Inkbird Itc-306t

Inkbird ITC-306T User Manual

Pre-Wired Electronic Heating Thermostat Temperature Controller and 24 Hours Digital Day & Night Cycle Timer Controller

Model: ITC-306T | Brand: Inkbird

1. Introduction

The Inkbird ITC-306T is a pre-wired electronic heating thermostat and timer controller designed for precise temperature management. It features dual display windows for simultaneous viewing of measured and set temperatures, and a unique 24-hour digital day and night cycle timer function. This controller is ideal for applications requiring consistent heating, such as seed germination, reptile habitats, and hatching environments. It supports temperature readings in both Celsius and Fahrenheit.

2. Product Features

- **Convenient Design:** Plug and play operation for ease of use.
- **Dual Display Windows:** Simultaneously displays the measured temperature (PV) and the set temperature (SV).
- **Dual Time Cycles Setting:** Allows setting two different temperatures for day and night periods over a 24-hour cycle, catering to specific physiological needs of animals and plants.
- **Heating Only Control:** Operates in On and Off control mode for heating applications. This unit does not support cooling functions.
- **Safety Features:** Includes temperature calibration, over-temperature alarm, and sensor fault alarm.
- **High Output Capacity:** Maximum output load of 1200 W (110 V).
- **Long Sensor Cord:** Equipped with a 2-meter (6.56 ft) sensor cord for flexible placement.

3. Package Contents

Upon opening the package, please verify that all components are present and undamaged:

- 1 x Inkbird ITC-306T Temperature Controller Unit
- 1 x Temperature Probe (with 2m/6.56ft cord)

Image: The Inkbird ITC-306T controller, its temperature probe, and the product packaging, indicating what is included in the box.

4. Product Overview

Image: The complete Inkbird ITC-306T unit, showing the main controller, the temperature probe, and the dual-outlet power strip.

Image: A close-up of the Inkbird ITC-306T controller's front panel, highlighting the dual digital displays (PV and SV) and the control buttons (SET, Up, Down).

Image: A detailed view of the metallic tip of the Inkbird ITC-306T temperature probe, which is submerged or placed in the environment to be monitored.

Image: A close-up of the dual power outlets on the Inkbird ITC-306T's integrated power strip, where heating devices are connected.

Image: A detailed view of the standard US three-prong power plug of the Inkbird ITC-306T, which connects to a wall outlet.

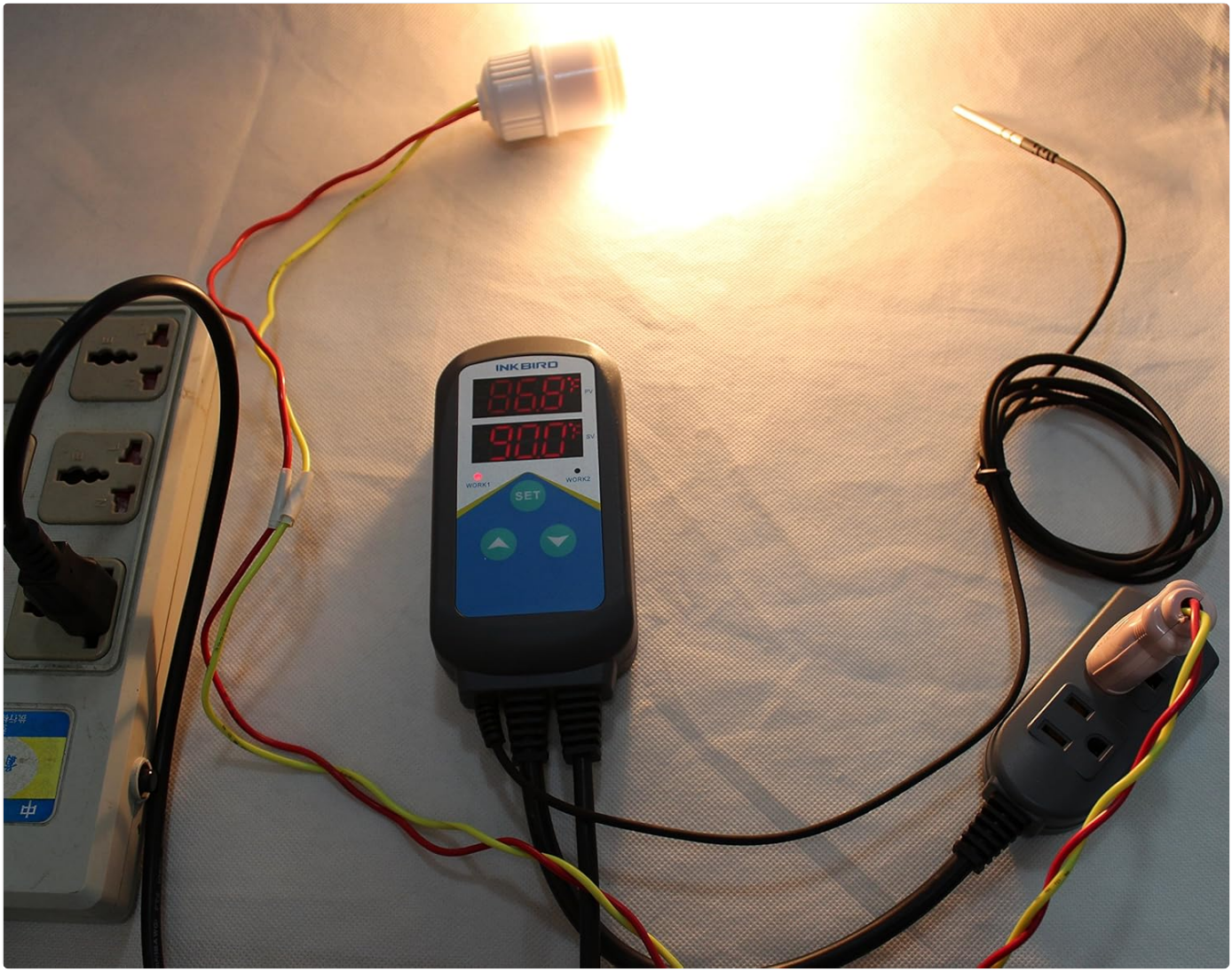

Image: An example setup showing the Inkbird ITC-306T controller connected to a power strip, with a light bulb plugged into the controller's output, demonstrating a heating application.

5. Setup Guide

1. **Unpack the Controller:** Carefully remove the ITC-306T controller and its components from the packaging.
2. **Connect the Probe:** Ensure the temperature probe is securely connected to the designated port on the controller.
3. **Position the Probe:** Place the metal tip of the temperature probe in the environment where temperature monitoring and control are required (e.g., inside a reptile enclosure, near germinating seeds). Ensure the probe is not directly exposed to heating elements or water unless designed for immersion.
4. **Connect Heating Device(s):** Plug your heating device(s) (e.g., heat mat, ceramic heater, heat lamp) into the power outlets on the ITC-306T's integrated power strip. Ensure the total wattage of connected devices does not exceed 1200W.
5. **Power On:** Plug the main power cord of the ITC-306T into a standard 110V AC power outlet. The display will illuminate, showing the current measured temperature (PV) and the default set temperature (SV).

6. Operating Instructions

6.1. Basic Temperature Setting

1. Press the **SET** button once. The SV (Set Value) display will begin to flash.
2. Use the **Up (▲)** or **Down (▼)** buttons to adjust the desired temperature.
3. Press the **SET** button again to confirm the setting and exit.

6.2. Advanced Settings (Parameter Menu)

To access the advanced parameter settings, press and hold the **SET** button for approximately 3 seconds until the display shows 'TS' (Temperature Setting) or 'HC' (Heating/Cooling mode, though this unit is heating only).

- Use the **Up (▲)** or **Down (▼)** buttons to navigate through the parameters (e.g., TS, HD, CD, PT, CA, AT, CF).
- Press **SET** once to enter a parameter's setting.
- Use **Up (▲)** or **Down (▼)** to adjust the value.
- Press **SET** again to save the value and move to the next parameter, or hold **SET** to exit the menu.

Common Parameters:

Parameter	Description	Default	Range
TS	Temperature Setting (Day Temperature)	25.0°C / 77.0°F	Range of controller
HD	Heating Differential (Hysteresis)	1.0°C / 2.0°F	0.1-15.0°C / 0.2-27.0°F
CD	Night Temperature Setting	20.0°C / 68.0°F	Range of controller
PT	Delay Protection Time	0 minutes	0-10 minutes
CA	Temperature Calibration	0.0°C / 0.0°F	-10.0°C to 10.0°C / -18.0°F to 18.0°F
AT	Over-temperature Alarm	40.0°C / 104.0°F	Range of controller
CF	Celsius/Fahrenheit Switch	C (Celsius)	C/F

6.3. Day & Night Cycle Timer Setting

The ITC-306T allows setting distinct day and night temperatures over a 24-hour period. This feature is crucial for mimicking natural environmental cycles.

1. **Set Day Temperature (TS):** Follow instructions in 6.2 to set the 'TS' parameter to your desired day temperature.
2. **Set Night Temperature (CD):** Follow instructions in 6.2 to set the 'CD' parameter to your desired night temperature.
3. **Set Day Start Time (H1):** In the advanced settings menu, locate the 'H1' parameter. This sets the hour when the day temperature (TS) begins. Use Up/Down to adjust (0-23 for hours).
4. **Set Day End Time (H2):** Locate the 'H2' parameter. This sets the hour when the day temperature (TS) ends and the night temperature (CD) begins. Use Up/Down to adjust (0-23 for hours).
5. **Activate Cycle:** Once H1 and H2 are set, the controller will automatically switch between TS and CD temperatures based on the internal clock.

Note: Ensure the internal clock of the device is accurate for precise timing. The device typically synchronizes with the current time upon initial power-up or can be manually adjusted if a time setting parameter is available (refer to the full PDF manual for specific time adjustment instructions if needed).

7. Maintenance

- **Cleaning:** Disconnect the power before cleaning. Wipe the controller unit with a soft, dry cloth. Do not use abrasive cleaners or immerse the unit in water.
- **Probe Care:** Keep the temperature probe clean. If used in liquids, ensure the probe is rated for immersion and clean it regularly to prevent buildup that could affect accuracy.
- **Storage:** When not in use, store the controller in a cool, dry place away from direct sunlight and extreme temperatures.

8. Troubleshooting

Problem	Possible Cause	Solution
Display is blank	No power; Loose connection	Check power outlet; Ensure power cord is securely plugged in.
"HHH" or "LLL" on display	Sensor fault; Temperature out of range	Check sensor connection; Replace sensor if damaged; Ensure temperature is within operating range.
Heating device not turning on/off	Incorrect temperature setting; Differential too small; Delay protection active; Device malfunction	Verify TS/CD and HD settings; Wait for delay protection to clear; Test heating device separately.
Temperature reading inaccurate	Probe placement; Calibration error	Relocate probe away from direct heat/cold sources; Perform temperature calibration (CA parameter).
Day/Night cycle not switching	Incorrect H1/H2 settings; Internal clock issue	Review and correct H1/H2 parameters; Power cycle the unit to reset internal clock.

9. Specifications

Attribute	Detail
Model Number	Itc-306t
Brand	Inkbird
Voltage	110 Volts, 240 Volts (Input)
Max Output Load	1200 W (110V)
Temperature Control Range	Varies by model, typically -50°C to 99°C (-58°F to 210°F)
Temperature Resolution	0.1°C / 0.1°F
Temperature Accuracy	Â±1°C / Â±2°F
Display Type	Digital LED
Product Dimensions	3.94 x 2.76 x 7.48 inches
Item Weight	15.19 ounces
Sensor Cord Length	2 meters (6.56 feet)
Color	Light Blue
Manufacturer	Inkbirf Tech
Date First Available	August 20, 2015
UPC	705701523383, 705701506386

10. Warranty and Support

Inkbird products are designed for reliability and performance. For specific warranty details, including coverage period and terms, please refer to the warranty card included with your product or visit the official Inkbird website. For technical support, troubleshooting assistance beyond this manual, or service inquiries, please contact Inkbird customer support through their official channels.

You can often find additional resources, FAQs, and contact information on the Inkbird Store on Amazon or their official website.