

WS-2816U-IT FAQs

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Batteries

- ✓ Half of all warranty issues can be resolved with fresh batteries of the appropriate voltage.
- ✓ We suggest name brand alkaline batteries for indoor displays such as weather stations.
- ✓ Use batteries dated at least six years in advance of the current year. Batteries dated earlier than six years from now may still work, but may be unstable in performance.
- ✓ Alkaline batteries manufactured this year will have an expiration date 10 years in the future. Battery technology has improved and batteries will maintain voltage longer in storage. However, the environment the batteries reside in for the 10 years can deplete the power.
- ✓ Good name brand Alkaline batteries make less noise, which reduces the chance of RF (radio frequency) interference from the battery compartment. A minimum voltage of 1.48V for each battery is necessary for proper performance.

Weather Station Factory Restart

A Factory Reset will erase the Internet connection and the connection between the weather station and the thermo-hygro sensor and allow a fresh connection to be re-established. Place the display and all sensors 5-10 feet apart with nothing in between for this restart.

1. **ENTER PROGRAM MENU:** Press and hold the SET button until you enter the program menu. Press and release the SET button until you see rES OFF.
2. **FACTORY RESET:** Use the ▲/DATE button or ▼/RAIN button to turn **rES All**.
3. **CONFIRM & COUNTDOWN:** Press the SET button to confirm and a countdown timer will begin counting down from 127. When the timer displays **dOnE**, you must remove the batteries from the display for 15 minutes. At the same time, remove batteries from the Rain and Thermo-hygro sensors so all three units are without batteries for 15 minutes.
4. **GENTLY PRESS THE RESET BUTTON ON THE WIND SENSOR:** Cover the solar panel of the wind sensor for 15 seconds and while covered, gently press the reset button on the bottom of the wind sensor. This will turn off the wind sensor.

POWER UP:

5. **RESTART THE WIND SENSOR:** Expose the solar panel to light and gently press the reset button on the bottom of the wind sensor one time to activate the sensor.
6. **INSTALL BATTERIES THERMO-HYGRO AND RAIN:** Insert the batteries into the rain and thermo-hygro sensors. Make sure to check polarity with the markings on the battery cover and inside the battery compartment.
7. **ALLOW THE SENSORS TO RUN FOR TWO MINUTES.**
8. **INSTALL BATTERIES WEATHER STATION:** After the sensors have been running for 2 minutes, insert the batteries into the weather station. Make sure to check polarity with the markings inside the battery compartment. Watch the lower left corner of the display on startup and record the firmware version of this display (a 3-digit number). Please provide that firmware number with your reply to the other questions.
9. Wait 15 minutes for the outdoor weather data to display. If the outdoor data displays dashes after 15 minutes, repeat the factory restart. Do not press buttons at this time.

Optional: If you connect your weather station via Internet, follow the instructions at www.lacrossealertsmobile.com to reregister the weather station online.

Quick Connect

No Wind, Temperature and Rain work:

- ✓ Cover the solar panel of the wind sensor for 15 seconds so no light reaches the solar panel.
- ✓ With the solar panel covered, gently press the reset button on the bottom of the wind sensor. This turns off the wind sensor.
- ✓ Remove the batteries from the thermo-hygro and rain sensors for 2 minutes.
- ✓ Replace the batteries in the rain and thermo-hygro sensors.
- ✓ Gently press the reset button on the bottom of the Wind sensor, with the solar panel exposed to light.
- ✓ After 3 minutes, press and hold the ▲/DATE button until the weather station beeps.
- ✓ Wait 10 minutes.
- ✓ If you do not receive a reading from all your sensors, please try the [factory reset](#).

Note: It is helpful to have the wind sensor in the full sun or under a lamp for 24 hours before setting up to be sure it is charged.

Wind works, Rain or Outdoor Temperature do not work:

- ✓ Remove the batteries from the thermo-hygro and rain sensors for 2 minutes.
- ✓ Replace the batteries in the rain and thermo-hygro sensors.
- ✓ After 3 minutes, press and hold the ▲/DATE button until the weather station beeps.
- ✓ Wait 10 minutes.
- ✓ If you do not receive a reading from all your sensors, please try the [factory reset](#).

Remote Sensors

Power requirements

- ✓ 2-C batteries power the thermo-hygro sensor
- ✓ 2-AA batteries for the rain sensor
- ✓ We recommend Alkaline [batteries](#) for the sensors.
- ✓ 100% solar-powered (built-in power cell, no batteries necessary) for wind sensor
- ✓ 3-C batteries for the weather station

Compatible outdoor sensors

- ✓ TX59UN-1-IT Thermo-hygro
- ✓ TX63U-IT Wind
- ✓ TX58UN-IT Rain
- ✓ The above 915MHz sensors will read to this weather station.

Dashes shown for outdoor temperature/humidity

- ✓ Dashes means the connection is lost between the weather station and the outdoor sensor.
- ✓ [Batteries](#) often resolve the connection.
- ✓ [Distance/Resistance](#) can cause loss of connection between the sensor and the weather station.
- ✓ Reorientation of the weather station 90 degrees towards the thermo-hygro sensor may provide better reception by the antenna.
- ✓ Remove the batteries from the thermo-hygro sensor for two minutes. Replace the batteries in the thermo-hygro sensor and after 5 minutes hold the UP ARROW on the weather station until it beeps.
- ✓ Wait 10 minutes. If the weather station does not receive a reading from all the sensors, please try the factory reset.
- ✓ Try the [quick connect](#) or complete a [factory restart](#).

Inaccurate outdoor temperature/humidity

- ✓ The thermo-hygro sensor reads the environment. When the sensor reads high during the day but not at night it is a [mounting](#) problem.
- ✓ **Side-by-side test:** Bring the thermo-hygro sensor in the house and place it next to the weather station for 2 hours.
- ✓ Compare indoor and outdoor temperature. The temperatures should be within 4 degrees to be within tolerance. The humidity should be within 14% to be within tolerance.
- ✓ If the sensor reads correctly when next to the weather station then try a different location outside.
- ✓ Look for heat sources such as sunlight, door or window frames, or reflected heat.

Outdoor temperature/humidity is stuck or OFL

- ✓ Check [batteries](#). Overpowered or underpowered batteries can cause this reading.
- ✓ Replace outdoor sensor.

Intermittent outdoor temperature/humidity

- ✓ RF (radio frequency) communication may come and go occasionally. This can be normal in some environments (e.g. moister climates). If sensor signal is lost, please wait 2-4 hours for the signal to reconnect on its own.
- ✓ Move the remote sensors to a location closer to the weather station.
- ✓ **Indoor distance test:** Please complete the [factory restart](#) with sensors and weather station 5-10 feet apart and inside to establish a strong connection.
- ✓ If there is a reading in the outdoor temperature area after 15 minutes, move the sensor to another room with one wall between the sensor and the weather station. Observe to see if the remote readings remain on consistently for 1 hour.
- ✓ If the remote reading remains on while in the house then it is likely a [distance/resistance](#) issue.
- ✓ Move the sensor to different locations outside to find a location where the remote readings will hold.
- ✓ [Distance/Resistance](#) can cause loss of sensor signal.
- ✓ Check [Batteries](#).

Thermo-hygro sensor fell and does not work

- ✓ If there is no physical damage to the outdoor sensor, the fall may not have caused internal damage.
- ✓ A thermo-hygro sensor that has fallen into a puddle or other standing water or snow may have water damage.
- ✓ Sensors are water resistant, not waterproof.
- ✓ A fall can shock the sensor or the batteries in the sensor.
- ✓ Batteries that have fallen on a hard surface may be damaged and unable to function properly.
- ✓ Complete a [restart](#) with fresh batteries.
- ✓ Use [batteries](#) dated at least six years in advance of the current year. Batteries dated earlier than six years from now may still work, but may be unstable in performance.

Thermo-hygro sensor drains batteries quickly

- ✓ Test a new set of Alkaline batteries. Write down the date of installation and the voltage of the batteries.
- ✓ When the batteries fail, please note the date and voltage again. This is helpful in determining the problem.
- ✓ Check the [distance](#) and resistance between the sensor and weather station. Sensors at the end of the range may work while batteries are fresh but not after they drain a bit.
- ✓ Check for leaking batteries, which may damage the sensor.

Thermo-hygro sensor stops working when hot

Thermo-hygro sensors show dashes or OFL when the temperature reaches a certain degree, but returns to normal readings when the temperature cools down, please check:

- ✓ **Batteries:** At higher temperatures, batteries can overheat causing sensor failure. Older and weaker batteries are more likely to fail in hot weather. Try a fresh set of [batteries](#) to see if the issue is resolved.
- ✓ **Distance/resistance:** When the Thermo-hygro sensor is at the edge, of the [distance](#) range, and the temperatures are very hot and the batteries loose strength and the connection may be lost.

Humidity shows OFL but temperature works

- ✓ Complete a restart with fresh batteries.
- ✓ Replace the thermo-hygro sensor.

Fahrenheit/Celsius

- ✓ Enter the [program menu](#) to select temperature in Fahrenheit (°F) or Celsius (°C).

Wind Sensor

- ✓ The wind sensor reads to the thermo-hygro sensor, which then transmits to the weather station.
- ✓ 100% solar-powered (built-in power cell, no batteries necessary).
- ✓ High-efficiency solar panels maintain operation in every season.

Cups spinning slow or not spinning

- ✓ Check for debris or ice in cups.
- ✓ Be sure cups are below mast holder.
- ✓ Check [mounting](#) location. Look for obstructions that prevent the wind from reaching the sensor.
- ✓ The mast should not be more than 1¼ inch thick.
- ✓ In most cases, the wind sensor needs to be 4-6ft above the highest point on the roof in order to clear nearby obstructions and read accurately.
- ✓ A 50 foot clearance in all directions is best.

- ✓ Push up firmly on the center of the cups to reseat them. Occasionally they drop a bit.
- ✓ Cups are replaceable.

Replace wind directional vane and wind cups

Replace the wind directional vane:

- ✓ Gently remove the piece of plastic in the top center of the vane to reveal the screw that holds the vane to the sensor.
- ✓ Remove the screw.
- ✓ Gently pull the vane straight up and off of the sensor.
- ✓ Carefully place the new vane on the sensor; notice the groove to seat it properly.
- ✓ Insert screw through the vane to the sensor and tighten properly.
Note: Do not over-tighten.
- ✓ The wind vane is seated in a groove and cannot be put on backwards to change directional readings.
- ✓ When operating in the Southern Hemisphere, face wind sensor South and it will still receive plenty of sun overhead to charge.

Replace wind cups:

- ✓ In the bottom center of the wind cups, there is a plastic lock pin. Gently pry the lock pin out of the wind cups.
- ✓ Firmly grasp the wind cups and pull straight off the sensor.
- ✓ Check to be sure that you have a metal magnet in the wind cups.
- ✓ Check that there is a metal bearing in the wind cups or on the stem of the sensor where the cups attach.
- ✓ Look at the new wind cups and be sure there is a bearing and magnet in place.
- ✓ Install the cups onto the wind sensor and press firmly.
- ✓ Insert a new lock pin into the cups and push firmly until the lock pin is flush with the bottom of the cups.

Wind direction is working wind speed is 0.00

- ✓ Check that the wind cups attach to the sensor. Occasionally they can come off.
- ✓ Check that the cups seat properly by pushing up in the center of the cups.
- ✓ Check that the cups spin freely.

Wind reading is intermittent or shows dashes

- ✓ RF (radio frequency) [interference](#) is normal; the occasional outage is possible.
- ✓ Check for sources of RF (radio frequency) interference such as Ham radio or electric transformers nearby.
- ✓ Move the weather station away from cordless phones, wireless routers, etc.
- ✓ Check the environment for unusual moist/humid conditions (moisture reduces RF (radio frequency) signal in electronics).
- ✓ [Distance/Resistance](#) can cause loss of sensor signal.
- ✓ Relocate the wind sensor closer to the thermo-hygro sensor.
- ✓ Mounting on a metal or white PVC pole may cause RF interference or static.
- ✓ Please note if there are certain times of the day or night that the unit lose signal. Details are helpful in resolving the problem.
- ✓ Check that batteries are fresh in the thermo-hygro sensor.
- ✓ Complete a [factory restart](#).

Wind speed is inaccurate

- ✓ Check the unit of measure (MPH, KM/H or M/S).
- ✓ Check to see if the weather station receives the same repetitive wind speed recording from the sensor multiple times.
- ✓ Confirm the direction is working correctly.

- ✓ Mounting on a metal or white PVC pole may cause interference or static and inaccurate readings.
- ✓ Check that the cups turn freely.
- ✓ Check for insects or debris preventing free movement.
- ✓ Be sure the cups are below the mast holder.
- ✓ Check that the cups have not dropped. Push up firmly in the center of the cups to seat properly.
- ✓ Check for obstructions that prevent clear wind flow to the cups.
- ✓ Check mounting. In most cases, the wind sensor needs to be 6 feet or more above the highest point on the roof in order to clear nearby obstructions and read accurately. A 50 foot clearance in all directions is best.
- ✓ It is helpful to send pictures of the sensor mounting, if you need to contact customer support.
- ✓ Check that your batteries are fresh in the thermo-hygro sensor and the weather station.

Wind reading is OFL

- ✓ Place wind sensor under a light source for 24 hours.
- ✓ Please note if there are certain times of the day or night this occurs.
- ✓ Check the solar panel for damage or breakdown.

Understanding wind readings

- ✓ **Wind Gust:** A sudden, brief increase in speed of the wind. The duration of a gust is usually less than 20 seconds.
- ✓ The wind gust is a calculated value from a collection of wind speed data points over time. Peak Gust for example, is calculated against the previous and next sample and may not be the same as maximum wind speed reported.
- ✓ **Wind Speed:** Measure of wind in varying speeds throughout the entire day.
- ✓ The wind sensor “samples” wind speed twice every 17 seconds and then sends the average and peak of these samples to the thermo-hygro sensor.
- ✓ The thermo-hygro sensor updates to the weather station every 13 seconds. The timing of the wind sensor data packet to the weather station from the thermo-hygro sensor may create a short delay. This delay does not affect the accuracy of the data over time.

Wind area on the weather station is blank (no dashes or numbers)

- ✓ Check that other areas of the weather station read properly.
- ✓ Check batteries in the weather station.
- ✓ The weather station, thermo-hygro sensor and wind sensor need testing.

Wind direction shows dashes

- ✓ If the speed is working then the wind sensor is bad.

Wind sensor is frozen

- ✓ Freezing rain and wet snow can clog the wind sensor and prevent it from reading speed or temperature.
- ✓ Bring the sensor in the house for 2-3 days. The sensor will need to thaw out and dry out for prevent refreezing.

Wireless Rain Sensor

How to view rain on the weather station

- ✓ **View:** Press and release the ▼ DOWN ARROW to select the rainfall value to display (1-hour, 24-hour weekly, monthly or total rain).

Reset rain

- ✓ In either Mode 1 or Mode 2 display, press and release the MIN/MAX button until the display shows the total rainfall value.
- ✓ To reset the rainfall reading, press the UP ARROW button. The total rainfall amount will be reset to 0 and the time updated to current time.
Note: Until the first rainfall total reset is performed, the time and date of the total rainfall are displayed as '- - - . --. ----'. After the rainfall total is reset, the rainfall total display will indicate the date and time of the last rainfall total reset.

Rain readings

For all measurements, it is important time and date are set correctly on your weather station.

- ✓ 1-HOUR RAIN: The 1-hour rain reflects rain that has fallen from current time and back 1-hour. It updates every four minutes (15 measurements). The hour is not a fixed clock time measurement. It is literally an ongoing "last 60 minutes" timer.
- ✓ 24-HOUR RAIN: The 24-hour rain reflects the rain that has fallen from current time and back 24-hours. This is not a midnight-to-midnight measurement. The day is not a fixed clock time measurement. It is literally an ongoing "last 24 hours" timer.
- ✓ WEEKLY RAIN: The amount of rainfall of the previous week. Week: Rain total for the week is reset every 7 days. Week begins 1 day before the day the batteries are first inserted into the weather station. For example, if the batteries are inserted on a Thursday, the start of the weekly totals will be Wednesday of each week.
- ✓ MONTHLY RAIN: Monthly rain reflects the **previous** month's rain and will update 12AM the first day of the month.
- ✓ TOTAL RAIN: Total rain will remain until you manually reset this value. Total rain reflects the rain from time of display set-up until you manually reset the total rain.

Rain reads 0.00

- ✓ Check that the pin the rocker tips on is all the way to the back and that the rocker tips freely.
- ✓ Check the funnel and the inside of the rain sensor for insect nests or debris that may cause loss of rocker motion.
- ✓ Check for proper battery installation.
- ✓ Check the battery cover is on firmly.
- ✓ Mount the rain sensor level and check that the mounting screws are not too tight (this is the most common issue).
- ✓ Use the eraser end of a pencil to manually tip the rocker of the rain sensor 10 times (five each way).
- ✓ Wait at least 2 minutes for all the rain to collect.
- ✓ Check the total rain on the weather station for a reading.
- ✓ Complete a [factory restart](#).

Rain reads dashes

- ✓ The weather station and rain sensor are not connected.
- ✓ Complete a [factory restart](#).
- ✓ Check that the wind and temperature are still working. If wind and temperature are not working, then it may be a weather station issue.
- ✓ [Distance/Resistance](#) can cause loss of sensor signal.
- ✓ Check [batteries](#) in the rain sensor and the weather station. This is our primary warranty issue.
- ✓ Orient the weather station 90 degrees towards the rain sensor for better reception.

Rain reads OFL

- ✓ OFL indicates that the weather station is receiving a signal from the sensor.
- ✓ The weather station will read OFL if it has counted more inches of rain (from testing, interference, etc.) than it is designed to read (0" to 393.7" (0 to 9999 mm)).
- ✓ Check for sources of [interference](#) such as other wireless rain sensors, ham radios or large electrical transformers. This may cause rain to add up when there is no rain.
- ✓ Check [batteries](#) in the rain sensor and the weather station. This is our primary warranty issue.

Rain sensor drains batteries quickly

- ✓ If batteries are good when first inserted, batteries should last 1 year or more. If the batteries in the sensor are not lasting that long, please try these tasks:
 - Test a new set of alkaline batteries. Write down the date of installation and the voltage of the batteries.
 - When the batteries fail, please note the date and voltage again. This is helpful in determining the problem.
- ✓ Complete the restart and confirm that everything is working after a battery change.
- ✓ Battery leakage may cause a sensor to drain batteries quickly.

Rain area on the weather station shows blank (no numbers or dashes)

- ✓ Check that other areas of the weather station read properly. There may be a problem with the weather station.

Rain reads low

- ✓ Low rain readings indicate the rain sensor and weather station are connected.
- ✓ Check that the pin the rocker tips on is all the way to the back and that the rocker tips freely.
- ✓ Check the funnel and the inside of the rain sensor for insect nests or debris that may cause loss of rocker motion.
- ✓ Check for proper battery installation.
- ✓ Check the battery cover is on firmly.
- ✓ Be sure to mount the rain sensor level and that the mounting screws are not too tight (most common issue).
- ✓ Complete a Manual Tip Test and a Water Tip Test and compare them:
 - **Manual Tip test:** Write down the Total Rain reading or reset the Rain Total to 0.00. Use the eraser end of a pencil to manually tip the rocker of the rain sensor 10 times (five each way). Wait at least 2 minutes for all the rain to collect.
 - **Water Tip Test:** Write down the Total Rain reading or reset the Rain Total to 0.00. With Rain Sensor mounted slowly pour water into the funnel to tip the rocker of the rain sensor 10 times (five each way). Wait at least 2 minutes for all the rain to collect.
- ✓ Compare these tests. If they are the same, then the rain is reading correctly. If the rain readings are different, repeat the test 3 times to avoid human error. Then look for causes such as mounting too tight or debris clogging the funnel.
- ✓ Check batteries in the rain sensor and the weather station. This is our primary warranty issue.

Rain reads high

- ✓ Check for sources of RF (radio frequency) interference such as other wireless rain sensors, ham radios or electric transformers.
- ✓ Keep the weather station six feet from cordless phones or wireless routers etc.
- ✓ Complete a Manual Tip Test and a Water Tip Test and compare them:
 - **Manual Tip test:** Write down the Total Rain reading or reset the Rain Total to 0.00. Use the eraser end of a pencil to manually tip the rocker of the rain sensor 10 times (five each way). Wait at least 2 minutes for all the rain to collect.
 - **Water Tip Test:** Write down the Total Rain reading or reset the Rain Total to 0.00. With Rain Sensor mounted slowly pour water into the funnel to tip the rocker of the rain sensor 10 times (five each way). Wait at least 2 minutes for all the rain to collect.
- ✓ Compare these tests. If they still read high then contact support.

Rain alarm

Set 24-hour Rain Alarm

In the normal display mode, press and release the ALARM button until you see the **Rainfall** amount in 24-hour period alarm.

- ✓ Press and hold the SET button for 2 seconds and the selected value will flash. Press and release the ▲UP ARROW button or ▼DOWN ARROW button to set the alarm value.
Note: Hold the arrow button in to change the value faster.
- ✓ Press the ALARM button to confirm the setting. The digit will stop flashing.

Activate/Deactivate Alarm

- ✓ Press the SET button to switch the Alarm On or Off. The alarm icon (☞) indicates the alarm is switched ON.
- ✓ Press the SET button again. The alarm icon should disappear and that alarm is OFF.
- ✓ Press the ALARM button once.
Note: when there is RF (radio frequency) interference, the interference may cause false high readings that can set off the alarm,

Winter storage for rain sensor

- ✓ All our rain sensors can handle the cold temperatures. We leave them out all year long.
- ✓ However, if you prefer to store the rain sensor for the winter, remember:
 - Remove batteries when storing to prevent leakage.
- ✓ In the spring take the rain sensor out of storage and try the [quick connect](#).
- ✓ When the rain sensor is outside all winter and is snow covered, you may see a rain count when the snow begins to melt and run into the rain sensor. This will not be an accurate measurement for snow.

Mounting/Positioning outdoor sensor

- ✓ First, set everything up in the house to be sure it works before mounting the sensors outside.
- ✓ For best RF (radio frequency) signal, mount all sensors at least 6 feet in the air.
- ✓ The thermo-hygro sensor sends directly to the weather station.
- ✓ When considering the distance from the weather station (200 feet open air) cut that distance in half for each wall, window, tree, bush or other obstruction in the signal path.
- ✓ Material such as stucco or metal will absorb a wireless signal.
- ✓ Windows can reflect the signal.
- ✓ Ideally the sensor should be at least 6 feet off the ground (higher is fine) for best signal transmission.
- ✓ Place the thermo-hygro sensor in a well-shaded area protected from direct sun. The sensor will read high if exposed to the sun.
- ✓ A good location is under the eaves on the north side of the house.
- ✓ A small roof or well-vented box is useful if you do not have an overhang.
- ✓ The thermo-hygro sensor can withstand rain, snow and temperature extremes.
- ✓ Standing rain and snow may soak into the sensor and cause failure.
- ✓ If the sensor gets too wet, it will not read accurate humidity.
- ✓ Protect the thermo-hygro sensor from a downpour.
- ✓ Light incidental exposure to water typically will not harm the sensor.

Mounting/Positioning wind sensor

- ✓ For most accurate wind readings, mount the wind sensor as the highest item in the area with a 50 foot clearance in all directions (avoid tall trees, buildings or other obstructions that may block or reflect the wind).
- ✓ The wind sensor transmits directly to the thermohygro sensor. When considering the distance from the thermohygro sensor (200 feet open air) cut that distance in half for each tree, bush or other obstruction in the signal path.
- ✓ The wind sensor should be in line-of-sight or the thermohygro sensor. If the wind sensor is on the roof it may be best to mount the thermohygro sensor on a different building, fence, etc., in line of sight and less than 200 feet from the wind sensor.
- ✓ Cups should be below the wind mast.
- ✓ Material such as stucco or metal will absorb a wireless signal.
- ✓ Observe the proper direction when mounting. The solar panel should receive enough sun to charge if in any open area. Facing the solar panel south as indicated on the wind sensor provides correct directional information.

Note: Do not over tighten U-bolts around the mast, then attached to the mast holder, as that can crack the mast holder.

- ✓ **Mounting Masts:** A suitable mast must be made entirely of a non-conductive material (e.g. treated wood, electrical grade metal or electrical grade PVC). The issue is the static electricity transmission capability of the entire pipe, which can lead to erratic wind readings, or loss of signal.
- ✓ Coating or painting a pipe does not resolve the static or RF (radio frequency) interference risks, as the inside of the material can conduct.
- ✓ Any non-electrical grade mast may conduct, which may result in data spikes, RF interference, etc.
- ✓ Masts should not be more than 1¼ inches in diameter to avoid blocking wind.
- ✓ **Note:** Most recording stations have sensors mounted 33 feet up or higher.
- ✓ **Roof Mounting:** In most cases, at least 6 feet above the peak of the roof (or more) is required for accurate readings (Avoid tall trees or other obstructions that may block or reflect the wind).
- ✓ **Ground Mounting:** Place at least 6 feet up on a pole in an open area. Higher is better. The wind sensor should be the highest item in the immediate area. An ideal location to mount the wind sensor is away from all obstacles that will block wind activity, such as trees and houses. A 50 foot clearance in all directions is best.

Mounting/Positioning rain sensor

- ✓ The Rain gauge transmits directly to the thermohygro sensor.
- ✓ When considering the distance from the thermohygro sensor (200 feet open air) cut that distance in half for each tree, bush or other obstruction in the signal path.
- ✓ Closer is better. Material such as stucco or metal will absorb a wireless signal.
- ✓ Be sure not to screw the rain sensor down too tightly as that will result in a low or inaccurate reading. Ideally use just two screws, snug not tight.
- ✓ Install the rain gauge on a level platform that is stationary. If the gauge isn't level it will read low, and if it isn't stationary, the wind will cause it to read rain that isn't falling.
- ✓ The rain gauge should be in line-of-sight and less than 200 feet from the thermohygro sensor.
- ✓ Placing the gauge extremely high is generally not a good idea as the rain sensor should be accessible to allow for periodic cleaning of debris or insects.
- ✓ To avoid frequent build-up of debris, do not mount the rain gauge too close to the trees or plants.
- ✓ Remove the funnel portion of the rain gauge by twisting it firmly counter clockwise.
- ✓ Hold the base of the rain gauge flat against the mounting surface then use a level to make sure the rain gauge (as it rests on the mounting surface) is horizontally level.
- ✓ Use a pencil to trace the inside of the mounting holes on the base of the rain gauge to mark the screw locations.
- ✓ Drill a hole in the center of each marked location.
- ✓ Hold the rain gauge against the mounting surface so the holes on the base are aligned with screw holes, and then thread washer head screws (not included) into each hole and use a screwdriver to gently snug the screws.
- ✓ The rain gauge is self-emptying and can be left out all year or stored in the winter. If stored for the winter, remove the batteries to avoid leakage.
- ✓ Be aware of other wireless rain gauges in the area that may cause interference.

Position weather station

- ✓ Make sure that the weather station is locating within the operating range of the thermo-hygro sensor.
- ✓ Trees, metal structures and electronic appliances may affect transmission range.
- ✓ Test reception before permanently mounting all the remote sensors.
- ✓ Do not place weather station in direct sunlight or on surfaces emitting and radiating heat, such as heating ducts or air conditioners.
- ✓ Avoid interference from the wireless devices (such as cordless phones, radio headsets, baby listening devices, etc.) and electronic appliances. Place the weather station 6 feet or more from these devices.

Distance/Resistance/Interference

Distance:

- ✓ The maximum transmitting range in **open air** is over 200 feet (60 meters) between the thermo-hygro sensor and the weather station, or the wind and rain sensor to the thermo-hygro sensor.

- ✓ Consider what is in the signal path between the weather station and the sensors.
- ✓ Consider the distance the weather station is from other electronics in the home.

Resistance:

- ✓ Obstacles such as walls, windows, stucco, concrete, and large metal objects can reduce the range.
- ✓ When considering the distance between the sensor and the weather station (200 feet, 60 meters open air) cut that distance in half for each wall, window, tree, bush or other obstruction in the signal path.
- ✓ Closer is better.
- ✓ Do not mount the sensors on a metal fence. This significantly reduces the effective range.

Interference:

- ✓ Consider items in the signal path between the sensor and the weather station.
- ✓ Simple relocation of the sensor or the weather station may correct an interference issue.
- ✓ Windows can reflect the radio signal.
- ✓ Metal will absorb the RF (radio frequency) signal.
- ✓ Stucco held to the wall by a metal mesh will cause interference.
- ✓ Transmitting antennas from: ham radios, emergency dispatch centers, airports, military bases, etc. may cause interference.
- ✓ Electrical wires, utilities, cables, etc. may create interference if too close.
- ✓ Vegetation is full of moisture and reduces signal.
- ✓ Dirt: Receiving a signal through a hill is difficult.

Weather Station

12-Hour or 24-Hour time format

- ✓ Time display: 12-hour or 24-hour format.
- ✓ Default is 12-hour time.
- ✓ Use the [Program Menu](#) to switch time formats.

Power requirements

- ✓ 3-C alkaline batteries power the weather station.

Manually set time: Program Menu

There are five function buttons located on the unit: SET, ▲/DATE, ▼/RAIN, ALARM, and MIN/MAX. The SET button moves through the program menu. Press and release the ▲/DATE or ▼/RAIN button to change a value. Save changes and exit the program menu at any point by pressing the MIN/MAX button.

- ✓ **CONTRAST:** Press and hold the SET button. **LCD** and a number from 1-8 will flash. Press and release the ▲/DATE or ▼/RAIN button to adjust the Contrast of the LCD. Press and release the SET button to confirm and continue.
- ✓ **HOUR:** The **Hour** will flash. Press and release the ▲/DATE or ▼/RAIN button until the correct Hour is shown. Press and release the SET button to confirm and continue.
Note: When in 12h mode, there is only a 'PM' display, which appears under the word TIME. During the 'AM' hours, this area will be blank.
- ✓ **MINUTES:** The **Minutes** will flash. Press and release the ▲/DATE or ▼/RAIN button until the correct Minutes are displayed. Press and release the SET button to confirm and continue.
- ✓ **12/24-HOUR TIME:** **12h** or **24h** will flash. To change between 12h and 24h, press and release the ▲/DATE or ▼/RAIN button. Press and release the SET button to confirm and continue.
Note: When in 24-hour time the date will display Day first, then Month.
- ✓ **YEAR:** The **Year** will flash. Press and release the ▲/DATE or ▼/RAIN button to set the correct Year. Press and release the SET button to confirm and continue.
- ✓ **MONTH:** The **Month** will flash. Press and release the ▲/DATE or ▼/RAIN button to set correct Month. Press and release the SET button to confirm and continue.

- ✓ DATE: The **Date** will flash. Press and release the ▲/DATE or ▼/RAIN button to set the correct Date. Press and release the SET button to confirm and continue.
- ✓ FAHRENHEIT/CELSIUS: °F will flash in the wind chill, indoor temperature and outdoor temperature areas. Press and release the ▲/DATE or ▼/RAIN button to select between Fahrenheit and Celsius. Press and release the SET button to confirm and continue.
- ✓ WIND SPEED UNIT: Wind Speed unit **MPH** will flash. Press and release the ▲/DATE or ▼/RAIN button to select from mph, m/s, knots, Beaufort or km/h. Press and release the SET button to confirm and continue.
- ✓ RAIN UNIT: Rainfall **Inches** will flash. Press and release the ▲/DATE or ▼/RAIN button to select in or mm. Press and release the SET button to confirm and continue.
- ✓ PRESSURE UNIT: The Air Pressure unit **inHg** will flash. Press the ▲/DATE or ▼/RAIN button to select inHg or hPa. The default setting is inHg. Press and release the SET button to confirm and continue.
- ✓ RELATIVE PRESSURE SETTING: The **Relative Air Pressure** will flash. Press the ▲/DATE or ▼/RAIN button to adjust the Relative Air Pressure. Press and release the SET button to confirm and continue.
Note: Refer to your local weather reporting station for an appropriate setting. It is important that this setting is adjusted for local conditions to ensure forecast accuracy.
- ✓ FORECAST SENSITIVITY: The **Forecast Sensitivity** will flash. The default setting of **.09** works well in most areas of the country, however in areas with relatively constant pressure this should be set to **.06**, (within 30 miles of the coast) and in areas with significant pressure changes this should be set to **0.12** (within 30 miles of the desert). Press the ▲/DATE or ▼/RAIN button to adjust. Press and release the SET button to confirm and continue.
- ✓ STORM ALARM SENSITIVITY: The **Storm Alarm Sensitivity** will flash. The default setting of **.15** works well in most areas, however you may need to adjust this level up or down depending on your local conditions. Use the ▲/DATE or ▼/RAIN button to adjust. Press and release the SET button to confirm and continue.
- ✓ STORM ALARM: AON or **AOFF** will flash. This will turn the Storm Alarm ON or OFF. Use the ▲/DATE or ▼/RAIN button to toggle the Storm Alarm ON (AON) and OFF (AOFF). Press and release the SET button to confirm and continue.
- ✓ WIND DIRECTION DISPLAY: The **Dash** in the wind compass will flash. Use the ▲/DATE or ▼/RAIN button to select the Wind Direction to show in degrees (dash) or letters NNW. Press and release the SET button to confirm and continue.
- ✓ FACTORY RESET: **Res off** will display. Use the ▲/DATE or ▼/RAIN button to select:
 - **Res LO** to reset the Internet connection only (all weather station readings remain unchanged) Weather station will need to be re-registered.
 - **Res ALL** *only* if you wish to Factory Reset the Weather Center.
 - **Res OFF** When you do not wish to restart the weather center, but were changing settings (time date etc.).
- ✓ Press and release the SET button to complete the program menu.
Note: To Factory Reset the weather center, select **Res ALL** and press the SET button to confirm. The station will begin to count down numbers in the date area. When it is complete, it will say **done**. Then remove the batteries and follow the Restart up procedure.

Change display

Modes: Press and release SET button to toggle between the display of Mode 1 or Mode 2:

- ✓ **Mode 1:**
 - Wind Speed
 - 24 hr. Pressure History Graph
- ✓ **Mode 2:**
 - Wind Gust
 - 72 hr. Pressure History Graph
- ✓ **Up Arrow:**
 - Press and release to switch between Date and Seconds displayed.
 - Hold until the station beeps to resync with sensors.
- ✓ **Down Arrow:**

- Press and release to view 1-hour, 24-hour, 1-week, 1-month or Total Rainfall.
- Hold to resync the display with the gateway.

Pressure inaccurate

- ✓ Enter the program menu to select the pressure unit of measure (**inHg** is common in the USA) and set the actual Relative Pressure numbers on the display. The unit can set it to a known value from the local reporting station.

Forecast Icons inaccurate

- ✓ The weather forecasting feature is estimated to be 70% accurate. The weather forecast is based solely upon the change of air pressure over time.
- ✓ The icons are predicting 12-24 hours in the future, not current conditions. It may be sunny out your window, but the pressure is falling so the forecast station will show clouds with rain icon.
- ✓ The SUNNY icon indicates clear weather, even when displayed during the night-time. The icons displayed forecast the weather in *terms of getting better or worse, and not necessarily sunny or rainy* as each icon indicates.

Note: After initial set-up, disregards icons for weather forecasts for the next 48-60 hours. This will allow sufficient time for the weather station to collect air pressure data at a constant altitude and result in a more accurate forecast.

Alarms

Alarms are set on the weather station itself.

1-In the normal display mode, press and release the ALARM button until you see the value you wish to set an alarm for:

- High or Low **Pressure** alarms
- High or Low **Indoor Temperature** alarms
- High or Low **Indoor Humidity** alarms
- High or Low **Outdoor Temperature** alarms
- High or Low **Outdoor Humidity** alarms
- High **Wind Gust** alarm
- **Wind Direction** alarm
- **Rainfall** amount in 24-hour period alarm.

2-Press and hold the SET button for 2 seconds and you will see the selected value flashing. Press and release the ▲UP ARROW button or ▼DOWN ARROW button to set the alarm value.

NOTE: Hold the arrow button in to change the value faster.

3-Press the ALARM button to confirm the setting. The digit will stop flashing. Repeat these steps with each alarm value you wish to set.

Activate/Deactivate Alarms:

- ✓ Press the SET button to switch the Alarm On or Off. The alarm icon (☀) indicates the alarm is switched ON.
- ✓ When you press the SET button, the alarm icon should disappear and that alarm is OFF.
- ✓ Press the ALARM button once.

Storm Alarm:

- ✓ There is also a Storm alarm in the program menu that can be turned on (AON) or off (AOFF).
- ✓ Press and hold the SET button to enter the program menu. LCD and a number will flash on the bottom of the display.
- ✓ Press and release the SET button 13 more times and you will see a down arrow and a number from 0.09 to 0.27 flashing. This is the sensitivity, (how many hPa the pressure falls before an alarm sounds). Use the ARROW buttons to select the setting desired.

- ✓ Press and release the SET button and AOFF or AON will show. Use the ARROW button to turn the alarm on (AON) or off (AOFF). Release all buttons and allow the display to come back to a normal display. This will take about 15 seconds.

Weather station has missing segments

- ✓ This is generally a power related issue.
- ✓ Batteries may be overpowered or underpowered. Remove batteries from weather station.
- ✓ Press any button 20 times. Leave the weather station unpowered for 1-2 hours.
- ✓ Install fresh alkaline batteries with correct polarity.
- ✓ Describe the portions of letters or numbers missing.

Weather station is dim

- ✓ Most weather stations have a gray background. Place the weather station at eye level. Is it still dim?
- ✓ Weather stations that sit in the sunlight can develop a cloudy film over time.
- ✓ This is generally a power related issue.
- ✓ Batteries may be overpowered or underpowered. Remove batteries from weather station.
- ✓ Press any button 20 times. Leave the weather station unpowered for 1-2 hours.
- ✓ Install fresh alkaline batteries with correct polarity.

Weather station has distorted display

- ✓ On a brand new weather station, check for thin plastic films of printed scratch guard that may be on the upper and lower screen of the weather station. This thin piece of plastic has printed numbers for store displays.
- ✓ With all power removed, the weather station should be blank.
- ✓ If numbers still appear, please check for scratch guard.
- ✓ Check that the batteries connect correctly.
- ✓ This is generally a power related issue.
- ✓ Batteries may be overpowered or underpowered.
- ✓ Remove batteries from weather station.
- ✓ Press any button 20 times. Leave the batteries out of the weather station for 2 hours.

Weather station display is frozen

- ✓ On a brand new weather station, check for thin plastic films of printed scratch guard that may be on the upper and lower screen of the weather station. This thin piece of plastic has printed numbers for store displays. This can make the weather station display appear "frozen".
- ✓ With all power removed the weather station should be blank.
- ✓ If numbers still appear, please check for scratch guard.
- ✓ Check that the batteries connect correctly.
- ✓ This is generally a power related issue.
- ✓ Batteries may be overpowered or underpowered.
- ✓ Remove batteries from weather station.
- ✓ Press any button 20 times. Leave the batteries out of the weather station for 2 hours.

Weather station is blank: No letters, numbers or dashed lines

- ✓ Check that the batteries connect correctly.
- ✓ Batteries may be overpowered or underpowered.
- ✓ Remove batteries from weather station.
- ✓ Press any button 20 times. Leave the batteries out of the weather station for 2 hours.

Remote Monitoring and Alerts (optional)

- ✓ Alerts are only available through your account on www.lacrossealerts.com.

- ✓ **Internet-connected weather station with remote monitoring and alerts** uses the included Gateway Set and Activation Card to enable the included Remote Monitoring & Text/E-mail Alerts from www.lacrossealerts.com
- ✓ Remote Monitoring & Text/E-mail Alerts are included so you may remotely monitor your home & backyard weather on www.lacrossealerts.com using your smartphone, tablet or computer.
- ✓ No application or software to install.
- ✓ All remote monitoring is through www.lacrossealerts.com with an account that you create if you wish to use these added features.
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