Saved from manuals.plus.
Open the live page for links to other documents and user manuals.

Aideepen STC-3028

Aideepen STC-3028 Digital Temperature and Humidity Controller

Model: STC-3028 | Brand: Aideepen

1. Introduction

The Aideepen STC-3028 is a versatile digital temperature and humidity controller designed for precise environmental management. This device features a dual display for simultaneous monitoring of temperature and humidity, and is equipped with a 1M AM2120 waterproof sensor for accurate readings. It operates on AC110-220V and is suitable for a wide range of applications, including aquariums, grow tents, water heaters, freezers, and more, where maintaining specific temperature and humidity levels is critical.
This manual provides detailed instructions for the installation, operation, and maintenance of your STC-3028 controller to ensure optimal performance and longevity.

2. Key Features

- **Supply Voltage:** AC110-220V.
- **Sensor:** Includes a 1M AM2120 waterproof sensor for reliable measurements.
- **Temperature Range:** -20 °C to +80 °C.
- **Humidity Range:** 00%RH to +100%RH.
- **Dual Display:** Clear digital display showing both temperature and humidity readings.
- **Wide Application:** Ideal for various sensor control boxes, water heaters, freezers, fans, and environmental control systems.
- **Optimal Environment Control:** Helps maintain stable temperature and humidity, crucial for sensitive environments like aquariums or plant cultivation.



Figure 2.1: STC-3028 controller highlighting AC110V/AC220V compatibility.

3. Specifications

Attribute	Value
Model Number	STC-3028 (Item model number: 7X13336)
Supply Voltage	AC110-220V
Temperature Range	-20 °C ~ +80 °C
Humidity Range	00%RH ~ +100%RH
Sensor Type	AM2120 Waterproof Sensor (1 meter length)
Display Type	Digital Dual Display

Package Dimensions	4.57 x 3.46 x 2.13 inches
Item Weight	4.9 ounces
Manufacturer	Aideepen



Figure 3.1: Physical dimensions and sensor length of the STC-3028 controller.

4. Package Contents

Upon opening the package, please verify that all components are present and undamaged:

- 1 x Aideepen STC-3028 Digital Temperature and Humidity Controller
- 1 x AM2120 Waterproof Sensor (1 meter cable length)



Figure 4.1: The STC-3028 controller unit and its accompanying AM2120 waterproof sensor.

5. Safety Information

Please read and understand all safety instructions before installing or operating the STC-3028 controller. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- **Electrical Safety:** This device operates on AC110-220V. All wiring should be performed by a qualified electrician or a knowledgeable individual with proper safety precautions.
- **Power Disconnection:** Always disconnect power to the circuit before performing any wiring, installation, or maintenance.
- **Proper Wiring:** Ensure all connections are secure and correctly wired according to the provided diagram. Strictly distinguish the interface of the relay sensor and power.
- **Sensor Placement:** Ensure the sensor down-lead and power wire are kept a proper distance apart to avoid interference.
- **Environment:** Do not expose the controller to excessive moisture, dust, or extreme temperatures outside its specified operating range.
- **Ventilation:** Ensure adequate ventilation around the unit for effective heat dissipation.

6. Installation and Wiring

6.1 Physical Installation

The STC-3028 is designed for panel mounting. Ensure you have a cutout of 71mm (L) x 29mm (W) for mounting. The front panel size is 75mm (L) x 34.5mm (W).

6.2 Wiring Diagram

The controller has 10 terminals for power input, sensor connection, and relay outputs for temperature and humidity control. Refer to the wiring diagram below for correct connections.



Figure 6.1: Detailed wiring diagram for the STC-3028 controller.

Wiring Instructions:

1. **Power Supply (Terminals 1 & 2):** Connect your AC110-220V power supply to terminals 1 (Live/L) and 2 (Neutral/N).
2. **Sensor Connection (Terminals 3 & 4):** Connect the AM2120 waterproof sensor to terminals 3 and 4. Ensure correct polarity if specified by the sensor.
3. **Temperature Control Output (Terminals 5 & 6):** These are the relay contacts for temperature control. Connect your heating or cooling device to these terminals. The relay is rated for 10A/220VAC.

4. **Humidity Control Output (Terminals 7 & 8):** These are the relay contacts for humidity control. Connect your humidifying or dehumidifying device to these terminals. The relay is rated for 10A/220VAC.
5. **Common Power for Load (Terminals 9 & 10):** These terminals are typically used to provide power to the controlled devices (load) if they share the same power source as the controller. For independent power supply to the load, refer to specific application wiring.

Important Note: Ensure that the power supply to the controller and the power to the controlled devices (load) are correctly isolated or shared as per your application's requirements. Incorrect wiring can damage the unit or connected devices.

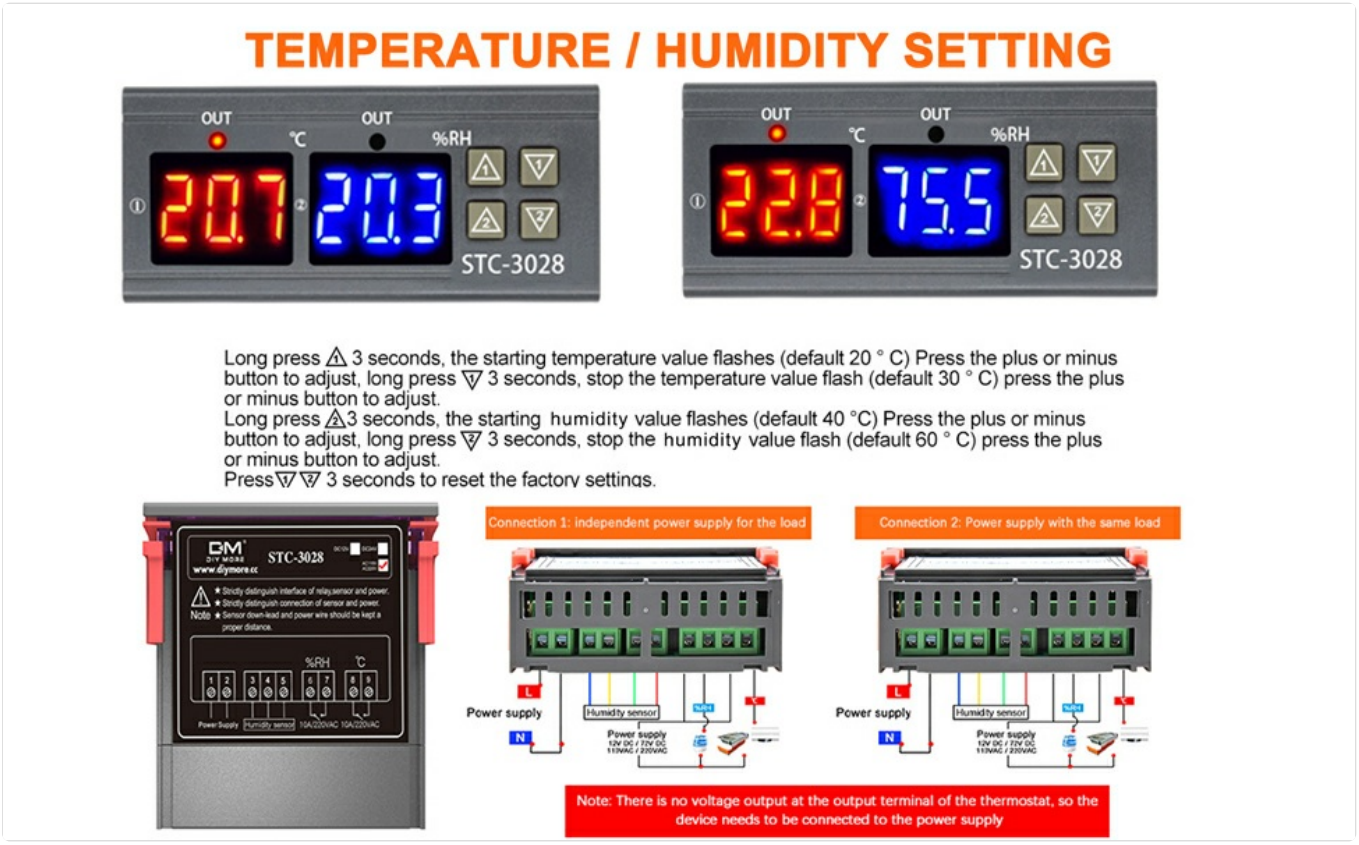

Figure 6.2: Internal components and features of the STC-3028, including precision components and sealed terminal blocks.

7. Operation and Settings

7.1 Display Overview

The STC-3028 features a dual digital display. The left display (red) shows the current temperature in Celsius (°C), and the right display (blue) shows the current relative humidity (%RH).



Figure 7.1: STC-3028 display showing current readings and setting options.

7.2 Setting Temperature Parameters

The controller allows you to set a starting temperature and a stopping temperature for control.

- **Setting Starting Temperature:** Long press the ▲ (up arrow) button for approximately 3 seconds. The starting temperature value will flash. Use the ▲ (up) or ▼ (down) buttons to adjust the desired starting temperature. Press any other button or wait 3 seconds for the setting to save.
- **Setting Stopping Temperature:** Long press the ▼ (down arrow) button for approximately 3 seconds. The stopping temperature value will flash. Use the ▲ (up) or ▼ (down) buttons to adjust the desired stopping temperature. Press any other button or wait 3 seconds for the setting to save.

Temperature Control Logic:

- If *Starting Temperature* < *Stopping Temperature*: The controller operates in **Heating Mode**. The output will turn on when the temperature drops below the starting temperature and turn off when it reaches the stopping temperature.
- If *Starting Temperature* > *Stopping Temperature*: The controller operates in **Cooling Mode**. The output will turn on when the temperature rises above the starting temperature and turn off when it drops to the stopping temperature.

7.3 Setting Humidity Parameters

Similar to temperature, you can set starting and stopping humidity levels.

- **Setting Starting Humidity:** Long press the ▲ (up arrow) button (for humidity, usually labeled with a humidity icon or 'RH') for approximately 3 seconds. Adjust with ▲ or ▼.
- **Setting Stopping Humidity:** Long press the ▼ (down arrow) button (for humidity) for approximately 3 seconds. Adjust with ▲ or ▼.

Humidity Control Logic:

- If *Starting Humidity* < *Stopping Humidity*: The controller operates in **Humidification Mode**. The output will turn on when humidity drops below the starting humidity and turn off when it reaches the stopping humidity.
- If *Starting Humidity* > *Stopping Humidity*: The controller operates in **Dehumidification Mode**. The output will turn on when humidity rises above the starting humidity and turn off when it drops to the stopping humidity.

7.4 Resetting Factory Settings

To reset the controller to its factory default settings, press both the ▲ (up) and ▼ (down) buttons simultaneously for approximately 3 seconds.

8. Maintenance

Regular maintenance ensures the longevity and accuracy of your STC-3028 controller.

- **Cleaning:** Periodically wipe the controller's surface with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure no liquid enters the unit.
- **Sensor Care:** Keep the AM2120 sensor clean and free from dust or debris. While it is waterproof, avoid prolonged submersion unless necessary for your application and ensure connections are sealed.
- **Connections:** Periodically check all wiring connections to ensure they remain secure and free from corrosion.
- **Ventilation:** Ensure the cooling grids on the side of the unit are not obstructed to allow for effective heat dissipation.



Figure 8.1: The STC-3028's cooling grid design for efficient heat dissipation.

9. Troubleshooting

This section addresses common issues you might encounter with your STC-3028 controller.

Problem	Possible Cause	Solution
Controller does not power on.	No power supply; incorrect wiring; faulty power source.	Check power connections (Terminals 1 & 2). Ensure power source is active. Verify wiring against diagram.

Temperature/Humidity readings are inaccurate or "OFF".	Sensor not connected properly; faulty sensor; sensor placed in an unsuitable environment.	Check sensor connections (Terminals 3 & 4). Ensure sensor is clean and not damaged. Relocate sensor to a representative area. Consider replacing sensor if readings remain inaccurate.
Relay output (heating/cooling/humidifying/dehumidifying) does not activate.	Incorrect settings; load not connected; faulty relay; power to load not supplied.	Verify temperature/humidity settings are within the desired control range. Check wiring to the load (Terminals 5-8). Ensure the load device is functional and receiving power.
Relay stays on at random times or cycles incorrectly.	Interference; internal fault; incorrect setting.	Ensure sensor and power wires are separated. Reset to factory settings and reconfigure. If problem persists, contact support.
Display shows abnormal characters or is blank.	Power issue; internal fault.	Disconnect and reconnect power. If the issue persists, the unit may be faulty.

10. Warranty and Support

Aideepen products are manufactured to high quality standards. For specific warranty information, please refer to the product packaging or the vendor from whom you purchased the device. If you encounter any issues not covered in this manual or require further assistance, please contact Aideepen customer support through their official channels or the retailer's support service.

For more information and other products, visit the Aideepen Store on Amazon.

© 2023 Aideepen. All rights reserved.
This manual is for informational purposes only. Specifications are subject to change without notice.

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.

Submit question

Open the live page

https://manuals.plus/asin/B07V2FPQ24

More documents and user manuals: **https://manuals.plus/**