

ZFX-ST3022

ZFX-ST3022 Digital Temperature and Humidity Controller User Manual

Model: ZFX-ST3022 | Brand: Generic

1. INTRODUCTION

Thank you for choosing the ZFX-ST3022 Digital Temperature and Humidity Controller. This device is designed for precise control and monitoring of temperature and humidity in various environments. Please read this manual carefully before installation and operation to ensure proper use and to prevent damage to the device or injury.

This controller is suitable for applications such as cabinet control, seedling heat mats, aquariums, pet breeding, incubation, BBQ, electric radiators, and electric ovens.

2. PRODUCT OVERVIEW

The ZFX-ST3022 controller features a dual digital display for simultaneous temperature and humidity readings, along with intuitive control buttons.

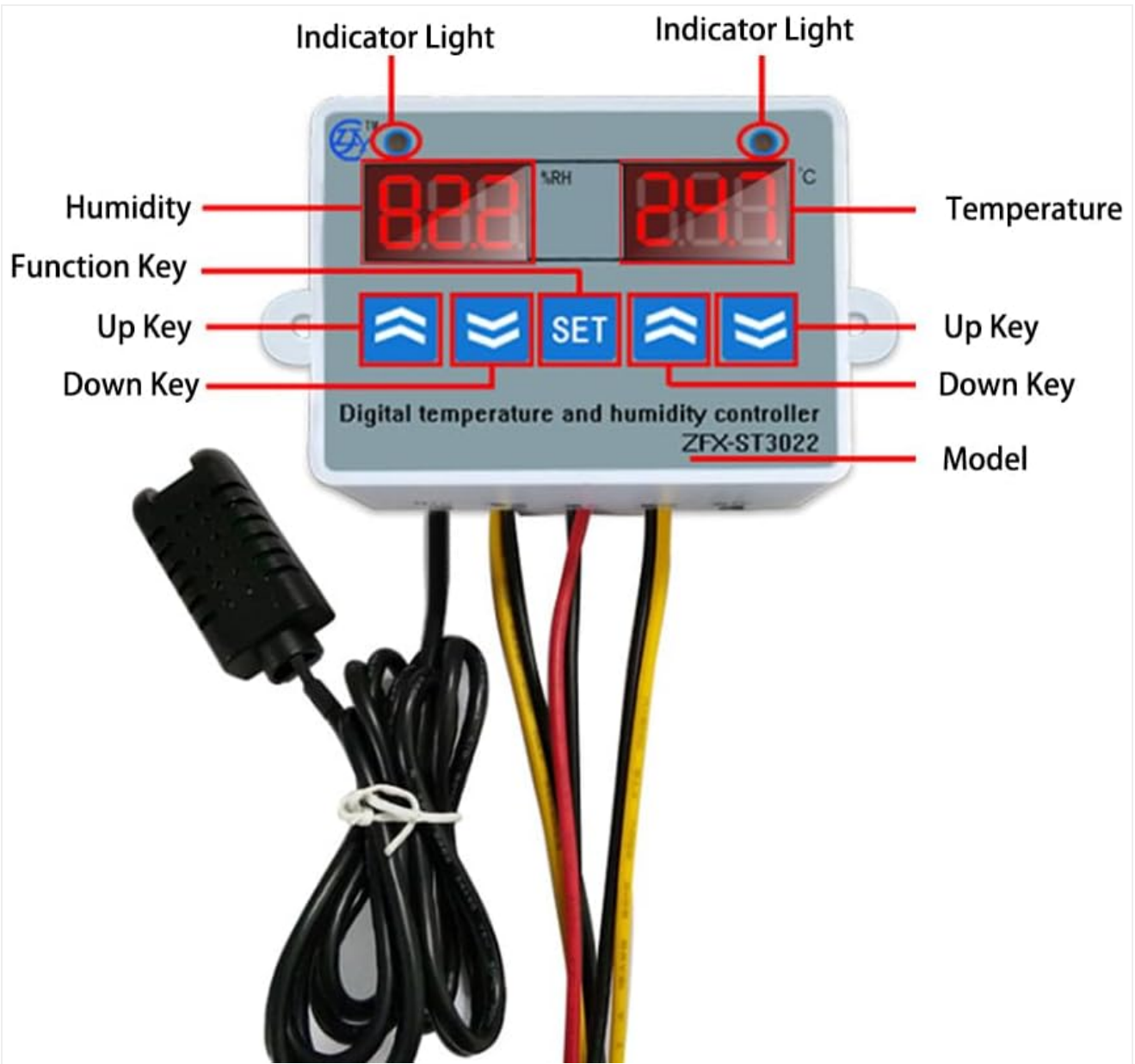


Figure 2.1: ZFX-ST3022 Controller with labeled components. This image shows the front panel of the controller with indicators for humidity and temperature, function keys, up and down keys, and the model number.

2.1 Components

- **Digital Display:** Shows current temperature (°C) and humidity (%RH).
- **Indicator Lights:** Signal operational status.
- **Function Key (SET):** Used to enter and confirm settings.
- **Up/Down Keys:** Used to adjust values and navigate settings.
- **Sensor:** External probe for measuring temperature and humidity.

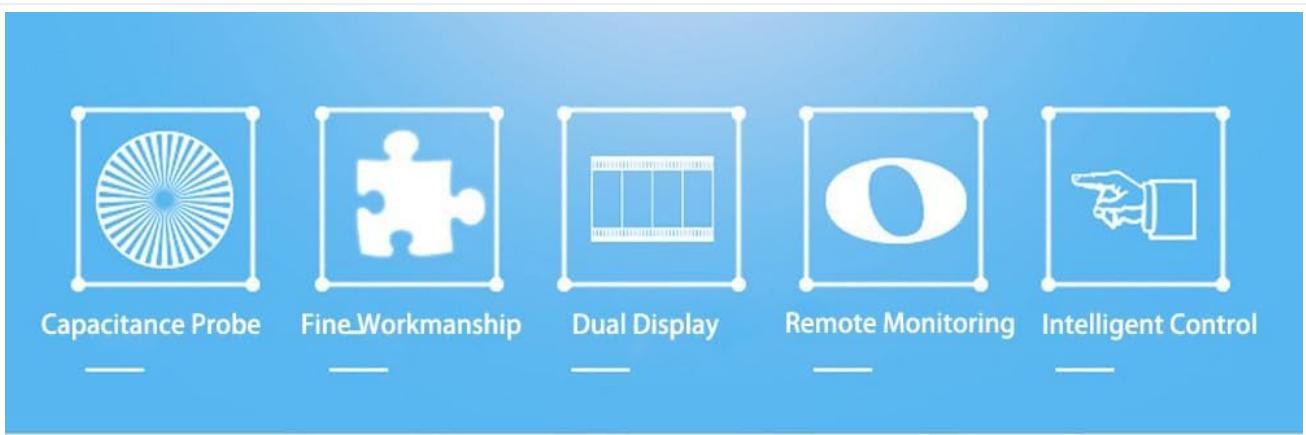


Figure 2.2: Close-up view of the ZFX-ST3022 sensor. This image highlights the sensor probe, emphasizing its design for high precision and stability with self-contained humidity compensation.

3. KEY FEATURES

- Simultaneous display of temperature and humidity.
- High accuracy and wide measuring range.
- Stable performance for long-term use.
- Large and clear digital display for enhanced readability.
- Versatile application for various environmental control needs.

4. TECHNICAL SPECIFICATIONS

Parameter	Value
Material	ABS
Voltage Options	12V, 24V, 220V (Please select the correct voltage model)
Output	10A
Sensor Wire Length	1.5 meters
Temperature Range	-20°C to +80°C
Humidity Range	1%RH to 99%RH
Humidity Measuring Accuracy	3%RH (at 25°C)
Precision	1°C; 1%RH
Item Size	76 x 55 x 31 mm (2.99 x 2.16 x 1.22 inches)

5. SETUP AND INSTALLATION

5.1 Safety Precautions

- Ensure the power supply is disconnected before any wiring or installation.
- Verify that the voltage of your controller matches your power supply (12V, 24V, or 220V).
- All wiring should be performed by a qualified professional if you are unsure.
- Avoid installing the device in areas with excessive vibration, dust, or corrosive gases.

5.2 Wiring Instructions

The controller has terminals for power input, temperature/humidity sensor, and output for controlled devices (e.g., heater, humidifier). Refer to the wiring diagram provided with your specific unit for precise connections. A general wiring principle is as follows:

1. Connect the power supply to the designated input terminals (L and N for AC, + and - for DC).
2. Connect the temperature and humidity sensor to the NTC terminals. Ensure the sensor is placed in the environment you wish to monitor and control.
3. Connect your heating or cooling device (for temperature control) and humidifying or dehumidifying device (for humidity control) to the output relay terminals.



Figure 5.1: ZFX-ST3022 controller showing typical wiring connections. This image illustrates the various wires connected to the controller, indicating power input, sensor connection, and output connections.

6. OPERATING INSTRUCTIONS

6.1 Powering On and Display

Once wired correctly, apply power to the controller. The digital displays will illuminate, showing the current temperature (°C) and humidity (%RH) measured by the sensor.

6.2 Setting Temperature and Humidity Parameters

To adjust the desired temperature and humidity set points:

1. Press and hold the **SET** button for approximately 3 seconds to enter the parameter setting mode. The temperature display will start flashing.
2. Use the **Up** and **Down** arrow keys to adjust the desired temperature set point.
3. Press the **SET** button again to confirm the temperature setting and move to the humidity setting. The humidity display will start flashing.
4. Use the **Up** and **Down** arrow keys to adjust the desired humidity set point.
5. Press the **SET** button one more time to save all settings and exit the parameter setting mode. The displays will

return to showing current readings.

The controller will now activate or deactivate the connected output devices based on your set parameters to maintain the desired temperature and humidity levels.

7. MAINTENANCE

7.1 Cleaning

- Wipe the controller's surface with a soft, dry cloth.
- Do not use abrasive cleaners or solvents, as they may damage the casing or display.

7.2 Sensor Care

- Keep the sensor clean and free from dust or debris to ensure accurate readings.
- Avoid submerging the sensor in liquids unless it is specifically designed for such environments.
- Do not bend or pull the sensor wire excessively.

8. TROUBLESHOOTING

If you encounter issues with your ZFX-ST3022 controller, refer to the following table for common problems and solutions:

Problem	Possible Cause	Solution
Display is blank	No power supply or incorrect wiring.	Check power connections and ensure correct voltage.
Inaccurate readings	Sensor dirty, damaged, or improperly placed.	Clean the sensor, check for physical damage, and ensure it's in a representative location.
Controller not activating output	Settings are outside the current range, or output wiring is incorrect.	Verify set points and check wiring to the controlled device.
Buttons unresponsive	Temporary software glitch.	Disconnect power for 10 seconds, then reconnect.

9. WARRANTY AND SUPPORT

This product is covered by a standard manufacturer's warranty against defects in materials and workmanship. Please retain your proof of purchase for warranty claims.

For technical support or warranty inquiries, please contact your retailer or the manufacturer directly. Refer to the packaging or purchase documentation for specific contact details.