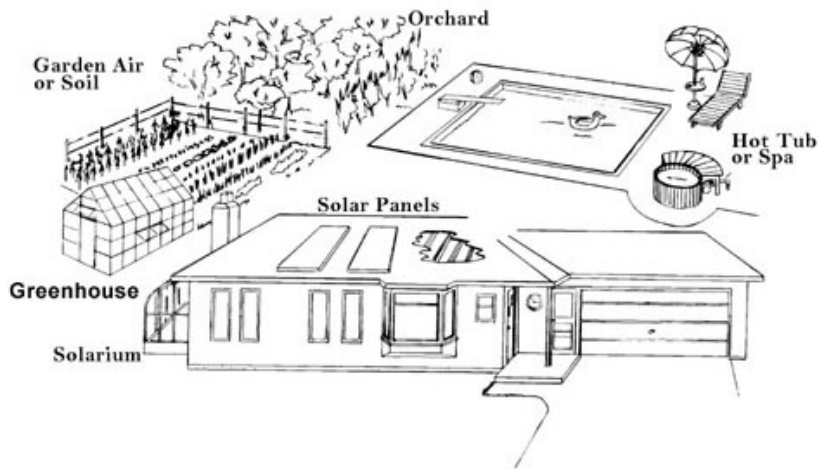


Owner's Manual

# *Computemp Plus*

## **Multiple use Digital Thermometer With Memory, Alarms, Time and Calendar Function**

Congratulations. You are now the owner of one of the most remarkable and fascinating ways available to observe temperature changes. It is our sincere hope that you will find the Computemp a fun and fascinating instrument. The magic of micro-electronic technology makes your Computemp entertaining and useful.



Computemp can monitor up to nine Locations from one central unit with the Optional rotary switch accessory. (See back cover for details.)

# SPECIFICATIONS

POWER CONSUMPTION: .0065MW

BATTERY: 9V alkaline transistor (user supplied)

BATTERY LIFE: 12-18 months

RANGE: -65°F to +215°F (-54°C TO +101°C)

ACCURACY:  $\pm 1\%$  over entire temperature range, quartz clock; 1 minute per month

REPEATABILITY: 1°F (1°C)

TEMP. UPDATE RATE: 4 seconds

TIME CONSTANT REMOTE SENSOR(S): 72 sec. (63% of 20°F/11)

STANDARD SENSORS: Main, 15 ft. (4.6M)  
Auxiliary, internal

DISPLAY: 72 segment liquid crystal, 2"W x 1.1"H (50.8M x 27.9MM) viewing area

PRIMARY CHARACTER HEIGHTS: .64" (16.3MM)

SECONDARY CHARACTER HEIGHTS: .3" (7.6MM)

SIZE: 6.5"W x 2.6"H x 1.4"D with stand (165MM x 66MM x 34.6MM)

SENSOR WIRE: 2 conductor, 24-gauge, standard

WEIGHT: 7 oz.

CASE: Plastic. Wall-mount screws included

# FEATURES

**MAIN TEMPERATURE** 15 ft (4.6M) sensor is intended for measuring air temperature, but other uses are limited only by imagination (other lengths available, see accessory order form).

**AUX TEMPERATURE** Measures the temperature at the location of the Computemp. The internal sensor can be replaced with a remote sensor so you can measure temperatures at another location(see accessory order form).

**TIME** Current time of day is displayed. Choose a standard 12-hour format or the 24-hour (military) format.

**TEMPERATURE MEMORY** The main temperature sensor has a unique memory feature which keeps track of daily high and low temperatures and the time each occurred.

**TEMPERATURE ALARM** Choose the location and the temperature at which you wish the alarm to sound when your pre-selected temperature is reached.

**TIME ALARM** The alarm alerts you at the time you have selected

**DISPLAY SELECT** Your Computemp can display the time, date and temperature at multiple locations. You can choose to have all four displays appear in rotation, or choose a combination of displays.

**CELSIUS OR FAHRENHEIT** Displays temperature readouts in Celsius or Fahrenheit, or both alternately.

**BATTERY BACKUP** Retains memory during power interruptions.

**REVIEW FEATURE** A convenient way to check all settings.

**CALENDAR** Accurate calendar lets you know the date at a glance.

## BASIC OPERATION SETUP

---

Remove the battery cover from the back panel by loosening the screw. Connect a fresh 9-volt alkaline battery to the snap terminals. Replace battery cover.

Several seconds after the battery is installed, the display on your Computemp will begin . . . **basic operation** . . . displaying. In rotation; 1) MAIN temperature, 2) AUX temperature and 3) TIME.

The MAIN temperature is measured by the sensor on the end of the 15' wire.

The AUX temperature is measured by a sensor inside the unit. **NOTE:**When setting the Computemp, you can return to basic operation after each setting (as instructions indicate) or proceed directly to another SET procedure. The Computemp will automatically return to basic operation 60 seconds after any button is pressed.

## SETTING THE CLOCK

---

Press SET. SET appears in the secondary display area, TIME appears in the lower left corner of the digital panel. Press HIGH to set hours. Press LOW to set minutes. **NOTE:** Observe the AM and PM indication on the right side of the digital panel to insure correct settings.

Press RUN to return to basic operation.  
For 24 hour clock see "Alternate Formats".



## SETTING THE DATE

---

**NOTE:** Date will not automatically appear during basic operation. You will need to choose this option as described in the "Selecting Display Options" section below.

Press SET until DATE appears in the lower left corner of the digital panel. Press HIGH to set the month. Press LOW to set the day.

Press RUN to return to basic operation.



## SELECTING DISPLAY OPTIONS

---

Your Computemp can display the time, the date and both main and auxiliary temperatures.

You can choose to have: (1) all displays appear in rotation, or (2) choose any one of the combinations of these displays (see below). If you wish to change the combination, press DISPLAY, then press ON/OFF repeatedly, watching the lower left corner of the digital panel until the display combination you prefer appears.

**Possible displays or display combinations are:**

MAIN	AUX	MAIN	MAIN	MAIN	MAIN	TIME	MAIN
		AUX	TIME	TIME	AUX	DATE	AUX
				DATE	TIME		TIME
							DATE

Press RUN to return to basic operation.

## 24-HOUR HIGH AND LOW TEMPERATURE MEMORY

---

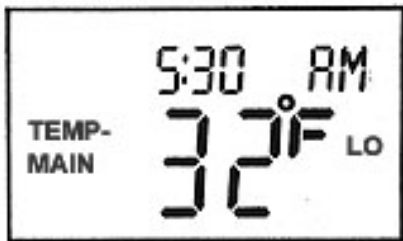
To view the daily high and low temperatures and the time each occurred, press HIGH to view the day's high, press LOW to view the day's low. The temperature appears in the primary display area with the appropriate word HI or LO appearing to the right of the temperature, and the time of occurrence appearing in the secondary display area. The temperature memories are automatically erased at midnight.

For manual reset see "Other Notes".

### DAY'S HIGH



### DAY'S LO



## INTRODUCTION TO ALARMS

---

The Computemp can be used as a standard alarm clock and has a unique temperature alarm feature which can alert you to high or low temperature situations. You may set the temperature alarm to sound at any temperature you desire.

When an alarm sounds. . .

When the temperature or time alarm(s) sound, press ON/OFF (without pressing any other buttons first) causes the alarm to stop sounding and resets the alarm to sound again when your preset alarm time or temperature is reached.

## OPERATING THE ALARMS

---

### TIME ALARM

Press TIME BELL. Press HIGH to set hours. Be sure to observe the AM and PM indicator. Press LOW to set minutes. Press ON/OFF to turn the alarm on or off.

Press RUN to return to basic operation. The alarm time you have set, and the ON/OFF indication, appear in the secondary display area (alternating with the alarm temperature setting).

### TEMPERATURE ALARM

You may set the temperature alarm to sound at any temperature from -65°F to +215°F. Examples of how the temperature alarm can be used are at the end of these operating instructions.

You may choose either the main or auxiliary location at which to use the temperature alarm. Also, choose HI or LO setting. With a HI setting, the alarm will sound when the temperature rises to or above the alarm temperature. With a LO setting, the alarm will sound when the temperature drops to or below the alarm temperature.

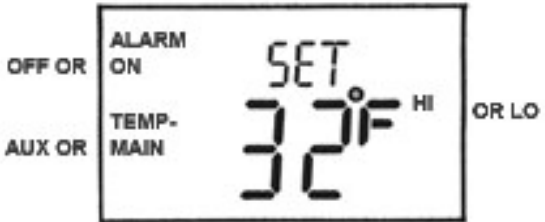
**EXAMPLE:** A 32°F LO temperature setting will sound the alarm when the temperature drops to or below 32°F. A 104°F HI temperature setting will sound the alarm when the temperature rises to or above 104°F. It is best to decide exactly how you want to use the temperature alarm before setting it.

## SETTING TEMPERATURE ALARMS

Press TEMP BELL four or more times. You will see that you have four options: monitoring high or low temperatures at either the main or auxiliary locations. Only one option can be used at any one time.

You may choose one of the following options:

1. MAIN TEMP - LO
2. MAIN TEMP - HI
3. AUX TEMP - LO
4. AUX TEMP - HI



To choose an option, press TEMP BELL repeatedly until the correct combination of words appear on the display panel. MAIN or AUX will appear on the left side of the digital panel and HI or LO will appear on the right side of the digital panel.

After choosing an option, set the temperature at which you wish the alarm to sound. Pressing LOW will change the temperature by one degree increments. Pressing HIGH will change the temperature by ten degree increments. A minus sign indicates temperatures below zero degrees. After the correct temperature is set, press ON/OFF to turn the alarm on or off. Alarm ON/OFF is indicated in the upper left corner of the digital panel.

Press RUN to return to basic operation. The alarm temperature you have set appears in the secondary display (alternating with the alarm time setting).

**NOTE:** The temperature alarm will sound when the temperature reaches or passes the preset temperature.

## ACTIVATING THE ALARMS

---

Alarms can be set, but will not sound if turned off. To turn the temperature alarm on or off, press TEMP BELL then ON/OFF. To turn the time alarm on or off, press TIME BELL then ON/OFF.

## **REVIEW FEATURE**

---

To see all possible displays, press RUN while the unit is in basic operation. Four displays will follow in quick succession.

First, the date will appear (no other information will be on the display panel, which confirms that you are seeing the review display).

Second, the time appears in the primary display, and the time alarm setting appears in the secondary display. Either ON or OFF will appear under the word ALARM in the upper left corner, indicating whether the time alarm is on or off.

The third display will show the temperature at the main location.

The fourth display will show the temperature at the auxiliary location.

The temperature alarm setting, and its on or off indication, will appear in the secondary display at the same time the temperature appears for the location at which the alarm is set. HI and LO appear indicating whether the temperature alarm is set as a high or low alarm.

## **ALTERNATIVE FORMATS**

### **FEHRENHEIT AND/OR CELSIUS DISPLAY**

---

Your Computemp can display temperatures in Fahrenheit (F°), Celsius (C°) or both alternately (A). To change the display, press DISPLAY twice, then press ON/OFF to choose the option you prefer.

Press RUN to return to basic operation.

### **TWELVE- OR 24-HOUR DISPLAY**

---

Your Computemp can display the time in either a 12-hour format with AM and PM indications, or in a 24-hour format. To change formats, press SET repeatedly until TIME appears in the lower left corner of the digital panel, then press ON/OFF to choose the 12-hour or 24-hour format. The Computemp is in the 24-hour format when neither the AM or PM indications appear.

Press RUN to return to basic operation.

## OTHER NOTES

**Battery life:** A fresh alkaline battery should power the Computemp for 12 to 18 months. When the battery is failing, LOBAT appears on the digital panel. Note: LOBAT status could affect the accuracy of Computemp readings.

**Temperature memories:** If you do not want the temperature memories to automatically erase at midnight, a factory adjustment can delete that function. Please contact C&S Electronics for details. The temperature memories are automatically erased at midnight.

**Manual temperature memory reset:** You may manually erase the temperature memories at any time. To erase the day's high, press and release HIGH, then quickly press ON/OFF. To erase the day's low, press and release LOW, then quickly press ON/OFF.

**Memory:** If more than one second elapses between pressing HIGH and LOW and ON/OFF, the memory may not erase.

**Temperature exceeding the range of the Computemp:** When temperatures exceed 215°F or drop below -65°F, the Computemp may not record temperatures accurately. You will know the temperature has exceeded the Computemp's range when you see ---F<sup>LO</sup> (indicating the temperature has dropped below -65°F) or ---F<sup>HI</sup> (indicating the temperature has exceeded 215°F).

When main unit is exposed to temperature extremes, liquid crystal display may slow down or become unreadable. Temperature extremes will not permanently damage unit.

**Damaged sensor or wire:** If ---F<sup>HI</sup> or ---F<sup>LO</sup> appears when the temperature is not exceeding its range, it indicates an improperly functioning sensor wire. Inspect sensor and wire. If damaged, consult factory for repair or replacement information.

**The sensors are interchangeable:** Sensors with longer wires, or for other applications, are available. You may also add up to seven additional sensors with the optional Rotary Switch accessory. See the accessories order form.

**Leap year:** The Computemp is programmed to know the correct number of days per month except in leap years. You will have to adjust calendar setting on February 29<sup>th</sup>.

**Unit is not waterproof.**

## SENSOR INSTALLATION

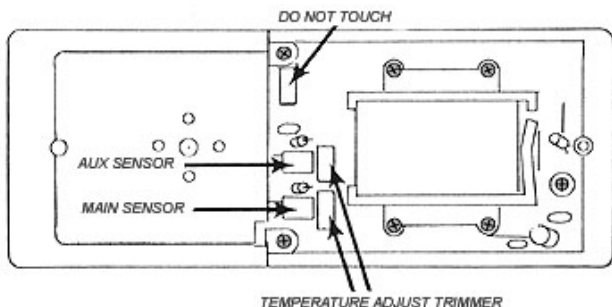
The ideal location for the sensor is under the roof eave on the north side of the building. Run the main sensor through a window or any other convenient opening. If this is not possible, avoid locations that may be abnormally warm for any reason or where the sun can shine directly on the sensor. Do not position near attic vents, dryer vents or windows. Any of these situations can cause erroneous readings. The better you plan the sensor location, the better your Computemp will perform.

Insert sensor wire into the holder. Peel off adhesive covering. Press sensor holder into position. You may staple the sensor wire in place along the wall or eaves, but take extreme care not to cut or pierce the wire.

## ADDING OR EXCHANGING SENSORS AND CALIBRATION

Your Computemp has been factory calibrated and should need no adjustment unless you exchange or add optional sensors.

Access to adjust calibration or exchange sensors is in the battery compartment.



**To remove sensor** for replacement with another sensor pull straight out, away from circuit board.

**To adjust temperature reading** insert screwdriver in appropriate trimmer. Turn clockwise to increase temperature reading. Turn counterclockwise to decrease temperature reading.

## ENDLESS USES

### **Monitor temperatures at up to nine locations with C&S Rotary Switch accessory.**

Adapt your Computemp to monitor air, liquid or mass temps with this plug-in accessory. To install, disconnect one sensor wire and plug in the Rotary Switch's connector.

To order, use the handy form enclosed.

Green House	Limousines	Lakes
Orchard	Aquariums	At Home Hobbies
Attic	Wine Cellars	Nursery Rooms
Solar Collectors	Food Storage	Office
Hot Water Pipes	Refrigeration	Animal Confinements
Autos	Storage Areas	Tractors
RVs	Hot Tubs	Soil
Boats	Spas & Saunas	Field Use
Airplanes	Swimming Pools	

