



## WIRELESS MULTI-ZONE DIGITAL THERMOMETER WITH RADIO CONTROLLED CLOCK

**Model No. 91049-1 (SF Version)**

### Instruction Manual



**BASE STATION      REMOTE SENSOR**

## FEATURES AND SPECIFICATIONS

### BASE STATION

- Indoor / RF outdoor temperature
- WWVB radio controlled clock with alarm
- Monitors temperature at up to 4 locations (additional sensors required)
- Indoor / outdoor temperature displayed in °F or °C
- Memory function to recall highest/lowest temperature and humidity readings
- Programmable high / low temperature alert
- Indoor temperature range: 14°F to 158°F (-10°C to 70°C)
- Temperature tolerance: +/- 2°F (+/- 1.1°C)
- Calendar
- Low battery indicator
- Remote channel auto scroll function
- Table top or wall mount
- Requires (2) AAA batteries

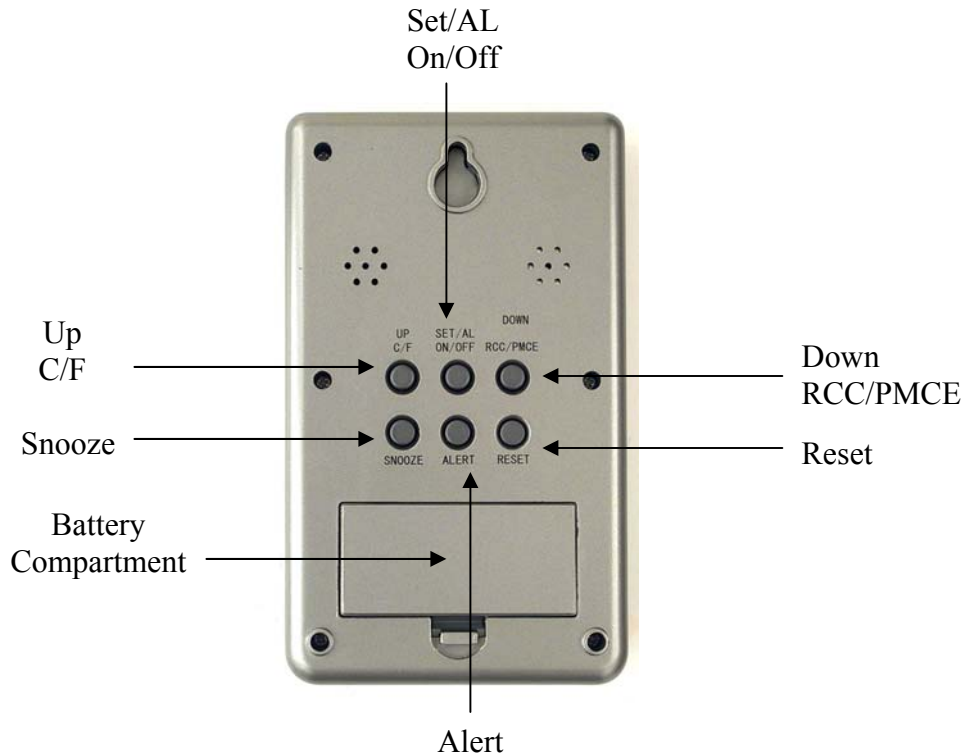
## REMOTE SENSOR

- Includes LCD outdoor temperature display
- 433 MHz transmission frequency
- Transmission range up to 100 ft. (range may be shorter based on interference present)
- Temperature range: -4°F to 158°F (-20°C to 70°C)
- Temperature tolerance: +/- 2°F (+/- 1.1°C)
- Table top or wall mount
- Requires (2) AAA batteries

## ABOUT YOUR WWVB RADIO CONTROLLED CLOCK

This Springfield product contains a Radio Controlled (RC) clock. RC clocks receive a radio signal from the National Institute of Standards and Technology (NIST) radio station WWVB which is located near Fort Collins, Colorado. NIST maintains time and frequency standards for the USA and distributes these standards to the American public. WWVB broadcasts on a frequency of 60 kHz and your RC clock has a miniature antenna and radio receiver inside that is permanently tuned to receive the 60 kHz signal. The WWVB broadcast is based on data received from an atomic clock that is maintained and housed at NIST laboratories.

A properly functioning RC clock always displays the correct time, down to the exact second. It never needs to be adjusted and will automatically adjust for daylight savings time (DST). For more information and troubleshooting or to visit the NIST website refer to the attached “**WWVB Radio Controlled Clock Fact Sheet**”.



## **BATTERY INSTALLATION AND SETUP**

- Remove the printed vinyl label from the LCD screen of the base station.
- Position the remote sensor near the base station.
- Open the battery compartment at the back of the base station and insert (2) AAA batteries according to the polarity markings.
- Replace the battery compartment cover.
- Press the UP C/F button at the back of the unit to display the temperature in °F or °C.
- The RF signal icon (located to the left of the OUT channel box) will flash for 3 minutes, indicating that the base station is ready to pick up the RF signal from the remote sensor.

### ***Register the Remote Sensor***

- Open the battery compartment at the back of the remote sensor and slide the channel selector switch to your desired channel. For the first remote you may select any channel, for additional remotes select any unused channel.
- Insert (2) AAA batteries according to the polarity markings. Be sure to install the batteries in the remote within the time that the RF signal icon is flashing on the base station.
- Press the °C/°F button inside the battery compartment to display the temperature in °C or °F.
- Replace the battery compartment cover.
- If you have registered more than one sensor, press the CHANNEL button to select the remote channel you want displayed permanently on the base station. Or press CHANNEL until you observe a circular arrow on the base station LCD display under the channel number. The unit will then auto-scroll, changing from channel to channel every 10 to 20 seconds.
- Occasionally you may experience interference on a particular channel. If your base station has trouble picking up the RF outdoor temperature signal, remove the batteries from the remote sensor, slide the channel selector switch to another channel and re-install the batteries.

### ***Register a Remote Sensor When the RF Signal Icon is not Showing***

To register a remote sensor when the RF signal icon is not showing on the base station LCD:

- Press and hold the CHANNEL button for 3-4 seconds until the RF signal icon is showing.
- Install the batteries in the new remote sensor or if the batteries have already been installed, press the TX button, which is located inside the remote battery compartment.

### ***Note:***

- Do not mix old and new batteries.
- Do not mix alkaline, standard (carbon zinc), or rechargeable (nickel cadmium) batteries.
- For maximum performance in normal conditions we recommend using good quality alkaline batteries. When temperatures are below 0°F, alkaline batteries can lose power resulting in a loss of remote transmission. If you reside in an area that experiences frequent temperatures near or below 0°F, we recommend using lithium batteries to minimize the loss of transmission.

### ***Locating the Base Station and Remote Sensor***

- Choose a suitable place for the base station and remote outdoor sensor, within the transmission distance.
- Place the base unit near a window, but away from direct sunlight or sources of heat or air conditioning to ensure accurate temperature readings.
- The remote sensor is water resistant, but not waterproof. Locate the sensor out of direct sunlight, in an area where it will not be exposed to rain, snow or ice.
- The location you choose is critical for maximizing the transmission range. The remote sensor is designed to transmit up to 100 ft. unimpeded. Transmitting through walls, metal doors and metal framed windows may reduce the transmission range. To optimize the transmission distance, the remote should be positioned in a location that minimizes these obstructions. Interference from other sources such as home security systems,

wireless doorbells and wireless home entertainment equipment may interrupt the transmission signal temporarily.

- In areas of extreme low temperatures, re-locate the remote sensor indoors and use a remote sensor wire. The sensor wire is not included with the unit and can be purchased separately by contacting Springfield Precision Instruments at 1-888-809-3284. Plug the sensor wire into the remote and route the wire through a nearby window. Be sure to plug in the wire securely.

## **OPERATING INSTRUCTIONS**

### ***Setting the Radio Controlled Clock***

After battery installation and after the remote sensors have been registered, the unit will automatically begin searching for the RC clock signal. When the unit is searching for the signal, you will see the ▲ icon in the upper left corner of the LCD display. The unit can be manually activated to search for the RC clock signal. Push and hold the RCC/PMCE button for 2-3 seconds until you see the ▲ icon.

### ***Time Zone Selection***

Press the RCC/PMCE button to select your desired time zone.

### ***Important Note:***

You can not use the MODE button or enter your clock, calendar, alarm settings if the base station is searching for the WWVB signal (the ▲ icon is showing at the top left of the display). If the icon is showing, press RCC/PMCE once and the icon will no longer displayed. After you have completed entering the settings, press and hold RCC/PMCE for 2-3 seconds until the signal icon is once again displayed.

### ***Mode Button***

Press the MODE button to scroll through the various displays. Starting from the normal time display, press MODE to view alarm time 1, alarm time 2, DST (Daylight Savings Time) on/off, return to normal time. If the display is in any mode other than normal time and no buttons are pushed, within 20 seconds the LCD display will revert to the normal time display.

### ***Daylight Savings Time***

If you live in an area that observes Daylight Savings Time, you can set your clock to automatically adjust to the time change.

- In normal time display, press the MODE button 3 times to observe the DST on/off status.
- Press the SET/AL button for 2-3 seconds to turn DST on or off. When it is set to ON, the unit will adjust for daylight savings time.
- Press MODE to return to the normal display.

### ***Manual Setting of the Clock and Calendar***

Once your RC clock receives the WWVB time broadcast, it will automatically adjust itself to the correct time. Depending on your location, it may take several hours for the signal to be received at the base unit. Follow these instructions to set the time manually while the base station is searching for the signal. If you are in an area that does not receive the WWVB broadcast, your clock will operate as a normal non-RC digital clock.

- Press the SET/AL button for 3-4 seconds until the seconds are flashing.
- Press UP or DOWN to set the seconds to -0-.
- Press SET/AL and the hours will be flashing.
- Press UP or DOWN to set the hours.
- Press SET/AL and the minutes will be flashing.

- Press UP or DOWN to set the minutes.
- Press SET/AL and M and D will be flashing. Press UP or DOWN to select either Month/Day sequence or Day/Month sequence.
- Press SET/AL and the day language display will be flashing.
- Press UP or DOWN to select the language for day display;

EN = English

GE = German

IT = Italian

FR = French

NE = Dutch

ES = Spanish

DA = Danish

- Press SET/AL and the year will be flashing.
- Press UP or DOWN to set the year.
- Press SET/AL to set the month.
- Press UP or DOWN to set the month.
- Press SET/AL and the date will be flashing.
- Press UP or DOWN to set the date.
- Press SET/AL and 12h or 24h will be flashing.
- Press UP or DOWN to select 12 hour clock or 24 hour clock.
- Press SET/AL to lock in the settings and to return to the normal time display.
- During this set-up procedure, if no buttons are pushed within 20 seconds the unit will revert to the normal time display.

### ***Display the Year***

The normal calendar display will show month, date and day. To display the year, press SET/AL once. Press SET/AL again to display the day.

### ***Setting the Alarm Time***

Two different alarm times can be set, Alarm 1 and Alarm 2.

- To set Alarm 1; In normal time mode, press the MODE button once and the Alarm 1 time and icon (A1) will show.
- Press the SET/AL button for 2-3 seconds until the alarm hour flashes.
- Press UP or DOWN to set the alarm hour.
- Press SET/AL and the minutes will be flashing.
- Press UP or DOWN to set the alarm minutes.
- Press SET/AL to return to normal time display.
- To set Alarm 2; In normal time mode, press MODE twice and the Alarm 2 time and icon (A2) will show.
- Follow the same setting sequence as for Alarm 1.

### ***Activating and De-activating the Alarm***

In the normal time display, press the MODE button to choose the alarm (A1 or A2) that you want to activate or de-activate. Press SET to activate (the alarm bell icon and 1 or 2 will show) or de-activate (no alarm bell will show). If the alarm is activated, it will sound at the time you have entered. Once de-activated, your alarm settings will remain and you can re-activate at any time by following the instructions above.

### ***Silencing the Alarm***

- When the alarm sounds press any button on the front of the base station to silence the alert or press the SNOOZE button on the back of the unit to activate the snooze function.
- When snooze is activated the Zzz symbol will appear and the alarm will sound again in 5 minutes.

- When the alarm sounds again, press SNZ to continue the snooze function or press any button on the front of the base station to discontinue snooze.
- The alarm icon will remain on the display and the alarm will sound every day at the pre-set time until the alarm is de-activated.

#### ***Min/Max Memory***

- Press the MAX/MIN button once to display the highest indoor and outdoor temperatures recorded since last reset. MAX is shown on the display.
- Press MAX/MIN a second time to display the lowest indoor and outdoor temperatures recorded since last reset. MIN is shown on the display.
- To clear and reset the max/min records, when either the MAX or MIN record is shown on the LCD display, press and hold MAX/MIN for 2-3 seconds until the beep sounds.

#### ***Setting the Temperature Alerts***

You can program your weather center to sound an alert whenever the indoor or outdoor temperature exceeds the upper or lower pre-set level. The outdoor alert can be set for any remote channel.

#### ***Setting the Indoor Temperature Alert***

- Press and hold the ALERT button for 3-4 seconds. The high temperature limit icon and indoor temperature will be flashing.
- Press UP or DOWN to select the high temperature alert level.
- Press ALERT and the low temperature limit icon and temperature will be flashing.
- Press UP or DOWN to select the low temperature alert level.
- Press ALERT to return to normal mode. The alert function will be activated and both the high and low limit icons will show.
- Press ALERT to activate or de-activate the alert function.

#### ***Setting the Outdoor Temperature Alert***

- Press and hold the ALERT button for 3-4 seconds.
- Press CHANNEL to select the channel on which you want to set the alert. (1 to 3)
- The high temperature limit icon and outdoor temperature for the channel you selected will be flashing.
- Press UP or DOWN to select the high temperature alert level.
- Press ALERT and the low temperature limit icon and temperature will be flashing.
- Press UP or DOWN to select the low temperature alert level.
- Press ALERT to return to normal mode. The alert function will be activated and both the high and low limit icons will show.
- Press ALERT to activate or de-activate the alert function.

#### **RESET**

Your multi-zone thermometer can be re-set in case of malfunction. Locate the RESET button at the back of the base station. Push the button and you will hear a beep. The unit will re-set itself to the original factory settings. Re-enter your settings according to the OPERATING INSTRUCTIONS.

#### **PURCHASING ADDITIONAL REMOTE SENSORS**

The remote sensor for this unit is SPRINGFIELD P/N 91661.

Additional sensors may be ordered directly from Springfield Precision Instruments by calling 1-888-809-3284. Please have a major credit card ready when placing the call.

## FCC STATEMENT OF COMPLIANCE

This device complies with Part 15 of the FCC rules. 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.

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: 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 of more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the 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.

## LIMITED WARRANTY

Springfield warrants this product to be free from defects in workmanship or material for a period of one year from the date of purchase. **ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTIES OF FITNESS AND MERCHANTABILITY ARE HEREBY LIMITED IN DURATION TO A PERIOD ENDING ONE YEAR FROM THE DATE OF PURCHASE.** Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. This warranty gives you specific legal rights, which vary, from state to state. During the warranty period, such defects will be repaired or the defective instrument will be replaced at our option. This warranty does not cover damages through accident or misuse. **IN ADDITION, SPRINGFIELD IS NOT RESPONSIBLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES INCURRED AS A RESULT OF DEFECT.** Repair or replacement will be made at our option without additional charge if the instrument is returned postpaid with \$4.00 for return postage and handling to:



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1-888-809-3284

Made in China

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