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› [Digital LED Temperature Controller Module, XH-W3001 Thermostat Switch with Waterproof Probe, Programmable Heating Cooling Thermostat \(12V 10A 120W\) User Manual](#)

UMLIFE W3001

UMLIFE XH-W3001 Digital LED Temperature Controller Module User Manual

Model: XH-W3001

Brand: UMLIFE

PRODUCT OVERVIEW

The UMLIFE XH-W3001 Digital LED Temperature Controller Module is a versatile thermostat switch designed for precise temperature control in various applications. It features a clear digital display and a waterproof NTC10K probe, making it suitable for both heating and cooling modes. Its robust ABS flame retardant housing ensures safety and durability.



Figure 1: UMLIFE XH-W3001 Digital LED Temperature Controller Module with probe and wiring.

KEY FEATURES

- **LED Indicator Light:** Displays the current output status for easy monitoring.
- **Digital Display Tube:** Shows measuring temperature with high accuracy.
- **Two Work Modes:** Supports both heating (start temperature < stop temperature) and cooling (start temperature > stop temperature) operations.
- **Wide Temperature Range:** Operates from -50°C to 110°C with a control precision of 0.1°C.
- **Durable Housing:** Constructed with ABS flame retardant material for high safety, aging resistance, and durability.

- **Waterproof Probe:** Equipped with a 1-meter NTC10K stainless steel probe that is waterproof and rust-resistant.

SETUP AND WIRING

Proper wiring is crucial for the safe and correct operation of the XH-W3001 module. Ensure all connections are secure before applying power.

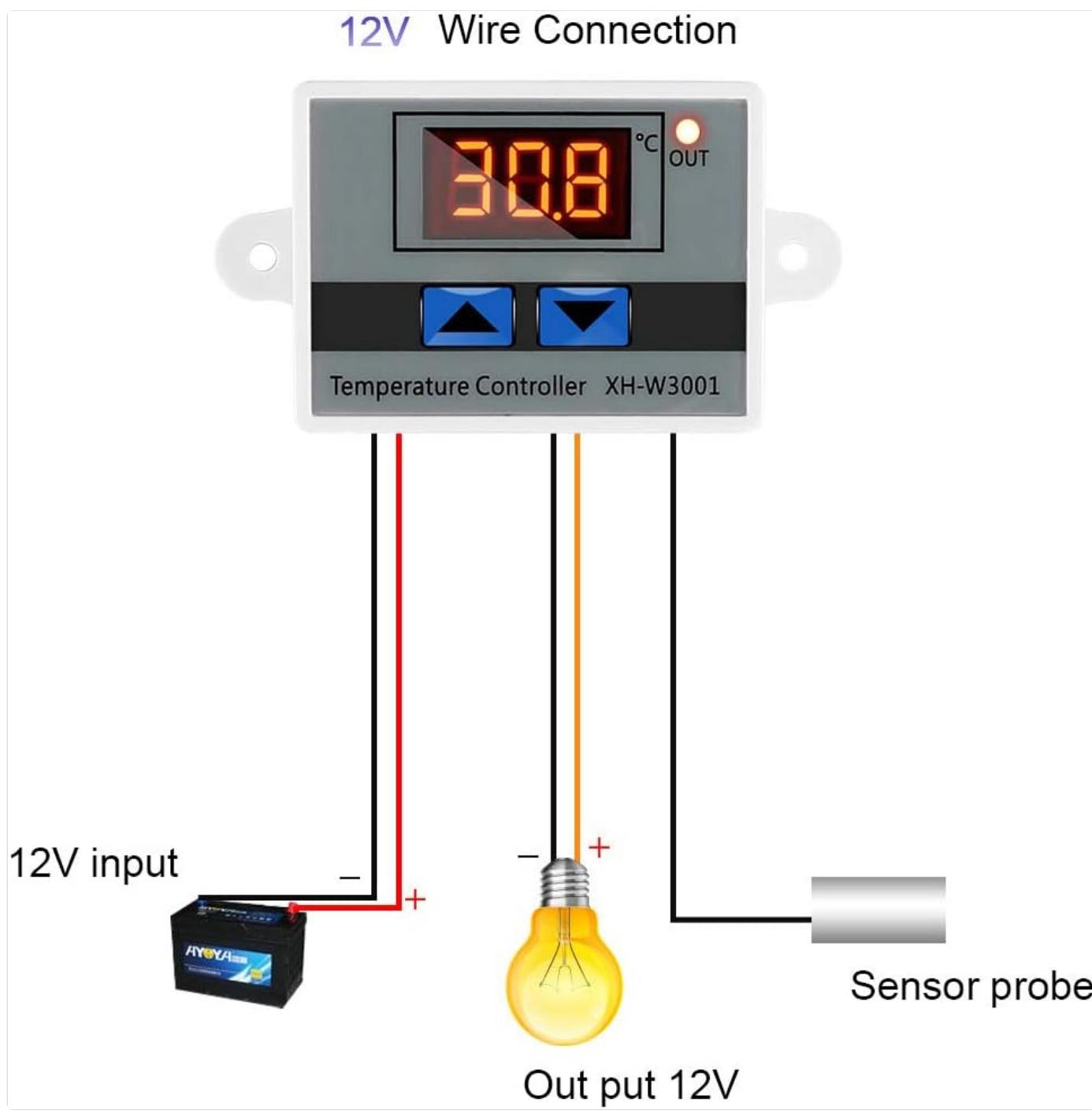


Figure 2: Wiring diagram for the 12V XH-W3001 model. Connect the 12V input (red/black wires) to your power source. The output (yellow/black wires) connects to your load (e.g., a light bulb or fan). The sensor probe connects to the designated port.

Wiring Instructions:

1. **Power Input:** Connect the red wire to the positive (+) terminal of your 12V DC power supply and the black wire to the negative (-) terminal.
2. **Load Output:** Connect the yellow wire to the positive (+) terminal of your heating or cooling device (load) and the black wire to the negative (-) terminal of the load. Ensure the load's voltage matches the controller's input voltage (12V).
3. **Temperature Probe:** Insert the NTC10K waterproof probe into the designated two-pin connector on the module.

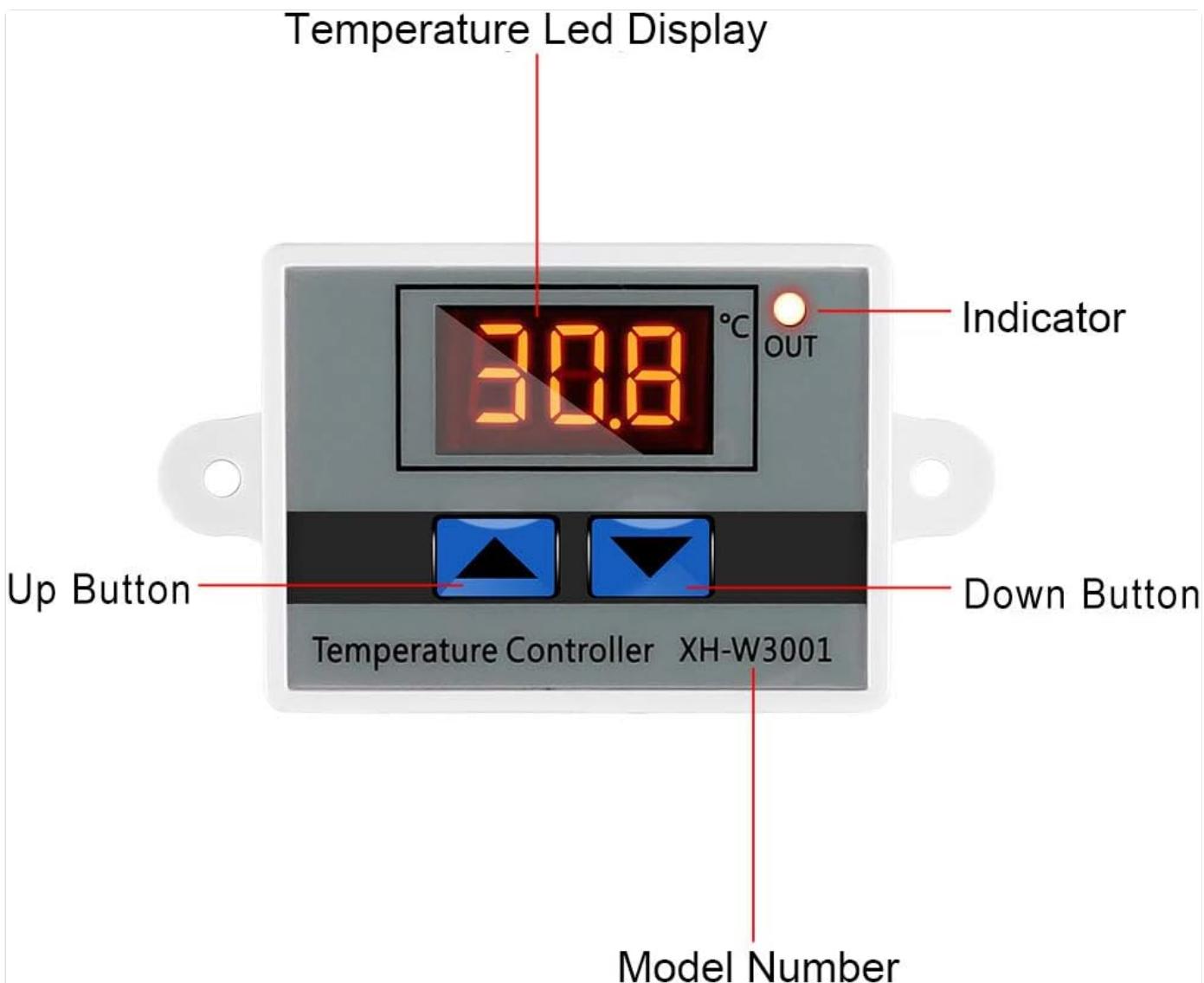


Figure 3: Labeled components of the XH-W3001 module, showing the temperature LED display, indicator light, up button, down button, and model number.

OPERATING INSTRUCTIONS

The XH-W3001 has two main parameters to set: the start temperature and the stop temperature.

Setting Start Temperature:

1. Press and hold the **Up Button** (left button) for approximately 3 seconds. The display will start flashing, indicating it's in setting mode.
2. Use the **Up** and **Down Buttons** to adjust the desired start temperature.
3. Press the **Up Button** again or wait for 3 seconds for the setting to be saved automatically.

Setting Stop Temperature:

1. Press and hold the **Down Button** (right button) for approximately 3 seconds. The display will start flashing.
2. Use the **Up** and **Down Buttons** to adjust the desired stop temperature.
3. Press the **Down Button** again or wait for 3 seconds for the setting to be saved automatically.

Operating Modes:

- **Heating Mode:** If the Start Temperature is set *lower* than the Stop Temperature, the module will operate in heating mode. The output will turn ON when the temperature drops below the Start Temperature and turn OFF when it reaches the Stop Temperature.

- **Cooling Mode:** If the Start Temperature is set *higher* than the Stop Temperature, the module will operate in cooling mode. The output will turn ON when the temperature rises above the Start Temperature and turn OFF when it drops to the Stop Temperature.

Note: The display shows temperature in Celsius only. There is no option to change to Fahrenheit.

MAINTENANCE

The XH-W3001 module is designed for low maintenance. Regular checks can ensure its longevity and accurate performance.

- **Cleaning:** Keep the module and probe clean. Use a soft, dry cloth to wipe the display and housing. For the probe, ensure it is free from debris that might affect temperature readings.
- **Connections:** Periodically check all wiring connections to ensure they are secure and free from corrosion. Loose connections can lead to intermittent operation or damage.
- **Probe Condition:** Inspect the temperature probe for any signs of damage to the cable or the sensor tip. Replace if damaged to maintain accuracy.
- **Environment:** Ensure the module is installed in an environment within its specified operating temperature and humidity ranges to prevent premature failure.

TROUBLESHOOTING

If you encounter issues with your XH-W3001 module, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Display not lighting up.	No power, incorrect wiring, or faulty unit.	Check power supply connections. Ensure correct polarity. Verify power source is active.
Temperature reading is inaccurate.	Damaged probe, probe not properly connected, or environmental interference.	Ensure probe is securely connected. Inspect probe for physical damage. Test with another known accurate thermometer if possible.
Output not switching ON/OFF as expected.	Incorrect start/stop temperature settings, load not connected, or faulty relay.	Review and re-set start/stop temperatures. Verify load connections. Ensure the load's power requirements are within the module's specifications (10A 120W for 12V model).
Display shows "LLL" or "HHH".	"LLL" indicates open circuit or probe not connected. "HHH" indicates short circuit or temperature exceeding range.	Check probe connection. Replace probe if damaged. Ensure temperature is within -50°C to 110°C range.

SPECIFICATIONS

Feature	Specification
Model Number	XH-W3001
Voltage	12 Volts (for this specific model)
Output Current	Max 10A
Output Power	Max 120W (for 12V model)
Temperature Control Range	-50°C to 110°C

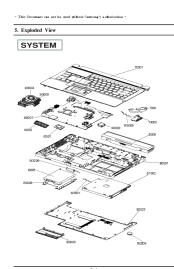
Feature	Specification
Temperature Measurement Accuracy	±0.2°C
Temperature Control Accuracy	±0.1°C
Probe Type	NTC10K (Waterproof)
Display Type	LED Digital Display
Housing Material	ABS Flame Retardant
Product Dimensions	3.3 x 1.8 x 1.1 inches
Item Weight	1.76 ounces (50 Grams)

WARRANTY AND SUPPORT

For warranty information or technical support regarding your UMLIFE XH-W3001 Digital LED Temperature Controller Module, please refer to the product packaging or contact UMLIFE customer service directly. Contact details are typically provided with your purchase or can be found on the manufacturer's official website.

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Related Documents - W3001

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