

DIGITEN DTC101, DHC101

DIGITEN DTC101 Temperature Controller and DHC101 Humidity Controller User Manual

Models: DTC101 (Temperature Controller), DHC101 (Humidity Controller)

1. INTRODUCTION

Thank you for choosing the DIGITEN DTC101 Temperature Controller and DHC101 Humidity Controller. These devices are designed to provide precise and reliable control over environmental conditions, making them ideal for a variety of applications including home brewing, fermenting, greenhouses, terrariums, and more.

The DTC101 thermostat allows for easy connection with refrigeration and heating equipment to achieve ideal temperature control. The DHC101 humidistat switches between humidification and dehumidification modes automatically to maintain desired humidity levels.

2. PRODUCT FEATURES

- **Ideal Temperature Control (DTC101):** Regulates and maintains temperatures within a control range of -40°F to 248°F (-40°C to 120°C). Includes a reliable sensor probe.
- **Ideal Humidity Control (DHC101):** Regulates and maintains humidity within a control range of 5% to 99% RH. Includes a reliable sensor probe.
- **Plug-and-Play Operation:** Simple 3-button interface for easy setup of temperature and humidity ranges.
- **Convenient Design:** Illuminated LED display for clear readability in various lighting conditions. Designed for wall or hook mounting to keep cords organized.
- **Multifunction Usage:** Suitable for diverse applications such as home brewing, fermenting, greenhouse climate control, terrarium environments, reptile habitats, mushroom cultivation, meat storage, and wine cellars.

3. PACKAGE CONTENTS

Please check the package contents upon receipt to ensure all items are present and undamaged.

- 1 x DIGITEN DTC101 Temperature Controller with Sensor Probe
- 1 x DIGITEN DHC101 Humidity Controller with Sensor Probe
- 1 x User Manual (this document)

4. SAFETY INFORMATION

Read all safety warnings and instructions carefully before using the device. Failure to follow these instructions may result

in electric shock, fire, or serious injury.

- Ensure the power supply voltage matches the device's requirements.
- Do not immerse the controller or sensor probes in water or other liquids unless specifically designed for such use.
- Keep the device away from extreme temperatures, direct sunlight, and corrosive environments.
- Do not attempt to disassemble or modify the device. Refer all servicing to qualified personnel.
- Always unplug the device from the power outlet before cleaning or performing maintenance.
- Use only the original sensor probes provided with the device.

5. PRODUCT OVERVIEW AND COMPONENTS



Figure 5.1: The DIGITEN DTC101 Temperature Controller (left) and DHC101 Humidity Controller (right) shown side-by-side. Both units feature a large digital display, 'SET' button, and up/down arrow buttons for control.



Figure 5.2: The DTC101 Temperature Controller, illustrating its main unit, temperature sensor probe, and power cord with a standard plug. The sensor connects via a small jack on the top right of the unit.



Figure 5.3: The DHC101 Humidity Controller, showing its main unit, humidity sensor probe, and power cord with a standard plug. The humidity sensor is connected via a small jack on the top right.

5.1. Front Panel Layout

- **Digital Display:** Shows current temperature/humidity (PV), set value (SV), and other parameters.
- **SET Button:** Used to enter and confirm parameter settings.
- **Up Arrow Button:** Increases values or navigates through menu options.
- **Down Arrow Button:** Decreases values or navigates through menu options.
- **RUN/STOP Indicators:** LEDs indicating the operational status of the device.

5.2. Connections

- **Power Cord:** Connects the controller to a standard electrical outlet.
- **Output Sockets:** Two integrated sockets for connecting heating/cooling devices (DTC101) or humidifying/dehumidifying devices (DHC101).
- **Sensor Probe Input:** Port for connecting the dedicated temperature or humidity sensor.

6. SETUP AND INSTALLATION

6.1. Initial Setup

1. **Unpack:** Carefully remove the controller and all accessories from the packaging.
2. **Inspect:** Check the device and sensor probe for any visible damage. Do not use if damaged.
3. **Connect Sensor:** Plug the temperature sensor (for DTC101) or humidity sensor (for DHC101) firmly into the designated sensor input port on the top right of the controller.
4. **Placement:** Place the controller in a stable location, away from direct heat sources or excessive moisture. The integrated hook allows for wall mounting.
5. **Position Sensor:** Position the sensor probe in the environment where temperature or humidity needs to be controlled. Ensure it is not obstructed and can accurately read the ambient conditions.

6.2. Power Connection

1. Ensure the controller's output sockets are not connected to any devices yet.
2. Plug the controller's power cord into a standard electrical outlet (100-240V AC, 50/60Hz). The display will illuminate.
3. Once the controller is powered on, the display will show the current measured temperature (DTC101) or humidity (DHC101).

6.3. Connecting Appliances

1. For DTC101: Plug your heating device into one output socket and your cooling device into the other. Ensure the devices are compatible with the controller's maximum load (e.g., 10A/1200W).
2. For DHC101: Plug your humidifying device into one output socket and your dehumidifying device into the other. Ensure compatibility with the controller's maximum load.
3. The controller will automatically switch power to these sockets based on your set parameters.

7. OPERATING INSTRUCTIONS

7.1. Setting Temperature (DTC101)

1. **View Current Settings:** Press the **SET** button once briefly. The display will show the current Set Value (SV) for temperature.
2. **Enter Setting Mode:** Press and hold the **SET** button for approximately 3 seconds until the SV value starts flashing.
3. **Adjust Set Value:** Use the **Up** or **Down** arrow buttons to adjust the desired temperature set point.
4. **Confirm Setting:** Press the **SET** button again to confirm and save the new set point. The display will return to showing the current temperature.
5. **Temperature Calibration (Optional):** If calibration is needed, consult the full manual for advanced settings.

7.2. Setting Humidity (DHC101)

1. **View Current Settings:** Press the **SET** button once briefly. The display will show the current Set Value (SV) for humidity.
2. **Enter Setting Mode:** Press and hold the **SET** button for approximately 3 seconds until the SV value starts flashing.
3. **Adjust Set Value:** Use the **Up** or **Down** arrow buttons to adjust the desired humidity set point.
4. **Confirm Setting:** Press the **SET** button again to confirm and save the new set point. The display will return to showing the current humidity.
5. **Humidity Calibration (Optional):** If calibration is needed, consult the full manual for advanced settings.

7.3. Operating Modes (DTC101 & DHC101)

The controllers automatically switch between heating/cooling or humidifying/dehumidifying modes based on the set point and the measured value. For example, if the measured temperature is below the set point, the DTC101 will activate the heating output.



Reptiles Breeding



Cured Meat Storage



Greenhouse



Cigar Storage

Multiple Purpose



Figure 7.1: The DTC101 Temperature Controller monitoring and controlling the temperature of an aquarium. The sensor probe is submerged in the water, and the controller is mounted nearby.



Figure 7.2: The DHC101 Humidity Controller maintaining optimal humidity levels for cigars in a humidor. The controller is positioned outside, with its sensor probe placed inside the humidor.

8. APPLICATIONS AND USAGE SCENARIOS

The DIGITEN DTC101 and DHC101 controllers are versatile tools for environmental control. Here are some common applications:

- **Home Brewing & Fermenting:** Maintain precise temperatures for yeast activity.
- **Greenhouses:** Regulate temperature and humidity for optimal plant growth.
- **Terrariums & Reptile Habitats:** Create stable and appropriate environments for exotic pets.
- **Mushroom Cultivation:** Control temperature and humidity for successful mushroom growth.
- **Meat Storage & Curing:** Ensure proper conditions for food preservation.
- **Wine Cellars & Cigar Humidors:** Maintain ideal temperature and humidity for delicate items.



Figure 8.1: The DTC101 Temperature Controller shown alongside images depicting its diverse applications, including reptile breeding, cured meat storage, greenhouse climate control, and cigar storage.



Figure 8.2: The DHC101 Humidity Controller displayed with examples of its use in mushroom cultivation, greenhouse environments, and reptile habitats, highlighting its versatility.

9. MAINTENANCE

Regular maintenance ensures the longevity and accurate operation of your DIGITEN controllers.

- **Cleaning:** Disconnect power before cleaning. Wipe the controller's surface with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Sensor Care:** Keep the sensor probe clean and free from dust or debris. For temperature sensors, ensure good contact with the medium being measured. For humidity sensors, avoid direct water splashes.
- **Cable Inspection:** Periodically check power cords and sensor cables for any signs of wear, cuts, or damage. Replace if necessary.
- **Storage:** If storing the device for an extended period, disconnect it from power, clean it, and store it in a cool, dry place.

10. TROUBLESHOOTING

If you encounter issues with your DIGITEN controller, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Display is blank.	No power supply.	Check if the power cord is securely plugged into a live outlet.
Inaccurate readings.	Sensor probe is dirty, damaged, or improperly placed.	Clean the sensor. Ensure it is correctly connected and positioned to accurately measure the environment. Consider calibration if available.
Output not activating.	Set point not met; device connected to wrong output socket; appliance malfunction.	Verify set point and differential. Ensure heating/cooling (DTC101) or humidifying/dehumidifying (DHC101) devices are plugged into the correct sockets. Test the connected appliance independently.
Buttons unresponsive.	Temporary software glitch.	Unplug the controller, wait 10 seconds, then plug it back in to reset.

If the problem persists after trying these solutions, please contact DIGITEN customer support for further assistance.

11. SPECIFICATIONS

11.1. DIGITEN DTC101 Temperature Controller

- **Temperature Control Range:** -40°F to 248°F (-40°C to 120°C)
- **Temperature Accuracy:** $\pm 1^{\circ}\text{F}$ / $\pm 0.5^{\circ}\text{C}$
- **Power Supply:** 100-240V AC, 50/60Hz
- **Max Load:** 10A / 1200W
- **Sensor Type:** NTC Sensor
- **Output:** 2 x AC outlets (Heating/Cooling)

11.2. DIGITEN DHC101 Humidity Controller

- **Humidity Control Range:** 5% to 99% RH
- **Humidity Accuracy:** $\pm 3\%$ RH
- **Power Supply:** 100-240V AC, 50/60Hz
- **Max Load:** 10A / 1200W
- **Sensor Type:** Humidity Sensor
- **Output:** 2 x AC outlets (Humidifying/Dehumidifying)

12. WARRANTY AND SUPPORT

DIGITEN products are designed for reliability and performance. This product comes with a standard manufacturer's warranty against defects in materials and workmanship. Please refer to the warranty card included in your product packaging for specific terms and conditions, or visit the official DIGITEN website for the most up-to-date warranty information.

For technical support, troubleshooting assistance, or warranty claims, please contact DIGITEN customer service through the contact information provided on their official website or through your purchase platform.

