

Walfront STC-3028

Walfront STC-3028 Digital Temperature and Humidity Controller User Manual

Model: STC-3028 | Brand: Walfront

PRODUCT OVERVIEW

The Walfront STC-3028 is a microcomputer intelligent digital display thermostat designed for precise temperature and humidity control. It features a dual display for simultaneous temperature and humidity readings and comes with an integrated sensor. This controller is suitable for a wide range of applications requiring automatic switching of refrigeration and heating devices.



Image: Front view of the Walfront STC-3028 controller with its integrated temperature and humidity sensor. The display shows current temperature and humidity readings.

KEY FEATURES

- **Durable Construction:** Features an ABS flame retardant plastic shell for enhanced safety and longevity.
- **Dual Display:** Microcomputer intelligent digital display thermostat with dual display for both temperature and humidity.
- **Wide Range Control:** Offers a wide temperature measuring and controlling range, along with an integrated sensor

for accurate readings.

- **High Accuracy:** Large and clear digital display ensures high accuracy in temperature and humidity measurement and control.
- **Versatile Application:** Ideal for automatic switching of refrigeration and heating devices in various settings, such as seafood machines and cooling water machines.

SPECIFICATIONS

Attribute	Value
Brand	Walfront
Model Number	STC-3028
Power Source	12V (as per current product variant)
Material	ABS+electronic components
Item Weight	5.3 ounces (0.15 Kilograms)
Product Dimensions	5.11 x 4.28 x 3.54 inches
Display Type	Digital
Special Features	Temperature Measuring and Controlling
Usage	Suitable for automatic switching of refrigeration and heating devices such as seafood machines and cooling water machines
UPC	739904722113



Image: Detailed dimensions of the STC-3028 controller and its external sensor, showing measurements in both millimeters and inches.

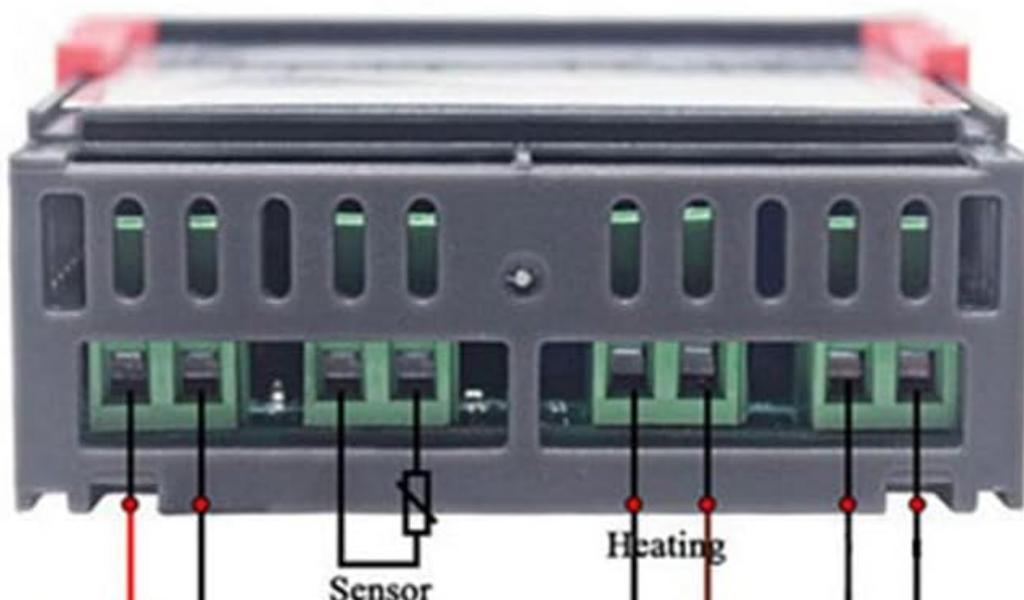
SETUP AND WIRING

Proper wiring is crucial for the safe and effective operation of the STC-3028 controller. Refer to the diagrams below for common wiring configurations.

Wiring Diagrams:

Product wiring diagram

Diagram 1: Load independent power supply



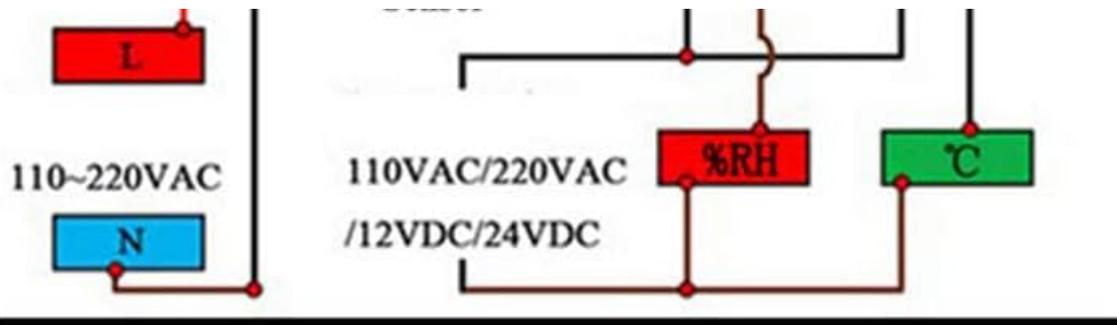


Diagram 2: Same load power supply

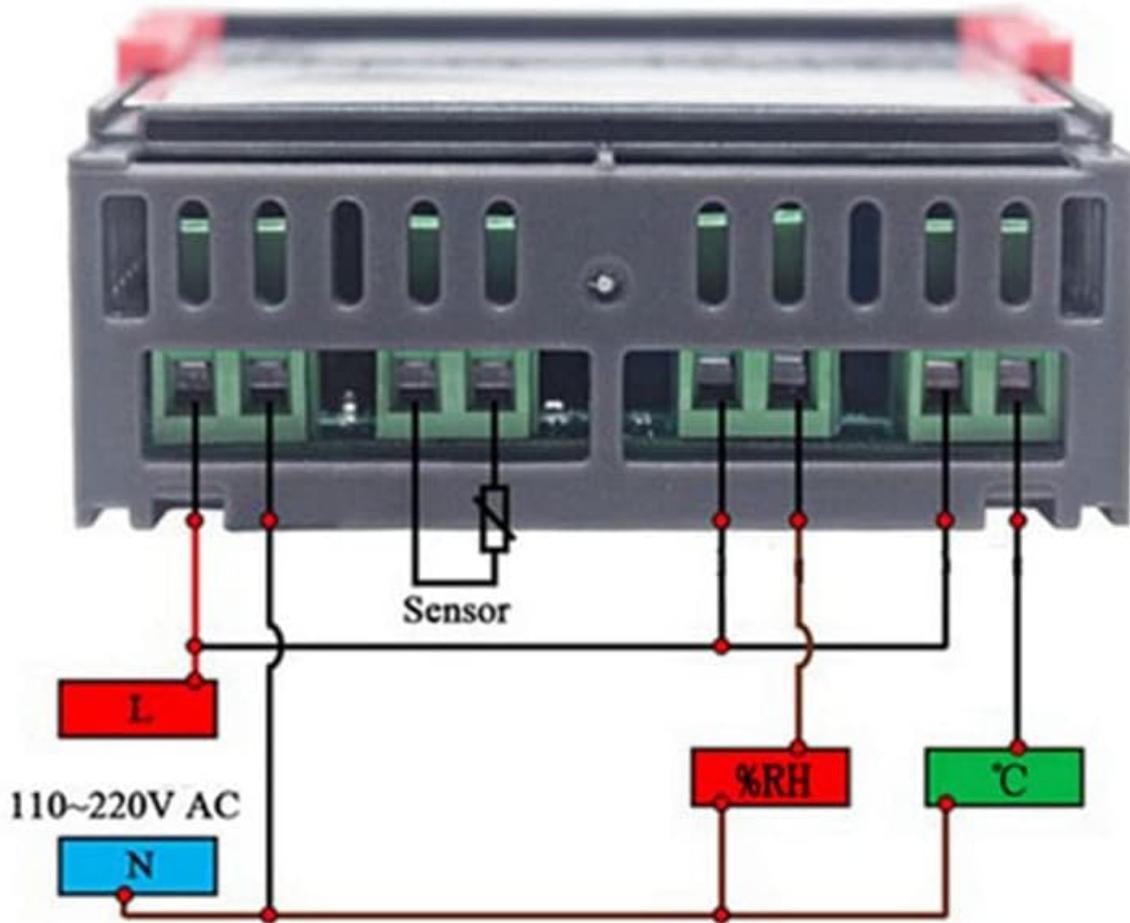


Image: Wiring diagrams for the STC-3028. Diagram 1 shows an independent power supply for the load, while Diagram 2 illustrates a shared power supply for the controller and the load. Connections for power, sensor, heating, and cooling outputs are clearly marked.

Important Note: Ensure all connections are secure and correctly polarized, especially for 12V and 24V models. Consult a qualified electrician if you are unsure about the wiring process.

OPERATING INSTRUCTIONS

The STC-3028 features a user-friendly interface with clear digital displays and intuitive buttons for setting temperature and humidity parameters.

HOW TO SET UP AND USE

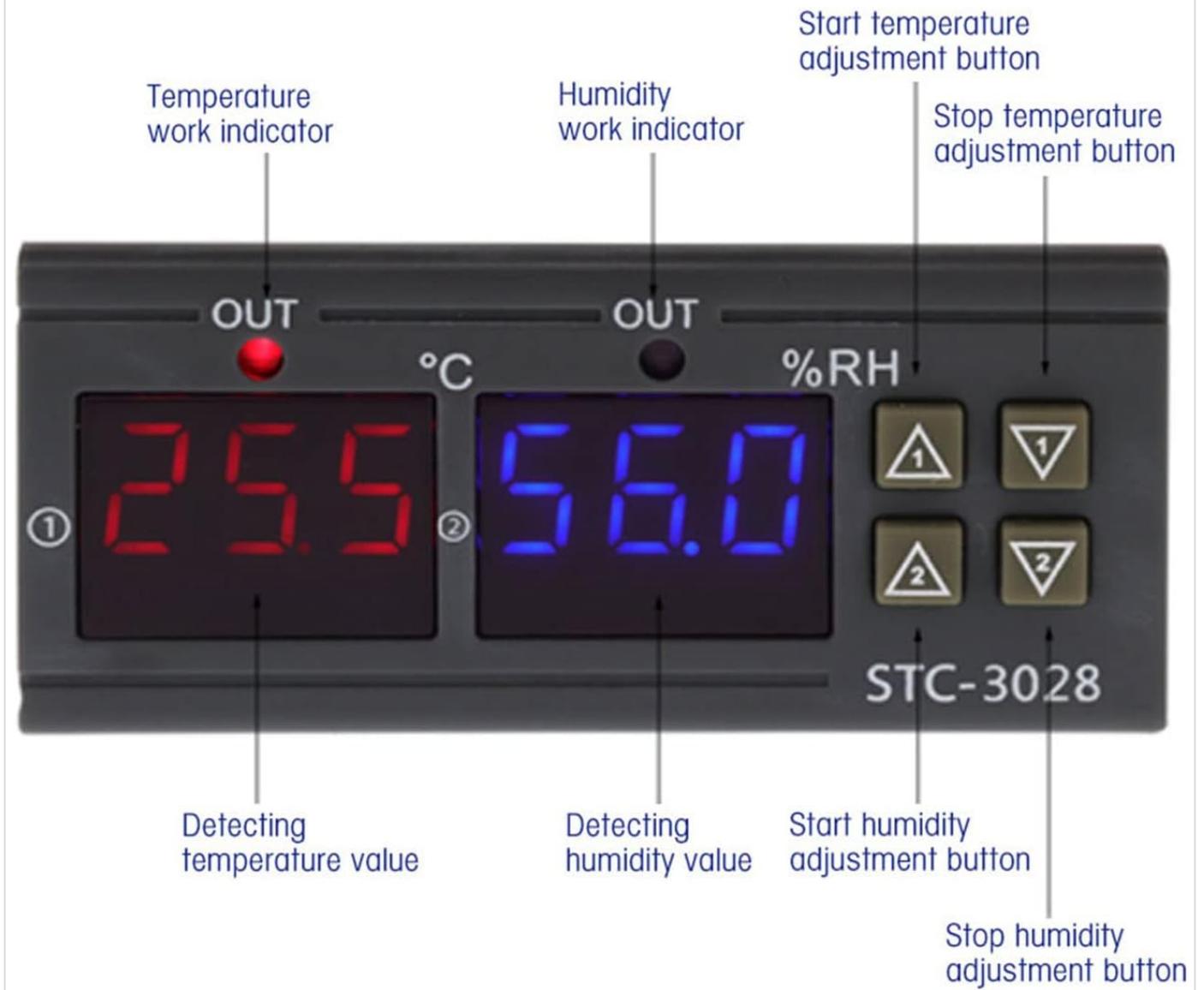


Image: Close-up view of the STC-3028's front panel, labeling the temperature display, humidity display, work indicators, and adjustment buttons for both temperature and humidity settings.

Setting Parameters:

- 1. Initial Display:** The screen initially shows the current temperature and relative humidity (RH%).
- 2. Setting Start Temperature:**
 - Press the **Temperature Up (▲)** button to display the current start temperature.
 - Press and hold the **Temperature Up (▲)** button again until the display blinks. This indicates edit mode.
 - Use the **Temperature Up (▲)** and **Temperature Down (▼)** buttons to adjust the desired start temperature. Holding the button will scroll numbers faster.
- 3. Setting Stop Temperature:**
 - Press the **Temperature Down (▼)** button to display the current stop temperature.
 - Press and hold the **Temperature Down (▼)** button again until the display blinks.
 - Use the **Temperature Up (▲)** and **Temperature Down (▼)** buttons to adjust the desired stop temperature.
 - Wait a few seconds for the device to exit edit mode and save settings.
- 4. Setting Start Relative Humidity (RH%):**

- Press the **Humidity Up (▲)** button to display the current start RH%.
- Press and hold the **Humidity Up (▲)** button again until the display blinks.
- Use the **Humidity Up (▲)** and **Humidity Down (▼)** buttons to adjust the desired start RH%.

5. Setting Stop Relative Humidity (RH%):

- Press the **Humidity Down (▼)** button to display the current stop RH%.
- Press and hold the **Humidity Down (▼)** button again until the display blinks.
- Use the **Humidity Up (▲)** and **Humidity Down (▼)** buttons to adjust the desired stop RH%.
- Wait a few seconds for the device to exit edit mode and save settings.

Control Logic: The controller's action (heating/cooling or humidification/dehumidification) depends on the relationship between the start and stop values.

- If Start Temperature < Stop Temperature: Controls a heater.
- If Start Temperature > Stop Temperature: Controls a cooler/fan.
- Similar logic applies to RH% for humidification or dehumidification.

APPLICATIONS

The Walfront STC-3028 is a versatile device suitable for various environments requiring precise temperature and humidity regulation.

Widely Used

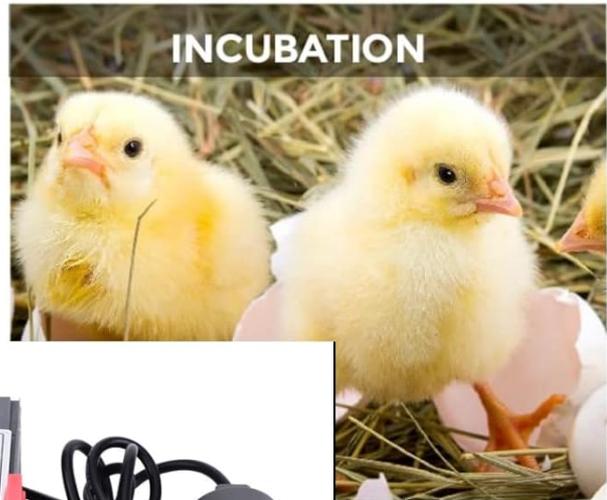


Image: Collage showing diverse applications for the STC-3028, including fermentation, incubation (chickens), reptile habitats, and general DIY temperature/humidity control setups.

- **Incubators:** Maintain stable temperature and humidity for hatching eggs.
- **Greenhouses:** Regulate climate for optimal plant growth.
- **Reptile Habitats:** Ensure appropriate environmental conditions for exotic pets.
- **Fermentation Processes:** Control temperature for brewing, yogurt making, etc.
- **Storage Facilities:** Manage conditions for sensitive goods.
- **DIY Projects:** Integrate into custom climate control systems.



Image: The STC-3028 controller positioned within a greenhouse environment, illustrating its use in agricultural climate control.

MAINTENANCE

To ensure the longevity and accurate performance of your Walfront STC-3028 controller, follow these general maintenance guidelines:

- **Cleaning:** Regularly wipe the unit with a soft, dry cloth. Avoid using abrasive cleaners or solvents.
- **Sensor Care:** Keep the integrated sensor clean and free from dust or debris. Do not immerse the sensor in liquids unless it is specifically designed for such use.
- **Environmental Conditions:** Operate the controller within its specified temperature and humidity ranges. Avoid exposing it to extreme temperatures, direct sunlight, or high moisture environments.
- **Connection Checks:** Periodically inspect all wiring connections to ensure they remain secure and free from corrosion.
- **Power Supply:** Ensure the power supply matches the controller's voltage requirements (e.g., 12V for this model) to prevent damage.

TROUBLESHOOTING

If you encounter issues with your STC-3028 controller, consider the following common troubleshooting steps:

Problem	Possible Cause	Solution
Display is blank or unit does not power on.	No power supply, incorrect voltage, or loose wiring.	Check power connections. Verify power supply voltage matches unit requirements (12V). Ensure all wires are securely connected.

Inaccurate temperature/humidity readings.	Sensor is dirty, damaged, or improperly placed.	Clean the sensor. Inspect sensor cable for damage. Ensure sensor is in the correct environment for measurement and not obstructed.
Controller not activating heating/cooling/humidification/dehumidification.	Incorrect parameter settings, faulty wiring to load, or load device malfunction.	Review your start and stop temperature/humidity settings. Check wiring to the controlled device. Test the controlled device independently.
Display shows error code.	Sensor fault or internal error.	Refer to the specific error code in a more detailed product manual if available. Often indicates a sensor disconnection or malfunction. Reconnect or replace sensor.

If the problem persists after attempting these steps, contact customer support or a qualified technician.

WARRANTY AND SUPPORT

Walfront products are manufactured to high quality standards. For information regarding warranty coverage, technical support, or replacement parts, please refer to the contact information provided with your purchase or visit the official Walfront website. Keep your purchase receipt as proof of purchase for any warranty claims.

For further assistance, you may visit the [Walfront Store on Amazon](#).