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Inkbird ITC-1000

Inkbird ITC-1000 12V Dual Stage Digital Temperature Controller User Manual

Model: ITC-1000

1. Product Overview

The Inkbird ITC-1000 is a 12V dual-stage digital temperature controller designed for precise temperature management in various applications, including homebrewing, fermenters, refrigerators, incubators, and greenhouses. It features both heating and cooling control capabilities, allowing it to maintain a stable temperature range.

Key Features:

- **Dual Relay Outputs:** Manages both heating and cooling devices independently.
- **Automatic Mode Switching:** Automatically transitions between heating and cooling modes based on set parameters.
- **Temperature Calibration:** Allows for fine-tuning of temperature accuracy.
- **Refrigerating Control Output Delay:** Protects cooling equipment from rapid cycling.
- **Alarm Functions:** Alerts users to high/low temperature excursions or sensor errors.
- **Selectable Units:** Display temperature in Fahrenheit (°F) or Celsius (°C).



Figure 1: Front view of the Inkbird ITC-1000 controller displaying 84.0°F.

2. Safety Information

- Ensure the power supply matches the controller's voltage (12V DC).
- All wiring should be performed by a qualified individual or with extreme caution.
- Do not expose the device to water or excessive humidity.
- Disconnect power before performing any wiring or maintenance.
- Ensure proper ventilation around the controller.

3. Installation and Wiring

The ITC-1000 is designed for panel mounting. The orange clips on the sides can be removed to slide the controller into a panel cutout, then re-inserted to secure it.



Figure 2: Side view of the controller showing mounting clips.

Wiring Instructions:

Refer to the wiring diagram located on the top of the unit or in the included manual for detailed connections. The controller requires a 12V DC power supply. Connect the positive (+) and negative (-) terminals of your 12V power source to the corresponding input terminals on the controller.

The controller has two sets of output relays: one for heating and one for cooling. Connect your heating device to the heating output terminals and your cooling device to the cooling output terminals. The controller will automatically activate the appropriate relay based on your temperature settings.



Figure 3: Rear view showing wiring terminals.

Important: Ensure all connections are secure to prevent electrical hazards and ensure proper operation.

4. Basic Operation

4.1 Powering On/Off

Press the **Power button** () to turn the controller on or off.

4.2 Setting Temperature (TS)

1. Press the **S button** once. The display will flash the current set temperature (TS).
2. Use the **Up** () and **Down** () arrow buttons to adjust the desired target temperature.
3. Press the **S button** again to confirm and save the setting, or wait a few seconds for it to save automatically.

4.3 Setting Temperature Differential (DS)

The differential temperature (DS) determines the temperature range around your set temperature (TS) before the heating or cooling cycle activates/deactivates. For example, if TS is 70°F and DS is 3°F, heating will turn on at 67°F and off at 70°F, while cooling will turn on at 73°F and off at 70°F.

1. Press and hold the **S button** for 3 seconds to enter the parameter settings menu.
2. Use the **Up** or **Down** buttons to navigate to the DS parameter.
3. Press the **S button** again to view the current DS value.
4. Use the **Up** or **Down** buttons to adjust the differential value.
5. Press the **S button** to confirm, then press and hold **S** for 3 seconds to exit the menu.

4.4 Switching Temperature Units (°F/°C)

The ITC-1000 supports both Fahrenheit and Celsius display. The method to switch units is typically found within the advanced settings menu or by a specific button combination. Refer to the detailed manual for your specific unit's procedure, as it may vary slightly.

5. Advanced Settings

The controller offers several advanced parameters for fine-tuning its operation. These include:

- **Temperature Calibration (CA):** Adjusts the sensor reading to match a known accurate thermometer.
- **Cooling Delay (PT):** Sets a delay time before the cooling output activates, protecting compressors.
- **High/Low Temperature Alarms (HA/LA):** Configures the temperature thresholds that trigger an alarm.

To access and modify these settings, press and hold the **S button** for 3 seconds. Navigate through the parameters using the **Up** and **Down** buttons, and press **S** to select and adjust a parameter. Save changes by pressing **S** again, and exit by holding **S** for 3 seconds.

6. Maintenance

To ensure optimal performance and longevity of your Inkbird ITC-1000 controller:

- **Cleaning:** Wipe the unit with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Sensor Care:** Handle the temperature sensor carefully. Avoid bending or damaging the probe. Keep the sensor clean and free from debris that could affect readings.
- **Environmental Conditions:** Operate the controller within its specified temperature and humidity ranges.

7. Troubleshooting

Problem	Possible Cause	Solution
Display shows "HHH" or "LLL"	Temperature sensor error (open circuit or short circuit) or temperature exceeds measurement range.	Check sensor connection. Replace sensor if damaged. Ensure temperature is within operating range.
Controller not heating/cooling	Incorrect wiring, set temperature not met, differential too wide, cooling delay active.	Verify wiring connections. Adjust TS and DS settings. Check cooling delay (PT) parameter. Ensure connected device is functional.

Problem	Possible Cause	Solution
Inaccurate temperature reading	Sensor placement, calibration error, damaged sensor.	Relocate sensor to a representative area. Perform temperature calibration (CA). Replace sensor if damaged.
Alarm sounds unexpectedly	Temperature exceeded high/low alarm limits (HA/LA), sensor error.	Check current temperature. Adjust HA/LA settings if necessary. Refer to "HHH"/"LLL" solution if sensor error.

8. Specifications

Specification	Value
Model	ITC-1000
Voltage	12 Volts DC
Display Type	LCD or LED
Product Dimensions	3.93"L x 3.77"W x 1.49"H (10cm x 9.6cm x 3.8cm)
Item Weight	5.6 ounces (0.35 Pounds)
Material	Plastic
Color	Gray



Figure 4: Product dimensions of the Inkbird ITC-1000.

9. Contact and Support

For further assistance, technical support, or warranty inquiries, please contact Inkbird customer service through their official website or the retailer where the product was purchased. Always refer to the specific documentation included with your product for the most accurate and up-to-date information.

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. Privacy details.

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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