Inkbird ITC-306T

Inkbird ITC-306T Electronic Heating Thermostat Temperature Controller User Manual

Model: ITC-306T | Brand: Inkbird

1. Introduction

The Inkbird ITC-306T is a pre-wired electronic heating thermostat designed for precise temperature control. This device is ideal for applications requiring consistent heating, such as seed germination, reptile habitats, and hatching environments. It features dual time cycles for day and night temperature settings, ensuring optimal conditions over a 24-hour period. This manual provides detailed instructions for safe and effective operation.

2. Key Features

- **2025 Updated Design:** Features thicker input (3-core, 7.8mm diameter) and output (4-core, 8.6mm diameter) wires for enhanced reliability and durability.
- **Dual Time Cycles Setting:** Allows setting different target temperatures for day and night periods over 24 hours, suitable for animals or plants.
- **Heating Only Control:** Operates in On and Off Control mode for heating devices. Maximum total load must not exceed 1200 watts.
- **Integrated Temperature Probe:** Equipped with a 6.56 ft (2 meter) sensor cord for accurate temperature monitoring.
- **ETL Listed:** The entire controller is ETL listed, ensuring high safety standards.

3. Product Overview

Figure 1: Inkbird ITC-306T controller unit, dual power outlets, and temperature probe.

Figure 2: Detailed view of the digital display and control buttons (SET, Up, Down).

The ITC-306T features a main control unit with a digital display showing current and set temperatures. It includes three control buttons: SET, Up arrow, and Down arrow. The unit is connected to two power outlets for heating devices and a temperature probe. The main power cord is a grounded three-prong plug.

Figure 3: The dual heating outputs can power two separate heating devices simultaneously.

Figure 4: The controller features high and low temperature alarm functions for safety.

4. Setup Instructions

1. **Connect Power:** Plug the main power cord of the ITC-306T into a standard 120V AC power outlet. The display will illuminate.
2. **Connect Heating Devices:** Plug your heating devices (e.g., heat mats, heat lamps) into the two output sockets labeled 'WORK1' and 'WORK2'. Ensure the total wattage of connected devices does not exceed 1200W.

3. **Position Temperature Probe:** Place the stainless steel temperature probe in the area where temperature control is needed. Ensure the probe is securely positioned and not directly exposed to heating elements.
4. **Initial Power-On:** The device will display the current temperature read by the probe.

5. Operating Instructions

5.1. Basic Temperature Setting (Common Settings)

1. **Enter Settings Menu:** Power on the controller. Press and hold the **SET** button for 3 seconds to enter the settings menu.
2. **Set Target Temperature (TS1):** Use the Up and Down arrow buttons to set your desired target temperature (e.g., 78.5°F).
3. **Set Temperature Deviation (DS1):** Press the **SET** button again to move to the deviation setting. Use Up and Down arrows to set the desired temperature deviation (e.g., 2°F). When the temperature drops to (TS1 - DS1), the heating device will activate. Both heating outputs will turn on/off synchronously.
4. **Save Settings and Exit:** Press and hold the **SET** button for 3 seconds to save your settings and exit the menu.

Step 1: Entering the settings menu.

Step 2: Setting the target temperature (TS1).

Step 3: Setting the temperature deviation (DS1).

Step 4: Saving settings and exiting.

5.2. Advanced Settings

The ITC-306T offers several advanced settings for fine-tuning control. Access these by entering the settings menu (press and hold SET) and cycling through the options using the SET button.

- **AH: High-Temperature Alarm:** Set the maximum allowable temperature. If the probe reads above this, an alarm will sound.
- **AL: Low-Temperature Alarm:** Set the minimum allowable temperature. If the probe reads below this, an alarm will sound.
- **CA: Calibration:** Adjust the temperature reading to match a known accurate thermometer.
- **CF: °F/°C Switch:** Toggle between Fahrenheit and Celsius display units.
- **ALM: Alarm ON/OFF:** Enable or disable the temperature alarms.
- **TR: Access Time Cycle Featured Settings:** Enter the time cycle programming mode.

Figure 5: Advanced settings options displayed on the controller.

5.3. Timer Cycle Featured Settings (Day & Night)

To set different temperatures for day and night cycles:

1. **Access Time Cycle Settings:** In the advanced settings menu, set **TR=1** to enable and access the second temperature control settings.
2. **Set Second Target Temperature (TS2) and Deviation (DS2):** Set the second target temperature (e.g., 68°F) and its deviation (e.g., 2°F). When the temperature drops to (TS2 - DS2), the heating device will activate.
3. **Set 24-Hour Time Cycle (TAH:TAM ~ TBH:TBM):** Set the time period for the first target temperature (TS1) (e.g., 08:00 ~ 18:00). The time period TBH:TBM (Hour:Minute) ~ TAH:TAM (Hour:Minute) (next day) will automatically apply to the second target temperature (TS2) (e.g., 18:00 ~ 08:00 the next day).
4. **Set Current Time (CTH:CTM):** Set the current hour (CTH) and current minute (CTM) for the controller. Press and hold the **SET** button to save settings and exit the menu.

Step 1: Enabling time cycle settings.

Step 2: Setting TS2 and DS2.

Step 3: Configuring the 24-hour time cycle.

Step 4: Setting the current time (CTH and CTM).

6. Applications

The Inkbird ITC-306T is a versatile temperature controller suitable for various applications requiring precise heating control.

Figure 6: Common applications include reptile care, incubation, seed germination, and chicken coops.

Figure 7: The controller can maintain optimal temperatures for seed germination.

Figure 8: Suitable for maintaining stable temperatures in reptile terrariums.

Figure 9: Provides consistent warmth for young chicks in a coop.

7. Specifications

Feature	Specification
Model	ITC-306T
Input Wire	3-core wire, 7.8mm diameter
Output Wire	4-core wire, 8.6mm diameter
Power Supply	100V~240V AC 50/60Hz
Max Output Load	10A, 1200W (120V)
Temperature Control Range	32°F ~ 108°F (0°C ~ 42°C)
Temperature Resolution	0.1°F / 0.1°C
Temperature Accuracy	±0.5°F / ±0.3°C
Sensor Cord Length	6.56 ft (2 meters)
Display Type	Digital
Material	Plastic
Item Weight	1.23 pounds
Package Dimensions	8.31 x 4.57 x 3.43 inches

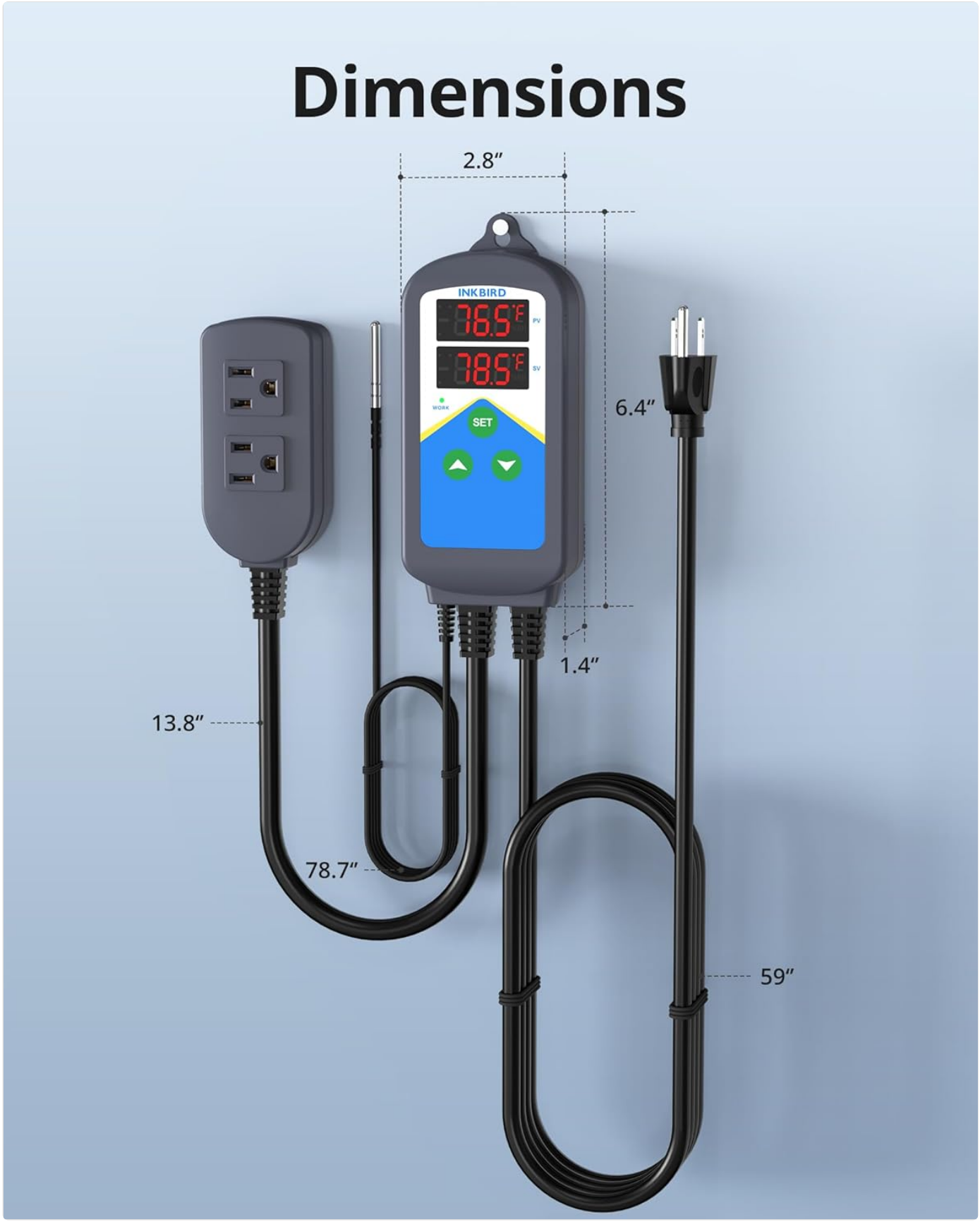

Figure 10: Dimensions of the Inkbird ITC-306T controller and its components.

8. Troubleshooting

- **Display Not Working / No Power:** Ensure the main power cord is securely plugged into a functional 120V AC outlet. Check for any tripped circuit breakers.
- **Temperature Reading Inaccurate:** Verify the temperature probe is correctly positioned and not directly touching heating elements or exposed to drafts. Use the calibration (CA) setting in advanced options to fine-tune the reading if necessary.

- **Heating Device Not Activating:** Check if the target temperature (TS1/TS2) and deviation (DS1/DS2) are set correctly. Ensure the current temperature is below the activation threshold. Verify that the heating devices are properly plugged into the output sockets and are functional. Check if the total wattage exceeds 1200W, which could prevent activation.
- **Alarms Sounding Unexpectedly:** Review the High-Temperature Alarm (AH) and Low-Temperature Alarm (AL) settings. Adjust them to appropriate levels for your application. Ensure the ALM setting is configured as desired.
- **Time Cycle Not Functioning:** Confirm that TR is set to 1 in the advanced settings to enable time cycle features. Verify that the time periods (TAH:TAM ~ TBH:TBM) and current time (CTH:CTM) are set correctly.

9. Maintenance

- **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. Avoid bending or damaging the probe cable.
- **Storage:** Store the device in a cool, dry place when not in use.

10. Official Product Videos

Video 1: BN-LINK Heat Mat Thermostat Overview. This video demonstrates the basic functions of a similar BN-LINK thermostat, including switching between Fahrenheit and Celsius, programming desired temperature, and understanding error codes. While not the exact Inkbird model, it illustrates general thermostat operation.

11. Warranty and Support

For warranty information and technical support, please refer to the documentation included with your product or contact Inkbird customer service directly. Protection plans may be available for purchase separately.

Related Documents - ITC-306T

	INKBIRD ITC-306T Plug and Play Temperature Controller User Manual User manual for the INKBIRD ITC-306T Plug and Play Temperature Controller, detailing its features, specifications, operation, and troubleshooting for precise temperature control in various applications like breeding and planting.
	Inkbird ITC-100 PID Temperature Controller User Manual Comprehensive user manual for the Inkbird ITC-100 PID Temperature Controller. Covers safety precautions, specifications, connection diagrams, front panel operation, input types, alarm settings, error diagnosis, parameter configuration, and warranty information.

	[Inkbird ITC-2000 Alarm & Relay Output Temperature Controller User Manual] Comprehensive user manual for the Inkbird ITC-2000 temperature controller, covering safety precautions, specifications, wiring diagrams, key operations, menu settings, error handling, and warranty information. Designed for precise temperature control in various applications.
	[Inkbird ITC-308 Plug and Play Temperature Controller User Manual] Comprehensive user manual for the Inkbird ITC-308 Plug and Play Temperature Controller. Covers product overview, detailed specifications, key functions, operational instructions, menu settings, error codes, and warranty information.
	[Inkbird ITC-100 PID Temperature Controller User Manual] Comprehensive user manual for the Inkbird ITC-100 PID Temperature Controller, covering specifications, connection, operation, parameter settings, and technical support. Includes details on input types, alarm functions, error diagnosis, and warranty information.
	[INKBIRD ITC-306T WIFI Temperature Controller User Manual] This document provides a comprehensive guide to the INKBIRD ITC-306T WIFI Temperature Controller, covering quick start instructions, specifications, app settings, function instructions, error handling, and FCC/IC compliance.