

# FT0213 Professional Weather Station Wireless WiFi Remote Monitoring Weather Station User Manual

## 1 Introduction

Thank you for your purchase of the FT0213 Wireless 10 Channel Advanced Weather Station. The following user guide provides step by step instructions for installation, operation and troubleshooting.

## 2 Warnings and Cautions



**Warning:** Any metal object may attract a lightning strike, including your weather station mounting pole.

Never install the weather station in a storm.



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

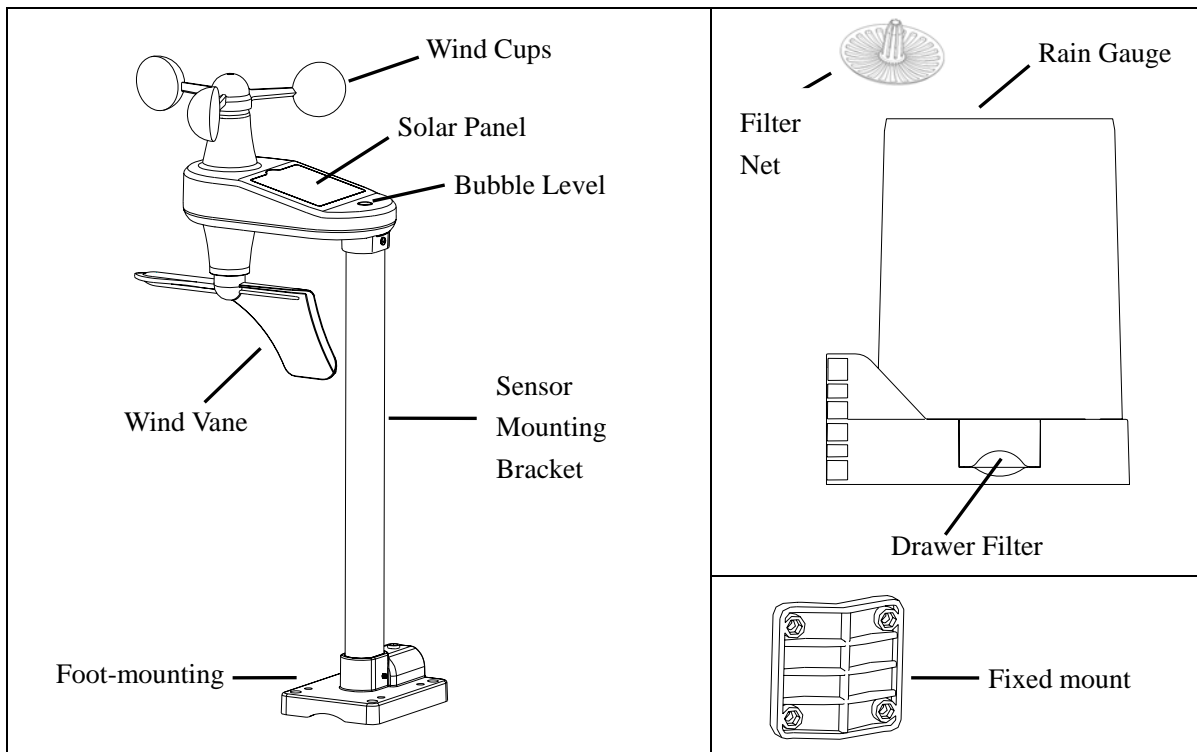
## 3 Getting Started

The FT0213 weather station consists of a display console (receiver), a sensor array with thermo-hygrometer, rain gauge, wind sensor, and mounting hardware.

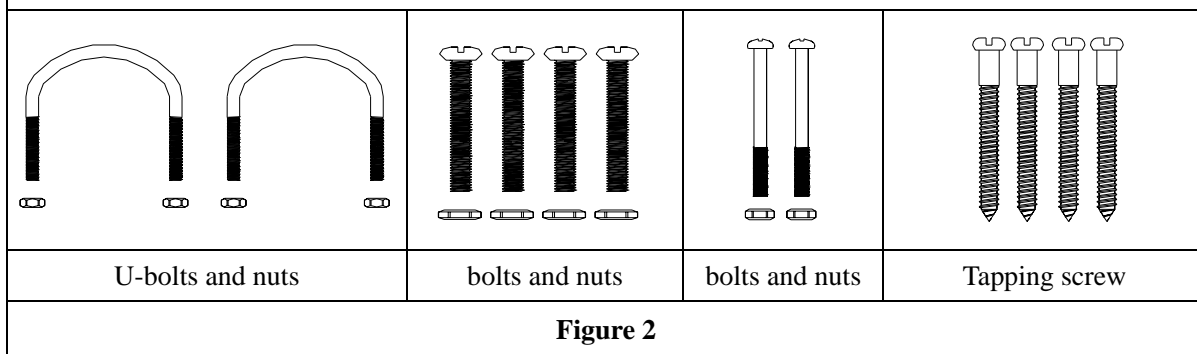
### 3.1 Parts List

The FT0213 weather station consists of the following parts (as referenced in Figure 1 and Figure 2).

QTY	Item
1	Display Console Frame Dimensions (LxHxW): 84X152X25mm LCD Dimensions (LxW): 110 x 60mm
1	Thermo-hygrometer / Rain Gauge / Wind Vane / Wind Speed Sensor
1	Sensor mounting bracket / foot-mounting / fixed mount
2	Pole mounting U-bolt / nuts (M5)
4	Pole mounting nuts (M5) / bolts ( $\varnothing$ 5)
2	Pole mounting nuts (M3) / bolts ( $\varnothing$ 3)
4	Tapping screw
1	Manual
1	Adaptor



**Figure 1**



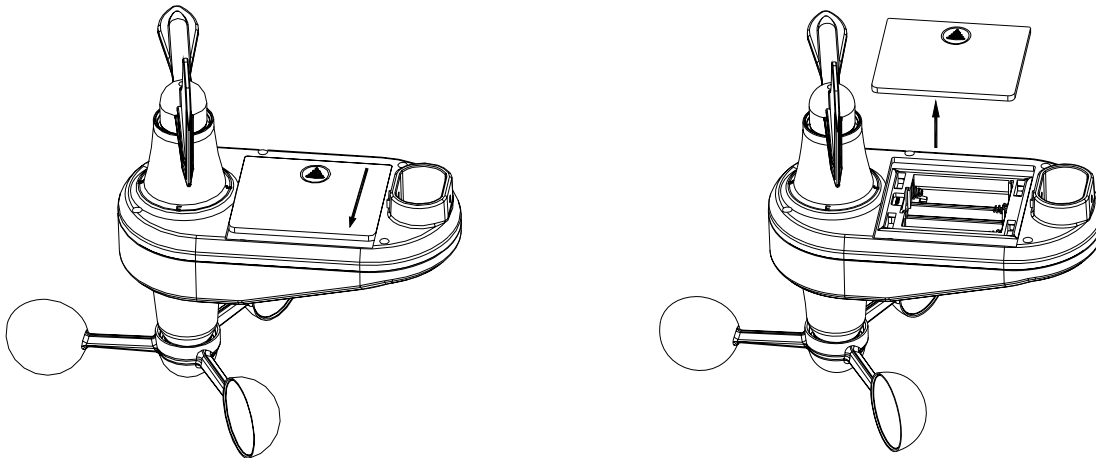
**Figure 2**

### 3.2 Recommend Tools

- Precision screwdriver (for small Phillips screws)
- Compass or GPS (for wind direction calibration)
- Adjustable Wrench
- Hammer and nail for hanging remote thermo-hygrometer transmitter.

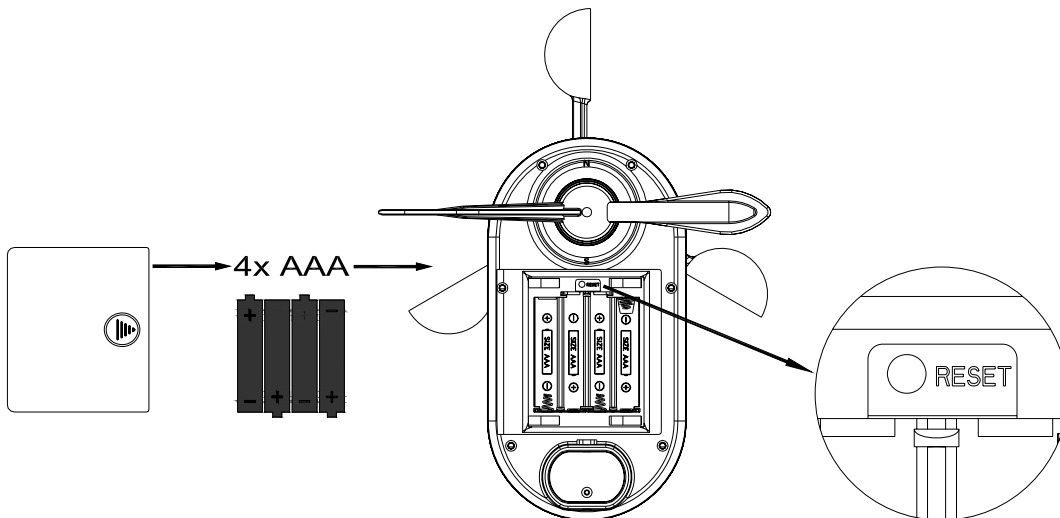
### 3.3 Sensor Assembly Set Up

**3.3.1 Insert batteries into the anemometer transmitter.** Locate the battery door on the wind transmitter, push and open the battery compartment, arrow direction as show in Figure 3.




**Figure 3**

Inserting 4xAAA batteries in the battery compartment, as show in Figure 4.




**Figure 4**

 **Note:** Do not install the batteries backwards. You can permanently damage the sensors. Do not use rechargeable batteries.

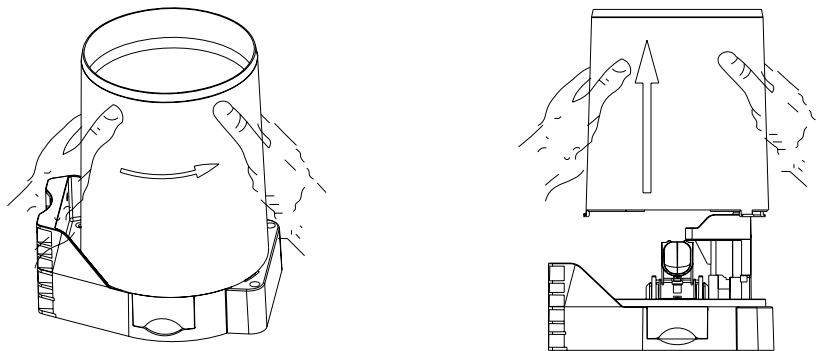
 **Note:** We recommend installing Lithium AAA batteries for sensors.

The wind sensor LED indicator will light for 3 seconds, and then flash once per 16 seconds thereafter. Each time it flashes, the sensor is transmitting data.

Replace the battery door and push to tighten it.

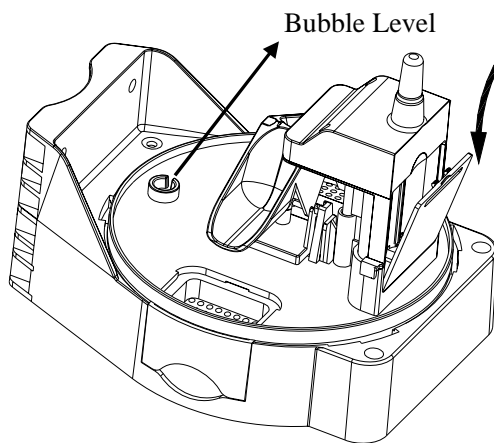
 **Note:** If the wind sensor does not power up after inserting the batteries, press the reset button shown in Figure 4.

**3.3.2 Insert batteries into the rain gauge transmitter.** Rotate and detach the upside bucket, arrow direction as show in figure 5.



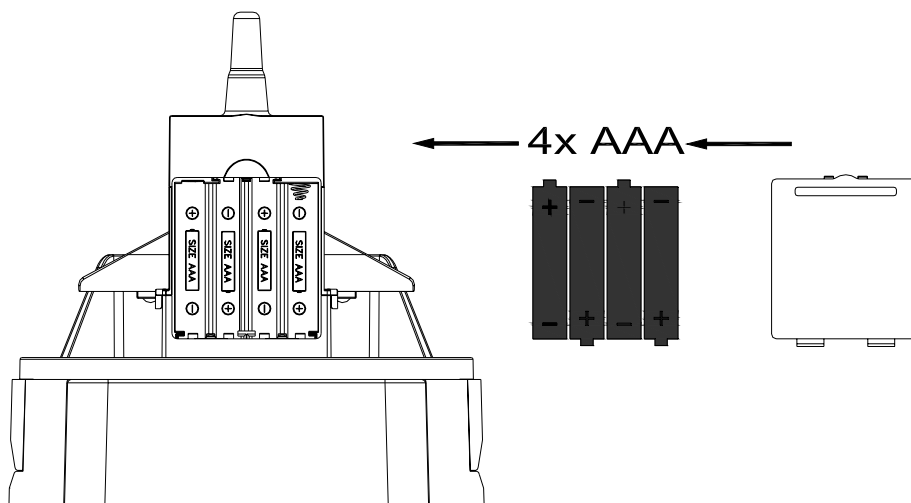
**Figure 5**

Locate the battery boor on the rain gauge transmitter, pull out the battery compartment, as show in Figure 6.



**Figure 6**

Inserting 4xAAA batteries in the battery compartment, as show in Figure 7

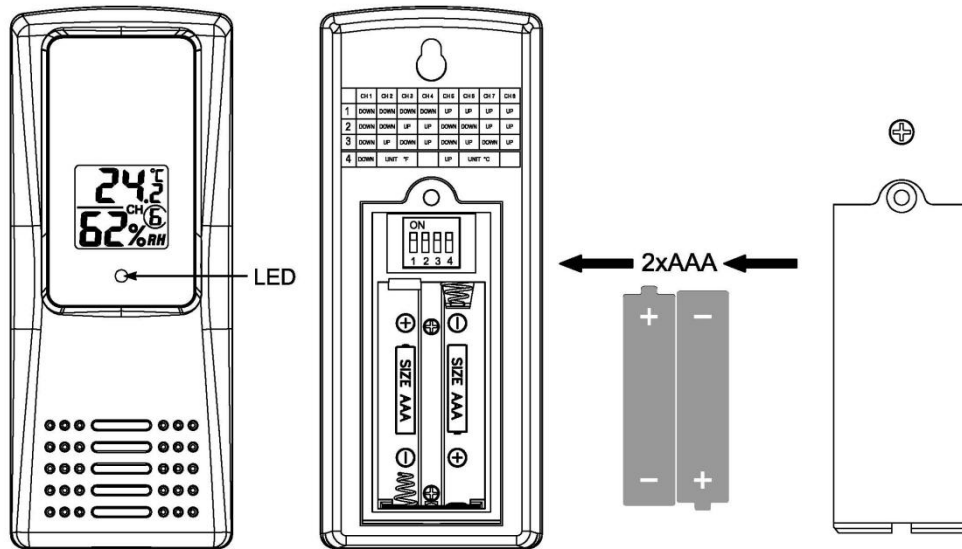


**Figure7**

The Rain gauge sensor LED indicator will light for 3 seconds, and then flash once per 60 seconds thereafter. Each time it flashes, the sensor is transmitting data.

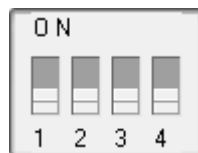
Close the battery door and tighten it.

**3.3.3 Insert batteries into the thermo-hygrometer transmitter.** Remove the battery door on the back of the sensor by removing the set screw, as shown in Figure 8.



**Figure 8**

- BEFORE** inserting the batteries, locate the dip switches on the inside cover of the lid of the transmitter. Figure displays all four switches in the OFF position (factory default setting).



**Figure 9**

- Channel Number:** The FT0213 supports up to eight transmitters. To set each channel number (the default is Channel 1), change Dip Switches 1, 2 and 3, as referenced in Table 1.
- Temperature Units of Measure:** To change the transmitter display units of measure (°F vs. °C), change Dip Switch 4, as referenced in Table 1.

DIP SWITCH				FUNCTION
1	2	3	4	
DOWN	DOWN	DOWN	---	Channel 1
DOWN	DOWN	UP	---	Channel 2
DOWN	UP	DOWN	---	Channel 3
DOWN	UP	UP	---	Channel 4
UP	DOWN	DOWN	---	Channel 5
UP	DOWN	UP	---	Channel 6
UP	UP	DOWN	---	Channel 7
UP	UP	UP	---	Channel 8
---	---	---	DOWN	°F
---	---	---	UP	°C

Table 1

4. Insert two AAA batteries.
5. After inserting the batteries, the remote sensor LED indicator will light for 4 seconds, and then flash once per 60 seconds thereafter. Each time it flashes, the sensor is transmitting data.
6. Verify the correct channel number (CH) and temperature units of measure (°F vs. °C) are on the display, as shown in 10.

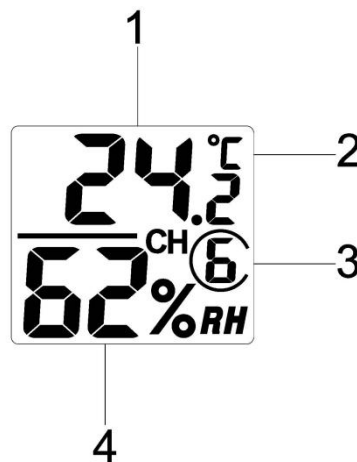


Figure 10


- (1) temperature
- (2) temperature units (°F vs. °C)
- (3) channel number
- (4) relative humidity

7. Close the battery door. Make sure the gasket (around the battery compartment) is properly seated in its trace prior to closing the door. Tighten the set screw.

## 3.4 Display Console

### 3.4.1 Display Console Layout

The display console layout is shown in Figure 11

 **Note:** The following illustration shows the full segment LCD display for description purposes only and will not appear like this during normal operation.

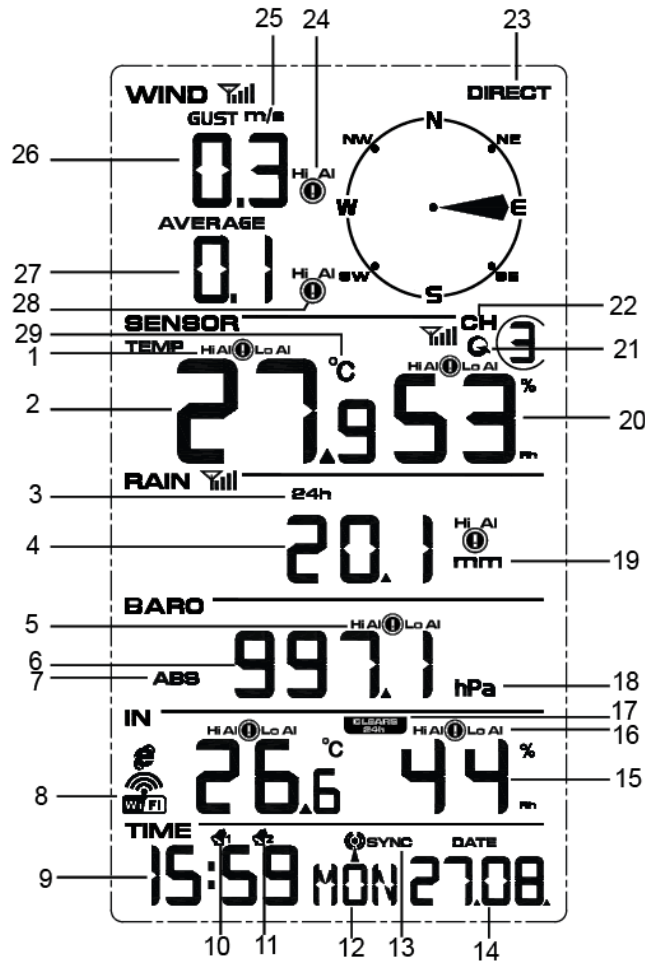



Figure 11

- |   |   |
|---|---|
| 1. Outdoor temperature HI/LO alarm icon           | 15. Indoor humidity display             |
| 2. Outdoor temperature display                    | 16. Indoor humidity HI/LO alarm icon    |
| 3. Rainfall display (1h, 24h, week, month, total) | 17. 24hour for clear                    |
| 4. Rainfall value for 24H                         | 18. Pressure units (Hpa, inhg and mmhg) |
| 5. Press HI/LO alarm icon                         | 19. Rainfall units of measure           |
| 6. Pressure (ABS) display                         | 20. Outdoor humidity display            |
| 7. Pressure (REL and ABS) display                 | 21. Scroll mode indicator               |
| 8. WIFI network                                   | 22. Channel 1,2,3,4,5,6,7,8 indicator   |
| 9. Time   | 23. Wind direction                      |
| 10. Time Alarm 1                                  | 24. Wind gust HI alarm icon             |
| 11. Time Alarm 2                                  | 25. Wind gust units (m/s, km/h)         |
| 12. Week or second                                | 26. Wind gust display                   |
| 13. Time SYNC                                     | 27. Wind speed average display          |
| 14. Date  | 28. Wind average HI/LO alarm icon       |
|   | 29. Temperature units (°F or °C)        |


### 3.4.2 Display Console Set Up

 Note: The sensor array must be powered and updating before powering up the console, or the console will time out searching for the sensors. Power the console last.

 Note: **WiFi Settings reference 13 STEP.**

Make certain the weather station sensor array is at least 3m away from the console and within 30m of the console. If the weather station is too close or too far away, it may not receive a proper signal. If you have more than one Thermo-hygrometer transmitter, make sure they are all powered up and transmitting on different channels.

Remove the battery door on the back of the display, as shown in Figure 12. Insert four AAA (alkaline or lithium) batteries in the back of the display console. The display will beep once and all of the LCD segments will light up for a few seconds to verify all segments are operating properly.

 Note: The character contrast is best from a slightly elevated viewing angle.

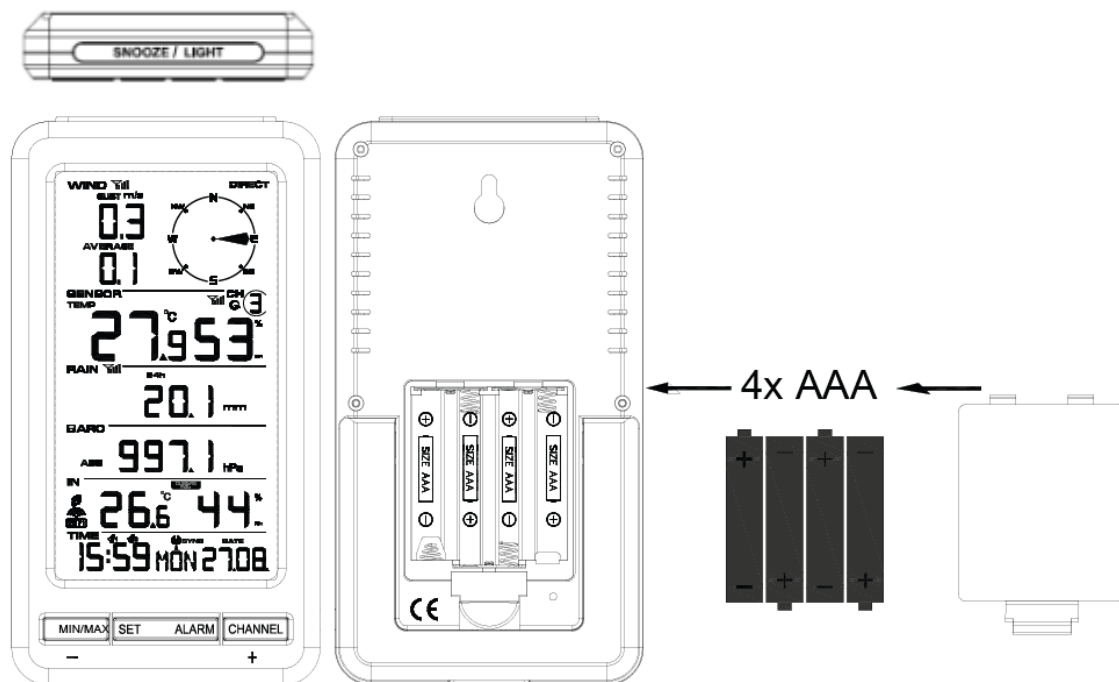



Figure 12


Replace the battery door, and fold out the desk stand and place the console in the upright position.

The unit will instantly display indoor temperature, humidity, pressure and time. The wind speed, wind gust, wind direction, rain, outdoor temperature and humidity will update on the display within a few minutes. Do not Press any menu buttons until the outside transmitter report in, otherwise the outdoor sensor search mode will be terminated. When the outdoor transmitter data has been received, the console will automatically switch to the normal mode from which all further settings can be performed.




While in the search mode, the remote search icon  will be constantly displayed.

If you have more than one thermo-hygrometer sensor (up to eight thermo-hygrometer sensors are supported), the display will automatically toggle between sensors until all sensors have reported in.

 **Note:** The power adapter is intended to be correctly oriented in a vertical or floor mounted position. The prongs are not designed to hold the plug in place if it is plugged into a ceiling, under-the-table or cabinet outlet.



**Figure 13**

 **Note:** If the power adapter is plugged in, **AC ON** will display in the time area for three seconds when powered up. Conversely, if the power adapter is not plugged in, **AC OFF** will be displayed.

#### **4.4.3 Sensor Operation Verification**

The following steps verify proper operation of the sensors prior to installing the sensor array.

1. Verify proper operation of the rain gauge. Tip the sensor array back and forth several times. You should hear a “clicking” sound within the rain gauge. Verify the rain reading on the display console is not reading 0.00. Each “click” represents 0.01 inches of rainfall.
2. Verify proper operating of the wind speed. Rotate the wind cups manually or with a constant speed fan. Verify the wind speed is not reading 0.0.
3. Verify proper operation of the indoor and outdoor temperature. Verify the indoor and outdoor temperature match closely with the console and sensor array in the same location (about 3m apart). The sensors should be within 2°C (4°F) (the accuracy is  $\pm 1^\circ\text{C}/2^\circ\text{F}$ ). Allow about 30 minutes for both sensors to stabilize.
4. Verify proper operation of the indoor and outdoor humidity. Verify the indoor and outdoor humidity match closely with the console and sensor array in the same location (about 3m apart). The sensors should be within 10% (the accuracy is  $\pm 5\%$ ). Allow about 30 minutes for both sensors to stabilize.

## **5. Weather Station Installation**

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

## 5.2 Site Survey

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

1. You must clean the rain gauge once per year and change the batteries every two years. Provide easy access to the weather station.
2. Avoid radiant heat transfer from buildings and structures. In general, install the sensor array at least 5' from any building, structure, ground, or roof top.
3. Avoid wind and rain obstructions. The rule of thumb is to install the sensor array at least four times the distance of the height of the tallest obstruction. For example, if the building is 6m tall, install  $4 \times 6m = 24m$  away. Use common sense. If the weather station is installed next to a tall building, the wind and rain will not be accurate.
4. **Wireless Range.** The radio communication between receiver and transmitter in an open field can reach a distance of up to 100 m, providing there are no interfering obstacles such as buildings, trees, vehicles, high voltage lines. Wireless signals will not penetrate metal buildings. Most applications will only reach 30m due to building obstructions, walls and interference.
5. Radio interference such as PCs, radios or TV sets can, in the worst case, entirely cut off radio communication. Please take this into consideration when choosing console or mounting locations.

## 5.3 Best Practices for Wireless Communication

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 100 m line of sight (no interference, barriers or walls) but typically you will get 30 m 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%

## 6. Final Installation of Sensors

1. **Wind transmitter installation.** Prior to installation, you will need to calibrate the wind direction. There is a “S” indicator on the wind vane that indicates South, as shown in Figure 14. Align this “S” marker in the direction of South.

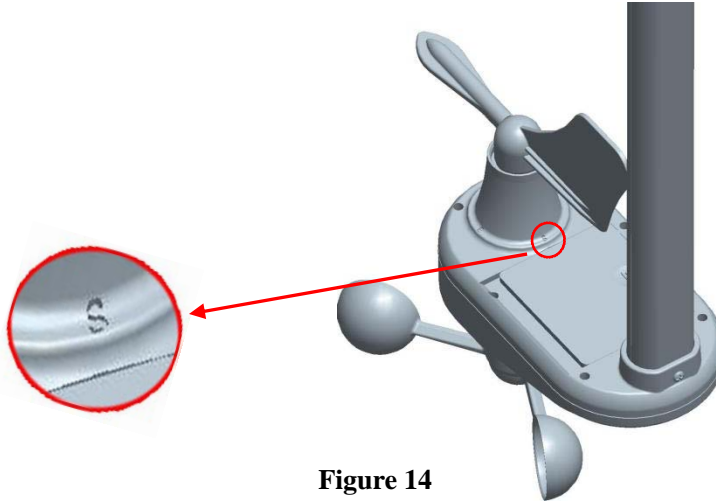


Figure 14

Fasten the wind transmitter to mounting pole brackets with foot-mounting, two  $\varnothing 3$  bolts and M3 nuts , as shown in Figure 15.

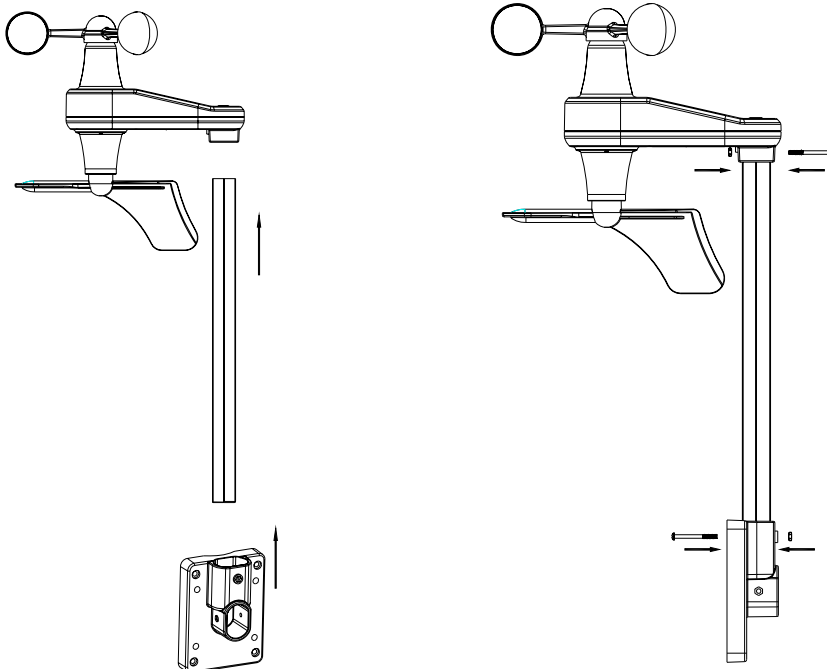
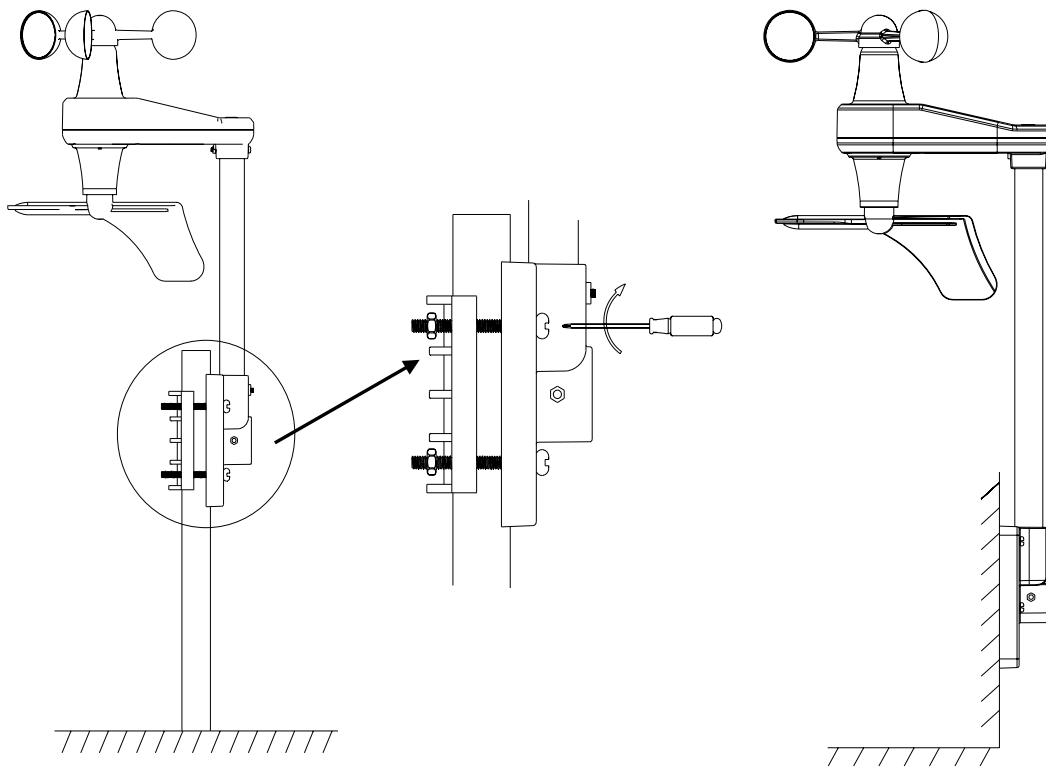


Figure 15

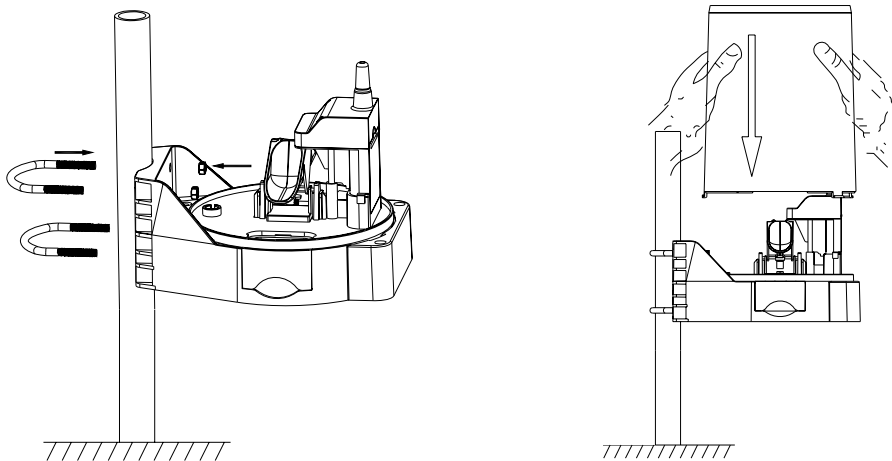
Tighten the mounting pole to your mounting pole (purchased separately) with the four  $\varnothing 5$  Bolts and M5 Nuts assembly, or fix on the wall with four tapping screw, as shown in Figure 16.



**Figure 16**

**2. Rain Gauge Transmitter Installation.** Remove the rain gauge funnel from the base prior to installation by rotating the counter clockwise until the tabs on the base and the funnel align, then pulling upwards.

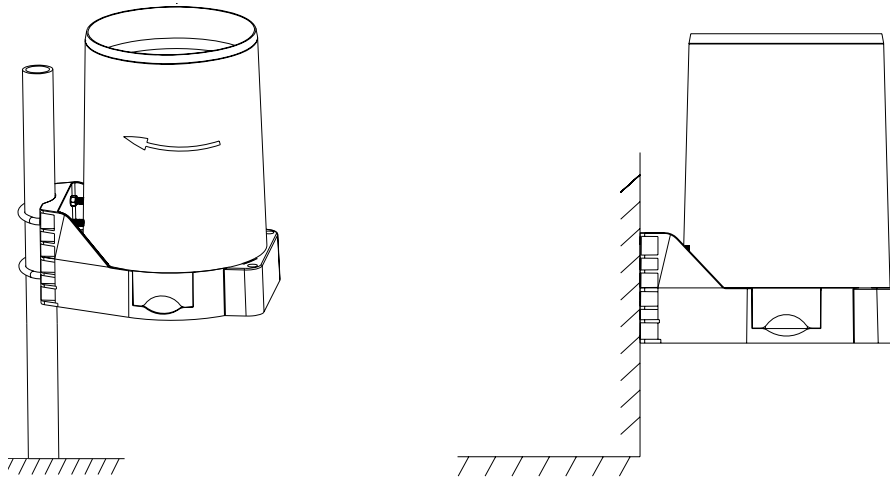
Fasten the rain gauge to the mounting pole, as shown in **Figure 17**



**Figure 17**

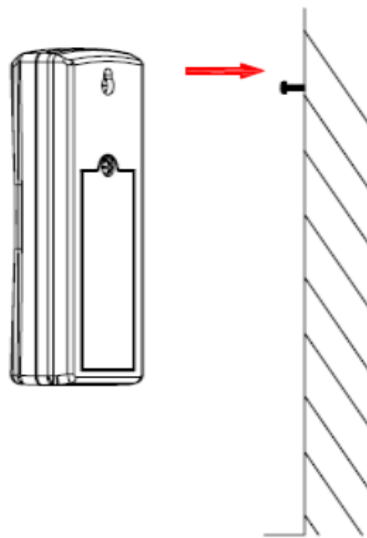
Tighten the rain gauge to your mounting pole or bracket with two U-bolts and four M5 nuts , or fix on a horizontal surface with the four tapping screws, as shown in **Figure 18**

Reattach the funnel by aligning the tabs on the funnel and base, and rotate clockwise. Put the filter net into the top hole to clear the debris.



**Figure 18**

**3. Thermo-hygrometer Transmitter installation.** It is recommended you mount the Thermo-hygrometer sensor outside in a shaded area. A north facing wall is preferred because it is in the shade most of the day. Direct sunlight and radiant heat sources will result in inaccurate temperature readings. Although the sensor is water resistant, it is best to mount in a well protected area, such as under an eave. Use a screw or nail (not included) to affix the remote sensor to the wall, as shown in Figure 19.



**Figure 19**

## 7 Low Battery Icon


A low battery indicator icon is shown in the display window for thermo-hygrometer sensor. When the low battery icon appears (the battery voltage is lower than 2.4V), replace the batteries in the sensor with fresh batteries. Be sure to never mix old and new batteries, and never mix battery types such as alkaline and lithium together.

## 8 Console Operation

 Note: The console has five keys for easy operation: **MIN/MAX** /-(WIFI), **SET**, **LIGHT/SNOOZE**,

**ALARM and CHANNEL/+**, key.

## 8.1 Quick Display Mode

 **Note:** To exit the Quick Display Mode at any time, press the **SNOOZE/LIGHT** button on the top of the display console.

While in the Normal mode, press the SET key once to enter the Quick Set Mode. The Quick Set mode can be exited at any time by waiting for the 10-seconds time-out to take effect. You can skip over any setting by pressing the SET key again.

1. **Time/second, Time/week and date/year display.** Press the SET key the time will begin flashing. Now press the CHANNEL/+ or MIN/MAX /-(WIFI) key to alternate the display between Time/second, Time/week and date/year.


2. **Rain display.** Press SET key again enter the rain mode. If press SET key the Rain display will begin flashing, Press the CHANNEL/+ or MIN/MAX /-(WIFI) key to alternate the display between 1H,24H,WEEK MONTH,TOTAL ,Press SET key again enter the barometer mode. Press the LIGHT key to exit setting mode.


3. **Relative and Absolute Pressure Display.** The pressure will begin flashing. Press the CHANNEL/+ or MIN/MAX /-(WIFI) key to alternate the display between absolute and relative pressure. Press SET key to enter the graph mode.

4. **Outdoor temperature ,Dew point and Feels like.** Press the SET key to the outdoor TEMP flashing. Press the CHANNEL/+ or MIN/MAX /-(WIFI) key to alternate for the temperature ,Dew point and Feels like. Press the SET key to exit setting mode

## 8.2 Set (Program) Mode

While in Normal Mode, **press and hold** the SET key for at least three seconds to enter the Set Mode. The first setting will begin flashing. You can press the SET key again to skip any step, as defined below.

 **Note:** In the Set mode, press the [+] key or [-] key to change or scroll the value. Hold the [+] key or [-] key for three seconds to increase/decrease rapidly.


 **Note:** To exit the Set mode at any time, press the **SNOOZE/LIGHT** button on the top of the display console.

1. **12/24 Hour Format (default: 24h):** Press the SET key again to adjust the 12/24 hour format setting (FMT). Press the [+] key or [-] key to change between 12 hour and 24 hour format.
2. **Change Hour.** Press the SET key again to set the hour. Press the [+] key or [-] key to adjust the hour up or down.
3. **Change Minute.** Press the SET key again to set the minute. Press the [+] key or [-] key to adjust the minute up or down.
4. **Date Format (default: DD-MM):** Press the SET key again to enter the day/month format mode. Press the [+] key to switch between M-D, D-M.

5. **Change Month.** Press the **SET** key again to set the calendar month. Press the [+] key or [-] key to adjust the calendar month.
6. **Change Day.** Press the **SET** key again to set the calendar day. Press the [+] key or [-] key to adjust the calendar day.
7. **Change Year.** Press the **SET** key again to set the calendar year. Press the [+] key or [-] key to adjust the calendar year.
8. **Max/Min Clearing (default: ON).** Press the **SET** key again to set the max/min clearing mode (CLR). The Max/Min can be programmed to clear daily (at midnight) or manually. Press the [+] key or [-] key to switch between “Clears 24h” and Clears Manually.
9. **Temperature Units of Measure (default: °C):.** Press the **SET** key again to change the temperature units of measure (the **UNITSET** icon will be displayed). Press the [+] key or [-] key to switch between °F and °C units of measure.
10. **Wind Speed Units of Measure (default: m/s).** Press the **SET** key again to change the wind speed units of measure. Press the [+] key or [-] key to toggle the wind speed units between m/s, km/h, mph, knots or bft.
11. **Rainfall Units of Measure (default: mm).** Press the **SET** key again to change the Rainfall units of measure. Press [+] key or [-] key to toggle the rainfall units between mm and inch.
12. **Barometric Pressure Display Units (default: hPa).** Press the **SET** key again to change the pressure units of measure. Press the [+] key or [-] key to toggle the pressure units between mmhg, inHg or hPa.
13. **Time SYNC(default:ON).** Press the **SET** key again to set the internet time sync. Press the [+] key or [-] key to switch between SYNCtime ON and SYNC time OFF.

## 8.3 Chanel Selection

Press the **CHANNEL/+** button to switch the display between remote thermo-hygrometer sensors


1 through 8, and scroll mode . In scroll mode, all of the indoor and detected outdoor thermo-hygrometer sensors will be displayed in five second intervals.

## 8.4 Sensor Search Mode

If any of the sensor communication is lost, dashes (---) will be displayed on the screen. To reacquire the signal:


Press and hold the **CHANNEL/+** button for 3 seconds to enter sensor search mode, press [+] key or [-] key


to toggle between **CH(1 to 8)**, **WIND(WIN)**, **RAIN(RAI)**, **ALL(ALL)** and **NOT(NOT)**.



1. If a specific channel is lost, press the **CHANNEL/+** button to display this channel, in search mode to select **CH(1-8)** and press **SET** or **Alarm** key to exit, the search icon will be displayed constantly for 3 minutes. Once the signal is reacquired, the remote search icon  will turn off, and the current values will be displayed.




Note: In search mode, the **CH(1-8)** will display the current specific channel.


2. If wind or rain sensor channels are lost, in search mode to select **WIND** or **RAIN** and press **SET** or **Alarm** key to exit, and the remote search icon  will be constantly displayed for up to 3 minutes.

Once the signal is reacquired, the remote search icon  will turn off, and the current values will be displayed.

3. If new sensors are added, subtracted, or multiple sensor channels are lost, in search mode to select **ALL** and press SET or Alarm key to exit, and the remote search icon  will be constantly displayed for up to 3minutes. Once the signal is reacquired, the remote search icon  will turn off, and the current values will be displayed.
4. Select **NOT** and press SET or Alarm key to exit, then return to normal mode.

## 8.5 Reset Min/Max record

In normal mode, Press the MIN/MAX/- button to switch, week zone of  display that flashing max record maximum record humidity and temperature , pressure ,wind speed and rain fallon LCD, then press SET button to clear the max value return the current value (all data);

Then press the MIN/MAX/- key again, week zone of  display that flashing min record humidity and temperature and pressure on LCD, click SET button to clear the min value return the current value (all data);

If you press the MIN/MAX/- key in the MIN /MAX jump display, in this mode if you press light/snooze key to exit the MIN/MAX checking and cleaning mode, return to normal display.


If have rainfall data, when display MIN data mode it---, MAX for 1H/24H/WEEK/MONTH of the largest recorded data, the current time is shown when the maximum value, if the current is TOTAL data show that MAX should jump to the largest recorded data 1H, because TOTAL is not the largest recorded.


If use “clear daily” mode, all data will be a day when the 0:00 time automatic clearance.

### 8.5.1 Restore Factory Default

To restore the console to factory default(WiFi network ,Weather server and display), press the **MIN/MAX/-** key while installing the batteries at the same time. Wait 3 seconds after installing the batteries to let go of the **MIN/MAX /-** key.

## 8.6 Snooze Mode

When the alarm sounds and alarm icon  flashes, touch the **SNOOZE/LIGHT** key to temporarily silence the alarm for five minutes.

The snooze icon  will continue to flash , after five minutes, the alarm will sound again. This will continue until the alarm is turned off. Touch any key (**SET, Min/Max/-,CHANNEL/+**) to permanently exit the **Snooze** mode.



## 8.7 Back light Mode

If the LED is off, press the **LIGHT** button once. The backlight will turn on for five seconds, and if no operation is performed for three seconds, the backlight will turn off.

Press and hold the **LIGHT** key for two seconds, and the backlight will turn on permanently, and display **BL ON** icon will be displayed for three seconds in the time field.

To turn off the backlight at any time, Press and hold the **SNOOZE/LIGHT** key for two seconds, and **BL OFF** icon will be displayed for three seconds in the date field.



Note: If plugged into AC power, the time area will display **AC ON** and the backlight will remain on. It is not recommended leaving the backlight on for a long period of time when operating on batteries only, or the batteries will run down quickly.

## 8.8 RF receiving signal prompt

In normal mode, the signal is interfered by many factors. When there is no signal, the signal is not connected to

the base station. The signal is from no signal to weak signal to good signal, as shown: weak signal  and

good signal .

## 8.9 Adjustment or Calibration



**Note:** The calibrated value can only be adjusted on the console. The remote sensor(s) always displays the un-calibrated or measured value.



**Note:** The measured humidity range is between 10 and 99%. Humidity cannot be accurately measured outside of this range. Thus, the humidity cannot be calibrated below 10% or above 99%.

The purpose of calibration is to fine tune or correct for any sensor error associated with the devices margin of error. The measurement can be adjusted from the console to calibrate to a known source.

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. They are in a different location and typically update once per hour.

The purpose of your weather station is to measure conditions of your surroundings, which vary significantly from location to location.

The FT0213 supports up to eight remote sensors. Each of the eight sensors can be calibrated.

### 8.9.1 Temperature Calibration

In normal mode, press and hold the **SET** and **CHANNEL/+** keys at the same time for five seconds to enter the temperature calibration mode. The indoor temperature will begin flashing.

Press the **[+]** or **[-]** key to increase or decrease the temperature reading (in increments of 0.1). Press and hold the **[+]** or **[-]** key for three seconds to increase or decrease rapidly.

Press the **ALARM** key to reset current value.

Press the **SET** key switch to outdoor temperature channel (1 through 8). To exit the calibration mode at any time, press the **SNOOZE/LIGHT** button on the top of the display console. If no operation is performed, the calibration mode will timeout in 30 seconds.

### 8.9.2 Setting Calibrated Humidity

In normal mode, press and hold the **SET** and **MIN/MAX/-** keys at the same time for five seconds to enter the humidity calibration mode. The indoor humidity will begin flashing.

Press the **[+]** or **[-]** key to increase or decrease the humidity reading (in increments of 1%). Press and hold the **[+]** or **[-]** key for three seconds to increase or decrease rapidly.

Press the **ALARM** key to reset current value.

Press the **SET** key switch to outdoor humidity channel (1 through 8). To exit the calibration mode at any time, press the **SNOOZE/LIGHT** button on the top of the display console. If no operation is performed, the calibration mode will timeout in 30 seconds.



**Note:** Humidity is a difficult parameter to measure accurately and drifts over time. The calibration feature allows you to zero out this error. To calibrate humidity, you will need an accurate source, such as a sling psychrometer or Humidipaks One Step Calibration kit.

### 8.9.3 Setting Calibrated wind speed, Rainfall and Pressure

In normal mode, press and hold the **SET** and **ALARM** keys at the same time for five seconds to enter the pressure and rainfall calibration mode.

Press the **SET** key switch to rainfall and absolute pressure. To exit the calibration mode at any time, press the **SNOOZE/LIGHT** button on the top of the display console. If no operation is performed, the calibration mode will timeout in 30 seconds.

**1.0 Absolute Pressure Calibration.** Press the **SET** key again to enter the pressure calibration mode. Press the **[+]** or **[-]** key to increase or decrease the pressure reading (in increments of 0.1hPa)



**Note:** The display console displays two different pressures: absolute (measured) and relative (corrected to sea-level).

To compare pressure conditions from one location to another, meteorologists correct pressure to sea-level conditions. Because the air pressure decreases as you rise in altitude, the sea-level corrected pressure (the

pressure your location would be at if located at sea-level) is generally higher than your measured pressure.


Thus, your absolute pressure may read 28.62 inHg (969 mb) at an altitude of 1000 feet (305 m), but the relative pressure is 30.00 inHg (1016 mb).


The standard sea-level pressure is 29.92 in Hg (1013.2hpa). This is the average sea-level pressure around the world. Relative pressure measurements greater than 29.92 inHg (1013.2hpa) are considered high pressure and relative pressure measurements less than 29.92 inHg are considered low pressure.

To determine the relative pressure for your location, locate an official reporting station near you (the internet is the best source for real time barometer conditions), and set your weather station to match the official reporting station.

**2.0 Rainfall Calibration (1 Hour, 24 Hour, Daily, Monthly, Total).** Press the **SET** key again and the Rain Calibration value will begin flashing (the default is 1.0). Press the [+] or [-] button to adjust the rain calibration factor from 0.75 to 1.25, where:

$$\text{Calibrated Rain} = \text{Calibration factor} \times \text{Measured Rain}$$


 **Discussion:** The rain collector is calibrated at the factory based on the funnel diameter. The bucket tips every 0.01" of rain (referred to as resolution). The accumulated rainfall can be compared to a sight glass rain gauge with an aperture of at least 4".

 **Note:** that debris and insects can collect inside the tipping mechanism (they make a good spiders nest). Carefully remove the funnel and inspect the tipping mechanism for debris prior to calibration.

## 9 Alarm Mode

The FT0213 includes time alarm, temperature alarm and humidity alarm features for indoor and Channel 1, feels like and dew point alarm for Channel 1, wind speed, wind gust, rainfall(1h and 24h) and pressure (ABS and REL) alarm.

### 9.1 Alarm Operation

When an alarm condition is exceeded, the alarm icon will flash  (visual) and the alarm beeper will sound (audible). To silence the beeper, press any key. The alarm beeper can be permanently silenced by referencing Section 0.

### 9.2 Viewing the High and Low Alarms

Time of day, indoor, channel 1, wind speed, wind gust, pressure and rainfall(1h and 24h) alarms are supported. Channels 2-8 alarms are not supported.

To view the current alarm settings, press and hold the **ALARM** key for three seconds to enter the alarm mode.

Next, press the **ALARM** key to view the alarm 1 with the alarm time ,temperature HI alarm ,humidity HI alarm,rainfall HI alarm,wind speed HI alarm and pressure(ABS and REL) HI alarm .

Press again alarm key to view the alarm 1 with the alarm time ,temperature LOW alarm ,humidity LOW alarm, and pressure(ABS and REL) LOW alarm .


Press the **SET** button again to view the alarm 2 with the alarm time ,temperature HI alarm ,humidity HI alarm,rainfall HI alarm,wind speed HI alarm and pressure(ABS and REL) HI alarm .

Press again alarm key to view the alarm 2 with the alarm time ,temperature LOW alarm ,humidity LOW alarm, and pressure(ABS and REL) LOW alarm .

Press the **SNOOZE/LIGHT** key at any time to return to the normal mode.

### 9.3 Setting the Alarms

In alarm mode, press and hold the **SET** key for three seconds. The alarm parameter will begin flashing. To adjust the alarm parameter, press the **[+]** or **[-]** key to increase or decrease the alarm setting slowly, or press and hold the **[+]** or **[-]** key for three seconds to increase or decrease the alarm setting rapidly.

Press the **ALARM** key to turn on (the alarm icon will appear ) and off the alarm.

To save the alarm setting and proceed to the next alarm parameter, press (do not hold) the **SET** key.

Press the **SNOOZE/LIGHT** key twice at any time to return to the normal mode. After 30 seconds of inactivity, the alarm mode will time out and return to normal mode.

The following is a list of the individual alarm parameters that are set (in order):

1. Alarm hour (alarm1)
2. Alarm minute (alarm1)
3. Alarm hour(alarm2)
4. Alarm minute(alarm2)
5. Wind Gust high alarm
6. Wind Average high alarm
7. Outdoor (channel 1) temperature high alarm
8. Outdoor (channel 1) temperature low alarm
9. Outdoor(channel 1) humidity high alarm
10. Outdoor(channel 1) humidity low alarm
11. Outdoor (channel 1) feels like high alarm
12. Outdoor (channel 1) feels like low alarm
13. Outdoor (channel 1) dew point high alarm
14. Outdoor (channel 1) dew point low alarm
15. Rainfall (1h) high alarm
16. Rainfall (24h) high alarm
17. Absolute pressure high alarm
18. Absolute pressure low alarm
19. Relative pressure high alarm

20. Relative pressure low alarm
21. Indoor temperature high alarm
22. Indoor temperature low alarm
23. Indoor humidity high alarm
24. Indoor humidity low alarm


## 9.4 Alarm and Command Key Beeper ON/OFF Mode

The beeper can be silenced for both alarms and key strokes.

In alarm mode, press and hold the **ALARM** button for three seconds, press the alarm key can turn the buzzer on or off (depending on the current setting).

The **BUZZ ON** (beeper on) or **BUZZ OFF** (beeper off) icon will appear in the time area for three seconds. Press and hold the alarm key again for three seconds to toggle the **BUZZ ON** or **BUZZ OFF** command.

## 10. WiFi Connection Status

When the console successfully connects to your Wi-Fi router, the Wi-Fi signal icon  will appear on the LCD display (in front of the indoor temperature). If the Wi-Fi signal is not stable or the console is trying to connect to the router, the icon will flash. If the icon disappears, it means the console is not connected to the Wi-Fi router.

**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.**

## 11. Time Server Sync Status

After the console has connected to the internet, it will attempt to connect to the internet time server to obtain the time. Once the connection succeeds and the console's time has updated, the SYNC icon **SYNC** will appear on the LCD. The time will automatically synchronize to the internet per an hour.

**Note: Time synchronize method: Synchronized through internet UTC time server**

## 12. WiFi Connection and Weather Servers

### 12.0: Register at Wunderground.com (Weather Underground)

Note: The Weather Underground website is subject to change.

12.1.: Visit: <https://Wunderground.com> , and select the Join link in the upper right and corner and create a Free Account.

12.2: From the menu, Select More | Add a Weather Station, or visit:

<https://www.wunderground.com/personal-weather-station/signup>

12.3: Click Send Validation Email. Respond to the validation email from Wunderground (it may take a several minutes).

12.4. Revisit More | Add a Weather Station, or visit:

<https://www.wunderground.com/personal-weather-station/signup> again and enter all of the information requested.

Once registered, you receive a station ID and password. Make a note of this. You will need to enter it into your weather station web interface shown in Figure 25 (Figure 20 is an example and your station ID and password will be different).

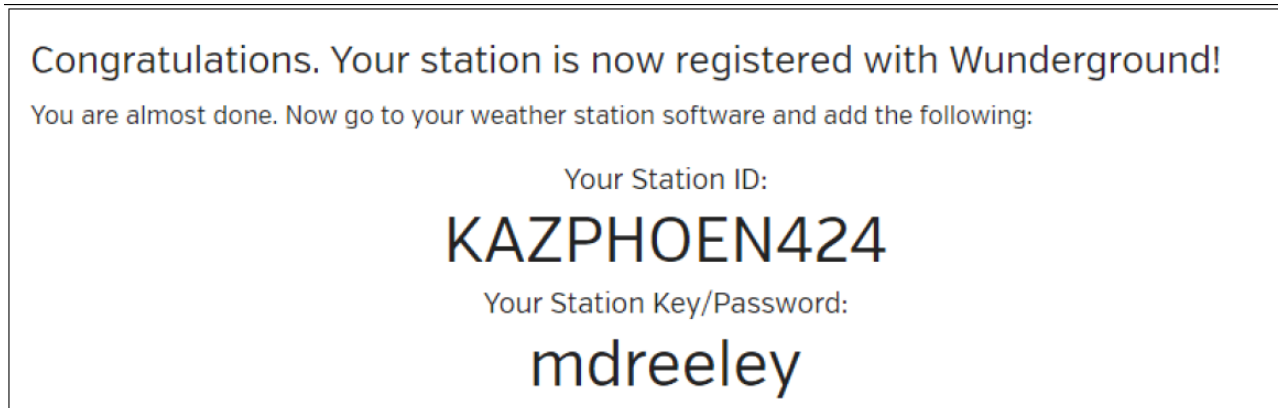


Figure 20

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.

## 13. WiFi Setup

13.1. When you first power up(AC) the console(when never setting WAP), or press and hold the MIN/MAX/-(WiFi) button for three seconds in normal mode, the console icon(in front of the indoor temperature)



will flash to signify that it has entered WAP (wireless access point) mode, and is ready to enter for WIFI settings.

13.2. Use your smart phone, tablet, or computer to connect to the console through WiFi.

**Note that when the console programming is complete, you will resume your default WiFi connection.**

**Note that you cannot connect two or more devices at the same time when WAP mode.**

**13.2.1:Example 1:** Connect to the console WiFi server with a PC.

Choose WiFi network settings from Windows (or search “Change Wi-Fi Settings” from Windows), and Connect to the WeatherHome----- WiFi network, as shown in Figure 21 (your WiFi network name may be slightly different, but will always begin with WeatherHome -).

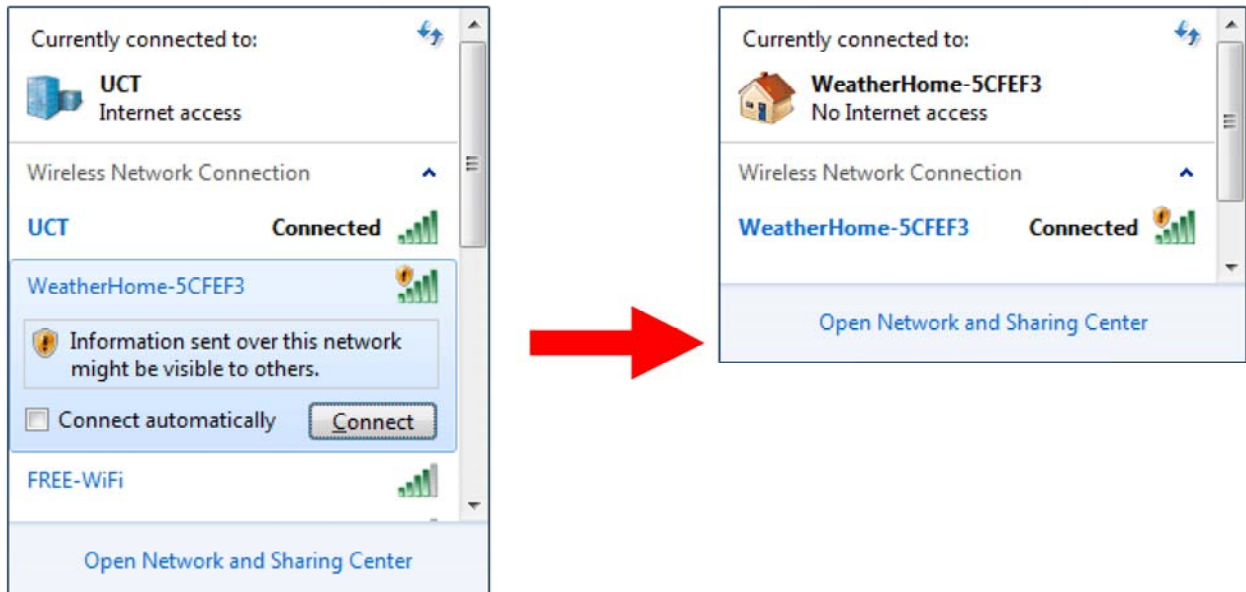




Figure 21

**13.2.2: Example 2.** Connect to the console WiFi server with a Mac.

Choose the Settings icon  and  Network . Connect to the WeatherHome----- WiFi network, as shown in Figure22 (your WiFi network name may be slightly different, but will always begin with WeatherHome----- ).

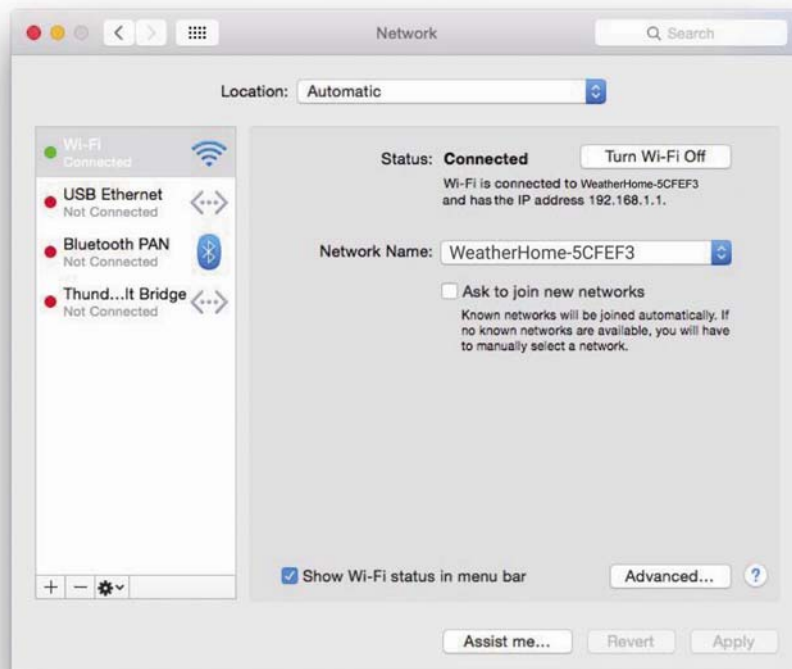



Figure 22

**13.2.3: Example 3.** Connect to the console WiFi server with an iPhone or iPad.

Choose the Settings icon  and Wi-Fi. Connect to the WeatherHome----- WiFi network, as shown in Figure 23 (your WiFi network name may be slightly different, but will always begin with WeatherHome-----).

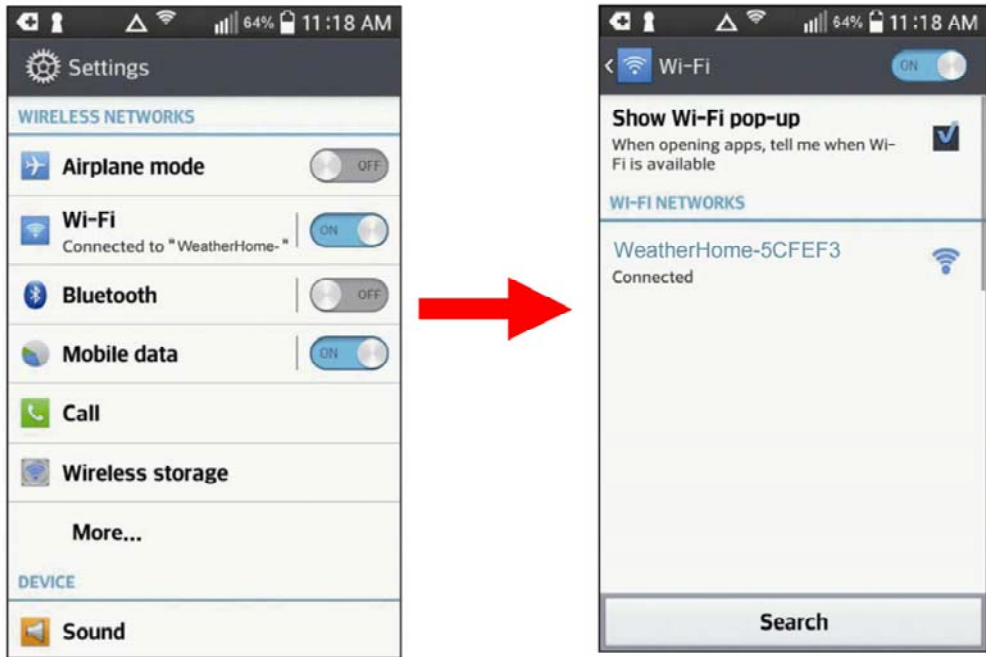



Figure 23

**13.2.4: Example 4.** Connect to the console WiFi server with an Android.

From the Apps icon, choose the Settings icon  and Wi-Fi. Connect to the WeatherHome----- WiFi network, as shown in Figure 24 (your WiFi network name may be slightly different, but will always begin with WeatherHome----- ).

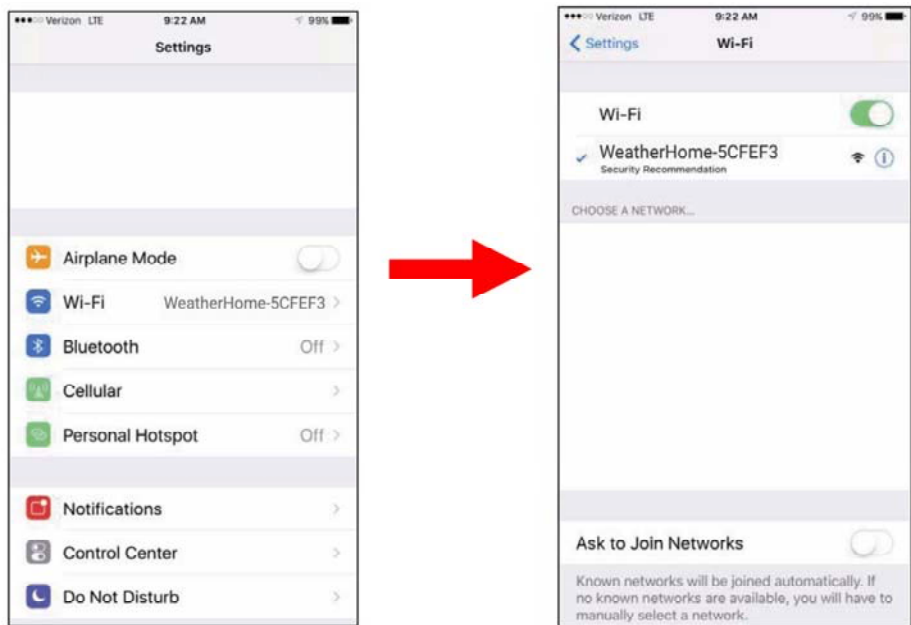


Figure 24

13.3. Once connected, enter the following IP address into any browser’s address bar: <http://192.168.5.1> to



access the console's web interface.


**Note: Some browsers will treat 192.168.5.1 as a search, so make sure you include the header [http://](http://192.168.5.1), or: <http://192.168.5.1> not 192.168.5.1**

**13.4.** Enter the following information into the web interface (Figure 25). Make sure all of the information is entered prior to selecting Save. If you choose not to use Upload Wunderground.com, Upload AmbientWeather.net or Upload weathercloud.net, leave the check boxes unchecked.

Note: Your console is capable of sending your sensor data to select internet-based weather services: Wunderground.com and Weathercloud.net User need to register at the select website to get the station ID and password , they are must registering through the web browser. the MAC address of AmbientWeather.net will automatic reading form console.


CMCC 19:24

http://192.168.5.1/ → Into browser's address bar: <http://192.168.5.1>

 **Weather Home Setup** → Web interface Logo

---

**Wi-Fi network setup**

Network   → Select your WiFi Router (SSID) from the list

Password   → Router's password

→ Check to connected IP status if saved setting

---

**Weather server setup**

Upload wunderground.com  → Check to confirm upload to Weather underground server

ID  → Enter Your Station ID

Password  → Enter Your Station Key / Password

Upload ambientweather.net  → Check to confirm upload to AmbientWeather.net

MAC  → Mac address (Automatic reading)

Upload weathercloud.net  → Check to confirm upload to weathercloud.net

ID  → Enter Your Weathercloud ID

Key  → Enter Your Weathercloud Key / Password

---

**Time Zone Setup**

Time Zone  → Time Zone Settings

Automatically adjust clock for Daylight Saving Time  → DST on/off

---

**Internet Time Server Setup**

Server  → Internet time server

---

→ Press Save to confirm the setting

Figure 25

**Notes:**

Make a note of your Mac address. You will need this to register at AmbientWeather.net.  
 Hidden SSIDs. If you have a hidden SSID, enter the SSID manually.

**Time Zone Settings (default: 0h).** based on the number of hours from Coordinated Universal Time, or Greenwich Mean Time (GMT).

The following table provides times zones throughout the world. Locations in the eastern hemisphere are positive, and locations in the western hemisphere are negative.

<b>Hours from GMT</b>	<b>Time Zone</b>	<b>Cities</b>
-12	IDLW: International Date Line West	---
-11	NT: Nome	Nome, AK
-10	AHST: Alaska-Hawaii Standard CAT: Central Alaska HST: Hawaii Standard	Honolulu, HI
-9	YST: Yukon Standard	Yukon Territory
-8	PST: Pacific Standard	Los Angeles, CA, USA
-7	MST: Mountain Standard	Denver, CO, USA
-6	CST: Central Standard	Chicago, IL, USA
-5	EST: Eastern Standard	New York, NY, USA
-4	AST: Atlantic Standard	Caracas
-3	---	São Paulo, Brazil
-2	AT: Azores	Azores, Cape Verde Islands
-1	WAT: West Africa	---
0	GMT: Greenwich Mean WET: Western European	London, England
1	CET: Central European	Paris, France
2	EET: Eastern European	Athens, Greece
3	BT: Baghdad	Moscow, Russia
4	---	Abu Dhabi, UAE
5	---	Tashkent
6	---	Astana
7	---	Bangkok
8	CCT: China Coast	Bejing
9	JST: Japan Standard	Tokyo
10	GST: Guam Standard	Sydney
11	---	Magadan
12	IDLE: International Date Line East NZST: New Zealand Standard	Wellington, New Zealand

**13.5.** If all of the information you entered is correct and press save to confirm(Figure 26). If it does not, check your web interface information again.



Figure 26

**13.6.** Once the setup is completed, you must disconnect (Figure 27) from your computer or smart phone's Wi-Fi connection from the Wi-Fi console, and search for the assigned router. otherwise, in half an hour the console will not automatically exit WAP mode.

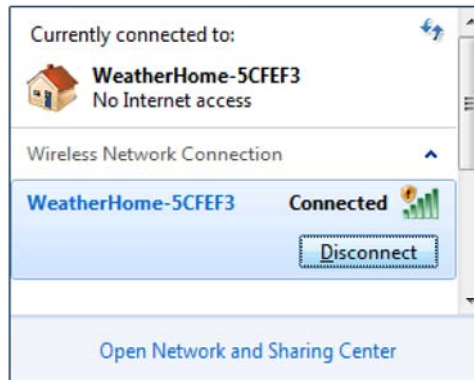






Figure 27

If the connection is successful, the Wi-Fi console's status Wi-Fi icon  will stop flashing and remain on.

**NOTE:** When the console successfully connects to your any website of weather servers, the data signal icon  will appear on the LCD display (in front of the indoor temperature). If the data signal icon  is updated to weather servers, the icon will flash. If the icon  disappears, it means the console is not connected to the weather servers more than half an hour or no choose the weather server setup.

**14: Register with AmbientWeather.net**

Visit: [www.AmbientWeather.net](http://www.AmbientWeather.net) to create an account and select Add Device, as shown in Figure 28.



Figure 28

Next, enter the MAC address found on your Weather Station Web Interface (Figure 29). Note that this is an example only and your MAC address will be different.

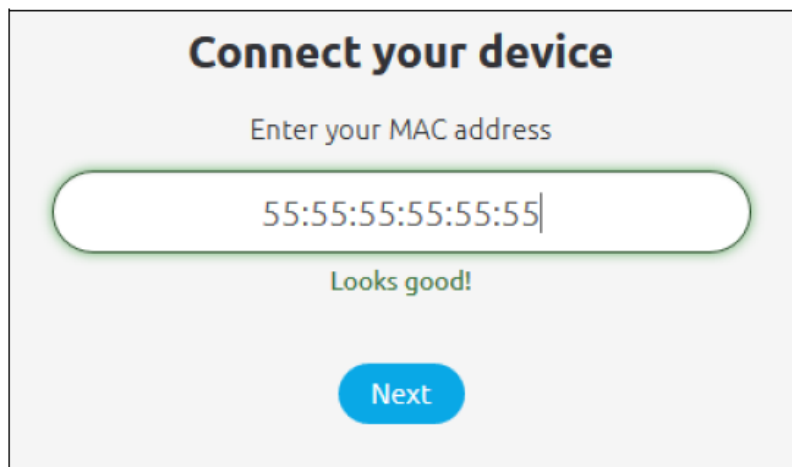


Figure 29

Register an account on AmbientWeather.net (email address and password).  
Once registered, select the dashboard to view your data, as shown in Figure 30.



Figure 30.

AmbientWeather.net is a responsive design and mobile friendly, so there is no need for a mobile app. Simply open your mobile devices web browser, browse to AmbientWeather.net, and bookmark your dashboard. If you save the bookmark to your desktop, it will automatically save the Ambient Weather icon, as shown in Figure 31.

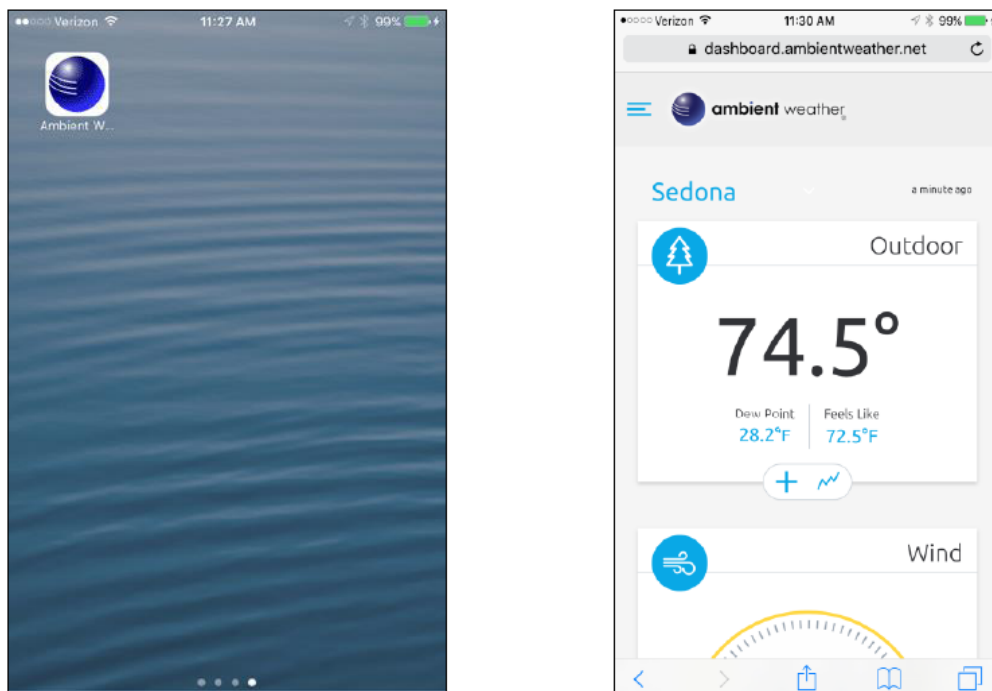


Figure 31

#### Viewing your Data on Weather Underground

There are several ways to view your data on Wunderground:

##### 14.1 Web Browser

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

where STATIONID is your personal station ID (example, KCALOSAN782).

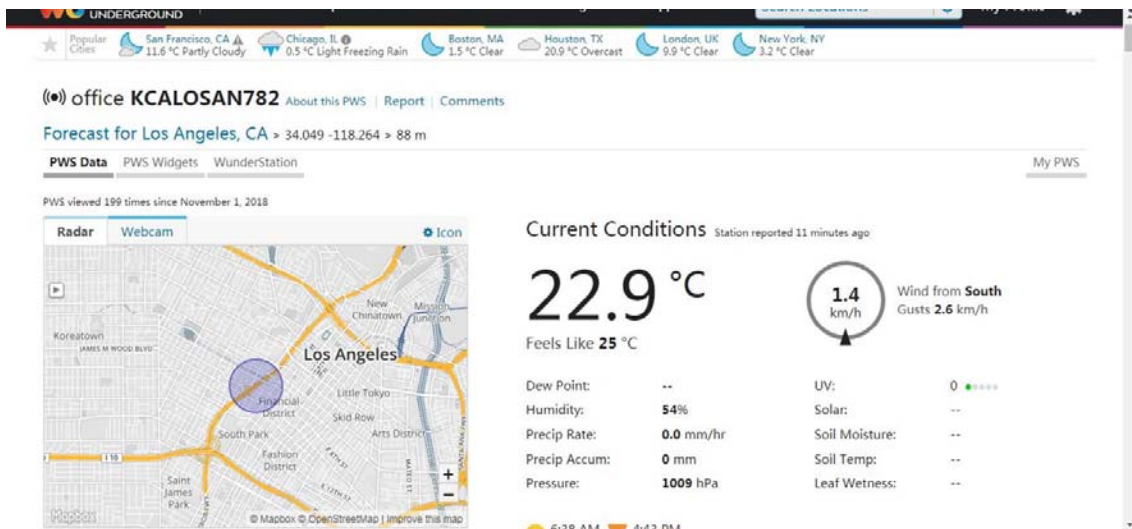


Figure 32

### 14.2 WunderStation iPad Application

Visit: <http://www.WunderStation.com> to download the WunderStation iPad app.



Figure 33

### 14.3 Mobile Apps

Visit: <http://www.wunderground.com/download/index.asp> for a complete list of Mobile apps for iOS and Android. Alternately, you can find your data on your mobile device's web browser.



Figure 34

## 14.5 Additional AmbientWeather.net Features

### 14.5.1 IFTTT

The AmbientWeather.net service connects to IFTTT, the platform that allows devices and services to work together seamlessly.

Here are a few things you can do with IFTTT:

- Turn off your Rachio sprinklers when it rains, there is too much wind, or below freezing.
- Close your Hunter blinds when the sun is too intense.
- Close your garage door when it is too windy.
- Blink your hue lights when it starts raining.
- Connect to other web services, such as Gmail, Facebook, Instagram, or Pinterest.

For more information on IFTTT and how it can work for you, visit:

[https://ifttt.com/ambient\\_weather](https://ifttt.com/ambient_weather)

### 14.5.2 Compatible with Alexa

The Ambient Weather skill provides Ambient Weather personal weather station owners with the ability to get real-time, and past weather information generated by the devices they have set up at AmbientWeather.net.

Enable the skill and get started: say "Alexa, ask Ambient Weather for a weather report.". This will provide you with your outdoor weather report, but you can ask for your indoor weather report as well by saying, "Alexa, ask Ambient Weather about the indoor conditions." You can also ask for a report about a specific day, month or year! Just say "Alexa, ask Ambient Weather about the weather yesterday." or "Alexa, ask Ambient Weather about the weather in May".

For more information and to enable this skill, visit:

<https://www.amazon.com/dp/B074PGCM1D/>

### 14.5.3 Works with Google Assistant

The Ambient Weather Google Assistant app provides Ambient Weather personal weather station owners with the ability to get real-time, and past weather information generated by the devices they have set up at AmbientWeather.net

Link your account to get started: say 'hey google, Ambient Weather... weather report.' This will provide you with your outdoor weather report. You can ask for your indoor weather report as well by saying, 'indoor conditions'. You can also link the Ambient Weather app by downloading the Google Assistant.



Here are some sample commands:

- Weather Report
- Outdoor conditions
- Indoor conditions
- Yesterday's weather
- Conditions for October 15, 2017
- Conditions for September 2017
- Conditions for 2016

For more information and to enable this app, visit:

<https://assistant.google.com/services/a/id/668e6f3369f27209/>

## 14.2 Maintenance

### 14.2.1 Adding or Subtracting Multiple Sensors

If you add or subtract multiple wireless sensors, you will need to synchronize the sensors.

#### 14.2.1.1 Adding or Subtracting Sensors

A: Make sure each sensor is on a different channel and in sequence (1, 2, 3, ..8) before powering up. Insert the batteries.

B: Place each sensor about 5 to 10 feet from the console.

C: Do not touch any buttons until synchronization is complete.

### 14.2.2 Multiple Sensor Features

Wunderground.com does not support multiple sensor channels. However, AmbientWeather.net does support multiple channels. The AmbientWeather.net dashboard allows you to rename the sensor description, as shown in Figure 35.



Figure 35

## 14.3 Register with WeatherCloud.net

Note: This is best done on a computer desktop or laptop.

14.3.1. Visit : <https://weathercloud.net/> and enter a Username, Email and Password. as shown in Figure 36.

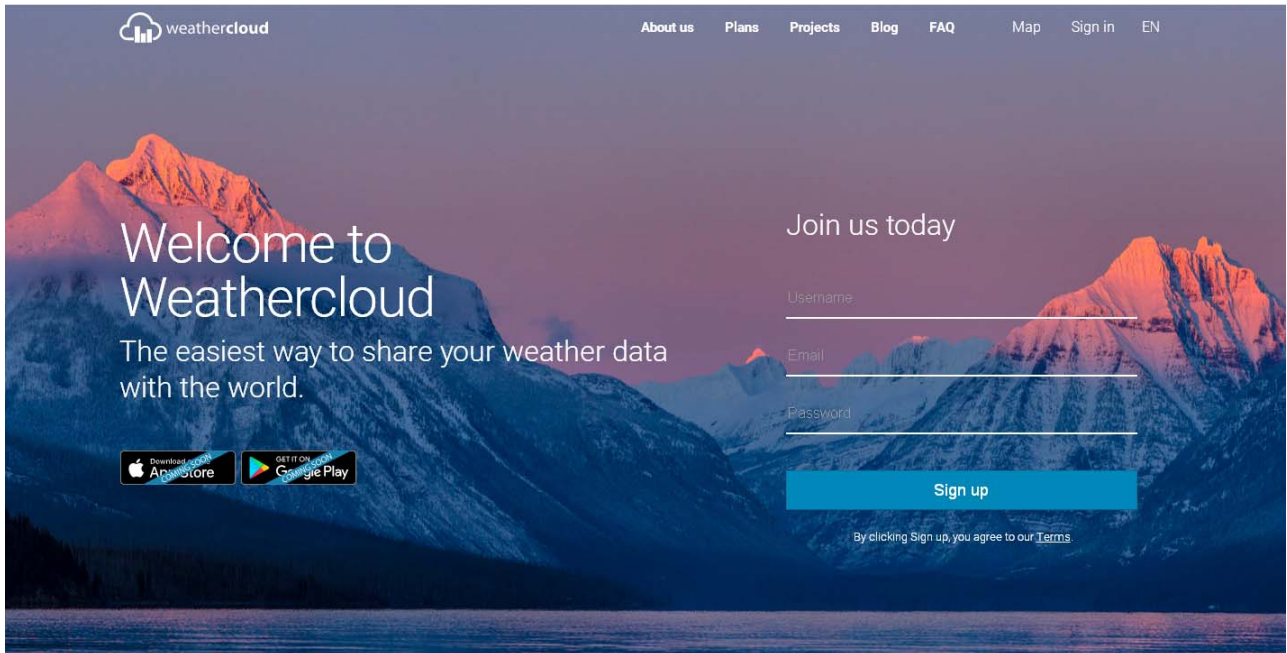


Figure 36

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

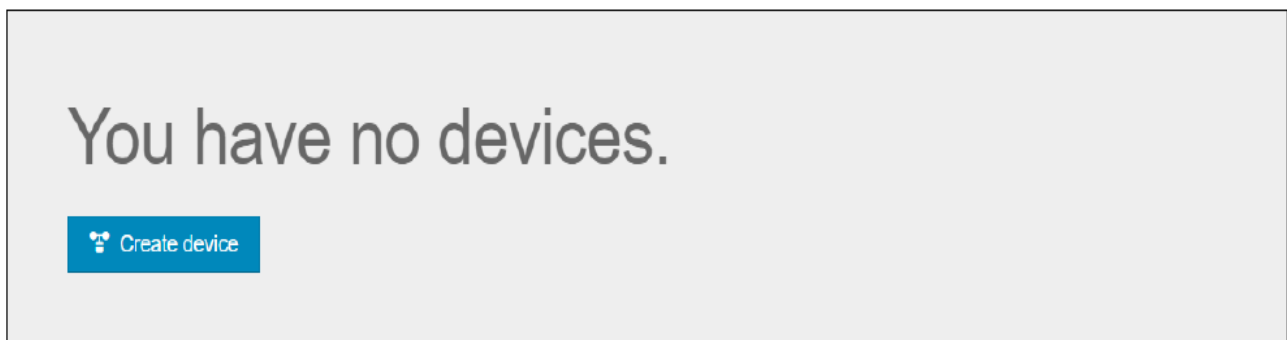


Figure 37

14.3.3.. Select Create Device and enter your weather station information. After registering your station, make a note of the following: Weathercloud ID and Key

Enter the Weathercloud ID (ID), Key (password) into the.


Upload weathercloud.net

ID

Key

## 15.1 Upload Setting

15.1.1. When you first power up(AC) the console, or press and hold the MIN/MAX/(WiFi) button for three

seconds in normal mode, the console icon(in front of the indoor temperature)  will flash to signify that it has entered WAP (wireless access point) mode, and is ready to enter for WIFI settings.

15.1.2. Use your smart phone, tablet, or computer to connect to the console through WiFi(reference: **Example 1-4 of WiFi Setting** ).

15.1.3.Once connected, enter the following IP address into any browser's address bar: <http://192.168.5.1/upgrade.html>



Figure 38

15.1.4.Connection success, it will jump to “Upload Setting” screen automatically.

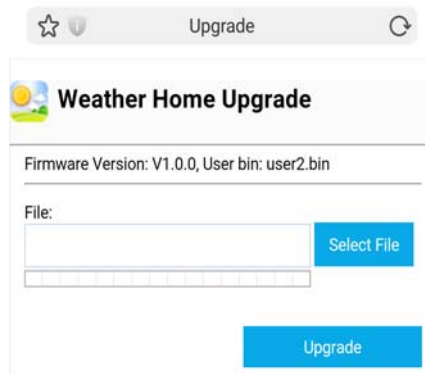


Figure 39

15.1.5.Update WeatherHome.bin contains you saved file when press Select File key

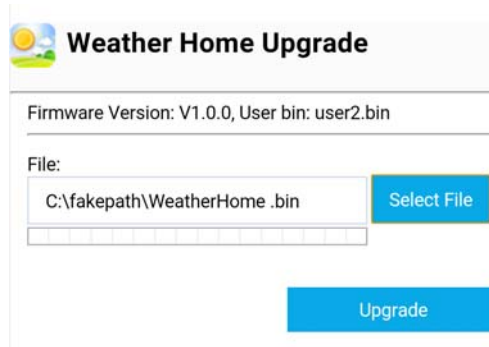


Figure 40

15.1.6. If update successfully when press Upgrade key. Then you will see.

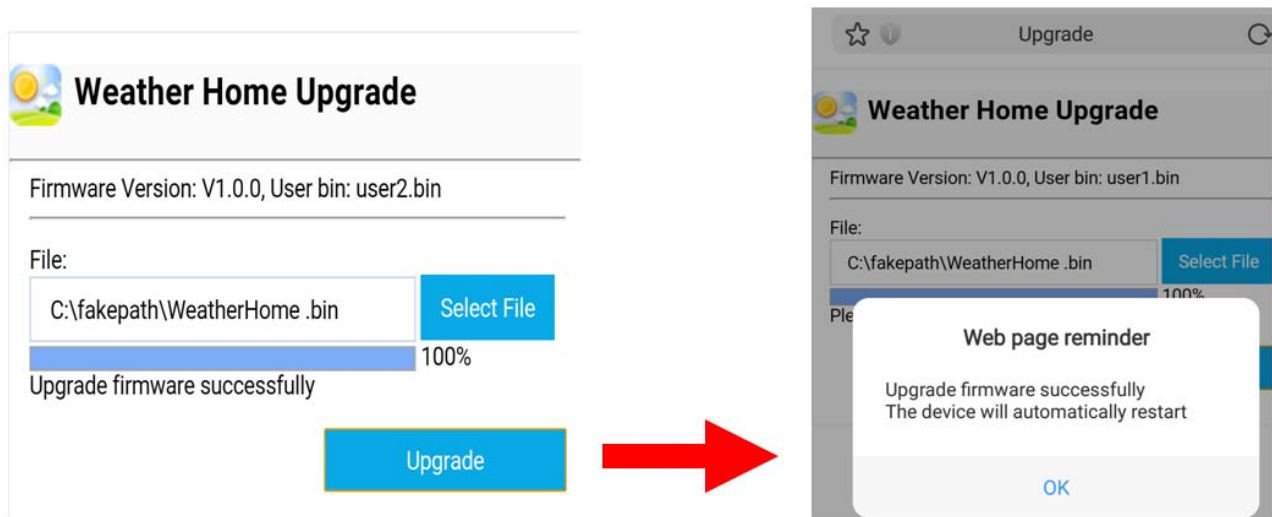


Figure 41

NOTE:Function of WiFi will automatically restart ,it is not the console to reset.

15.1.7.Once the upgrade is completed, the console will automatically exit WAP mode.

Term	Definition
Accuracy	Accuracy is defined as the ability of a measurement to match the actual value of the quantity being measured.
Hygrometer	A hygrometer is a device that measures relative humidity. Relative humidity is a term used to describe the amount or percentage of water vapor that exists in air.
Range	Range is defined as the amount or extent a value can be measured.
Resolution	Resolution is defined as the number of significant digits (decimal places) to which a value is being reliably measured.
Wind Vane	A wind vane is a device that measures the direction of the wind. The wind vane is usually combined with the anemometer. Wind direction is the direction from which the wind is blowing.
Absolute Barometric Pressure	Relative barometric pressure, corrected to sea-level. To compare pressure conditions from one location to another, meteorologists correct pressure to sea-level conditions. Because the air pressure decreases as you rise in altitude, the sea-level corrected pressure (the pressure your location would be at if located at sea-level) is generally higher than your measured pressure.
Relative Barometric Pressure	Measured barometric pressure relative to your location or ambient conditions.
HectoPascals (hPa)	Pressure units in SI (international system) units of measurement. Same as millibars (1 hPa = 1 mbar)
Inches of Mercury (inHg)	Pressure in Imperial units of measure. 1 inch of mercury = 33.86 millibars

## 16. Specifications

### 16.1 Wireless Specifications

- Line of sight wireless transmission (in open air): 100m.
- Frequency: 433 MHz
- Update Rate: 60 seconds for rain sensor and thermo-hygrometer sensor, 16s for wind sensor.

### 16.2 Measurement Specifications

The following table provides specifications for the measured parameters.

Measurement	Range	Accuracy	Resolution
Indoor Temperature	0 to 60 °C	± 1 °C	0.1 °C
Outdoor Temperature	-40 to 60 °C	± 1 °C	0.1 °C
Indoor Humidity	10 to 99 %	± 5% (only guaranteed between 20 to 90%)	1 %
Outdoor Humidity	10 to 99%	± 5% (only guaranteed between 20 to 90%)	1 %
Rain	0 to 9999mm	<15mm: ± 1 mm, 15mm to 9999mm: ± 7%	<1000mm (0.3mm) >1000mm (1mm)
Wind Direction	0 - 360 °	45° (8 point compass)	45° (8 point compass)
Wind Speed	0 to 50 m/s	2 m/s ~10 m/s: ± 3m/s, 10m/s ~50 m/s: ± 10% (whichever is greater)	0.1 m/s
Barometric Pressure:	300 to 1100 hpa	± 3 hpa	0.1 hpa

### 16.3 Power Consumption

- Base station (display console) : 4 x AAA 1.5V Alkaline or Lithium batteries (not included)
- Display Adaptor: DC 5V, 1.0A 100-240V 50 / 60 Hz UL
- Thermo-hygro Sensor : 2 x AAA alkaline batteries or Lithium batteries (not included)
- Rain sensor: 4xAAA alkaline batteries or Lithium batteries (not included)
- Wind sensor: 4xAAA alkaline batteries or Lithium batteries (not included)
- Battery life: Minimum 12 months for base station with excellent reception. Intermittent reception and multiple sensors may reduce the battery life.

Minimum 12 months for sensors (use lithium batteries in cold weather climates less than -20 °C)

### 16.4 WiFi Specifications

1. WIFI Standard: 802.11 b/g/n
2. WiFi Console RF Frequency: 2.4 GHz
3. Setup User Interface (UI) support setup device: Build-in WiFi with WAP mode smart device, including laptops, computers, smart phones and smart pads.
4. Recommend web browser for setup UI: Web browser support of HTML 5, such as the latest versions of



Chrome, Safari, IE, Edge, Firefox, Mozilla or Opera.

5. Line of sight WiFi RF transmission (in open air): 20meter (80 feet)

## 17. Maintenance

1. Clean the rain gauge once every 3 months
2. Replace the wind, rain and thermo-hygrometer transmitter batteries once every 1-2 years

## 18 Troubleshooting Guide

Problem	Solution
<p data-bbox="167 663 564 730">Wireless remote not reporting in to console.</p> <p data-bbox="167 786 584 853">There are dashes (-.-) on the display console.</p>	<p data-bbox="676 663 1332 1066">If any of the sensor communication is lost, dashes (-.-) will be displayed on the screen. To reacquire the signal, press and hold the <b>CHANNEL/+</b> button for 3 seconds, choose the lost sensor and press <b>SET</b> button, and the remote search icon  will be constantly displayed. Once the signal is reacquired, the remote search icon  will turn off, and the current values will be displayed.</p> <p data-bbox="676 1122 1315 1223">The maximum line of sight communication range is 100 m and 30 m under most conditions. Move the sensor assembly closer to the display console.</p> <p data-bbox="676 1279 1332 1357">If the sensor assembly is too close (less than 1.5m), move the sensor assembly away from the display console.</p> <p data-bbox="676 1413 1315 1480">Make sure the remote sensor LCD display is working and the transmitter light is flashing once per 60 seconds.</p> <p data-bbox="676 1536 1270 1648">Install a fresh set of batteries in the remote thermo-hygrometer. For cold weather environments, install lithium batteries.</p> <p data-bbox="676 1704 1251 1816">Make sure the remote sensors are not transmitting through solid metal (acts as an RF shield), or earth barrier (down a hill).</p> <p data-bbox="676 1872 1286 1984">Move the display console around electrical noise generating devices, such as computers, TVs and other wireless transmitters or receivers.</p> <p data-bbox="676 2029 1299 2056">Move the remote sensor to a higher location. Move the</p>

<b>Problem</b>	<b>Solution</b>
	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. The pre preferred location is a north facing wall because it is in the shade most of the day.
Indoor and Outdoor Temperature do not agree	<p>Allow up to one hour for the sensors to stabilize due to signal filtering. The indoor and outdoor temperature sensors should agree within 2 °C (the sensor accuracy is <math>\pm 1</math> °C).</p> <p>Use the calibration feature to match the indoor and outdoor temperature to a known source.</p>
Indoor and Outdoor Humidity do not agree	<p>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 <math>\pm 5</math> %).</p> <p>Use the calibration feature to match the indoor and outdoor humidity to a known source.</p>
Display console contrast is weak	Replace console batteries with a fresh set of batteries.
Outdoor color does not change as expected.	Make sure the outdoor sensor is assigned to Channel 1.
Rain gauge reports rain when it is not raining	An unstable mounting solution (sway in the mounting pole) may result in the tipping bucket incorrectly incrementing rainfall. Make sure you have a stable mounting solution. Move the rain gauge from the pole mount to a flat, stable mount (fixed, flat structure).
Wind speed appears low	Average wind speed may have the appearance of low wind. Try switching the display to wind gust.
Console Time or date is not correct	<p>Make sure your time zone and Daylight Savings Time are set properly. Console Time is off by increments of hours(DST).</p> <p>Check sure your time SYNC setting is on of console. (default:ON)</p>
Cannot connect the console to WiFi	<p>Check your WiFi password is correct. Make sure your device (desktop, laptop, tablet or phone) is connected to your WiFi router.</p> <p>If you own a dual band router (2.4 and 5 GHz), make sure your WiFi 2.4 GHz band is turned on.</p>
Wunderground.com is not updating or weathercloud.net is not updating	<p>Make sure the checkbox is checked in the web panel (reference Figure 25).</p> <p>Make sure your station ID and Station Key are correct. DO NOT copy and paste your station key into the console's web display, as it will add a lagging space. Make sure you type it in. Also, it is easy to confuse the lower case letter l, upper case I and the number 1, as well</p>

<b>Problem</b>	<b>Solution</b>
	as the number 0 and the letter O.
AmbientWeather.net is not updating	Make sure your MAC address was entered correctly. Make sure the checkbox is checked in the web panel. (reference Figure 25).

### **FCC Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.