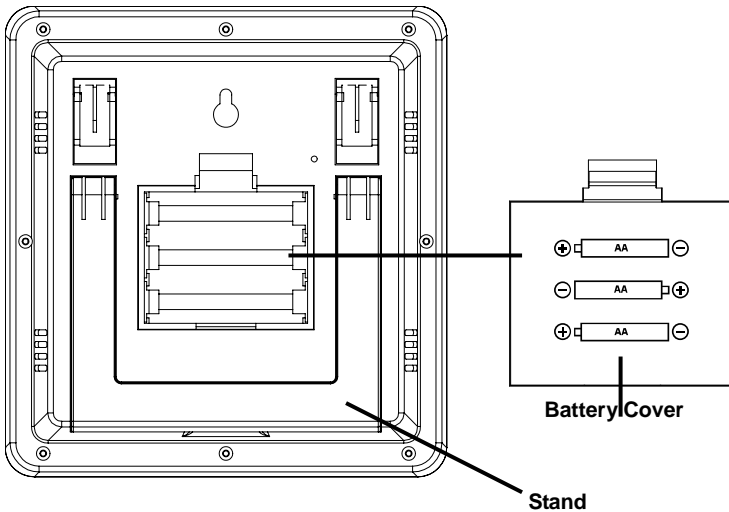
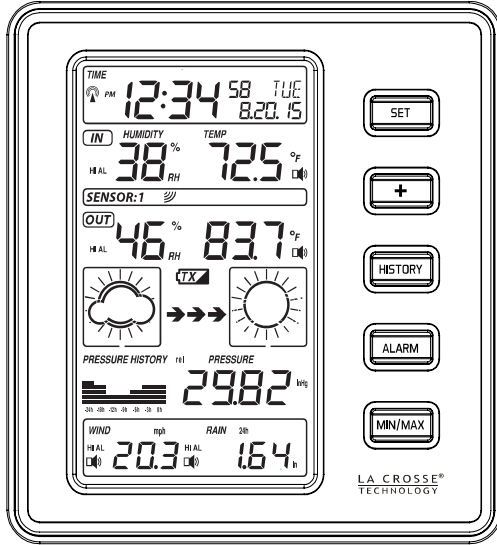
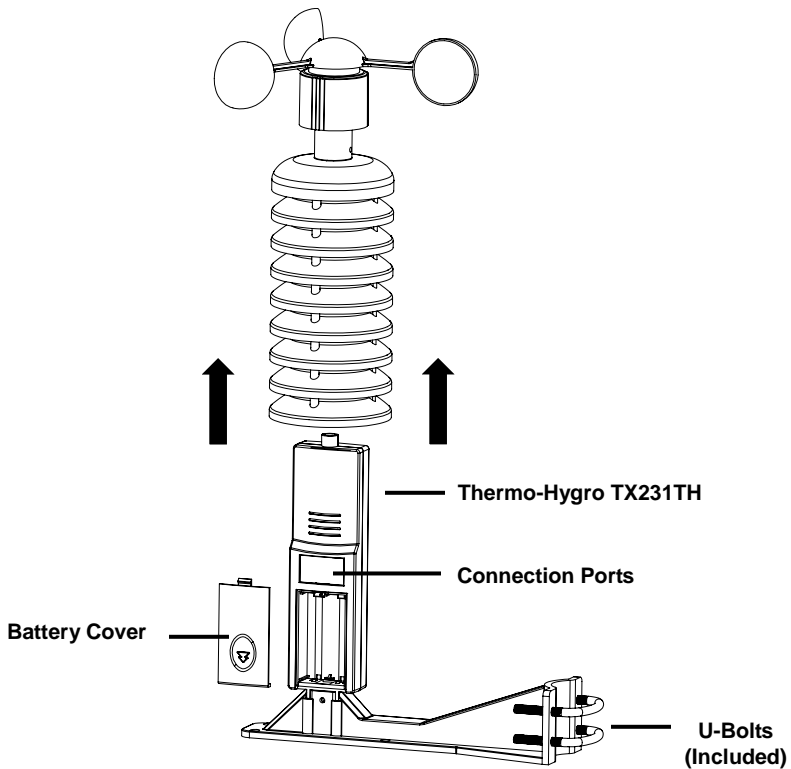
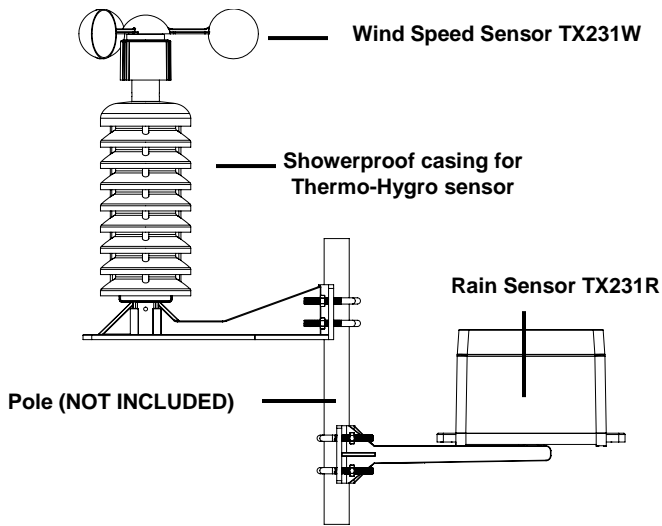


**PROFESSIONAL WEATHER STATION**

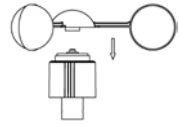
**Weather  
Station**





### Get Started

1. Place all sensors and the weather station 5-10 feet apart.
2. Push the wind cups onto the base. Spin the wind cups. If the wind cups spin freely and can hear the slight sound of rolling bearing rotate, the anemometer is ready and can be installation.
3. Remove the wind speed sensor/showerproof casing from the thermo-hygro sensor to reveal the two ports (for the wind sensor and rain sensor)
4. Connect the attached cables of wind and rain sensors to the correct ports of the thermo-hygro sensor. The cords should click into place. Double-check the rain and wind cords are in the correct port.
5. Insert 3 x AA, 1.5V Alkaline batteries into the back of the weather station. Observe the correct polarity.
6. Open the battery cover of the thermo-hygro sensor located below the two ports and insert 2 x AA, 1.5V Alkaline batteries.
7. Observe the correct polarity. The red LED will light up for 4 seconds.
8. Do not press buttons or move the sensors or weather station for at least **10 minutes** to avoid signal interruption.



**WWVB Signal Search:** The thermo-hygro sensor will transmit weather data within the first 24 seconds. Then, the sensor will start radio controlled time (WWVB) reception. During the time reception period (maximum 5 minutes), no weather data will be transmitted. The LED indicator will be blink 5 times once WWVB signal is received. Weather data will be sent again once the WWVB search finished. If the WWVB time signal is not received, the thermo-hygro sensor will search every 2 hours until it is received. Weather data will be transmitted when not in search mode.

For information about WWVB visit:  
[www.nist.gov/pml/div688/grp40/wwvb.cfm](http://www.nist.gov/pml/div688/grp40/wwvb.cfm)

**Restart:** If there is no outdoor temperature or wind data after 10 minutes, remove batteries from the weather station & outdoor sensor and press a button 20 times. After 15 minutes, return to **Step 1** above.

### Sensor Assembly and Placement

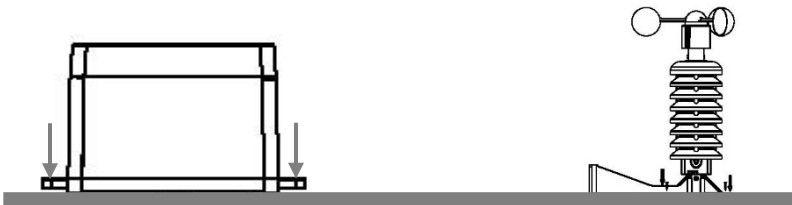
The Wind speed/ Thermo-hygro sensor and the rain sensor may be mounted on a pole (not included) with the U-bolts (included) or mounted on a flat surface.

#### Mount on a Pole:

1. Select a pole (not included) on which to mount the sensors. The pole should not be more than 0.75 inches in diameter.
2. Firmly place the bottom of the thermo-hygro sensor into the plastic mounting bracket. Use a short bolt and nut to secure in place. Do not over tighten.
3. Check the wind and rain cord are secured to the correct ports. Slide the wind speed sensor and shower proof cover over the thermo-hygro sensor. Careful, it will only go on if the insides slots are align with the corner of the Thermo-Hygro sensor.
4. Attach the rain sensor to the plastic mounting bracket and secure with a long set screw. Do not over tighten.
5. Attach the rain sensor mounting bracket to the pole with the included U-bolts. Do not over tighten.  
**Note:** Attach the rain sensor lower than the wind/TH sensor so that rain water does not follow the cord into the port of the TH sensor.
6. Attach the wind speed/thermo-hygro sensor mounting bracket to the wooden pole with the included U-bolts. Do not over tighten.

### Mount on a Flat Surface:

1. Firmly place the bottom of the thermo-hygro sensor into the plastic mounting bracket. Use a short bolt and nut to secure in place. Do not over tighten.
2. Check the wind and rain cord are secured to the correct ports. Slide the wind speed sensor and shower proof cover over the thermo-hygro sensor.
3. Place two screws through the plastic mounting bracket to secure to a flat surface. Do not over tighten.
4. Place two screws through the rain gauge to secure to a flat surface. Do not over tighten the screws. Use the bubble level on the top of the rain sensor to be sure it is level.  
**Note:** The plastic mounting bracket is not used for the rain sensor when mounting on a flat surface.



### Placement:

1. Place the sensors in an open area at least 6 feet above ground.
2. Avoid obstructions that will block wind and rain. Allow a 50 foot clearance or more from tall buildings, trees etc. When the sensors are installed next to a tall building, the wind and rain will not be accurate.

3. The rain sensor will need to be cleaned periodically.
4. Batteries need to be changed every two years.
5. Mount the sensors at least 6' from any building, structure, ground, or roof top that may provide radiant heat.
6. Mount the sensors within range (600 feet open air) of the weather station. Each wall, window, tree etc., can cut that signal by half.
7. Place the weather station at least six feet from radio interference such as PCs, radios or TV sets. Do not have wireless devices in the signal path between the sensors and the weather station.
8. The weather station has pull out stands to sit or to recline on a desk. Or the weather station may be wall mounted.

**Setting Mode: Time, Date, Temperature, Pressure, Wind, Rain Unit**

1. Hold the **SET** button to enter time set mode.
2. Press the **+** or **MIN/MAX** buttons to adjust the values.
3. Press the **SET** button to confirm adjustments and move to the next item.

**Settings order:**

1. Time Zone Setting
2. Daylight Saving Indicator (DST) ON/OFF
3. 12/24 hour format
4. Hours
5. Minutes
6. Year
7. Month
8. Date
9. Celsius or Fahrenheit
10. Air pressure display units in (hPa or InHg)
11. Relative pressure setting (default 29.93inHg)
12. Pressure sensitivity setting (default 2)
13. Storm warning threshold setting (default 4)
14. Wind speed units (km/h, mph, m/s, knots, bft)
15. Rainfall units (mm or inch)

This station has 24 Time Zones	
North American time zones are:	
-4	Atlantic
-5	Eastern
-6	Central
-7	Mountain
-8	Pacific
-9	Alaskan
-10	Hawaiian

**Note:** The lowest number is used near the coastline, the highest number is for the desert, and middle number is for everywhere else.

Press the **HISTORY** button to exit, or wait 30 seconds without pressing buttons to return to the normal time display.

**Display Modes**

The weather station has 5 separate display mode to access different features of the weather station.

- Setting Mode (Set time date etc., **see above**)
- Quick Display Mode (Changes what is viewed on screen)
- Alarm Mode (View and set Hi or Low alarms)
- History Mode (View 24 hour history)
- MAX/MIN Mode (View MAX and MIN values with time and date stamp, reset MAX/MIN values)

**QUICK DISPLAY MODE**-Do not press any buttons for 30 second to start from normal display mode.

**Outdoor Temperature, Wind Chill or Dew Point display:**

1. Press and release the **SET** button once. The Outdoor Temperature area will flash
2. Press the **+** or **MIN/MAX** buttons to display Outdoor Temperature, Wind Chill or Dew Point

**Relative or Absolute Pressure display:**

3. Press and release the **SET** button twice. The Pressure Number will flash
4. Press the **+** or **MIN/MAX** buttons to select Relative or Absolute Pressure

**Wind Speed or Wind Gust display:**

5. Press and release the **SET** button three times. The Wind Speed number will flash
6. Press the **+** or **MIN/MAX** buttons to display Wind Speed or Wind Gust

**Rainfall 1 hour, 24 hour, weekly, monthly, and total rain (since reset):**

7. Press and release the **SET** button four times. The Rain number will flash.
8. Press the **+** or **MIN/MAX** buttons to display rainfall as 1 hour, 24 hour, weekly, monthly or total readings.

**Rainfall Reset (reset all current rain readings):**

9. Press and release the **SET** button four times. The Rain number will flash.
10. Press the **+** or **MIN/MAX** buttons to select Total Rain.
11. Hold the SET button for 3 seconds to reset all current rain readings to 0.00.

**Note:** The MIN/MAX rainfall readings with time and date stamp will not be affected by the rain reset.

**ALARM MODE-** Do not press any buttons for 30 second to start from normal display mode.

1. Press the **ALARM** button once to enter HI Alarm mode (HIAL will show in the date display). Press twice to enter LO Alarm mode. (LOAL will show in the date display).
2. Press the **SET** button to select an alarm value to change.
3. Press the **+** or **MIN/MAX** buttons to adjust the values.
4. After adjusting alarm values press the ALARM button to activate or deactivate individual alarms.

**High Alarms:**

- Time alarm (hour then minutes)
- Indoor humidity high alarm
- Indoor temperature high alarm
- Outdoor humidity high alarm
- Outdoor temperature high alarm
- Wind chill high alarm
- Dew point high alarm
- Pressure high alarm
- Wind speed high alarm
- Gust speed high alarm
- 1 Hour rain high alarm
- 24 hour rain high alarm

**Low Alarms:**

- Time alarm (hour then minutes). This is the same as Hi Alarm for the time alarm. There is only one time alarm.
- Indoor humidity low alarm
- Indoor temperature low alarm
- Outdoor humidity low alarm
- Outdoor temperature low alarm
- Wind chill low alarm
- Dew point low alarm
- Pressure low alarm



**Active  
Alarm  
Icon**

**Activate/Deactivate Hi and Low Alarms:**

1. Press the **ALARM** button to enter HI Alarm or LO Alarm mode. (HIAL or LOAL will show in the date display).
2. Press the **SET** button to select an alarm value to change.
3. With alarm value flashing, press the **ALARM** button to activate or deactivate individual alarms.
4. When active (ON) the alarm icon will show.
5. When the alarm is inactive (OFF) the alarm icon will not show.

**When an alarm sounds and flashes:**

- Alarm will sound for two minutes.
- Press any button to silence the alarm.
- The alarm will flash until the weather condition is no longer valid.
- The alarm will flash even when sound is silenced.
- When the alarm threshold is met, the alarm will reactivate automatically.
- Deactivate the alarm or set it to a new value to avoid repeated alarms.

**HISTORY MODE-** Do not press any buttons for 30 second to start from normal display mode.

1. Press the **HISTORY** button to enter history mode. The letters HIS will show in the date area.
2. Press the **+** button to view records over the past 24 hours at increments of -3 hours, -6 hours, -9 hours, -12 hours, -15 hours, -18 hours, -21 hours, -24 hours.
3. Press the **HISTORY** button to exit history mode.

**MAX/MIN MODE-** Do not press any buttons for 30 second to start from normal display mode.

1. Press the **MIN/MAX** button once to enter MAX mode. Press twice to enter MIN mode.
2. Press the **+** button to view individual MAX or MIN values with time and date stamp.
3. When viewing individual MAX/MIN values with time and date stamp, press the **SET** button to reset that record to current value, date and time.
4. Press the **HISTORY** button to exit MAX or MIN mode.

**Maximum Records with time and date stamp:**

- Indoor humidity maximum
- Indoor temperature maximum
- Outdoor humidity maximum
- Outdoor temperature maximum
- Wind chill temperature maximum
- Dew point temperature maximum
- Pressure maximum
- Wind speed maximum
- Gust speed maximum
- 1 Hour rain maximum
- 24 hour rain maximum
- Week rainfall maximum
- Month rainfall maximum

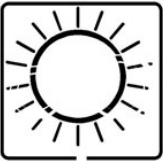


### Minimum Records with time and date stamp:

- Indoor humidity minimum
- Indoor temperature minimum
- Outdoor humidity minimum
- Outdoor temperature minimum
- Wind chill temperature minimum
- Dew point temperature minimum
- Pressure minimum

### Weather Forecast Icons

The weather station uses changing atmospheric pressure to predict weather conditions for the next 12-hours with 70-75% accuracy.



Sunny



Partly Cloudy



Cloudy



Rainy

### Weather Tendency Arrows

The weather tendency arrows are between two forecast icons and indicate which direction the pressure is trending.

**Left Arrows:** Pressure is falling and weather should worsen.

**Right Arrows:** Pressure is rising and weather should improve.

### Pressure Sensitivity Setting

The Pressure Sensitivity setting (settings mode) may be helpful if you live near large bodies of water or in a desert area.

- The lowest number (2) if you live near a coastline
- Use the highest number (4) if you live in the desert.
- The middle number is for everywhere else.

### Storm Warning Threshold

The Storm Warning Threshold is a low pressure warning that is selectable in the settings mode.

When the warning threshold is met over a 3 hour period, the storm warning icon will flash for 3 hours.

This warning is always active so you need to set the threshold to the highest number (9) if you do not want it to flash regularly (no sound).



## Outdoor Reception Icon

- About every 48 seconds when the outdoor sensors update, the sensor reception icon will flash briefly.



## Rain Readings

The rain readings are running totals from now, and back the given time frame:

- 1 hour: Now, back 1 hour
- 24 hour: Now, back 24 hours
- Weekly: Now, back 7 days
- Monthly: Now, back 30 days
- Total: Total since the startup of weather station, until reset.

## Backlight

- When any button is pressed, the LED lights will come on for 3 seconds.

## Changing Batteries

**Sensors:** When only changing batteries in the outdoor sensor, allow up to 3 hours for the weather station to acquire the signal again.

**Weather Station:** Remove batteries from the weather station & outdoor sensor and press a button 20 times. After 15 minutes, return to **Step 1 under get started**.

## Weather Station Care & Maintenance

- Do not mix old and new batteries
- Do not mix Alkaline, Standard, Lithium or Rechargeable Batteries
- Always purchase the correct size and grade of battery most suitable for the intended use.
- Replace all batteries of a set at the same time.
- Clean the battery contacts and also those of the device prior to battery installation.
- Ensure the batteries are installed correctly with regard to polarity (+ and -).
- Remove batteries from equipment with is not to be used for an extended period of time.
- Promptly remove used batteries.
- Do not expose to extreme temperature, vibration or shock.
- Clean with a soft damp cloth. Do not use solvents or scouring agents.
- The product is not a toy. Keep it out of reach of children.
- The product is not to be used for medical purpose or for public information. It is intended for home use only.
- The specs of this product may change without prior notice.
- Improper use or unauthorized opening of housing voids warranty.
- If the product is not working properly, change the batteries.

## Specifications

<b>Indoor:</b>	
Temperature Range:	32°F to + 140°F (0 C to 60 C) OFL outside this range
Humidity Range:	10%-99% (RH) OFL outside this range
Interval:	About every 48 seconds
Air pressure range:	300-1100hPa (8.85-32.5inHg)
Alarm interval:	120 seconds
<b>Outdoor:</b>	
Temperature Range:	-40°F to 149°F (-40°C to 65°C) OFL outside this range
Alkaline Batteries:	-20°F to 149°F (-28.8°C to 65°C)
Lithium Batteries:	-40°F to 149°F (-40°C to 65°C)
<b>NOTE:</b>	Temperatures below - 20°F (-28.8°C) require Lithium batteries in the outdoor sensor.
Humidity Range:	10%-99% (RH) OFL outside this range
Distance:	Over 600 ft. (183 meters) RF 433MHz (open air)
Interval:	About every 48 seconds
Rain volume display:	0-393.66 inches (0-9999mm) OFL outside this range
Wind speed:	0-112 mph OFL outside this range
Waterproof level:	IPX3
<b>Power:</b>	
Weather station	3-AA, IEC, LR6 batteries (not included)
TX231TH Thermo-hygro Sensor:	2-AA, IEC, LR6 batteries (not included)
<b>Battery Life:</b>	
Weather station	Battery life is over 12 months when using reputable battery brands
TX231TH Sensor:	Battery life is over 24 months when using reputable battery brands for both Alkaline and Lithium batteries
<b>Dimensions:</b>	
Weather station:	5.88"W x 6.31"H x 1.40"D
TX231TH Thermo-hygro Sensor:	2.81" W x 8.02"H x 2.81"D (71.5 x 203.6 x 71.5mm)
TX231W Wind Sensor:	5.67" W x 2.93"H x 6.28"D (144 x 74.5 x 159.5mm)
TX231R Rain Sensor:	3.69 H x 5.92 W x 2.36 D inches (93.7 x 150.3 x 60 mm)

### Warranty and Support Information

La Crosse Technology, Ltd. provides a 1-year limited time warranty (from date of purchase) on this product relating to manufacturing defects in materials & workmanship.

**View full warranty details online at:**  
[www.lacrossetechnology.com/warranty\\_info.pdf](http://www.lacrossetechnology.com/warranty_info.pdf)

**For warranty work, technical support or other information contact:**

La Crosse Technology, Ltd  
2830 South 26<sup>th</sup> St.  
La Crosse, WI 54601



**Contact Support:**  
608-782-1610

**Online Product Support:**  
[www.lacrossetechnology.com/support](http://www.lacrossetechnology.com/support)

**Product Registration:** [www.lacrossetechnology.com/support/register](http://www.lacrossetechnology.com/support/register)

**Protected under U.S. Patents:** 5,978,738 | 6,076,044 | RE43903

**FCC Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device must not be co-located or operating in conjunction with any other antenna or transmitter. **Operation is subject to the following two conditions:**

**(1) this device may not cause harmful interference, and**

**(2) this device must accept any interference received, including interference that may cause undesired operation.**

**Caution!**

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user authority to operate the equipment.

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