DP2000

7-In-1 Ultra WiFi Internet Wireless Weather Station

Manual EN

Support/updates/manuals/spare parts:
www.froggit.de

The following optional sensors (purchased separately) can be used with DP2000 console display.

- If you have purchase extra sensors, just simple power up, the display console will receives the data automatically. If sensor not reporting in to console, the display console will re-search the data after one hour or restart the console to search the data. Please refer to the sensor manual (provided separately with sensor) for details.

This table shows the maximum number of each type of sensor that can be worked with console display

Sensor	**Image**	**Maximum Number**
DP50 Multi-channel temperature and humidity sensor		8
DP100 Soil moisture sensor		8
DP200 PM2.5 air quality sensor		1
DP70 Water leak alarm		4
DP60 Thunder and lightning		1

DP250 Indoor PM2.5/PM10 CO2 air quality sensor temperature/humidty		1
DP10 Leaf wetness sensor * the data won't be displayed on the main screen, it will show its data on the Channel Data page.		8
Sensor	**Image**	**Maximum Number**
DP35 stainless-steel probe thermometer for soil and water DP150 wire probe thermometer for water DP35 and DP150 share the 8 channels		8

1 Table of Contents

1 TABLE OF CONTENTS 4
2 UNPACKING 5
3 OVERVIEW 5
4 SENSOR ARRAY SET UP 8
4.1 INSTALL BATTERIES 8
4.2. MOUNTING 9
4.3 RESET BUTTON AND TRANSMITTER LED 11
4.4. CALIBRATION 11
4.5 SITE SURVEY 12
4.6 BEST PRACTICES FOR WIRELESS COMMUNICATION 12
5 WI-FI CONFIGURATION 13
5.1 BEFORE SETUP 13
5.2 SETUP METHOD 14
5.2.1 Method A: Setup via app 14
5.2.2 Method B: Setup via Embedded Webpage 15
5.3 REGISTERING ECOWITT WEATHER SERVER 19
5.3.1 Viewing data on ecowitt.net 20
5.4 REGISTERING WEATHER UNDERGOUND 23
5.4.1 Viewing data on wunderground.com 27
5.5 REGISTERING WEATHERCLOUD 31
5.6 WEATHER OBSERVATIONS WEBSITE (WOW) 32
5.7 EMBEDDED WEBPAGE OTHER FUNCITONS 36
2. LIVE DATE 37
6 MAINTENANCE 42
7 TROUBLESHOOTING GUIDE 45
8 SPECIFICATIONS 48

2 Unpacking

Open your weather station box and inspect that the contents are intact (nothing broken) and complete (nothing missing). Inside you should find the following:

QT	Item Description
1	Wi-Fi /LAN Gateway
1	7-in-1 Sensor Array with built-in: Thermo-hygrometer / Rain Gauge / Wind Speed Sensor/ Wind Direction Sensor/UV/Light sensor, Solar panel
1	White O-ring
1	USB to 2.5*0.7mm DC 5V power plug connector cable
1	Ethernet Cable
1	User manual (this manual)

Table 1: Package content

If any component is missing from the package, or broken, please contact our Customer Service department to resolve the issue.

3 Overview

WiFi/Lan Gateway

No	Description
7	Server LED
6	Sensor Link LED
5	Temp. &Humidity Sensor
4	Network LED
3	Ethernet socket
2	DC Socket
1	Reset button

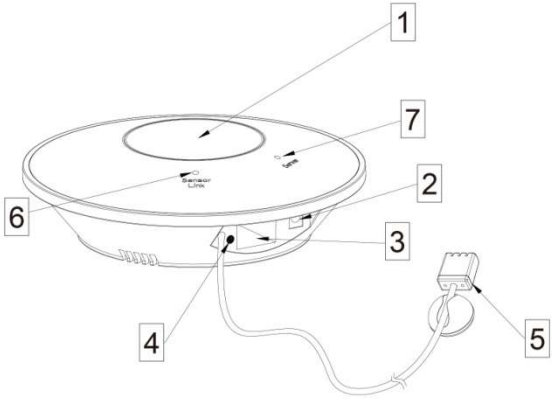


Figure 1: Wi-Fi Gateway

Ref.	LED	Description
1	Sensor Link (blue)	**On:** flash when one packet of wireless sensor data was received **Off:** No wireless sensor data is received. Please check whether the wireless sensor is working normally, and make sure that the sensor can connect to the device hotspot "GW2000-WIFIXXXX" with a mobile phone/PC, open the browser, and log in to the webpage 192.168. 4.1 (the initial password is empty), enter the Sensors ID interface to re-register the corresponding wireless Sensor .
2	Server (red)	**On** (steady): network communication normal and data uploaded to configured weather service(s) successfully. **Flash** (faster): Wi-Fi configuration mode is active. Use the WS View Plus app to complete the configuration. **Flash** (slow): network communication normal, but upload to one or more configured weather services failed. First confirm Internet access through your router is functioning, and then check whether the

Ref.	LED	Description
		upload server account and password are correct (use WS View application). **Off** : Wi-Fi connection failed

Table 2: LED Indicators

7-in-1 Sensor Array

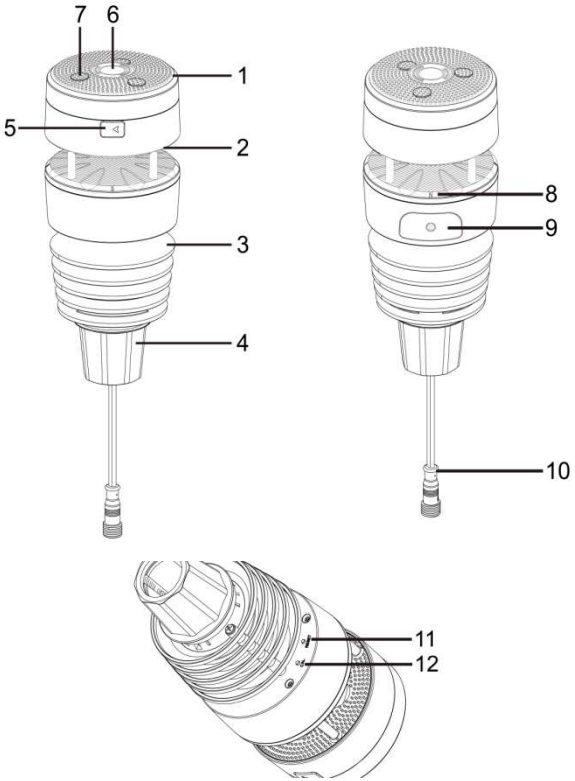


Figure 2: Wireless Sensor Array

1. Solar Panel	7. Haptic Rainfall sensor
2. Ultrasonic wind sensor	8. NORTH alignment indicator
3. Temperature & humidity sensor	9. Battery compartment
4. Fixed Bolt (Mounting on a pole with 1 inch diameter)	10. Heating power cable connector
5. USB port (Factory use only)	11. Reset button
6. Light & UV sensor, LED indicator	12.Calibration button (factory use only)

Table 3: Sensor assembly detailed items

4 Sensor Array Set up

4.1 Install batteries

Insert 2XAA batteries in the battery compartment. The LED indicator(on the top of the sensor) will turn on for 3 seconds and normally flash once every 8.8 seconds (the sensor transmission update period).

Note: If no LED light up or is lighted permanently, make sure the battery is inserted the correct way or a proper reset is happened. Do not install the batteries backwards. You can permanently damage the outdoor sensor

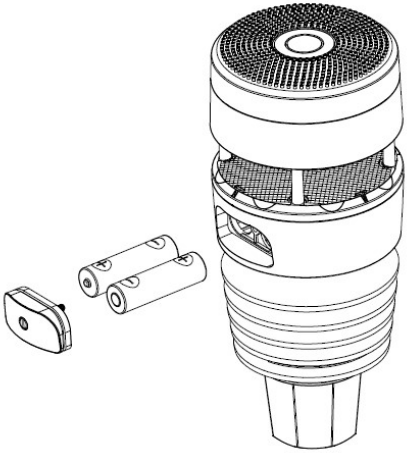


Figure 3: Battery installation diagram

Note: 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.

4.2. Mounting

Before you mount

Before installing your outdoor sensor in the permanent location, we recommend operating the device 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.

1. Mounting on a pole with 1 inch diameter as Figure 4. Make sure the mounting pole is vertical, or very close to it. Use a level as needed

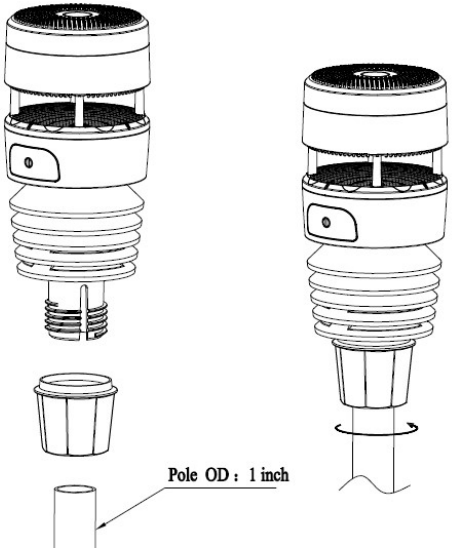


Figure 4 installation diagram

Note: Make sure the mounting tube for the sensor package is installed vertically (use a level at 90-degree offsets around the tube). Adjust the mounting pipe as necessary..

2. There is an arrow icon with"N" words (Figure 5) representing the direction of North. The sensor body has to be adjusted so that the "N" indication is facing to real north direction in your location. A compass device is recommended to help adjust direction. Permanent wind direction error will be introduced when the outdoor sensor is not installed in right direction.

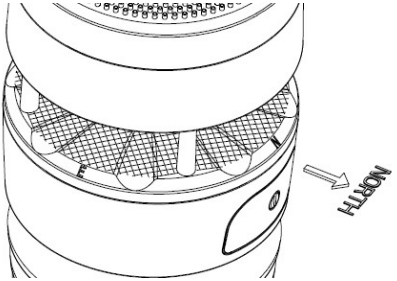


Figure 5 Facing North diagram

Note: In Southern hemisphere, it is not necessary to change the orientation to SOUTH as its solar panel is a rounded type and it is orientation free for its charging capability.

After power by the adaptor, the built-in thermostat heating plate will automatically turns on below 5°C (40°F) and atutomattically turns off above 10°C (50°F). It is used exclusively to optimize the wind measurement.

Note: The outdoor rated adapter and extended power cable can be purchased separately:

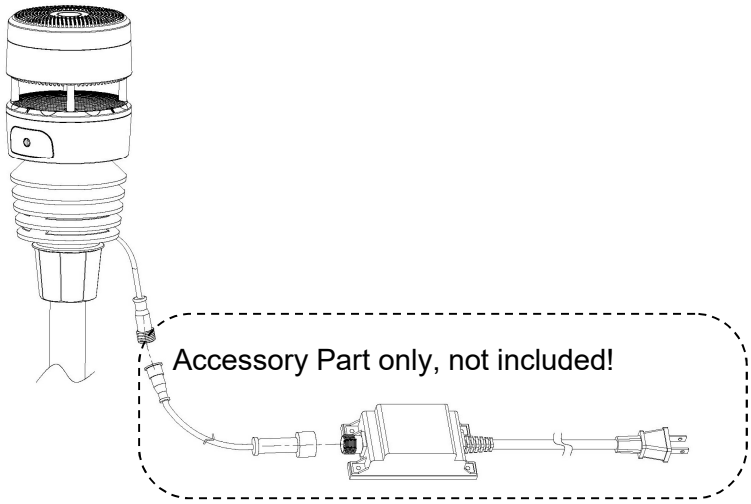


Figure 6: Sensor package mounting diagram

4.3 Reset Button and Transmitter LED

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

Press the **RESET** button ,the top LED light will be on for three seconds, then resume as normal, flashing approximately once every 8.8 seconds.

4.4. Calibration

The ultrasonic sensor has been calibration before leaving the factory. We do not recommend that customers do calibration by themselves.

Customers use this feature only when the wind speed does not return to zero when there is no wind

After the product works normally, use a cloth or sponge with good water absorption (prevent the echo of the ultrasonic waves) to completely wrap the air inlet.
Press and hold the CAL button for three seconds, the top LED light will be on. After releasing the CAL button, place the product on the table. After five seconds, the top LED light will flash. At this time it is in the calibration mode. Wait for the LED to flash, the calibration is over, and the product automatically enters the normal working mode.

4.5 Site Survey

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

- Ideally mounted at 32.8 feet (10 meters) above ground level.
- Try to make the anemometer the highest object around. 7 feet (2.76 meters) or more above the surrounding obstructions is best.

4.6 Best Practices for Wireless Communication

Wireless (RF) communication is susceptible to interference, distance, walls and metal barriers. We recommend the following best practices for trouble free wireless communication between both outdoor sensors and the gateway:

- **Electro-Magnetic Interference (EMI)**. Keep the gateway several feet away from computer monitors and TVs.
- **Radio Frequency Interference (RFI).** If you have other devices operating on the same frequency band as your indoor and/or outdoor sensors and experience intermittent communication between outdoor sensors and gateway, try turning off these other devices for troubleshooting purposes. You may need to relocate the transmitters or receivers to avoid the interference and establish reliable communication.

- **Line of Sight Rating.** This device is rated at 100 meter line of sight (under ideal circumstances; no interference, barriers or walls), but in most real-world scenarios, including a wall or two, you will be able to go about 30 meter
- **Metal Barriers.** Radio frequency will not pass through metal barriers such as aluminum siding or metal wall framing. If you have such metal barriers and experience communication problems, you must change the placement of outdoor sensors and gateway.

The following table shows different transmission media and expected signal strength reductions. 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%

Table 4: RF Signal Strength reduction

5 Wi-Fi Configuration

5.1 Before Setup

Connect the Gateway console power jack to AC power with the power adapter (included).
When powered up the Gateway, the Sever LED will flashes quickly. It means that the gateway is in the Wi-Fi configuration mode. If it does not flash quickly, press and hold the top RESET button for 5S to enter the Wi-Fi configuration state

The Gateway console can connect to your network via Wi-Fi or directly connected to your router using the included Ethernet cable.

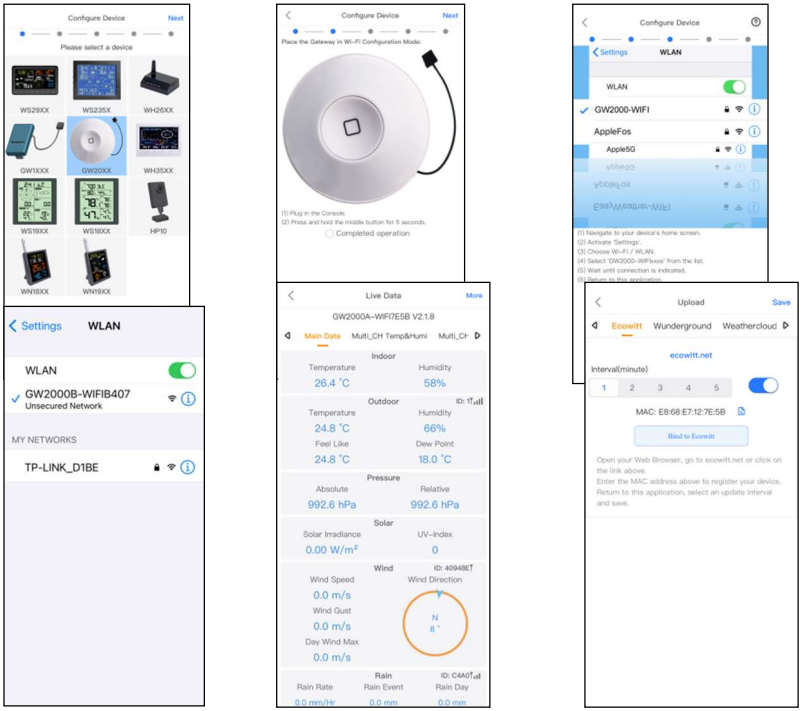
Place the powered sensors array about 2 to 3 meter from the Gateway console receiver and wait several minutes for the remote sensors to synchronize with the receiver.

5.2 Setup Method

5.2.1 Method A: Setup via app

Install WS View Plus app. Then follow up the instruction as the App will walk you through the SETUP Process

Remark: We recommend method A to be used in the first place. Please follow the App's instruction to complete account registration and device provision. If method A is not working for you, please follow method B to start



ECOWITT Dashboard vs WU Dashboard vs Live Data

Here is a short explanation showing data difference:

Live Data is obtained by the mobile app by connecting directly to the gateway. This can only happen when your mobile device and gateway are connected to the same Wi-Fi network. It will then show up after you select "Device List" from the main settings menu. If your mobile device is in another network, no device(s) will show up in this list and you will not be able to select a device for displaying the "Live Data" screen.

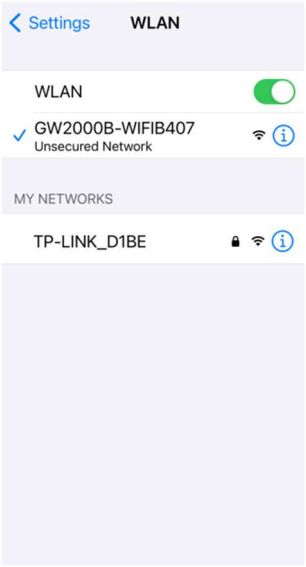
ECOWITT Dashboard shows the data obtained from ECOWITT server. This requires that your mobile device can reach the Internet and therefore this is possible even when you are not on your home Wi-Fi network, such as when using cellular data.

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.

5.2.2 Method B: Setup via Embedded Webpage

1. Find the Gateway GW2000X-WIFIXXXX from your device (computer, smart phone, or tablet with a browser) as Figure 7
   Or
   Plug in Ethernet cable to connect this gateway to WiFi router, find its' assigned IP address via DHCP

2. Open a browser, navigate to the following IP address 192.168.4.1 as Figure 8



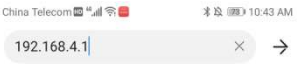


Figure 7 **Figure 8**

3. Enter Login web page as Figure 10.

There is no need to enter the password when you are login for the first time. Press Login button to enter webpage interface.

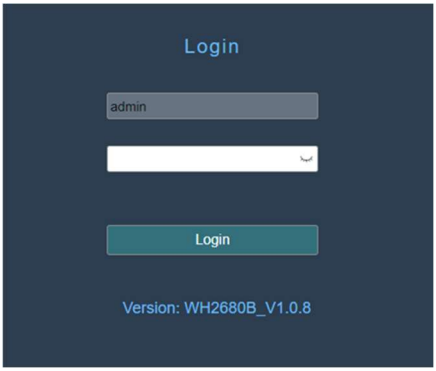
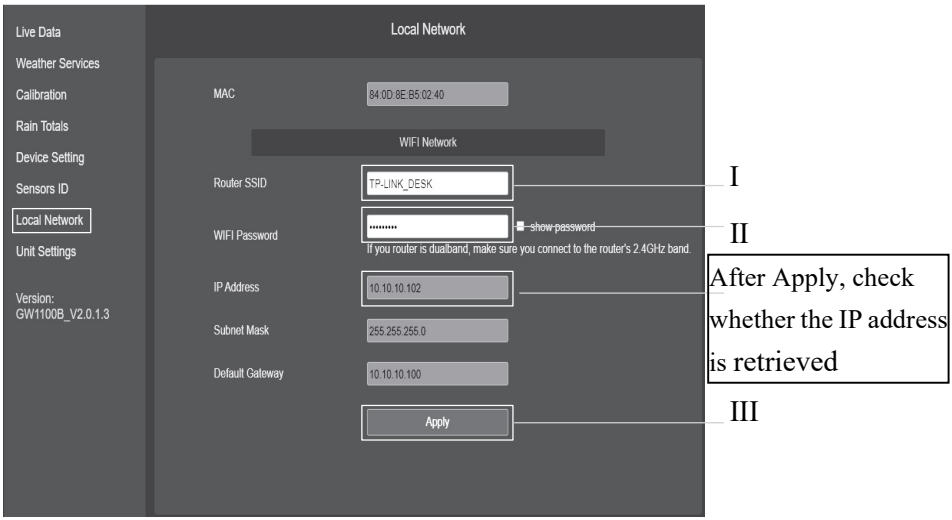


Figure 10 Login screen

4. Local Network

Upload data to the weather services, start from here, complete below I to III steps.



5.Weather Services

Finished Registration in the weather server you want to upload the data and get the Station ID and Password in the weather Server. Enter it in the below "Weather Server" screen.

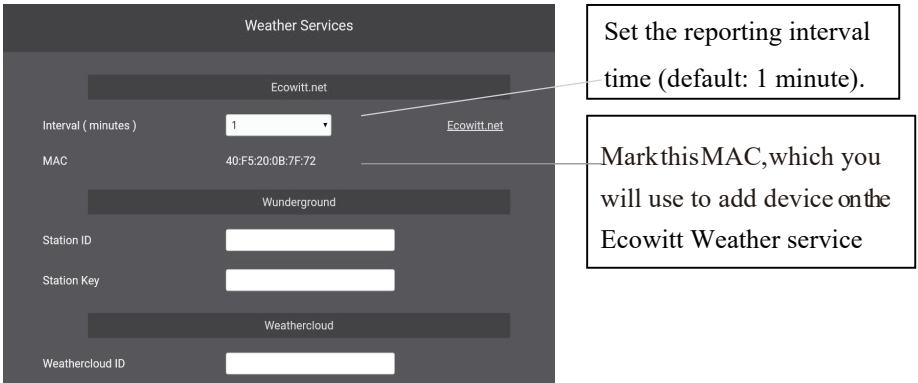


Figure 13 Weather Server screen

The supported services are shown in the table below:

Hosting Service	Website	Description
Ecowitt Weather	https://www.ecowitt.net	Ecowitt is a new weather server that can host a bunch of sensors that other services don't support.
Weather Undergound	https://www.wunderground.com	Weather Underground is a free weather hosting service that allows you to send and view your weather station data real-time, view graphs and gauges, import text data for more detailed analysis and use iPhone, iPad and Android applications available at

		Wunderground.com. Weather Underground is a subsidiary of The Weather Channel and IBM.
Weather Cloud	https://weathercloud.net	Weathercloud is a real-time weather social network formed by observers from around the world.
Weather Observation Website (WOW)	http://wow.metoffice.gov.uk/	WOW is a UK based weather observation website. WOW allows anyone to submit their own weather data, anywhere in the world.
Customized Website		Supports uploading to your customized website, if the website has the same protocol with Wunderground or Ecowitt

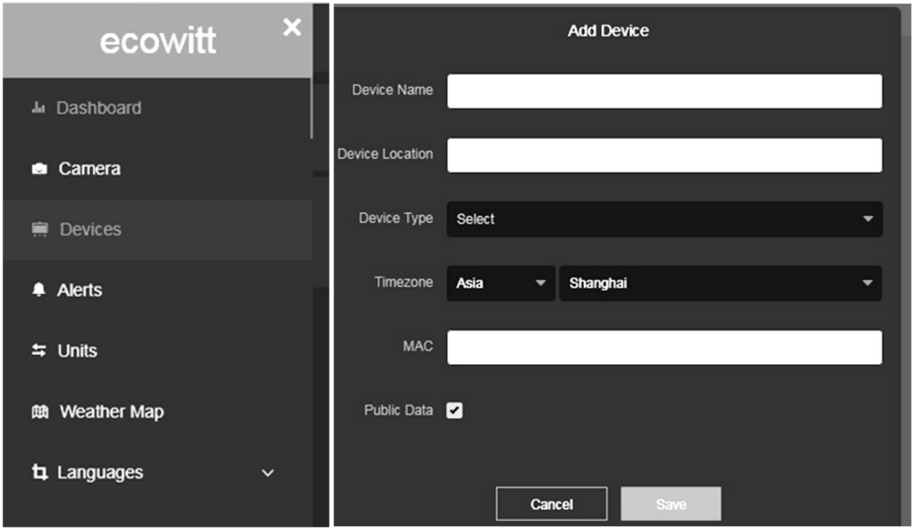
Table 4: Supported Weather Servers

5.3 Registering Ecowitt Weather Server

It's recommended to use the Ecowitt Weather server to monitor and record your sensors' data.

To register with Ecowitt follow these steps:

1) On the Weather Server page, set the reporting interval time (default: 1 minute).
2) Visit the website: https://www.ecowitt.net on your computer and finish the registration on the page.
   - Press the upper left menu button and select Devices.
   - Press Add Device and input all the information needed (The MAC address can be found on the Weather Server page).
   - Press Save.
   - Press Dashboard on the menu. Your sensor data would be available on the dashboard within several minutes.



Note: When select device address on map, please wait till the map display before select your address.

Note: Please put in the correct time zone to get the correct time. Because the time will be updated to internet time automatically while WIFI connection. You may add a shortcut to the ecowitt.net website on the home page of your phone so that you can visit it just like opening an app.

5.3.1 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".

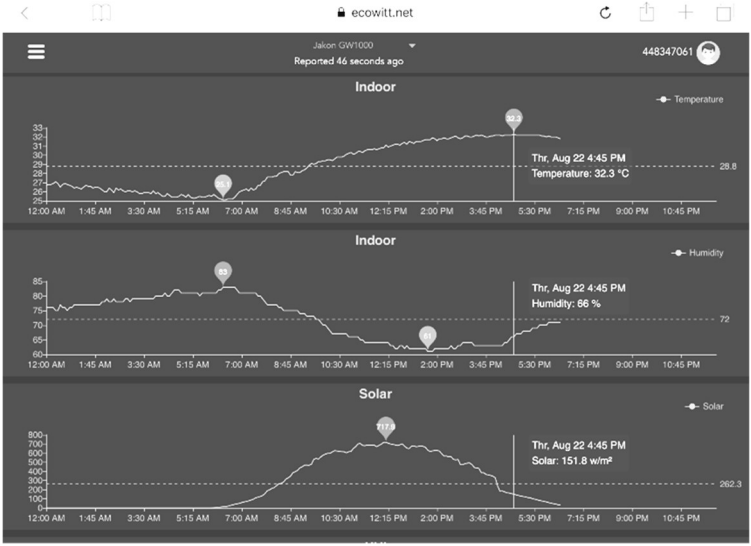
https://www.ecowitt.net/home/index?id=STATIONID

Note: If you want to share your station data with other users, you'll need to set your data to be public. Other users need to log in the ecowitt.net first to view your data.

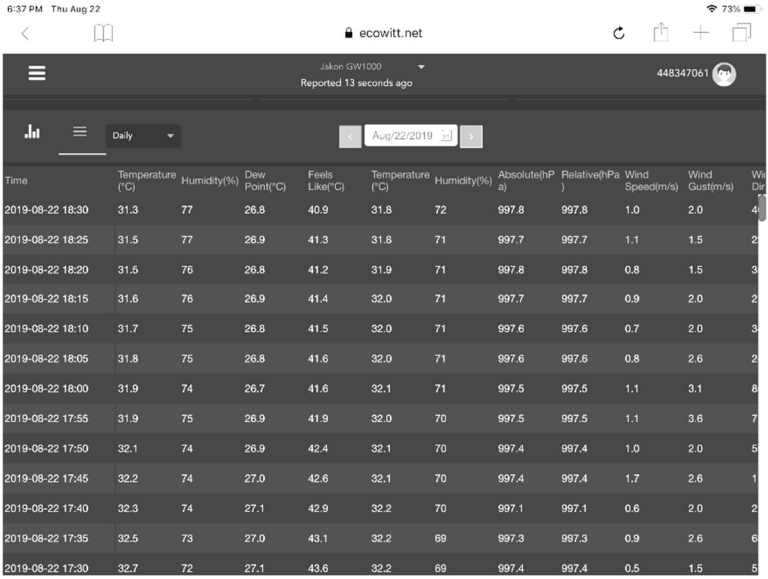
It will show a page such as this, where you can look at today's data and historical data as well.

Dashboard

Graph display

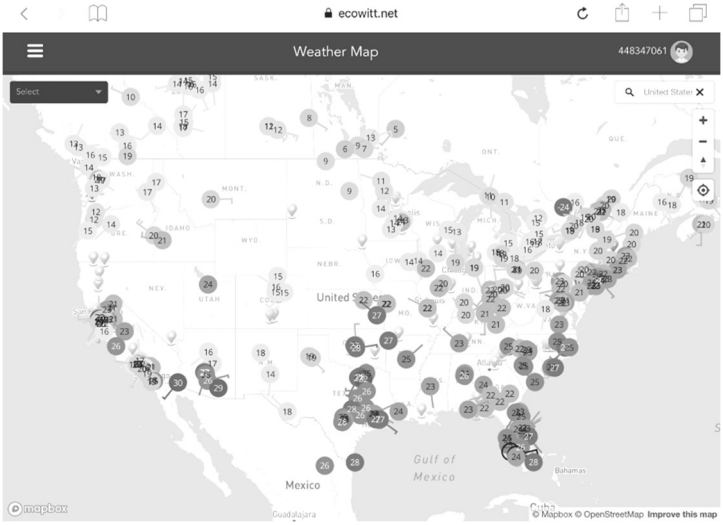


List display

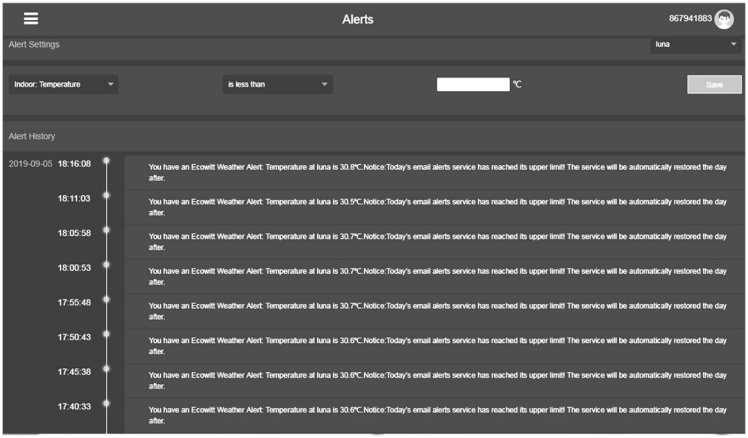


Time	Temperature (°C)	Humidity(%)	Dew Point(°C)	Feels Like(°C)	Temperature (°C)	Humidity(%)	Absolute(hPa)	Relative(hPa)	Wind Speed(m/s)	Wind Gust(m/s)	Wi Dir
2019-08-22 18:30	31.3	77	26.8	40.9	31.8	72	997.8	997.8	1.0	2.0	4
2019-08-22 18:25	31.5	77	26.9	41.3	31.8	71	997.7	997.7	1.1	1.5	2
2019-08-22 18:20	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

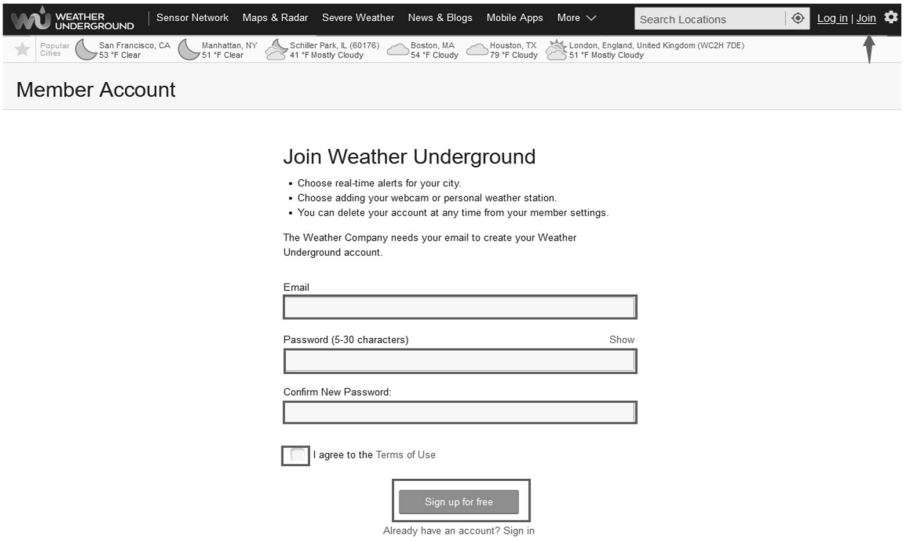


Ecowitt.net is a responsive design and mobile friendly. Simply open your mobile devices web browser, browse to ecowitt.net, and bookmark your dashboard for quick access.

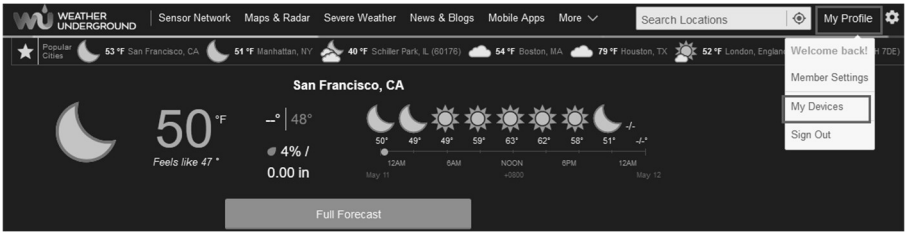
5.4 Registering Weather Undergound

Perform the following steps to get the Station ID and Password on wunderground.com:

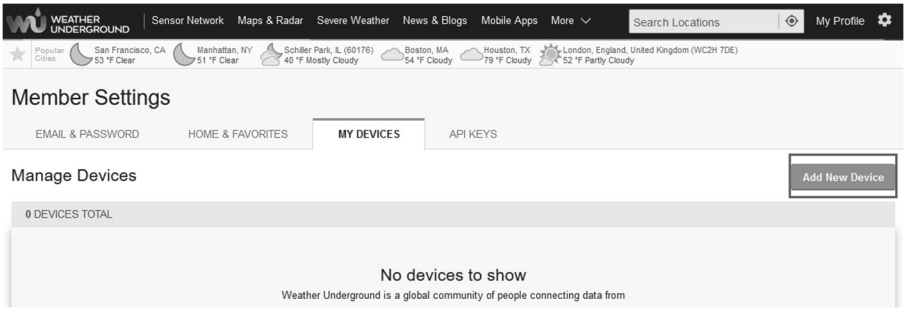
1. Visit Wunderground.com and select the **Join** link at the top of the page and sign up.



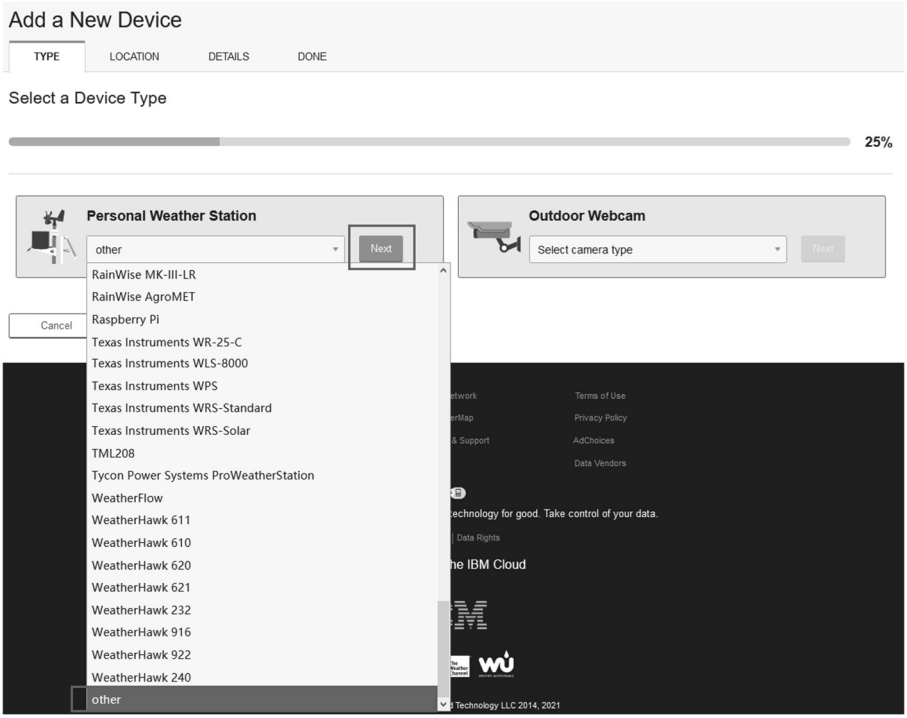
2. Click **My Profile and select My Devices** to register your station



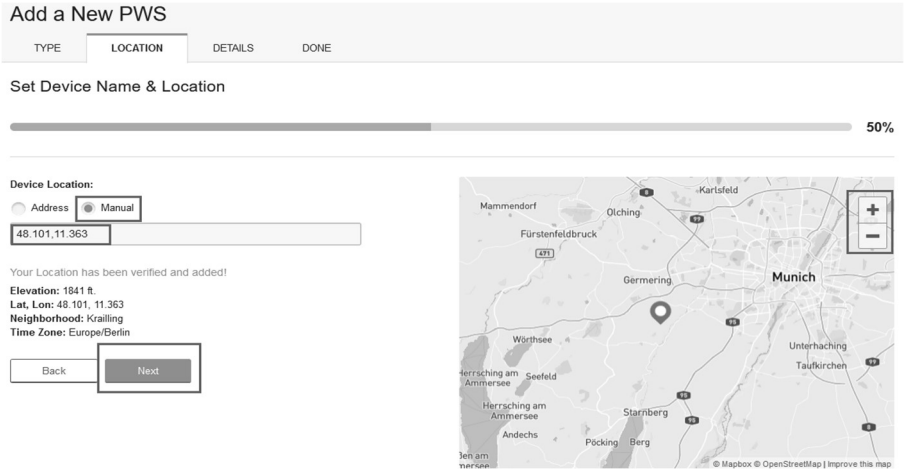
3. Select **Add New Device**.



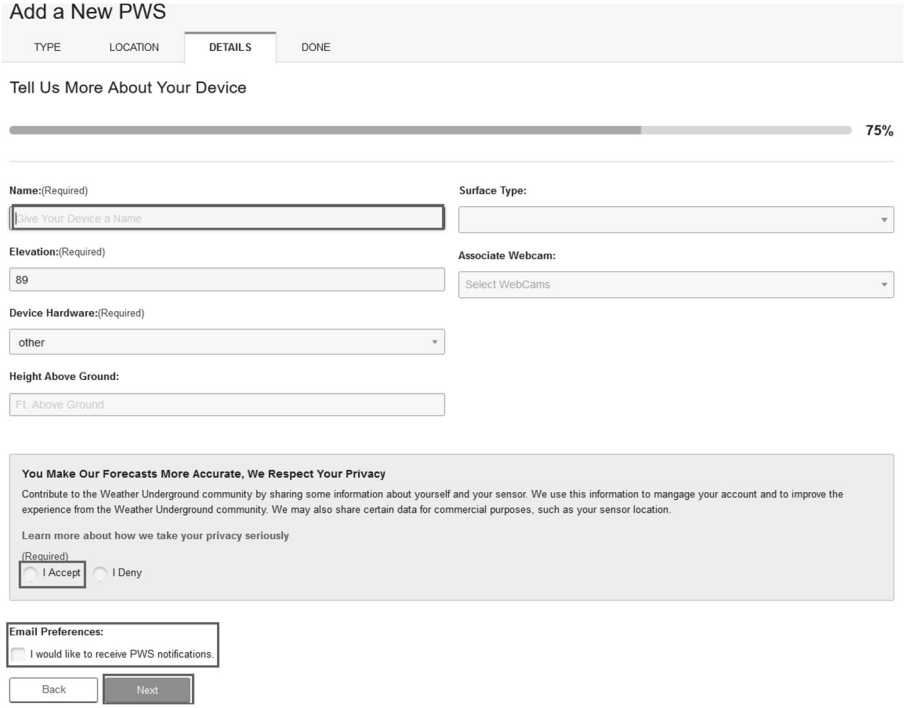
4. Find Personal Weather Station. Select ‘other’ and click ‘Next’.



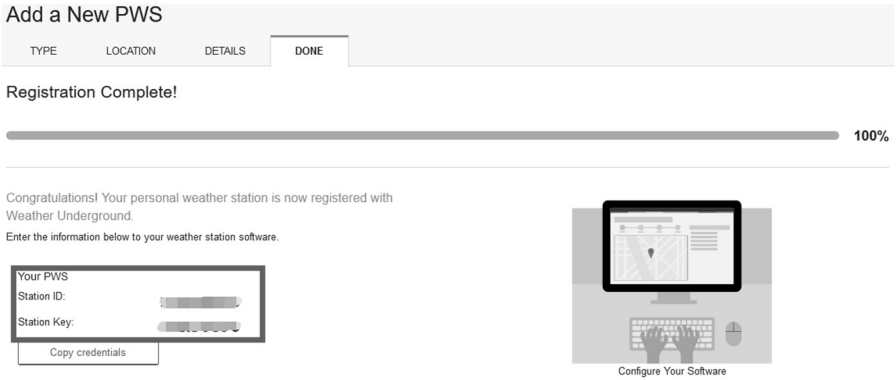
5. Select ‘Address’ or ‘Manual’ option, and find your local position. Press ‘Next’.



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.

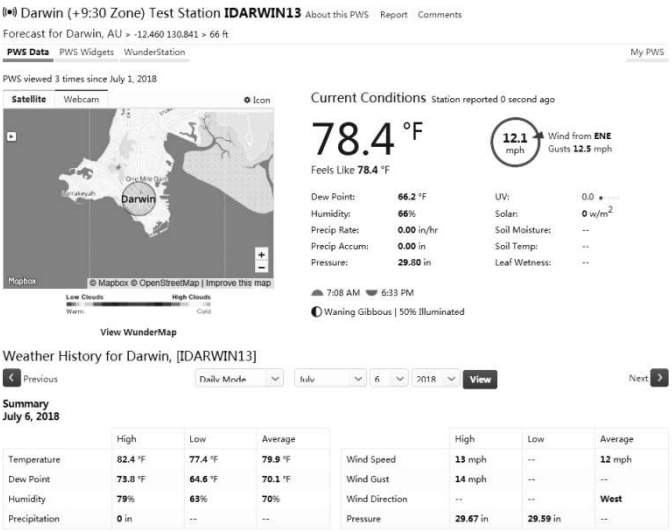


8. Take note of the station ID and key/password.
9. Back to the “Weather Service” screen and input the Station ID and Key.

5.4.1 Viewing data on wunderground.com

The most basic way to observe your weather station’s data is 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

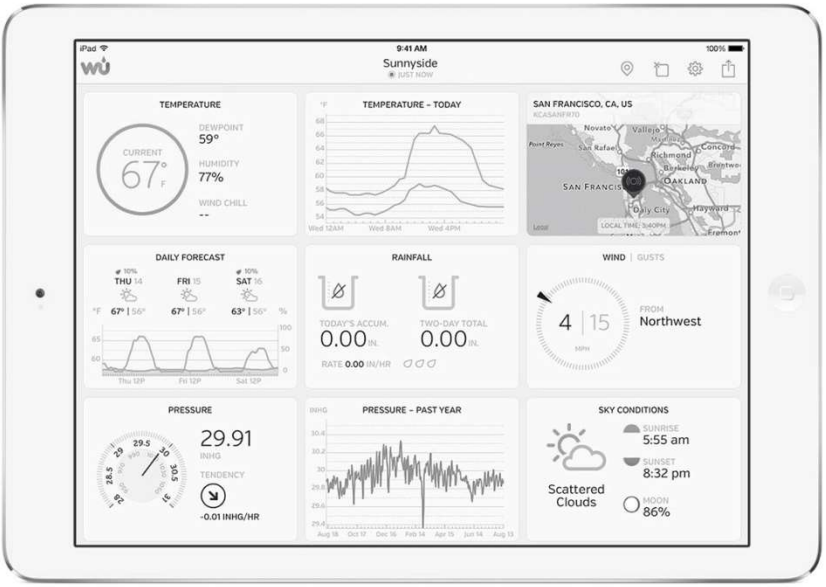
It will show a page such as this, where you can look at today’s data and historical data as well:



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:

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

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



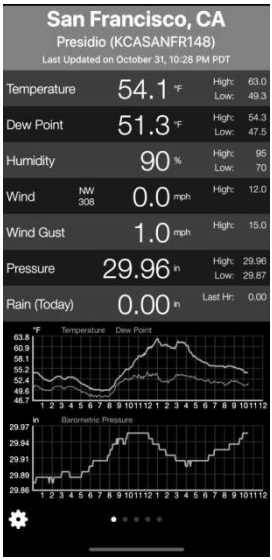
Weather Underground: Forecast: iOS and Android application for forecasts

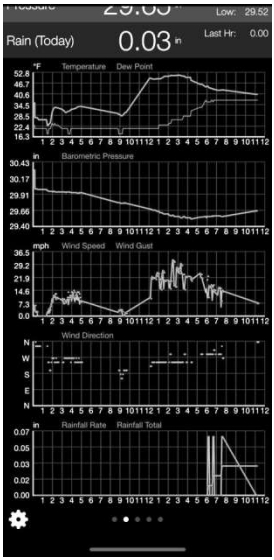
https://itunes.apple.com/us/app/weather-underground-forecast/id486154808

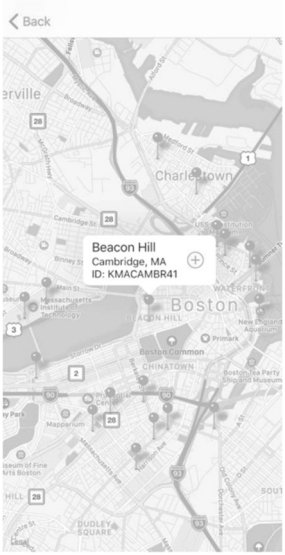
https://play.google.com/store/apps/details?id=com.wunderground.android.weather&hl=en

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



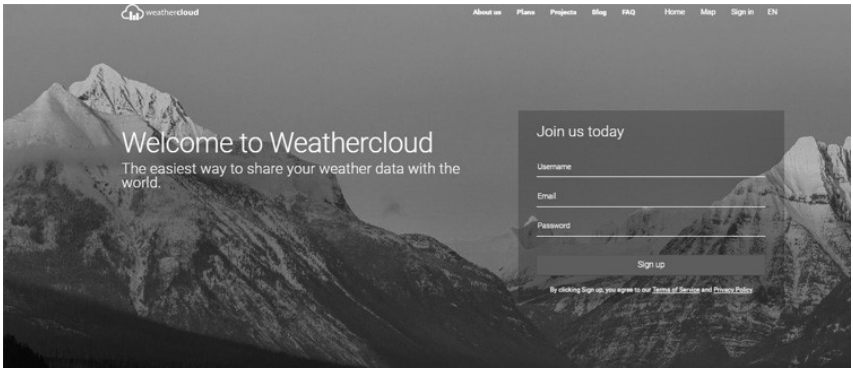




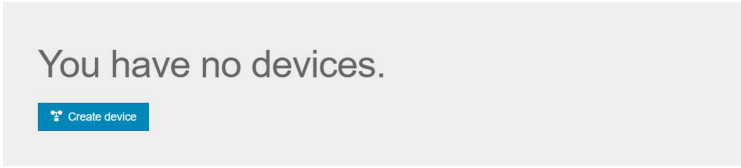
5.5 Registering WeatherCloud

To register with Weathercloud follow these steps:

1) Visit weathercloud.net and enter a Username, Email and Password to sign up.



2) Respond to the validation email from Weathercloud (it may take a few minutes).
3) You will then be prompted to add a device/ Select “Create device” and enter your station’s information:



4) After registering your station, take note of the “Weathercloud ID” and “Key” presented to you.
5) Back to the “Weather Service” screen and input the Station ID and Key.

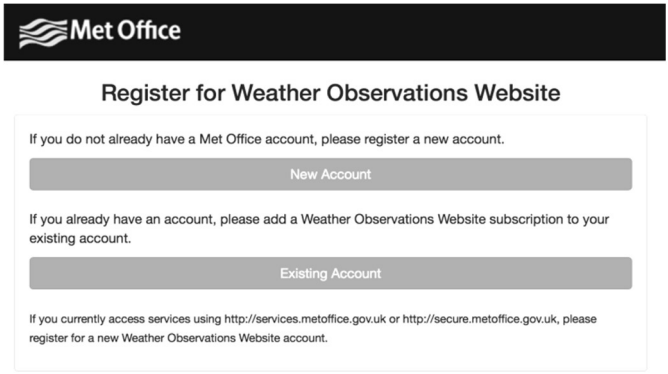
5.6 Weather Observations Website (WOW)

To have your weather station upload data to the Met Office’s WOW site you will need to complete the following steps:

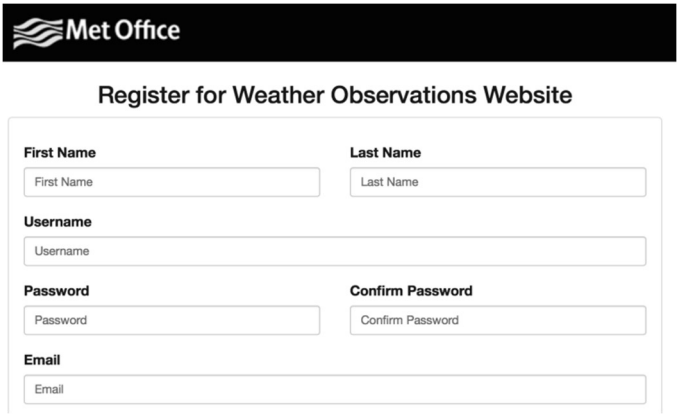
1) Sign Up with WOW

Navigate your browser to http://wow.metoffice.gov.uk. On the top-right side of the resulting page you will see menu options. Click “Sign Up”

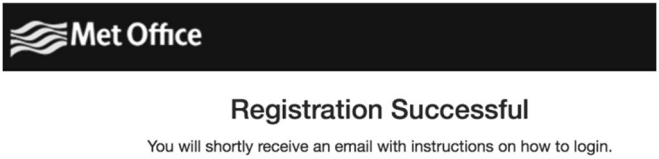
You will be presented with the screen below where you will choose to either create a new account or use an already existing account. Click the desired option.



If you chose "New Account" you will be presented with a form to fill out:



The actual form is longer, but all questions should be self-explanatory. Complete and submit the form. You will receive the following notice on completion:



2) Confirm your email with WOW

Respond to the validation email from WOW(it may take a few minutes).

3) Login to WOW

Follow instructions on the screen and login to the site.

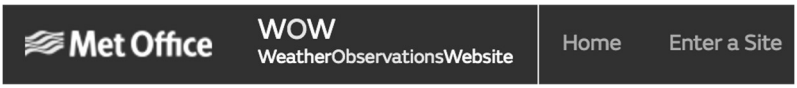
4) Create/Set up a new WOW site

Once you are logged in you will need to create a new WOW site. “Sites” are the means by which WOW organizes weather data the you contribute. Basically, WOW builds a personal web site for your weather station. Associated with the web site is two items you will need to allow uploading of data:

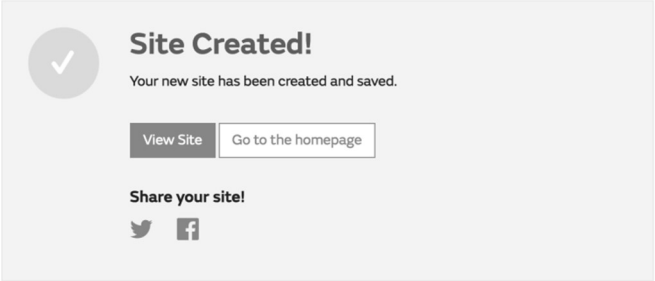
Site ID: This is an arbitrary number that is used to distinguish your site from another. This number appears (in brackets) next to or underneath the name of your site on the site information page, for example: 6a571450-df53-e611-9401-0003ff5987fd

Authentication Key: This is a 6-digit number that is used to ensure data is coming from you and not another user.

Begin setting up a new site by clicking “Enter a Site”:



You will be presented with a form where you detail your station’s location and a bunch of other settings related to how you wish the site to operate. After you complete the setup, you should see:



Make sure you are (still) logged in to the WOW site. Login as necessary. Now click on "My Sites" in the navigation bar at the top. If you have only 1 site, you will now be shown its page. If you have multiple, you will have to choose the correct one first. On this page, on the right side you will find the site id just below the map:

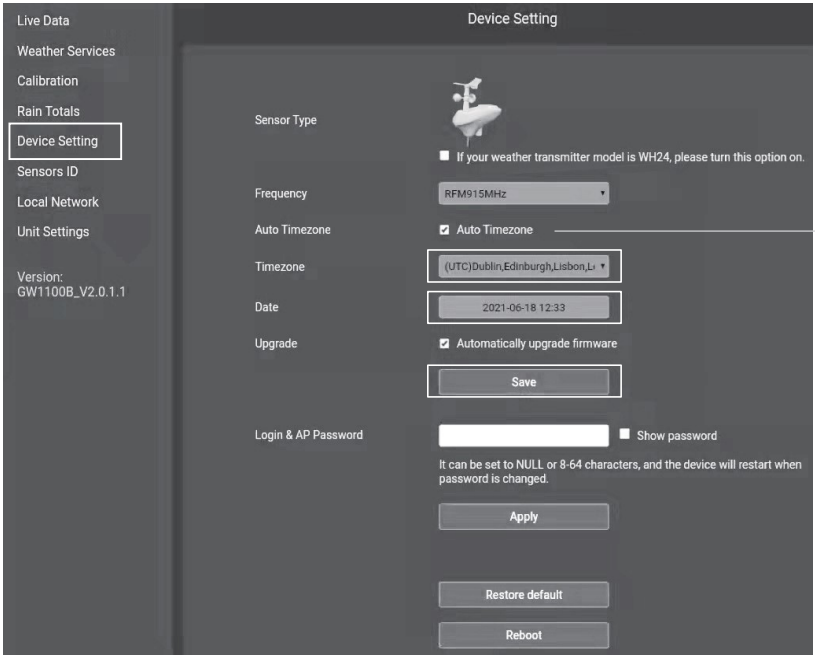
You will also need to establish a unique 6 digits PIN code that you should keep secret. It is the "Authentication Key." Setup this number by clicking on "Edit Site") and filling out the with a 6-digit number of your choice:

5) Back to the “Weather Service” screen and input the Site ID and Authentication Key.

5.7 Embedded Webpage other funcitons

1. Device Setting

Set Timezone and Date from here



If you select Auto Timezone on Device Setting page, you have to select correct Timezone on Ecowitt.net - Add Device page.

2. Live Date

The “Live Data” screen provides a read-out of your sensors and the rename function for the multi-channel sensors.

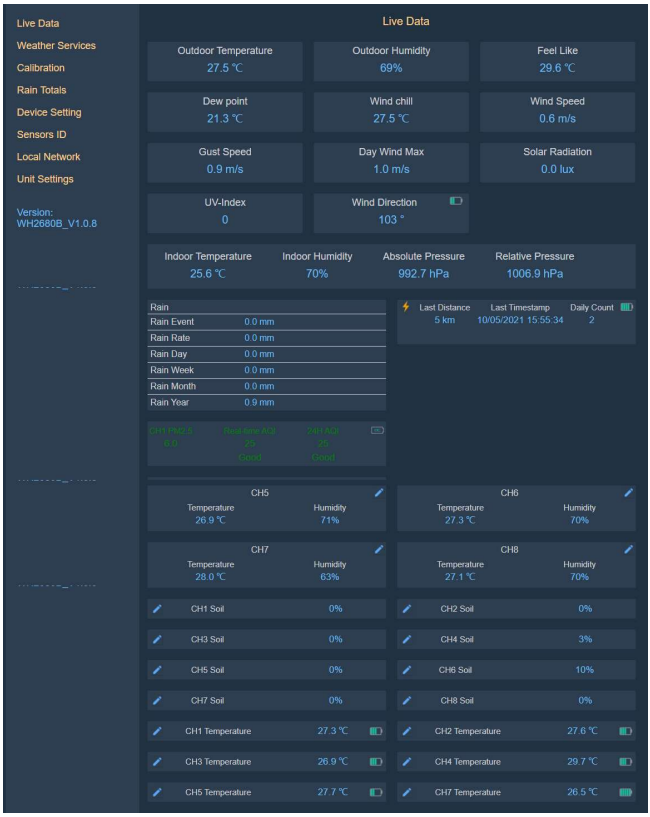


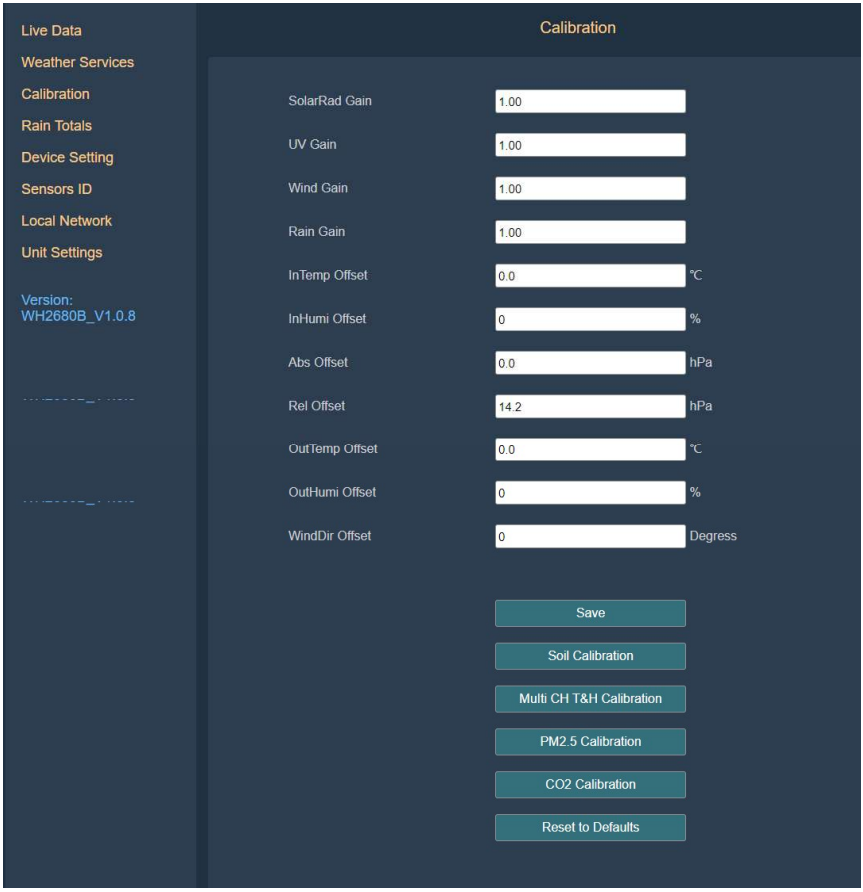
Figure 11 Live Data Screen

Press the pencil icon and a pop-up window will appear for editing the name of the current channel sensor. For example, rename the received CH1 temperature and humidity to bedroom temperature. After that, this channel will be exposed to bedroom temperature.

Figure 12 Live Data Screen

3.Calibration

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. This section discusses practices, procedures and sources for sensor calibration to reduce manufacturing and degradation errors. Do not compare your readings obtained from sources such as the internet, radio, television or newspapers. The purpose of your weather station is to measure conditions of your surroundings, which vary significantly from location to location.

Parameter	Type of Calibration	Default
Solar Radiation	Gain	1.0
UV	Gain	1.0
Wind	Gain	1.0
Rain	Gain	1.0
Temp	Offset	Current Value
Humidity	Offset	Current Value
ABS Barometer	Offset	Current Value
REL Barometer	Offset	Current Value
Wind Direction	Offset	Current Value

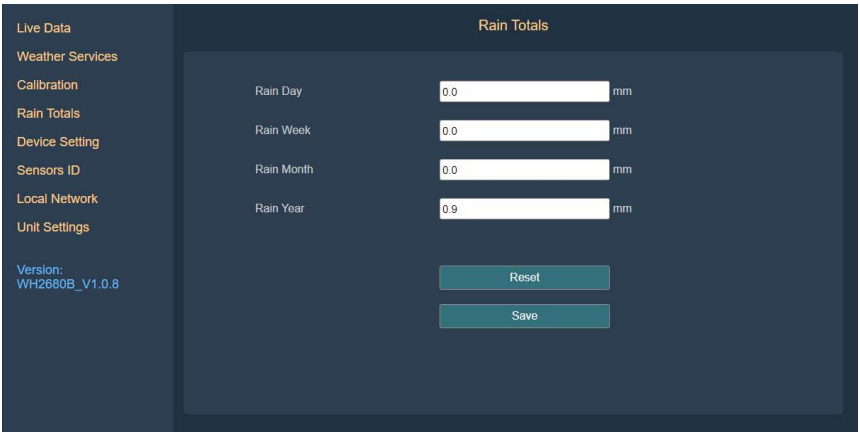
Table 5: Type of Calibration and default value

The calibration sub-page below is dynamic, and only after receiving the relevant Sensor transmitter, can you go to view, modify and set it.

- Soil Moisture Calibration
- Multi-Channel T&H Calibration
- PM2.5 Calibration
- CO2 Calibration

4. Rain Totals

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.



5. Sensor ID

On Sensor ID screen to set the following:

View sensor ID, signal strengthen and battery status

Register the sensor when offline

Enable or disable the sensor

Input the Sensor ID when offline

Live Data
Weather Services
Calibration
Rain Totals
Device Setting
Sensors ID
Local Network
Unit Settings
Version:
WH2680B_V1.0.8
Sensors ID
Name
ID
Battery
Signal
Re-register
Operating
Temp & Humidity & Solar & Wind & Rain
0x2
Normal
Re-register
Edit
Solar & Wind
0xCF
Re-register
Edit
Rain
0x188E2
Normal
Re-register
Edit
Temp & Humidity & Pressure
0xB7
Normal
Re-register
Edit
Temp & Humidity
0x2B
Normal
Re-register
Edit
Temp & Humidity & Solar & Wind
0x2A
Re-register
Edit
Lightning
0xC49B
Re-register
Edit
PM25 & PM10 & CO2
0x3572

Re-register
Edit
PM2.5 CH1
0xC4AD
Re-register
Edit
PM2.5 CH2
Disable

Re-register
Edit
PM2.5 CH3
Disable

Re-register
Edit
PM2.5 CH4
Disable

Re-register
Edit
Leak CH1
Learning

Re-register
Edit
Leak CH2
0x10D4A7
Re-register
Edit
Leak CH3
Learning

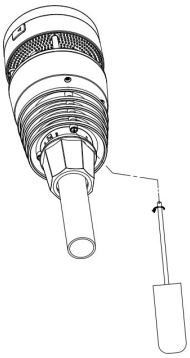
Re-register
Edit
Temp & Humidity CH1
0x8A
Normal
Re-register
Edit
Temp & Humidity CH2
0x7A
Normal
Re-register
Edit
Temp & Humidity CH3
0x65
Re-register
Edit
Temp & Humidity CH4
0xE5
Normal
Re-register
Edit
Temp & Humidity CH5
0x78
Normal
Re-register
Edit
Soil moisture CH3
0x80C552
Normal
Re-register
Edit
Soil moisture CH4
0xC561
Normal
Re-register
Edit
Soil moisture CH5
0x40C64B
Normal
Re-register
Edit
Soil moisture CH6
0xC640
Normal
Re-register
Edit
Soil moisture CH7
0xC690
Normal
Re-register
Edit
Soil moisture CH8
0x80C516
Normal
Re-register
Edit
Temp CH1
0x27A2
Re-register
Edit
Temp CH2
0x78
Re-register
Edit

6 Maintenance

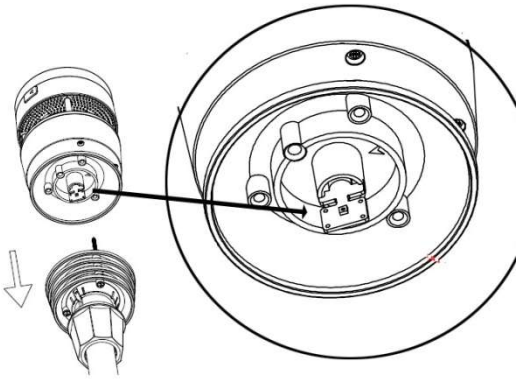
Replacing Batteries Regularly

The Temperature and Humidity Sensor Kit can be replaced whenever required.

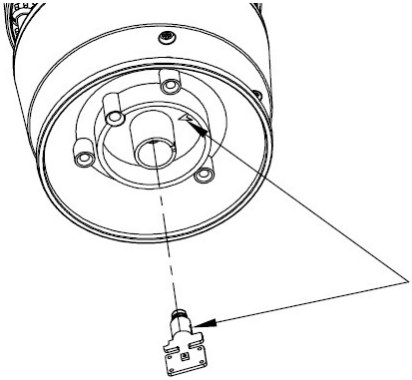
1. Use screwdriver to uptight the screws of the sensor.



2. Unplug the old sensor



3. Replace the old Temp & Humidity sensor with new one



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.

7 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 8. 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 light(red) 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 4 °F (the sensor accuracy is ± 2 °F). If these values still disagree, use calibration offsets for one or both sensors (see section 5.5) 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 (see section 5.5) 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. Redo the pressure calibration procedure described in section **Fehler! Verweisquelle konnte nicht gefunden werden.**. 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 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.

Problem	Solution
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 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: 1. Power off the gateway and wait for several minutes. 2. Power on the gateway and hold the Reset button for 5s till the red LED flash fast. 3. Open the WIFI network on your phone and connect to the hotspot of GW2000-WIFIXXXX. 4. Open the WS View Plus app and click Configure New Device - select GW2000 - 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 app to start the WIFI configuration process(ensure the wifi light is fast flashing) to see whether the configuration can be completed or not. If still failed, please contact our Customer Service Department to solve the issue.

8 Specifications

Note: Out of range values will be displayed using "---":

Outdoor sensor	Specification
Transmission distance in open field	150 m (450 ft.)
RF Frequency	868MHz
Temperature range	-40°C – 60°C (-40°F - 140°F)
Temperature accuracy	± 0.3°C, or ± 0.6°F
Temperature resolution	0.1°C, or 0.1°F
Humidity range	1% ~ 99%
Humidity accuracy	±3.5%
Humidity resolution	1%
Rain volume display range	0 – 9999 mm
Rain volume accuracy	± 10%
Rain volume resolution	0.1mm/0.01inch
Wind speed range	0 – 40 m/s (0 ~ 89mph)
Wind speed accuracy	<10m/s, +/-0.5m/s ≥10m/s, +/-5%
Wind direction accuracy	<2m/s, ±10° ≥2m/s, ±7°
UV-Index range	0 - 15
Light range	0 – 200 kLux
Light accuracy	± 15%
Sensor reporting interval	8.8s

Table: Outdoor sensor specification

Indoor sensor	Specification
Temperature range	-10°C – 60°C (14°F - 140°F)
Temperature resolution	0.1°C, or 0.1°F
Humidity range	10% ~ 99%
Humidity resolution	1%
Barometric pressure range	300 – 1,100 hPa (8.85 – 32.5 inHg)
Barometric pressure accuracy	± 5 hPa in 700 – 1,100 hPa range
Barometric pressure resolution	0.1 hPa (0.01 inHg)
Sensor reporting interval	60 seconds
Alarm Duration	120 seconds

Table: Indoor sensor specification

Power	Specification
Base station/console	5V 1A DC Adapter (a USB to 2.5*0.7mm DC 5V power plug connector cable included)
Outdoor sensor	Solar panel (built-in) 6.5V/4mA
Outdoor sensor (backup)	2 x AA 1.5V battery (not included)

Table: Power specification

The primary power source for the outdoor sensor is the solar panel. When available solar power (light over recent period) is insufficient, the batteries will be used. In outdoor climates that frequently have sustained temperatures below 0°C (or 32°F) the use of Lithium batteries is strongly suggested as these are performing better than Alkaline batteries under such circumstances.

Transmission between gateway and Wi-Fi router

Transmission distance in open field: 50 m (165 ft.) depending on router and environment

RF Frequency: 2.4 GHz

WLAN and Ethernet: 802.11 b/g/n (802.11n, Max 150 Mbps)

Updates on the Internet: Customize 1-5 minutes (recommend 1 minute)

Caution !

This booklet may contain errors or misprints. The information is contains is regularly checked and correction are included in subsequence editions. We disclaim any responsibility for any printing error, or their consequences. The specification of this product may change without prior notice.

General safety instructions

Danger of asphyxiation:

Keep all packaging materials (plastic bags, rubber bands, etc.) away from children. There is a danger of suffocation!

Danger of burns:

Caution! Leaking / leaking battery acid can lead to burns! Avoid contact of battery acid with eyes, mucous membranes and skin. In case of contact, rinse the affected areas immediately with clear water and consult a doctor.

Risk of electric shock:

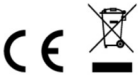
Children must not be unattended with the device, because the device contains electronic parts which are operated by means of a power source. The device may only be used as described in the instructions. If not, there is a risk of electric shock.

Danger of fire & explosion:

Use only recommended batteries. Never short-circuit the unit or batteries. Never throw the device or batteries into a fire! Overheating and improper handling may result in short circuits which can cause fires and explosions.

Important:

If there is a defect, contact your dealer immediately. Never disassemble the device! The dealer will contact the service department. Never expose the device to water! Protect the device from vibrations. Only use recommended batteries. Never mix batteries - Always replace empty batteries with a complete set of full power batteries. If the unit is not powered for a longer period of time or is not in use, remove the batteries from the unit. The manufacturer accepts no liability for incorrectly inserted batteries!



Notes on the return of batteries according to §12 BatterieVO: Batteries do not belong in the household waste. Please dispose of all batteries as required by law, disposal in domestic waste is expressly prohibited. Batteries and rechargeable batteries can be dispensed free of charge at municipal collection points or in the shops on the spot.

This manual may not be reproduced in any form without the written permission of the publisher, even in excerpts.
This manual may contain errors and misprints. However, the information in this manual is regularly reviewed and corrections made in the next issue. We accept no liability for technical errors or printing errors, and their consequences.
All trademarks and copyrights are acknowledged.

www.froggit.de

HS Group GmbH & Co. KG
Escherstr.31
50733 Koeln
Germany

Telefon 0221 / 367 48 05

E-Mail info@hs-group.de
Registergericht Amtsgericht Koeln
HRA 26493
Komplementaer: HS Group
Verwaltungsgesellschaft mbH
Sitz Koeln
Registergericht Amtsgericht Koeln
HRB 64734
Geschaeftsfuehrer: Peter Haefele,
Carl Schulte
UStId DE237971721
WEEE Reg. Nr. 66110125

declaration of conformity

Hereby we declare, HS-Group GmbH & Co.KG, Escherstr. 31, 50733 D-Cologne, that this product is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.
The declaration of conformity for this product can be found at: www.froggit.de or on request.