional help, and for any issues related to product usage feel free to contact our customer support team at support@ecowitt.com. We are committed to providing assistance and resolving any concerns you may have.

18.2 Stay in Touch

Ask questions, watch setup videos, and provide feedback on our social media outlets. Follow Ecowitt on Discord, YouTube, Facebook and Twitter.

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