


# FT0851 Wireless 3 Channel Weather Station with WiFi Remote Monitoring User Manual

## 1 Introduction

Thank you for your purchase of the FT0851 Wireless 3 Channel Weather Station. The following user guide provides step by step instructions for installation, operation and troubleshooting.

## 2 Getting Started

The FT0851 weather station consists of a display console (receiver), and three thermo-hygrometers (remote transmitters).

 **Note:** The power up sequence must be performed in the order shown in this section (insert batteries in the remote transmitters first, Display Console second).


### 2.1 Parts List

The FT0851 weather station consists of the following parts (as referenced in Figure 1).

QTY	Item
1	Display Console Frame Dimensions (LxHxW): 135X195X26mm LCD Dimensions (LxW): 112 x 63mm
3	Thermo-hygrometer sensor
1	Adaptor
1	Manual

**Figure 1**

### 2.2 Sensor Assembly Set Up

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

Pull down on the battery door to open the battery compartment, as shown in , Insert two fresh AAA batteries (with the negative terminal of the battery in contact with each spring). Lithium batteries are recommended for cold weather environments. Slide the top lip of the battery door into the battery compartment guide and snap the bottom battery door bracket into place. The LED shown in will light up (visible through the plastic).

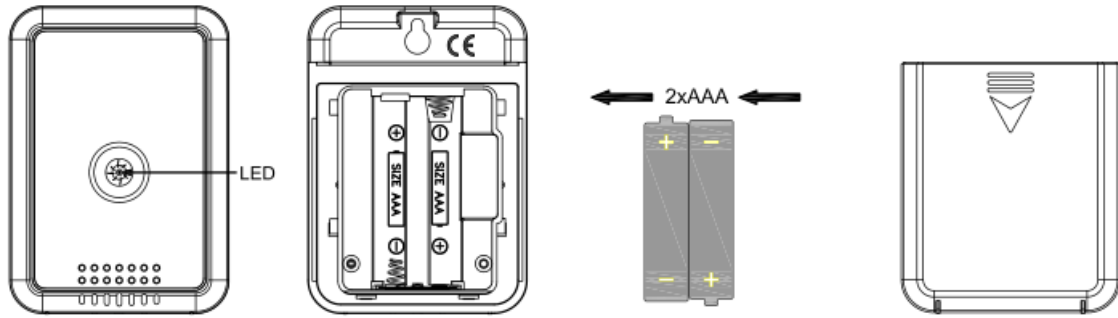



Figure 1

## 2.3 Display Console

### 2.3.1 Display Console Layout

The display console layout is shown in Figure 2

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

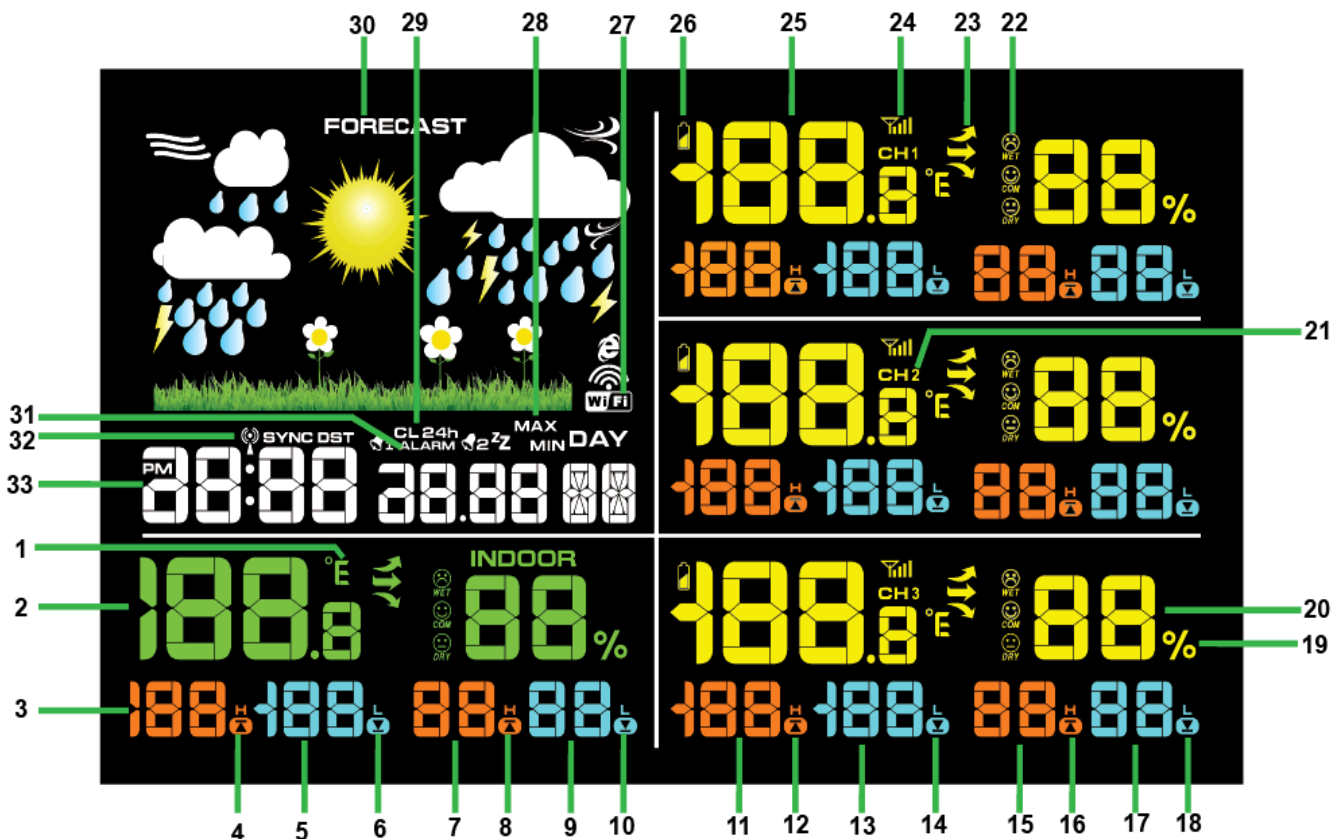



Figure 2


- |                                      |  |
|--------------------------------------|--|
| 1. Temperature units (°F or °C)      | 17. CH3 humidity LO record data          |
| 2. Indoor Temperature display        | 18. CH3 humidity LO icon                 |
| 3. Indoor temperature HI record data | 19. Humidity unit (%)                    |
| 4. Indoor temperature HI icon        | 20. CH3 humidity display                 |
| 5. Indoor temperature LO record data | 21. Channel 1,2,3 indicator              |
| 6. Indoor temperature LO icon        | 22. Channel 1 humidity comfort icon      |
| 7. Indoor humidity HI record data    | 23. Channel 1 humidity change indication |
| 8. Indoor humidity HI icon           | 24. Reception icon                       |
| 9. Indoor humidity LO record data    | 25. Channel 1 temperature display        |
| 10. Indoor temperature LO icon       | 26. Battery low voltage prompt           |
| 11. CH3 temperature HI record data   | 27. WIFI network                         |
| 12. CH3 temperature HI icon          | 28. Min/Max record mode                  |
| 13. CH3 temperature LO record data   | 29. 24hour for clear                     |
| 14. CH3 temperature LO icon          | 30. Weather tendency indicator           |
| 15. CH3 humidity HI record data      | 31. Time Alarm 1 and Alarm 2             |
| 16. CH3 humidity HI icon             | 32. Time SYNC                            |
|                                      | 33. Time and date                        |

### 2.3.2 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.

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.

Remove the battery door on the back of the display, as shown in Figure 3. Insert three 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.

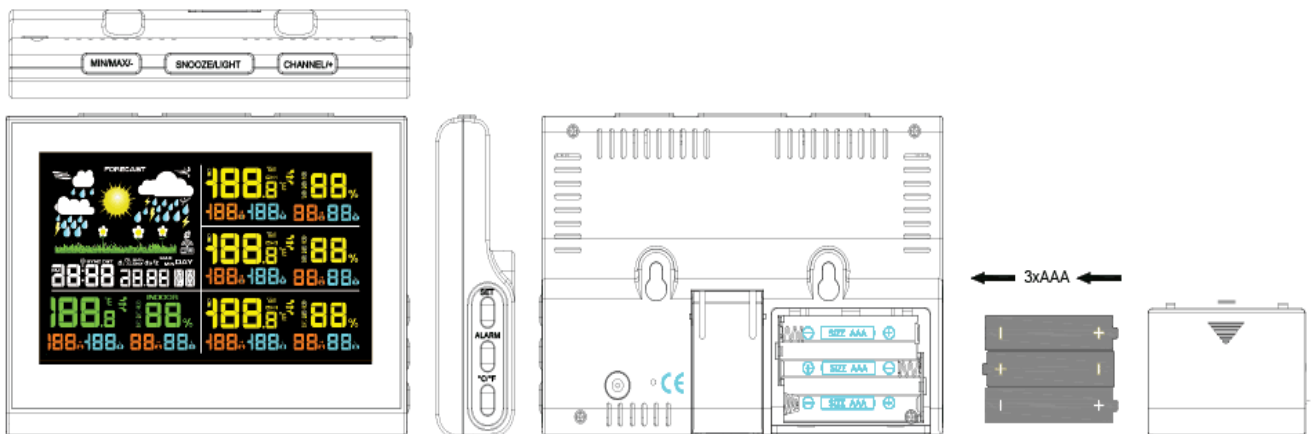



Figure 3

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 and time. Channel1-3 temperature and humidity will update on the display within a few minutes. Do not Press any menu buttons until the Channel1-3 transmitters report in, otherwise the Channel1-3 sensors search mode will be terminated. When the Channel1-3 transmitters 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.

 **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 4**

 **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.

### 2.3.3 Sensor Operation Verification

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

1. Verify proper operation of the 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.
2. 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

## 3. Weather Station Installation

### 3.1 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%

### 3.2 Remote Sensor Installation

If you mount one or more of the sensors outside, it is recommended you mount the sensor(s) on a north facing wall, in a shaded area. Direct sunlight and radiant heat sources will result in inaccurate temperature readings. Although the sensors are 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 5.

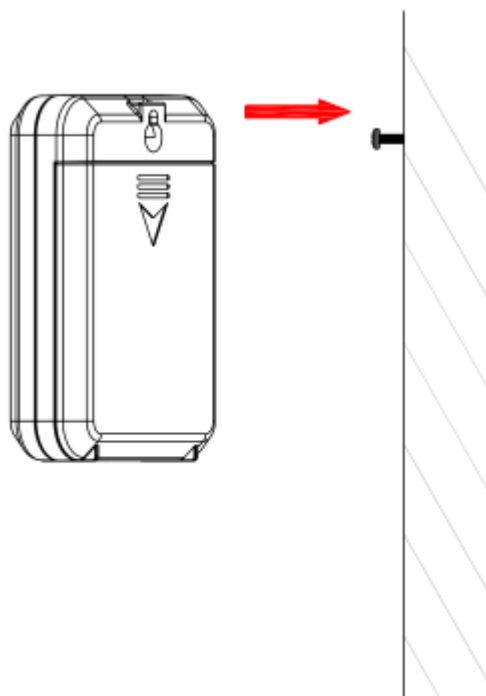


Figure 5

### 3. Display Features

#### 4.1 Comfort Icon

The comfort icon is based on humidity ranges specified in Figure 6. The icon is displayed for indoor humidity, remote channel 1-3 humidity .





RH<45%	RH 45%~65%	RH >65%
		
Dry	Comfortable	Wet

Figure 6


#### 4.2 Rate of Change Icon


The rate of change icon  detects rapid changes in temperature and humidity.

If the arrow points upward, the temperature is increasing at a rate of +1°C per 30 minutes (or greater). If the arrow points downward, the temperature is decreasing at a rate of -1°C per 30 minutes (or less).

If the arrow points upward, the humidity is increasing at a rate of +5% per 30 minutes (or greater). If the arrow points downward, the humidity is decreasing at a rate of -5% per 30 minutes (or less).


### 5 Console Operation

 **Note:** The console has six buttons for easy operation: **MIN/MAX/-** button, **SNOOZE/LIGHT** button, **CHANNEL/+** button on the top ,and **SET** button,**ALARM** button and **C/F(WiFi)** button on the right side.

 **Note:** **WiFi Settings reference 10 STEP.**

#### 5.1 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. **Weather Forecast Icon Setting (default: partly cloudy).** Press the **SET** key again to set the weather forecast icon initial conditions (based on the current weather conditions). Press the [+] key or [-] key to toggle weather icons between sunny, partly cloudy, cloudy, or rainy.
9. **Time SYNC(default:ON).** Press the **SET** key again to set the network time sync. Press the [+] key or [-] key to switch between SYNCtime ON and SYNCtime OFF of measure.

## 5.2 Chanel Selection

Press the **CHANNEL** button to switch the display between remote thermo-hygrometer sensors 1 through 3.

In normal mode, press the "CHANNEL" key switch to set the area (CH1, CH2, CH3 icon single flashing 5 seconds), and press the "CHANNEL" key for 3 seconds to re-learn the current flashing guide, can clear the current channel outdoor unit, and re-search the current channel for 3 minutes. When searching, the channel will be re-registered


## 5.3 Reset Min/Max record

Press the **MIN/MAX** button once to check the **MAX** values, press and hold the **MIN/MAX** button for 3 seconds to restore the **MAX** values to the current value.

Press the **MIN/MAX** button once again to check the **MIN** values, press and hold the **MIN/MAX** button for 3 seconds to restore the **MIN** values to the current value.

When complete, press the **MIN/MAX** button again, and the display will return to normal mode.

In the maximum and minimum query mode, 15 seconds without operation will automatically return to normal mode


 Note: The minimum and maximum can be set to clear every 24 hours automatically. Press and hold the **MIN/MAX** button for 3 seconds to switch between **Clears 24h** and Clears Manually.


When you manually clear the minimum and maximum, the Clears 24h function will be a day when the 0:00 time automatic clearance.

## 5.4 Sensor Search Mode

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

1. If a specific channel is lost, press the **CHANNEL/+** button until the channel indication single flashing.


Press and hold the **CHANNEL** button for 3 seconds, and the remote search icon  will be constantly displayed for up to 10 minutes.

Once the signal is reacquired, the remote search icon  will turn off, and the current


value will be displayed.

## 5.5 C/F button mode.

The default temperature units of measure are degrees Celsius. To toggle between degrees Celsius and degrees Fahrenheit, press and hold the **C/F(WiFi)** button while in normal mode.

In normal mode, press and hold the **C/F(WiFi)** button for three seconds, 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.

## 5.6 Snooze Mode

When the alarm sounds and alarm icon  flashes, press 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. Press any key (**SET, Min/Max/-, CHANNEL/+, C/F**) to permanently exit the **Snooze** mode.

## 5.7 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.

## 5.8 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



## 5.9 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 FT0851 supports up to three remote sensors. Each of the three sensors can be calibrated.

### 5.9.1 Temperature Calibration

In normal mode, press and hold the **SET** and **C/F(WiFi)** 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 (1through 3). 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.


### 5.9.2 Setting Calibrated Humidity

In normal mode, press and hold the **SET** and **Channel/+** 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 (1through 3). 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.


## 6 Alarm Mode

The FT0851 includes two time alarm features

### 6.1 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.

### 6.2 Viewing the alarm1 and alarm2

 **Note:** While in the Normal mode, press the **ALARM** key to view the current and turn ON/OFF the alarm in sequence: AL1 ON → AL2 ON → AL1 and AL2 ON → AL1 and AL2 OFF

Time of day are supported.

Next, press the **ALARM** key to view the alarm 1 with the alarm time ,Press again alarm key to view the alarm 1 with the alarm time.

Press the **ALARM** button again to view the alarm 2 with the alarm time ,Press again alarm key to view the alarm 2 with the alarm time .

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

### 6.3 Setting the Alarms of time

In normal mode, Press and hold the **ALARM** key for three seconds to enter the alarm1 settings mode. The alarm parameter will begin flashing.

In alarm mode, press the **SET** key to the alarm2 settings mode. 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 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.


### 6.4 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.

## 6.5 Low Battery Icon


A low battery indicator icon is shown in the display window for each 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.

## 7. WiFi Connection Status

When the console successfully connects to your Wi-Fi router, the Wi-Fi signal icon  will appear on the LCD display (above the DAY icon). 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.

## 8. 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  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

## 9. WiFi Connection and Weather Servers

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

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

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

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

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

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

9.4. 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).

Congratulations. Your station is now registered with Wunderground!

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


Your Station ID:

**KAZPHOEN424**

Your Station Key/Password:


**mdreeley**

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.

## 10. WiFi Setup

13.1. When you first power up(AC) the console(when never setting WAP), or press and hold the **C/F(WiFi)** button for three seconds in normal mode, the console icon(above the DAY icon)  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.**

**10.1: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 7 (your WiFi network name may be slightly different, but will always begin with WeatherHome -).

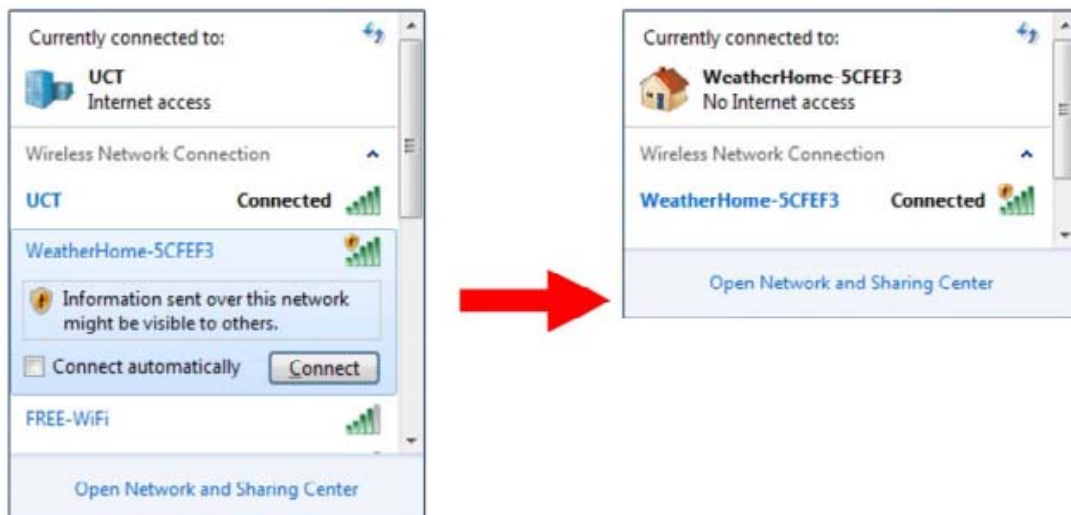


Figure 7

**10.2: 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 Figure 8 (your WiFi network name may be slightly different, but will always begin with WeatherHome----- ).



Figure 8

**10.3: 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 9 (your WiFi network name may be slightly different, but will always begin with WeatherHome-----).



Figure 9

**10.4: 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 10 (your WiFi network name may be slightly different, but will always begin with WeatherHome----- ).

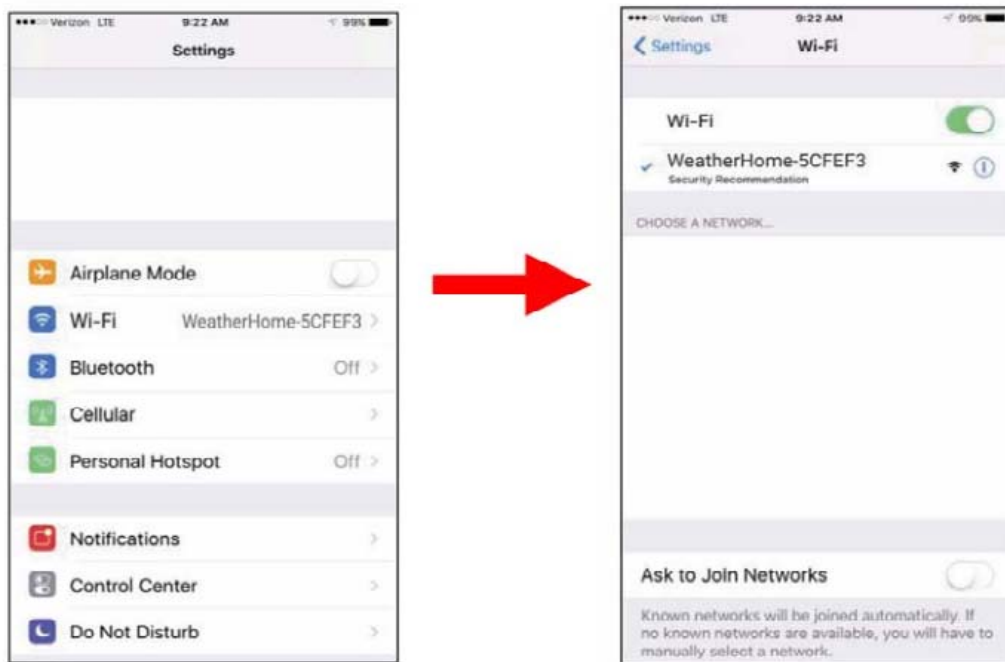




Figure 10

**10.5.** 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

**10.6.** Enter the following information into the web interface (Figure 11). 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 11

**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.

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

**10.7.** If all of the information you entered is correct and press save to confirm(Figure 12). If it does not, check your web interface information again.




Figure 12





**10.8.** Once the setup is completed, you must disconnect(Figure 13) from your computer or smart phone's Wi-Fi connection form the Wi-Fi console, and search for the assigned router. otherwise, in half an hour the console will not automatically exit WAP mode.





Figure 13

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 updata 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.

### 10.9: Register with AmbientWeather.net

Visit: [www.AmbientWeather.net](http://www.AmbientWeather.net) to create an account and select Add Device, as shown in Figure 14.



Figure 14

Next, enter the MAC address found on your Weather Station Web Interface (Figure 15). Note that this is an example only

and your MAC address will be different.

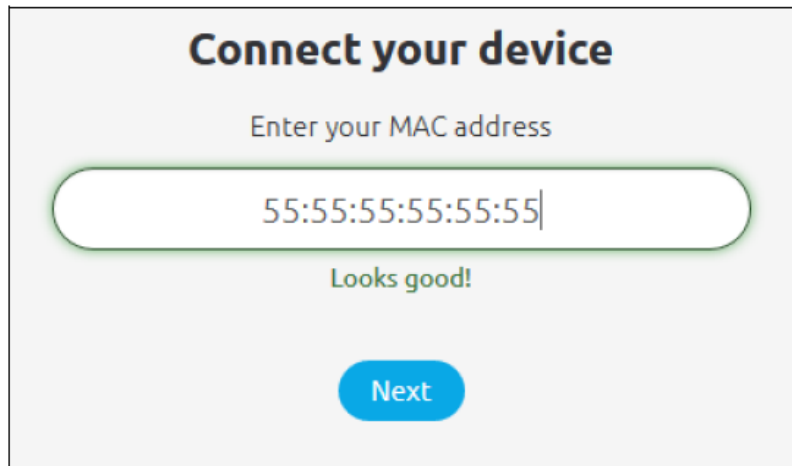


Figure 15

Register an account on AmbientWeather.net (email address and password).

Once registered, select the dashboard to view your data, as shown in Figure 16.



Figure 16

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 17.

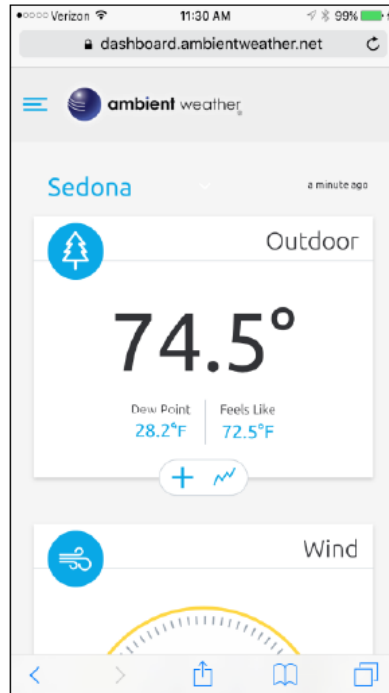
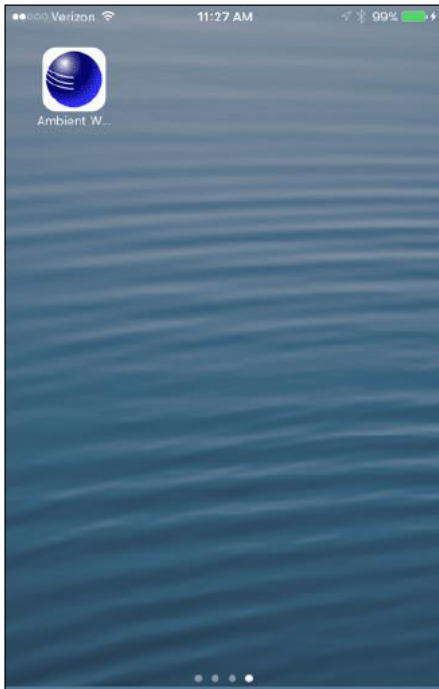


Figure 17

### Viewing your Data on Weather Underground

There are several ways to view your data on Wunderground:

#### 10.11 Web Browser

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

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

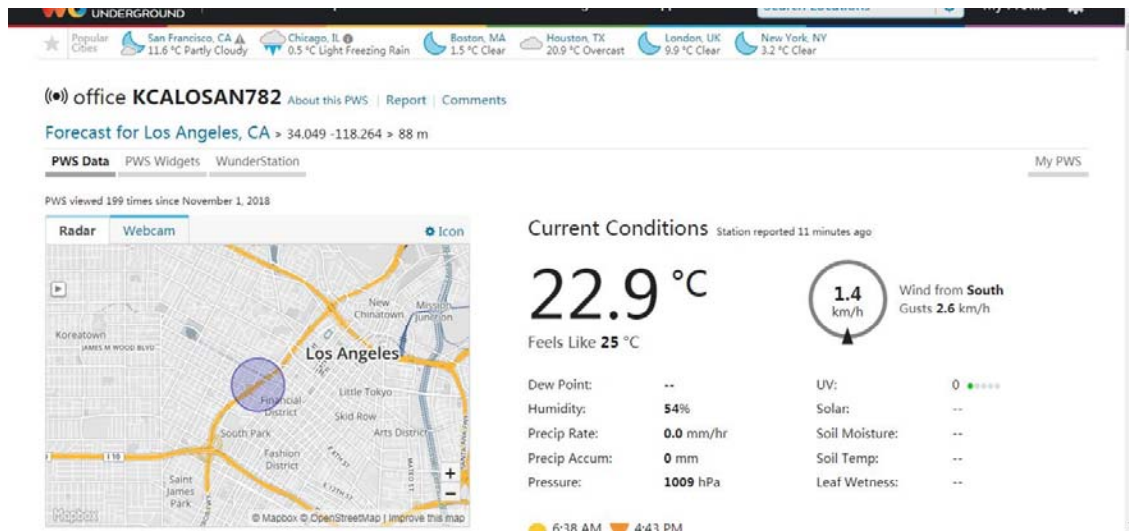



Figure 18

 **Note:** The current temperature and humidity data is the transmitter of CH1 (so it must be on the outside).

#### 10.12 WunderStation iPad Application

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



Figure 19

### 10.13 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.

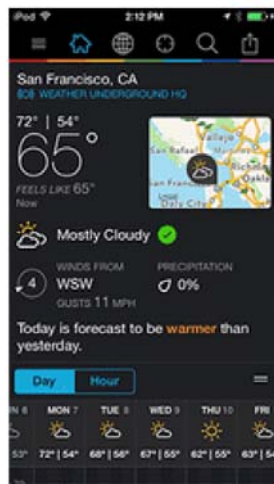


Figure 20

### 10.14 Additional AmbientWeather.net Features

#### 10.14.1 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)

#### 10.15.2 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/>

#### 10.15.3 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/>

#### 10.15.1 Maintenance

##### 10.15.2 Adding or Subtracting Multiple Sensors

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

##### 10.15.3. 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.

#### 10.15.4 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 21.





Figure 21

### 10.15.5 Register with WeatherCloud.net

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

10.15.6. Visit : <https://weathercloud.net/> and enter a Username, Email and Password. as shown in Figure 22.

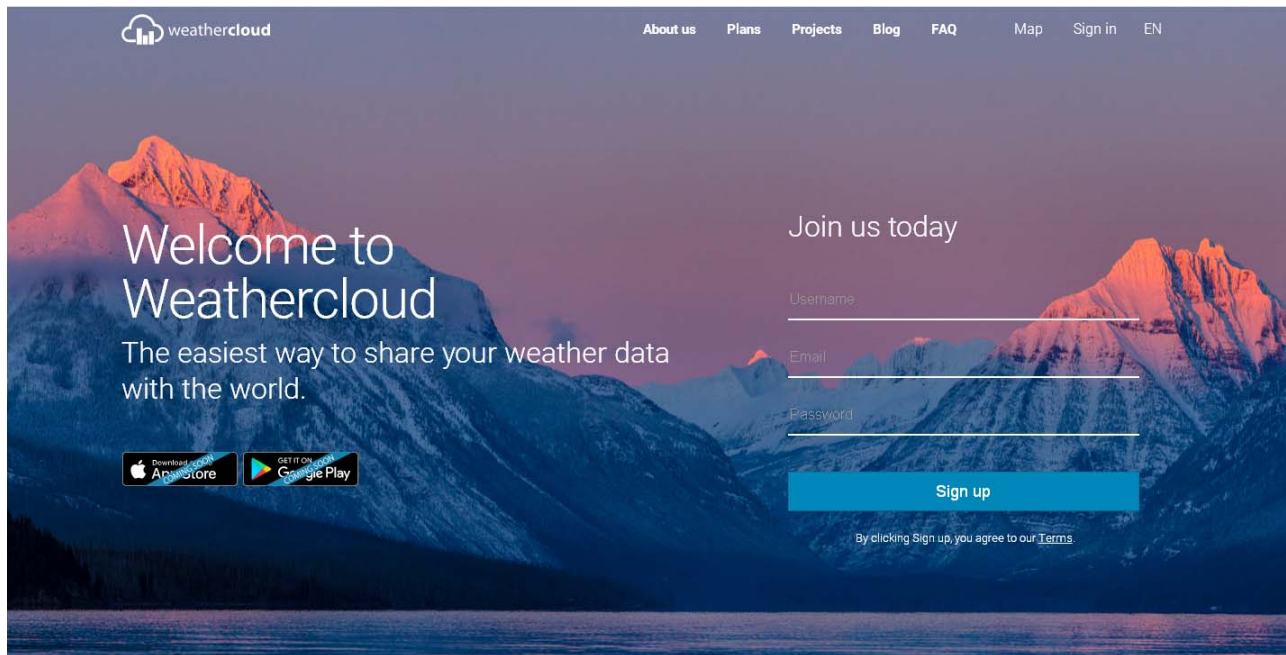


Figure 22

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

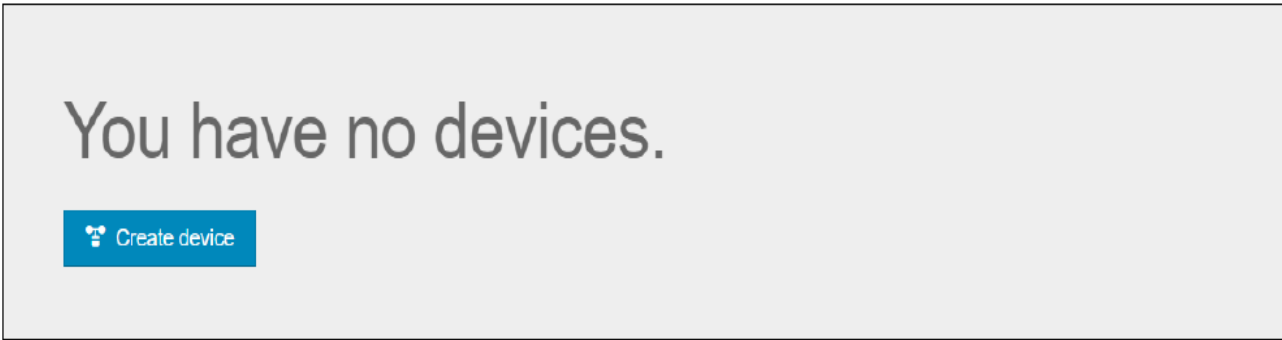


Figure 23


10.15.8.. 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

 **Note:** The current temperature and humidity data is the transmitter of CH1 (so it must on the outside).

## 11. Upload Setting

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

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

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



Figure 24

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

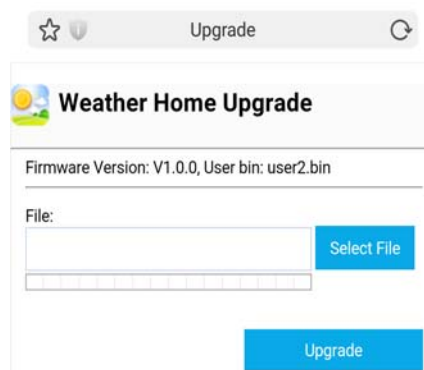


Figure 25

11.5. Update WeatherHome.bin contains you saved file when presse Select File key

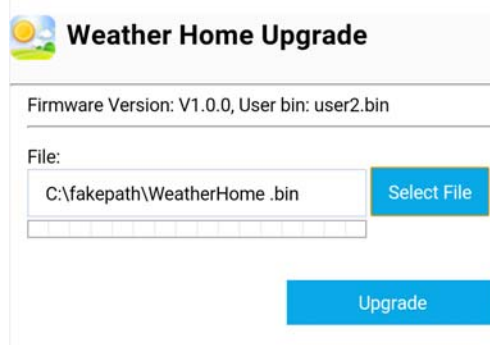


Figure 26

11.6. If update successfully when presse Upgrade key. Then you will see.

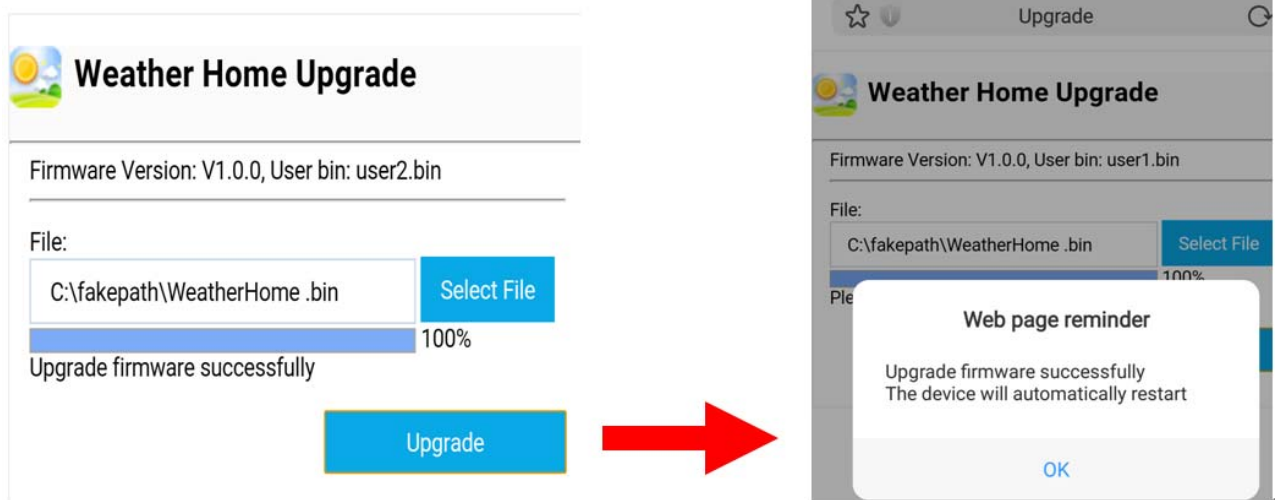


Figure 27

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

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

## 12. Specifications

### 12.1 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.

### 12.2 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 %

## 12.3 Power Consumption

- Base station (display console) : 3 x AAA 1.5V Alkaline or Lithium batteries (not included)
- Adaptor: 6V~ 500mA (Not included)
- Thermo-hygro Sensor : 2 x AAA 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)



## 12.4 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)

## 13. 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

## 14 Troubleshooting Guide

Problem	Solution
Wireless remote not reporting in to console.  There are dashes (---) on the display console.	<p>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>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>

<b>Problem</b>	<b>Solution</b>
	<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>
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.

## **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.