

W86111V3 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 Digital Atomic Clocks.
- 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 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.
- **Outdoor Transmitters:** Use Alkaline batteries (or Lithium for temperatures below - 20°F/-28.8°C)
- **Clock:** Use Alkaline batteries. Overpowered or underpowered batteries may cause loss of indoor readings, missing segments, dim display etc.

Digital Atomic Clock Factory Restart

1. Remove all batteries from outdoor sensor and weather station.
2. Press one of the buttons on the weather station at least 20 times to clear all memory.

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

Outdoor Temperature Transmitter

Compatible Outdoor Transmitters

- A TX141v3 outdoor transmitter comes packaged with this Digital Atomic Clock.
- The TX141 (all versions) transmitters are compatible with this Digital Atomic Clock.

Fahrenheit/Celsius

- **Digital Atomic Clock:** Press and release the °F/°C button on the back of the Digital Atomic Clock to switch the temperature display from Fahrenheit to Celsius.

Flashing Outdoor Temperature

- The outdoor Temperature reading will flash when the connection is first lost or intermittent between the Digital Atomic Clock and the outdoor transmitter.
- [Distance/Resistance](#) is generally the cause of intermittent connection or loss of connection between the transmitter and the Digital Atomic Clock.
- Check the [position](#) of the Digital Atomic Clock. Turn the Digital Atomic Clock 90 degrees towards the outdoor transmitter for better reception.
- Try the [quick connect](#) or [factory restart](#).
- [Batteries](#) often resolve the connection issue.

Dashes shown for Outdoor Temperature

- Dashes means the connection is lost between the Digital Atomic Clock and the outdoor transmitter.
- [Batteries](#) often resolve the connection.
- [Distance/Resistance](#) can cause loss of connection between the transmitter and the Digital Atomic Clock.
- Reorientation of the Digital Atomic Clock 90 degrees towards the outdoor transmitter may provide better reception.
- Try the [quick connect](#) or [factory restart](#).

Quick Connect

1. Bring the outdoor sensor, weather station together inside, and place the units 5-10 feet apart with nothing between them.
2. Hold the HEAT/DEW button on the weather station. 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 forecast station.
5. Factory Restart: If the above procedure does not work, please try the factory reset below.

Outdoor Temperature Changes Constantly

- You may have an additional compatible outdoor transmitter within range.
- Occasionally a neighbor will have a compatible outdoor transmitter that is within range.
- During setup, the temperature may change frequently as the clock looks for the transmitter.

Inaccurate Outdoor Temperature Reading

- The outdoor transmitter reads the environment. When mounted in the home it will read inside Temperature.
- When the transmitter reads high during the day but not at night it is a positioning problem.
- **Side-by-side test**: Bring the outdoor transmitter in the house and place it next to the Digital Atomic Clock for 2 hours.
- Compare indoor and outdoor temperature. The temperatures should be within 4 degrees to be within tolerance. See the section on accuracy for details.
- If the transmitter reads correctly when next to the Digital Atomic Clock then try a different location outside.
- Look for heat sources such as sunlight, door or window frames, or reflected heat.

Intermittent Outdoor Temperature

- RF (radio frequency) communication may come and go occasionally. This can be normal in some environments (e.g. moister climates). If transmitter signal is lost, please wait 2-4 hours for the signal to reconnect on its own.
- Move the outdoor transmitter to a closer location.
- **Freezer test**: Confirm the Digital Atomic Clock is reading the correct outdoor transmitter. Place the transmitter in the freezer for an hour and watch the temperature drop on the Digital Atomic Clock.
- **Indoor distance test**: Please complete the Restart with transmitter and Digital 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 transmitter to another room with one wall between the transmitter and the Digital 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 transmitter to different locations outside to find a location where the Temperature reading will hold.
- Distance/Resistance can cause loss of transmitter signal.
- Check Batteries.

Outdoor Temperature Is Stuck or HI or LO show.

- The last outdoor reading may remain (not change) for several hours when connection is lost.
- The outdoor Temperature reading will flash when the connection is first lost or intermittent between the Digital Atomic Clock and the outdoor transmitter.
- Check Batteries. Overpowered or underpowered batteries can cause this reading.
- Replace outdoor transmitter.

Outdoor Transmitter Fell and No Longer Works

- If there is no physical damage to the outdoor transmitter, the fall may not have caused internal damage.
- An outdoor transmitter that has fallen into a puddle or other standing water or snow may have water damage.
- Transmitters are water resistant, not waterproof.
- A fall can shock the transmitter or the batteries in the transmitter.
- 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.

Outdoor Transmitter 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 transmitter and Digital Atomic Clock. Transmitters 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 transmitter.
- Battery life is over 24 months when using reputable battery brands for both Alkaline and Lithium batteries.

Temperature Trend Arrows

- Black arrows next to the indoor and outdoor temperature readings reflect the temperature change in the past three hours.
- UP ARROW: Temperature rising more than 2°F (1°C) over the past three hours

- RIGHT ARROW: Temperature did not change more than 2°F (1°C) over the past three hours
- DOWN ARROW: Temperature falling more than 2°F (1°C) over the past three hours

Mounting/Positioning Outdoor Transmitter

- Mount outdoor Temperature transmitters vertically and under a bit of an overhang.
- Protect the outdoor transmitter from standing rain or snow, and from the overhead sun, which can cause it to read incorrectly. Generally, mounting under an eave or deck rail works well.
- Construct a small roof or box for the transmitter if you do not have an overhang. Please be sure the box is vented.
- Mount the transmitter on the North side to prevent sun from causing incorrect readings.
- Mount at least 6 feet in the air for a strong signal.
- Outdoor transmitters are water resistant but not water proof.
- Avoid more than one wall between the transmitter and the Digital Atomic Clock.
- 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.
- Place the outdoor transmitter and the Digital Atomic Clock in the desired shaded locations, and wait approximately 1-hour before permanently mounting the transmitter to ensure that there is proper reception.
- Do not mount the transmitter on a metal fence. This significantly reduces the effective range.

MOUNT

- Choose a location for the transmitter that is within range of the Digital Atomic Clock and under an overhang for accuracy.
- Install one mounting screw into a wall leaving approximately ½ inch (12.7mm) extended.
- Place the transmitter onto the screw, using the hanging hole on the backside.
- Gently pull the transmitter down to lock the screw into place.

Note: Always ensure that the transmitter locks onto the screw before releasing.

Position Digital Atomic Clock

- Mount the Atomic Digital Wall Clock near an exterior wall with the front or back facing toward Ft. Collins Colorado for best WWVB reception.
- The Digital Atomic Clock should be six feet from other electronics or wireless devices to best receive the outdoor temperature transmitter signal.

Foldout Table Stand:

A foldout table stand is located on the back of the clock.

- Pull the stand out from the bottom center edge of the Digital Atomic Clock, below the battery compartment.
- Extend the foldout table stand and place the Digital Atomic Clock in an appropriate location.
- **Wall Mount**

- Use a straightedge to horizontally space three screw positions on a wall to match the hanging holes on the back of the clock. Install three mounting screws (not included) into a wall within transmission range of the outdoor transmitter—leaving approximately 3/16 of an inch (5mm) extended from the wall.
- Place the Digital Atomic Clock onto the screws, using the hanging holes on the backside.
- Gently pull the Digital Atomic Clock down to lock the screws into place.
- **Note:** Always ensure that the Digital Atomic Clock locks onto the screws before releasing.

Distance/Resistance/Interference

Distance:

- The maximum transmitting range in **open air** is over 330-feet (100 meters) between the outdoor transmitter and the Digital Atomic Clock.
- Consider what is in the signal path between the Digital Atomic Clock and the transmitter.
- Consider the distance the Digital Atomic Clock is located away from other electronic 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 transmitter and the Digital Atomic Clock (330 feet 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 transmitter on a metal fence. This significantly reduces the effective range.

Interference:

- Consider items in the signal path between the transmitter and the Digital Atomic Clock.
- Sometime a simple relocation of the transmitter or the Digital Atomic Clock will correct the interference issue.
- Windows can reflect the radio signal.
- Metal will absorb the RF (radio frequency) signal.
- Stucco is held to the wall by a metal mesh.
- Transmitting antennas (ham radio, emergency dispatch center, airports, military base etc.)
- Electrical wires (utilities, cable etc.)
- Vegetation is full of moisture and reduces signal.
- Dirt: Trying to receive a signal through a hill is difficult.

Indoor Temperature

- Measure range=32°F to 140°F (0°C to 50°C)
- Accuracy ± 1 degree Fahrenheit at room temperature (68°F to 75°F)(20°C to 24°C)
- Accuracy ± 2 degrees Fahrenheit 32°F to 122°F (0°C to 50°C)
- Resolution=0.1°F or 0.1°C

- When above 122 °F (50°C) the temperature should continue to read the correct temperature as long as the LCD display continues to function
- Temperature Cycle: 30 seconds

Outdoor Temperature

- Measure range = -40 °F to 158 °F (0°C to 70°C)
- Accuracy ± 1 degree Fahrenheit at room temperature (68F-to-75F) (20°C-to-24°C)
- Accuracy ± 2 degrees Fahrenheit 32 F to 122 F (0°C to 50°C)
- Accuracy ± 4 degrees Fahrenheit otherwise
- Resolution = 0.1 degree F

Digital Atomic Clock

How tall are the Time Numbers?

- The time numbers are 2 1/8 inches tall.

Supported Time Zones

This Digital Atomic Clock offers seven time zones:

- AST=Atlantic
- EST= Eastern
- CST= Central
- MST= Mountain
- PST= Pacific
- AKT= Alaska
- HAT=Hawaiian

The Digital Atomic Clock is designed to work in North America.

12-Hour or 24-Hour Time Format

- Display the time in 12-hour or 24-hour format
- Default is 12-hour time.
- Use the Program Menu to switch time formats.

Power Requirements

- 2-AA alkaline batteries power the Digital Atomic Clock

Does the Clock Have a Backlight?

- No, this Digital Atomic Clock does not have a backlight.
- Generally, an a/c power cord is required for products to have a backlight.
- This clock does not use a/c power cord.

Dashes, OFL or Stuck Indoor Temperature

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

Inaccurate Indoor Temperature Reading

- **Side-by-side test:** Bring the outdoor transmitter in the house and place it next to the Digital Atomic Clock for 2 hours.
- Compare indoor and outdoor Temperature. The temperature should be within 4 degrees to be within tolerance. See the section on [accuracy](#) for details.
- Look for heat sources such as sunlight, door or window frames, or reflected heat of cold.

Time is off by hours

- Check to see if the [WWVB](#) Tower icon appears on the Digital Atomic Clock. If not, the Digital Atomic Clock has not received a WWVB time signal in the past 24-hours.
- Reposition the Digital 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 your 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 Digital 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, locate the Clock near an outside wall and point the unit in this general direction.

Is There a Booster Antenna

- No. There is not a booster antenna available for the WWVB time signal.
- There is not a signal booster available for the outdoor transmitter signal.

Can the Clock Attach to a Timer?

- No timer circuit can be attached to the clock. Modifications will void the warranty.

Set Time Alarm

- ALARM HOUR: Press and hold the ALARM button to enter alarm time setting mode. The Alarm Hour will flash. Use the + or - button to set the Hour. Press and release the ALARM button.
- ALARM MINUTE: The Alarm Minutes will flash. Use the + or - button to set the Minutes. Press and release the ALARM button to exit.

Activate/Deactivate Time Alarm

ACTIVATE:

- From the time display, press and release the ALARM button once to show Alarm Time.
- With the Alarm time showing, press and release the ALARM button to activate the alarm.
- The alarm icon (bell) appears when alarm is active.

DEACTIVATE:

- From the time mode, press and release the ALARM button once to show Alarm Time.
- With the Alarm time showing, press and release the ALARM button to deactivate the alarm.
- The alarm icon will disappear when alarm is deactivated.

Snooze Alarm

- When the alarm sounds, press the SNOOZE button to trigger snooze alarm for 9 minutes.
- The snooze icon Zz will flash when the snooze feature is active.
- To stop alarm for one day, press AL button, while in snooze mode.
- The alarm icon (bell) will remain solid.

Manually Set Time/Date: Program Menu

PROGRAM MENU:

The °F/°C button will move through the program menu. The + or - button buttons will change a value.

- ✓ WWVB ON/OFF: Hold the °F/°C button for 5 seconds. **WWVB** and the word **ON** will flash. Press and release the + or - button to turn this to OFF if you do not wish WWVB reception. Confirm with the °F/°C button and move to the next item.

- ✓ TIME ZONE: **EST** will flash. Press and release the + or - button to select a different Time Zone:
- AST=Atlantic
 - EST= Eastern
 - CST= Central
 - MST= Mountain
 - PST= Pacific
 - AKT= Alaska
 - HAT=Hawaiian
- Confirm with the °F/°C button and move to the next item.
1. DAYLIGHT SAVING TIME: **DST** will flash and the word **ON**. Press and release the + or - button to turn this to OFF if you do not observe DST. Confirm with the °F/°C button and move to the next item.
 2. 12/24 HOUR TIME: **12Hr** will flash. Press and release the + or - button to select 24H. Confirm with the °F/°C button and move to the next item.
 3. HOUR: The **hour** will flash. Press and release the + or - button to select the correct hour. Confirm with the °F/°C button and move to the next item.
 4. MINUTES: The **minutes** will flash. Press and release + or - button to select the correct minutes. Confirm with the °F/°C button and move to the next item.
 5. YEAR: The **year** will flash. Press and release the + or - button to select the correct year. Confirm with the °F/°C button and move to the next item.
 6. MONTH: The **month** will flash. Press and release the + or - button to select the correct month. Confirm with the °F/°C button and move to the next item.
 7. DATE: The **date** will flash. Press and release the + or - button to select the correct date. Confirm with the °F/°C button and exit the program menu.
 8. **Note**: The weekday will set automatically after the year month and date are set.
 9. **FAHRENHEIT/CELSIUS**: Press and release the °F/°C button to select temperature readings in Fahrenheit or Celsius.

No WWVB Tower Icon

- The Digital Atomic Clock has not received a WWVB time signal in the past 24-hours.
- Position the Digital Atomic Clock for better reception.
- Hold the - button to send the Digital Atomic Clock on a signal search at night.
- Allow up to 5 nights to receive the time signal.

Digital Atomic Clock Has Missing Segments

- This is generally a power related issue.
- Batteries may be overpowered or underpowered. Remove batteries from Digital Atomic Clock.

- Press any button 20 times. Leave the Digital Atomic Clock unpowered for 1-2 hours.
- Insert fresh alkaline batteries with correct polarity.

Digital Atomic Clock Is Dim

- Most Digital Atomic Clocks have a gray background. Place the Digital Atomic Clock at eye level. Is it still dim?
- Digital Atomic Clocks 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 Digital Atomic Clock.
- Press any button 20 times. Leave the Digital Atomic Clock unpowered for 1-2 hours.
- Install fresh alkaline batteries with correct polarity.

Forecast Trend Arrows

- White arrows next to the forecast icon indicate the direction the forecast (barometric pressure) is trending in the next 12-hours.
- UP ARROW: Air-pressure is Increasing and the weather is expected to improve in the next 12-hours.
- RIGHT ARROW: Air-pressure no change significant in the next 12-hours
- DOWN ARROW: air pressure has dropped and the weather is expected to get worse but not necessarily rainy in the next 12-hours

Forecast Icons Inaccurate

- **THIS CLOCK LEARNS FORECAST OVER TIME!**
- Please allow 3-4 weeks for barometer calibration to generate an accurate forecast.
- **IMPORTANT:** As the forecast station builds memory, it will compare the current average pressure to the past **forty day average** pressure for increased accuracy. The longer the forecast station operates in one location the more accurate the forecast icons will be.
- **Weather Forecast Icons:** This clock has five forecast icons that predict the weather condition of the next 12-hours based on the change of atmospheric pressure.
 - Sunny
 - Partly Cloudy
 - Cloudy
 - Rainy
 - Stormy
- The icons forecast the weather in terms of getting better or worse and not necessarily sunny or rainy as each icon indicates.
- The weather forecast is about 70-75% correct. As weather conditions cannot be 100% correctly forecasted, we cannot be responsible for any loss caused by an incorrect forecast.

Digital Atomic Clock Has Distorted Display

- On a brand new Digital Atomic Clock check for thin plastic films of printed scratch guard that may be on the upper and lower screen of the Digital Atomic Clock. This thin piece of plastic has printed numbers for store displays.
 - This film will be easy to peel off the LCD.
 - With all power removed the Digital Atomic Clock should be blank.
 - If numbers still appear, please check for scratch guard.
 - Check that the batteries are installed correctly.
 - This is generally a power related issue.
 - Batteries may be overpowered or underpowered. Remove batteries from the Digital Atomic Clock.
 - Press any button 20 times. Leave the batteries out of the display for 2 hours.
 - Insert fresh alkaline batteries into the Digital Atomic Clock.

Digital Atomic Clock Display Is Frozen

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

Digital 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 Digital Atomic Clock.
- Press any button 20 times. Leave the batteries out of the display for 2 hours.
- Insert fresh alkaline batteries into the Digital Atomic Clock.

Digital 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 Digital Atomic Clock.
- Battery life is over 12 months when using reputable battery brands.