Wi-Fi Weather Station with APPs Operation Manual

Model: WH2650

1. Introduction

Thank you for your purchase of the Wi-Fi Weather Station with APPs. The following user guide provides step by step instructions for installation, operation and troubleshooting.

2. Warnings and Cautions

Warning: Any metal object may attract a lightning strike, including your weather station mounting pole. Never install the weather station in a storm.

Warning: Installing your weather station in a high location may result in injury or death. Perform as much of the initial check out and operation on the ground and inside a building or home. Only install the weather station on a clear, dry day.

3. Quick Start Guide

Although the manual is comprehensive, much of the information contained may be intuitive. In addition, the manual does not flow properly because the sections are organized by components.

The following Quick Start Guide provides only the necessary steps to install, operate the weather station, and upload to the internet, along with references to the pertinent sections.

Required		
Step	**Description**	**Section**
1	Assemble and power up the sensor array	5.2
2	Power up the indoor thermometer-hygrometer-barometer	5.3
3	Power up the gateway receiver, connect to your router and synchronize with sensor array and thermo-hygrometer-barometer.	5.5.4

4. Pre-Installation Checkout and Site Survey

4.1 Pre Installation Checkout

Before installing your weather station in the permanent location, we recommend operating the weather station for one week in a temporary location with easy access. This will allow you to check out all of the functions, insure proper operation, and familiarize you with the weather station and calibration procedures. This will also allow you to test the wireless range of the weather station.

4.2 Site Survey

Perform a site survey before installing the weather station. Consider the following:

1. You must clean the rain gauge every few months and change the rechargeable batteries every 2-3 years. Provide easy access to the weather station.
2. Avoid radiant heat transfer from buildings and structures. In general, install the sensor array at least 5' from any building, structure, ground, or roof top.
3. Avoid wind and rain obstructions. The rule of thumb is to install the sensor array at least four times the distance of the height of the tallest obstruction.
4. Wireless Range. The radio communication between gateway receiver and transmitter in an open field can reach a distance of up to 100 meter, providing there are no interfering obstacles such as buildings, trees, vehicles, high voltage lines. Wireless signals will not penetrate metal buildings.
5. Radio interference such as PCs, radios or TV sets can, in the worst case, entirely cut off radio communication. Please take this into consideration when choosing receiver or mounting locations. Make sure your receiver is at least five feet away from any electronic device to avoid interference.

5. Getting Started

The Wi-Fi Weather Station with APPs consists of a gateway receiver, an all-in-one outdoor sensor array, and an thermo-hygrometer-barometer transmitter.

5.1 Parts List

QTY	Item
1	Gateway Receiver
1	Thermo-hygrometer-barometer transmitter
1	Y shape outdoor sensor(including 1xThermo-hygrometer / 1xRain Gauge / 1xTransmitter 1)
1	Wind Vane
1	Wind Speed Cups
1	Rain Funnel
1	Metal mounting plate with U-bolt
1	5V DC Adaptor
1	User manual

5.2 Outdoor Sensor Set Up

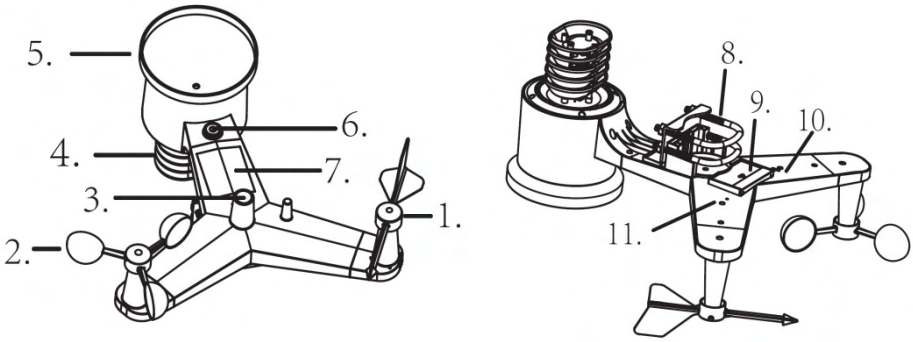


Figure 1: Sensor assembly components

1 Wind vane	7 Solar panel
2 Wind speed cups	8 U-Bolts
3 Light sensor and UV sensor	9 Battery compartment door
4 Thermo- and hygro-meter senor	10 Reset button
5 Rain collector	11 LED (red) to indicate data transmission
6 Bubble level	

5.2.1 Install U-bolts and metal plate

Installation of the U-bolts, which are in turn used to mount the sensor package on a pole, requires installation of an included metal plate to receive the U-bolt ends. The metal plate, visible in Figure 2, has four holes through which the ends of the two U-Bolts will fit. The plate itself is inserted in a groove on the bottom of the unit (opposite side of solar panel). Note that one side of the plate has a straight edge (which goes into the groove), the other side is bent at a 90-degree angle and has a curved profile (which will end up "hugging" the mounting pole). Once the metal plate is inserted, remove nuts from the U-Bolts and insert both U-bolts through the respective holes of the metal plate as shown in Figure 2

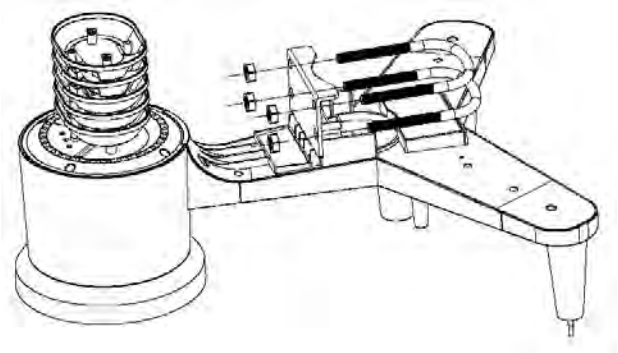


Figure 2: U-Bolt installation

Loosely screw on the nuts on the ends of the U-bolts. You will tighten these later during final mounting. Final assembly is shown in Figure 3.

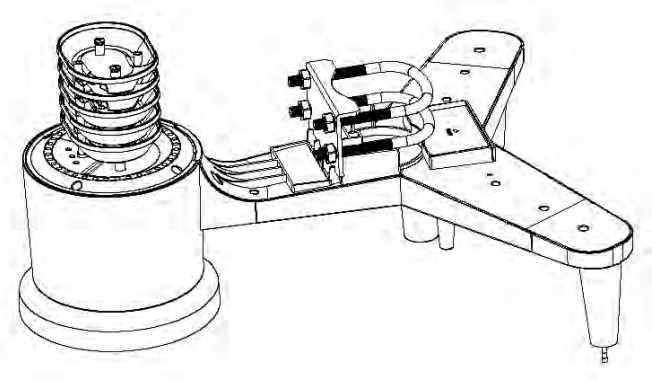


Figure 3: U-Bolts and nuts installed

The plate and U-Bolts are not yet needed at this stage but doing this now may help avoid damaging wind vane and wind speed cups later on.

5.2.2 Install wind vane

Push the wind vane onto the shaft on the top side of the sensor package, until it goes no further, as shown in Figure 4. Next, tighten the set screw, with a Philips screwdriver (size PH0), as shown on the right side, until the wind vane cannot be removed from the axle. Make sure the wind vane can rotate freely. The wind vane's movement has a small amount of friction, which is helpful in providing steady wind direction measurements.

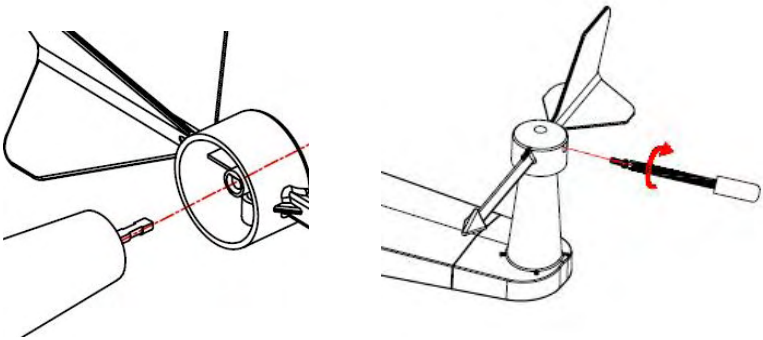


Figure 4: Wind vane installation diagram

There are four alphabet letter of “N”,”E”,”S” and “W” around the wind direction, representing for the direction of North, East, South and West. Wind direction sensor has to be adjusted so that the directions on the sensor are matching with your real location. Permanent wind direction error will be introduced when the wind direction sensor is not positioned correctly during installation.

5.2.3 Install wind speed

Push the wind speed cup onto the shaft as shown in Figure 5. Tighten the set screw, with a Philips screwdriver (size PH0). Make sure the cup assembly can rotate freely. There should be no noticeable friction when it is turning.

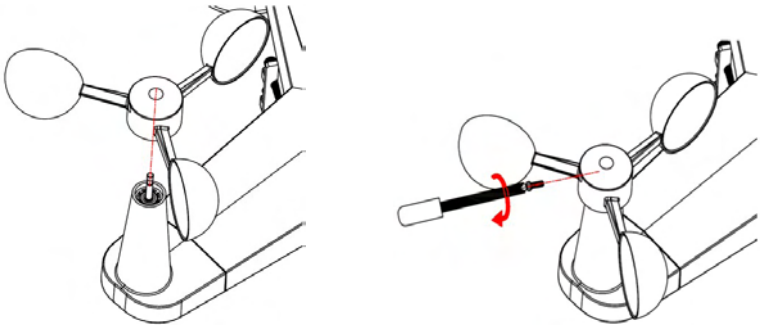


Figure 5: Wind speed cup installation diagram

5.2.4 Install the Rain Gauge Funnel

Keep the Indication mark in straight line as below figure.

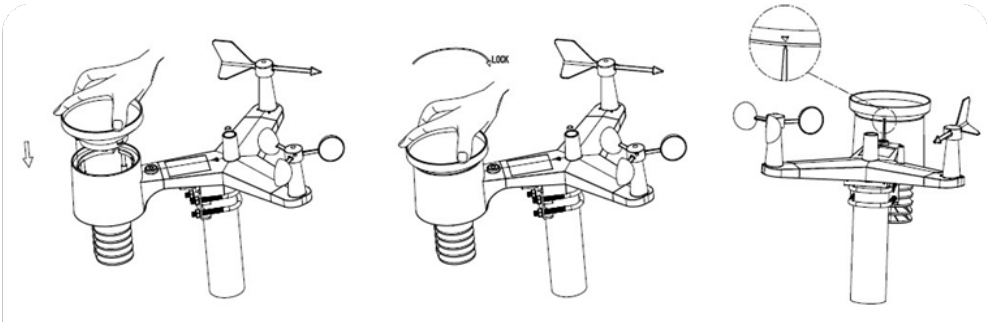


Figure 6: Rain Gauge Funnel installation diagram

5.2.5 Install Batteries in outdoor sensor

Insert 2XAA batteries in the battery compartment. The LED indicator on the back of the transmitter will turn on for four seconds and normally flash once every 16 seconds (the sensor transmission update period).

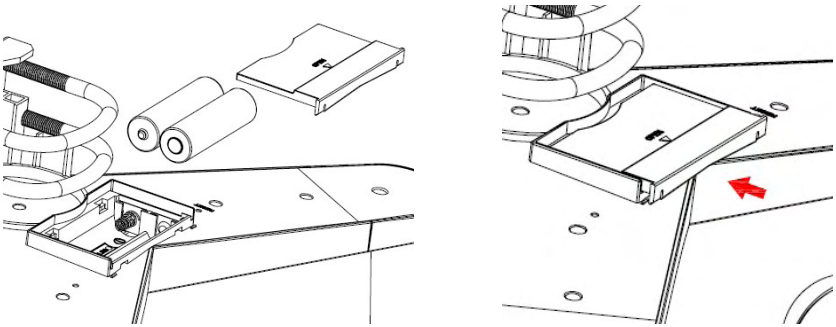


Figure 7: Battery installation diagram

Note: If LED does not light up or is on permanently, make sure the battery is inserted the correct way and inserted fully, starting over if necessary. Do not install the batteries backwards as it may permanently damage the outdoor sensor.

Note: We recommend Lithium batteries for cold weather climates, but alkaline batteries are sufficient for most climates. Rechargeable batteries have lower voltages and should never be used.

5.2.6 Mount assembled outdoor sensor package

5.2.6.1 Before you mount

Before proceeding with the outdoor mounting detailed in this section, you may want to skip to setup instructions in section 0 and onwards first, while you keep the assembled outdoor sensor package nearby (although preferably not closer than 5 ft. from the console). This will make any troubleshooting and adjustments easier and avoids any distance or interference related issues from the setup.

After setup is complete and everything is working, return here for outdoor mounting. If issues show up after outdoor mounting they are almost certainly related to distance, obstacles etc.

5.2.6.2 Mounting

You can attach a pipe to a permanent structure and then attach the sensor package to it (see Figure 8). The U-Bolts will accommodate a pipe diameter of 1-2 inches (pipe not included).

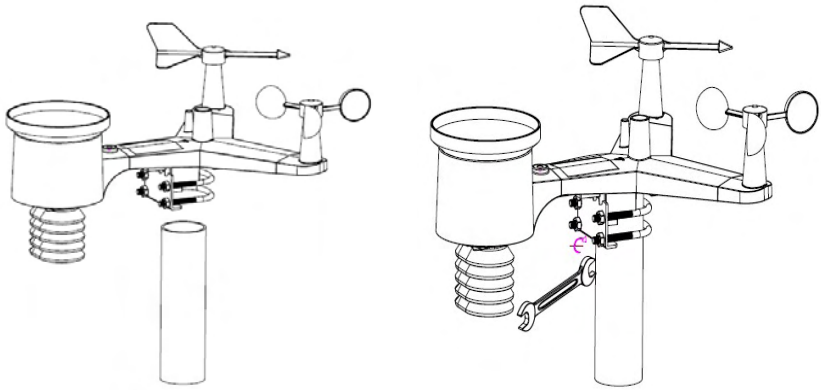


Figure 8: Sensor package mounting diagram

Finally, place the sensor package on top of the prepared mounting pipe.The U-Bolts should be loose enough to allow this but loosen the nuts as necessary. O nce placed, hand tightens all four nuts, taking care to d so evenly.

Now you will need to align the whole package in the proper direction by rotati ng it on top of the mounting pipe as needed. Locate the arrow labeled “North” that you will find on top of the sensor package right next to the light sensor. Y ou must rotate the whole sensor package until this arrow points due north. To a chieve proper alignment, it is helpful to use a compass (many cell phones have a compass application). Once rotated in the correct orientation, lightly tighten the bolts a little more (use a wrench) to prevent further rotation.

Note: **Use the bubble level next to the rain sensor to make sure sensor array is completely level.If the sensor is not level,the rain gauge,UV and solar radiation sensors will not measure properly.**

5.2.7 Reset Button and Transmitter LED

In the event the sensor array is not transmitting, reset the sensor array.

With an open ended paperclip, press and hold the **RESET BUTTON** for three

seconds to completely discharge the voltage.
Take out the batteries and wait one minute, while covering the solar panel to drain the voltage.
Put batteries back in and resynchronize with console by powering down and up the console with the sensor array about 3 meter away

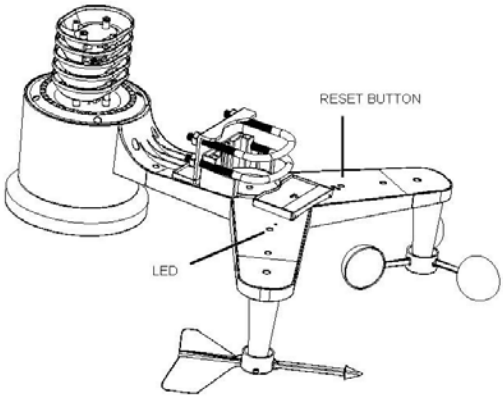


Figure 9: Reset button and Transmitter LED location

5.2.8 Indoor Sensor Set Up

Note: To avoid permanent damage, please take note of the battery polarity before inserting the batteries.

Remove the battery door on the back of the sensor. Insert two AA batteries.

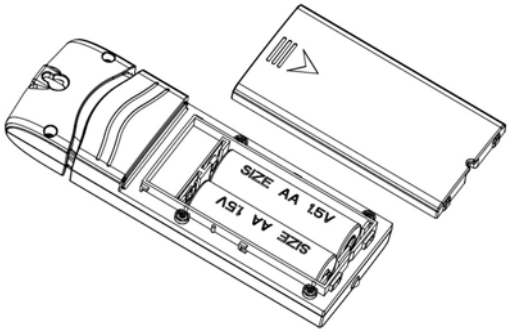


Figure 10 : Indoor sensor battery installation

The indoor sensor will display indoor temperature, humidity and barometric pressure alternately.

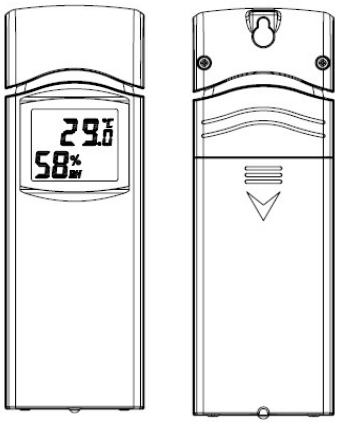


Figure 11 : Indoor sensor display

We recommend lithium batteries for cold weather climates, but alkaline batteries are sufficient for most climates. We do not recommend rechargeable batteries. They have lower voltages, do not operate well at wide temperature ranges, and do not last as long, resulting in poorer reception.

5.3 Best Practices for Wireless Communication

Note: To insure proper communication, mount the remote sensor(s) upright on a vertical surface, such as a wall. **Do not lay the sensor flat.**

Wireless communication is susceptible to interference, distance, walls and metal barriers. We recommend the following best practices for trouble free wireless communication.

1. **Electro-Magnetic Interference (EMI)**. Keep the receiver one meter away from computer monitors and TVs.
2. **Radio Frequency Interference (RFI).** If you have other 433 MHz devices and communication is intermittent, try turning off these other devices for troubleshooting purposes. You may need to relocate the

transmitters or receivers to avoid intermittent communication.

3. **Line of Sight Rating.** This device is rated at 100meter line of sight (no interference, barriers or walls) but typically you will get 30meter maximum under most real-world installations, which include passing through barriers or walls.
4. **Metal Barriers.** Radio frequency will not pass through metal barriers such as aluminum siding. If you have metal siding, align the remote and receiver through a window to get a clear line of sight.

The following is a table of reception loss vs. the transmission medium. Each "wall" or obstruction decreases the transmission range by the factor shown below.

Medium	RF Signal Strength Reduction
Glass (untreated)	5-15%
Plastics	10-15%
Wood	10-40%
Brick	10-40%
Concrete	40-80%
Metal	90-100%

5.4 Gateway Receiver

5.4.1 Hardware Requirements

1. Broadband router
2. An "always-on" connection to the Internet. A high speed DSL or cable internet connection that maintains constant connection to the internet.

5.4.2 APPs - WS View Plus

An APP WS View Plus on mobile device is required to connect the device to the network.

5.4.3 Connections

Connect the Gateway receiver power jack to AC power with the power adapter (included), the Power LED (Figure 12, reference 5) will be illuminated.

The WIFI LED (Figure 12,reference 4)will flash rapidly indicating that WIFI has not been connected to any router before, now you should open your mobile device to install WS View Plus to connect the router and receiver, the WIFI LED will be flashed when success to connect the WIFI and illuminated when success to connect the web server. The LED flash slowly indicating that the device connect to router but the signal is not good, now you need to check the network or re-configure.

Place the sensor array and indoor thermo-hygrometer transmitter about 1 to 3 meter from the receiver and wait several minutes for the remote sensors to synchronize with the receiver. Once synchronized, the Indoor blue LED (Figure 12, reference 2) and Outdoor blue LED (Figure 12, reference 3) will be illuminated. The LED flash slowly indicating that there is no data updated to receiver, you should re-set the receiver or sensors

The RF LED (Figure 13,reference 1)will be flashed several times indicating that the RF signal is received, if no flashed mean that no RF signal, you should re-set or re-power the receiver or sensor.

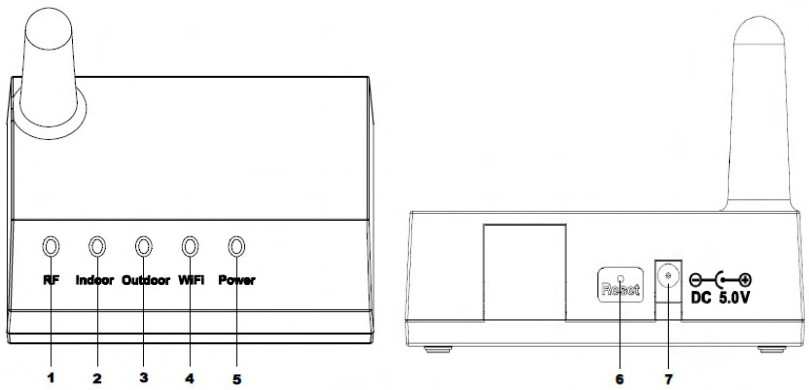


Figure 12 : Console LED indicator

Ref.	LED	Description
1	RF	On when radio frequency receiver is operating properly
2	Indoor	On when indoor sensor received
3	Outdoor	On when outdoor sensor array received
4	WIFI	On when connect to WIFI router via APPs On when connected to internet hosting service
5	Power	AC Power connected
6		Reset button Press this button to reset the device for 5 seconds; short press to re-configure the internet
7		AC Power connection

Figure 13 : Console back view

6. Live Internet Publishing

Your console is capable of sending your sensor data to select internet-based weather services. The supported services are shown in the table below:

Service	Description
Weather Underground	**Site:** https://wunderground.com provides local & long-range weather forecasts, weather reports, maps & tropical weather conditions for locations worldwide.
WOW	**Site:** https://wow.metoffice.gov.uk A UK based weather observation website.
Weather Cloud	**Site:** https://weathercloud.net A large network of weather stations reporting data in real time from all over the world.
Ecowitt Weather	**Site:** https://www.ecowitt.net Ecowitt is a new weather server that can host a bunch of sensors that other services don't support at this time.

6.1 WIFI connection setting on mobile

To send weather data to these services you must connect your console to the internet via Wi-Fi. The console can only operate using Wi-Fi when the external power adapter is connected and plugged in!

Note: If you are testing the setup with the outdoor sensor package nearby and indoor, you may want to consider connecting to Wi-Fi, but not yet configuring any of the weather services. The reason is that while indoor the temperatures and humidity recorded by the outdoor sensor, and as reported to the weather service(s) will reflect indoor conditions, and not outdoor conditions. Therefore, they will be incorrect. Furthermore, the rainfall bucket may be tripped during handling, causing rain to register while it may not actually have been raining. One way to prevent this is to follow all instructions, except to use an incorrect password, on purpose! Then, after final outdoor installation, come back and change the password after clearing console history. That will start uploading to the services with a clean slate.

6.1.1 Download mobile application

Wi-Fi configuration is done using your mobile device, either iOS or Android. Start by downloading the “WS View Plus” application from the Apple App Store or Google Play store, as appropriate for your device.

6.1.2 Connect the console to Wi-Fi

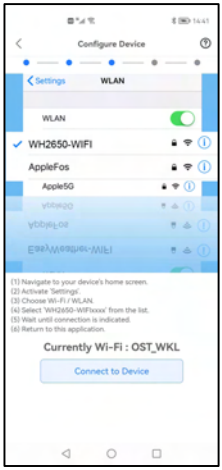
6.1.2.1 Android user/ iOs user

Now activate the application you have downloaded on your mobile device. The following instructions will generally show screen shots for the Android/iOs application side by side.

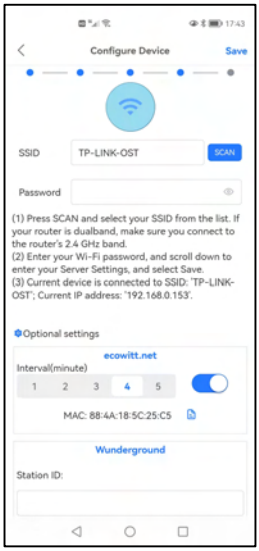
Configure Device

1) Select the device you have from the device list, then press **Next**

2）Operate as per the information, tick the box to confirm "completed operation", press **Next.**



3）Choose The device named "EasyWeather-WIFI" followed by four characters.



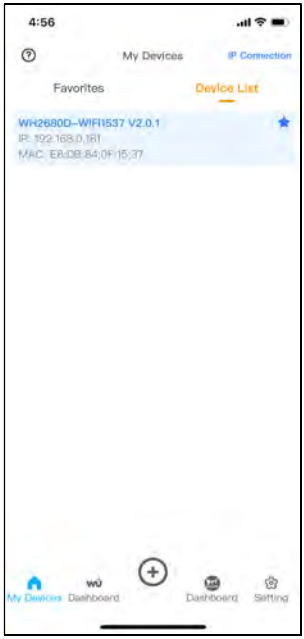
4) Press Scan and select you **SSID** from the list, then enter your WiFi **password** and press **Next**.
If you own a dual band router (2.4 GHz and 5.0 GHz),make sure you connect to the 2.4 GHz band, otherwise it will fail to connect the weather station to WiFi.

5) Start to connect your phone to the weather station "EasyWeather-WIFI" to your router. Configure successfully 100%, Press OK.

it will jump to "**Upload Setting**" screen automatically. .

6.2 Live data

"Live Data" obtains directly from the outdoor sensor. It will show up after you select "Favorite" or "Device List" from the main settings menu. Please keep the mobile device and gateway in the same network, otherwise no device(s) will not show up in this list and you will not be able to select a device for displaying



6.2.1 Calibration

On the "**Live Data**" screen, press "**More**" button in the upper right and select calibration function..

The purpose of calibration is to fine tune or correct for any sensor error associated with the devices margin of error.

Calibration is only useful if you have a known calibrated source you can compare it against, and is optional.

6.2.2 Rain Total

On the "**Live Data**" screen, press "**More**" button in the upper right and select **Rain Total** function.

You can edit the rain total for the current day, week, month, or year. This is useful when you start using this system instead of another one that has accumulated data, or simply if you know the values to be incorrect.

6.2.3 Device Settings

On the "**Live Data**" screen, press "**More**" button in the upper right and select **Devices Setting** function.

You can set up the following:

- Select sensor type
- Set time zone
- Reboot Device
- Reset to Factory Settings

6.2.4 Sensor ID

On the "**Live Data**" screen, press "**More**" and select Sensor ID to set the following:

View sensor ID, signal bar and battery power condition

Register the sensor when offline

Enable or disable the sensor

Input the Sensor ID when offline

Upload Setting

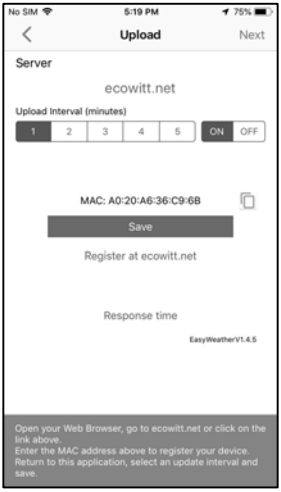
Your console is capable of sending your sensor data to select internet-based weather services: ecowitt.net, Wunderground.com, weathercloud.net, wow.metoffice.gov.uk and Customized Website. User need to register at the select website to get the station ID(or MAC address) and password

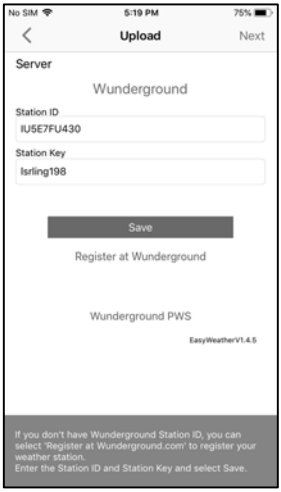
6.3 Adding weather services

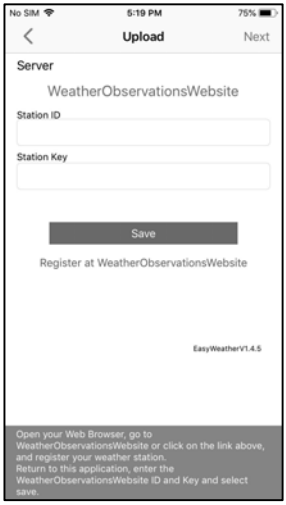
You may have configured weather services during the initial configuration, or you may do so later. To do so, open the mobile application and select your

device from the device list. This will bring you to the “Upload” screen for the device.

Navigate to the weather service you wish to configure by pressing “Next” and enter the appropriate data.





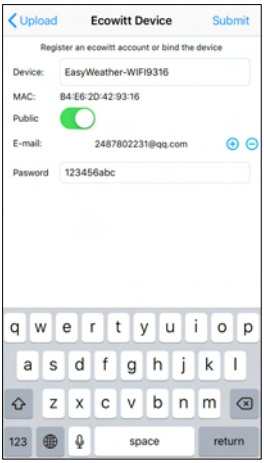


6.3.1 Ecowitt Weather

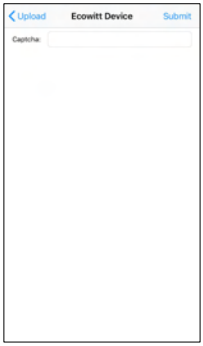
It’s recommended to use the Ecowitt Weather server to monitor and record

your sensors' data. Configure as follows:

- On the ecowitt.net uploading page, enable the ON button (displayed blue) and set the uploading interval time.
- Press Save on the page.
- Press "Register at ecowitt.net" and finish the registration on the page.



- Press the "+" button and select enter your email address.
- Set a password for your ecowitt account
- Press Submit.
- Enter the captcha you received from your email box and press submit.



- It will jump to the ecowitt.net dashboard and display the sensor data within several minutes.

Note:

If you could not receive the captcha from your email box, please check the spam.

It only supports setting the units on the WS View Plus app. To use the full settings, please visit the ecowitt website on your browser or on a computer.

If you could not register on the WS View Plus app, please go to the website to register and add the device.

6.3.2 Viewing data on ecowitt.net

You can observe your sensor's data by using the ecowitt.net web site. You will use a URL like this one, where your station ID replaces the text "STATIONID".

https://www.ecowitt.net/home/index?id=STATIONID

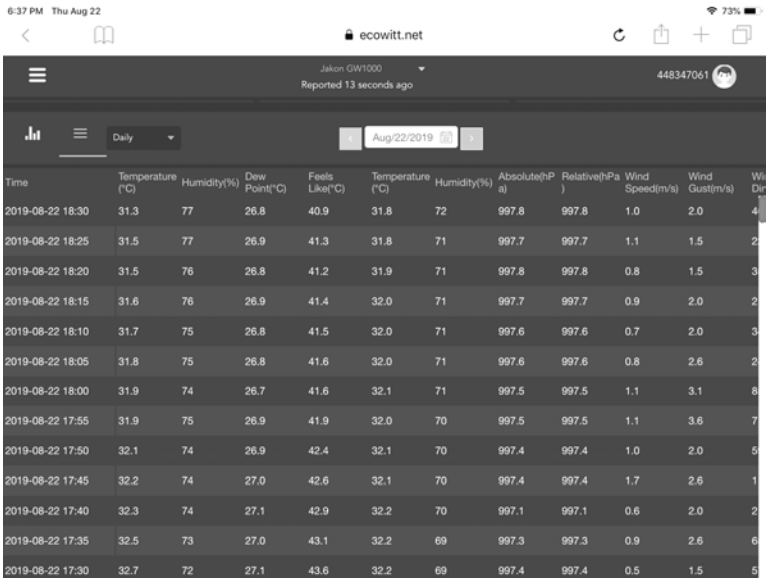
Note: If you want to share your station data with other users, you may use the Share option under the Menu to create a share link.

It will show a page such as this, where you can look at today's data and historical data as well.

Dashboard

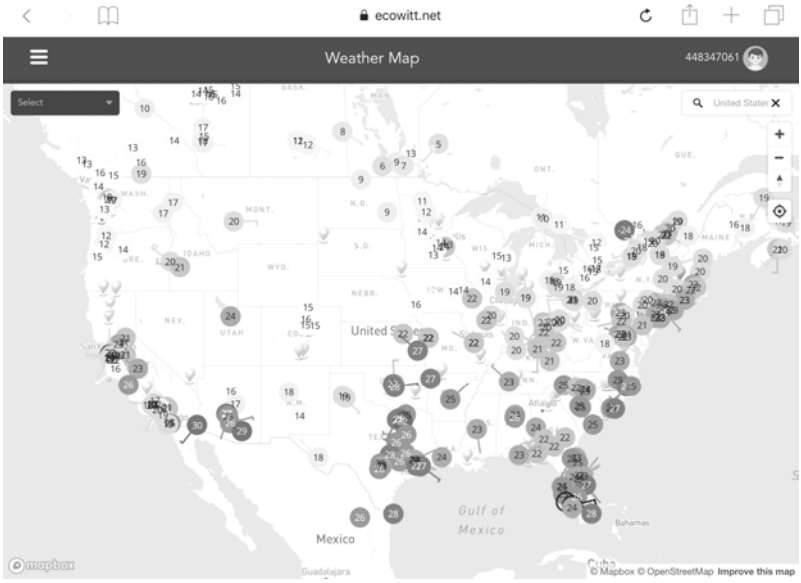
Graph display

List display

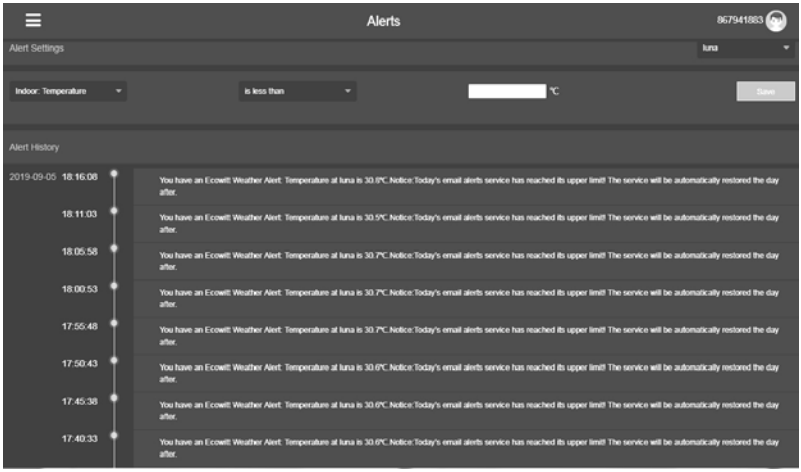


Time	Temperature (°C)	Humidity(%)	Dew Point(°C)	Feels Like(°C)	Temperature (°C)	Humidity(%)	Absolute(hPa)	Relative(hPa)	Wind Speed(m/s)	Wind Gust(m/s)	Wi Dir
2019-08-22 18:30	31.3	77	26.8	40.9	31.8	72	997.8	997.8	1.0	2.0	4
2019-08-22 18:25	31.5	77	26.9	41.3	31.8	71	997.7	997.7	1.1	1.5	2
2019-08-22 18:20	31.5	76	26.8	41.2	31.9	71	997.8	997.8	0.8	1.5	3
2019-08-22 18:15	31.6	76	26.9	41.4	32.0	71	997.7	997.7	0.9	2.0	2
2019-08-22 18:10	31.7	75	26.8	41.5	32.0	71	997.6	997.6	0.7	2.0	3
2019-08-22 18:05	31.8	75	26.8	41.6	32.0	71	997.6	997.6	0.8	2.6	2
2019-08-22 18:00	31.9	74	26.7	41.6	32.1	71	997.5	997.5	1.1	3.1	8
2019-08-22 17:55	31.9	75	26.9	41.9	32.0	70	997.5	997.5	1.1	3.6	7
2019-08-22 17:50	32.1	74	26.9	42.4	32.1	70	997.4	997.4	1.0	2.0	5
2019-08-22 17:45	32.2	74	27.0	42.6	32.1	70	997.4	997.4	1.7	2.6	1
2019-08-22 17:40	32.3	74	27.1	42.9	32.2	70	997.1	997.1	0.6	2.0	2
2019-08-22 17:35	32.5	73	27.0	43.1	32.2	69	997.3	997.3	0.9	2.6	6
2019-08-22 17:30	32.7	72	27.1	43.6	32.2	69	997.4	997.4	0.5	1.5	5

Weather Map



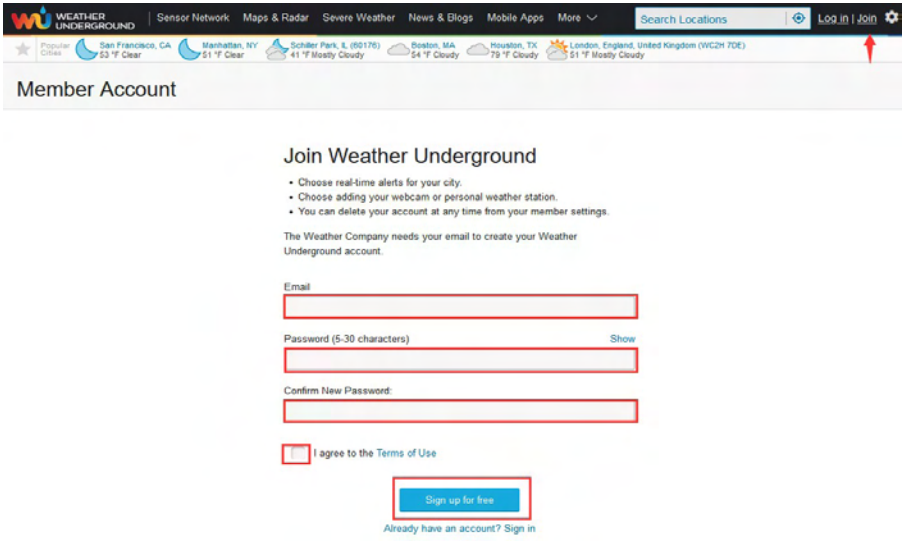
Email Alerts



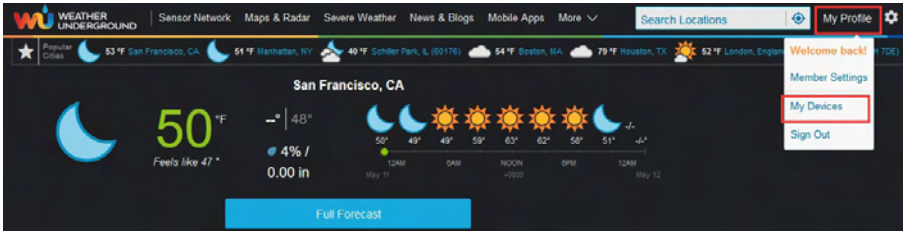
6.4 Weather Underground

If you are planning to use wunderground.com you must have an account and register a (new) personal weather station. You may do so on the Wunderground uploading page in the WS View Plus application:

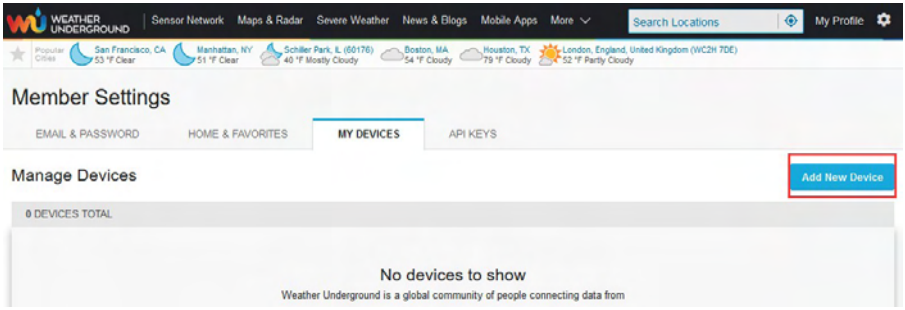
- Press Register at Wunderground.com and finish the registration on the page：
    1. Visit Wunderground.com and click **Join** as the right top arrow indicates and select the **Sign up for free** option.



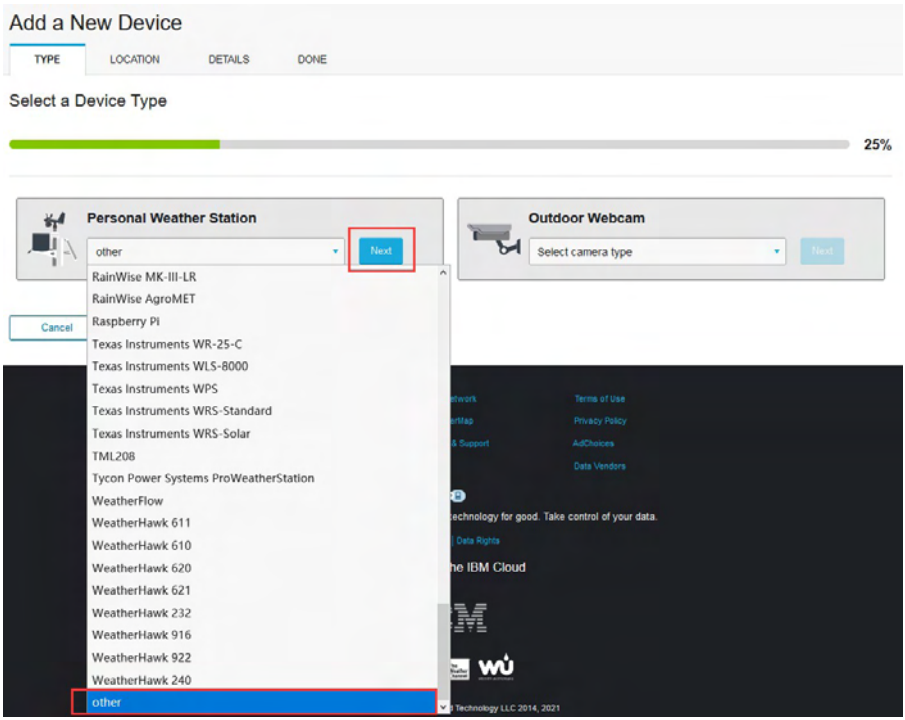
2. Click **My Profile and select My Devices** to register your station



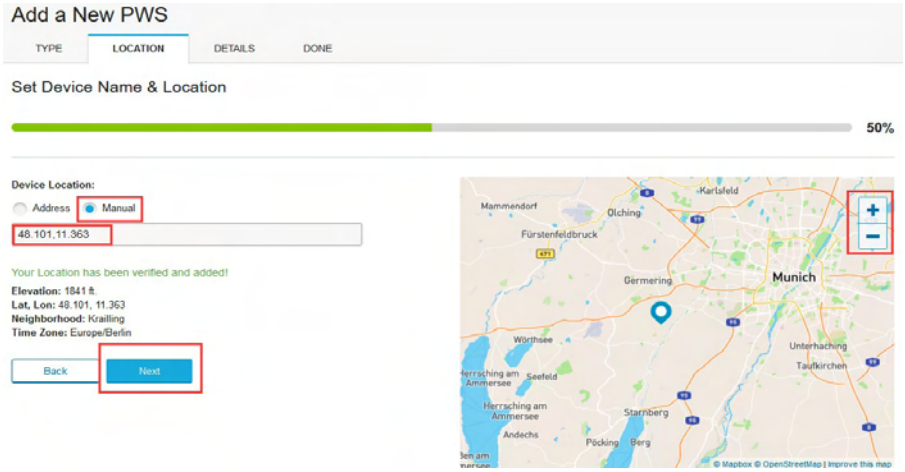
3. Select **Add New Device**.



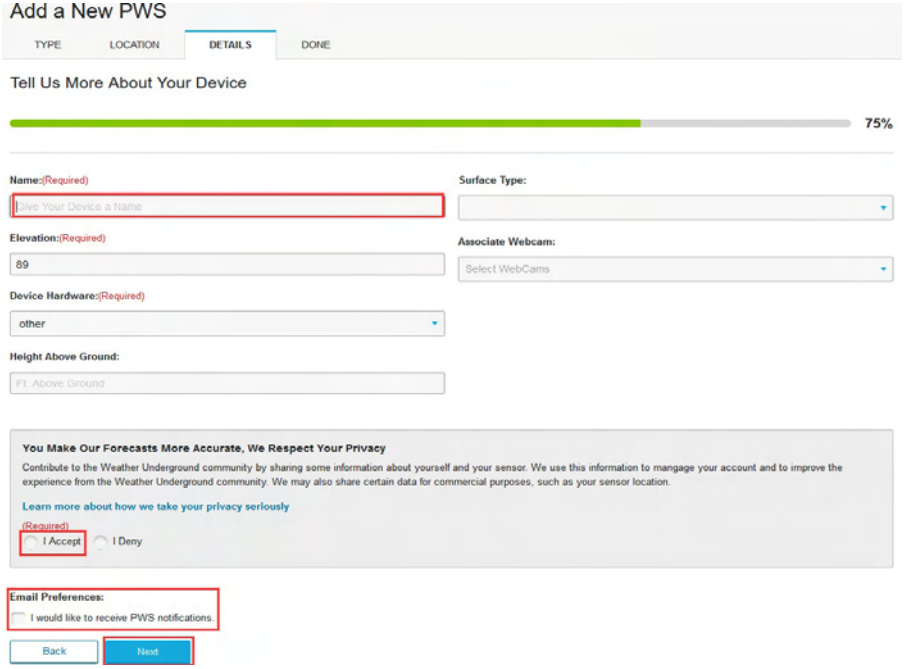
4. Find Personal Weather Station. Select ‘other’ and click ‘Next’.



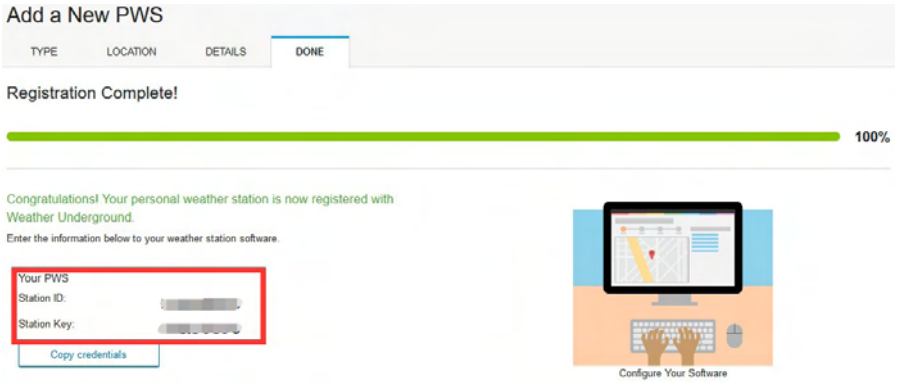
5. Select ‘Address’ or ‘Manual’ option, and find your local position. Press ‘Next’.



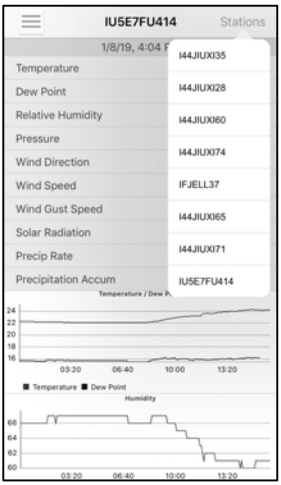
6. This time you will be asked details about your weather station. Go ahead and fill out the form.

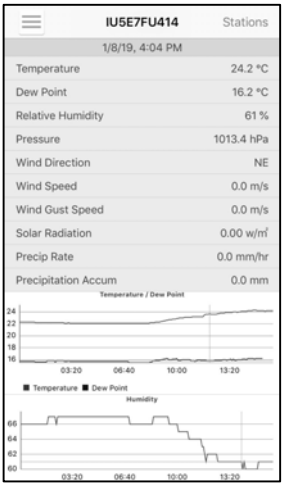


7. After completing the weather station, you will see station ID and key/password.



- Take note of the PWS identifier (ID) and the password that will be generated for you.
- Back to the app and input the Station ID and Key.
- Press Save.
- Back to the Menu page and select WU Dashboard(for Android version) or select your station on the Stations(for iOS version) . You'll see the current WU data, including graphs on the screen within hours.





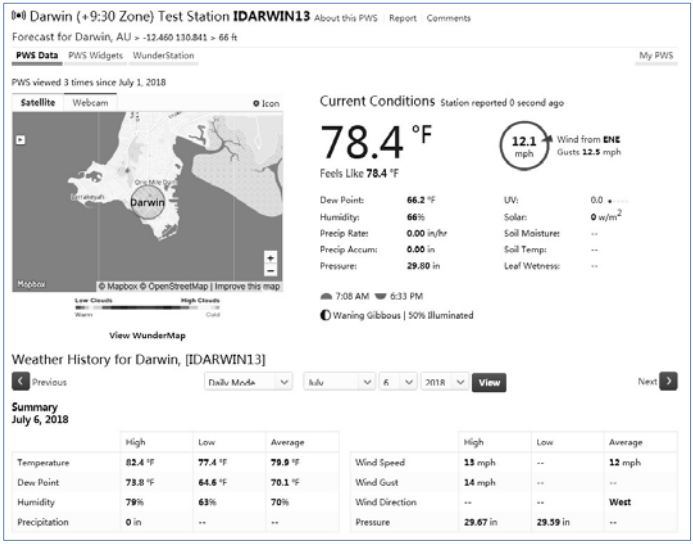
Note: WU Dashboard shows the data obtained from WU server. This requires that your mobile device can reach the Internet and therefore this is possible even when you are not on your home Wi-Fi network, such as when using cellular data.

6.5 Viewing data on wunderground.com

You can also observe your weather station's data by using the wunderground.com web site. You will use a URL like this one, where your station ID replaces the text "STATIONID".

http://www.wunderground.com/personal-weather-station/dashboard?ID=STATIONID

It will show a page such as this, where you can look at today's data and historical data as well.



There are also some very useful mobile apps. The URLs provided here go to the Web version of the application pages. You can also find them directly from the iOS or Google Play stores:

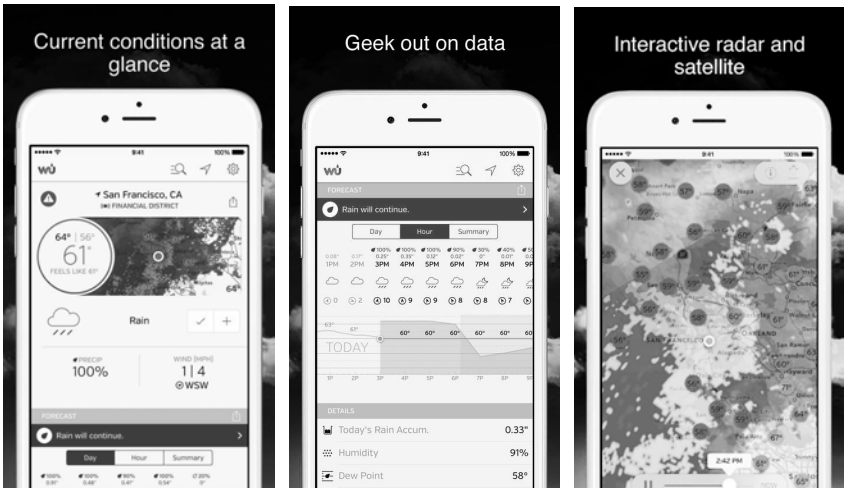
WunderStaton: iPad application for viewing your station's data and graphs**:**

https://itunes.apple.com/us/app/wunderstation-weather-from-your-neighborhood/id906099986

Weather Underground: Forecast: iOS and Android application for forecasts

https://itunes.apple.com/us/app/weather-underground-forecast/id486154808

https://play.google.com/store/apps/details?id=com.wunderground.android.weather&hl=en



PWS Weather Station Monitor: View weather conditions in your neighborhood, or even right in your own backyard. Connects to wunderground.com:

https://itunes.apple.com/us/app/pws-weather-station-monitor/id713705929

6.6 Device list

When on WU Dashboard screen, you can press the “Menu” button (upper right) and select Device List to view all your devices.
You can press your device to view or modify the settings.

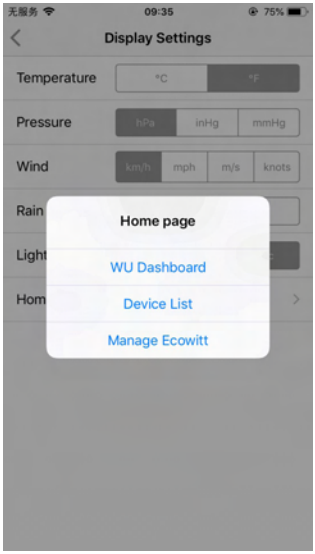
Note: This function requires that your phone and the console is using the same network.

6.7 Manage Wunderground

You can add or delete WU Station ID by selecting “Manage Wunderground”on the submenu:

6.8 Settings

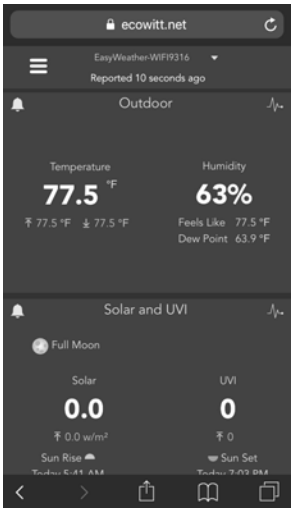
You can set your desired display units or default home page for the app by selecting “Settings” on the submenu:



6.9 Manage Ecowitt

Once you created your ecowitt account successful on the WS View Plus app, you may select “Manage Ecowitt” on the submenu to manage your device.

You may view your weather station data by pressing your device on this screen:

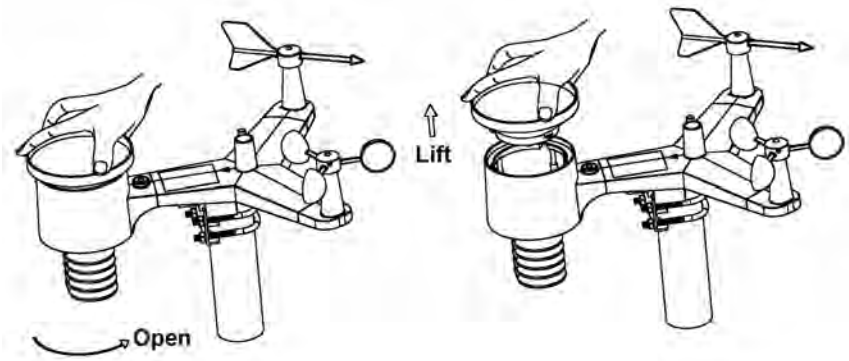


7.Maintenance

The following steps should be taken for proper maintenance of your station

Clean Rain Gauge

Check the rain gauge every 3 months. Rotate the funnel counter-clockwise and lift it up. Clean the funnel and bucket with a damp cloth to remove any dirt, debris and insects. Spray the array lightly with insecticide, if there's a bug infestation.



Clean Solar Radiation Sensor and Solar Panel

The solar radiation sensor and solar panel of the outdoor sensor array need to be cleaned with a non-abrasive slightly damp cloth every 3 months.

Replacing Batteries Regularly

Batteries of the outdoor sensor array need to be replaced every 1-2 years for environmental friendly. In serious environments, check the batteries every 3 months and apply a corrosion preventing compound(not included) on the battery terminals for protection.

To Prevent Snow build up

In snowy days, use anti-icing silicon spray on the top of the weather station to prevent snow build up.

8. Troubleshooting Guide

Look through the following table and locate an issue or problem you are experiencing in the left column and read possible solutions in the right column.

Problem	Solution
Outdoor sensor not reporting to base unit(gateway) Dashes (--) on the app or website	Check that the outdoor transmission LED is flashing normally. See **Sensor reporting interval** on Section 9. If the batteries were recently (re)placed, check correct polarity was used and/or reseat the batteries. If the batteries are old, replace them. If the LED is now flashing normally, proceed to the next step. If it is not flashing and you have repeated battery checks and placement, you may have a defective unit. Make sure the gateway is powered and the WiFi LED lights on steady. Go to the Sensor ID page, find the offline sensor picture and press Re-register to register it.
Indoor and Outdoor Temperature do not agree during indoor testing	During installation testing it is useful to test with both indoor sensor and outdoor unit in the same room. Allow up to one hour for the sensors to stabilize and adjust to room temperature. The indoor and outdoor temperature sensors should agree within 2 °C (the sensor accuracy is ±1°C). If these values still disagree, use calibration offsets for one or both sensors to adjust to a known good reference temperature.
Indoor and Outdoor Humidity do not agree during indoor testing	The procedure here is that same as for outdoor/indoor temperature. The sensors should agree within 10 % (the sensor accuracy is ± 5 %) If these values still disagree, use calibration offsets for one or both sensors to adjust to a known good reference humidity.

Problem	Solution
Relative pressure does not agree with official reporting station	Relative pressure refers to sea-level equivalent temperature and should generally agree closely with the official station. If there is a disagreement, make sure you are not looking at absolute pressure, in particular if your station is not near sea level. Also check at different times due to occasional delays in updates to the official station. The barometer is only accurate to ± 0.09 inHg (3 hPa) within the following relative pressure range: 20.67 to 32.50 inHg (700 – 1,100 hPa), which corresponds to an altitude of 9,000 ft. (2,750 m) down to 2,500 ft. (750 m) below sea level. At higher altitudes, you should expect a possible lesser accuracy and non-linearity effects in the error (the calibration offset only allows for a partially linear correction).
Time is incorrect	Make sure your time zone and daylight savings time setting is correct (even when connected to the Internet via Wi-Fi this is needed).
Data not reporting to Wunderground.com	Confirm your station ID is correct. The station ID is all caps, and the most common issue is substituting a capital letter O for a 0 (zero) or vice versa. Please note the digit 0 can only occur in the last part of the station ID (which is a station number in a city). Example, KAZPHOEN11, not KAZPH0EN11 Confirm that your password (also called: key) is correct. It is the password wunderground.com generated for your station ID. You can also verify it by logging in to wunderground.com and looking it up under “My PWS.” Make sure the date, time and time zone is correct on the WS View Plus app. If it is not incorrect, you may be reporting data for a point in the past or future and you may not see it where you expect it. Check your router firewall settings. The gateway sends data via port 80. If you can access other web sites using “http” (not to be confused with “https”) this setting will be OK.
No Wi-Fi connection/Gateway configured failed	Check for Wi-Fi light on the gateway. If wireless connectivity is operational, the Wi-Fi light will be steady. If you have never been able to configure Wi-Fi to a

Problem	Solution
	working state, make sure your Wi-Fi supports 2.4 GHz signals (801 type B or G, or N). The gateway does **not support** Wi-Fi that uses the 5 GHz spectrum. Make sure you configured the correct SSID and password. Repeat the procedure if necessary to verify. The gateway does not support so-called “captive Wi-Fi” networks. These are typically “guest” type networks where users have to agree to terms and conditions before being connected. You can also try the following methods to configure the gateway: Method one: 1. Power off the gateway and wait for several minutes. 2. Power on the gateway and hold the black button for 5s till the red LED flash fast. 3. Open the WIFI network on your phone and connect to the hotspot of WH2650-WIFIXXXX. 4. Open the WS View Plus app and click Configure New Device - select WH2650 - click Next 5. Follow the instructions on the app. Method two: Use one phone(A) as a hotspot, find another phone(B) to run WS View Plus app to start the WIFI configuration process(ensure the wifi light is fast flashing) to see whether the configuration can be completed or not. Use one phone(A) as a hotspot, find another phone(B) to run WS View Plus app to start the WIFI configuration process(ensure the wifi light is fast flashing) to see whether the configuration can be completed or not.

9. Specification

Outdoor data

Transmission distance in open field : 100m
Frequency : 433/868 MHz (option)

Temperature range : -40˚C--60˚C
Accuracy : + / - 1˚C
Resolution : 0.1˚C

Measuring range rel. humidity : 10%～99%
Accuracy : +/- 5%

Rain volume display : 0 – 6000mm (show --- if outside range)
Accuracy : + / - 10%
Resolution : 0.1mm (if rain volume < 1000mm)
1mm (if rain volume > 1000mm)

Wind speed : 0-50m/s (0~100mph) (show --- if outside range)
Accuracy : +/- 1m/s (wind speed< 5m/s)
+/-10% (wind speed > 5m/s)

Light : 0-400k Lux
Accuracy : +/-15%

Measuring interval outdoor sensor: 64 sec

Indoor data

Indoor temperature range : 0˚C--50˚C (show --- if outside range)
Resolution : 0.1˚C

Measuring range rel. humidity : 10%～99%
Resolution : 1%

Measuring range air pressure : 700-1100hPa (20.67-32.5inHg)
Accuracy : +/-3hpa
Resolution : 0.1hPa (0.01inHg)