Xetron STC-1000ProTH

Xetron STC-1000ProTH Digital Temperature and Humidity Controller

Instruction Manual

1. Introduction

The Xetron STC-1000ProTH is a pre-wired digital temperature and humidity controller designed for precise environmental management. This device allows simultaneous or independent control of both temperature (heating or cooling) and humidity (humidification or dehumidification) within a specified range. It is suitable for various applications including seed fermentation, reptile habitats, incubators, greenhouses, and more.

This manual provides detailed instructions for the safe and effective use of your STC-1000ProTH controller. Please read it thoroughly before operation.

2. Safety Information

- Ensure the power supply voltage matches the controller's specifications (110V 10A).
- Do not immerse the controller or sensor probe in water or expose to excessive moisture.
- Always unplug the controller from the power outlet before cleaning or performing any maintenance.
- Do not exceed the maximum load capacity of 10A for the outlets.
- Keep out of reach of children.
- The controller is made of anti-flame ABS material for enhanced safety.

3. Product Overview and Features

The Xetron STC-1000ProTH features a large LCD screen for clear display of current and set values, along with intuitive 3-button operation for easy programming.

Figure 3.1: Xetron STC-1000ProTH Controller, sensor, and power outlets.

Key Features:

- **Dual Control:** Manages both temperature and humidity simultaneously or independently.
- **Wide Range & High Accuracy:** Temperature control from 23℉ to 158℉ (-5℃ to 70℃) with ±1℉/±0.5℃ accuracy. Humidity control from 5%RH to 99%RH with ±5%RH accuracy.
- **Pre-Wired Design:** Includes two pre-wired outlets (Work1 for temperature, Work2 for humidity) and a 2.5-inch LCD screen for plug-and-play operation.
- **Customizable Parameters:** Supports settings for ℃/℉, temperature & humidity calibration, high/low alarm values, start-up delay, and protection time.
- **Dual Alarm System:** Visual (bell icon) and audible (buzzer) alerts activate if temperature or humidity exceeds set limits.
- **Compressor Delay Protection:** Extends the service life of connected equipment by preventing rapid cycling.

- **Durable Construction:** Made from anti-flame ABS material, compliant with CE and FCC standards.

Figure 3.2: The controller supports both humidification/dehumidification and heating/cooling functions.

Figure 3.3: Visual and audible alerts, along with compressor delay protection.

4. Package Contents

Verify that all items are present in the package:

- 1x Xetron STC-1000ProTH Temperature and Humidity Controller
- 1x User Manual (this document)
- 1x Temperature and Humidity Sensor Probe

5. Setup Guide

5.1 Connecting the Controller

1. Plug the main power cord of the Xetron STC-1000ProTH controller into a standard 110V AC power outlet.
2. Connect the temperature and humidity sensor probe to the designated port on the controller. Ensure it is securely inserted.
3. Identify the 'WORK1' outlet for temperature control and 'WORK2' for humidity control.

4. Plug your heating or cooling device into the 'WORK1' outlet.
5. Plug your humidifying or dehumidifying device into the 'WORK2' outlet.

Figure 5.1: Connection points for the sensor and controlled devices.

Figure 5.2: Features including the large LCD screen, 2m NTC sensor, pre-wired sockets, and safe plug.

6. Operating Instructions

6.1 Understanding the Display

The large LCD screen displays key information:

- **TPV:** Temperature Present Value (current temperature).
- **HPV:** Humidity Present Value (current humidity).
- **TSV:** Temperature Set Value (desired temperature).
- **HSV:** Humidity Set Value (desired humidity).

The display also shows icons for heating, cooling, humidifying, dehumidifying, and alarms.

Figure 6.1: Screen display with value definitions.

6.2 Basic Parameter Settings

To enter the setting mode, press and hold the **SET** button for 3 seconds until the display beeps or flashes. Use the **UP** and **DOWN** buttons to navigate through parameters. Press **SET** once to select a parameter, use **UP**/**DOWN** to adjust the value, then press **SET** again to confirm. Hold **SET** for 3 seconds to exit setting mode.

Example: Setting Humidity Range (e.g., 55% to 65% RH)

1. Press and hold **SET** for 3 seconds to enter setting mode.
2. Use **UP**/**DOWN** to navigate to the 'HS' (Humidity Start) setting.
3. Press **SET** once, then use **UP**/**DOWN** to set the value to '60' (for 60% RH). Press **SET** to confirm.
4. Navigate to the 'HD' (Humidity Differential) setting.
5. Press **SET** once, then use **UP**/**DOWN** to set the value to '5' (for 5% RH differential). Press **SET** to confirm. This means the humidity will turn on at 55% (60-5) and turn off at 60%.
6. Hold **SET** for 3 seconds to exit setting mode.

Figure 6.2: Example of setting humidity parameters (HS and HD).

6.3 Alarm Settings

The controller features dual alarms for both temperature and humidity. You can set high and low alarm limits. If the measured value goes outside these limits, the controller will sound a buzzer and display a bell icon.

Figure 6.3: Audible and visual alarm indicators.

6.4 Compressor Delay Protection

This feature prevents rapid cycling of connected compressors (e.g., in refrigerators or dehumidifiers), which can extend their lifespan. You can set a delay time in the parameter settings.

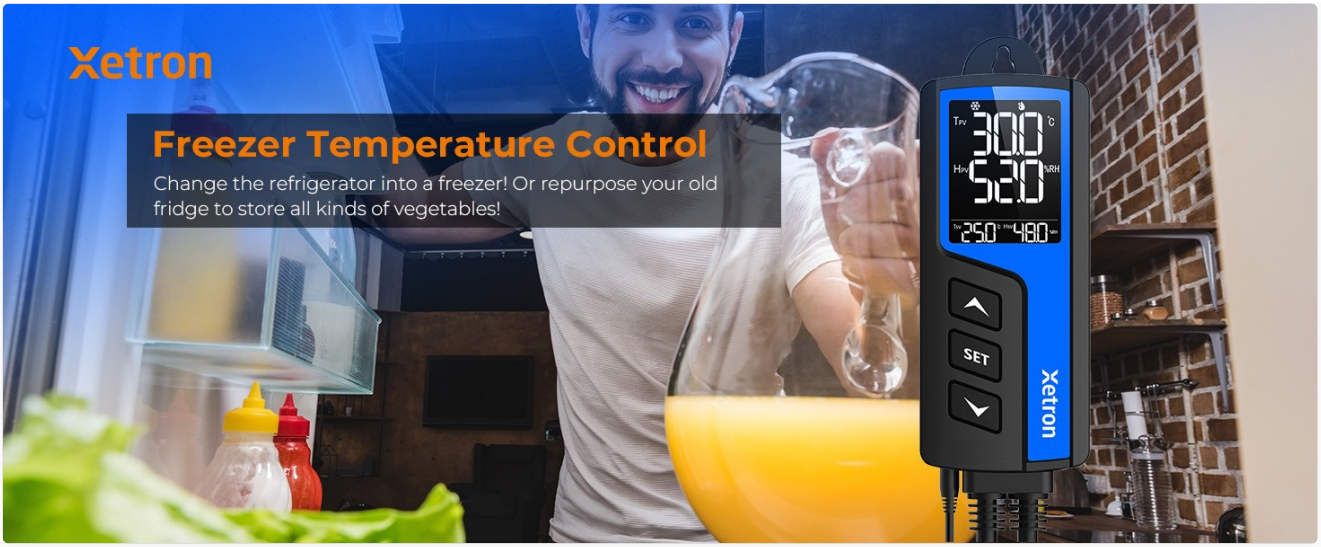


Figure 6.4: Compressor delay protection mechanism.

6.5 Screen Display Options

The controller allows you to set the screen display to always remain ON. Refer to the manual's parameter list for the specific setting (e.g., 'BL' to 'O').

Figure 6.5: Option to keep the screen display continuously ON.

7. Typical Applications

The Xetron STC-1000ProTH controller is versatile and can be used in various environments requiring precise temperature and humidity control:

- **Reptile Habitats:** Maintain optimal temperature and humidity levels for the health and well-being of reptiles.
- **Seed Germination/Cultivation:** Create ideal conditions for plant growth and seed starting in greenhouses or grow tents.
- **Fermentation:** Control temperature for consistent results in home brewing, yogurt making, or other fermentation processes.
- **Incubators:** Regulate temperature and humidity for successful egg incubation.
- **Freezers/Refrigerators:** Convert a standard refrigerator into a freezer or maintain specific storage temperatures.
- **Home Brewing:** Ensure precise temperature control for fermentation.

Figure 7.1: Diverse applications of the Xetron STC-1000ProTH controller.

Figure 7.2: Reptile temperature and humidity control.

Figure 7.3: Seedling temperature and humidity control.

Figure 7.4: Fermentation temperature control.

Figure 7.5: Freezer temperature control.

8. Maintenance

- **Cleaning:** Wipe the controller and sensor probe with a soft, dry cloth. Do not use abrasive cleaners or immerse in liquids.

- **Sensor Care:** Handle the sensor probe carefully. Avoid bending or damaging the cable. Ensure the sensor is free from dust or debris for accurate readings.
- **Storage:** When not in use, store the controller in a cool, dry place away from direct sunlight.

9. Troubleshooting

- **Controller Not Powering On:** Check if the main power plug is securely inserted into a live outlet.
- **Connected Device Not Activating:**
  - Verify that the device is correctly plugged into the 'WORK1' (temperature) or 'WORK2' (humidity) outlet.
  - Ensure the device itself is functional by plugging it directly into a wall outlet.
  - Check your set parameters (TSV, HSV, differentials) to ensure the current conditions should trigger the device.
  - Review alarm settings; if an alarm is active, it might prevent normal operation.
  - Consider the compressor delay protection setting if applicable.
- **Inaccurate Readings:**
  - Ensure the sensor probe is clean and unobstructed.
  - Verify the sensor is properly connected to the controller.
  - Perform a temperature and humidity calibration if you have a reference instrument.
- **Alarm Constantly Triggering:** Adjust the high and low alarm limits to suit your desired operating range.

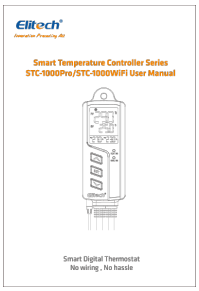
10. Technical Specifications

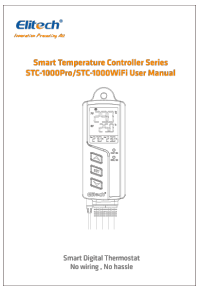
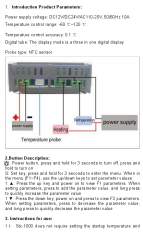
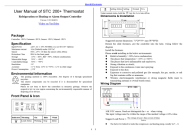
Specification	Value
Model Number	STC-1000Pro TH
Input Voltage	110V AC
Max Load Current	10A
Temperature Control Range	23℉ ~ 158℉ (-5℃ ~ 70℃)
Temperature Accuracy	±1℉ / ±0.5℃
Humidity Control Range	5%RH ~ 99%RH
Humidity Accuracy	±5%RH
Display Type	LCD
Material	Anti-flame ABS Plastic
Product Dimensions	7.87 x 5.91 x 2.36 inches (Controller: 2.36"L x 1.2"W x 5.5"H)
Item Weight	14.1 ounces (0.4 Kilograms)
Included Components	Controller, User Manual, T&H Sensor Probe

11. Warranty and Customer Support

Xetron provides a one-year warranty for this product, covering manufacturing defects and ensuring continuous customer assistance. For technical support, troubleshooting, or warranty claims, please contact Xetron customer service through the retailer's platform or visit the official Xetron website for contact information.

Related Documents - STC-1000ProTH

	Xetron STC-1000Pro TH Smart Temperature Controller Series User Manual Comprehensive user manual for the Xetron STC-1000Pro TH Smart Temperature Controller Series, detailing its features, operation, installation, and technical specifications for precise temperature and humidity control.
	Elitech STC-1000Pro/STC-1000WiFi Smart Temperature Controller User Manual | Features, Operation, Setup User manual for Elitech STC-1000Pro and STC-1000WiFi smart digital temperature controllers. Learn about features, operation, parameter settings, installation, troubleshooting, and app connectivity for precise temperature management.
	STC-3028 Dual LED Temperature Humidity Controller Specifications, wiring, and settings for the STC-3028 AC 110-220V 10A Dual LED Temperature and Humidity Controller. Features include a wide measurement range, high accuracy, and relay outputs for heating and cooling applications.

	Elitech STC-1000Pro/STC-1000WiFi Smart Temperature Controller User Manual User manual for the Elitech STC-1000Pro and STC-1000WiFi smart digital temperature controllers. Covers features, display, operation, parameter settings, installation, error codes, and app integration for precise temperature management.
	STC-1000 Temperature Controller User Manual and Specifications Detailed user manual and technical specifications for the STC-1000 temperature controller, covering product parameters, button functions, usage instructions, and control examples for heating and cooling applications.
	STC-200+ Thermostat User Manual: Refrigeration, Heating, and Alarm Control Comprehensive user manual for the STC-200+ thermostat, detailing its specifications, installation, configuration, and operation for refrigeration, heating, and alarm output control. Learn how to set temperature ranges, understand function codes, and troubleshoot common errors.