

Uzoli

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FT0310 WIFI PROFESSIONAL WEATHER STATION

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FT0310 Professional WIFI Weather Station

User Manual

1. Introduction

Thank you for your purchase of the Uzoli FT0310 Professional WIFI Wireless Weather station. The following user guide provides step-by-step instructions for installation, operation, troubleshooting and calibration.

2. Warnings



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.

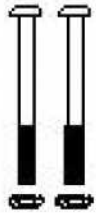
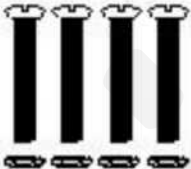



3. Getting Started

The FT0310 weather station consists of a display console (receiver), one Integrated Outdoor Transmitter, and some mounting hardware.

3.1 Parts List

The FT0310 weather station consists of the following parts.


QTY	Item	Image
1	Display Console Frame Dimensions (LxHxW): 8.5 x 0.9 x 6.2 in LCD Dimensions (LxW): 6.7 x 4.9 in	
1	Integrated Outdoor Transmitter Dimensions (LxHxW): 11.8 x 5.9 x 11 in	
1	Foot Mounting (with pole insert) Dimensions: 3.98 x 3 x 1.5 in	
1	Mounting Bracket Back Plate (pole mount) Dimensions: 2.99 x 2.95 x 0.79 in	
1	Mounting Pole Dimensions: 11.8 x 1.2 x 0.8 in	

2	Screws and Nuts M3 x 29mm For pole mounting.	
4	Screws and Nuts M5 x 35mm For fixing the mounting foot together with the mounting bracket plate to a tube.	
4	Universal Screws M4 x 35mm For fixing the mounting foot to a wooden surface, or together with dowels on a stone or concrete.	
1	User Manual	
1	Power Adapter	

3.2 Recommend Tools

- Precision screwdriver (for small Phillips screws)
- Compass or GPS (for wind direction calibration)
- Adjustable Wrench

3.3 Installation of Sensor Assembly

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

The following illustration shows the full segment of Integrated Outdoor Transmitter. It consists of : Thermo-Hygrometer, anemometer, rain gauge, UV index sensor and solar panel.

As shown in Figure 1.

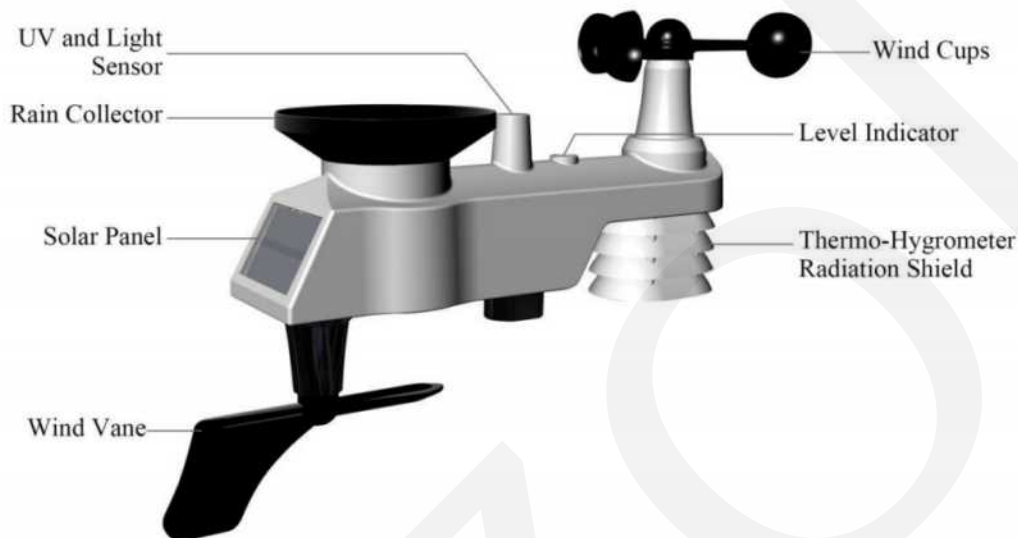


Figure 1

Insert batteries into the transmitter.

Locate the battery lid on the transmitter, and open the battery compartment. As show in Figure 2.

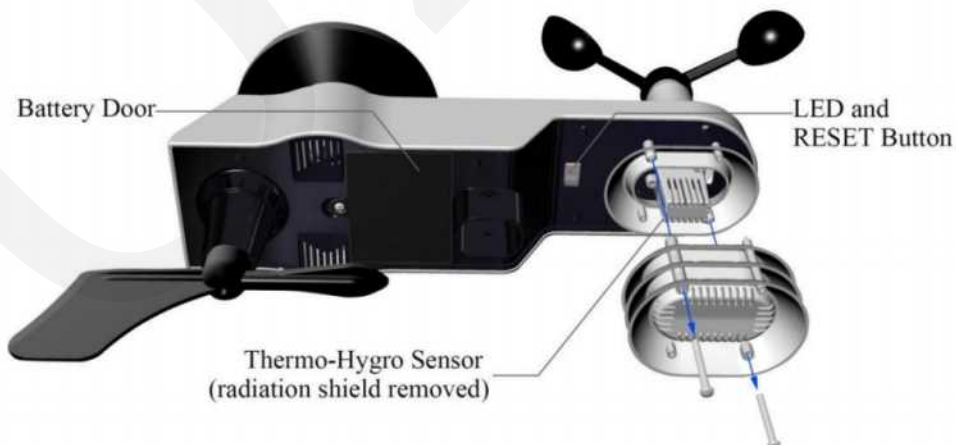


Figure 2

Remove the battery lid on the back of the sensor by removing the set screw. As shown in Figure 3.



Figure 3

Install 3 AA batteries in the battery compartment. As shown in Figure 4.




Figure 4


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

⚠ Warning

Do not install the batteries in a wrong way. You may permanently damage the sensors. The solar panel does not charge the batteries, so rechargeable batteries are not recommended.

 **Note:** We recommend installing Lithium AA batteries for the sensor because of its longer battery life. However, it's recommended to use Alkaline batteries in low-temperature environments, because the Lithium batteries are unstable below -20°C (-4°F).

The 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 lid and push to tighten it.

 **Note:** If the sensor does not power up after inserting the batteries, press the reset button shown in Figure 5.

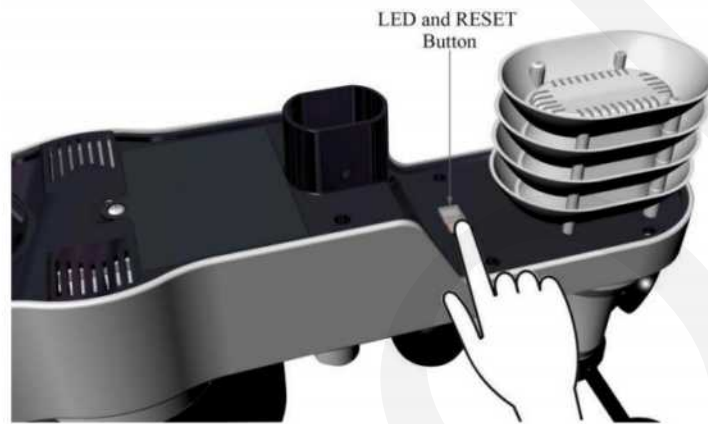


Figure 5

3.4 Display Console

3.4.1 Layout of Display Console

The display console layout is shown in Figure 6.


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



Figure 6

1. Outdoor temperature	17. Indoor Dew point icon
2. WIFI network	18. Indoor temperature and humidity
3. Outdoor humidity	19. Pressure (REL and ABS)
4. Outdoor humidity HI/LO alarm icon	20. Pressure units of measure
5. Min/Max reset for 24h icon	21. Wind speed average
6. Weather forecast	22. Wind gust
7. Rainfall display(RATE, 24h, WEEK,MONTH, TOTAL)	23. Wind speed units of measure
8. Rainfall units of measure	24. Wind chill and feels like HI/Lo alarm icon
9. Date display	25. Wind direction
10. Time alarm icon	26. Out dew point and AT (Apparent Temperature)
11. Time and Year	27. Integrated outdoor transmitter low power indicator
12. UV Index	28. Temperature units (°F or °C)
13. Sunshine intensity	29. Outdoor temperature HI/LO alarm icon
14. MOON phase	
15. Sunlight units of measure	
16. Indoor Dew point display	

3.4.2 Setup the Display Console

1) Install the batteries into the display console.

Remove the battery lid on the back of the display, as shown in Figure 7. Install three AAA (alkaline or lithium) batteries in battery compartment. The display will beep once and all of the LCD segments will light up for a few seconds.

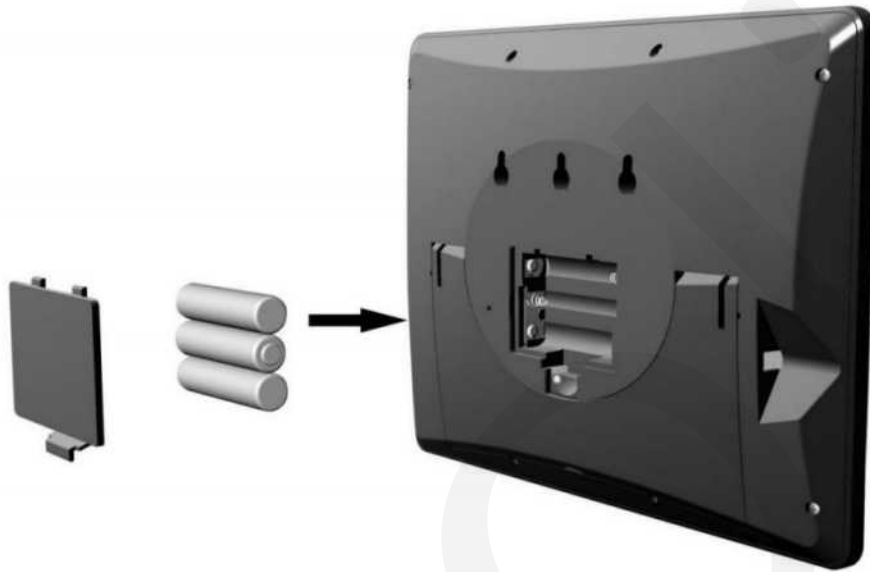



Figure 7



Cover the battery lid, and fold out the desk stand and place the console in the upright position.


2) Plug in the display console with power adapter.



Figure 8

 **Note:** It is recommended to plug in the power adapter to reduce the battery consumption and extend the service life.

 **Note:** If the power adapter is plugged in, **BL ON** will display in the time area for three seconds when powered up. Conversely, the icon  will display.


 **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.


3.4.3 Connect the Sensor with Display Console


When the display console is powered up, it will automatically scan the nearby integrated outdoor transmitter, and the console will instantly display the indoor temperature, humidity, pressure, tendency, moon phase, and time.

The outdoor weather data (The wind speed, wind gust, wind direction, rain, UV/Sunlight, outdoor temperature and humidity) will update on the display within a few minutes.

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.

 **Note:** **DO NOT** press any menu buttons until the outside transmitter report in, otherwise the outdoor sensor search mode will be terminated.

 **Note:** Make sure the distance between the display console and the transmitter sensor is about 3m~30m. If the weather station is too close or too far away, it may not receive a proper signal.

While in the search mode, the remote search icon  will be constantly displayed. If it does not update, please reference the troubleshooting guide in Section 16.

4. Weather Station Installation

4.1 Pre-Installation

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, ensure proper operation, and familiarize yourself with the weather station and calibration procedures. This will also allow you to test the wireless range of the weather station.

4.2 Site Survey

Do a site survey before install the weather station. Take the following points into consideration:

- (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 rooftop.
- (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 $4 \times 6\text{m} = 24\text{m}$ 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 100M (330ft), 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 (98ft) 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.

4.3 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 100M line of sight (no interference, barriers or walls) but typically you will get 30M 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.

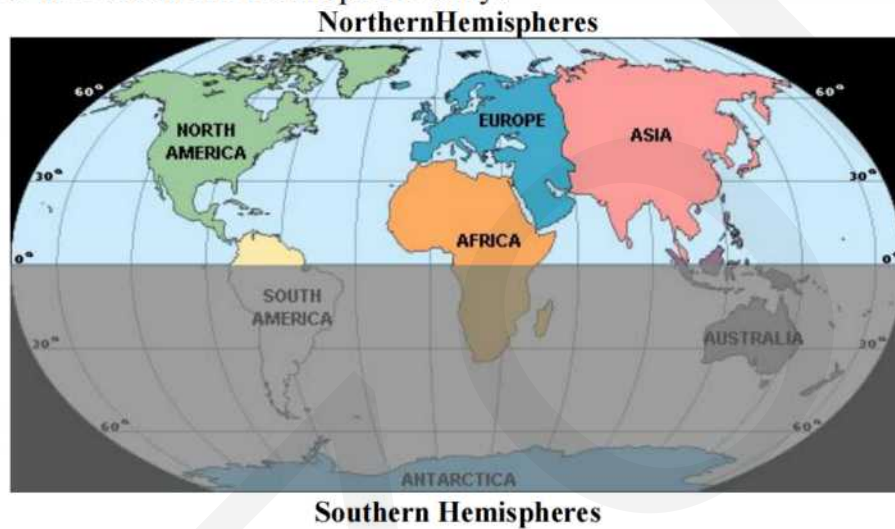
Medium	RF Signal Strength Reduction
Glass (untreated)	5-15%
Plastics	10-15%

Wood	10-40%
Brick	10-40%
Concrete	40-80%
Metal	90-100%

5. Final Installation of Integrated Outdoor Transmitter

5.1 Northern Hemispheres (NOR)

The cardinal directions (N, S, E, W) molded on the body of the outdoor sensor are indicators for the Northern Hemisphere only.



Step 1: There is a “S” indicator on the wind vane that indicates South, as shown in Figure 10. Align this “S” marker in the direction of South.



Figure 10


Step 2: Console operation is set to Northern Hemispheres (NOR in the time area) in Location division.


5.2 Southern Hemispheres (SOU)

For Southern Hemisphere installations, ignore these (N, S, E, W) and face the solar panel to the North (and in a sunny position) when it comes to installing the integrated outdoor transmitter.

Step 1: Install the Integrated outdoor transmitter and face the solar panel North.

Step 2: Console operation is set to Southern Hemispheres (SOU in the time area) in Location division.

 **Note:** 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. The 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.

 **Note:** Wind direction sensor has to be adjusted so that the directions on the sensor are matching with your real location. Permanent wind direction error (read approximately 180°) will be introduced when the wind direction sensor is not positioned correctly during installation.

5.3 Mounting Foot Installation

After locate the correct direction, then start to fix the mounting foot.

5.3.1 Horizontal Installation

1) Install mounting foot

First, mount the mounting foot on a flat, as small as possible surface. (So as not to falsify the measured values.)

Alternatively, you can also use the four M5 x 49mm screws and M5 nuts supplied to attach the mounting base to an existing pipe together with the rear mounting plate, or fix it on the wall with four M4 universal screw.

2) Install the mounting pole

Then insert the mounting pole into the corresponding receptacle on the mounting bracket. Screw both with a screw M3 x 29mm and a matching M3 nut.

3) Install the outdoor sensor

Finally, plug the outdoor sensor onto the other end of the mounting pole and screw it accordingly with an M3 x 29mm screw and an M3 nut.

These 3 steps are shown in the Figure 11.



Figure 11

5.3.2 Vertical Installation

1) Install the mounting foot

First, install the mounting foot on the wall.(So as not to falsify the measured values.)

Alternatively, you can also use the four M5 x 49mm screws and M5 nuts supplied to attach the mounting base to an existing pipe together with the rear mounting plate, or fix it on the wall with four M4 universal screw.

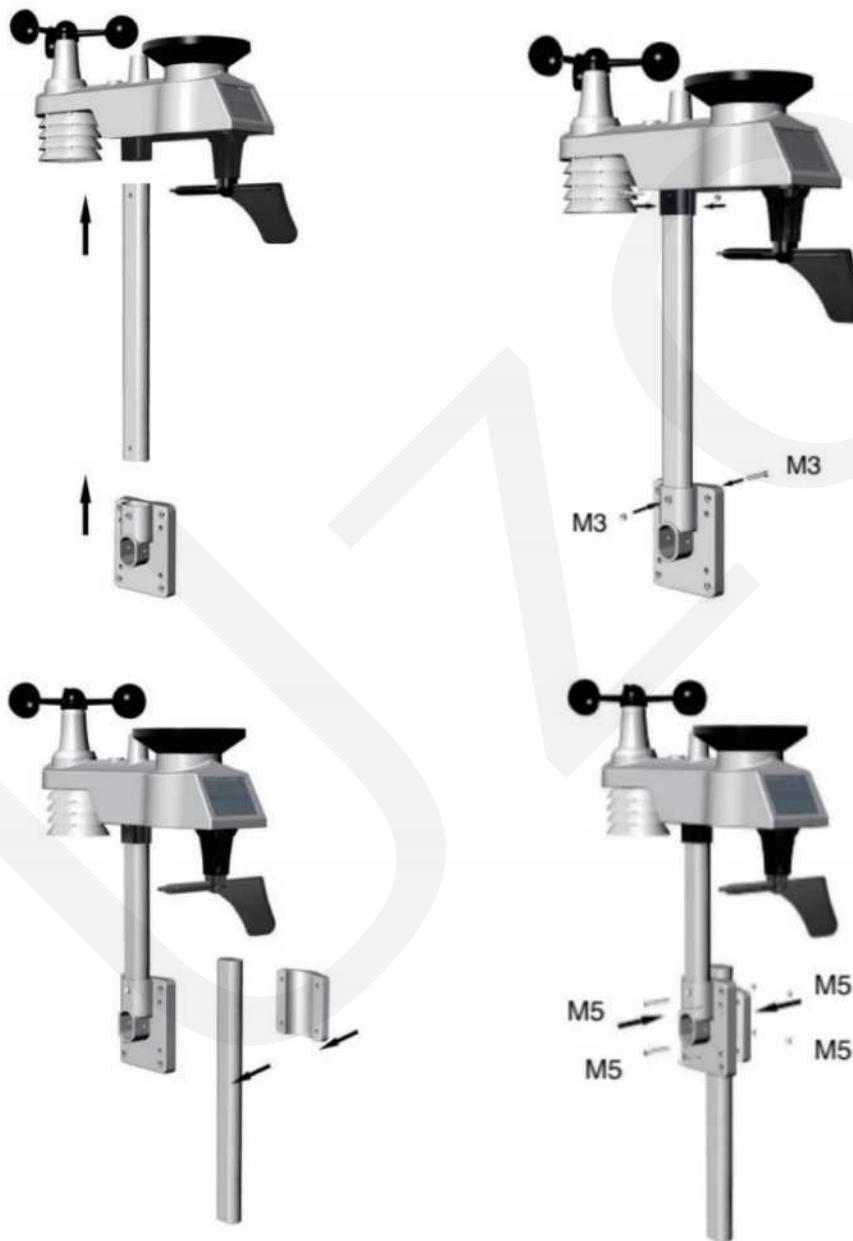
2) Install the mounting pole

Then insert the mounting pole into the corresponding receptacle on the mounting bracket. Screw both with a screw M3 x 29mm and a matching M3 nut.

3) Install the outdoor sensor

Finally, plug the outdoor sensor onto the other end of the mounting pole and screw it accordingly with an M3 x 29mm screw and an M3 nut.

These 3 steps are shown in the Figure 12.



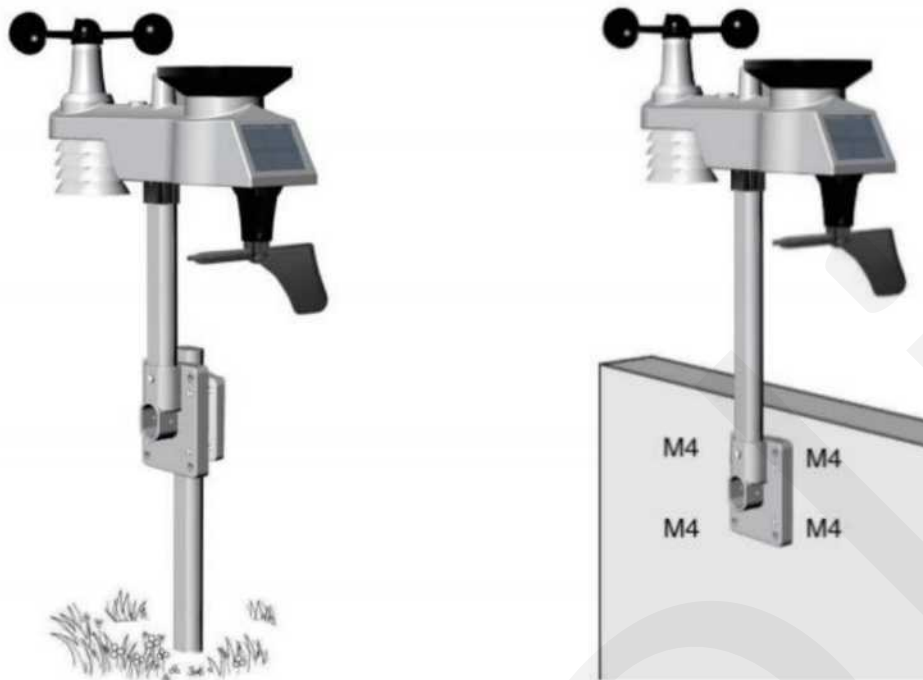



Figure 12


6. Low Battery Icon

A low battery indicator icon is shown in the display window for Integrated outdoor transmitter. When the low battery icon appears (the battery voltage is lower than 3.6V), 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.

7. Console Operation

 **Note:** The console has five keys for easy operation: **MIN/MAX/-** key, **ALARM** key, **SET/MODE** key, **CHANNEL/+** and **SNOOZE** key.

7.1 Quick Display Mode

 **Note:** To exit the Quick Display Mode at any time, press the **SNOOZE** key of the display console.

While in Normal Mode, press (do not hold) the **SET/MODE** key to enter the Quick Display Mode as follows:

- once for time, time/week and second
- Twice for rainfall
- three for outdoor dew point temperature
- four for wind average
- Five for pressure

(1) Time, Time/Week and Second. Press the **CHANNEL/+** or **MIN/MAX/-** key to toggle between time, time/week and second.

(2) Rainfall. Press the **CHANNEL/+** or **MIN/MAX/-** key to toggle between rate, 24h, week, month and total.

To clear the total rain, press the **CHANNEL/+** or **MIN/MAX/-** button until total rain is displayed. The total rain will flash. Press and hold the **SET** button for five seconds until total rain reads 0.0.


(3) Outdoor Dew Point. Press the **CHANNEL/+** or **MIN/MAX/-** key to toggle between AT (Apparent Temperature) and dew point.


(4) Wind Average. Press the **CHANNEL/+** or **MIN/MAX/-** key to toggle between current, 2mins and 10 minutes.

(5) Absolute Pressure and Relative Pressure. Press the **CHANNEL/+** or **MIN/MAX/-** key to toggle between absolute pressure and relative pressure.

7.2 Set (Program) Mode

While in Normal Mode, press **and hold** the **SET(MODE)** key for at least three seconds to enter the Set Mode. The first setting will begin flashing. You can press the **SET(MODE)** 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** button of the display console.

(1) Time SYNC(default:ON). Press the **SET** key again to set the network time sync. Press the **[+]** key or **[-]** key to switch between SYNC time ON and SYNC time OFF of measure.

(2) 12/24 Hour Format (default: 24h): Press the **SET(MODE)** 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.

(3) Change Hour: Press the **SET(MODE)** key again to set the hour. Press the **[+]** key or **[-]**key to adjust the hour up or down. Note the PM icon is present during afternoon hours.

(4) Change Minute: Press the **SET(MODE)** key again to set the minute. Press the **[+]** key or **[-]** key to adjust the minute up or down.

(5) Date Format (default: MM-DD): Press the **SET(MODE)** key again to enter the day/month format mode. Press the **[+]** key to switch between MM-DD, DD-MM.

(6) Change Month: Press the **SET(MODE)** key again to set the calendar month. Press the **[+]** key or **[-]** key to adjust the calendar month.

(7) Change Day: Press the **SET(MODE)** key again to set the calendar day. Press the **[+]** key or **[-]** key to adjust the calendar day.

(8) Change Year: Press the **SET(MODE)** key again to set the calendar year. Press the **[+]** key or **[-]** key to adjust the calendar year.

(9) Max/Min Clearing (default: ON): Press the **SET(MODE)** 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.

(10) Temperature Units of Measure (default: °C): Press the **SET(MODE)** 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.

(11) Wind Speed Units of Measure (default: m/s): Press the **SET(MODE)** 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, ft/s or bft.

(12) Rainfall Units of Measure (default: mm): Press the **SET(MODE)** key again to change the Rainfall units of measure. Press **[+]** key or **[-]** key to toggle the rainfall units between mm and inch.

(13) Barometric Pressure Display Units (default: hPa): Press the **SET(MODE)** key again to change the pressure units of measure. Press the **[+]** key or **[-]** key to toggle the pressure units between mmHg, inHg or hPa.

(14) Pressure Threshold Setting (default level 2): Press the **SET(MODE)** key again to change the pressure threshold. Press the **[+]** key or **[-]** key to change pressure threshold 2 mbar/hour to 4 mbar/hour. (For detailed information of this part please refer to 13.4)

(15) Weather Icons Setting (default: partly cloudy): Press the **SET(MODE)** key again to change the initial weather icon. Press the **[+]** key or **[-]** key to select the initial weather icon of Sunny, Cloudy, Partly Cloudy or Rainy. (For detailed information of this part please refer to 13.1 and 13.2)

(16) Sunlight Display Units (default: W/m²): Press the **SET(MODE)** key again to change the sunlight units of measure. Press the **[+]** key or **[-]** key to toggle the sunlight units between, **W/m²**, **fc** or lux.

(17) Location division. (default: Northern Hemisphere): Press the **SET(MODE)** key again to change the location division. Press the **[+]** key or **[-]** key to toggle the

sunlight units Northern Hemisphere (NOR) or Southern Hemisphere (SOU). (refer to 5.0 Final Installation of Integrated Outdoor Transmitter)

7.3 Reset Min/Max record

In normal mode, press (do not hold) the **MIN/MAX/-** key, the **MAX** icon will be displayed in date area.

Press the **SET/MODE** key to view max values of rainfall (rate, 24h, week or month), pressure (ABS or REL), outdoor temperature and humidity (AT or dew point) and indoor temperature and humidity (temp or dew point).

Press the **MIN/MAX/-** key for three seconds to clear all max values. (the rainfall, wind speed, wind gust, pressure, temperature and humidity maximum values. The maximum values will now display the current values).

Press the **MIN/MAX/-** key again (do not hold), the **MIN** icon will be displayed.

Press the **SET/MODE** key to view min values of pressure (ABS or REL), outdoor temperature/humidity (AT or dew point), and indoor temperature/humidity (temp or dew point).

Press the **MIN/MAX/-** key for three seconds to clear all min values. (the pressure, temperature and humidity minimum values. The minimum values will now display the current values).

Press the **SNOOZE** key to exit the min/max checking and cleaning mode, return to normal display mode.

7.4 Snooze Mode

If the alarm sounds, and you wish to silence the alarm, press the **SNOOZE** key, the backlight will turn on. The alarm icon will continue to flash and the alarm will silence for five minutes. Press any key (**MIN/MAX/+**, **SET/MODE**, **ALARM**, **CHANNEL/+**) to permanently exit the **Snooze** mode.

7.5 Back light Mode

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


The backlight operation is different when operating on batteries to save power.

7.6 Adjustable Brightness of Backlight

There are 3 levels of brightness of backlight. When the backlight is on press **SNOOZE** key to switch between the 3 levels.

When backlight is off, press and hold the **SNOOZE** key for two seconds, the backlight will turn on permanently, and **BL ON** icon will be displayed for three seconds in the date area.

To turn off the backlight at any time press and hold the **SNOOZE** key for two seconds. **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. Alarm Mode

The FT0310 includes the following alarms:

- Time (There are two alarms for time. Alarm 1 and Alarm 2)
- Outdoor Temperature
- Outdoor Humidity
- Outdoor AT(Apparent Temperature)
- Outdoor Dew Point
- Outdoor Feels Like Temperature
- Outdoor Dew Point
- Wind Gust
- Wind Average
- Rate Rainfall
- 24 Hour Rainfall
- Absolute Pressure
- Relative Pressure
- Indoor Temperature
- Indoor Humidity
- Indoor Dew Point
- UV Index
- Sunlight

8.1 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.

8.2 Viewing the High and Low Alarms

To view the current alarm settings, press the **ALARM** key to enter the alarm mode. HI AL 1 will be displayed in the date area. At the same time Alarm 1 time and HI alarm parameters of indoor temperature/humidity, outdoor temperature/humidity, rain rate, AT, feels like, wind gust, wind average, absolute pressure, UV index, Sunlight are displayed. Press **SET/MODE** key to view Alarm 2 time and HI alarm parameters of indoor dew point, 24h rainfall, outdoor dew point, and relative pressure.

Press **ALARM** key again to view the LOW alarms along with the alarm clock time the same way HI alarms.

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

8.3 Setting the Alarms

Press **ALARM** key to enter the alarm mode.

Press and hold the **SET/MODE** key for three seconds. The first alarm parameter will begin flashing (alarm hour).

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


To adjust the alarm parameter, press the [+] or [-] key to increase or decrease the alarm settings, or press and hold the [+] or [-] key for three seconds to increase or decrease the alarm settings rapidly.


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

Press the **SNOOZE** key once 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(alarm 1) | 16. Wind Average high alarm |
| 2. Alarm minute(alarm 1) | 17. Rainfall (RATE) high alarm |
| 3. Alarm hour(alarm 2) | 18. Rainfall (24h) high alarm |
| 4. Alarm minute(alarm 2) | 19. Absolute pressure high alarm |
| 5. Outdoor temperature high alarm | 20. Absolute pressure low alarm |
| 6. Outdoor temperature low alarm | 21. Relative pressure high alarm |
| 7. Outdoor humidity high alarm | 22. Relative pressure low alarm |
| 8. Outdoor humidity low alarm | 23. Indoor temperature high alarm |
| 9. Outdoor AT high alarm | 24. Indoor temperature low alarm |
| 10. Outdoor AT low alarm | 25. Indoor humidity high alarm |
| 11. Outdoor dew point high alarm | 26. Indoor humidity low alarm |
| 12. Outdoor dew point low alarm | 27. Indoor dew point high alarm |
| 13. Outdoor feels like high alarm | 28. Indoor dew point low alarm |
| 14. Outdoor feels like low alarm | 29. UV Index high alarm |
| 15. Wind Gust high alarm | 30. Sunlight high alarm |

 **Note:** To prevent repetitive temperature alarming, there is a 0.5 °C tolerance band. For example, if you set the high alarm to 26.7 °C and silence the alarm, the alarm icon will continue to flash until the temperature falls below 26.2°C, at which point, the alarm will reset and must increase above 26.7 °C to activate again.

 **Note:** To prevent repetitive alarming of humidity, there is a 4% tolerance band in humidity alarm. For example, if you set the high alarm to 60% and silence the

alarm, the alarm icon will continue to flash until the humidity falls below 56%, at which point, the alarm will reset and must increase above 60% to activate again.

8.4 Alarm and Command Key Beeper ON/OFF Mode

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

In normal mode, press and hold the **ALARM** key for three seconds to toggle the beeper on or off (depending on the current setting).


The **BZ ON** (beeper on) or **BZ 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 **BZ ON** or **BZ OFF** command.


9. WiFi Connection Status

When the console successfully connects to your Wi-Fi router, the Wi-Fi signal icon




will appear on the LCD display (behind the Outdoor humidity). 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 Wi-Fi.*

 **Note:** Please make sure the console is plugged into AC power. The console will not connect to WiFi when powered by batteries only.


10. 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.*

11. WiFi Connection and Weather Servers

11.1 Register with WeatherCloud.net

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

Visit: <https://weathercloud.net/> and input a Username, Email and Password **(It is your Login password of the website It, not your email password. So no privacy will be exposed).**

11.1.1 Sign Up

1) Click Sign up as below.

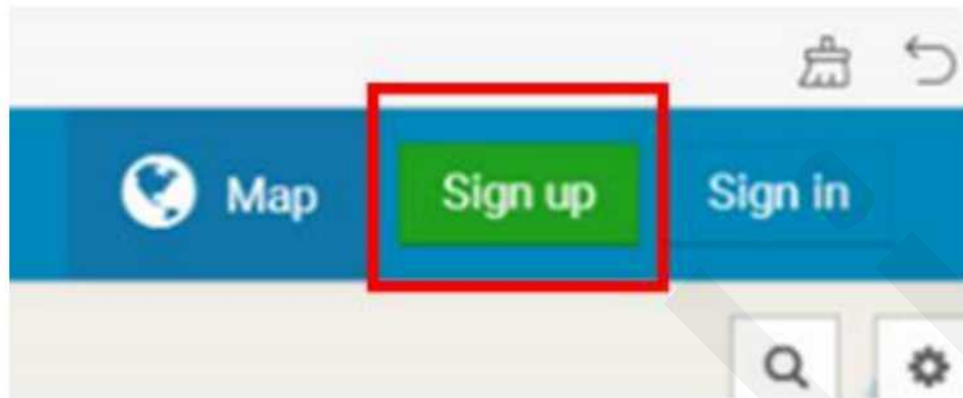


Figure 13

2) As shown below, enter a Username, Email and Password then Click Sign up.

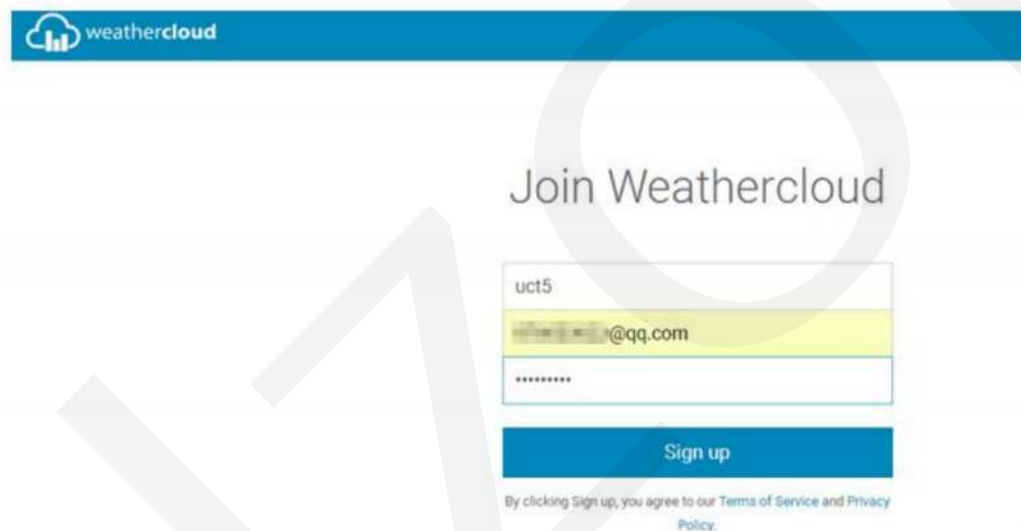


Figure 14

3) As shown below, an email will be received in your registered mailbox .

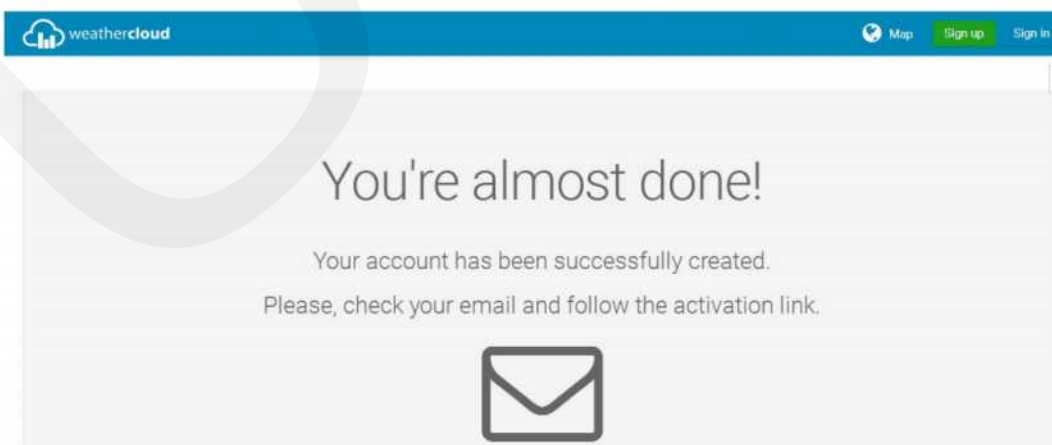


Figure 15

4) As shown below, open your mail and log in to the Web address in the mail.

Hello 

Thanks for registering and welcome to Weathercloud!

To activate your new account please click on the link below or copy and paste the URL into your browser:

<https://app.weathercloud.net/page/activate/key/Lyfkalj48ZJwAvPMzys7X0F3a5RuXwF7LG4xhhu6Hh6LvhzNgKI2i1aYUjmNm1lv>

Figure 16

5) As shown below, click “here” to enter the homepage of the weathercloud website.

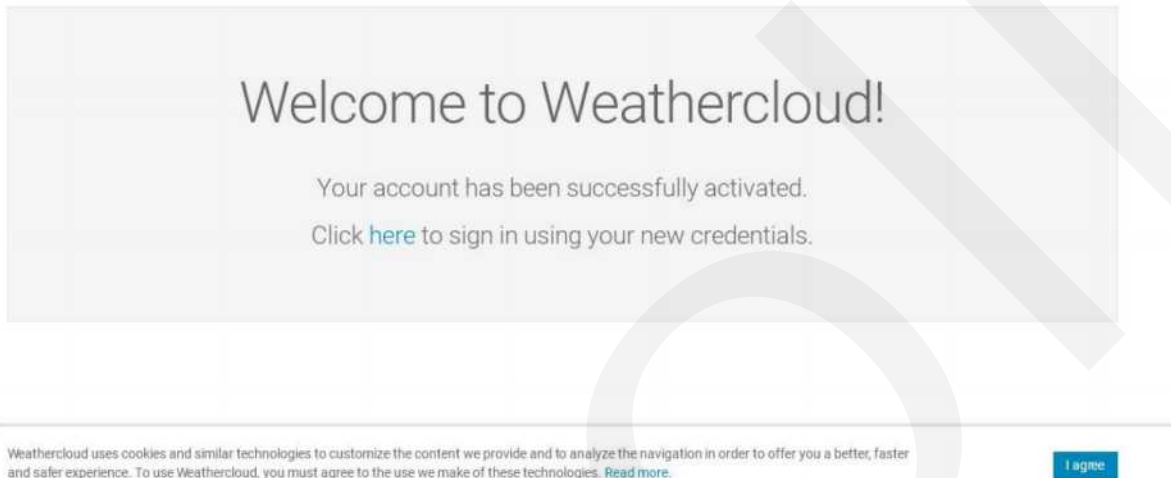
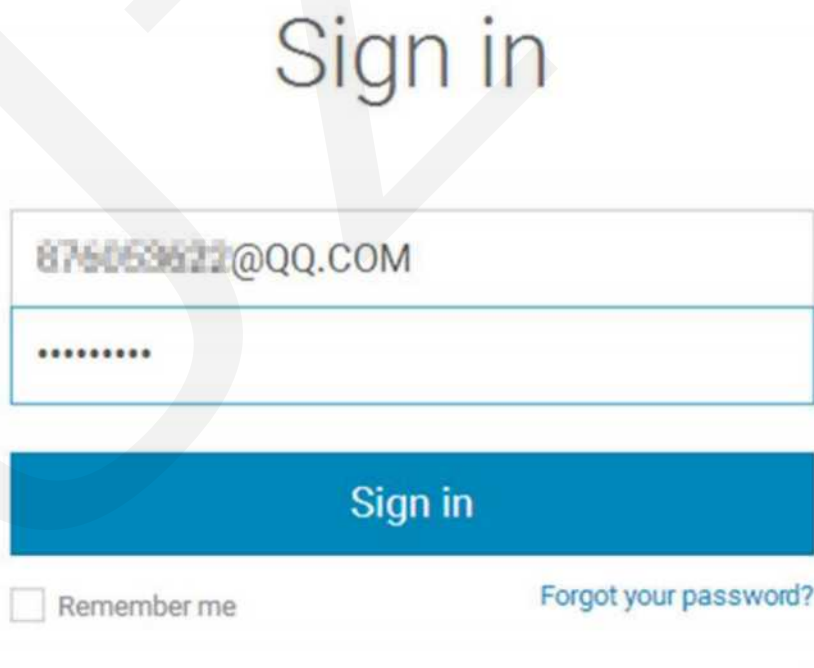


Figure 17

6) As shown below, enter the email address and password you just registered to enter the weathercloud website.

A screenshot of a sign-in page. At the top, it says "Sign in" in a large, dark font. Below that, there are two input fields: the first contains the email address "876053622@QQ.COM" and the second contains a password represented by dots. Below the input fields is a large blue button labeled "Sign in". At the bottom, there is a checkbox labeled "Remember me" and a link labeled "Forgot your password?".

Not a member yet? [Sign up for free.](#)

Figure 18

11.1.2 Add a weather station device (it may take a few minutes).

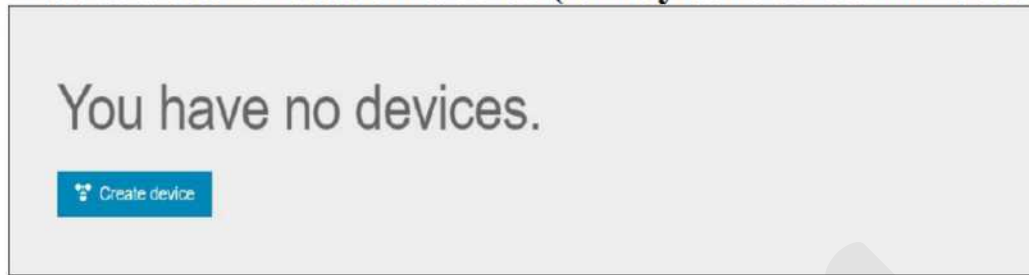


Figure 19

- 1) After sign up you will be prompted to add a device/ Select “Create device” and enter your station’s information:
Blanks with red * must be filled in.

A screenshot of a form for adding a weather station device. The form is divided into two columns. The left column contains: "Name *" with the value "FT0300", "Model *" with a dropdown menu showing "Ultimeter 100 Series", "Link type *" with a dropdown menu showing "Weather Display", "Website" with the value "www.example.com", and "Description" with a large text area. The right column contains: "Country *" with a dropdown menu showing "Hong Kong", "State / Province *" with a dropdown menu showing "Hong Kong", "City *" with a dropdown menu showing "Hong Kong", "Time zone *" with a dropdown menu showing "(UTC+08:00) Hong Kong", a "Get coordinates" button, "Latitude *" with the value "23.241346102386135", "Longitude *" with the value "118.125", and "Elevation" with the value "0.0" and a unit "m".

Figure 20

 **Note:** You can select any Model number and Link type in the above blanks.

- 2) As shown below, click Get coordinates to identify your location of on the map, then click Done to confirm.

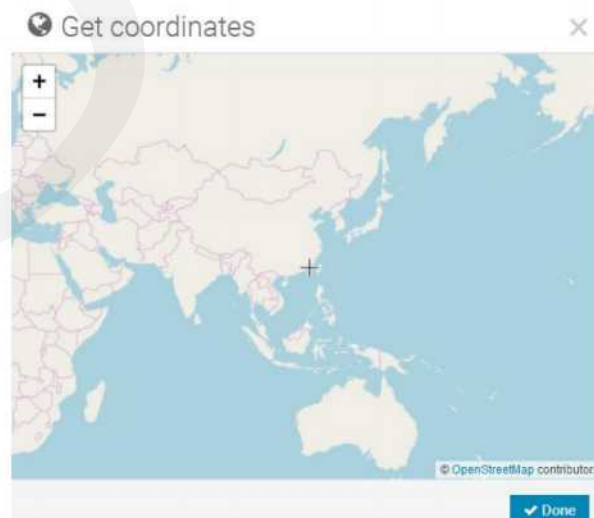


Figure 21

3) As shown below, click Create.

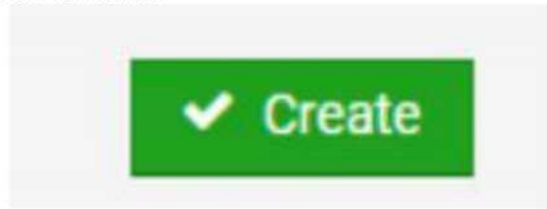


Figure 22

4) As shown below, after registering successfully, please record the Weathercloud ID and Key information for later use.

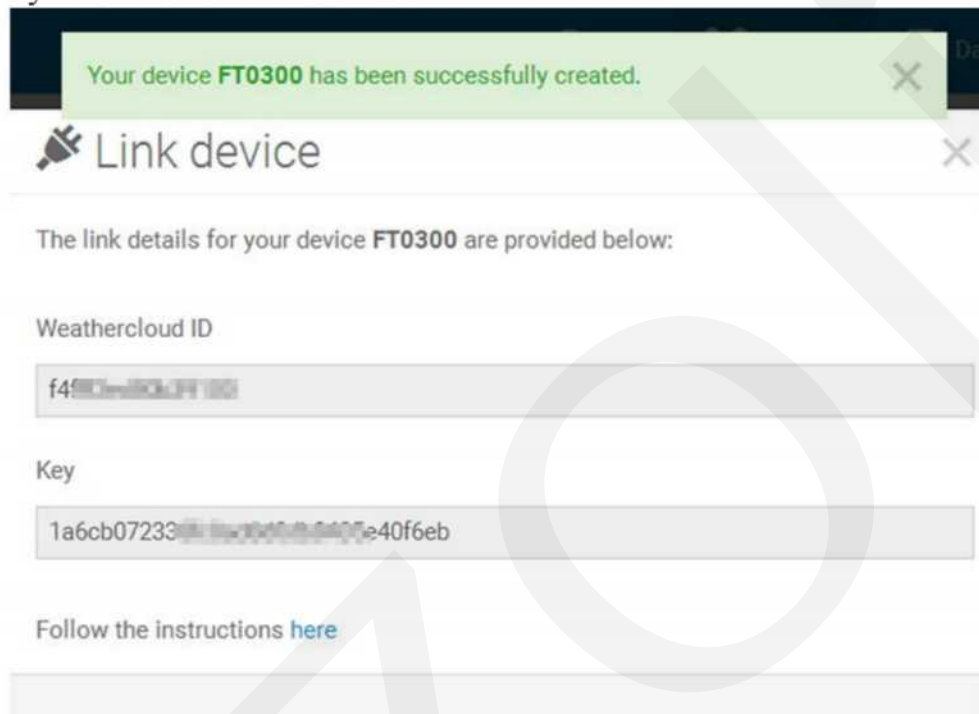


Figure 23

11.2 Register at Wunderground.com (Weather Underground)

 **Note:** The Weather Underground website is subject to change.

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

1) as shown below, Click Join

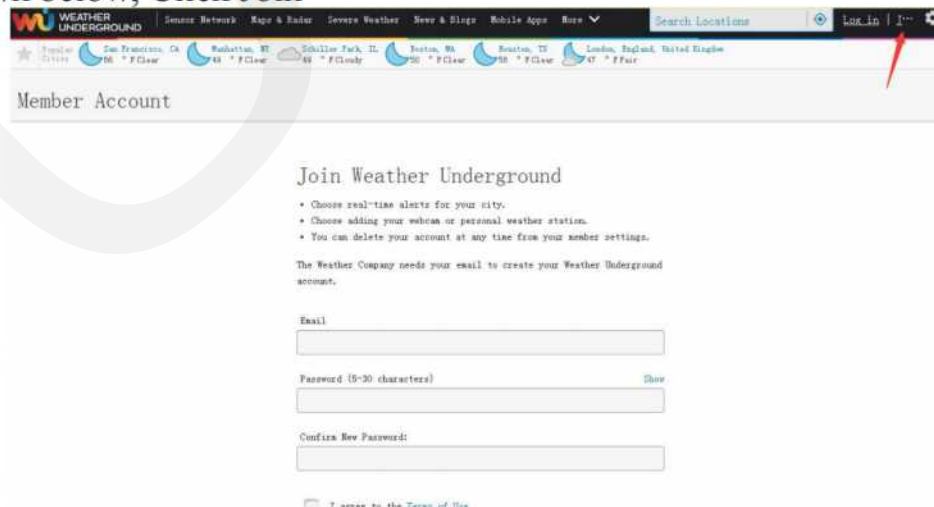
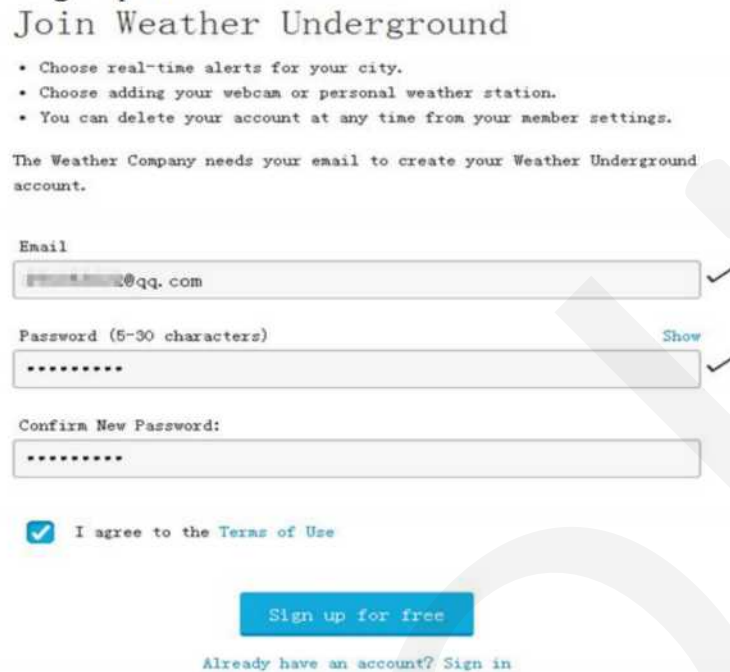


Figure 24

2) As shown below, input a Username, Email and Password (**It is your Login password of the website, not your email password. So no privacy will be exposed**). Click “Sign up for free”.



Join Weather Underground

- Choose real-time alerts for your city.
- Choose adding your webcam or personal weather station.
- You can delete your account at any time from your member settings.

The Weather Company needs your email to create your Weather Underground account.

Email
[input field with text]@qq.com ✓

Password (6-30 characters) [Show](#)
[input field with dots] ✓

Confirm New Password:
[input field with dots]

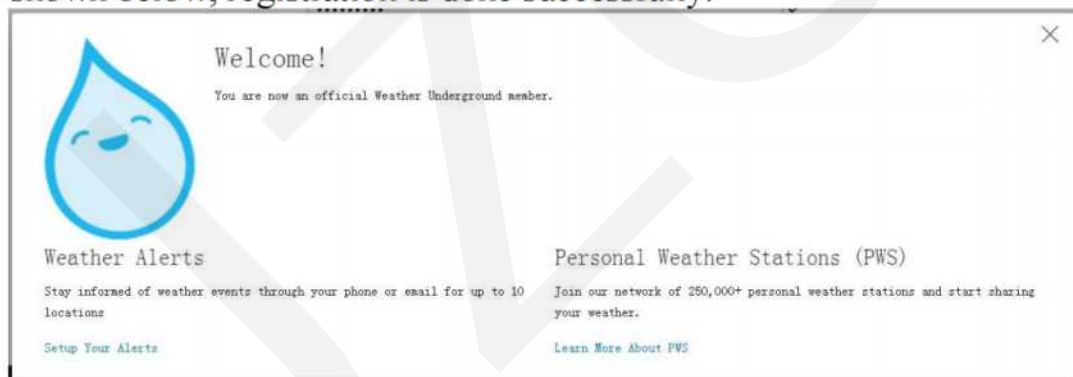
☒ I agree to the [Terms of Use](#)

[Sign up for free](#)

[Already have an account? Sign in](#)


Figure 25

3) As shown below, registration is done successfully.



Welcome! ×

You are now an official Weather Underground member.



Weather Alerts

Stay informed of weather events through your phone or email for up to 10 locations

[Setup Your Alerts](#)

Personal Weather Stations (PWS)

Join our network of 250,000+ personal weather stations and start sharing your weather.

[Learn More About PWS](#)

Figure 26

4) As shown below, click Log in and enter the email address and password you just registered.



Figure 27

5) As shown in the below, click My Profile. Then enter Member Settings.

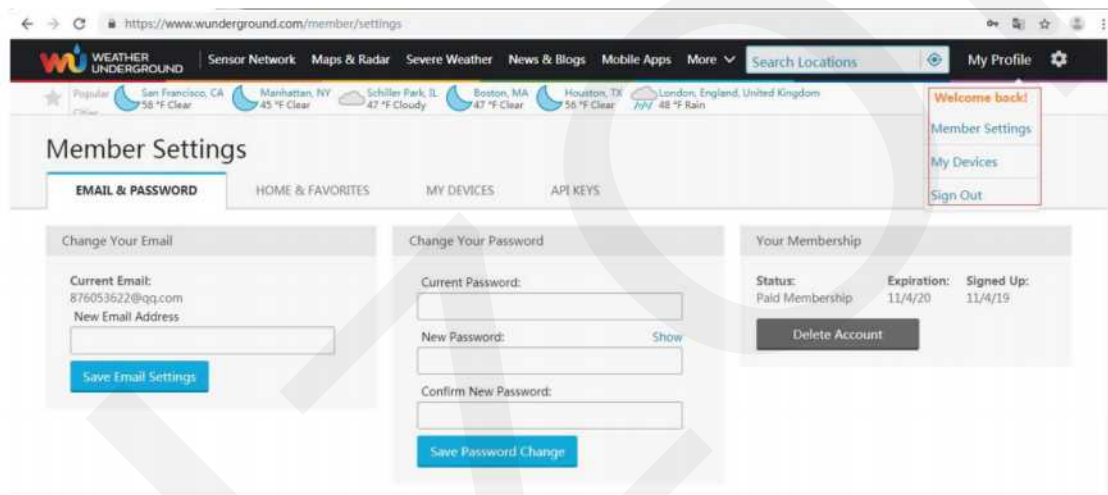


Figure 28

6) As shown below, click Update home location.

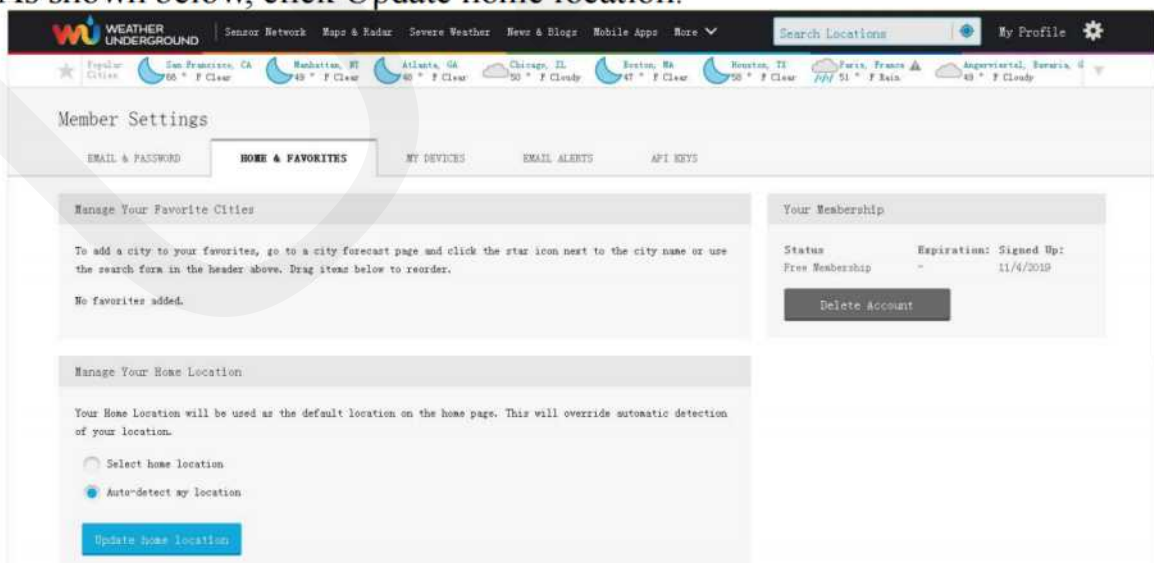


Figure 29

7) As shown below, you will then be prompted to add a device/ Select “Add New Device

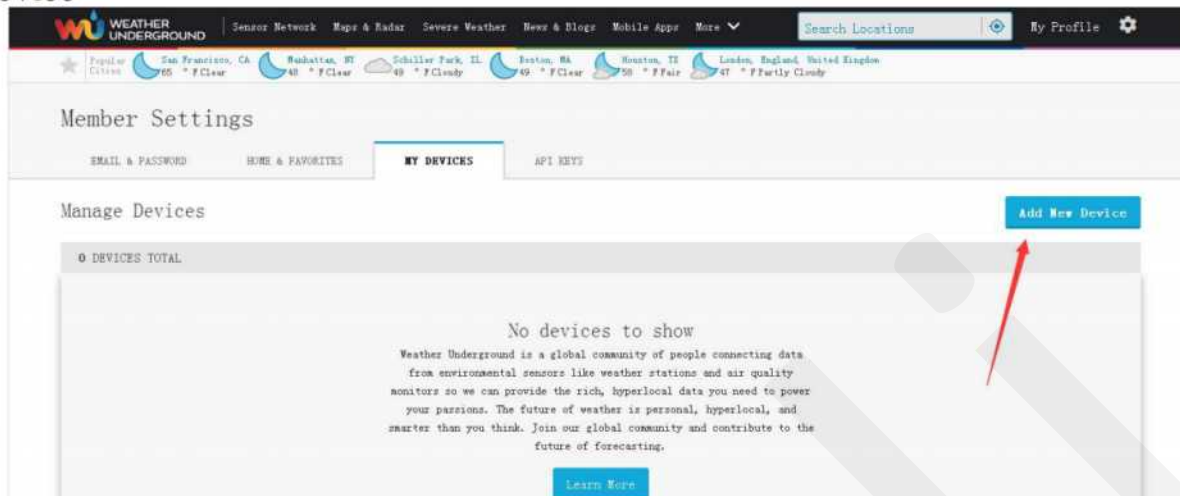


Figure 30

8) As shown below, click Personal Weather Station.

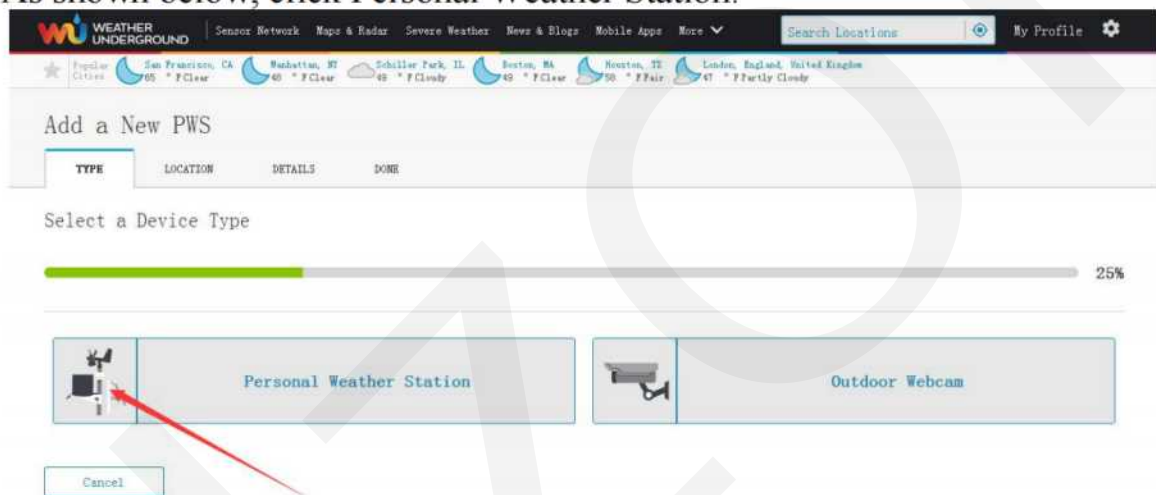
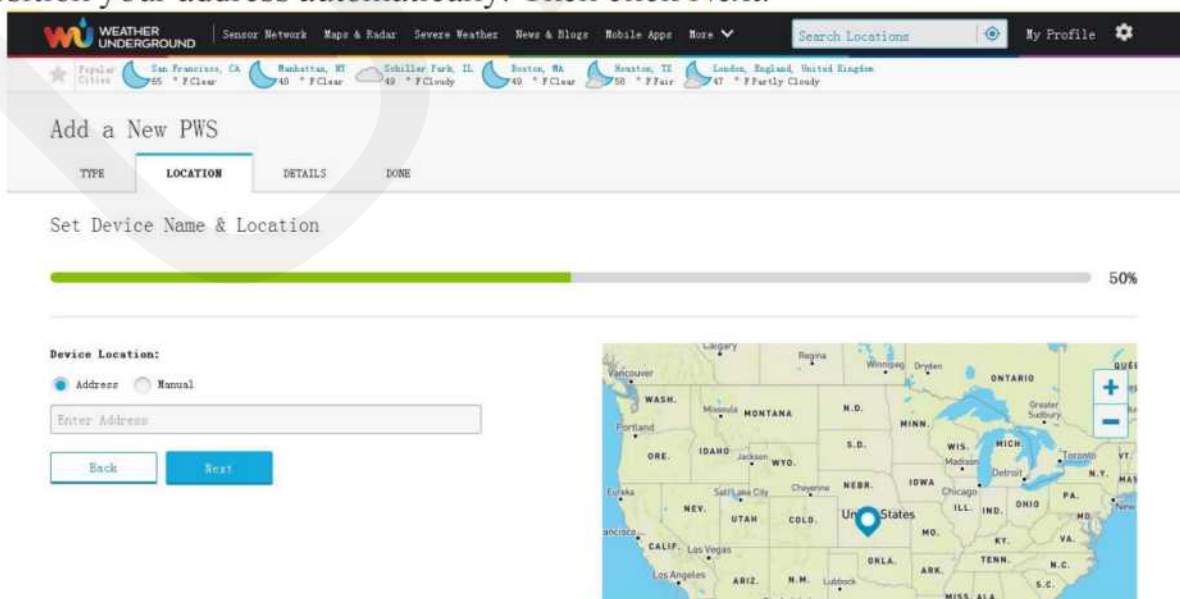


Figure 31

9) As shown below, select Address by inputting an address or select Manual to position your address automatically. Then click Next:



PWS Management | Weather | X

http://www.wunderground.com/member/devices/new

Add a New PWS

TYPE LOCATION DETAILS DONE

Set Device Name & Location

50%

Device Location:

☐ Address ☒ Manual

31.125,121.382

Your Location has been verified and added!

Elevation: 36.08924 ft
Lat, Lon: 31.125, 121.382
Neighborhood: Minhang District
Time Zone: Asia/Shanghai

Figure 32

10) As shown below, you will then be prompted to add a device/ Select “Create device”, then click I Accept and Next:
Blanks with red (Required) must be filled in.

Note: You can select any wifi weather station model in Device Hardware blank.

Name: (Required)

FT0300

Elevation: (Required)

26,24672

Device Hardware: (Required)

Select device hardware

- Direct device hardware
- Airmar 150w Ultrasonic
- Airmar 300w Ultrasonic
- AcuRite 3-in-1 Weather Station with Wi-Fi
- AcuRite 5-in-1 Weather Station with Wi-Fi
- AcuRite 5-in-1 Weather Station with AcuRite Access
- AcuRite Atlas Weather Station with AcuRite Access
- AcuRite Basic Weather Station with Wi-Fi
- AcuRite Basic Weather Station with AcuRite Access
- AcuRite Pro Weather Center
- Ambient Weather WS-0262A
- Ambient Weather WS-0265
- Ambient Weather WS-1000 (Wireless)**
- Ambient Weather WS-1001-WiFi (Wireless)
- Ambient Weather WS-1002-WiFi (Wireless)
- Ambient Weather WS-1200-IP (Wireless)
- Ambient Weather WS-1400-IP (Wireless)
- Ambient Weather WS-2000
- Ambient Weather WS-2090 (Wireless)
- Ambient Weather WS-2902

Surface Type:

Select device surface

Associate Webcam:

Select WebCams

Height Above Ground:

ft. Above Ground

You Make Our Forecasts More Accurate, We Respect Your Privacy

Contribute to the Weather Underground community by sharing some information about yourself and your sensor. We use this information to manage your account and to improve the experience from the Weather Underground community. We may also share certain data for commercial purposes, such as your sensor location.

[Learn more about how we take your privacy seriously](#)

(Required)

☒ I Accept ☐ I Deny

Email Preferences:

☒ I would like to receive PWS notifications.

Figure 33

11) As shown below, after registering the host successfully, please record Station ID and Station Key information for later use.



Figure 34

12) As shown below, registration is done successfully.

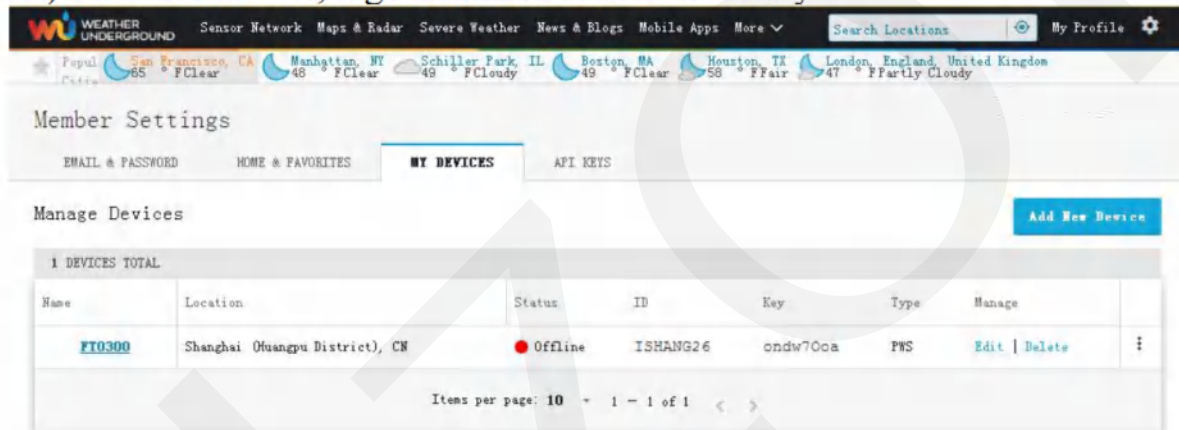





Figure 35

11.3 WiFi Setup(Connect your Device to the Console's WiFi)

When you first power up (AC adapter) the console, or press and hold the MIN/MAX/- button for three seconds in normal mode, the console icon(behind the Outdoor humidity)  will flash to signify that it has entered WAP (wireless access point) mode, and is ready to enter for WIFI settings.

You can use your desktop, laptop, tablet, or smart phone to connect to the console's WiFi. The console's network name begins with WeatherHome, followed by a unique code.

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

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

11.3.1 Connect Your PC to the WiFi of the Display Console

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 39 (your WiFi network name may be slightly different, but will always begin with WeatherHome -).



Figure 36

11.3.2 Connect Your Mac to the WiFi of the Display Console

Choose the Settings icon  and  Network . Connect to the WeatherHome----- WiFi network, as shown in Figure 37 (your WiFi network name may be slightly different, but will always begin with WeatherHome-----).



Figure 37

11.3.3 Connect Your iPhone or iPad to the WiFi of the Display Console



Choose the Settings icon  and Wi-Fi. Connect to the WeatherHome----- WiFi network, as shown in Figure 38 (your WiFi network name may be slightly different, but will always begin with WeatherHome-----).



Figure 38

11.3.4 Connect Your Android Smartphone to the WiFi of the Display Console

From the Apps icon, choose the Settings icon  and Wi-Fi. Connect to the WeatherHome----- WiFi network, as shown in Figure 39 (your WiFi network name may be slightly different, but will always begin with WeatherHome-----).

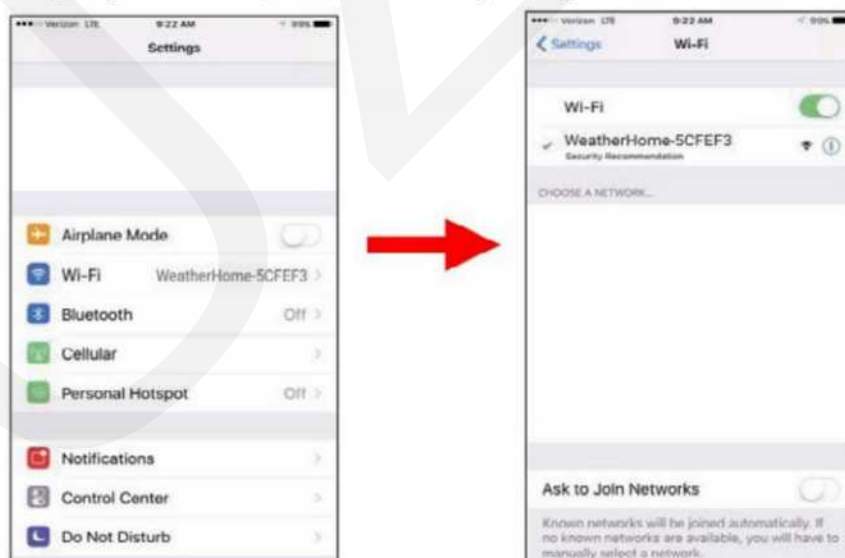



Figure 39

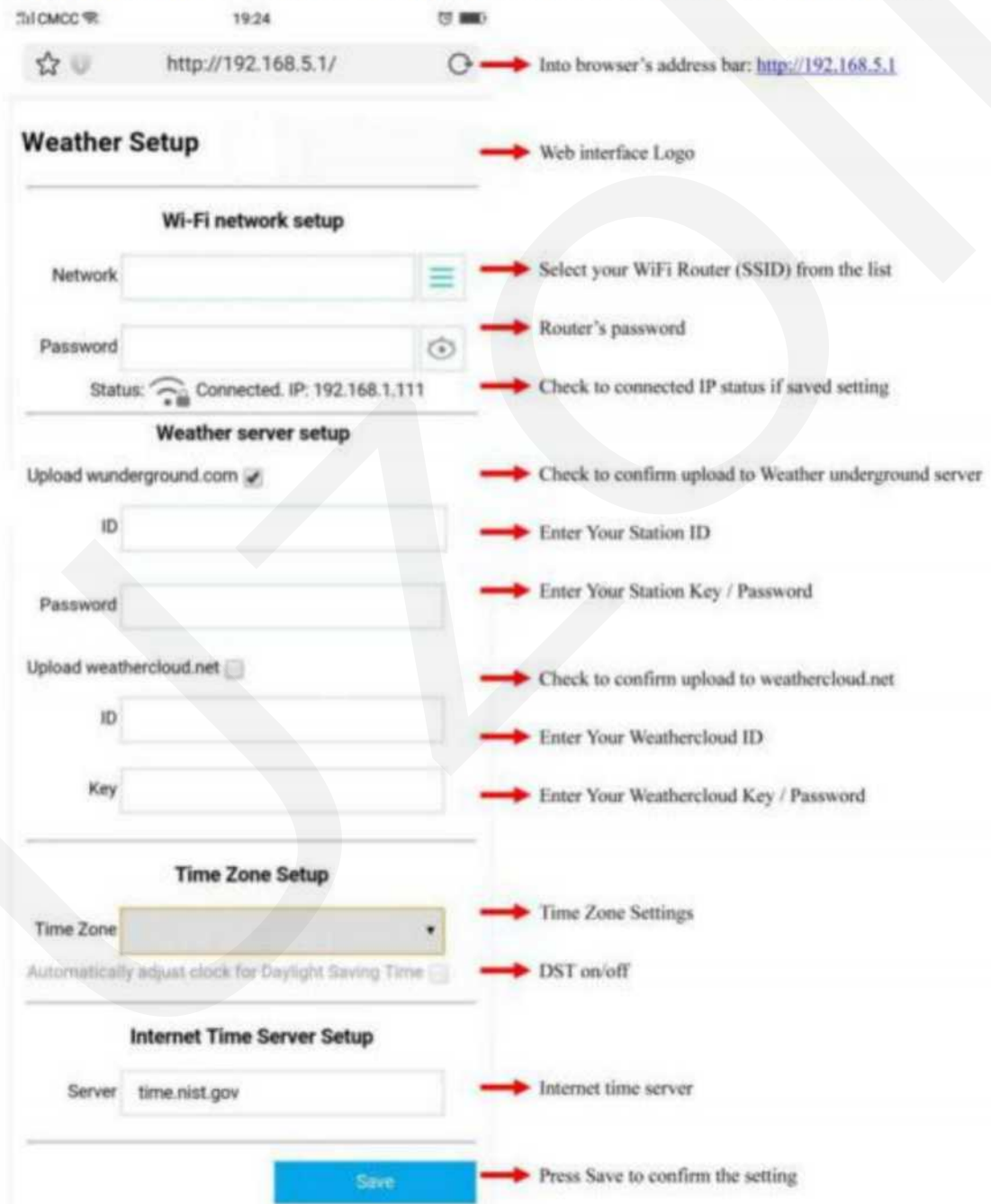
11.3.5 Open the Configuration Web Page of the Display Console

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://, or http://192.168.5.1 not 192.168.5.1

11.3.6 Display Console Network Settings and Weather Server Setup

Input the following information into the web interface (Figure 40). Make sure all of the information is inputted before selecting Save. If you choose not to upload Wunderground.com or weathercloud.net, leave the checkboxes unchecked.




The screenshot shows the 'Weather Setup' web interface. At the top, the browser address bar displays 'http://192.168.5.1/'. The interface is divided into several sections: 'Wi-Fi network setup', 'Weather server setup', 'Time Zone Setup', and 'Internet Time Server Setup'. Each section contains input fields and checkboxes. Red arrows point to specific elements with labels: 'Web interface Logo' points to the top right; 'Select your WiFi Router (SSID) from the list' points to the Network dropdown; 'Router's password' points to the Password field; 'Check to connected IP status if saved setting' points to the status bar; 'Check to confirm upload to Weather underground server' points to the 'Upload wunderground.com' checkbox; 'Enter Your Station ID' points to the ID field; 'Enter Your Station Key / Password' points to the Password field; 'Check to confirm upload to weathercloud.net' points to the 'Upload weathercloud.net' checkbox; 'Enter Your Weathercloud ID' points to the ID field; 'Enter Your Weathercloud Key / Password' points to the Key field; 'Time Zone Settings' points to the Time Zone dropdown; 'DST on/off' points to the 'Automatically adjust clock for Daylight Saving Time' checkbox; 'Internet time server' points to the Server field; and 'Press Save to confirm the setting' points to the Save button.

Weather Setup

Wi-Fi network setup

Network: [Dropdown Menu] → Select your WiFi Router (SSID) from the list

Password: [Text Field] → Router's password

Status:  Connected. IP: 192.168.1.111 → Check to connected IP status if saved setting

Weather server setup

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

ID: [Text Field] → Enter Your Station ID

Password: [Text Field] → Enter Your Station Key / Password

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

ID: [Text Field] → Enter Your Weathercloud ID

Key: [Text Field] → Enter Your Weathercloud Key / Password

Time Zone Setup

Time Zone: [Dropdown Menu] → Time Zone Settings


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

Internet Time Server Setup

Server: [Text Field] → Internet time server

Save → Press Save to confirm the setting

Figure 40

 **Note:** WLAN networks with hidden SSIDs cannot be recognized and selected for the “Network” entry. If the SSID of your WLAN is hidden, you then have to enter it manually in the “Network” field.

11.3.7 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.

Hours from GMT	Time Zone	Cities
-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

11.3.8 Check and Save Your Web Interface Information

If all of the information you entered is correct press save to confirm(Figure 41). If it does not, check your web interface information again, click the button labeled “SAVE ” to confirm.








Figure 41

When the settings have been saved, disconnect your device from the display unit’s WLAN again by clicking the “Disconnect” button, and then reconnect your device to the WLAN of your router. (Figure 42)



Figure 42

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 any website of weather servers, the data signal icon  will appear on the LCD display (behind the Outdoor humidity). If the data signal icon  is flashing, the console is currently uploading to the server. If the icon  disappears, the console is not connected to the weather server for more than 30 minutes.

11.3.9 Viewing Your Data on Weather Underground

Visit: <http://www.wunderground.com/personal-weather-station/dashboard?ID=STATIONID> where STATIONID is your personal station ID (example, KCALOSAN782).

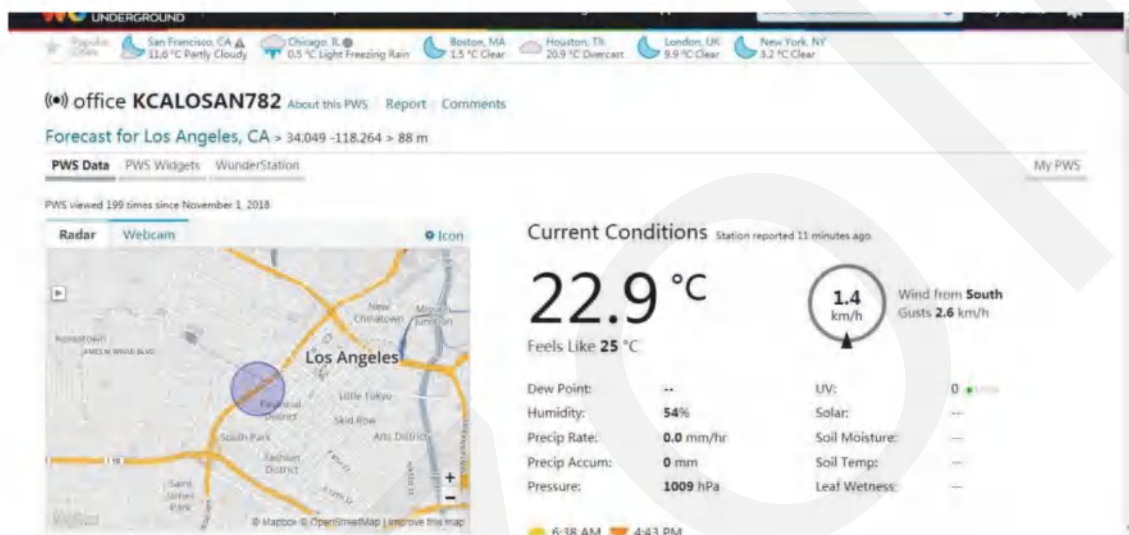




Figure 43

 **Note:** Wunderground.com does not support multiple sensor channels.


 **Note:** The current temperature and humidity data is the Integrated Outdoor Transmitter.

11.3.10. View your data on Weathercloud.

Visit the website www.weathercloud.net and sign in with your e-mail address and password. Then you will go to the weather data of your weather station automatically.

12. Upgrade firmware

You may get the latest firmware of the console as below:

(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(behind the Outdoor humidity))  will flash to signify that it has entered WAP (wireless

access point) mode, and is ready to enter for WIFI settings.

(2) Use your smart phone, tablet, or computer to connect to the console through WiFi(reference the example 11.3.1- 4 of **WiFi Setting**).

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



Figure 44

(4) Once connection succeeds, it will jump to “Upload Setting” screen automatically.



Figure 45

(5) Press Select File key to select the upgraded firmware as Figure 46.

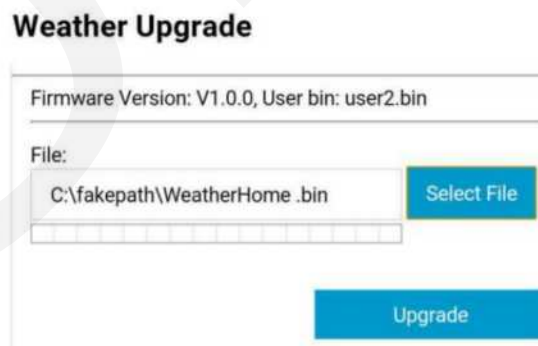


Figure 46

(6) If update successfully when press Upgrade key. Then you will see.



Figure 47

Note: In this upgrade only Wifi firmware is updated. The console does not reset.

(7) Once the upgrade is completed, the console will automatically exit WAP mode.

13. Other Console Features



The following section describes additional features and display icons.



13.1 Weather Forecasting

Note: The weather forecast or pressure tendency is based on the rate of change of barometric pressure. In general, when the pressure increases, the weather improves (sunny to partly cloudy) and when the pressure decreases, the weather degrades (cloudy to rain).

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.

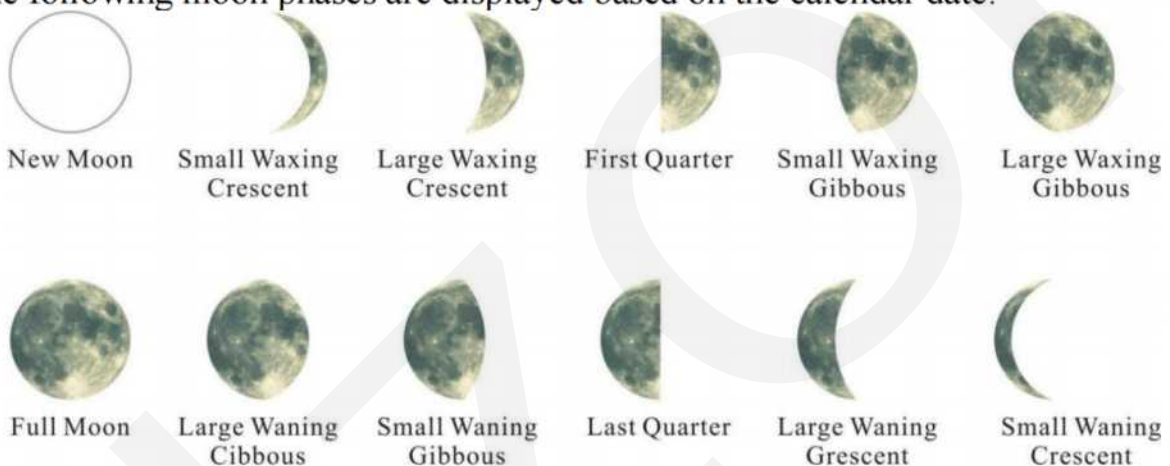
13.2 Weather Icons

Condition	Icon	Description
Sunny		Pressure is rising and the previous condition is partly cloudy.
Partly Cloudy		Pressure is falling and the previous condition is sunny or Pressure is rising and the previous condition is cloudy.

Cloudy		Pressure is falling and the previous condition is partly cloudy or Pressure is rising and the previous condition is rainy.
Rainy		Pressure is falling and the previous condition is cloudy.

13.2 Moon Phase

The following moon phases are displayed based on the calendar date.



13.3 Feels Like Temperature and AT

13.3.1 Feels Like Temperature

Feels like temperature is a combination of Heat Index and Wind Chill.

At temperatures less than 4.4°C(40°F), the wind chill is displayed, as shown in the National Weather Service Wind Chill Table below:

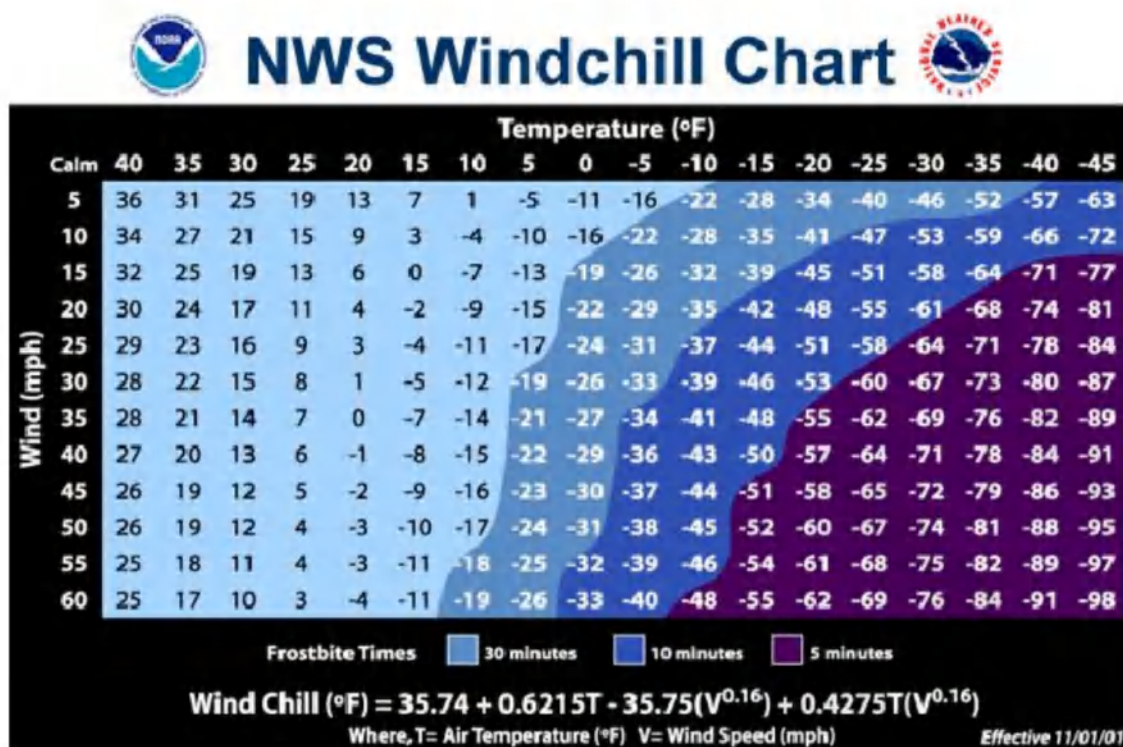


Figure 48

At temperatures greater than 26.7°C(80°F), the heat index is displayed, as shown in the National Weather Service Heat Index Table below:

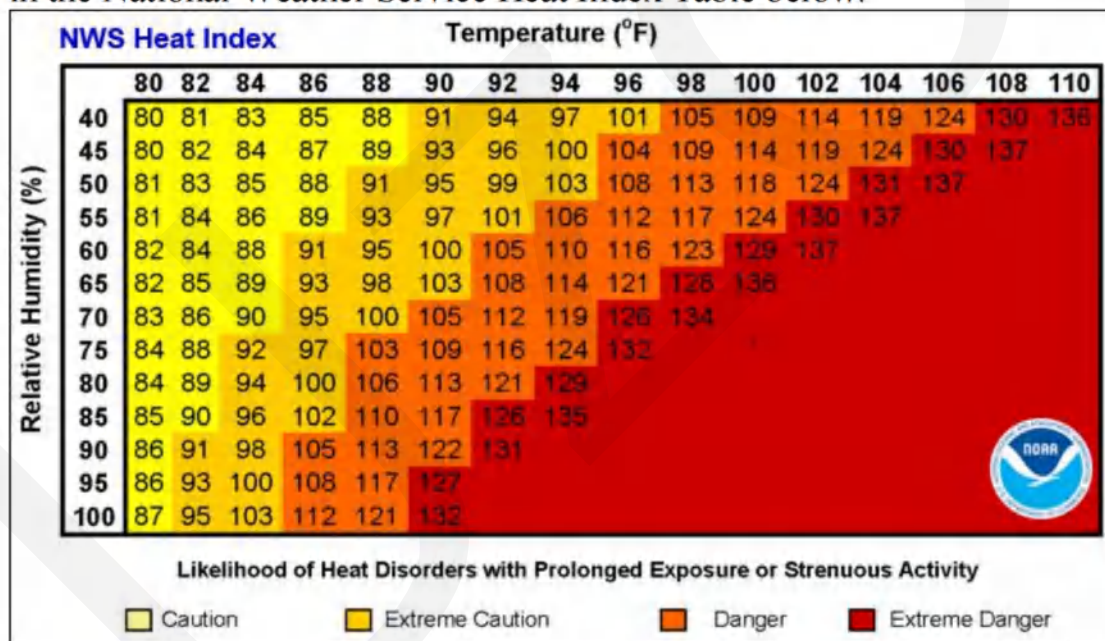


Figure 49

When the temperature is between 4.4°C (40°F) and 26.7°C (80°F), the OUT temperature is displayed (Feels Like temperature is the same as OUT temperature).

13.3.2 Apparent Temperature (AT)

AT is a linear regression that is not restricted, and is more appropriate to outside conditions because it includes wind and was intended as an assessment of what exposed body surfaces feel like in cold, windy conditions.

Regression equations of this universal scale are formulated for indoors, outdoors in shade but exposed to wind, and outdoors exposed to wind and solar radiation. Of these, outdoors in shade but exposed to wind, has been chosen as most informative.

13.4 Pressure Threshold Setting

The pressure threshold (the negative or positive rate of change of pressure signifying a change in the weather) can be adjusted from 2 mbar/hour to 4 mbar/hour (default level 2 mbar/hour).

The lower the level pressure threshold setting, the higher sensitivity for weather forecast changes. Locations that experience frequent changes in air pressure require a higher setting compared to locations where the air pressure is typically stagnant.

13.5 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.


13.6 Optional Calibration Mode


The purpose of calibration is to adjust or correct any sensor errors associated with the measurement accuracy of the device or the location of the measurement. The measurement can be corrected from the display unit in order to calibrate it with the help of a known measured variable.

Calibration is only useful when you have a known calibrated source with which you can compare the measured values of your weather station, therefore it is optional.

The following contents of the sensor calibration practices, procedures, and sources, to reduce manufacturing and variance tolerances. Under no circumstances should you compare your readings with sources such as the Internet, radio, television, or newspapers. The weather data used for this was determined at other locations and is usually only updated once an hour.

The purpose of your weather station is to measure the conditions of your current location area. These can vary greatly from place to place.

 **Note:** The calibrated value can only be adjusted on the display console.

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

13.6.1 Calibration of Temperature Mode

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

Press the CHANNEL/+ key or MAX/MIN/- key to increase or decrease the temperature reading (in increments of 0.1). Press and hold the CHANNEL/+ key or MAX/MIN/- key for three seconds to increase or decrease rapidly.

Press the ALARM key to reset current value.

Press the SET key switch to outdoor temp calibration mode.

To exit the temperature calibration mode at any time, press the SNOOZE button. If no operation is performed, the calibration mode will automatically close in 30 seconds.

13.6.2 Calibration of Humidity Mode


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

Press the CHANNEL/+ key or MAX/MIN/- key to increase or decrease the humidity reading (in increments of 1%). Press and hold the CHANNEL/+ key or MAX/MIN/- key for three seconds to increase or decrease rapidly.

Press the ALARM key to reset the current value.

Press the SET key switch to outdoor humidity calibration mode.

To exit the humidity calibration mode at any time, press the SNOOZE button. 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.

13.6.3 Calibration of Sensors Mode

(1) Step by Step Guide

In normal mode, press and hold the SET and ALARM buttons at the same time for five seconds to enter the pressure, wind gust, rainfall calibration mode. The letter “CAL” will appear at the top of the screen. Press the SET key to skip over a parameter to the next.

(2) Absolute Pressure Calibration

In the calibration mode, the “ABS” symbol will display at the pressure section, the

absolute pressure value will flash. (The default value is 0.00 inHg)

Press the CHANNEL/+ key or MAX/MIN/- key to increase or decrease the absolute pressure value (in increments of 0.01 inHg).

Press and hold the CHANNEL/+ or MAX/MIN/- key for three seconds to increase or decrease rapidly.

Press the ALARM key to reset current value.

Example: The calibrated pressure sources measure 28.37 inHg. The display console pressure reads 28.75 inHg. $\text{Offset} = 28.37 - 28.75 = -0.38 \text{ inHg}$

(3) Relative Pressure Calibration


In the calibration mode, press the SET key again, the “REL” symbol will display at the pressure section, the relative pressure value will flash. (The default value is 0.00 inHg)

Press the CHANNEL/+ key or MAX/MIN/- key to increase or decrease the relative pressure value (in increments of 0.01 inHg).

Press and hold the CHANNEL/+ or MAX/MIN/- key for three seconds to increase or decrease rapidly.

Press the ALARM key to reset current value.

Example: The calibrated pressure sources measure 25.00 inHg. The display console pressure reads 24.85 inHg. $\text{Offset} = 25.00 - 24.85 = 0.15 \text{ inHg}$

 **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 the 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 from you (the internet is the best source for real-time barometer conditions, such as the website of Weather.com or Wunderground.com), and set your weather station to match the official reporting station.

(4) Wind Speed Calibration


In the calibration mode, press the SET button again and the wind speed value will flash (the default is 1.00).


Press the CHANNEL/+ key or MAX/MIN/- button to adjust the wind speed calibration factor from 0.75 to 1.25, where:

Calibrated Wind Speed = Calibration factor x Measured Wind Speed

Press and hold the CHANNEL/+ or MAX/MIN/- key for three seconds to increase or decrease rapidly.

Press the ALARM key to reset current value.

 **Note:** *The wind gust is also affected by the wind speed calibration factor.*

 **Note:** *Wind speed and wind gust are adversely affected by installation constraints. The rule of thumb is to install the weather station four times the distance of the height of the tallest obstruction (for example, a 6 m house would require an installation 24 m away).*

In many instances, due to trees and other obstructions, this is not possible. The wind speed calibration allows you to correct for these obstructions.

In addition to installation challenges, wind speed bearings (any moving part) wears over time. To correct for wear, the correction value can be increased until the wind cups must be replaced.

Without a calibrated source, wind speed is a difficult parameter to measure. We recommend using a calibrated wind meter and constant, high speed fan.


(5) Rain Calibration


In the calibration mode, press the SET button again and the rain value will flash (the default is 1.00). Press the CHANNEL/+ key or MAX/MIN/- key to adjust the rain calibration factor from 0.75 to 1.25, where:

Calibrated Rain = Calibration factor x Measured Rain

Press and hold the CHANNEL/+ or MAX/MIN/- key for three seconds to increase or decrease rapidly.

Press the ALARM key to reset current value.

 **Note:** *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:** *The 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.*

(6) Sunlight Calibration

In the calibration mode, press the SET/MODE button for 4 times, the offset of sunlight value will begin flashing (the default is 1.0). Press CHANNEL/+ or MAX/MIN/- button to adjust the rain calibration factor from 0.75 to 1.25
 $\text{Calibrated Sunlight} = \text{Calibration Factor} \times \text{Measured Sunlight}$

Press and hold the CHANNEL/+ or MAX/MIN/- button for three seconds to increase or decrease rapidly.

Press the ALARM button to reset current value.

14. Specifications

14.1 Wireless Specifications

- Line of sight wireless transmission (in open air): 300ft.
- Frequency: 433 MHz
- Integrated Outdoor transmitter interval: 16seconds

14.2 Measurement Specifications

The following table provides specifications for the measured parameters.

Measurement	Range	Accuracy	Resolution
Indoor Temperature	32 to 140°F	± 1 °C 33.8F-30.2f	0.1 °C
Outdoor Temperature	-40 to 140°F	± 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 %
UV Index	1 to 15+	± 1	± 1
Sunlight	0 to 200klux	± 15%	± 15%
Rain	0-393.66in	<15mm:±1 mm, 15mm to 9999mm:±7%	<1000mm (0.3mm) >1000mm (1mm)
Wind Direction	0 - 360 °	± 10° (16 point compass)	± 1° (16 point compass)
Wind Speed	0 to 112mph	2 m/s ~10 m/s: ±3m/s, 10m/s ~50 m/s: ±10% (whichever is greater)	0.1 m/s
Barometric Pressure:	8.85 to 32.5 inHg	± 3 hpa	0.1 hpa

14.3 Power Consumption

- Base station (display console) : 3 x AAA 1.5V Alkaline or Lithium batteries (not included)
- Adapter: 5.9V~ 500mA (included)
- Integrated Outdoor Transmitter: 3xAAA alkaline batteries or Lithium batteries (not included)

14.4 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 or Opera.

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

15. Maintenance

1) Clean the rain gauge of Integrated Outdoor Transmitter once every 3 months.

- Unscrew the rain collector funnel by turning it 30° counter clockwise.
- Gently remove the rain collector funnel.
- Clean and remove any debris or insects.
- Install the collector funnel after it has been cleaned and completely dried.



A: Remove the rain collector funnel.



B: Install the collector funnel.






Figure 50

2) Replace the Integrated and thermo-hygrometer transmitter batteries once every 1-2 years

16. Troubleshooting Guide

Problem	Solution
If you encounter any problems that you cannot solve.	Please be free to contact our customer service team by e-mail (uzoliweather@outlook.com), we will always be happy to help you.

Problem	Solution
<p>Wireless remote not reporting in to console.</p> <p>There are dashes (---) on the display console.</p>	<p>If any of the sensor communication is lost, dashes (---) will be displayed on the screen. To reacquire the signal, press and hold the MIN/MAX/- button for 3 seconds, choose the lost sensor 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>The maximum line of sight communication range is 300ft and 100ft under most conditions. Move the sensor assembly closer to the display console.</p> <p>If the sensor assembly is too close (less than 1.5m), move the sensor assembly away from the display console.</p> <p>Make sure the remote sensor LCD display is working and the transmitter light is flashing once per 60 seconds.</p> <p>Install a fresh set of batteries in the remote thermo-hygrometer. For cold weather environments, install lithium batteries.</p> <p>Make sure the remote sensors are not transmitting through solid metal (acts as an RF shield), or earth barrier (down a hill).</p> <p>Move the display console around electrical noise generating devices, such as computers, TVs and other wireless transmitters or receivers.</p> <p>Move the remote sensor to a higher location. Move the remote sensor to a closer location.</p>
<p>Indoor and Outdoor Temperature do not agree</p>	<p>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 ± 2 °F).</p> <p>Use the calibration feature to match the indoor and outdoor temperature to a known source.</p>
<p>Indoor and Outdoor Humidity do not agree</p>	<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 ± 5 %).</p> <p>Use the calibration feature to match the indoor and outdoor humidity to a known source.</p>

Problem	Solution
Display console contrast is weak	Replace console batteries with a fresh set of batteries.
WiFi does not display on console.	<p>Check your router for problems.</p> <ol style="list-style-type: none"> 1. Check 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.
Data not reporting to www.wunderground.com or www.weathercloud.net	<ol style="list-style-type: none"> 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 Wunderground.com, not the station). Example, \$worknet is not a valid password, but worknet\$ is valid. 2. Confirm your station ID is correct. 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.