Raddy

WF-100C Professional WIFI Weather Station with Wireless Channel Remote Sensor

User Manual





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1. Introduction

Thank you for your purchase of the Raddy WF-100C Professional WIFI Wireless Weather station. The following user guide provides step-by-step instructions for installation, operation and troubleshooting.

2. Warnings

⚠ Warning

Metal objects, such as your weather station mounting pole, may attract a lightning strike. DO NOT install the weather station in a storm. If you plan to set up the outdoor transmitter on your roof, please assemble the lightning rod.

⚠ Warning

Install 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 WF-100C weather station consists of one Display console, one Integrated Outdoor Sensor, one Thermo-hygrometer Sensor, and some mounting hardware.

3.1 Parts List

The WF-100C weather station consists of the following parts.

lmage	Item	QTY
194 1949 196	Display Console Frame Dimensions (L x W x H): 8.5" x 0.9" x 6.2" LCD Dimensions (L x W): 6.7" x 4.9"	1
Raddy	Integrated Outdoor Sensor Dimensions (L x W x H): 11.8" x 5.9" x 11"	1
Total Control of Contr	Thermo-hygrometer Sensor Dimensions (L x W x H): 2.1" x 0.9" x 2.9"	1
	Foot Mounting (with pole insert) Dimensions: 3.3" x 6.0" x 8.5"	1
	Mounting Bracket Back Plate (pole mount) Dimensions: 3.0" x 4.7" x 1.5"	1

Abbildung	Beschreibung	Anzahl
	Mounting Pole Dimensions: 1.2" x 0.8" x 11.8	1
	Screws and Nuts M3 x 29mm For pole mounting	2
	Screws and Nuts M5 x 35mm For fixing the mounting foot together with the mounting bracket plate to an 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	4
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	100240V AC Power Adapter	1

3.2 Recommended Tools

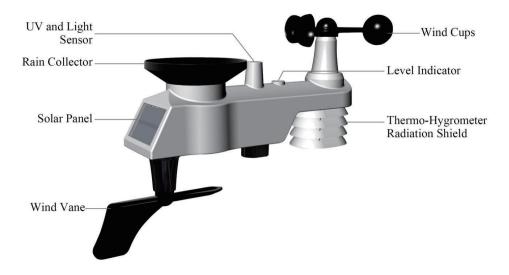
- Precision screwdriver (for small Phillips screws)
- Compass or GPS (for wind direction calibration)
- Adjustable wrench
- Hammer and nail for hanging Thermo-hygrometer Sensor.

3.3 Get Ready for Installation



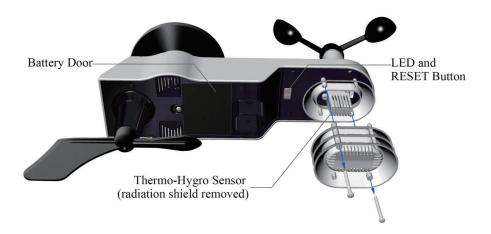
The sensor array must be powered and updating before powering up the console, or the console will stop scanning and connecting with the sensors.

The following image shows the full segment of Integrated Outdoor Sensor: It consists of Thermo-Hygrometer, Anemometer, Rain gauge, UV index sensor and Solar panel.



3.3.1 Install Batteries into the Integrated Outdoor Sensor.

Locate the battery lid at the bottom of the sensor, and open the battery compartment.



Remove the battery lid on the back of the sensor by removing the set screw.



Install 3 AA brand new batteries (recommend using Li-ion batteries, which generally can last over 1 year) in the battery compartment.



Close the battery lid. To prevent being flooded with water in the battery compartment, make sure the gasket (around the battery compartment) is properly seated in its trace prior to close the door. Tighten the set screw.

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.

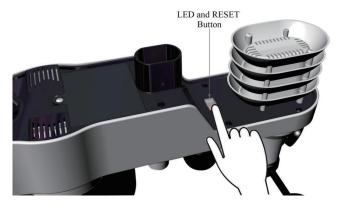
Note

We recommend installing Lithium AA batteries for sensors. (When the outdoor temperature is lower than -20° C (-4° F), the battery might not work properly.)

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.



If the sensor does not power up after install the batteries, press the reset button at the bottom of sensor.



3.3.2 Install Batteries into the Thermo-hygrometer Sensor

Uninstall on the battery lid, and install 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 tab of the battery lid into the battery compartment guide.



(1) **BEFORE** install the batteries, locate the dip switches on the inside cover of the sensor.



The image on the right displays all four switches in the OFF position (factory default setting).

- **(2) Channel Number:** The WF-100C supports up to eight sensors (This product is only packed with 1 sensor, if you want other sensors, please purchase additionally). To set each channel number (the default is Channel 1), change Dip Switches 1, 2 and 3, as referenced in Table 1.
- (3) Temperature Unit: To change the sensor display units of measure (°F vs. °C), change Dip Switch 4, as referenced in Table 1.

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

Table 1

- (4) Install two AAA batteries.
- (5) After install the batteries, the remote sensor LED indicator will light for 4 seconds, and then flash once per 60 seconds thereafter. Each time it flashes, the sensor is uploading the data to the display console.
- (6) Verify the correct channel number (CH) and temperature units (°F vs. °C) are on the display.
- 1 Temperature
- 2 Temperature unit (°F or °C)
- 3 Channel number
- Relative humidity
- (7) Close the battery lid.
- (8) Each time you make a change to the channel or temperature unit, you should uninstall the battery then re-install back, then the screen will display the new channel and measure unit after 5s.

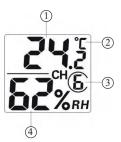
3.4 Display Console

3.4.1 Layout of Display Console

The display console will instantly display Temperature, Humidity, Pressure, Tendency, Moon phases, and Time, Wind speed, Wind gust, Wind direction, Rain, UV/Sunlight.



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





- 1. Outdoor temperature
- 2. Wifi network
- 3. Outdoor humidity
- 4. Outdoor humidity high/low alarm icon
- 5. Min/max reset for 24h icon
- 6. Rainfall (Rate, last 24h, last week, last month, total)
- 7. Rainfall units of measure
- 8. Indoor temperature and humidity High/Low alarm icon
- 9. Indoor temperature and humidity
- 10. Time alarm
- 11. Time and date
- 12. Humidity units of measure (%)
- 13. UV index
- 14. Sunshine intensity
- 15. Moon phases
- 16. Sunlight units of measure

- 17. Sensor heat index
- 18. Sensor heat index (heat index, dew point)
- 19. Outdoor temperature and humidity
- 20. Scroll mode indicator
- 21. Channel 1-8 indicator
- 22. Pressure (rel and abs)
- 23. Pressure units of measure
- 24. Wind speed average
- 25. Wind gust
- 26. Wind speed units of measure
- 27. Wind chill and feels like High/Low alarm icon
- 28. Wind direction
- 29. Out dew point and AT (Apparent Temperature)
- 30. Integrated outdoor sensor low power indicator
- 31. Temperature units (°f or °c)
- 32. Outdoor temperature hi/lo alarm icon
- 33. Weather forecast

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, install three AAA (alkaline or lithium) batteries in the battery compartment. The display will beep once and layout of display will light up for a few seconds.



Replace the battery lid, and unfold out the desk stand and place the console in the upright position.

2) Plug in the Display Console with adapter





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 power up. Conversely, the icon ****** will display .

3.4.3 Connect the Sensors with Display Console

Once the display console is powered up, it will automatically scan the nearby Integrated Outdoor Sensors and the Thermo-hygrometer Sensors.

When connected with the Integrated Outdoor Sensor, the measured values (Outdoor temperature, Humidity, Rainfall, Pressure, Wind speed, Wind direction, UV index/Sunlight, etc.) will show up on the display console.

When connected with the Thermo-hygrometer Sensors, the measured values (Sensors' temperature, Humidity, Heat Index Dew point) will display located at the right bottom section of the display console.

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



Make sure that place the distance between the weather station sensor and the display console is about 3m-30m. 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 Sensor, make sure they are all powered up and transmitting on different channels.



DO NOT press any menu buttons until the outside sensor report display on the screen, otherwise the outdoor sensor will be terminated to connect with the console.

3.5 Sensor Operation Verification

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

- (1) Verify proper operation of the rain gauge. Tip the sensor array back and forth several times. You should hear a "clicking"sound within the rain gauge. Verify the rain reading on the display console is not reading 0.00. Each "click"represents 0.1 inch of rainfall.
- (2) Verify proper operating of the wind speed. Rotate the wind cups manually or with a constant speed fan. Verify the wind speed is not reading 0.0.
- (3) Verify proper operation of the indoor and outdoor temperature. Verify the indoor and outdoor temperature match closely with the console and sensor array in the same location (about 3m apart). The sensors should be within $4^{\circ}F$ (the accuracy is $\pm 2^{\circ}F$). Allow about 30 minutes for both sensors to stabilize.

(4) Verify proper operation of the indoor and outdoor humidity. Verify the indoor and outdoor humidity match closely with the console and sensor array in the same location (about 10ft apart). The sensors should be within 10% (the accuracy is \pm 5%). Allow about 30 minutes for both sensors to stabilize.

4. Sensors Pre-installation

4.1 Site Survey Before Installation

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 20' tall, install $4 \times (20-6)$ ' = 56 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 300ft (91.4m), 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 100ft 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.

4.2 Test the Sensors before Fixing

We recommend test the weather station for one week before install it in the permanent location, so that you can 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.

4.3 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 300ft ((91.4m) line of sight (no interference, barriers or walls) but typically you will get 100ft 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.

Material	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 Sensors

5.1 Installation of Integrated Outdoor Sensor

WF-100C can be used in both the Northern and Southern Hemispheres. Prior to installation, you will need to calibrate the wind direction.

* There are four alphabet letter of "N", "E", "S" and "W" around the wind direction, ("N" is North, "E" is East, "S" is South, "W" is West.)

HORTH AMERICA AFRICA AFRICA ANTARCTICA

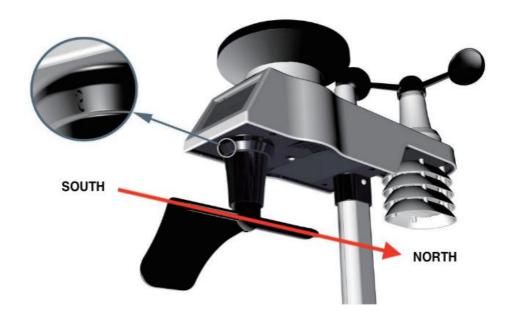
Northern Hemispheres

Southern Hemispheres

5.1.1 For Northern Hemispheres (NOR) Reference.

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, check the directions with the compass and align this "S" marker in the direction of South.



Step 2: Console operation is set to Northern Hemispheres (**NOR** in the time area) in Location division. (Check the detail step of setting the time area in the part 17 of chapter 7.2)

5.1.2 For Southern Hemispheres (SOU) Reference.

For Southern Hemisphere installations, ignore the direction (N, S, E, W) and face **the solar panel** to **the North** (and in a sunny position) when it comes to install the Integrated Outdoor Sensor.

Step 1: Install the Integrated Outdoor Sensor and face the solar panel to the North.



Step 2: Console operation is set to Southern Hemispheres (**SOU** in the time area) in Location division. (Check the detail step of setting the time area in the part 17 of chapter 7.2)

Note

The location division (NOR or SOU) on Display Console and the directions of the sensor have to be adjusted to match with your real location.

If the wind direction sensor is not positioned correctly during installation, permanent wind direction error will be introduced.

5.1.3 Mounting & Fixing the Sensor Horizontally

Fasten the Integrated Outdoor Sensor to mounting pole brackets with two foot-mounting screws M3 x 29mm and M3 nuts.

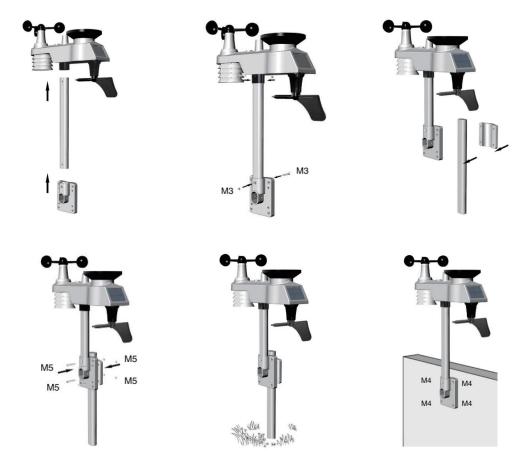
Then, tighten the mounting pole to your existing mounting pole with the four M5x 49mm screws and M5 nuts, or fix it on the flat surface with four M4 universal screw.



5.1.4 Mounting & Fixing the Sensor Vertically

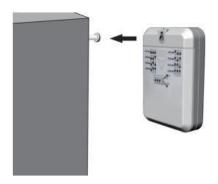
Fasten the Integrated Outdoor Sensor to mounting pole brackets with two foot-mounting screws M3 x 29mm and M3 nuts.

Then, tighten the mounting pole to your existing mounting pole with the four M5x 49mm screws and M5 nuts, or fix it on the wall with four M4 universal screw.



5.2 Installation of Thermo-hygrometer Sensor

It is recommended you mount the remote sensor outside in a shaded area. The sensor is not water resistant, it is best to mount in a well protected area. Use a screw or nail (not included) to affix the remote sensor to the wall. The sensor can also lay flat on the table.



6. Low Battery Icon

A low battery indicator icon is shown in the display window for Thermo-hygrometer Sensor/Integrated Outdoor Sensor. When the low battery icon display (Thermo-hygrometer Sensor's battery voltage is lower than 2.4V or Integrated Outdoor Sensor's 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



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

7.1 Quick Display Mode



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 date.
- Twice for indoor temperature, dew point,
- Three for rainfall.
- Four for outdoor dew point temperature
- Five for wind average
- Six for pressure
- · Seven for sensor dew point
- (1) Time, Time/Week and Date. Press the CHANNEL/+) or MAX/MIN/-) key to toggle between time, time/week and date.
- (2) Indoor Temperature. Press the CHANNEL/+ or MAX/MIN/- key to toggle between temperature and dew point.
- (3) Rainfall. Press the CHANNEL/+ or MAX/MIN/- key to toggle between rate, 24h, week, month and total.

To clear the total rain, press the CHANNEL/+) or MAX/MIN/-) 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.

- **(4) Outdoor Dew Point.** Press the CHANNEL/+ or MAX/MIN/- key to toggle between AT (Apparent Temperature) and dew point.
- **(5) Wind Average.** Press the CHANNEL/+ or MAX/MIN/-) key to toggle between current, 2mins and 10 minutes.
- **(6) Absolute Pressure and Relative Pressure.** Press the CHANNEL/+ or MAX/MIN/- key to toggle between absolute pressure and relative pressure.
- (7) Sensor Heat Index. Press the CHANNEL/+ or MAX/MIN/- key to toggle between sensor heat index and dew point..

7.2 Set (Program) Mode

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



In the Set mode, press the CHANNEL/+) key or MAX/MIN/-) key to change or scroll the value. Hold the CHANNEL/+) key or MAX/MIN/-) 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 CHANNEL/+ key or MAX/MIN/- key to switch between SYNC time ON and SYNC time OFF of measure. Synchronize the time of the device with Wi-Fi.
- (2) 12/24 Hour Format (default: 12h). Press the <u>SET/MODE</u> key again to adjust the 12/24 hour format setting (FMT). Press the <u>CHANNEL/+</u> key or <u>MAX/MIN/-</u> 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 CHANNEL/+ key or (MAX/MIN/-) 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 CHANNEL/+) key or MAX/MIN/-) key to adjust the minute up or down.
- **(5) Date Format (default: MM-DD).** Press the <u>SET/MODE</u> key again to enter the day/month format mode. Press the <u>CHANNEL/+</u> key to switch between MM-DD-YY, DD-MM-YY.
- **(6) Change Month.** Press the SET/MODE key again to set the calendar month. Press the CHANNEL/+ key or MAX/MIN/- key to adjust the calendar month.
- (7) Change Day. Press the SET/MODE key again to set the calendar day. Press the CHANNEL/+ key or MAX/MIN/- key to adjust the calendar day.

- (8) Change Year. Press the SET/MODE key again to set the calendar year. Press the CHANNEL/+ key or MAX/MIN/- 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 CHANNEL/+ key or [Temperature Units of Measure (default: °F-] key to switch between "Clears 24h" and Clears Manually.)
- (10) Press the <u>SET/MODE</u> key again to change the temperature units of measure (the UNITSET icon will be displayed). Press the <u>CHANNEL/+</u> key or <u>MAX/MIN/-</u> 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 CHANNEL/+ key or MAX/MIN/- key to toggle the wind speed units between m/s, km/h, mph, knots or bft.
- (12) Rainfall Units of Measure (default: mm). Press the SET/MODE key again to change the Rainfall units of measure. Press CHANNEL/+ key or MAX/MIN/- 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 CHANNEL/+ key or MAX/MIN/- 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 (CHANNEL/+) key or (MAX/MIN/-) key to change pressure threshold 2 mbar/hour to 4 mbar/hour.(For detailed info of this part please refer to 9.5)
- (15) Weather Icons Setting (default: partly cloudy). Press the SET/MODE key again to change the initial weather icon. Press the CHANNEL/+) key or MAX/MIN/-) key to select the initial weather icon of Sunny, Cloudy, Partly Cloudy or Rainy. (For detailed info of this part please refer to 9.1 and 9.2)
- (16) Sunlight Display Units(default: W/ m²). Press the SET/MODE key again to change the sunlight units of measure. Press the CHANNEL/+) key or MAX/MIN/-) 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 CHANNEL/+) key or MAX/MIN/-) key to toggle the sunlight units Northern Hemisphere (NOR) or Southern Hemisphere (SOU). (Refer to 5.0 Final Installation of Integrated Outdoor Sensor)

7.3 Channel Selection

Press the CHANNEL/+ button to switch the display between remote Thermo-hygrometer sensors 1 through 8, and scroll mode . In scroll mode, all of the detected thermo-hygrometer sensors will be displayed in five second intervals. Only when 2 or over 2 sensors connected with the screen could activate these features.

(Only one sensor included in WF-100C box)

7.4 Sensor Search Mode

If a sensor loses communication, dashes (--,-) will be displayed. If a specific channel is lost, press the $\overline{(CHANNEL/+)}$ button to display that channel prior to entering the search mode.

To reconnect the display console, press and hold the CHANNEL/+ button for 3 seconds to enter the sensor search mode.

The icon **AIO** will appear in the time area. You can synchronize one or all of individual sensors, press the CHANNEL/+) or MAX/MIN/-) key to toggle between the following sensors:

AIO	Synchronizes Integrated Outdoor Sensor
CH*	Synchronizes Channel 1-8 Sensors (dependent on which channel is displayed before entering the Sensor Search Mode).
ALL Synchronizes All Sensors.	
NOT	Do nothing and exit the Sensor Search Mode.

After selecting one of the above options, press the <u>SET/MODE</u> key to re-sync, and the display will return to normal mode. **Do not press any buttons** until the synchronization is complete. The remote search icon will display constantly for 3 minutes until the signal is reacquired.

7.5 Max/Min Record Viewing and Reset

If you own more than one thermo-hygrometer sensor, the minimum and maximum value of all sensors will be cleared in the reset mode.

7.5.1 MAX Record Viewing and Reset

In normal mode, press the MAX/MIN/- key, the MAX icon will display in the Time area. Press the SET/MODE key to view max values of Rainfall (rate, 24h, week or month), Pressure (ABS or REL), Outdoor temperature/humidity (AT or dew point), Indoor temperature/humidity (temp or dew point) and Sensor temperature and humidity, Sensor dew point or heat index.

Press the CHANNEL/+) button to switch the display between Remote thermo-hygrometer sensors 1 through 8 to view Max values.

Press the MAX/MIN/- key for three seconds to clear all MAX values. (the rainfall, wind speed, wind gust, pressure, temperature, and humidity maximum values.)

Press the SNOOZE key to exit the MAX/MIN checking and reset mode, return to the normal display mode.

The maximum values will display the current values after reset.

7.5.2 MIN Record Viewing and Reset

In normal mode, press the MAX/MIN/-) key twice, the MIN icon will display. Press the SET/MODE key to view min values of Pressure (ABS or REL), Outdoor temperature/humidity (AT or dew point), Indoor temperature/humidity (temp or dew point), and Sensor temperature humidity, Sensor dew point (dew point or heat index).

Press the $\overline{\text{CHANNEL/+}}$ button to switch the display between Remote thermo-hygrometer sensors 1 through 8 to view the Min values.

Press the MAX/MIN/- 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).

7.6 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 minute. press any key (MAX/MIN/-), (SET/MODE), (CHANNEL/+)) to permanently exit the (SNOOZE) mode.

7.7 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.

7.7.1 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.



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.

7.8 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 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.

8 Alarm Mode

The WF-100C 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
- Sensor(CH1) Temperature
- Sensor(CH1) Humidity
- Sensor(CH1) Heat Index
- Sensor(CH1) Dew Point

8.1 Alarm Triggered

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 Check the Max and Min Alarms Value

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, Sensor(CH1) temperature/humidity and dew point are displayed. Press (SET/MODE) key to view Alarm 2 time and HI alarm parameters of indoor dew point, 24h rainfall, outdoor dew point, relative pressure and Sensor(CH1) heat index.

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 <u>SET/MODE</u> 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 CHANNEL/+) or MAX/MIN/-) key to increase or decrease the alarm settings, or press and hold the CHANNEL/+) or MAX/MIN/-) 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)
- 2. Alarm minute(alarm 1)
- 3. Alarm hour(alarm 2)
- 4. Alarm minute(alarm 2)
- 5. Outdoor temperature high alarm
- 6. Outdoor temperature low alarm
- 7. Outdoor humidity high alarm
- 8. Outdoor humidity low alarm
- 9. Outdoor AT high alarm
- 10. Outdoor AT low alarm
- 11. Outdoor dew point high alarm
- 12. Outdoor dew point low alarm
- 13. Outdoor feels like high alarm
- 14. Outdoor feels like low alarm
- 15. Wind Gust high alarm

- 16. Wind Average high alarm
- 17. Rainfall (RATE) high alarm
- 18. Rainfall (24h) high alarm
- 19. Absolute pressure high alarm
- 20. Absolute pressure low alarm
- 21. Relative pressure high alarm
- 22. Relative pressure low alarm
- 23. Indoor temperature high alarm
- 24. Indoor temperature low alarm
- 25. Indoor humidity high alarm
- 26. Indoor humidity low alarm
- 27. Indoor dew point high alarm
- 28. Indoor dew point low alarm
- 29. UV Index high alarm
- 30. Sunlight high alarm

31. Sensor(CH1) Temperature high alarm	35. Sensor(CH1) Heat Index high alarm
32. Sensor(CH1) Temperature low alarm	36. Sensor(CH1) Heat Index low alarm
33. Sensor(CH1) Humidity high alarm	37. Sensor(CH1) Dew Point high alarm
34. Sensor(CH1) Humidity low alarm	38. Sensor(CH1) Dew Point low alarm



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



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 Key Beeper ON/OFF

Randomly click the any button to silence the alarm sound.

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. Other Features of Display Console

9.1 Weather Forecasting



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.

9.2 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.

9.3 Moon Phases

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

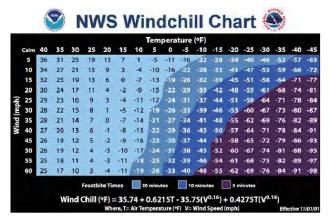


9.4 Feels Like Temperature and AT

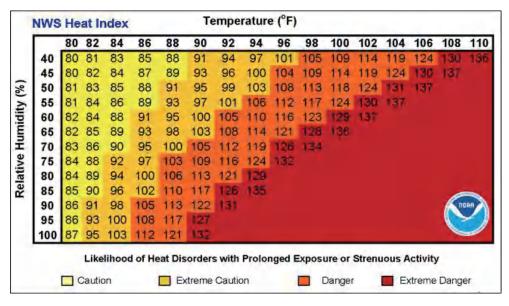
9.4.1 Feels Like Temperature

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

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



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



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

9.4.2 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.

9.5 Pressure Threshold Setting (see Chapter 7.2 section 14)

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.

9.6 Optional Calibration

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.

The WF-100C supports up to eight remote wireless sensors. The measured value display for each of the eight wireless sensors can be calibrated.



The calibrated value can only be set on the display unit. The radio sensor (s) always shows the uncalibrated value or the value measured by the local radio sensor.



Note |

The measured humidity range is between 10% and 99%. Outside of this range, the humidity cannot be measured accurately. Therefore the humidity cannot be calibrated below 10% or above 99%.

9.6.1 Optional Calibration of Temperature

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

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

Press the (ALARM) button to reset to the current value.

Press the (SET/MODE) button to switch between temperature channels 1 through 8.

To exit the calibration mode at any time, press the <u>SNOOZE</u> button on the top of the display console. If no operation is performed, the calibration mode will automatically close in 30 seconds.

9.6.2 Optional Calibration of Humidity

To calibrate the humidity, press and hold the <u>SET/MODE</u> and <u>MAX/MIN/-</u> buttons at the same time for five seconds to enter the humidity calibration mode. The indoor humidity will begin flashing.

Press the CHANNEL/+) or MAX/MIN/-) button to increase or decrease the humidity reading (in increments of 1%). 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.

Press the (SET/MODE) button switch to channel humidity 1through 8.

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

If no operation is performed, the calibration mode will timeout in 30 seconds.



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.

9.6.3 Optional Calibration of Sensor

1) Step by Step Guide

press and hold the <u>(SET/MODE)</u> and <u>(ALARM)</u> buttons at the same time for five seconds to enter the barometer, wind speed, rainfall calibration mode. To skip over a parameter, press the <u>(SET/MODE)</u> button. The word CAL will appear at the bottom of the screen.

2) Absolute Pressure Calibration

In the calibration mode, the "ABS" symbol will display at the PRESSURE section, the absolute pressure offset will flash. The default offset is 0.00 inHg.

Press the CHANNEL/+) or MAX/MIN/-) button to increase or decrease the absolute pressure offset.

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

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.

3) Relative Pressure Calibration

In the calibration mode, press the <u>SET/MODE</u> button once, the "REL" symbol will display at the PRESSURE section, the relative pressure offset will flash. The default is 0.00 inHq

Press the CHANNEL/+) or MAX/MIN/-) button to increase or decrease the relative pressure offset.

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

Press the (ALARM) button to reset current value.

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

Offset = 30.00 - 29.92 = 0.08 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 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 in Hg (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 inHq 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.

4) Wind Gain Calibration

In the calibration mode, press the (SET/MODE) button twice and the wind speed value will flash. The default is 1.00 (the display will show 100 but it is actually 1.00. There is no provision for the decimal point).

Press the CHANNEL/+) 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/-) button for three seconds to increase or decrease rapidly.

Press the (ALARM) button to reset current value.



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



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/MODE) button for 3 times, the Rain Calibration value will begin flashing (the default is 1.0). Press the (CHANNEL/+) or (MAX/MIN/-) button to adjust the rain calibration factor from 0.75 to 1.25

Calibrated Rain = Calibration Factor x Measured Rain

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.



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.

7) 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 the CHANNEL/+ or MAX/MIN/- button to adjust the rain calibration factor from 0.75 to 1.25

Calibrated Sunlight = Calibration Factor x 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.

8) Quick Reference Guide:

Command* Order	Mode	Default	Settings
[SET/MODE] + [ALARM] + 5 seconds	Absolute Barometer Offset	0.00	Press CHANNEL/+) or MAX/MIN/-) to adjust the absolute pressure up or down. Note that you normally not calibrate absolute pressure unless you have a specific application example, measuring air density.
[SET/MODE]	Relative Barometer Offset	0.00	Press CHANNEL/+ or MAX/MIN/- to adjust the relative pressure offset up or down. See discussion below on how to calibrate relative pressure based on conditions at a local airport.
[SET/MODE]	Wind Gain	1.00	Press CHANNEL/+) button or MAX/MIN/-) to adjust the wind gain up or down.
[SET/MODE]	Rain Gain	1.00	Press CHANNEL/+) button or MAX/MIN/-) to adjust the rain gain up or down.
[SET/MODE]	Sunlight	1.00	Press CHANNEL/+) button or MAX/MIN/-) to adjust the rain gain up or down.
[SET/MODE]	Exit Calibration Mode	0.00	

* [SET/MODE] + [ALARM] +5 seconds

= press and hold the (SET/MODE) and (ALARM) buttons at the same time for 5 seconds.

[SET/MODE]

= press (but do not hold) the (SET/MODE) button

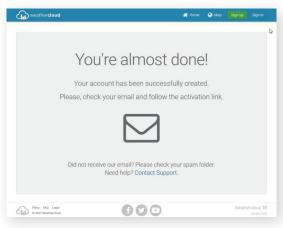
10. Weather Server Registration Guide

10.1 Sign up at WeatherCloud.net

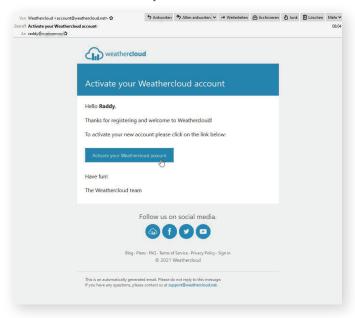
1) Visit https://weathercloud.net/, then input a Username, Email and Password, then click "Sign up" to create your account.



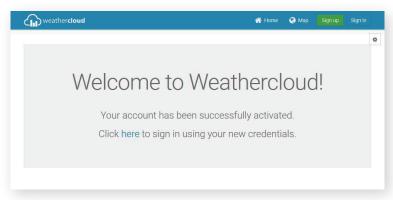
2) You will receive an confirm email in your registered mailbox.



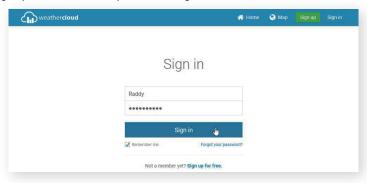
3) Check the confirm email then click "Activate your Weathercloud account"



4) Click "here" to enter the homepage of Weathercloud.net.



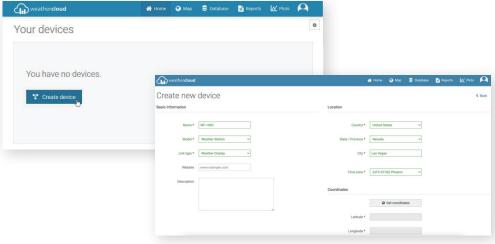
5) Input the sign-up email address and password to log in the weathercloud.



6) Select "Create device" and input the information about your weather station and location. Blanks with red* must be filled in. (Note: Select the Model "other".)

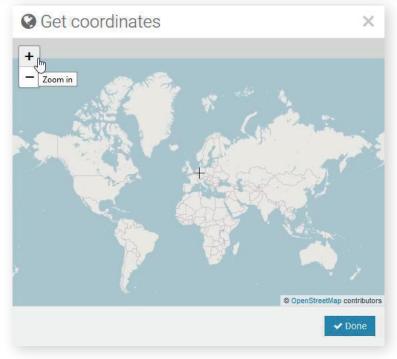
Note

If you cannot find the WF-100C in the list under the Model selection, select any other weather station (model) under Link type. Both parameters have no influence on the functionality.

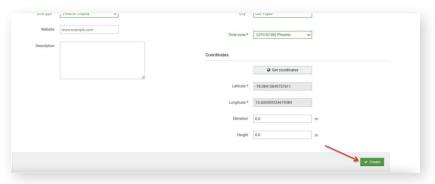


7) Click Get coordinates to identify your location of on the map. The cross in the middle of the pop up should now mark at the location of your weather station. Use the buttons marked "+" and "-" to zoom in or out on the map displayed. You can move the cross on the map by holding down the mouse button. then click "Done" to confirm.



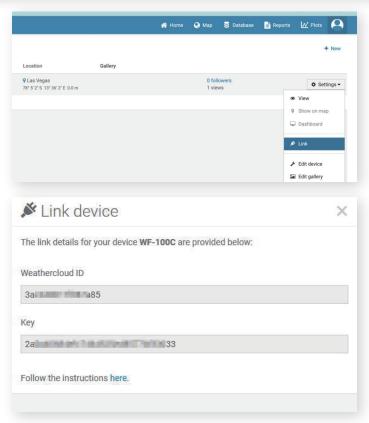


8) Complete the information input, then slide down to the bottom and click "Create".



9) The device is successfully added to Weathercloud as screenshot below. Please click "Link" through the "Settings" to record the Weathercloud ID and Key information for linking your WF-100C via Wi-Fi later. (Refer to 10.3)



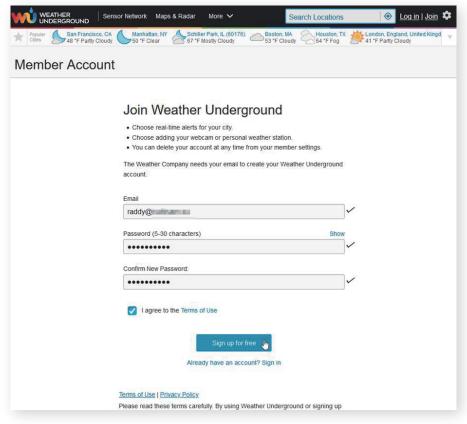


10.2 Sign up on Wunderground.com

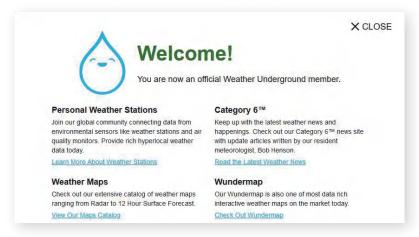
1) Visit: https://Wunderground.com, and select "Join" to create a free account.



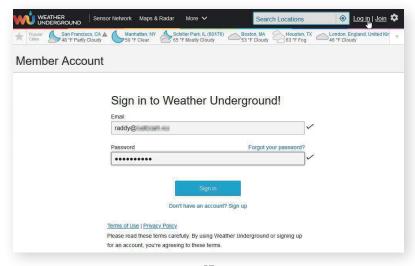
2) Next get into the sign-up page, input a Username, Email and Password. Then Click "Sign up for free".



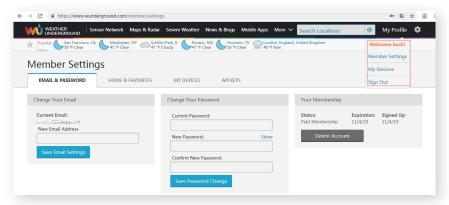
3) When the registration is completed successfully, will pop up the page below.



4) Then log in your account with the sign-up email and password.



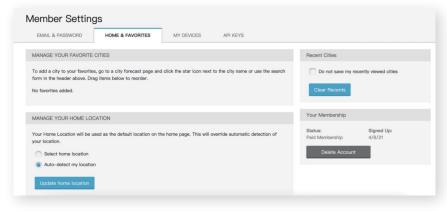
5) Click "My Profile", and get into "Member Settings".



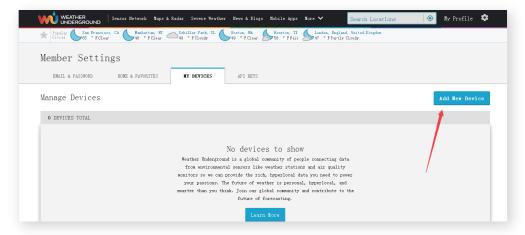
6) Click the tab "HOME & FAVORITES" and choose the way to mark your location, then Click "Update home location".

Note

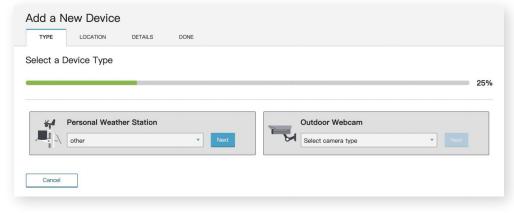
If you do not enter a location here, an attempt will be made to determine your location based on your Internet connection. Depending on the Internet provider, this can be associated with a not inconsiderable inaccuracy.



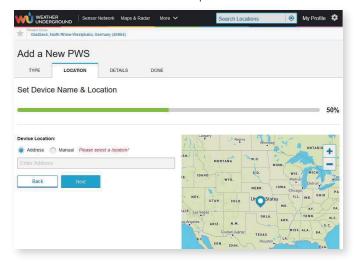
7) Now that you have entered your location, you now have to make your weather station known to the website. To do this, select the "MY DEVICES" tab by clicking on it. Then click "Add New Device"



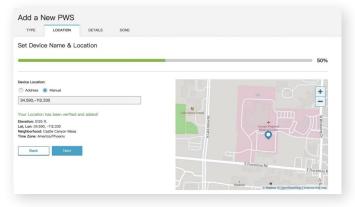
8) Now select the type of your weather station (Personal Weather Station) in the selection field labeled "Select a Device Type". If you cannot find the Raddy WF-100C in the list of possible weather stations, please select "other". Confirm your selection by clicking the "Next" button (to the right of your selection). You will then be automatically forwarded to the "Location" tab.



9) Now simply enter the address that is closest to the location of your weather station in the selection field labeled "Enter Address". The database working in the Wunderground automatically determines the associated district and shows the location on a small map.

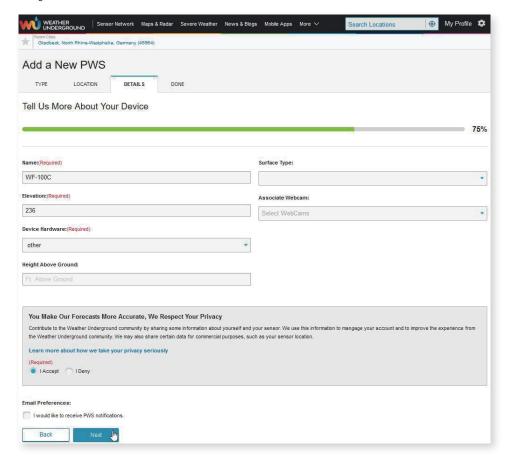


10) Once you have clicked on the button labeled "Next" below the determined location coordinates on the website, you will be asked to provide further information on the location of your weather station.



11) The blanks marked with a red "(Required)" are mandatory fields.

As a rule, you do not have to change the pre-filled fields, so that it is usually sufficient to give your weather station a name. With Weather Underground you as a user must accept the conditions associated with the use of the portal by clicking "I Accept", then click "Next". Only then can you complete the entries by clicking on the button labeled "Next".



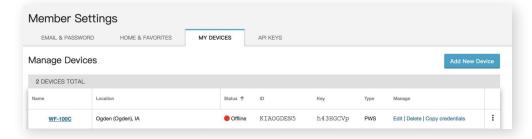
12) Make a careful note of the content of the two fields (if necessary, click "Copy credentials" to copy the content to a file using cut & paste for later use). Both "Station ID" and "Station Key" must be stored in the display unit via the web interface. Otherwise, no data can be transmitted from your weather station to Weather Underground, You can find more information on this in Section 10.3.



If you now click on the "View Devices" button, your weather station and the associated ID and key will be displayed.



13) You have now set up your user account at Weather Underground and saved your weather station data.



11. WiFi Setup of WF-100C



Note

To get stable Wi-Fi, please place the distance between the router and display less than 5 meters/16 feet.

11.1 Connect your End Device to the Wi-Fi of the Display Console

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

You can use your desktop, laptop, tablet, or smartphone to connect to the display console's WiFi. The network name of the display unit is "WeatherHome".



Make sure that you return to your normal WiFi network after completing the settings made via WiFi on the display unit.



Note that in WAP mode, two or more devices cannot connect to the display unit at the same time.



In principle, the Wi-Fi can only be used when operated with the plug-in power supply supplied.

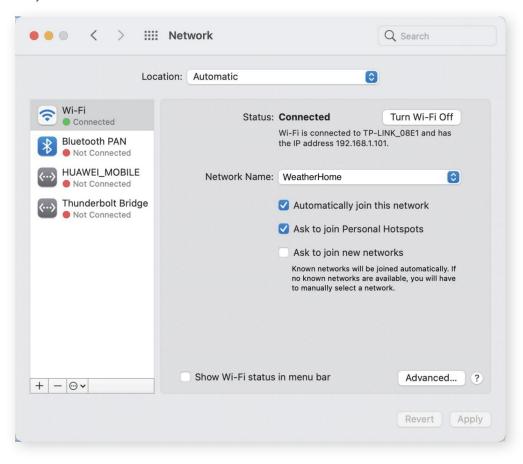
11.1.1 Connect your PC to the Wi-Fi of the Display Console

In Windows, select the network settings of your WLAN card (or search for "WLAN settings" in Windows) and connect to the WLAN network "WeatherHome". Your WiFi network name may be slightly different, and it will always start with "WeatherHome".



11.1.2 Connect your MAC to the Wi-Fi of the Display Console

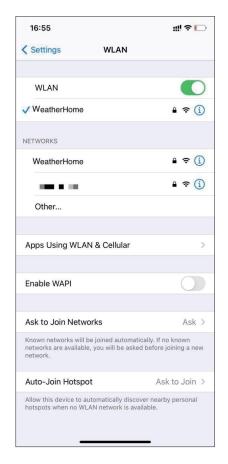
First click the Settings icon and then click Network . Then connect to the "WeatherHome" WLAN network, as shown in the following figure. Your WiFi network name may be slightly different, and it will always start with "WeatherHome".



11.1.3 Connect your iPhone or iPad to the WiFi of the Display Console

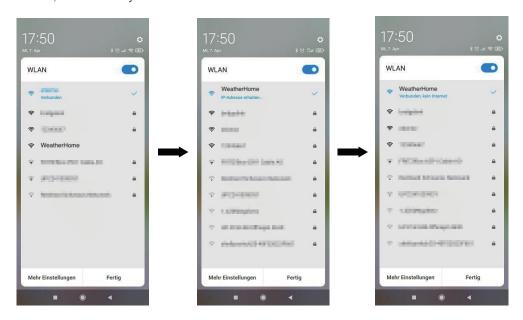
Click the Settings icon and then click WLAN. Then connect to the "WeatherHome" WLAN network, as shown in the following figure. Your WiFi network name may be slightly different, and it will always start with "WeatherHome".





11.1.4 Connect your Android Smartphone to the Wi-Fi of the Display Console

Click the Settings icon on your Android smartphone. Then select "WLAN". Now connect to the "WeatherHome" WLAN network, as shown in the following figure. Your WiFi network name may be slightly different, and it will always start with "WeatherHome".



11.2 Open the Configuration Web Page of the Display Console

Once you have connected your device to the WLAN provided by the WF-100C, enter the following IP address in the address bar of any browser: http://192.168.5.1 to enter the configuration website of the display unit.



Some browsers treat 192.168.5.1 as a search. In such a case, make sure that you also specify the protocol "http://", ie "http://192.168.5.1" instead of just "192.168.5.1".

11.2.1 Display Console Network Settings and Weather Server Setup





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.



If the check box was set for the item "Automatically adjust clock for Daylight Saving Time" and the current daylight saving time is, this is indicated as "DST" (Daylight Saving Time) on the display unit above the time.



If you fail to connect the Wi-Fi when you choose the Internet Time Server "time.nist.gov", try another 2 servers listed under the selections.

11.2.2 Time Zone Settings

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.

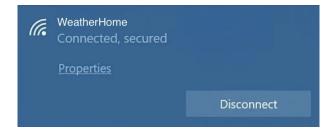
Hours from GMT	Time Zone	Cities
-12	IDLW: International Date Line West	
-11	NT: Nome	Nome, AK
-10	AHST: Alaska-Hawaii Standard CAT: Central Alaska HST: Hawaii Standard	Honolulu
-9	YST: Yukon Standard	Yukon Territory
-8	PST: Pacific Standard	Los Angeles, CA, USA
- 7	MST: Mountain Standard	Denver, CO, 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

11.2.3 Permanently Saving Data Entered via the WF-100C Web Page

Check again all the settings you have made on the configuration website of the display console. If you are sure that all information is correct, click the button labeled "SAVE" to confirm.



When the settings have been saved, disconnect your device from the display unit's WLAN again by clicking the "Disconnect" button, as shown in the figure below, and then reconnect your device to the WLAN of your router.



11.3 WiFi Connection Status

icon is always on: When the console successfully connects to your Wi-Fi router, the Wi-Fi signal icon will show on the LCD display (located at the right of the Outdoor humidity value).

icon keep flashing: If the Wi-Fi signal is not stable or the console is trying to connect to the router, the icon will flash.

icon is gone: 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.

Note

When the console successfully connects to your any website of weather servers, the data signal icon will appear on the LCD display (at the right of the Outdoor humidity). If the data signal icon fishing, the console is currently uploading to the server. If the icon fishing disappears, the console is not connected to the weather server for more than 30 minutes.

12. View the Weather Station Data via Internet

12.1 View your Weather Station data on Weathercloud

In order to access the data obtained from your own weather station on the weathercloud.net network, log in to https://weathercloud.net/ with your email address and the password you previously registered. (refer to 10.1) After logging in, you will be automatically directed to the weather data of your weather station (if it has recently synced data to Weathercloud).

12.2 View your Weather Station data on Weather Underground

You do not need to log in to access the data obtained from your own weather station on the www.wunderground.com portal. Simply go to the following website:

<u>https://www.wunderground.com/dashboard/pws/STATIONID</u> where STATIONID is the ID of your weather station, e.g. <u>https://www.wunderground.com/dashboard/pws/IGLADB23</u>.



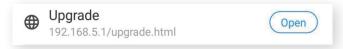
13. Firmware Upgrade on Display Console

You may get the latest firmware of the console as below

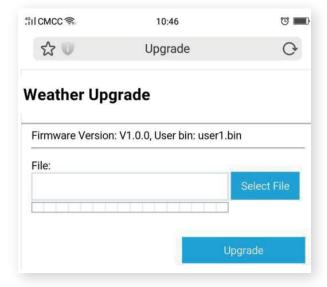
13.1 Connect the Wi-Fi of Display Console (Refer to 12)

13.2 Update Process

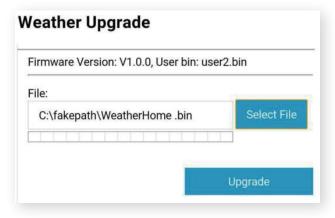
1) Once connected, enter the following IP address into the any browser's address bar: http://192.168.5.1/upgrade.html



2) Then click the "Open" button. The following website will then be displayed on your browser.



3) Now click "Select File" button and select the binary file (extension ".bin") intended for updating your display unit in the window that opens on your terminal device.



4) Then click "Upgrade" and start to update. Once the process has been successfully completed, a pop-up will reminds you that the display unit will be restarted.





In this upgrade process only update the Wifi. The console does not reset.

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

14. Restore Factory Default

To reset the console to factory default (WiFi network ,Weather server and display), press and hold the MAX/MIN/- key for 3 seconds while the console is only battery-powered. The display console must not be supplied with voltage via the plug-in power supply during this process.

15. Maintenance

- 1) Clean the rain gauge of Integrated Outdoor Sensor 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.



2) Replace the wind, rain and thermo-hygrometer sensor batteries every 1-2 years

16. Troubleshooting Guide

Problem	Solution
	If any of the sensor communication is lost, dashes () will be displayed on the screen. To reacquire the signal, press and hold the CHANNEL/+ button for 3 seconds, 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.
	The maximum line of sight communication range is 300ft and 100ft under most conditions. Move the sensor assembly closer to the display console.
Wireless remote not reporting in to console.	If the sensor assembly is too close (less than 1.5m), move the sensor assembly away from the display console.
There are dashes () on the display console.	Make sure the remote sensor LCD display is working and the transmitter light is flashing once per 60 seconds.
display consolo.	Install a fresh set of batteries in the remote thermo-hygrometer. For cold weather environments, install lithium batteries.
	Make sure the remote sensors are not transmitting through solid metal (acts as an RF shield), or earth barrier (down a hill).
	Move the display console around electrical noise generating devices, such as computers, TVs and other wireless transmitters or receivers.
	Move the remote sensor to a higher location. Move the remote sensor to a closer location.
Temperature sensor reads too high in the day time.	Make sure the thermo-hygrometer is mounted in a shaded area. The pre preferred location is a north facing wall because it is in the shade most of the day.

Problem	Solution
Indoor and Outdoor Temperature do not agree	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 $\pm4^\circ\text{F}$). Use the calibration feature to match the indoor and outdoor temperature to a known source.
Indoor and Outdoor Humidity do not agree	Allow up to one hour for the sensors to stabilize due to signal filtering. The indoor and outdoor humidity sensors should agree within 10 % (the sensor accuracy is \pm 5 %). Use the calibration feature to match the indoor and outdoor humidity to a known source.
Display console contrast is weak	Replace console batteries with a fresh set of batteries.
WiFi does not display on console.	Check your router for problems. 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.

Problem	Solution
	Confirm your password or key is correct. It is the password you registered on Wunderground.com. Your Wunderground.com password cannot begin with a non-alphanumeric character (a limitation of Wundeground.com, not the station). Example, \$worknet is not a valid password, but worknet\$ is valid.
Data not reporting to www.wunderground.com	2. Confirm your station ID is correct.
or <u>www.weathercloud.net</u>	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.

17. Specifications

17.1 Measurement Specifications

The following table provides specifications for the measured parameters.

Measurement	Range	Accuracy	Resolution
Indoor Temperature	32 to 140 °F	± 1 °F	0.1 °F
Outdoor Temperature	-40 to 140 °F	± 1 °F	0.1 °F
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 %
Sensors 1-8 Temperature	-40 to 140 °F	± 1 °F	0.1 °F
Sensors 1-8 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 to 396in	<0.6in: ±0.04in, 0.6in to 396in: ±7%	<39.4in (0.012in) >39.4in (0.04in)
Wind Direction	0 - 360 °	± 10° (16 point compass)	± 1° (16 point compass)
Wind Speed	0 to 112mph	4.5 mph ~22.4mph: ±0.67mph, 22.4mph ~112mph: ±10% (whichever is greater)	0.1mph
Barometric Pressure	8.85 to 32.50 inHg	± 0.08 inHg	0.01 inHg

17.2 Wireless Specifications

Wireless Transmit Range (in open air)	100m
Frequency	433 MHz
Thermo-hygrometer Sensor Data Update Period	60 seconds
Integrated Outdoor Sensor Data Update Period	16 seconds

17.3 Power Consumption

Item	Power Source	Battery life
Display Console	3xAAA 1.5V Alkaline or Lithium batteries (not included)	Over 12 months (Should place the location less than -4°F)
Thermo-hygrometer Sensor	2xAAA alkaline batteries or Lithium batteries (not included)	Over 12 months (Should place the location less than -4°F)
Integrated Outdoor Sensor	3xAA alkaline batteries or Lithium batteries (not included)	Over 12 months (Should place the location less than -4°F). The batteries provide backup power when there is limited solar energy
	Solar panel	-
Adapter	6V∼ 500mA	-

17.4 WiFi Specifications

WIFI Standard	802.11 b/g/n
WiFi Console RF Frequency	2.4 GHz
Device Compatibility	Build-in WiFi with WAP mode smart device, including laptops, computers, smart phones and smart pads.
Web Browser Compatibility	HTML 5 (such as the latest versions of Chrome, Safari, IE, Edge, Firefox or Opera.)
WiFi RF Transmit Range (in open air)	80 feet

Raddy



