Manual (EN)

Contents

About this manual

Thank you on selecting this Professional WI-FI Weather Station! This device provides accurate weather readings and is Wi-Fi capable to stream live data from your weather station to the internet so that users can run remote monitoring of weather condition.

This manual will guide you step-by-step through setting up your device. Use this manual to become familiar with your professional weather station and save it for future reference.

Glossary of Common Terms

NIST

This is a internet based time service, display time is updated every day to keep time accurate on display.

LCD

"LCD" is an acronym for "Liquid Crystal Display".   This is a common type of display screen used in televisions, computers, watches, and digital clocks.

BAROMETER & BAROMETRIC PRESSURE

A barometer is a device that measures the pressure of the air pushing on it—this measurement is called the barometric pressure. We don't actually feel the barometric pressure because the air pressure is pushing equally in every direction.

RELATIVE AIR PRESSURE

Relative air pressure is the same as the barometric pressure.   The calculation of relative air pressure is a combination of the absolute air pressure and the altitude.

ABSOLUTE AIR PRESSURE

Absolute air pressure is the actual air pressure on the barometer without regard to altitude.

INCHES OF MERCURY (inHg)

Inches of Mercury is the common unit of measurement for air pressure in the United States.

HECTOPASCALS (hPa)

Hectopascals are the common units of measurement for air pressure in the International System (SI) of measurement. The hectopascal holds the same value

Package Content:

Below please find the package content:

QTY	Item
1	Display Console
1	DC Adapter
1	Outdoor Sensor (Thermo-hygrometer / Rain Gauge / Wind Speed Sensor/ Wind Direction)
2	U-bolt with mounting clamps
1	User manual

Note:

A DC adaptor is included. For switching type adapter, it generates interference and console should be placed at least 0.5m away from display to get best RF reception.

An added feature of the Weather Station is that all the weather data and programs can be viewed and set on a PC Software via Wi-Fi connection.

OVERVIEW

Display console

DC connector
Backlight
OFF/LOW/HIGH
Adjustable
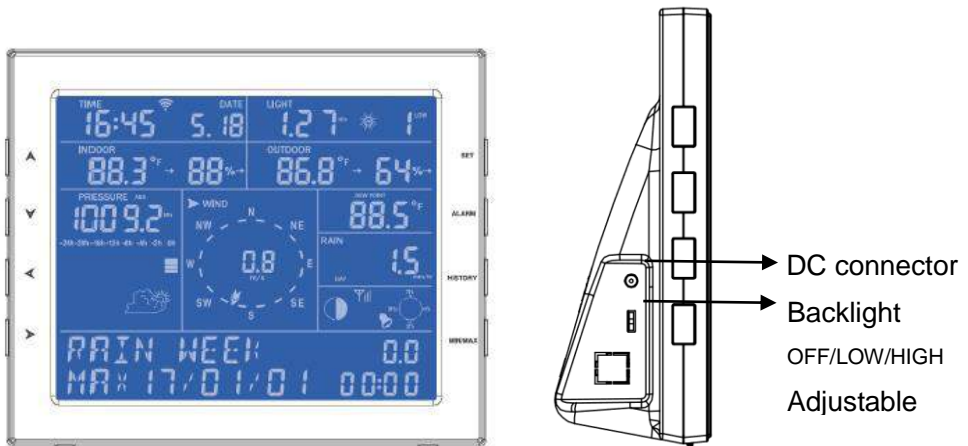
Note: The backlight switch only works when the device is connected to a DC adapter.

Features

- Time and date, Moon phase.
- Indoor temperature and humidity
- Outdoor temperature and humidity
- Wind chill, gust, wind direction.
- Rainfall
- Display rain level and rainfall data in 24 hours, one week, one month, one year, total rain and rainfall event.

- Wind speed in mph, km/h, m/s, knots or Beaufort
- Wind direction with 360 degrees
- Wind chill, dew point and heat index temperature display.
- Barometric, weather forecast.
- MAX, MIN value with time stamp.
- High/ low alarm.
- With message panel showing indication of alarms/Min/Max data, with time stamps
- Light and UV index
- Save the data when batteries are changed
- PC software (require Wi-Fi connection;download the PC softare from website)
- Upload the data to 5 weather server:

(Ecowitt.net, wunderground.com, Weathercloud , WOW and customized website(Need to have the same protocol with wunderground.com or ecowitt.net)

Set up Guide

Note:

Before placing and installing all components of the weather station at their final destination, please set up the display console(receiver) and outdoor sensor(transmitter) with all parts being nearby for testing the correct function.

Power up sequence must be performed in the order shown in this

section (insert batteries in the Display Console firstly, Outdoor Sensor secondly).

Attention:
- Do not mix old and new batteries
- Do not use Rechargeable batteries.
- Use Lithium batteries for sensor array when outdoor temperature is lower than 0 degrees Celsius
- Ensure batteries are installed correctly with their polarity +/-

1. Outdoor Sensor Set Up
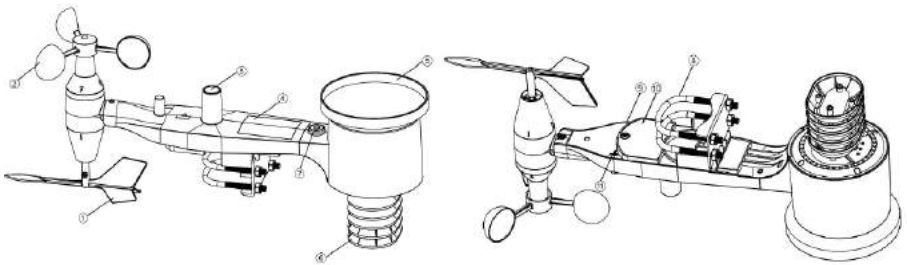
1. Wind Vane
2. Wind Speed Sensor
3. UV sensor/ Light sensor
4. Solar panel
5. Rain collector
6. Thermo-hygro sensor
7. Bubble level
8. U-Bolt
9. LED Indicator: light on for 4s if the unit power up. Then the LED will flash once every 16 seconds (the sensor transmission update period).

10. Battery door

11. Reset button

1.1. 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   on the right side, 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
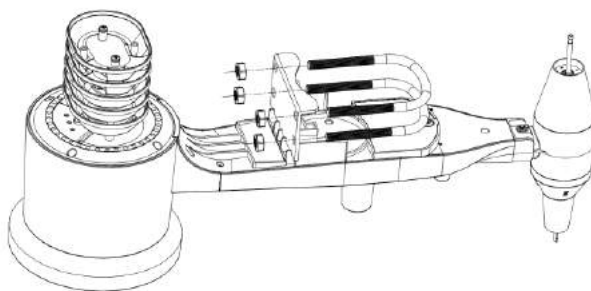
Figure 1: U-Bolt installation

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 2.
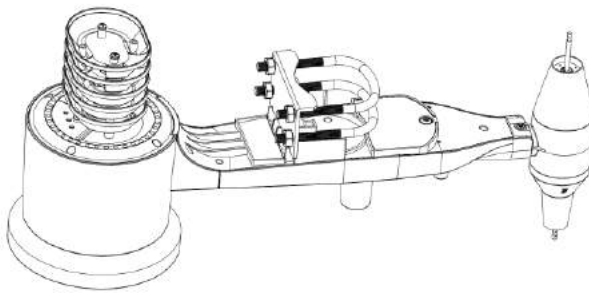
Figure 2: U-Bolts and nuts installed

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. Handling of the sensor package with wind vane and speed cups installed to install these bolts is more difficult and more likely to lead to damage.
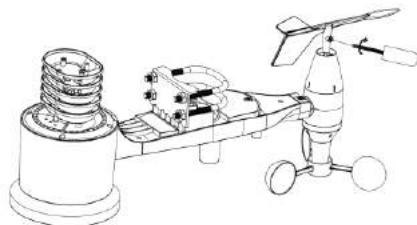
1.2.Install wind vane

Push the wind vane into the shaft. as shown in figure 3.

Tighten the set screw with as shown in figure 4. Wind vane moves not as free as wind speed sensor. This damp effect is helpful in keeping wind direction measurement steady.
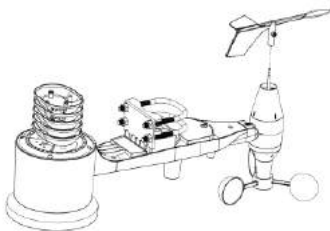
Figure 3   **Figure 4**

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.

1.3. Install wind speed

Push the wind cup into the shaft. as shown in figure 5.
Tighten the set screw with as shown in figure 6. Make sure the wind speed spin freely.
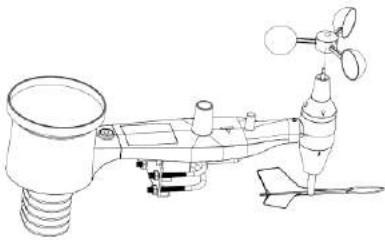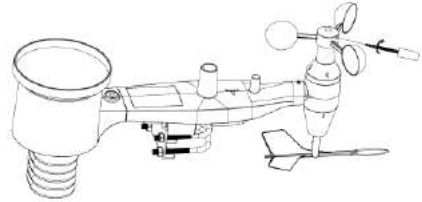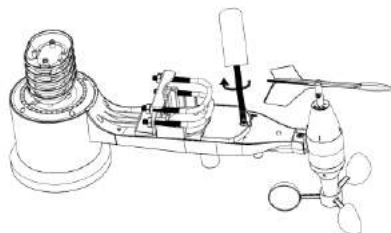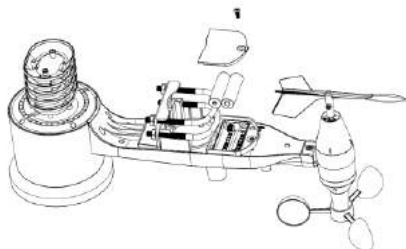

Figure 5   **Figure 6**

1.4. Install Batteries

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   **Figure 8**

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

Note: We recommend lithium batteries for cold weather climates, but alkaline batteries are sufficient for most climates. Rechargeable batteries should never be used at all because they have lower voltages.

1.5. Mount outdoor sensor

Reference 9&10. The mounting assembly includes two U-Bolts and a bracket that tightens around a 1 to 2" diameter pole (included) using the four U-Bolt nuts.
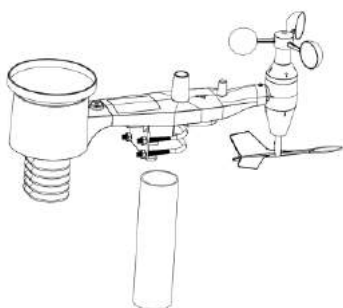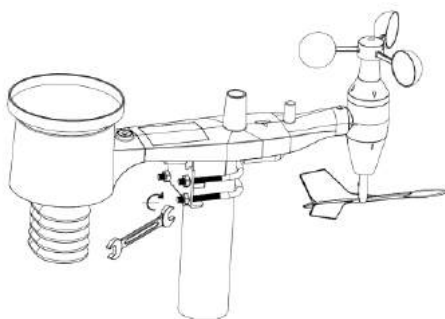
Figure 9   **Figure 10**

Use the bubble level beside the rain sensor as a guide to verify that sensors are level.

1.6 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 proper reset: LED turns on while RESET button pressed, and resume normal after Reset button is released: LED will be lit momently every 16s.

Figure 11

2. Best Practices for Wireless Communication

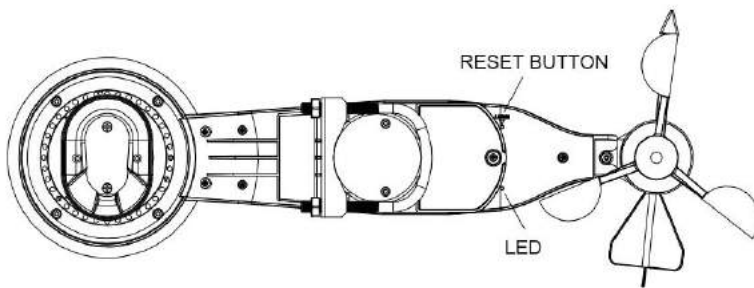**Note:** To insure proper communication, mount the remote sensor(s) upright on a vertical surface, such as a wall. **Do not lay the sensor flat.**

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 console several feet 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 300 feet line of sight (no interference, barriers or walls) but typically you will get 100 feet 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 console 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%

3. Display Unit Set up

3.1. Display Console Layout
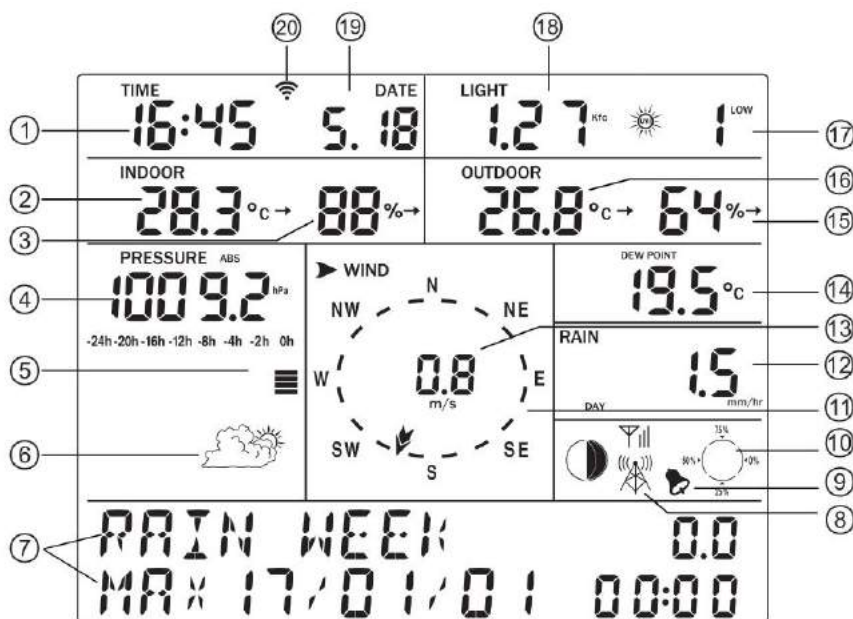
|	
1.Time	2.Indoor Temperature
3.Indoor Humidity	4.Barometric Pressure
5. Barometric Pressure graph	6.Weather Forecast icon
7. Dynamic information display area	8. RF signal
9. Alarm icon	10. Memory status
11.Wind direction	12.Rain fall
13.Wind speed/Gust speed	14.wind chill/Dew point/Heat index
15.Outdoor Humidity	16.Outdoor Temperature
17.UV index	18.Light
19.Date	20.Wifi Signal icon

3.2. Initial Display Console Set Up

3.2.1 The unit will turn on all segments of the LCD for 5 seconds after power reset and display unit information(Frequency, FSK/ASK, EU/USA, Version) , then the unit will start to register the outdoor channel for 3 minutes.

3.2.2 Full display
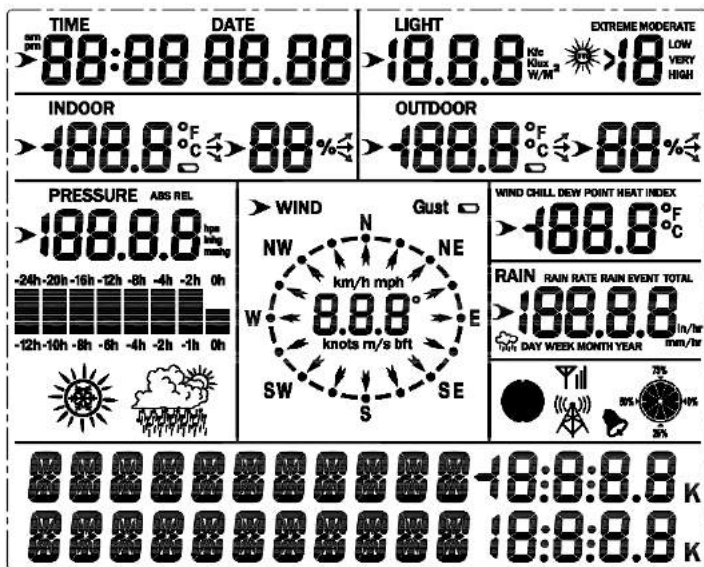
3.2.3 Key function
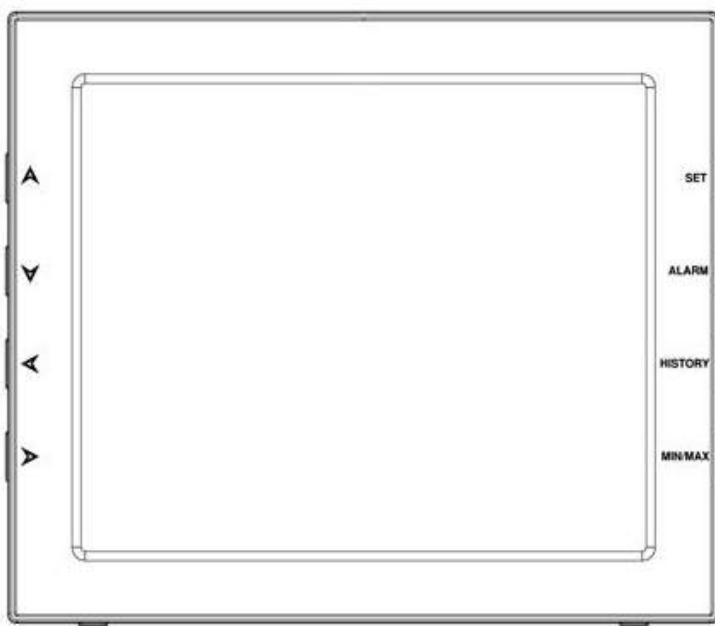
SET:　　　　Enter the setting mode

ALARM:　　　Display high or low alarm function / turn on/off the alarm

HISTORY:　　Display history records / return to normal mode

MAX/MIN:　　Display the MAX, MIN value

A:　　　　　Move to previous information(normal mode) or +
(programming mode)

∀:　　　　　Move to next information(normal mode) or–
(programming mode)

◀::　　　　　Move to previous segment/move to main menu during
setting.

▶::　　　　　Move to next segment/ move to sub menu during setting.

Console Operation

Program mode

The screen is divided into 10 segments for selection and there are message display panel on the bottom.

There are six program modes: normal, setting mode, history mode, alarm mode, max/min mode and calibrated mode.
All the modes can be exited at any time by pressing the HISTORY key, or waiting for a 30 second timeout to take effect.

Normally, if the segment selected have multi parts, press SET key to choose different part. Example: the current section is RAIN, you can press SET key to alternate the display of RAIN RATE, RAIN EVENT, DAY, WEEK, MONTH, YEAR and TOTAL.

1. Quick Display Mode

In the normal mode press" ◀ "or" ▶ " key to switch among different segments. The respective chosen segment will be marked with the

arrow symbol" ▶ ". The selected segment also determines the

message(s) shown in the message panel on the bottom. These messages rotate every 5 seconds.

The 11 digits on left are used to display text, the right side displays

figures. If there are multiple messages, they will change every 5 seconds, or you can push the "$\wedge$" or "$\vee$" keys to force a change to another message at any time. When alarm conditions are active, corresponding messages will display here.

1.1 Time and date

This segment displays the current time and date. When connected to Wi-Fi, the time will be synchronized with the internet time (UTC Time,

you need to set the time zone for local time), If the arrow symbol "▶" is

in this segment, following information will appear on message panel:

1) Year, and day of week
2) Time of alarm and status of alarm(on/off)
3) Moon phase. (see Section "*Other Console Functions"* for detail)

1.2 Light and UVI

This segment displays the current solar radiation (light) and ultra-violet index (UV-index). The light is the overall intensity of sunlight and its theoretical maximum varies with location and time of year. The actual value also depends on atmospheric conditions (clouds, vapor, etc.) and varies throughout the day. The UV-index is a value that gives an indication of the strength of harmful UV radiation and can be helpful to know when protection from the sun is advised.

If the arrow symbol "▶" is in this segment, following information with time stamp will appear on message panel:

1) Maximum light strength value of the day.
2) Maximum light strength value since last reset
3) Maximum UV index value of the day.
4) Maximum UV index value since the last reset.

1.3 Indoor temperature / humidity
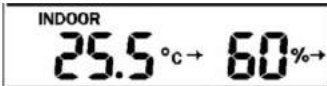
INDOOR
25.5 °c→ **60** %→

This segment displays the current indoor temperature and humidity, as

measured at the location of console. If the arrow symbol "▶" is in this

segment, following information with time stamp will appear on message
panel:

1) Maximum indoor temperature of the current day.
2) Minimum indoor temperature of the current day.
3) Maximum indoor temperature since last reset
4) Minimum indoor temperature since last reset
5) Maximum indoor humidity of the current day.
6) Minimum indoor humidity of the current day.
7) Maximum indoor humidity since last reset
8) Minimum indoor humidity since last reset

1.4 Outdoor temperature/ humidity
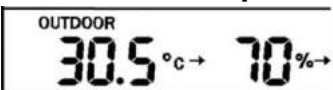
OUTDOOR
30.5 °c→ **70** %→

This segment displays the current outdoor temperature and humidity, as
measured at the location of the outdoor sensor package. When the
arrow indicator is in this segment, the messages that appear on the
message panel are the same as for the indoor conditions, except they
reflect outdoor conditions.

1.5 Barometric
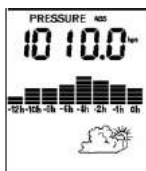
This segment displays the current barometric pressure, a historical graph of pressures, and a pictorial weather forecast.

When the arrow symbol "▶" is in this segment, press SET key to shift display absolute (ABS) or relative (REL) pressure. The absolute pressure is the pressure measured at your console's location (altitude). Relative pressure refers to the pressure measured by your console (absolute), corrected to the value that would exist if your station was located at sea level. The relative pressure is what is normally published by official weather stations.

Below the pressure values there is a historical graph. This graph can be configured to display 12 or 24 hours of history and will give you some insight into how pressure has been changing. Falling pressures typically indicate worsening weather (to come), and rising pressures indicate good/better weather is to come.
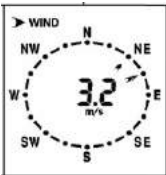Below the graph you will see a pictorial forecast for the next 12 hours.

If the arrow symbol "▶" is in this segment, following information with time stamp will appear on message panel:
1) Maximum relatively barometric pressure of the current day
2) Minimum relatively barometric pressure of the current day
3) Maximum relatively barometric pressure since last reset

4) Minimum relatively barometric pressure since last reset

5) Maximum absolute barometric pressure of the current day

6) Minimum absolute barometric pressure of the current day

7) Maximum absolute barometric pressure since last reset

8) Minimum absolute barometric pressure since last reset

1.6 Wind and gust speed

This segment displays wind related information. Inside the circular "compass rose" you will find two arrows (if they overlap only one will be visible). The "thicker" arrow indicates the most recently measured wind direction 16 seconds or less ago). The "thinner" arrow represents the average wind direction in the prior interval of 16 seconds. This allows insight into the change of direction of the wind.

When the arrow symbol "▶" is in this segment, press SET key to shift display wind speed, wind gust and wind direction in degrees (thus allowing more precision than just the arrows).

If the arrow symbol "▶" is in this segment, following information with time stamp will appear on message panel:

1) Maximum wind speed of the current day

2) Maximum wind speed since last reset.

3) Maximum wind gust speed of the current day

4) Maximum wind gust speed since last reset.

1.7 Wind chill, dew point, heat index

DEW POINT

12.6 °C

This segment displays calculated values related to temperature and pressure. The values that can be displayed are "wind chill", "heat index" and "dew point." by press SET key.

Wind chill and heat index are perceptual values that indicate the air temperature as experienced by humans, as opposed to the measured ambient air temperature. The passing flow of lower temperature air makes it feel "colder" and this is reflected in the wind chill temperature. Conversely, if it feels warmer than the measured air temperature due to the effects of humidity, we use a heat-index temperature to indicate how warm it feels.

The "dew point" is not a perceptual value, but it is calculated from the sensor values (temperature and humidity). The dew point is the temperature to which air has to be cooled to become saturated and beyond which airborne water vapor would become liquid (dew).

If the arrow symbol "▶" is in this segment, following information with time stamp will appear on message panel:

1) Min wind chill temperature of the current day
2) Min wind chill temperature since last reset
3) Max dew point temperature of the current day
4) Min dew point temperature of the current day
5) Max dew point temperature since last reset
6) Min dew point temperature since last reset
7) Max heat index of the day of the current day.
8) Max heat index of the day since last reset

1.8 Rainfall

When the arrow symbol " ▶ " is in this segment, press SET key to view below rain readings:

RAIN RATE: Amount of rain accumulated in past 60 minutes

RAIN EVENT: A single period of rainfall not interrupted by a rain rate of 0. Thus, if it rains for 10 minutes, RAIN EVENT will display values for that 10-minute period. Likewise, if it rains continuously for 4.5 hours, the values will pertain to the whole 4.5-hour period.

DAY: Rainfall of 24hr period from 12:00am – 11:59pm.

WEEK: Rainfall of 7-day period from Sunday12:00am –Sunday 11:59pm

MONTH: Total rainfall from the first day of the month to last day of the month January 1 – January 31

YEAR: Defined by Calendar Year i.e. January 1-December 31

TOTAL RAIN: Total rainfall since powered on or reset.

If the arrow symbol " ▶ " is in this segment, following information with time stamp will appear on message panel:

1) Max rain rate of the current day
2) Max rain rate since the last reset
3) Max Rainfall data of current day
4) Max Rainfall data of last week
5) Max Rainfall data of last month
6) Max Rainfall data of last year

2. Setting Mode

In normal mode, press SET key for 2 seconds to enter the setting mode. Then press " ◀ " button to transfer among different setting function :

- TIME SETTING
- UNIT SETTING
- RECORD SAVE INTERVAL
- RAIN SEASON SETTING
- BAROMETRIC SETTING
- KEY BEEP SETTING
- CALIBRATION SETTING
- TRANSMITTER ID

When the desired setting function is displayed, press the "▶" key to enter the sub-setting menu. Change a setting with the key ▲ / ▼ .Hold the ▲ or ▼ key for 2 seconds will increase/decrease digits in great steps. Press HISTORY key or wait for 30 seconds at any time, device will return to normal mode.

2.1 TIME SETTING
After entering setting mode, the first setting function "TIME SETTING" will appear on message panel. Use the "▶" key to enter the following sub-setting:

1) TIME FORMAT: 12H/24H
2) DATE FORMAT: MM-DD-YYYY / DD-MM-YYYY / YYYY-MM-DD select
3) TIME: Manual setting of time and date
4) TIME ZONE
5) DAYLIGHT SAVING TIME: switch on/off the reception of DST.
6) NORTH/SOUTH: Set northern/southern hemisphere for moon phase

2.2 UNIT SETTING

After entering setting mode, press"◀" key to enter "UNIT SETTING" display. Then press"▶" key to to enter the following sub-setting:

1) Light unit select (lux, fc, w/m2)
2) Temperature unit select (C, F)
3) Pressure unit select (hpa, inhg, mmhg)
4) Wind speed unit select (km/h, mph, knots, m/s, bft)
5) Rainfall unit select (mm, inch)

2.3 RECORD SAVE INTERVAL

Press"◀ "key the twice time to enter "RECORD SAVE INTERVAL" display. The press "▶" key to start setting of recording interval. Use ∧ or ∨ keys to select the desired recording interval for measured values.

2.4 RAIN SEASON SETTING

Press"◀ "button the third time to enter "RAIN SEASON SETTING" display. Press"▶" button to start setting of the month of rain season. Press ∧ or ∨ buttons to select the month from January to December.

Rain season is the time of year when most of a region's average annual rainfall occu rs. Rain season influence the annual rainfall maximum, minimum and total value. When one month was selected, the annual rainfall and annual max/min rainfall were zero clearing at 0:00 of the first day of the selected month.

2.5 PRESSURE SETTING

Press"◀ "button the fourth time to enter "BAROMETRIC SETTING" display. Press the"▶" button to enter BAROMETRIC HISTORY display,

Press ⌃ or ⌄ buttons to change the historical graph time between 12 and 24 hours.

2.6 KEY BEEP SETTING

Press" ⃖ "button the fifth time to enter to "KEY BEEP SETTING" display. Press the " ⃗ " button to start setting button beep. Press ⌃ / ⌄ buttons to switch on/off the button beep.

2.7 Calibration setting

Press" ⃖ "button the sixth time to enter to "CALIBRATION SETTING" display. This function offers settings through which you can alter values obtained from the sensors before display or recording. This functionality is generally used to make sure that the displayed and recorded values match those of a reference measurement or instrument. The most often used example of this concerns absolute and relative pressure measurements.

All calibration settings generally offer an OFFSET, or FACTOR (COEFFICIENT). A   recorded and displayed value is computed from the sensor value by multiplying the sensor value by the FACTOR and then adding the OFFSET. Where factors are not offered as a setting, the factor will be 1. This will also be the default factor. The default offset will be 0. Frequently only barometric settings will need adjustment!

While changing a setting, the console displays what the current sensor value is with this offset or factor applied so you can either determine desired offset beforehand, know what you reference value is and manipulate offset until the reference value is matched.
Use the " ⃗ " key to enter the following sub-setting:
1)   IN TEMP OFFSET: Offset for indoor temperature.
2)   IN HUMI OFFSET: Offset for indoor humidity.
3)   OUT TEMP OFFSET: Offset for outdoor temperature.

4) OUT HUMI OFFSET: Offset for outdoor humidity
5) ABS PRESS OFFSET: Offset for absolute barometric pressure.
6) REL PRESS OFFSET: Offset for relatively barometric pressure.
7) WIND DIR OFFSET: Wind direction can be adjusted by 0-359°. For southern hemisphere installations, the wind direction need to change by 180°.
8) WIND SPEED: Wind speed calibration coefficient default 1 (range is Range is 0.1-2.5)
9) RAINFALL FACTOR: Rain factor calibration coefficient default 1 (range is Range is 0.1-2.5)
10) RAIN DAY CALIBRATION: Calibration for total rain falls of 1 day. (Range is 0-9999mm, or equivalent in other units)
11) RAIN WEEK CALIBRATION: Calibration for total rain falls of 1 week (Range is 0-9999mm,, or equivalent in other units)
12) RAIN MONTH CALIBRATION: Calibration for total rain falls of 1 month (Range is 0-9999mm)
13) RAIN YEAR CALIBRATION: Calibration for total rain falls of 1 year (Range is 0-9999mm)
14) RAIN TOTAL CALIBRATION: Calibration for total rain falls since last reset. (Range is 0-9999mm)

Note: Before making adjustments to WIND SPEED FACTOR or RAINFALL FACTOR please make sure your outdoor sensor package is mounted level and that the wind vane can move unobstructed and that there is no "slippage" on the axis (make sure set-screw is tight).

2.7.1 Calibration of barometric pressure settings.
Unlike all other calibration settings where factory installation ensures that, within the specified instrument precision, factors of 1.0 and offsets

of 0 are appropriate and correct, this generally cannot be done for relative barometric pressure readings. To understand consider the following.

Absolute barometric pressure can be calibrated at manufacturing time by comparing with a precise instrument that measures pressure at the same location. In practice, sometimes small adjustments of a few hPa may be needed. The relative pressure represents what the air pressure would indicate if your station was at sea level and depends on the altitude of your console and cannot be known in advance. This is why it needs an offset adjustment.

There are different manners in which to handle this adjustment. We will outline a reliable procedure below, which requires adjusting both pressure offsets. The method assumes that you have an official airport sufficiently nearby to act as a reliable reference. Usually distances of up to 25 miles work reliably, but this is not always true and depends on geography. We start by assuming that your station's absolute pressure reading is correct and needs no offset correction.

1. For this procedure we will get the most precise results if our display for pressure is in hPa units. Even if you do not want to use those units eventually, set the console to use them for now.
2. Determine the altitude, or elevation above sea level, of your station's console. This measurement is necessary to account for the difference in air pressure caused by the elevation of your console. Elevation above sea level reduces the absolute pressure measured by your sensor. Determine this altitude using a GPS, or look it up using a tool such as this web site: https://www.freemaptools.com/elevation-finder.htm. You can input your location's GPS coordinates, or manipulate the map to

your location. Click on "Estimate Elevation" and observe the result. For an example we will use a console location at 42 ft. above sea level.

3. This tool will provide the ground level elevation at your location, so you will need to add the right amount for how high above ground level your console is. If you are on a ground floor and have the console on a desk, you'll have to add something like 3-4 ft. If you are using a GPS system that tells you elevation, make sure it is right next to the console and you'll be able to read the correct elevation right from the GPS results without further adjustment.

4. With the correct altitude/elevation in hand you will need to determine the correct offset. To be added to the absolute pressure reading in order to compute relative pressure (sea level equivalent). Correction tables can be found on-line in many places. One example is the table found at the web site at

https://novalynx.com/manuals/bp-elevation-correction-tables.pdf. Locate your elevation in the first column and read the correction in the third column. This table, however is rather coarse, making it hard to be precise. An alternative is an on-line calculator such as the one found here: http://www.csgnetwork.com/barcorrecthcalc.html

For our example of 42 ft. above sea level we input 42 ft. of elevation and a standard pressure of 1013.25 hPa/mb and press calculate. We find an "absolute barometer value" that should be -1.5626061222588443 hPa lower than at sea level. The inverse (because relative pressure is higher than absolute pressure) of this number will be our "REL PRESS OFFSET" value. Use the settings procedure to input +1.6 (nearest rounded value we can input). Remember we assume "ABS PRESS OFFSET" to be 0, so check and change that as well if necessary.

5. Now we need a reliable reference for pressure at sea level. Locate the official identifier for the nearest airport. Refer to "World Airport

Codes" at https://www.world-airport-codes.com or a similar reference. Enter your location or nearby airport name, and press "Search." Select the correct airport from your search results and click on it. For example, search for "Mountain View" and click on "Moffet Field."

6. From the resulting page find the ICAO code, if listed. Otherwise use the IATA code. For the example above, you would find IATA code "NUQ."

7. Now go to a web site like AVIATION WEATHER CENTER (for US locations) at https://www.aviationweather.gov/metar?gis=off and enter the code you found in step 2, and click "Decoded" (to make the next step easier) before requesting the METAR information. For the example we would enter "KNUQ" and find a result output like: "30.09 inches Hg (1019.0 mb) [Sea level pressure: 1019.1 mb]"

8. Make sure your console is displaying REL barometric pressure and compare its value with the value from the airport. In our example, the REL display was 1022.9 where we expected 1019.1. This then tells us that our displayed REL pressure is 1022.9 – 1019.1 = 3.8 hPa different from the reference source.

9. Since we assumed the absolute pressure measured was correct, and we presumably calculated the elevation related offset correctly, we must conclude that the absolute pressure was not correct after all. It appears to be 3.8 too high, so we'll now enter an offset of -3.8 in the settings for ABS PRESS OFFSET.

10. For a more precise procedure, locate a very precise barometer that you can place right next to the console, you would adjust "ABS PRESS OFFSET" until the ABS pressure reads identical. You would then still apply the calculated "REL PRESS OFFSET" as above, and then, as a final step, further adjust "REL PRESS OFFSET" until it displays the reference value from the airport. This procedure would also produce the correct relative pressure, but due to a precise calibration of the absolute

pressure, it too is correct. The first procedure above generally works quite well, but for stations at fairly high altitudes (e.g. 5,000 ft. or higher) it may be more incorrect than at lower altitudes. In such cases comparisons with other known correct, and nearby at similar altitude, stations may help. Now that calibration is complete, feel free to change the pressure units to whatever you like.

Note: Airport METAR data is often only updated every 10, 15 or even 30 minutes. If you use the information in the procedure above, you may be looking at pressure data that is out of date by as much as the update interval. To get best results observe several times and figure out the update interval and then use two values for the procedure: one taken immediately after an update, another taken about halfway through the interval.

Note: It is also a good idea to observe some more after the calibration procedure is complete to make sure the numbers are correct.

2.8 Transmitter ID

This is not a setting you can change. Rather it tells you a number that identifies the type of outdoor sensor from which sensor data was received. This is mostly useful for troubleshooting scenarios.

3. ALARM MODE

In normal mode, press **ALARM** key you will enter high alarm mode, and press **ALARM** key again you will switch to low alarm mode.

When an alarm condition is met, the alarm will sound a loud beep, and the alarm icon 🔔 will flash. The message panel will display a message appropriate for the alarm condition. Press any button to silence the alarm beep. The flashing alarm icon will stay until the alarm condition itself is no longer satisfied (e.g. temperature drops below alarm value,

etc.)

3.1 HIGH ALARM SETTING

In the "high" alarm mode, Press ◁/▷ key to switch between the various possible alarms and press ∧/∨ key to change the value setting for a particular alarm. Press the **SET** button to switch on or/off the alarm.

1) TIME ALARM –Set time alarm.
2) In TEMP HIGH ALARM --Set indoor temperature high alarm
3) In HUMI HIGH ALARM --Set indoor humidity high alarm
4) Out TEMP HIGH ALARM Set outdoor temperature high alarm
5) Out HUMI HIGH ALARM Set outdoor humidity high alarm
6) ABS BARO HIGH ALARM --Set absolute barometric pressure high alarm
7) REL BARO HIGH ALARM --Set relatively barometric pressure high alarm
8) WIND HIGH ALARM --Set wind speed high alarm
9) GUST HIGH ALARM --Set gust speed high alarm
10) DEW POINT HIGH ALARM --Set dew point high alarm
11) HEAT INDEX HIGH ALARM --Set heat index high alarm
12) RAIN RATE HIGH ALARM --Set rainfall rate high alarm
13) RAIN DAY HIGH ALARM --Set rainfall day high alarm

3.2 LOW ALARM SETTING

1) In TEMP LOW ALARM--Set indoor temperature low alarm
2) In HUMI LOW ALARM --Set indoor humidity low alarm
3) Out TEMP LOW ALARM --Set outdoor temperature low alarm
4) OUT HUMI LOW ALARM --Set outdoor humidity low alarm
5) ABS BARO LOW ALARM --Set absolute barometric low alarm
6) REL BARO LOW ALARM --Set relatively barometric low alarm
7) WIND CHILL LOW ALARM --Set wind chill low alarm

8) DEW POINT LOW ALARM --Set dew point low alarm

Press HISTORY button or wait for 30 seconds at any time to return to normal mode.

4. Max/Min Mode

In Normal Mode, press the **MIN/MAX** button to enter the max/min mode. In this mode, you can view all minimum/maximum records of weather parameters. Press MIN/MAX to switch among below records:

TODAY MAX— Maximum recorded values for current day

HISTORY MAX – Maximum recorded values since last reset

TODAY MIN --Minimum recorded values for current day

HISTORY MIN --Minimum recorded values since last reset

Press ◀/▶ button to switch among max/min records of the varios weather values, together with the time and date stamp.

Each Maximum/minimum value can be cleared by pressing SET button for 2 seconds during this mode.

Press the HISTORY button or wait for 30 seconds will lead to Normal Mode.

5. History mode

In normal mode, press the **HISTORY** button switch to history. In this mode, you can view individual history data records in internal memory. The base station can log 3552 records in total.

If no history data, it will show "HISTORY NONE RECORD" on the message board. Otherwise it will display message e.g. "HISTORY P/R 1.01"and "YEAR 16.06".

P 1=Page 1 (Each page has 32 data records)

R 01= data record 01

YEAR 16=year 2016

The time and date of the record displays on the time section..

Press the A/ V button to switch to next/pre record.

Press the ◀/▶ button to switch to next/pre page.

Under history mode, push the "SET" button for 2 seconds to clear all the memory.

6.Other Console Functions

6.1 Weather Tendency indicators

There are arrow symbols besides the indoor/outdoor temperature and humidity segments to indicate weather trend:

Tendency indicators	Meaning	Humidity	Temperature
↗	Rising	Rising rate>= 10% within 30 minutes	Rising >= 1℃ within 30 minutes
→	Steady	Change rate < 10% within 30 minutes	Change rate < 1℃ within 30 minutes
↘	Falling	Falling rate >= 10% within 30 minutes	Falling >= 1℃ within 30 minutes

6.2 Moon Phases

Icon: Northern Hemisphere	Moon Phase Description	Icon: Southern Hemisphere
	NEW MOON	

	WAXING CRESCENT MOON		
	FIRST QUARTER MOON		
	WAXING GIBBOUS MOON		
	FULL MOON		
	WANING GIBBOUS MOON		
	LAST QUARTER MOON		
	WANING CRESCENT MOON		

6.3 Beaufort Scales (Wind Speed)

If you have selected the use of Beaufort wind speed units, you can use the table below for reference.

Wind speed	Beaufort number	Description
0-1mph（0-1.6kph）	0	Calm
1-3mph（1.6-4.8kph）	1	Light air
3-7mph（4.8-11.3kph）	2	Light breeze
7-12mph（11.3-19.3kph）	3	Gentile breeze
12-18mph（19.3-29.0kph）	4	Moderate breeze
18-24mph（29.0-38.6kph）	5	Fresh breeze
24-31mph（38.6-49.9kph）	6	String breeze
31-38mph（49.9-61.2kph）	7	Near gale
38-46mph（61.2-74.1kph）	8	Gale
46-54mph（74.1-86.9kph）	9	Strong gale
55-63mph（88.5-101.4kph）	10	Storm

64-73mph(103-117.5kph)	11	Violent storm
74mph or above（119.1kph）	12	Hurricane

6.4 Recording storage capacity used

The console can store historical sensor data on internal storage. The storage is permanent and will not be lost if there is a power outage. There is room for 3,552 records and you can see how much of this storage is used by inspecting the "storage capacity used" indicator. This is found in the same segment as the moon phases and RF signal strength indicator and is depicted as a circle with marks at 0%, 25%, 50%, 75% (100% is when the circle is full). Once the full capacity is used new data will replace the oldest stored data (the circle will remain full).

Specification

Outdoor data
Transmission distance in open field: 100m(330 feet)
Frequency: 433/868/915 MHz(optional, 915MHZ is for North America)

Temperature range: -40˚C--60˚C (-40°F to +140°F)
Accuracy: + / - 1 °C(2 °F)
Resolution: 0.1˚C(0.1°F)

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

Rain volume display: 0 – 9999mm (show --- if outside range)
Accuracy: + / - 10%
Resolution: 0.3mm (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)

UVI range: 0 to 15 index

Light: 0-200k Lux

Accuracy: +/-15%
Measuring interval outdoor sensor: 16 sec

Indoor data
Measuring interval pressure / temperature: 48 sec
Indoor temperature range: 0˚C--50˚C (14°F to + 140°F) (show --- if outside range)
Resolution: 0.1˚C

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

Measuring range air pressure: 300-1100hPa (8.85-32.5inHg)

Accuracy: +/-3hpa under 700-1100hPa
Resolution: 0.1hPa (0.01inHg)
Alarm duration: 120 sec
Transmission power:

Power consumption
Base station: 5V DC adaptor (included)
Base station: 3X AA 1.5V LR6 Alkaline batteries (not included)
Remote sensor: 2X AA batteries (not included), The primary power source is the solar panel. The batteries provide backup power when there is limited solar energy

Remark: Where outdoor temperature is lower than -20˚C, make sure proper type of batteries to be used to assure that the device can get enough power to maintain its function properly. Normal alkaline batteries is not allow to be used if the outdoor temperature is lower than -20 ˚C, the battery's discharging capability is greatly reduced.

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:

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 at this time.
Weather Undergound	WeatherUndeground.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	WeatherCloud.net	Weathercloud is a real-time weather social network formed by observers from around the world.
Weather Observation Website (WOW)	wow.metoffice.gov.uk	The UK Met Office Weather Observation

		Website (WOW). 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

1. WiFi Connection for the Weather Station Console

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.

1.1 Download mobile application

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

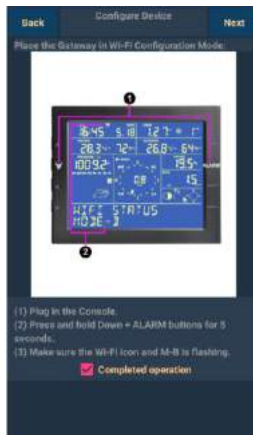## 1.2 Connect the console to Wi-Fi

1.2.1 Android user:

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

Configure Device

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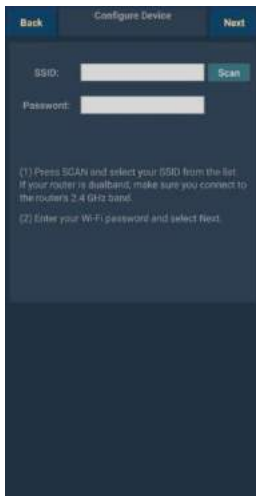Select the device you have from the device list, then press **Next**

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

3)
Start searching the device. If the device is in your WLAN list., it will jump to the 4) screen shot. 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 it will jump to "**Upload Setting**" screen automatically. .

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

a. Upload your weather data to ecowitt Website

It's recommended to use the Ecowitt Weather server to monitor and

record your sensors data. Supports uploading all the sensors data to Ecowitt Weather server. For other weather services, Only server-supported data will be uploaded.

1)

On the **ecowitt.net** uploading page, enable the ON button (displayed blue) and set the uploading interval time.
Press **Save** on the page.

Copy the MAC address (will be used to add the device on the server later)
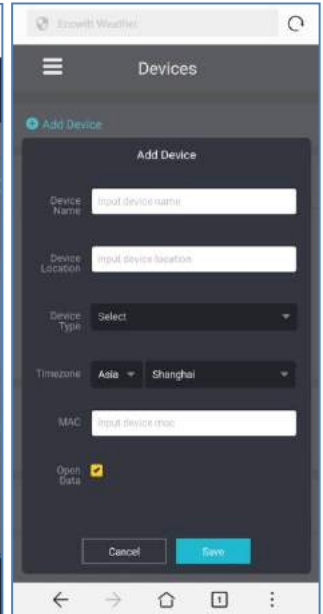
Press Register at Ecowitt.net to open web browser to activating the Register with Ecowitt.net option

2)

Finish the registration on the Ecowitt page

If you have account and password, press **Return to Login** to login the website

3)

Press the upper left menu button and select Devices.

Press Add Device and input all the information needed.

Press **Save.**

If you tick **Open data**, your weather data can be viewed by other people.

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.

Once registered, select the dashboard to view your data, as shown below:

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.

b. Upload your weather data to Wunderground.com

1)

On the **Wunderground.com** uploading page, input Station ID & Station Key, press **Save**. Your station ID will be added on the WU StationID.

then press **Nex**t. Jump to the screen about Upload your weather data to Weathercloud.net

If you don't have Wunderground Station ID and Key, press " **Register at Wunderground.com**" to activating the Register with Wunderground option

2)

Register at Wunderground.com

Enter your valid **e-mail address** and **password** to obtain the Station ID & Station Key from Wunderground.com. Enter the **Station Name** you want. Press "**Current GPS Location**" to get the device current location of Latitude and Longitude.

Then press **Register**

3)

If register successfully,

you'll receive a Station ID and Station password / key. You will also receive an e-mail about the information of Station ID and Station password / key

Then press **Back** to return back **Upload** screen
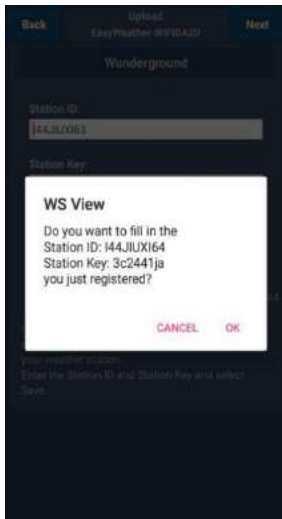
4)

Select **OK** to fill in the Station ID and Station password / key automatically.

Press **Save** Your station ID will be added on the WU StationID. Upload **to Wunderground.com** Setting finish.

Press **Nex**t. Jump to the screen about Upload your weather data to Weathercloud.net

Press **Back** if you don't want to upload the data to other website.

c. Upload your weather data to Weathercloud.net
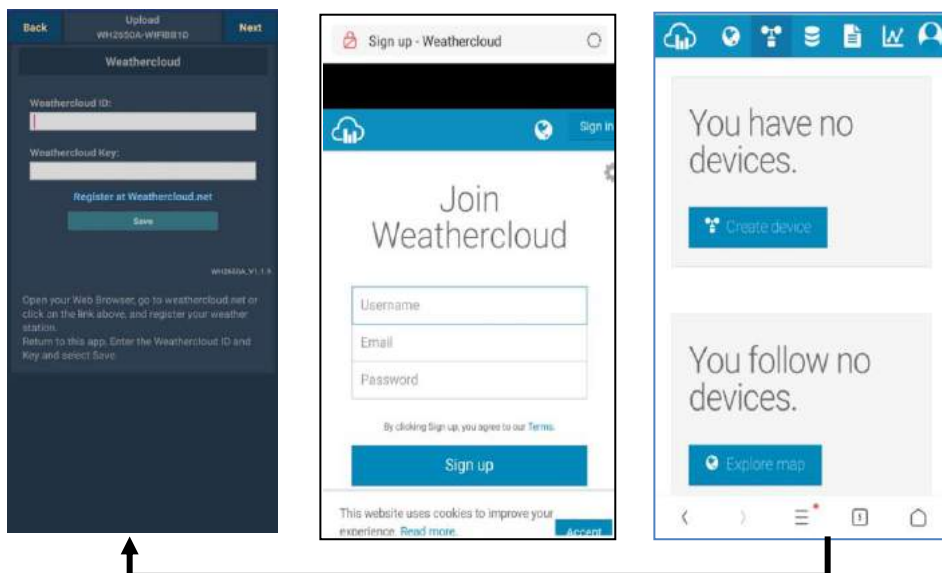
1)	2)	3)

Upload your weather data to **Weathercloud.net**

Input Weathercloud ID & Weathercloud Key, press **Save**..

then press **Nex**t. Jump to the screen about Upload your weather data to Weather Observation Website (WOW)

If you don't have Weathercloud ID and Key, press " Register at Weathercloud.net" to open your web browser to activating the Register with Weathercloud.net option

Register at Weathercloud.net

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

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

You will then be prompted to add a device/ Select "Create device" and enter your station's information:

After registering your station, take note of the "Weathercloud ID" and "Key" presented to you.

Enter these values in the mobile application.

d. Upload your weather data to WeatherObservationWebsite (WOW)

| 1) | 2) | 3) |

1)
Upload your weather data to WOW

Input Weathercloud ID & Weathercloud Key, press **Save**..

then press **Finish**. Jump to the **Device List** home screen

If you don't have WOW ID and Key, press
" Register at WeatherObservationWeb site" to open your web browser to activating the Register with WOW option

2)
Register at WeatherObservatio nWebsite

Choose create a new account
you will be presented with a form to fill out

3)
The actual form is longer, but all questions should be self-explanatory.
Complete and submit the form. You will shortly receive an email with instructions on how to login

Now wait for the email to arrive and click the link in that email to confirm your email address.

Follow instructions on the screen and login to the 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 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, you will find the site id just below the map:
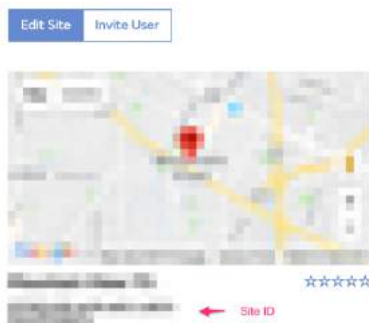
You will also need to establish a unique 6 digits PIN code that you should keep secret. It is the "Authentication Key." Setup this number by clicking on "Edit Site") and filling out the with a 6-digit number of your choice:

Authentication Key

123456

You will need both "Site ID" and "Authentication Key" to setup the upload configuration for WOW in the Weather Server.

In your mobile application, navigate to the "Device List" page and tap on the device you want to configure WOW for. You will then be shown the "wunderground.com" configuration. Please ignore and tap "Next" to see the "Weathercloud" configuration. Please press "Next" one more time and you will now be on the screen where you will configure WOW.

On this screen you will fill out "Station ID" with the WOW "Site ID" value, and "Station Key" with the WOW "Authentication Key" you created. Press "Save" to finalize the configuration.

e. Upload your weather data to Customized Websit

If you want to upload data to your customized website, select **Enable** button (display blue) and select the protocol type. The website should has the same protocol with Wunderground or Ecowitt. Input all the information needed. Press **Save.**

1.2.2 iOs user:

Activate the application you have downloaded on your mobile device. The main screen will indicate your station is off-line (because it is not yet connected to Wi-Fi).

Current Conditions	Station ID
No Station ID	
--	
Temperature	--
Dew Point	--
Relative Humidity	--
Relative Pressure	--
Wind Direction	--
Wind Speed	--
Wind Gust Speed	--
Solar Radiation	--
Rainfall Rate	--
Rainfall Today	--

Configure Device

Note: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.
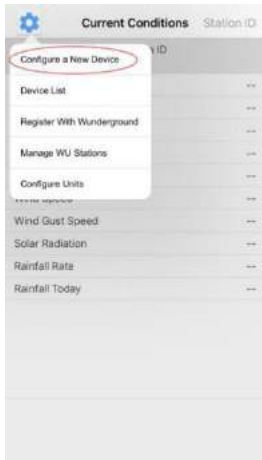
1)	2)	3)
Tap on the settings icon and select "Configure a New Device".	Select the device you have from the device list, then press Next	Operate as per the information, tick the box to confirm "completed operation", press **Next.**

4)Press **Sycn** and select your WiFi network from the WLAN list, then enter your WiFi **password** and press **Next**.

select your WiFi network you want and return to WS Wiew App
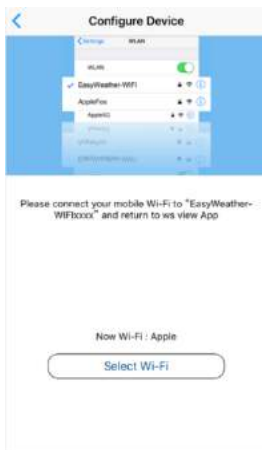
5)	6)	7)
Press button "Select WiFi" to go to Wi-Fi Setting	Select device WiFi. The device named "EasyWeather-WIFxxxxI"" and return to WS View App	Connection success, it will jump to "**Upload Setting**" screen automatically.
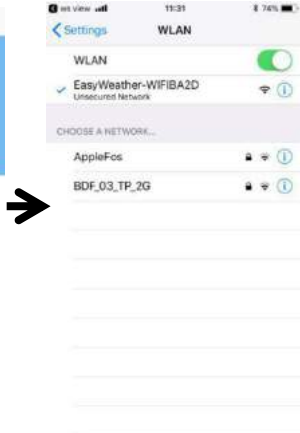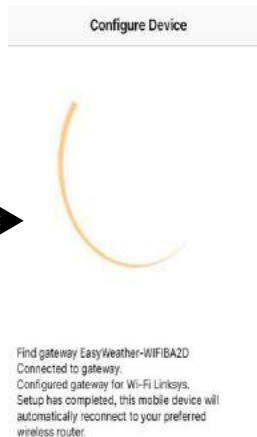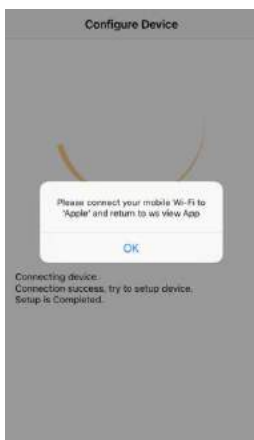
8)
It may have chance to happen that it cannot return back the same WiFi network which you selected on step 4) The window "Please connect your mobile Wi-Fi to xxxx(WiFi Network name) and return to WS View App" will pop up. Press **OK** to continue.

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

a. Upload your weather data to Ecowitt Website

1)	2)	3)

On the **ecowitt.net** uploading page, enable the ON button(displayed blue) and set the uploading interval time.
Press **Save** on the page.

Copy the MAC address(will be used to add the device on the server later)

Press Register at Ecowitt.net to open web browser to activating the Register with Ecowitt.net option

Finish the registration on the Ecowitt page

If you have account and password, press
Return to Login to login the website

Press the upper left menu button and select Devices.
Press Add Device and input all the information needed.
Press **Save.**

If you tick **Open data**, your weather data can be viewed by other people.

b. Upload your weather data to Wunderground.com

1)
Upload your weather data to **Wunderground.com**

Input Station ID & Station Key, press **Save**. Your station ID will be added on the WU StationID.

then press **Nex**t. Jump to the screen about Upload your weather data to **Weathercloud.net**

If you don't have Wunderground Station ID and Key, press " **Register at Wunderground.com**" to activating the Register with Wunderground option

2)
Register at Wunderground.com

Enter your valid e-mail address and password to obtain the Station ID & Station Key from Wunderground.com. Enter the Station Name you want. Press "Current GPS Location" to get the device current location of Latitude and Longitude.

Then press Register

3)
If register successfully,

you'll receive a Station ID and Station password / key.. You will also receive an e-mail about the information of Station ID and Station password / key

Then return to Upload Wunderground screen to input Station ID & Station Key..

c. Upload your weather data to Weathercloud.net

Input Weathercloud ID & Weathercloud Key, press **Save**. Then press **Nex**t. Jump to the screen about Upload your weather data to WeatherObservation Website (WOW)

If you don't have Weathercloud ID and Key, press " Register at Weathercloud.net"to open your web browser to activating the Register with Weathercloud.net option. Please refer 8.1.2.1 **Register at Weathercloud.net.** The operation is same

d. Upload your weather data to WeatherObservationWebsite (WOW)

Input Weathercloud ID & Weathercloud Key, press **Save**.Then press **Finish**. Jump to the **Device List** home screen

If you don't have WOW ID and Key, press " Register at WeatherObservationWebsite" to open your web browser to activating the Register with WOW option.
Please refer 1.2.1 **Register at WeatherObservationWebsite.** The operation is same

### e. upload your weather data to Customized Website

If you want to upload data to your customized website, select **Enable** button (display blue) and select the protocol type. The website should has the same protocol with Wunderground or Ecowitt. Input all the information needed. Press **Save.**
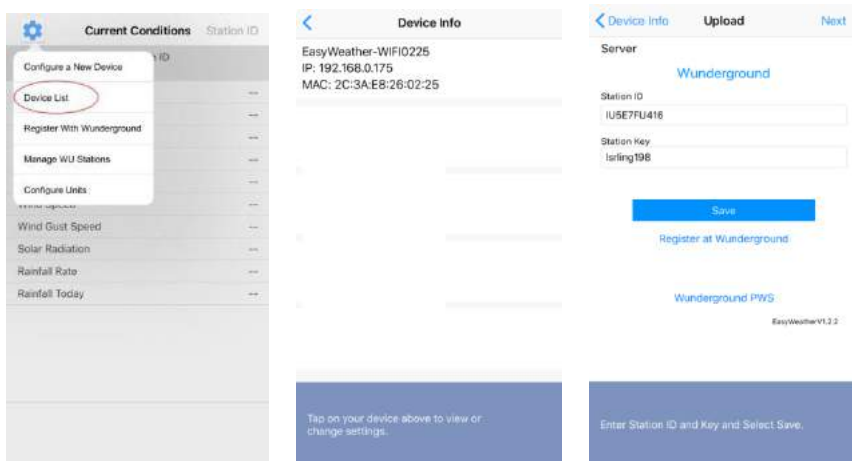
2 Mobile application – Device list

You are able to see your console through the "Device List" menu option:

Tapping on your console's entry in the device list will bring you to the page where you can change WU registration information. If you want to stop your console upload data to Wunderground, delete your Station ID and select "**Save**".
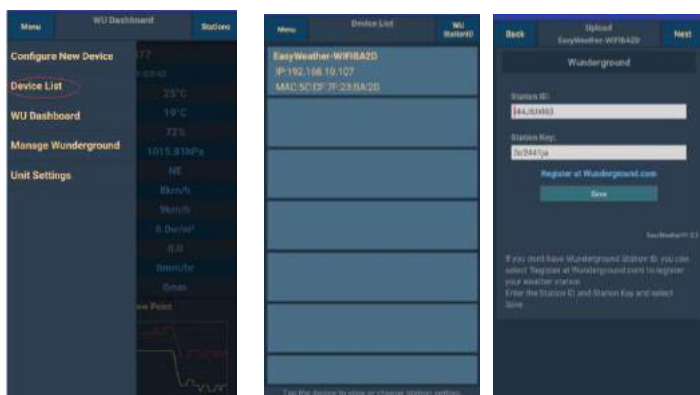
Mobile application – Device List (Android)
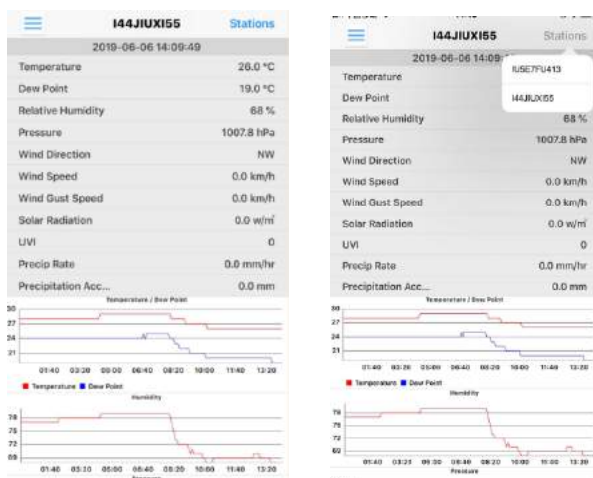

Mobile application – Device List (iOS)

3 Mobile application – Check WU weather data and graph

In the mobile application tap **Menu** choose **WU Dashboard** and you will be presented with a page listing current conditions for that station.

If you have added multiple WU IDs, tap on the WU Station ID to switch to view data from other IDs.


Mobile application – WU Daseboard (Android)


Mobile application – WU Daseboard (iOS)

4 Mobile application – Remove or Add WU ID

If you have previously registered your console for use with wunderground.com and wish to remove this device data display from App, use the "**Manage WU Station**" menu option after tapping on the settings icon, select **"Delete"** your console from the list and confirm you wish to delete the station. The Station ID will delete from WU Station ID list and will not have the data information on the APP. But the data will upload to Wunderground.com as usual.

If you want to add a new weather station to view its data on APP, and this device have   registered in Wunderground.com, select "**Add WU Station ID**" and input the WU station ID of this new device.
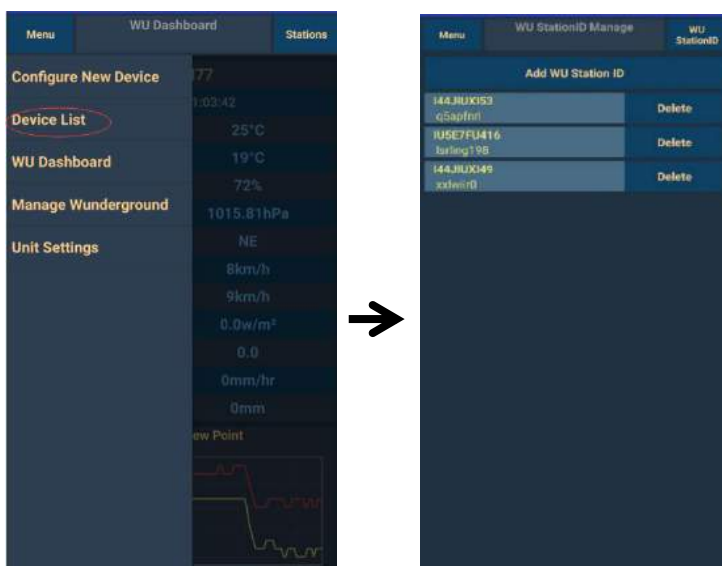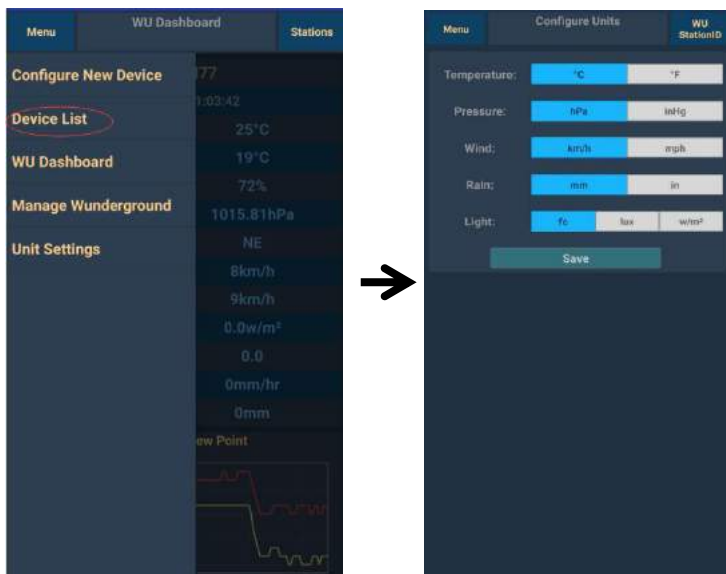

Mobile application –Remove or Add WU ID (Android)
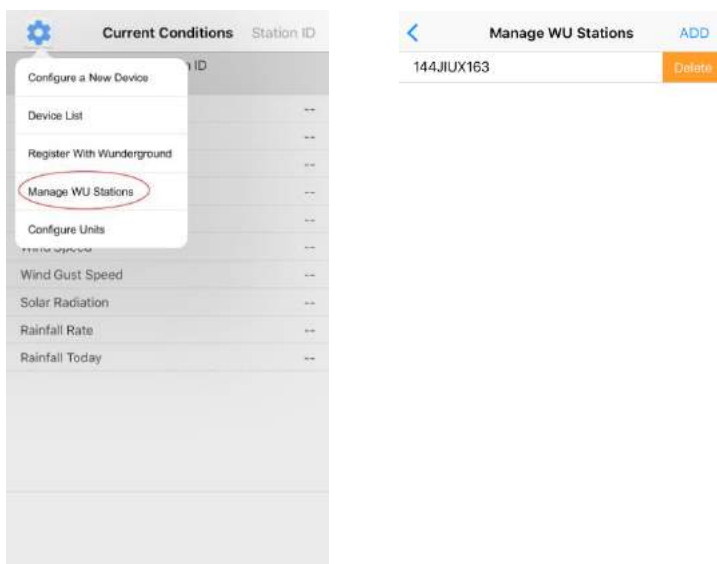
Mobile application –Remove or Add WU ID (iOS)

8.5 Mobile application – Set Units

You may want to change the units in which sensor values are reported. To do so, click on the **"Configure Units"** menu after tapping on the settings icon. Next, tap on the sensor type you wish to change the reporting units for and set the units as desired.

Mobile application – Change units (Android)
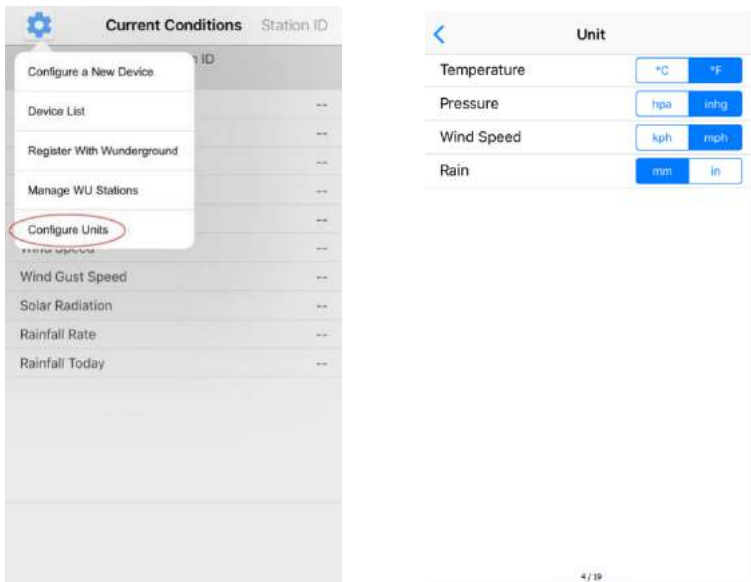
Mobile application – Change units (iOs)

Registering WeatherUnderground.com through the PC or Mac

If you have not already done setup for wunderground.com during the Wi-Fi setup, you can do so later. Perform the following steps:

1. Visit Wunderground.com and click **Join** as the right top arrow indicates and select the **Sign up for free** option.
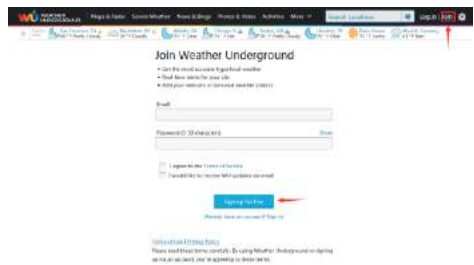
2. Click **More** and select **Add Weather Station** to register your station
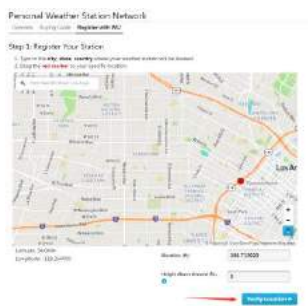
3. Clicks verify **location** and fill out the form.
   After submitting the form, you will see the following:

Step 3: Add Your WU Info to Your Weather Station Software

Congratulations. Your station is now registered with Wunderground!

You are almost done. Now go to your weather station software and add the following:

Your Station ID:

KCALOSAN764

Your Station Key/Password:

v8cp6l2c

[My Weather Stations]

It may take a few minutes or several hours for your station to start sending data to Weather Underground.

ID and Password are case-sensitive. Process may require you to register with a 3rd party site (eg. rainwise.net)

Not seeing your station data yet? Check out our PWS Help Center.

Note: Your station ID will have the form: KSSCCCC###, where K is for USA station (I for international), SS is your state, CCCC is your city and ### is the station number in that city.

In the example above, KAZPHOEN424 is in the USA (K), State of Arizona (AZ), City of Phoenix (PHOEN) and #424.

Viewing your 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:

- **WunderStation**: iPad application for viewing your station's data and graphs
https://itunes.apple.com/us/app/wunderstation-weather-from-your-neighborhood/id906099986

- **WU Storm**: iPad and iPhone application for viewing radar images, animated wind, cloud coverage and detailed forecast, and PWS station data
https://itunes.apple.com/us/app/wu-storm/id955957721

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
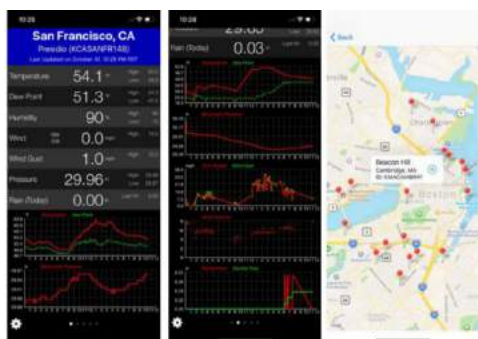

PC Software Operation

This professional weather station can use PC software for remote set or monitor on your computer or laptop.

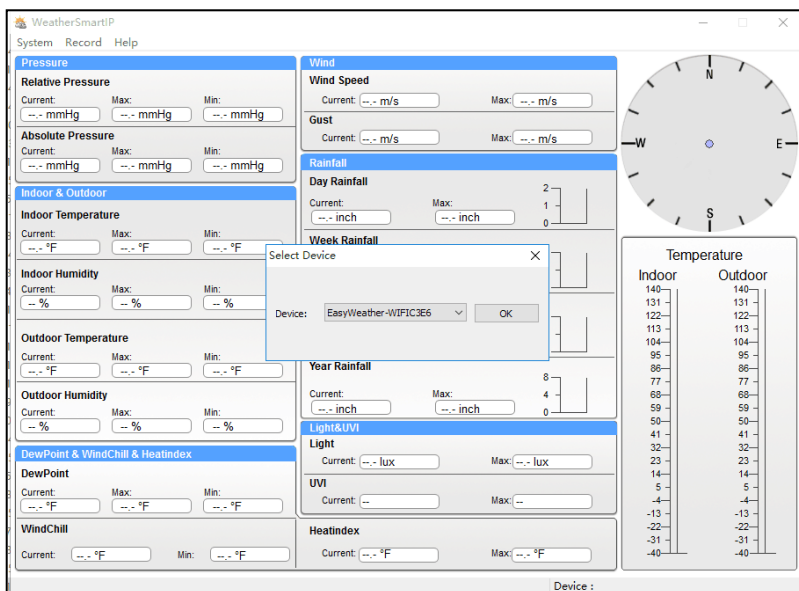**Connect the display console with the pc software:**

1. Switch on your PC, Download the EasyWeather software from:
   https://www.froggit.de/product_info.php?info=p356_wh4000se-wifi-intern

et-funk-wetterstation---wunderground--pc-anbindung--auswertungssoftw
are.html
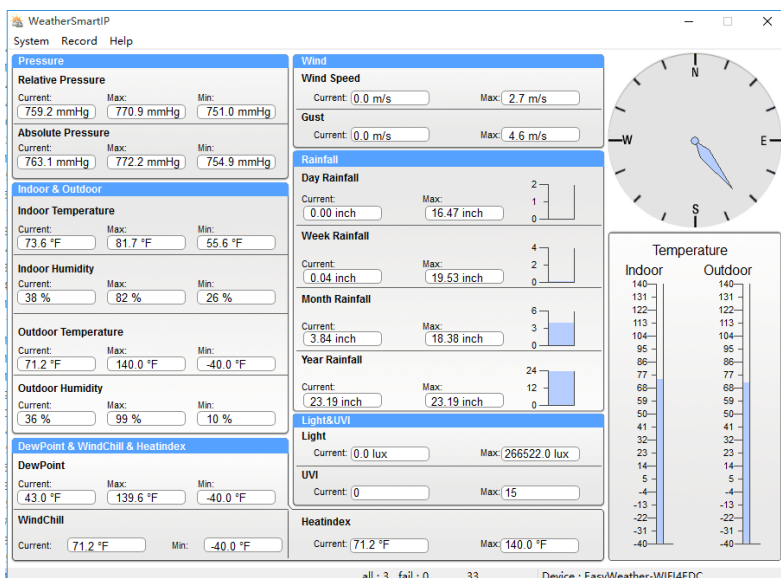
2. Double click "WeatherSmartIP Setup.exe" to install it in your PC
3. Before connect the display console to PC, you need to ensure the device has connected to wifi via app **WS View.** And then make sure your PC has used the same wifi network(You need additional wireless network card(not included) to connect the wifi for desktop computer).
4. Launch the software and select the IP address(check the properties of the wifi network on your computer to find the IP address) and click OK.
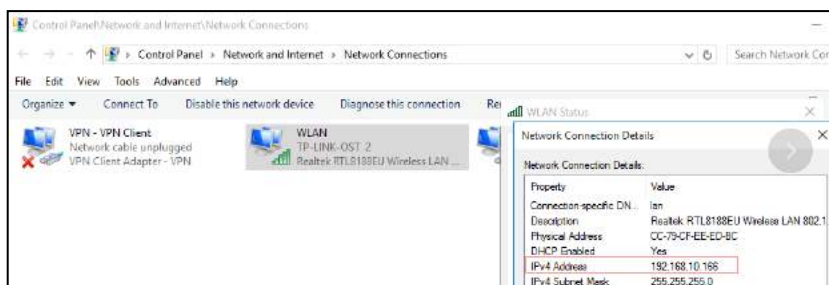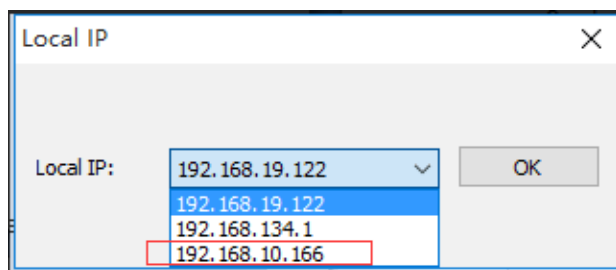
5. Under **System** column, click **Select Device** and choose the right device(name shows on the **Device List** of **WS View** app). Click OK.
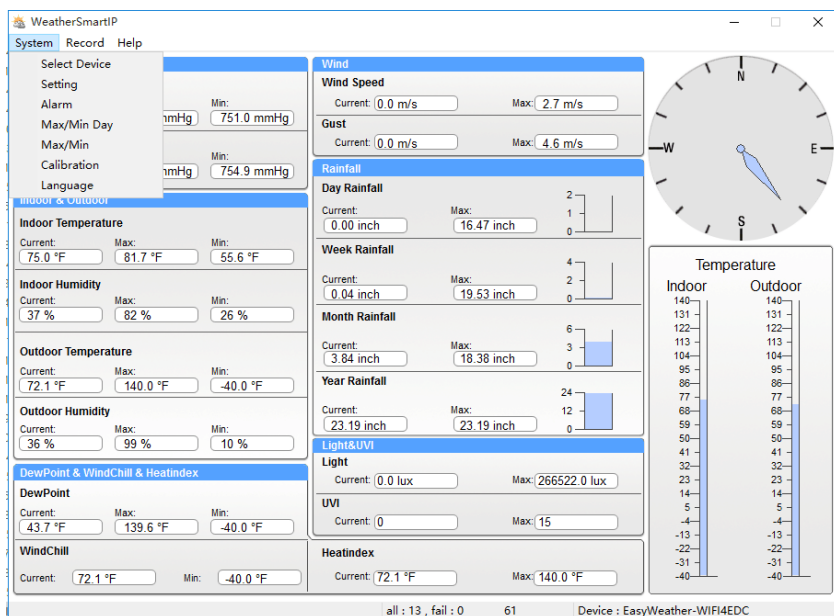
6. Then it takes several minutes for the display console to connect the pc software.

7. When Connected successfully and the pc soft will display the weather data from the console

7. Basic Functions of the "**WeatherSmartIP**" Software

System

Setting

Alarm

		High			Low				Select All	
Indoor Humidity	☐	65	%	☐	35	%	Alarm	☐	0:00	
Outdoor Humidity	☐	75	%	☐	45	%	Wind Speed	☐	0.5	m/s
Indoor Temperature	☐	68.0	℉	☐	32.0	℉	Gust	☐	1.0	m/s
Outdoor Temperature	☐	86.0	℉	☐	14.0	℉	Day Rainfall	☐	0.00	inch
DewPoint	☐	50.0	℉	☐	14.0	℉	Rain rate	☐	0.00	inch
Relative Pressure	☐	780.0	mmHg	☐	720.0	mmHg	WindChill	☐	32.0	℉
Absolute Pressure	☐	780.0	mmHg	☐	720.0	mmHg	Heatindex	☐	80.6	℉

Save   Exit

Max/Min Day

MAX/MIN DAY

Indoor Temperature						Heatindex		
Max :	75.9 ℉	12 : 44 AM	Min :	72.3 ℉	12 : 00 AM	Max :	70.3 ℉	02 : 09 AM

Outdoor Temperature						Light		
Max :	70.3 ℉	02 : 09 AM	Min :	68.7 ℉	12 : 00 AM	Max :	0.0 lux	12 : 00 AM

Indoor Humidity						UVI		
Max :	68 %	12 : 00 AM	Min :	61 %	02 : 10 AM	Max :	0	12 : 00 AM

Outdoor Humidity						WindChill		
Max :	74 %	01 : 04 AM	Min :	71 %	02 : 08 AM	Min :	68.7 ℉	12 : 00 AM

Absolute Pressure					
Max :	764.0 mmHg	12 : 21 AM	Min :	761.5 mmHg	12 : 45 AM

Relative Pressure					
Max :	760.1 mmHg	12 : 21 AM	Min :	757.6 mmHg	12 : 45 AM

DewPoint					
Max :	61.5 ℉	03 : 32 AM	Min :	59.7 ℉	12 : 00 AM

Clear   Exit

Max/Min History

Calibration

Record

History

Graph

Maintenance

1. Clean the rain gauge once every 3 months. Rotate the funnel counter-clockwise and lift to expose the rain gauge mechanism, and clean with a damp cloth. Remove any dirt, debris and insects. If bug infestation is an issue, spray the array lightly with insecticide.
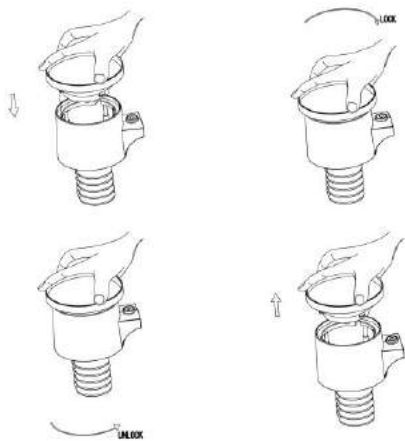
2. Clean the solar radiation sensor and solar panel every 3 months with damp cloth.
3. Replace batteries every 1-2 years. If left in too long, the batteries may leak due to environmental challenges. In harsh environments, inspect the batteries every 3 months (when cleaning the solar panel).
4. When replacing the batteries, apply a corrosion preventive compound on the battery terminals.
5. In snowy environments, spray the top of the weather station with anti-icing silicon spray to prevent snow build up.

Troubleshooting Guide

Problem	Solution
Wireless remote (outdoor unit) not reporting in to console.	Check the thermo-hygrometer-transmitter LED for flashing. The outside sensor has an LED under the plastic, just above the battery compartment. The LED will flash every 48 seconds.
There are dashes (--) on the display console.	If the LED is not flashing every 48 seconds, Replace the batteries in the outside thermo-hygrometer-transmitter. If the batteries were recently replaced, check the polarity. If the sensor is flashing every 48 seconds, proceed to the next step.
	There may be a temporary loss of communication due to reception loss related to interference or other location factors,
	or the batteries may have been changed in the remote and the console has not been reset. The

Problem	Solution
	solution may be as simple as **powering down and up the console**.
	1. Make sure you have fresh batteries in the display console.
	2. With the sensor array and console 10 feet away from each other, remove the batteries from the display console and wait 10 seconds. Put the batteries back in.
	3. Do not touch any buttons for several minutes.
	4. The remote sensor search icon will splash on the display. Wait several minutes for this icon to turn off.
	5. If the search icon turns off and the outdoor temperature and humidity are still showing dashes (--), the remote sensor is defective. If the sensor properly syncs up, proceed to the next step "How to prevent intermittent wireless communication"
	How to prevent intermittent wireless communication issues:
	1. Install a fresh set of batteries in the remote sensor array and console. For cold weather environments, install lithium batteries.
	2. The maximum line of sight communication range is 300' but most users will get 100' or less due to environmental conditions. Move the sensor and remote closer together.
	3. If the sensor assembly is too close (less

Problem	Solution
	than 5'), move the sensor assembly away from the display console. 4. Make sure the remote sensors are not transmitting through solid metal like aluminum siding (acts as an RF shield), or earth barrier (down a hill). 5. Move the display console around electrical noise generating devices, such as computers, TVs and other wireless transmitters or receivers. 6. Move the remote sensor to a higher location. Move the remote sensor to a closer location.
Temperature sensor reads too high in the day time.	Make sure the thermo-hygrometer is mounted in a shaded area on the north facing wall.
Indoor and Outdoor Temperature do not agree	1. Allow up to one hour for the sensors to stabilize due to signal filtering. The indoor and outdoor temperature sensors should agree within 4 °F (the sensor accuracy is $\pm$ 2 °F). 2. Perform a temperature calibration (reference Section 2.1)
Indoor and Outdoor Humidity do not agree	1. Allow up to one hour for the sensors to stabilize due to signal filtering. The indoor and outdoor humidity sensors should agree within 10 % (the sensor accuracy is $\pm$ 5 %) 2. Perform a humidity calibration (reference Section 2.1)
Relative pressure does not agree with official reporting	1. You may be viewing the relative pressure, not the absolute pressure. 2. Make sure you properly calibrate the

Problem	Solution
station	barometer to an official local weather station (reference Section 2.1) 3. The barometer is only accurate to ± 0.08 inHg within the following relative pressure range: 27.13 to 32.50 inHg, which corresponds to an altitude of -2,200 to 2,700 feet. At higher altitudes, expect some non-linearity or error.
Time is incorrect	Make sure your time zone and daylight savings time setting is correct.
The forecast icon is not accurate	The weather station console must run for several days to trend barometric pressure. The weather forecast is an estimation or generalization of weather changes in the next 24 to 48 hours, and varies from location to location. The tendency is simply a tool for projecting weather conditions and is never to be relied upon as an accurate method to predict the weather.
Moon phase is not correct	Check your calendar date and make sure it is correct
Display console contrast is weak	Replace console batteries with a fresh set of batteries.
Data not reporting to Wunderground.com	1. Confirm your password or key is correct. It is the password you registered on Wunderground.com. Your Wunderground.com password cannot begin with a non-alphanumeric character (a limitation of Wundeground.com, not the station). Example, $oewkrf is not a valid password, but oewkrf$ is valid.

Problem	Solution
	2. Confirm your station ID is correct. The station ID is all caps, and the most common issue is substituting an O for a 0 (or visa versa). Example, KAZPHOEN11, not KAZPH0EN11
	3. Make sure the date and time is correct on the console. If incorrect, you may be reporting old data, not real time data.
	4. Make sure your time zone is set properly. If incorrect, you may be reporting old data, not real time data.
	5. Check your router firewall settings. The console sends data via Port 80.
No WiFi connection	1. Check for WiFi symbol on the display. If wireless connectivity is successful the WiFi icon will be displayed in the time field.
	2. Make sure your modem WiFi settings are correct (network name, and password).
	3. Make sure the console is plugged into AC power. The console will not connect to WiFi when powered by batteries only.
	4. The console only supports and connects to 2.4 GHz routers. If you own a 5 GHz router, and it is a dual band router, you will need to disable the 5 GHz band, and enable the 2.4 GHz band.
	5. The console does not support guest networks.

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!

CE ☒

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.

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             WEEE Reg. Nr. 66110125

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