

## Specifications

## UTC-1

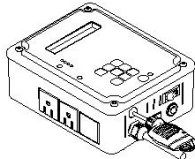
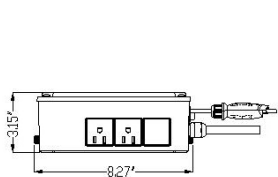
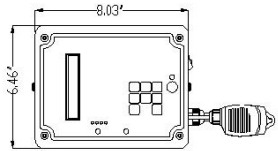
Amps / Volts requirements	15 amps @ 120 volts
Min / Max operating temperature	32 to 120° F
Temperature Accuracy	+/- 1° F
Temperature Measurement Range	32° F to 140° F
Min / Max Humidity	0-99% RH
Weight / Dimensions	7 lbs / 8" x 6.45" x 3.1"
Remote sensor length	16 feet
Life Expectancy	> 10 years

## Instruction Manual

## UTC-1

## Universal Temperature Controller

# SENTINEL



All Sentinel Timers and controllers offer a **3-year** warranty.

Ask your retailer for details.

Sentinel products are distributed by:

GPS / Global Product Solutions Inc.



[www.growgps.com](http://www.growgps.com)

# SENTINEL

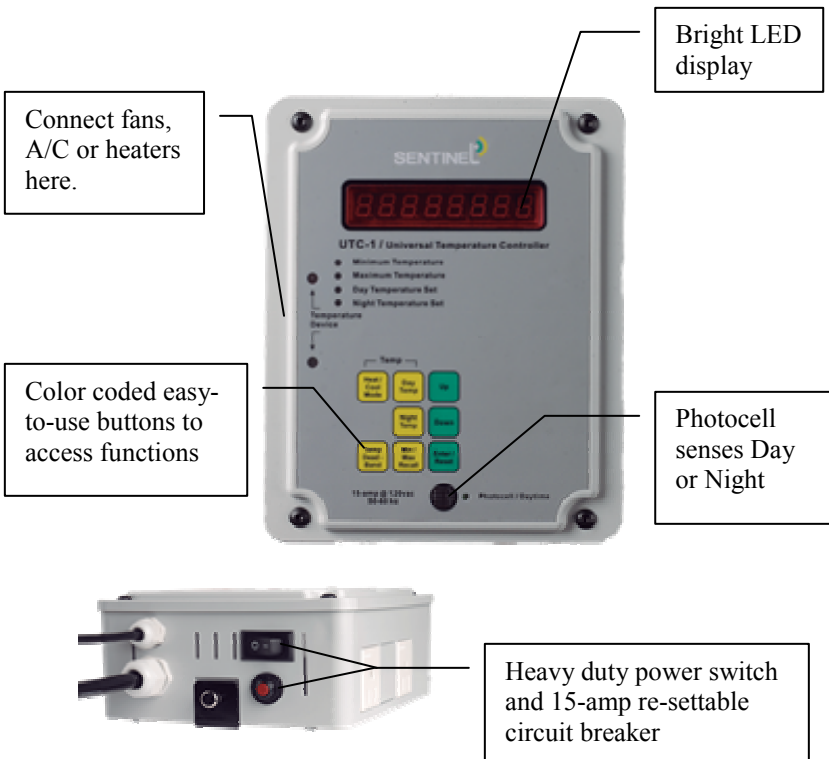


**Welcome to the future. . .** The UTC 1 Universal Temperature Controller represents a new level of intelligent design and function in a simple to use and reliable controller. It is 100% digital and programmable and its flexibility provides numerous uses.

CONTENTS
A quick look at the UTC-1
Installation of the UTC-1
Operating the UTC-1
Connection Examples
Troubleshooting & Specs

The UTC-1 has been designed to maintain a specific temperature within an area. Think of it as a “smart-thermostat”. It combines the ability to record and recall Minimum and Maximum temperatures, with a user-adjustable setpoint. Built-in photocell allows the user to set separate Daytime and Night-time temperatures. It can control either a Cooling or a Heating device and even has an adjustable (dead-band).

## A quick look at the UTC-1...



## Troubleshooting

### **Problem: The unit does not power up at all.**

Check and reset the circuit breaker. A small red button will pop out at the bottom of the unit, press it in to reset. If the problem continues, reduce the number of devices connected to the unit.

### **Problem: The unit does not seem to be working correctly, or it seems to be operating reverse.**

The user must select EITHER cooling or heating mode.

- 1) If Cooling mode is selected, the unit will operate a cooling device to keep the area below the setpoint.
- 2) If Heating mode is selected, the unit will operate a heating device to keep the area above the setpoint.

### **Problem: The Temperature receptacle turns ON and OFF too frequently.**

To maintain the temperature most accurately, the unit is factory set with a “dead-band” setting of 2°F. The dead-band setting can be changed to stop frequent cycling of the Temperature Device BUT, the accuracy of the unit will be affected with a higher Dead-band. (See Changing the Hysteresis (Dead-band) on Page #5)

### **Problem: The temperature varies between day and night.**

There are 2 separate setpoints for Day time and Night time, a photocell mounted on the front of the unit senses light and changes to the appropriate settings. (See Setting Temperatures on Page #5)

### **Problem: The display reads Err SEn**

The remote temperature probe has been disconnected or is not communicating with the unit. Check the cable and the remote sensor. If resetting (OFF / ON) the power does not help, contact the factory. (See below also)

### **Problem: The temperature reading is erratic or changing rapidly.**

Certain devices such as Electronic (Digital) Ballasts and Ozone generators produce a huge amount of electronic “noise”. If you are operating these other devices, locate them as far away from the controller as possible. Position the cables that connect the ballast to the lamps away from the remote temperature probe on the controller. To verify which equipment is affecting the temperature reading, disconnect the other devices suspected of interfering with the controller.

## Connection examples

### \* Cool Mode



For greenhouses & indoor growing, Cooling devices such as ventilation fans, evaporative coolers or air-conditioners connect to the Temperature Device receptacle

OR



OR



### \* Heat Mode

Heaters for cooler climate greenhouses or other applications could also be connected to the Temperature Device receptacle.



Remote Temperature & Humidity sensor with 16 foot cable. Can be extended up to 75 feet!

\* The user can select **EITHER** Cooling mode **OR** Heating mode. Do not connect both cooling and heating devices to the unit at the same time.

## Installing the UTC-1

1) Locate a suitable location. First secure the provided bracket to the wall. Next snap the controller into place and tighten the (2) thumb-screws on the top & bottom.

**NOTE:** \*Note: Make sure the thumb-screws are in place before attempting to use the controller. The sensor is **VERY** fragile... falling to the ground would be very bad.

- 2) The unit requires a 120 volt, 15-amp power supply. Plug the power cable into a standard Nema 5-15 wall outlet.
- 3) The remote temperature sensor can be located up to 16 ft from the unit. Position it where the temp needs to be controlled.
- 4) The device that will be controlled must be 15-amps or less. Connect the device's power cable into one of the two receptacles marked "Temperature".
- 5) Turn the power switch to the ON position and you are ready to go.

**There are eight buttons on the unit that control all the functions.**

- **Day:** Press this button for 1 second to display and change the current "Daytime" temperature setting.
- **Night:** Press this button for 1 second to display and change the current "Nighttime" temperature setting.
- **UP:** Press this button to display to increase the setting.
- **Down:** Press this button to display to increase the setting.
- **Min/Max:** Press this button for 1 second to display the minimum and maximum recorded temperature.
- **Enter/Reset:** Press this button enter the new setpoint or to reset the recorded Min / Max temperatures.

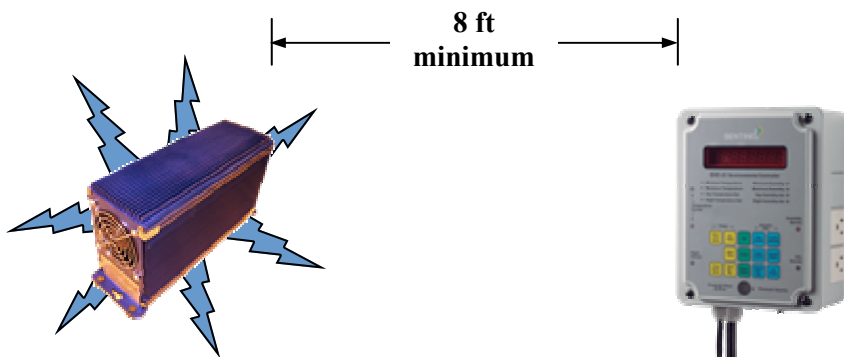
- **Heat/ Cool:** Press this button for 1 second to select Heat or Cool mode.
- **Dead-band:** Press this button for 1 second to display and change the current “Dead-band” setting.

**NOTE:** To change the display to read in Centigrade, press and hold the Up and the Down buttons together for 3 seconds. To return to Fahrenheit, press and hold the Up and Down buttons for 3 seconds.

## Warning!!!

Some electronic devices such as Electronic (Digital) HID ballasts and Ozone generators produce large amounts of electronic noise, which can affect other equipment. The Sentinel line of controllers and timers have been “hardened” by using shielded cable and shielded enclosures however... some EBs do not have proper shielding. For best results it is highly recommended to position your controller at least 8 ft away from any EBs (Electronic Ballasts).

It is also a good idea to route the cables going from the EB to the HID lamp away from the controller and the remote temperature probe cable attached to the controller.



Keep Electronic ballast at least **8 ft** away from Controllers and other electronic equipment. Also, keep cables from the EB from passing near the controller.

## Operating the UTC-1

“Programming” doesn’t have to be complicated. The UTC-1 has been designed to be simple to set-up and “program”. Separate buttons for each function make changes easy.

**Setting Temperatures:** To set the daytime & nighttime temperatures, press and hold the **Day** button for 1-second. The display changes to show you the current setpoint. Use the **Up** or **Down** button to change the setting. Press **Enter** to accept the new setpoint. Do the same for the Night temperature setting. \* A **Green** LED illuminates to indicate you have accessed the setpoint.

**Heat & Cooling modes:** You can change the UTC-1 to control either a cooling or heating device. Press and hold the **Heat/Cool** button for one second. Use the **Up** or **Down** buttons to change the display to the desired mode, **Cool** or **HEAT**. Press **Enter** to accept the change.

**Accessing & resetting Min/Max temps:** The UTC records the high and low temperatures. This is helpful to verify the temperatures are being controlled correctly. Press and hold the **Min/Max** button for 1 second. The highest recorded temperature (Max) is displayed. Pressing the **Min/Max** button again displays the lowest recorded temperature (Min). To reset the Max temp, bring up the Max temp on the display, press and hold the **Enter/Reset** button for 3-seconds. The Min temp is reset the same way. \* A **Green** LED illuminates to indicate you have accessed the recorded Min or Max values.

**Changing the hysteresis (Dead-band):** Hysteresis or “dead-band” can also be changed by the user. The factory default is 2 degrees F. This means that if the unit is set to Cool mode, and the temperature is set at 80°, when the temp rises to 80°, the cooling device will be activated. With a 2 degree F “dead-band”, the cooling device will continue to run until the temperature is reduced by 2 degrees, down to 78 degrees. Setting the hysteresis lower than 2 degrees will control the temperature more accurately, but it may also cause the cooling device to start and stop too often. Increasing the hysteresis will stop the rapid cycling On/Off of the control output. To change the setting, press and hold the **Dead-band** button for 1 second. The current Dead-band is displayed, **t.db \_F**. Use the **Up** or **Down** buttons to change the setting and the **Enter/Reset** button to accept the change.

**Fahrenheit or Centigrade:** To change the display to read F or C press and hold BOTH the **Up** and **Down** buttons for 3 seconds.