

BBB86118V3 FAQs

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Batteries

Explanation: Many problems are resolved with fresh batteries of the appropriate voltage. Many items sent in under warranty work, when tested with fresh batteries. Batteries manufactured this year will have an expiration date 10 years (or more) 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.

- We suggest name brand Alkaline batteries for **indoor displays**.
- A minimum voltage of 1.48V for each battery is necessary for proper performance.
- 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.
- Good name brand batteries make less noise, which reduces the chance of RF (radio frequency) interference from the battery compartment.

Button Functions-Quick Look

There are 7 function buttons on this weather station. In order:

-(MINUS) +(PLUS) SET SEARCH MOON  ALARM SNOOZE

1. -(MINUS) Button:

Settings, & Alarm Mode-

- Press to decrease values during setting.
- Hold 2 seconds to quickly adjust values.

When Viewing HI/LO Records:

- Hold 5 seconds to reset each individual record.

2. +(PLUS) Button:

Normal Time Display-

- Press and release to view HI and LO Temperature records with Time stamp.

Settings, and Alarm Mode-

- Press to increase the values by one.
- Hold 2 seconds to quickly adjust values.

3. SET button:

Normal Time Display-

- Hold for 3 seconds to set time/calendar, etc.

Settings Mode:

- Press and release to confirm setting and move to next item or exit.

4. SEARCH button

Normal time display:

- Press to search for Atomic Time Signal
- Hold to search for Outdoor Sensor.

5. MOON button

Normal time mode:

- Press to display Calendar or Moon Phase

6. ALARM button

Normal Time Display-

- Press to activate or deactivate alarm.
- Hold 3 seconds to enter alarm settings mode.

Alarm Mode:

- Press and release to confirm setting and move to next item or exit.

7. SNOOZE button

Setting Mode-

- Press to exit any setting menu (changes saved)

Alarm Mode-

- Press to activate snooze feature for 10 minutes.

Outdoor Temperature Sensor

- The TX141-B (all versions) Outdoor sensor comes packaged with this atomic clock.

Power Requirements

- 2-AA [batteries](#) power the Outdoor sensor.
- 3-AA [batteries](#) power the clock.
- We recommend Alkaline batteries for the Outdoor sensor.

Quick Connect

Explanation: Use the quick connect for an atomic clock and Outdoor sensor that have been working but lost connection due to interference or low batteries. This is not the same as a thorough factory reset.

1. Bring the Outdoor sensor and atomic clock together inside and place the units 5-10 feet apart with nothing between them.
 2. Hold the SEARCH button for 5 seconds. The Outdoor temperature area will flash.
 3. Remove battery cover from the Outdoor sensor and press and release the TX button to send the signal.
 4. Wait for 2 minutes for the Outdoor temperature to appear on the atomic clock.
- [Factory Restart](#): If the above procedure does not work, please try the factory reset.

Atomic clock Factory Restart

Explanation: The factory restart returns the clock and outdoor sensor to an “out-of-the-box” default state and often resolves an issue.

Factory Restart:

1. Remove all power from outdoor sensor and clock.
2. Press one of the buttons on the clock at least 20 times to clear all memory.
3. Verify that the clock is blank before proceeding (there may be lines painted on the screen that will show when there is no power).
4. **Leave both units without power for 15 minutes** (very important).
5. Insert fresh batteries into the outdoor sensor, then into the clock.
6. Press the TX button on the outdoor sensor to transmit RF signal.
7. Keep the outdoor sensor 5-10 feet from the clock.
8. When sensor connection is established, the temperature will appear on the station. Allow the outdoor sensor and clock to sit together for 15 minutes to establish a strong connection.
9. Do not press buttons for 15 minutes.
 - For optimum 433MHz transmission, place the outdoor sensor no more than 330 feet (100 meters, open air) from the clock.
 - See the section on [mounting](#) and [distance/resistance/interference](#) for details on mounting the outdoor sensor.

Outdoor Sensor reads “NO”

- If sensor loses connection to the clock for any reason, the clock will show **NO** in the outdoor temperature area after 30 minutes.
- The clock will search for 3 minutes every hour to reconnect with sensor.
- Hold the **SEARCH** button 2 seconds to search for the outdoor sensor.
- Icon will flash while searching for sensor. Outdoor sensor area will show dashes during the search. When sensor is received the icon will be solid.
- If no sensor received, icon will disappear after 3 minutes of searching if sensor is not found. **NO** will again show in the outdoor sensor area.

Other steps to take:

- [Batteries](#) often resolve the connection.
- [Distance/Resistance](#) can cause loss of connection between the Outdoor sensor and the atomic clock.
- Turn the atomic clock 90 degrees towards the Outdoor sensor to provide better reception. This allows more antenna surface to face the Outdoor sensor signal.
- Try the [quick connect](#) or [factory restart](#).

Inaccurate Outdoor Temperature Reading

Explanation: High Outdoor temperature readings are generally a location issue. Low Outdoor temperature readings are power related or a sensor going bad.

- The Outdoor sensor reads the environment where it is mounted. When mounted inside the home, it will read inside temperature.
- When the Outdoor sensor reads high during the day, but not at night, it is a [positioning](#) problem.

- Look for heat sources such as sunlight, door or window frames or reflected heat.

Side-by-side test: Place the Outdoor sensor right next to the atomic clock for 2 hours.

- Compare indoor and Outdoor temperature. The temperatures should be within 4 degrees to be within tolerance.
- If the Outdoor sensor reads correctly when next to the atomic clock, try a different location outside.

Intermittent Outdoor Temperature

Explanation: Intermittent problems are the hardest to resolve. RF (radio frequency) communication may come and go occasionally. This can be normal in some environments (e.g. moister climates). If Outdoor sensor signal is lost, please wait 2-4 hours for the signal to reconnect on its own.

- Move the Outdoor sensor to a closer location.
- [Distance/Resistance](#) can cause loss of Outdoor sensor signal.
- Check [Batteries](#).

Freezer test: Confirm the atomic clock is reading the correct Outdoor sensor (not a neighbor's sensor). Place the Outdoor sensor in the freezer for an hour and watch the temperature drop on the atomic clock.

Indoor distance test: Please complete the [Restart](#) with Outdoor sensor and atomic clock 5-10 feet apart and inside to establish a strong connection.

- After 15 minutes, if there is a reading in the Outdoor temperature area, move the Outdoor sensor to another room with one wall between the Outdoor sensor and the atomic clock.
- Observe to see if the temperature remains on consistently for 1 hour.
- If the temperature remains on while in the house, then it is likely a [distance/resistance](#) issue.
- Move the Outdoor sensor to different locations outside to find a location where the temperature reading will hold.

Outdoor Temperature shows HH.H, LL.L

Explanation: These symbols are error messages indicating the Outdoor sensor is outside of its readable range.

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

Outdoor 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.
- Check the [distance](#) and [resistance](#) between the Outdoor sensor and atomic clock. Outdoor 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 Outdoor sensor.
- Battery life is over 24 months when using reputable battery brands for both Alkaline and Lithium batteries.

Outdoor sensor fell. The sensor no longer works.

Explanation: If there is no physical damage to the Outdoor sensor, the fall may not have caused internal damage. A fall can shock the Outdoor sensor or the batteries in the Outdoor 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.

Note: An Outdoor sensor that has fallen into puddle, snow, or other standing water, will likely have water damage and need to be replaced. Outdoor sensors are water resistant, not waterproof.

HI | LO Temperature readings

Explanation: The atomic clock shows the HI | LO temperatures with Time and Date Stamp.

View Records:

From normal display, press and release the **+(PLUS)** button to view Indoor/Outdoor Temperature HI | LO records with Time and Date.

Reset HI/LO Records:

While viewing individual records, hold the **-(MINUS)** button to reset.

Mounting/Positioning Outdoor sensor

First: Place the Outdoor sensor in the desired shaded location and the atomic clock in the home. Wait approximately 1 hour before permanently mounting the Outdoor sensor to ensure that there is proper reception.

POSITION

Outdoor:

- Protect the Outdoor sensor from standing rain or snow and from the overhead sun, which can cause it to read incorrectly.
- Mounting under an eave or deck rail works well.
- If you choose, you can construct a small roof or box for the Outdoor sensor. Be sure a box has vents.
- Mount the Outdoor sensor on the North side where to prevent sun from causing incorrect readings.
- Mount at least 6 feet in the air for a strong RF (radio frequency) signal.
- Do not mount the Outdoor sensor on a metal fence. This significantly reduces the effective [range](#).
- Outdoor sensors are water resistant, not waterproof.

Indoor or Outdoor:

- Mount Outdoor temperature sensor **vertically**.
- Avoid more than one wall between the Outdoor sensor and the atomic clock.
- The maximum transmitting range in open air is over 330 feet (100 meters).
- Obstacles such as walls, windows, stucco, concrete and large metal objects can reduce the range.
- Do not mount near electrical wires, transmitting antennas or other items that will [interfere](#) with the signal.
- RF (radio frequency) signals do not travel well through moisture or dirt.

MOUNT

Option 1:

- Install one mounting screw (not included) into a wall.
- Place the Outdoor sensor onto the screw (hanging hole on the backside).
- Gently pull down to lock the screw in place.

Option 2:

- Insert the mounting screw through the front of the Outdoor sensor and into the wall.
- Tighten the screw to snug (do not over tighten).

Fahrenheit/Celsius

- Use the [program menu](#) to switch from Fahrenheit to Celsius.

12-Hour Time Format

- Clock is 12-hour time only.

Does the clock have a backlight?

- No, as this clock is battery operated there is no backlight.

Supported Time Zones

- This clock has 7 Time Zones: Atlantic, Eastern, Central, Mountain, Pacific, Alaska, Hawaiian
- The atomic clock works in North America.
- Outside of North America, the atomic clock will not receive a WWVB signal, but will keep time like a quartz clock.

Dashes, HHH, LLL or Stuck Indoor Temperature

Explanation: These symbols are error messages indication the indoor sensor is outside of its readable range. For indoor readings, this is generally a power related issue.

- This is generally a power related issue.
- [Batteries](#) may be overpowered or underpowered. Remove batteries from atomic clock.
- Press any button 20 times. Leave the atomic clock unpowered for 1-2 hours.
- Insert fresh alkaline batteries with correct polarity.
- If the indoor temperature is still dashes, or HHH, LLL, the atomic clock may need replacement.

Time is off by hours

- Check to see if the [WWVB Tower](#) icon appears on the atomic clock. If not, the atomic clock has not received a WWVB time signal in the past 24 hours.
- Reposition the atomic clock with the front or back facing Colorado.
- Check that the [Time Zone](#) selected correctly reflects your location. Adjust the time zone in the [Program Menu](#).

- Check that the DST indicator is correct for your location (most areas observe DST so this should be ON). Adjust the DST indicator in the [Program Menu](#).
- Large buildings, metal roofed buildings and buildings or rooms full of electrical and/or radio equipment make it difficult to receive the WWVB time signal.

Daylight Saving Time

- Dependent on your location, position of the clock in your home, and atmospheric interference, it may take up to 5 nights for the change from Daylight Savings Time to Standard Time and vice-versa to occur.
- Check for a [WWVB](#) Tower Icon showing on the atomic clock. The tower icon indicates you have received the WWVB signal from Ft Collins CO in the past 24 hours.
- Check that the clock is in the correct [Time Zone](#).
- Check whether the DST indicator is ON or OFF. If the indicator is OFF the clock will not change.
- Check for fresh [batteries](#). Without proper batteries, the antenna will have a harder time picking up the signal.
- Position the atomic clock in a window (*with the front or back*) facing Ft. Collins, Colorado and leave for up to five nights. If you do not have a window facing this direction, position the clock near an outside wall and point the unit in this general direction.

Manually Set Time/Date: Program Menu

1. Hold the **SET** button 3 seconds to enter settings mode.
2. Press the + or - button to adjust the flashing values.
3. Hold the + or - buttons to adjust quickly.
4. Press the **SET** button to confirm adjustments and move to the next item.
5. Press the **SNOOZE** button at any time to exit.

Settings order:

- Beep ON/OFF
- Atomic ON/OFF
- DST (Daylight Saving Time)
 - AUTOMATIC DST ON
 - ALWAYS DST OFF
 - ALWAYS DST ON
- Time Zone
- Hour
- Minutes
- Year
- Month
- Date
- Temperature Fahrenheit/Celsius

TIME ZONES
ATLANTIC
EASTERN
CENTRAL
MOUNTAIN
PACIFIC
ALASKA
HAWAII

To begin:

1. Hold the **SET** button for 2 seconds to enter setting mode. **BEEP ON** will show. ON flashes. Press the + or - button to turn the button beep sound off.

2. Press SET to confirm and move to the atomic time ON/OFF. **ATOMIC ON** will show. ON flashes. Press the + or - button if you do not want Atomic Time signal (OFF).
3. Press SET to confirm and move to the Daylight Saving Indicator. **AUTOMATIC DST ON** will show. ON flashes. Press the + or - button to turn to ALWAYS DST OFF if you do not observe Daylight Saving Time changes, or to ALWAYS DST ON if your state has selected year around DST.
4. Press SET to confirm and move to the Time Zone. **EASTERN** will flash. Press the + or - button to select your time zone.
5. Press SET to confirm and move to the hour. The **HOUR** will flash. Press the + or - button to choose the hour.
6. Press SET to confirm and move to the minutes. The **MINUTES** will flash. Press the + or - button to choose the minutes.
7. Press SET to confirm and move to the year. The **YEAR** will show. **2021** will flash. Press the + or - button to change the year.
8. Press SET to confirm and move to the month. The **MONTH** will show. Month number will flash. Press the + or - button to change the month.
9. Press SET to confirm and move to the date. **DATE** will show. Date number will flash. Press the + or - button to change the date.
10. Press SET to confirm and move to the temperature unit. **FAHRENHEIT** will show. Press the + or - button if you prefer CELSIUS.
11. Press SET to confirm and exit.

Note: There are three Daylight Saving Time Settings:

- AUTOMATIC DST ON- Clock gains 1 hour in spring and loses 1 hour in the fall.
- ALWAYS DST OFF- Clock remains in Standard Time all year long.
- ALWAYS DST ON- Clock remains in Daylight Saving Time all year long.

No WWVB Tower Icon

- The atomic clock has not received a WWVB time signal in the past 24 hours.
- Position the atomic clock for better reception.
- Press and release the SEARCH button to send the atomic clock on a WWVB signal search at night.
- Allow up to 5 nights to receive the time signal.

Set Time Alarm

1. Hold the **ALARM** button 3 seconds to enter settings mode.
2. Press the + or - button to adjust the flashing values.
3. Hold the + or - buttons to adjust quickly.
4. Press the **ALARM** button to confirm adjustments and move to the next item.
5. Press the **SNOOZE** button at any time to exit.

Activate/Deactivate Time Alarm

- The alarm is active when set.
- From normal time display, press and release the ALARM button to deactivate or activate the alarm. The alarm time will show for 2 seconds.
- Alarm icon (clock) will show then active.


Note:

1. If no buttons are pressed in a 10 second period, alarm mode will time out and return to live display mode, reflecting whatever adjustments were made before timed out
2. Press SNOOZE at any time to save and exit all setting menus.
3. + or - button: Press once to adjust by 1 unit, hold for fast scroll adjustment.
4. Alarm is crescendo sound. When the alarm sounds, it continues for 2 minute and then shuts off completely.

Snooze Alarm

- When the alarm sounds, Press and release the SNOOZE button to silence the alarm for 10 minutes.
- The snooze icon Zz will flash.
- Press and release any button except SNOOZE to silence the alarm for 24 hours.

Customizable display: Calendar or Moon Phase

- Press the MOON  button to display the full calendar or the moon phase. Clock will stay on selection.
- Due to character limitations on the clock; Large and Small Waxing and Waning Phases will not state Large or Small.

Atomic clock has distorted or frozen display.

Explanation: On a brand new atomic clock, check for thin plastic film of **printed scratch guard** that may be on the screen of the atomic clock. This thin piece of plastic has printed numbers for store displays. When the batteries are installed, the “real” numbers show behind the printed scratch guard and create distortion.

- With all power removed, the atomic clock should be blank.
- If numbers still appear, please check for scratch guard.

Power:

- Check that the batteries are installed correctly.
- This is generally a power related issue.
- Batteries may be overpowered or underpowered.
- Remove batteries from atomic clock.
- Press any button 20 times. Leave the batteries out of the display for 2 hours.
- Insert batteries into the atomic clock.

Atomic clock is blank: No letters, numbers or dashed lines

- Check that the batteries are installed correctly.
- Batteries may be overpowered or underpowered.
- Remove batteries from atomic clock.
- Press any button 20 times. Leave the batteries out of the display for 2 hours.
- Insert batteries into the atomic clock.

Day of the week is incorrect.

- Check the year setting in the [program menu](#). The day of the week sets automatically based on the setting of the year, month, and date.

Atomic clock 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 for leaking batteries, which may damage the atomic clock.

Atomic clock has missing segments.

Explanation: When parts of numbers, letters, or pictures are missing on the display, it is often power related.

- With all power removed, the atomic clock should be blank.
- If numbers still appear, please check for scratch guard.

Power:

- Check that the batteries are installed correctly.
- This is generally a power related issue.
- [Batteries](#) may be overpowered or underpowered.
- Remove batteries from atomic clock.
- Press any button 20 times. Leave the batteries out of the display for 2 hours.
- Insert batteries into the atomic clock.