WS0100 WiFi Smart Weather Station User Manual

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1 Introduction

Thank you for your purchase of the WS0100 WiFi Smart Weather Station. The following user guide provides step by step instructions for installation, operation and troubleshooting. To download the latest full sized manual and additional troubleshooting tips, please visit:

The WS0100 is a WiFi connected device that receives sensor data from a variety of sensors, displays and configures this data, and sends it to your WiFi router and the Internet.

The following items are may be packaged or sold separately with the WS0100:

Item	Measurements	Sensors Supported	Comments
WS0100	Indoor WiFi reveiver	--	Included
WS-12-ANEMOMETER	Wind Speed and Wind Direction	1	Optional
WS-12-RAIN	Precipitation	1	Optional
F007TH	Indoor or Outdoor Temperature and Humidity	8	Optional 8 Channel Sensor. Mix and match with other 8 channel sensors.
F007PF	Floating Pool, Spa and Pond Thermometer	8	Optional 8 Channel Sensor. Mix and match with other 8 channel sensors.
F007TP	Indoor or Outdoor Temperature Probe	8	Optional 8 Channel Sensor. Mix and match with other 8 channel sensors.
FT012TH	Indoor Temperature and Humidity	8	Optional 8 Channel Sensor. Mix and match with other 8 channel sensors.

Figure 1

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 Quick Start Guide

Step	Description	Section
1	Assemble and power up the sensors	6
2	Power up the WiFi device and synchronize with wind sensor, rain sensor and other sensor(s)	8.2

3	Install the sensors	6
6	Clear any total rain that may have accumulated during the set up.	9.10.4
7	Connect the receiver to WiFi	10
8	Register at AmbientWeather.net	11

4 Parts

4.1 WiFi Receiver (included)

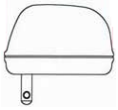
QTY	Item	Image
1	**WS0100** Receiver with WiFi Frame Dimensions (LxHxW): 3 x 3 x 1 in	
1	Antenna	
1	Power Adapter	
1	User Manual	

Figure 2

5 Weather Station Installation Guide and Limitations

7.1 Pre-Installation Checkout

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

7.2 Site Survey

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

1. You must clean the rain gauge every few months and change the rechargeable batteries every 2-3 years. Provide easy access to the rain gauge.

2. Avoid radiant heat transfer from buildings and structures. In general, install the thermos-hygrometer

in a shaded area on the north side of a structure.

3. Avoid wind obstructions. The rule of thumb is to install the anemometer at least four times the distance of the height of the tallest obstruction. For example, if the building is 20' tall, and the mounting pole is 6' tall, install 4 x (20 – 6)' = 56' away.

4. Wireless Range. The radio communication between receiver and transmitter in an open field can reach a distance of up to 300 feet, providing there are no interfering obstacles such as buildings, trees, vehicles, high voltage lines. Wireless signals will not penetrate metal buildings. Under most conditions, the maximum wireless range is 100'.

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. Make sure your display console is at least five feet away from any electronic device to avoid interference.

6. Visit Ambient Weather Mounting Solutions for assistance and ideas for mounting your weather station:

7.3 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 300feet line of sight (no interference, barriers or walls) but typically you will get 100feet 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”orobstruction decreases the transmission range by the factor shown below.

Medium	RF Signal Strength Reduction
Glass (untreated)	5-15%
Plastics	10-15%
Wood	10-40%
Brick	10-40%
Concrete	40-80%
Metal	90-100%

6 WiFi Receiver Set Up

8.1 Connect the Antenna

The console antenna is shown in Figure 49

Note: The external antenna can effectively advance the reception of RF.

Figure 49

1: RF key
2: WAP key
3: NET led
4: WIFI led
5: RF led

Indictor LED	Status	Description
RF work green light-5	ON	when the sensor search success.
	Flash	when enter the sensor search mode.
	OFF	when no receive any transmitter.
WiFi work white light-4	ON	When the Receive successfully connects to the Wi-Fi router.
	Flash	when enter the WAP mode.
	OFF	when the Receive is not connected to the Wi-Fi router.
Net work red light-3	ON	When the Receiver is not transfer data to the internet more than 30 minutes.
	Flash	When the Receiver is transmitting data.
	OFF	When the Receiver successfully transfer data to the internet.

8.2 Receiver Power Up

Note: Power up the rain gauge, anemometer and the 8-channel sensors first before powering up the console. If you power up the console first, you will need to resynchronize the sensors.

Make certain the weather station sensors are at least 10'away from the console and within 100'of the console. If the weather station is too close or too far away, it may not receive a proper signal. If you have more than one thermo-hygrometer transmitter, make sure they are all powered up and transmitting on different channels.

Figure 50

The wind speed, wind gust, wind direction, rain, outdoor temperature and humidity will update on the display within a few minutes. Do not Press any menu buttons until the outside transmitter report in,

otherwise the outdoor sensor search mode will be terminated.

While in the search mode, the receiver search **RF LED**

will be remain flashing.

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.

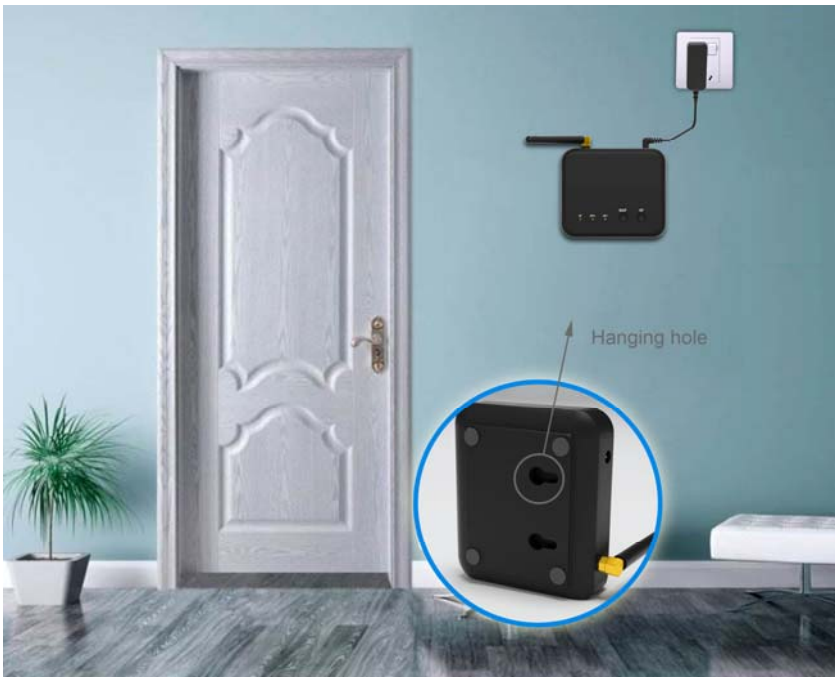


Figure 51

Note: Indoor use only. Use a screw or nail (not included) to affix the WIFI receiver to the wall, as shown in Figure 51.

8.3 Sensor Operation Verification

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

- Verify proper operation of the rain gauge. Tip the sensor array back and forth several times. You should hear a “clicking” sound within the rain gauge. Verify the rain reading on the display console is not reading 0.00. Each “click” represents 0.01 inches of rainfall.

- Verify proper operating of the wind speed. Rotate the wind cups manually or with a constant speed fan. Verify the wind speed is not reading 0.0.

- 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 10'apart). The worst case sensor accuracy should be within 4°F worst case (the accuracy is ±2°F). Allow about 30 minutes for both sensors to stabilize.

- 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 10'apart). The worst case sensor accuracy should be within 10% (the accuracy is ± 5%). Allow about 30 minutes for both sensors to stabilize.

9.1 Restore Factory Default

To restore the console to factory default (WiFi network ,Weather server and Units):

1. Remove the DC power.
2. Press and hold the **RF** button and plug the DC power back in.
3. Wait three seconds after plug DC power to let go of the **RF** button.

9.14 WiFi Connection Status

When the console successfully connects to your Wi-Fi router, the **Wi-Fi LED**

induct will light on. If the Wi-Fi signal is not stable or the receiver is trying to connect to the router, the **Wi-Fi LED**

will flash. If the **Wi-Fi LED**

is off, 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.

9.15 Time Server Sync Status

After the console has connected to the internet, it will attempt to connect to the USA's NIST internet time server to obtain the time. The time will automatically synchronize to the internet per an hour.

7 WiFi and Internet Services

The WS0100 includes a WiFi chip that connects to the 2.4 GHz band on your router and sends data automatically once per minute to our cloud services, AmbientWeather.net.

AmbientWeather.net captures, stores and sends data to other services, such as WeatherUndergroud.com, PWSWeather.com, IFTTT, Amazon Alexa, Google Home and more. Application Programming Interface (API) is available for programmers and third party programmers.

10.1 Connect your Device to the Receiver's WiFi

Make sure your receiver is plugged into AC power. It will not connect to WiFi otherwise.

When you first power up the console, or press and hold the **WAP** button for three seconds, the **WiFi LED**

will flash to signify that it has entered wireless access point (WAP) mode, and is ready to connect to the console's WiFi.

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.

Once completed, you will return your device to the normal WiFi settings.

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, as shown in Figure 52 (your WiFi network name may be slightly different, but will always begin with WeatherHome).

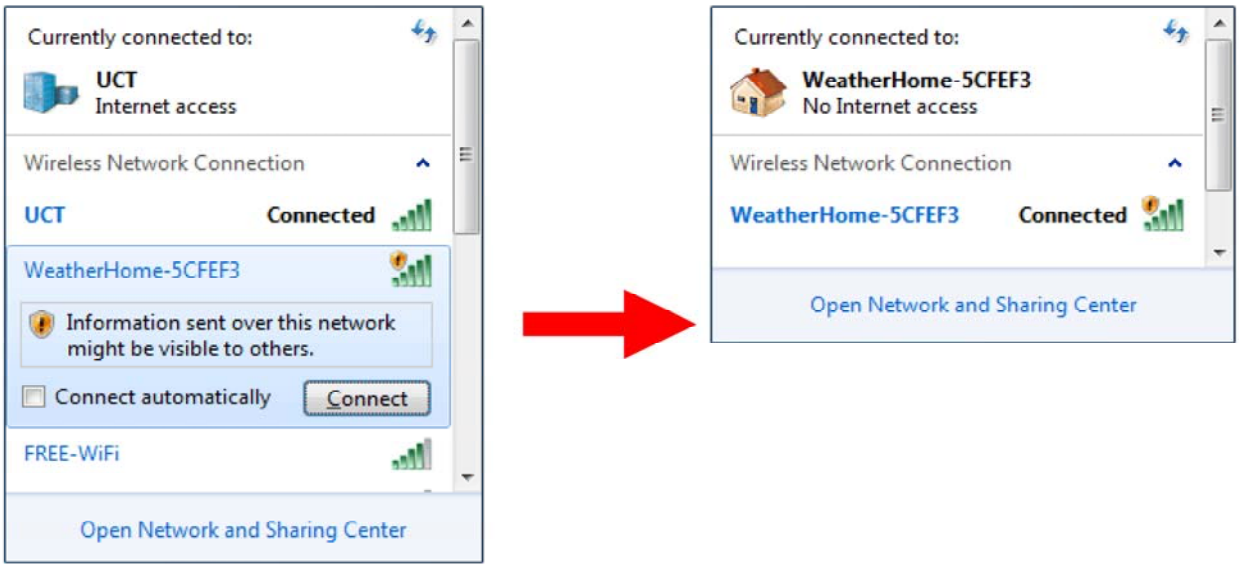


Figure 52

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

Select the Settings icon and Network. Connect to the WeatherHome WiFi network, as shown in Figure 53 (your WiFi network name may be slightly different, but will always begin with WeatherHome).

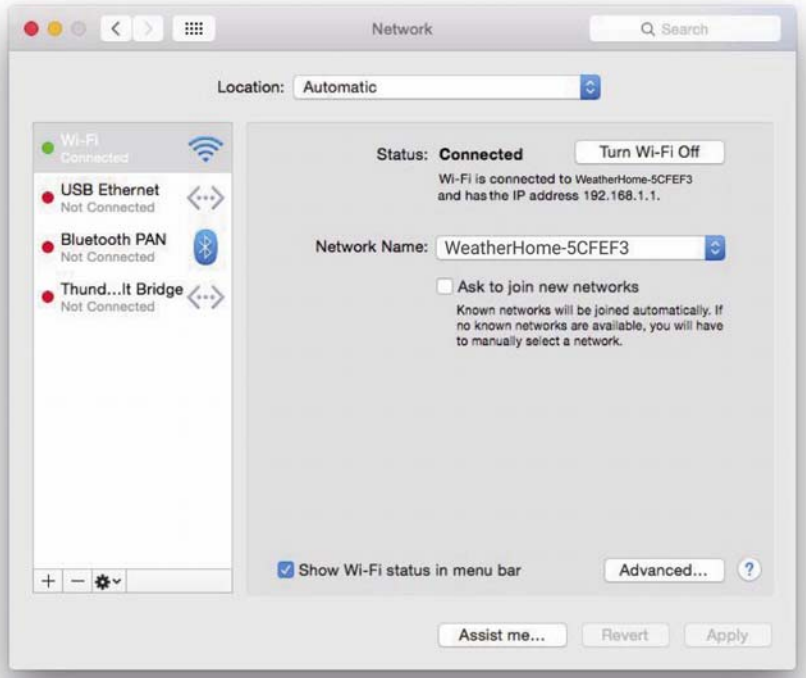


Figure 53

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

Tap the Settings icon and Wi-Fi. Connect to the WeatherHome WiFi network, as shown in Figure 54 (your WiFi network name may be slightly different, but will always begin with WeatherHome).

Figure 54

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

From the Apps icon, tap the Settings icon and Wi-Fi. Connect to the WeatherHome WiFi network, as shown in Figure 55 (your WiFi network name may be slightly different, but will always begin with WeatherHome).

Figure 55

10.2 Accessing the Console's Web Interface

Once connected to the console WiFi, open any web browser, and enter the following IP address into the 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.

Enter your 2.4 GHz router name or SSID, password, time zone and Daylight Saving Time into the web interface (Figure 56), and tap **Save**.

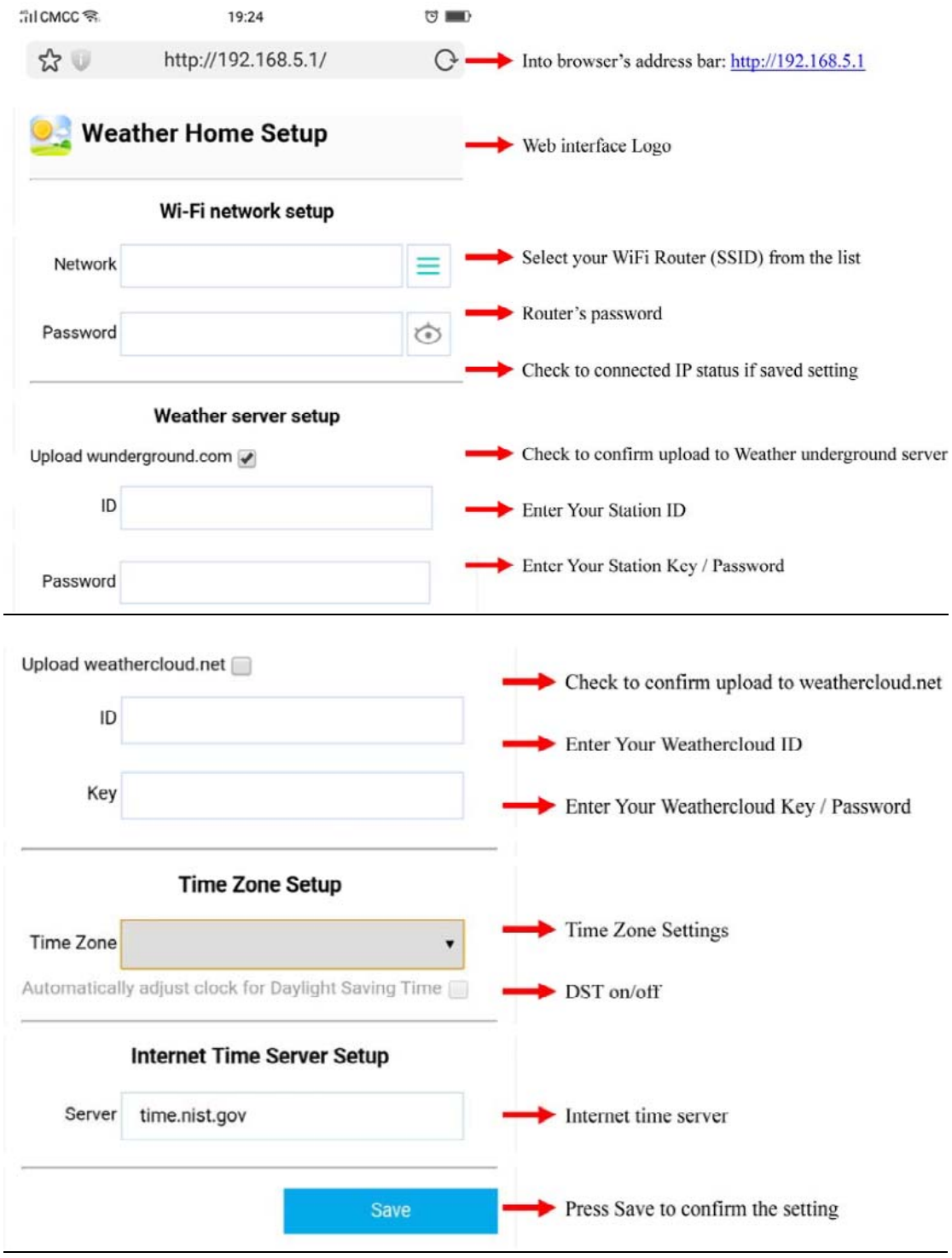


Figure 44

Figure 56

Notes:

- Make a note of your Mac address. You will need this to register at AmbientWeather.net.
- 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

Once the setup is complete, disconnect your device from the console WiFi. Otherwise, the console will automatically exit WAP mode.

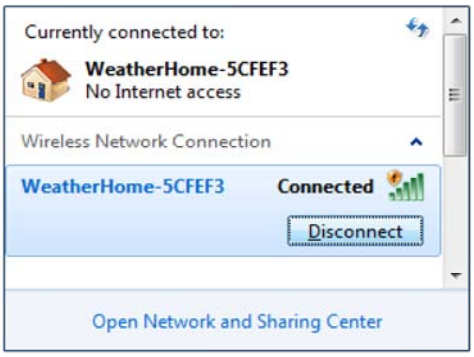


Figure 57

If the connection is successful, the Wi-Fi console's **WiFi LED**

will stop flashing and remain on.

When the console successfully connects and uploads to AmbientWeather.net, the data signal

NET LED will Light Off. If the data signal

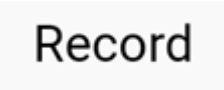
NET LED flash once per 60 seconds, the console is currently uploading to the server. If data signal

NET LED will Light On, the console is not connected to the weather server for more than 30 minutes.

Console's Web Interface Other Features

The following section describes additional features and Web Interface，include Setting, Record, Unit, Calibrate and Upgrade function.

A: View all data Record

Select the view icon and tap 

.

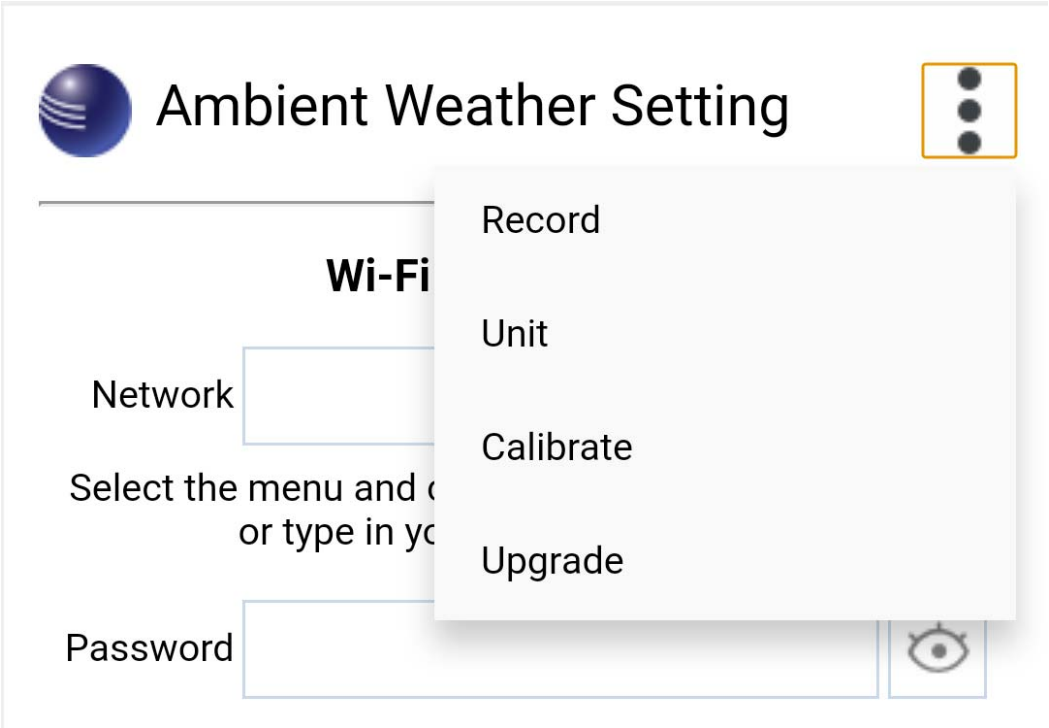

Ambient Weather Setting
Record
Wi-Fi
Unit
Network
Calibrate
Select the menu and
or type in yo
Upgrade
Password

Figure 58

Figure 59

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

1. Tap the Register to enter the lost sensor search mode, Tap the Stop to exit the search mode.

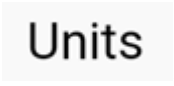
2. The search icon Stop will be displayed for 3 minutes. Once the signal is reacquired, the remote search icon will change Register, and the current values will be displayed..

If new sensors are added, subtracted, or multiple sensor channels are lost, in search mode to select **ALL's**

.Or press and hold for three seconds

button on receiver.

B: Console's Units

Select the view icon and tap 

.

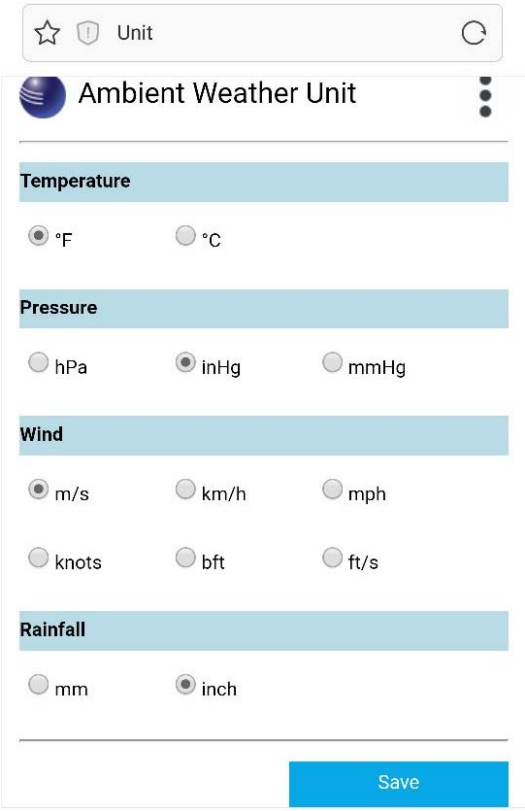
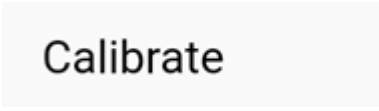


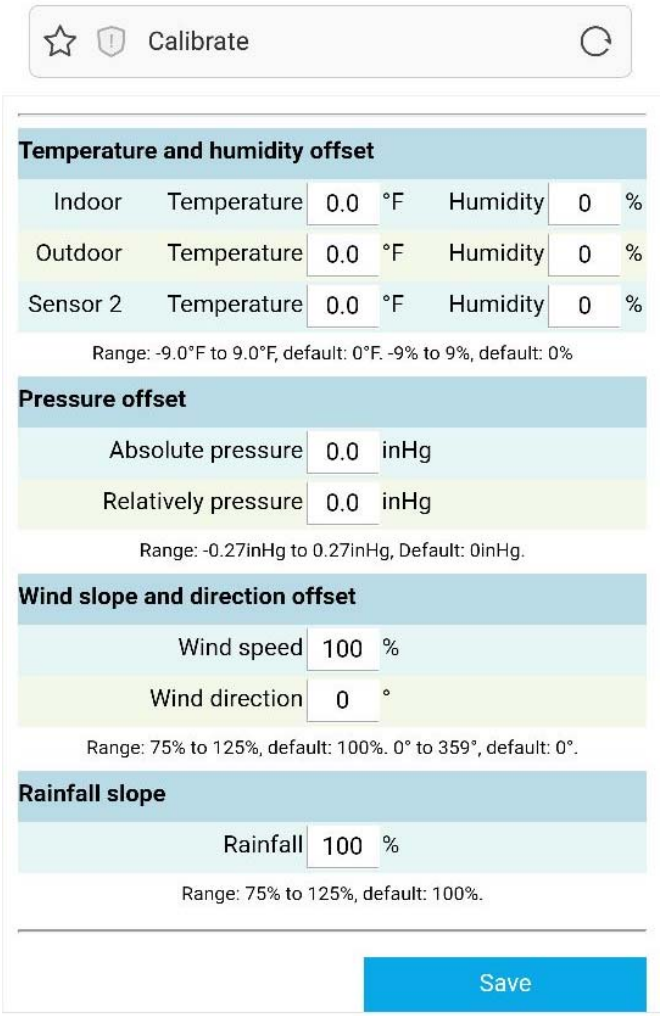
Figure 60

Choose your want Units into the web interface (Figure 60), and tap **Save**.

C: Adjustment or Calibrate

Select the view icon and tap 

.



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 WS0100 supports up to eight remote sensors. Each of the eight sensors can be calibrated.

C1:Temperature or Humidity Calibration

Select you want to type of calibration value and tap 0.0 °F, then enter temperature offset rang:-9.0F to 9.0F,default 0F.

Select you want to type of calibration value and tap 0 %, then enter humidity offset rang:-9% to 9%,default 0%.

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.

C2: Absolute or Relative Pressure Calibration

Select you want to type of calibration value and tap 0.0 inHg, then enter absolute or relative offset rang:-0.27inHg to 0.27inHg, default :0inHg.

Example: The calibrated pressure source measures 28.00 inHg. The display absolute pressure reads 28.83 inHg on the console.

Offset = 28.00 – 28.83 = 0.83 inHg.

Relative Pressure note

Example: The local official barometer measures 30.00 inHg. The display absolute pressure reads 29.92 inHg on the console.

Offset = 30.00 – 29.92 = 0.08 inHg.

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

To compare pressure conditions from one location to another, meteorologists correct pressure to sea-level conditions. Because the air pressure decreases as you rise in altitude, the sea-level corrected pressure (the pressure your location would be at if located at sea-level) is generally higher than your measured pressure.

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

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

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

C3: Wind Gain Calibration

Select calibration value and tap 100 %, then enter wind speed calibration factor from: 75% to 125% The default is 100%.where:

Calibrated Wind Speed = Calibration factor x Measured Wind Speed

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

Discussion: 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.

Select calibration value and tap 0 °, then enter wind direction offset rang: 0 to 359 degree, The default is 0.

C4: Rain Calibration

Select calibration value and tap 100 %, then enter rainfall calibration factor from: 75% to 125% The default is 100%., where:

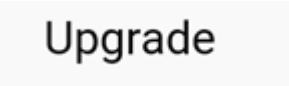
Calibrated Rain = Calibration factor x Measured Rain

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

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

to calibration.

C5: Updating Firmware

Select the view icon and tap 

To find firmware updates, please visit:

Note that you must download the firmware update file to your PC or Mac. You cannot download a file to your tablet or mobile phone.

to access the console's upgrade web interface.

Tap **Select File** and browse to the binary (bin) file you downloaded to your PC or Mac.

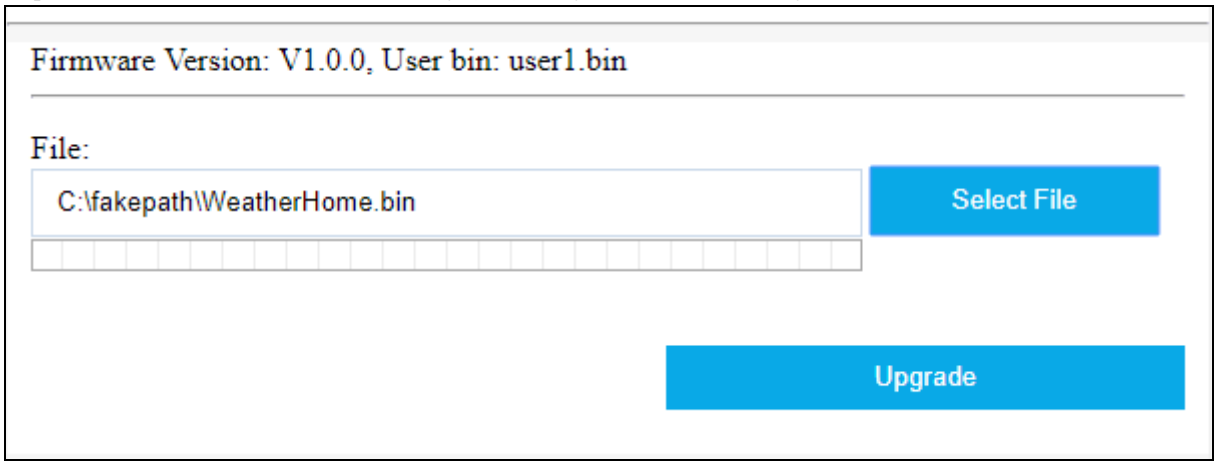


Figure 60

Once complete, your computer will automatically reconnect to your default WiFi connection.

13.6. Enter the following information into the web interface (Figure 44). Make sure all of the information is entered prior to selecting Save. If you choose not to upload Wunderground.com, or upload weathercloud.net, leave the check boxes unchecked.

Notes: 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

Hours from GMT	Time Zone	Cities
9	JST: Japan Standard	Tokyo
10	GST: Guam Standard	Sydney
11	---	Magadan
12	IDLE: International Date Line East NZST: New Zealand Standard	Wellington, New Zealand

13.7. If all of the information you entered is correct press save to confirm(Figure 45). If it does not, check your web interface information again.

Figure 45

13.8. Once the setup is completed, disconnect your device from the console WiFi. Otherwise,the console will automatically exit WAP mode. (Figure 46)

Figure 46

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 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.

13.9 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).

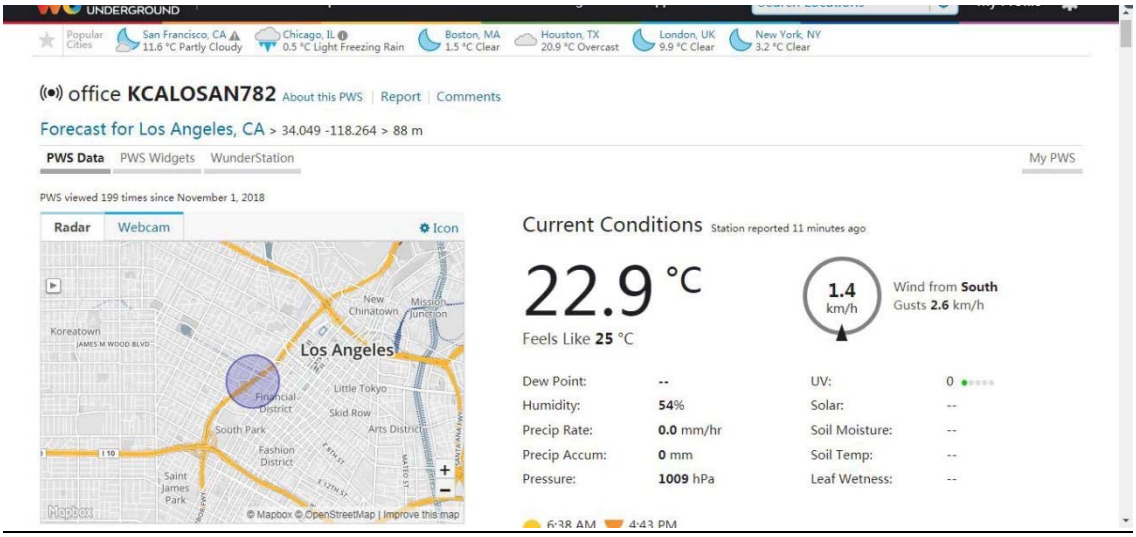


Figure 47

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

13.10. 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.

14. Upgrade firmware

You may get the latest firmware of the console as below

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

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

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

Figure 48

14.4.Once connection succeeds, it will jump to "Upload Setting" screen automatically.

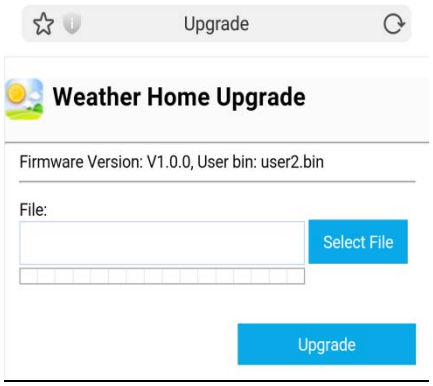


Figure 49

14.5. Press Select File key to select the upgraded firmware as figure 50.

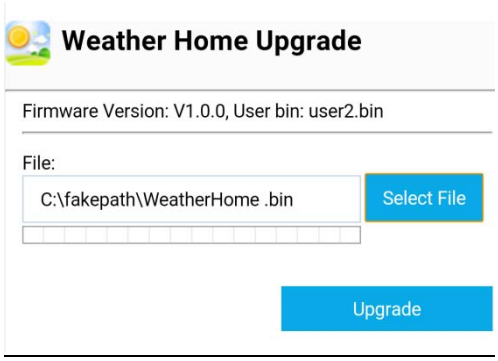


Figure 50

14.6. If update successfully when press Upgrade key. Then you will see the following.

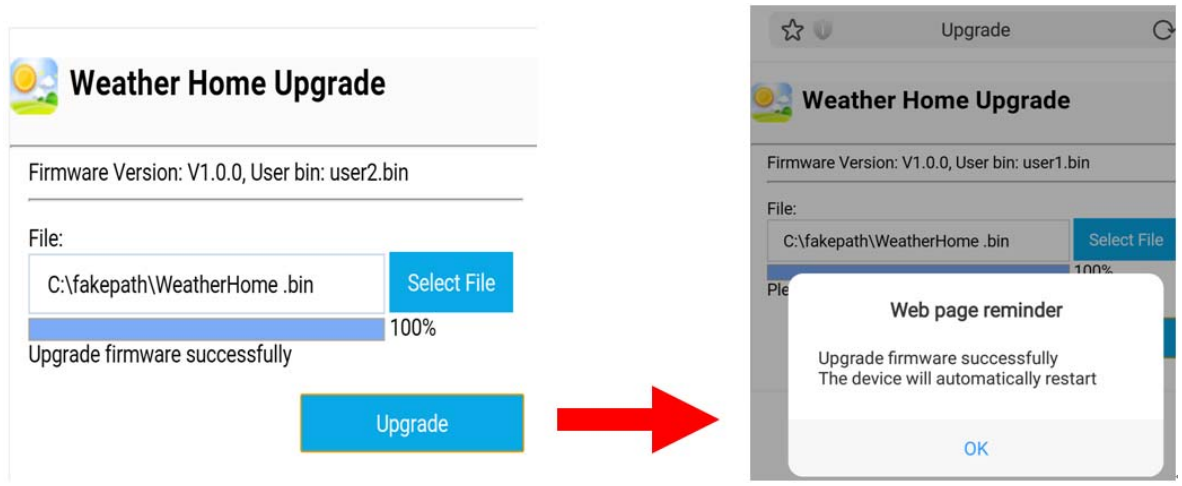


Figure 51

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

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

1 Glossary of Terms

Term	Definition
Accuracy	Accuracy is defined as the ability of a measurement to match the actual value of the quantity being measured.
Hygrometer	A hygrometer is a device that measures relative humidity. Relative humidity is a term used to describe the amount or percentage of water vapor that exists in air.
Range	Range is defined as the amount or extent a value can be measured.
Resolution	Resolution is defined as the number of significant digits (decimal places) to which a value is being reliably measured.
Wind Vane	A wind vane is a device that measures the direction of the wind. The wind vane is usually combined with the anemometer. Wind direction is the direction from which the wind is blowing.

2 Specifications

16.1 Wireless Specifications

- Line of sight wireless transmission (in open air): 300 feet, 100 feet under most conditions
- Frequency: 433 MHz
- Update Rate: 60 seconds for rain sensor and thermo-hygrometer sensor, 16 seconds for wind sensor.

16.2 Measurement Specifications

The following table provides specifications for the measured parameters.

Measurement	Range	Accuracy	Resolution
Outdoor Temperature	-40 to 140 °F	± 1 °F	0.1 °F
Outdoor Humidity	10 to 99%	± 5% (only guaranteed between 20 to 90%)	1 %
Rain	0 to 396in	<0.6in: ±0.04in, 0.6in to 396in: ±7%	<39.4in (0.012in) >39.4in (0.04in)
Wind Direction	0 - 360 °	45° (8 point compass)	45° (8 point compass)
Wind Speed	0 to 112mph	4.5 mph ~22.4mph: ± 6.7mph, 22.4mph ~112mph: ±10% (whichever is greater)	0.1mph

16.3 Power Consumption

- Adaptor: 6V~ 500mA
- Thermo-Hygro Sensor : 2 x AAA alkaline batteries or Lithium batteries (not included)
- Rain sensor: 4 x AAA alkaline batteries or Lithium batteries (not included)

- Wind sensor: 4 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 -4 °F)

16.4 WiFi Specifications

- WIFI Standard: 802.11 b/g/n
- WiFi Console WiFi Frequency: 2.4 GHz
- Setup User Interface (UI) support setup device: Build-in WiFi with WAP mode smart device, including desktops, laptops, tablets or mobile devices
- Recommend web browser for setup UI: Web browser support of HTML 5, such as the latest versions of Chrome, Safari, IE, Edge, Firefox, Mozilla or Opera.
- Line of sight WiFi RF transmission (in open air): 80 feet

17. Maintenance

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

18 Troubleshooting

For troubleshooting, please visit:

19 Maintenance

- Clean the rain gauge once every 3 months. Pull out the Rain Gauge Filter drawer, as shown in Section 6.2.1.
- Replace the wind, rain and thermo-hygrometer transmitter batteries once every 1-2 years
- Clean the anemometer solar panel once every 3 months.

20 Accessories

The following software and hardware accessories are available for this weather station at

Accessory	Description
Ambient Weather SRS100LX Temperature and Humidity Solar Radiation Shield	Solar Radiation Shield improves temperature accuracy for hot weather climates. Install over thermo-hygrometer.
Ambient Weather Humidity Calibration Kits	One step calibration kits for digital hygrometers use salt slurry formula to accurately calibrate the indoor and outdoor hygrometers.

21 Liability Disclaimer

Please help in the preservation of the environment and return used batteries to an authorized depot.
The electrical and electronic wastes contain hazardous substances. Disposal of electronic waste in wild country and/or in unauthorized grounds strongly damages the environment.

Reading the “User manual” is highly recommended. The manufacturer and supplier cannot accept any responsibility for any incorrect readings and any consequences that occur should an inaccurate reading take place.

This product is designed for use in the home only as indication of weather conditions. This product is not to be used for medical purposes or for public information.

The specifications of this product may change without prior notice.

This product is not a toy. Keep out of the reach of children.

No part of this manual may be reproduced without written authorization of the manufacturer.

Ambient, LLC WILL NOT ASSUME LIABILITY FOR INCIDENTAL, CONSEQUENTIAL, PUNITIVE, OR OTHER SIMILAR DAMAGES ASSOCIATED WITH THE OPERATION OR MALFUNCTION OF THIS PRODUCT.

22 FCC Statement

Statement according to FCC part 15.19:
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.
2. This device must accept any interference received, including interference that may cause undesired operation.

Statement according to FCC part 15.21:
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
Statement according to FCC part 15.105:
NOTE: 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.

The distance between user and device should be no less than 20cm.