

Pymeter PY-20TH-24

Pymeter PY-20TH-24 Humidity and Temperature Controller Instruction Manual

1. INTRODUCTION

The Pymeter PY-20TH-24 is a versatile digital humidity and temperature controller designed for precise environmental management. This device allows users to control both heating/cooling and humidifying/dehumidifying equipment simultaneously, making it ideal for applications such as mushroom cultivation, greenhouses, reptile enclosures, and other environments requiring stable climate conditions. This manual provides detailed instructions for setup, operation, programming, and maintenance to ensure optimal performance and longevity of your controller.

2. PRODUCT FEATURES

- Dual control for both humidity and temperature.
- Independent control for two output relays (OUT1 and OUT2).
- Clear digital display for current and set values.
- Wide measurement and control range.
- Calibration function for temperature and humidity.
- Delay protection for compressor control.

3. PACKAGE CONTENTS

- Pymeter PY-20TH-24 Controller Unit
- External Temperature and Humidity Probe
- Instruction Manual (this document)

4. DEVICE OVERVIEW

Familiarize yourself with the components of your Pymeter controller.



Figure 4.1: Front view of the Pymeter PY-20TH-24 controller, showing the digital display and control buttons (SET, SAV, Up, Down).



Figure 4.2: The two independently controlled power outlets, labeled OUT1 and OUT2, located on the side of the controller.



Figure 4.3: The external probe, which measures both temperature and humidity in the environment.



Figure 4.4: Rear view of the controller, displaying electrical specifications and compliance markings (CE, FCC, RoHS).

5. SETUP INSTRUCTIONS

1. **Unpack the Controller:** Carefully remove the Pymeter PY-20TH-24 controller and its accessories from the packaging. Inspect for any damage.
2. **Connect the Probe:** Insert the external temperature and humidity probe into the designated port on the controller. Ensure a secure connection.
3. **Position the Probe:** Place the probe in the environment where you wish to monitor and control temperature and humidity. Ensure it is not directly exposed to water spray or extreme airflow, which could affect readings.
4. **Connect Equipment:** Plug your humidifier or heating device into OUT1. Plug your dehumidifier or cooling device into OUT2. Ensure the equipment's power requirements do not exceed the controller's maximum output (10A Max).
5. **Power On:** Plug the controller's main power cord into a standard electrical outlet. The display will illuminate, showing current temperature and humidity readings.

6. OPERATING INSTRUCTIONS

The controller's display shows two main values: PV (Process Value) and SV (Set Value).

- **PV:** Displays the current measured temperature and humidity from the probe.
- **SV:** Displays the target set temperature and humidity values.



Figure 6.1: The digital display showing current temperature (PV) and humidity (SV) readings.

Basic Operation

Upon powering on, the controller will immediately begin displaying the current temperature and humidity. The OUT1 and OUT2 indicators will light up when their respective outlets are active, based on your programmed settings.

7. PROGRAMMING SETTINGS

The controller features several programmable parameters to customize its operation. Use the **SET** button to enter programming mode, and the **Up** and **Down** arrows to adjust values. Press **SAV** to save changes and exit.

7.1. Setting Temperature Parameters

1. Press and hold **SET** for 3 seconds to enter the parameter setting menu.
2. Use **Up** or **Down** to navigate through parameters (e.g., HC, D, CA, PT).
3. Press **SET** again to select a parameter.
4. Use **Up** or **Down** to adjust the value.
5. Press **SAV** to confirm the value and move to the next parameter, or press and hold **SAV** for 3 seconds to save all changes and exit.

Common Temperature Parameters:

- **HC (Heating/Cooling Mode):** Set to 'H' for heating control (OUT1 activates when temp is below set point) or 'C'

for cooling control (OUT1 activates when temp is above set point).

- **D (Temperature Differential):** The difference between the set point and the activation point. Prevents rapid cycling.
- **CA (Temperature Calibration):** Adjusts the temperature reading if it deviates from a known accurate thermometer.
- **PT (Delay Protection Time):** Sets a delay before the output activates, useful for compressors.

7.2. Setting Humidity Parameters

The process for setting humidity parameters is similar to temperature. These settings typically apply to OUT2.

Common Humidity Parameters:

- **HC (Humidifying/Dehumidifying Mode):** Set to 'H' for humidifying control (OUT2 activates when humidity is below set point) or 'C' for dehumidifying control (OUT2 activates when humidity is above set point).
- **D (Humidity Differential):** The difference between the set point and the activation point.
- **CA (Humidity Calibration):** Adjusts the humidity reading if it deviates from a known accurate hygrometer.

8. CALIBRATION

If you suspect the temperature or humidity readings are inaccurate, you can calibrate the sensor. This requires a reliable reference thermometer and hygrometer.

1. Place the controller's probe next to your reference instrument in a stable environment.
2. Allow sufficient time for both readings to stabilize.
3. Enter the parameter setting menu (hold **SET** for 3 seconds).
4. Navigate to the **CA** (Calibration) parameter for either temperature or humidity.
5. Adjust the **CA** value using the **Up** or **Down** buttons until the controller's reading matches your reference instrument.
6. Save the changes by holding **SAV** for 3 seconds.

9. MAINTENANCE

- **Cleaning:** Wipe the controller unit with a soft, dry cloth. Do not use abrasive cleaners or allow water to enter the unit.
- **Probe Care:** Keep the probe clean and free from debris. Avoid bending or damaging the probe cable. If the probe becomes wet, allow it to dry completely before use.
- **Storage:** When not in use, store the controller in a dry, cool place away from direct sunlight.

10. TROUBLESHOOTING

- **Controller not powering on:** Ensure the power cord is securely plugged into a live outlet. Check the power source.
- **Display shows 'HHH' or 'LLL':** This indicates the probe is disconnected, damaged, or the measured value is outside the sensor's range. Check the probe connection and its condition.
- **Equipment not turning on/off:** Verify that the equipment is correctly plugged into OUT1 or OUT2. Check the programmed temperature/humidity set points and differentials. Ensure the controller is in the correct heating/cooling or humidifying/dehumidifying mode.
- **Inaccurate readings:** Perform a calibration as described in Section 8. Ensure the probe is placed correctly and not affected by external factors.
- **Difficulty programming:** Refer to Section 7 and follow the steps carefully. Practice navigating the menu to become

familiar with the button functions.

11. SPECIFICATIONS

Parameter	Value
Model Number	PY-20TH-24
Input Voltage	85-250VAC, 50/60Hz
Output Voltage	85-250VAC, 50/60Hz
Current	10A Max
Temperature Range	-50°C to 99°C (-58°F to 210°F)
Humidity Range	0% to 99% RH
Package Dimensions	10.31 x 4.13 x 2.24 inches
Item Weight	1.01 pounds
Batteries Required	No

12. SAFETY INFORMATION

- Do not operate the controller with wet hands or in excessively damp conditions.
- Ensure all connected equipment is within the specified current limits of the controller.
- Do not disassemble or modify the controller. Refer all servicing to qualified personnel.
- Keep the device out of reach of children.
- Always unplug the controller from the power outlet before performing any maintenance or connecting/disconnecting equipment.

13. PRODUCT VIDEOS

Watch these official videos for additional guidance on using your Pymeter controller.

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Video 13.1: Product Overview and Key Features (Duration: 2:15). This video provides a general introduction to the Pymeter controller and highlights its main functionalities.

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Video 13.2: Basic Setup Guide (Duration: 0:57). This video demonstrates the initial steps for setting up the controller, including probe connection and power-on.

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Video 13.3: Feature Demonstration (Duration: 0:55). This video showcases some of the controller's features in action, providing a visual guide to its capabilities.

14. WARRANTY AND SUPPORT

Pymeter products are designed for reliability and performance. For specific warranty information, please refer to the documentation included with your purchase or visit the official Pymeter website. For technical support, troubleshooting assistance, or inquiries about replacement parts, please contact Pymeter customer service through their official channels.

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

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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.

Submit question