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- › [INKBIRDPLUS](#) /
- › [INKBIRDPLUS Plug-in Temperature Controller User Manual](#)

INKBIRDPLUS INK+TC819-US

INKBIRDPLUS Plug-in Temperature Controller User Manual

Model: INK+TC819-US | Brand: INKBIRDPLUS

1. INTRODUCTION

The INKBIRDPLUS Plug-in Temperature Controller is a versatile and intelligent device designed to precisely manage temperature for a wide range of applications. It supports both heating and cooling modes, offering four flexible timing functions and a clear backlit LCD for easy operation. This manual provides detailed instructions for setup, operation, maintenance, and troubleshooting to ensure optimal performance and longevity of your device.

2. PRODUCT OVERVIEW



Figure 2.1: Labeled diagram of the INKBIRDPLUS temperature controller, showing its various parts including the measured temperature display, start and stop temperature settings, indicator light, power outlet, mode switch, control buttons, and the external temperature probe.

Components:

- **Measured Temp Display:** Shows the current temperature detected by the probe.
- **Heating Mode Indicator:** Illuminates when the device is in heating mode.
- **Cooling Mode Indicator:** Illuminates when the device is in cooling mode.
- **Start Temp Setting:** The temperature at which the connected device will activate (for heating) or deactivate (for cooling).
- **Stop Temp Setting:** The temperature at which the connected device will deactivate (for heating) or activate (for cooling).
- **Indicator Light:** Provides status feedback.
- **Power Outlet:** Where the heating or cooling device is plugged in.
- **Mode Switch Button:** Used to cycle through different operating modes.
- **Set/Confirm Button:** Used to enter settings and confirm selections.
- **Up Button:** Used to increase values or navigate menus.
- **Down Button:** Used to decrease values or navigate menus.
- **Temperature Probe:** External sensor for accurate temperature measurement.

3. KEY FEATURES



Figure 3.1: Overview of the INKBIRDPLUS temperature controller's main features, including heating/cooling, periodic timing, backup memory, temperature calibration, and a backlit LCD screen.

- **Dual Mode Temperature Control:** Compatible with both heating and cooling devices, allowing you to maintain optimal temperatures in various environments.
- **4 Flexible Timing Modes:** Offers advanced control with CD TC ON, CD TC OFF, CD ON Timer, and CD OFF Timer modes for customized automatic operation.
- **High-Brightness Backlit LCD Display:** Provides clear visibility of all values, including current, start, and stop temperatures, and countdown time, in any lighting condition. The backlight can be switched off for lower power consumption.
- **Temperature Calibration Function:** Ensures long-term precision control with a wide temperature range of -40 to 120 °C (-40 to 248 °F) and a measurement accuracy of ± 1 °C/°F.
- **Carefree Backup Memory:** Automatically saves all personalized settings in case of a power cut, eliminating the need for reprogramming.

- **Versatile Applications:** Ideal for a variety of uses including reptile habitats, incubation, aquariums, refrigerators, home brewing, and more.
- **IP67 Waterproof Temperature Probe:** The external probe is designed to be suitable for both wet and dry environments, ensuring durability and reliability.

4. SPECIFICATIONS



Figure 4.1: Physical dimensions of the INKBIRDPLUS temperature controller and its temperature probe.

Specification	Value
Brand	INKBIRDPLUS
Model Name	INK+TC8
Product Dimensions	1.38"D x 2.64"W x 4.92"H (3.5cm D x 6.7cm W x 12.5cm H)
Controller Type	Hand Control
Special Feature	Temperature Display, Programmable
Color	Tc+cd

Specification	Value
Specific Uses For Product	Electric Baseboard Heater, Air Conditioner, Refrigerator, Reptile, Incubation, Aquarium, Home Brewing
Temperature Control Type	Cooling & Heating
Included Components	Controller with integrated temperature probe
Item Weight	0.34 Pounds (5.4 ounces)
Voltage	120 Volts
Material	Plastic
Shape	Square
Control Method	Button Control
Mounting Type	Wall Mount (Plug-in)
Temperature Range	-40°C to 120°C (-40°F to 248°F)
Max Load	15A 1800W
Temperature Control Accuracy	±1 °C/°F
Timing Accuracy	Max 10 minutes
Probe Protection	IP67 Waterproof

5. SETUP

- 1. Unpack the Device:** Carefully remove the temperature controller and its probe from the packaging.
- 2. Plug In:** Insert the temperature controller into a standard 120V AC power outlet. The LCD screen will illuminate.
- 3. Position the Probe:** Place the temperature probe in the environment where you wish to measure and control the temperature. Ensure the probe is securely positioned and not directly exposed to heat sources or drafts that could skew readings. The IP67 rating allows for use in wet environments like aquariums.
- 4. Connect Your Device:** Plug your heating or cooling appliance (e.g., heater, fan, refrigerator) into the power outlet on the front of the temperature controller.

6. OPERATING INSTRUCTIONS

6.1 Basic Temperature Control (Heating/Cooling Modes)

Heating / Cooling

Accurate temperature control with ease



Figure 6.1: The controller's ability to manage both heating and cooling, with its wide temperature range.

1. **Power On:** Ensure the controller is plugged in and the LCD is active.
2. **Set Start Temperature:**
 - Press the **SET** button once. The 'Start Temperature' value will begin to flash.
 - Use the **UP** or **DOWN** buttons to adjust the desired start temperature.
 - Press **SET** again to confirm and move to the Stop Temperature setting.
3. **Set Stop Temperature:**
 - The 'Stop Temperature' value will flash.
 - Use the **UP** or **DOWN** buttons to adjust the desired stop temperature.
 - Press **SET** again to confirm and exit the temperature setting mode.
4. **Select Mode (Heating/Cooling):**
 - The controller automatically determines heating or cooling mode based on your Start and Stop temperature settings.
 - If Start Temp < Stop Temp: The controller operates in **Heating Mode**. The connected device will turn ON when the measured temperature drops below the Start Temp and turn OFF when it reaches the Stop Temp.

- If Start Temp > Stop Temp: The controller operates in **Cooling Mode**. The connected device will turn ON when the measured temperature rises above the Start Temp and turn OFF when it reaches the Stop Temp.

6.2 Flexible Timing Modes

The INKBIRDPLUS controller offers four advanced timing modes for precise control over your connected devices. These modes are accessed by pressing the **Mode Switch** button (house icon).

Flexible Timing Function

Versatile for all situations

CD TC ON MODE

After Countdown ends, run the currently set TC mode.



CD ON TIMER MODE

After Countdown ends, Turn ON the power.



CD TC OFF MODE

Run the currently set TC mode until Countdown ends.



CD OFF TIMER MODE

Turn ON the power until Countdown ends.



Figure 6.2: Visual guide to the four timing modes: CD TC ON, CD TC OFF, CD ON Timer, and CD OFF Timer.

1. CD TC ON Mode (Countdown Temperature Control ON):

- In this mode, the device will operate according to the set temperature control (TC) mode (heating or cooling) **after** a specified countdown timer ends.
- *Use Case:* You want a device to start maintaining a specific temperature only after a certain delay (e.g., start heating a terrarium 30 minutes after lights turn on).
- To set: Press **Mode Switch** until "CD TC ON" appears. Press **SET**, then use **UP/DOWN** to set the countdown time (Hours:Minutes). Press **SET** to confirm.

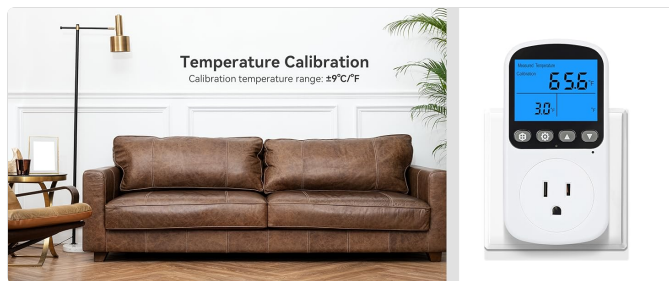


Figure 6.3: Setting the countdown time for CD TC ON mode.

2. CD TC OFF Mode (Countdown Temperature Control OFF):

- In this mode, the device will operate according to the set temperature control (TC) mode (heating or cooling) **until** a specified countdown timer ends. Once the countdown finishes, the temperature control function will stop.
- *Use Case:* You want to maintain a specific temperature for a set duration, then turn off the control (e.g., maintain incubation temperature for 24 hours, then stop).
- To set: Press **Mode Switch** until "CD TC OFF" appears. Press **SET**, then use **UP/DOWN** to set the countdown time (Hours:Minutes). Press **SET** to confirm.

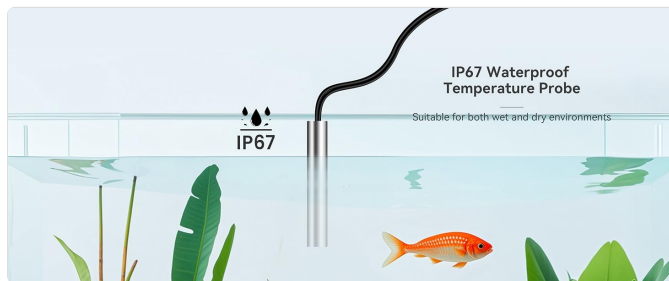


Figure 6.4: Setting the countdown time for CD TC OFF mode.

3. CD ON Timer (Countdown ON Timer):

- In this mode, the connected device will turn **ON after** a specified countdown timer ends, regardless of temperature.
- *Use Case:* You want a device to simply turn on after a delay (e.g., turn on a fan after 1 hour).
- To set: Press **Mode Switch** until "CD ON" appears. Press **SET**, then use **UP/DOWN** to set the countdown time (Hours:Minutes). Press **SET** to confirm.

4. CD OFF Timer (Countdown OFF Timer):

- In this mode, the connected device will turn **OFF after** a specified countdown timer ends, regardless of temperature.
- *Use Case:* You want a device to simply turn off after a delay (e.g., turn off a light after 30 minutes).
- To set: Press **Mode Switch** until "CD OFF" appears. Press **SET**, then use **UP/DOWN** to set the countdown time (Hours:Minutes). Press **SET** to confirm.

6.3 Temperature Calibration

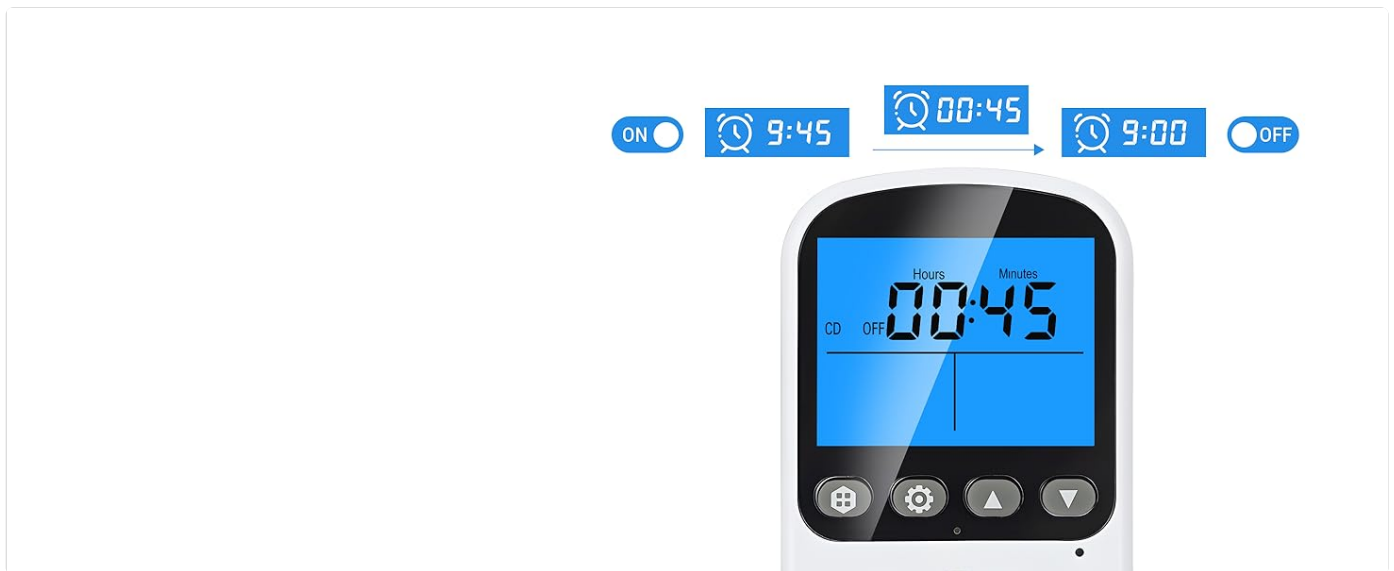


Figure 6.5: The temperature calibration feature allows for fine-tuning the temperature reading.

If you find that the temperature displayed by the controller does not match a known accurate thermometer, you can calibrate it. This function allows you to adjust the measured temperature reading by a certain offset (± 9 °C/°F).

1. **Enter Calibration Mode:** With the device in normal operating mode, press and hold the **SET** button for approximately 3 seconds until the display changes to show a calibration value (e.g., "0.0").
2. **Adjust Calibration Value:** Use the **UP** or **DOWN** buttons to adjust the offset. Increase the value if the controller reads lower than actual, decrease if it reads higher.
3. **Confirm Setting:** Press the **SET** button again to save the calibration and exit the mode. The controller will now display the adjusted temperature.

6.4 Backlight Control

Backlit LCD Screen

All data visible even in the dark



Figure 6.6: The backlit LCD screen provides clear visibility in various lighting conditions.

To conserve power or for use in dark environments, you can toggle the backlight. Simply press the **DOWN** button briefly to turn the backlight ON or OFF.

6.5 Memory Function

The INKBIRDPLUS controller features a built-in memory system. In the event of a power outage, all your previously set parameters (start/stop temperatures, timing modes, calibration) are automatically saved. When power is restored, the device will resume operation with your last settings, ensuring continuous and reliable control without the need for manual reprogramming.

7. APPLICATIONS

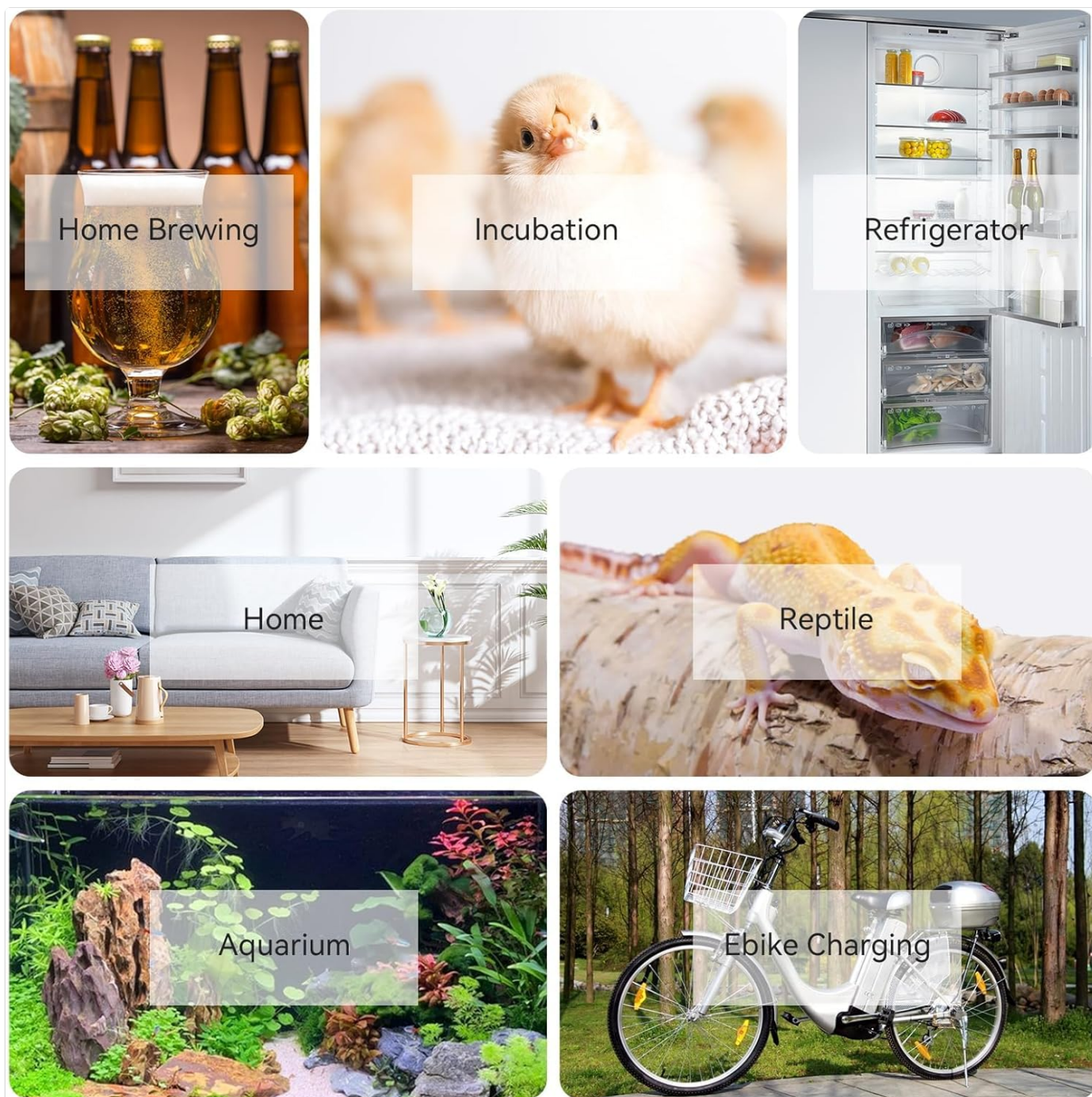


Figure 7.1: The INKBIRDPLUS temperature controller is suitable for a wide range of applications, including home brewing, incubation, refrigeration, home climate control, reptile habitats, aquariums, and even e-bike charging.

This temperature controller is highly versatile and can be integrated into numerous scenarios requiring precise temperature management:

- **Home Brewing:** Maintain optimal fermentation temperatures for beer and wine.
- **Incubation:** Ensure stable temperatures for hatching eggs or cultivating cultures.
- **Reptile/Amphibian Habitats:** Create precise temperature gradients for terrariums and vivariums.
- **Aquariums:** Regulate water temperature for aquatic life.
- **Refrigeration/Freezing:** Control mini-fridges or freezers for specific storage needs.
- **Greenhouses:** Manage heating or cooling for plant growth.
- **Home Climate Control:** Use with space heaters or window air conditioners for localized temperature regulation.
- **E-bike Charging:** Can be used to control charging environments for optimal battery life.

8. MAINTENANCE

- **Cleaning:** Disconnect the device from power before cleaning. Wipe the main unit with a soft, damp cloth. Do not use abrasive cleaners or immerse the main unit in water.
- **Probe Care:** The temperature probe is IP67 waterproof and can be used in wet environments. However, avoid bending the probe cable excessively or subjecting it to sharp impacts. Clean the probe regularly to ensure accurate readings, especially if used in environments with residue buildup.
- **Storage:** When not in use for extended periods, store the controller in a cool, dry place away from direct sunlight and extreme temperatures.

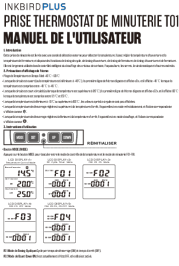

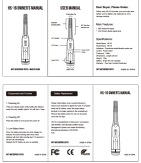
9. TROUBLESHOOTING

Problem	Possible Cause & Solution
Display is blank or not turning on.	<ul style="list-style-type: none"> • No power: Ensure the controller is securely plugged into a live power outlet. Test the outlet with another device. • Power outage: Check your home's power supply.
Temperature reading is inaccurate.	<ul style="list-style-type: none"> • Probe misplacement: Ensure the probe is correctly positioned in the environment you wish to measure, away from direct heat/cold sources or drafts. • Calibration needed: Use the Temperature Calibration function (Section 6.3) to adjust the reading if you have a known accurate reference thermometer. • Damaged probe: Inspect the probe and cable for any visible damage. If damaged, contact support for replacement.
Connected device not turning ON/OFF as expected.	<ul style="list-style-type: none"> • Incorrect Start/Stop Temp settings: Review your set temperatures (Section 6.1) to ensure they align with your desired heating or cooling operation. Remember: Start < Stop for Heating, Start > Stop for Cooling. • Incorrect Timing Mode: If a timing mode is active, it might override temperature control. Check the active timing mode (Section 6.2) and ensure it's set correctly or disabled if not needed. • Device malfunction: Test the connected heating/cooling device by plugging it directly into a wall outlet to ensure it is functional. • Overload: Ensure the connected device's power consumption does not exceed the controller's maximum load (15A 1800W).
Backlight is off.	<ul style="list-style-type: none"> • Backlight toggled off: Press the DOWN button to toggle the backlight ON (Section 6.4).

10. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please refer to the product packaging or contact INKBIRDPLUS customer service directly through their official website or the platform where the product was purchased. Please have your model number (INK+TC819-US) and purchase details ready when contacting support.

Related Documents - INK+TC819-US

	<p>INKBIRDPLUS T01 Prise Thermostat Minuterie Manuel de l'Utilisateur</p> <p>Manuel d'utilisation pour la prise thermostat minuterie INKBIRDPLUS T01. Guide complet sur les fonctions de contrôle de température et de minuterie, les modes de fonctionnement, le calibrage et les spécifications techniques.</p>
	<p>INKBIRDPLUS PTH-9A Multi-Function Air Quality Detector User Manual</p> <p>Comprehensive user manual for the INKBIRDPLUS PTH-9A Multi-Function Air Quality Detector, covering product introduction, specifications, operation instructions, time/date setting, and warranty information. Monitor PM2.5, PM10, CO2, temperature, and humidity.</p>
	<p>INKBIRDPLUS HS-16 Metal Detector Owner's Manual and User Guide</p> <p>Detailed user manual for the INKBIRDPLUS HS-16 metal detector, a waterproof handheld device with an LCD screen. Covers features, specifications, operation, and battery replacement for effective metal detection.</p>