

ESSISH KT1000

ESSISH KT1000 Digital Temperature Controller User Manual

Model: KT1000

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the ESSISH KT1000 Digital Temperature Controller. The KT1000 is a versatile dual-relay thermostat designed for precise temperature control in various applications, including incubators, with support for heating and cooling functions across 12V, 24V, and 220V systems.

2. SAFETY INFORMATION

- Ensure all wiring is performed by a qualified professional to prevent electrical hazards.
- Disconnect power before making any connections or performing maintenance.
- Verify the power supply voltage matches the controller's specifications (12V, 24V, or 220V).
- Do not expose the device to excessive moisture or extreme temperatures.
- Keep out of reach of children.

3. PRODUCT OVERVIEW

The KT1000 features a dual digital display for current and set temperatures, along with two relay outputs for independent control of heating and cooling devices. It supports both Celsius and Fahrenheit temperature units.



Figure 3.1: Front view of the KT1000 Digital Temperature Controller, showing dual displays and control buttons. Note the 'KT 99' branding on the device.

3.1. Components

- **Main Controller Unit:** Digital display, control buttons, and terminal blocks.
- **Temperature Sensor:** NTC type, for accurate temperature measurement.
- **Mounting Clips:** For secure panel installation.



Figure 3.2: Included components: KT1000 controller, temperature sensor, and mounting clips.

4. SPECIFICATIONS

Parameter	Value
Model	KT1000 (also referred to as KT99)
Input Voltage Options	12V DC, 24V DC, 110-220V AC
Output Current	10A (Max)
Sensor Type	NTC Sensor
Weight	50 Grams

5. SETUP AND WIRING

Proper wiring is essential for the safe and correct operation of the KT1000. Refer to the diagrams below for connection details. Ensure the power supply matches the controller's voltage rating.

5.1. Basic 12V DC Connection

12V Wire connection

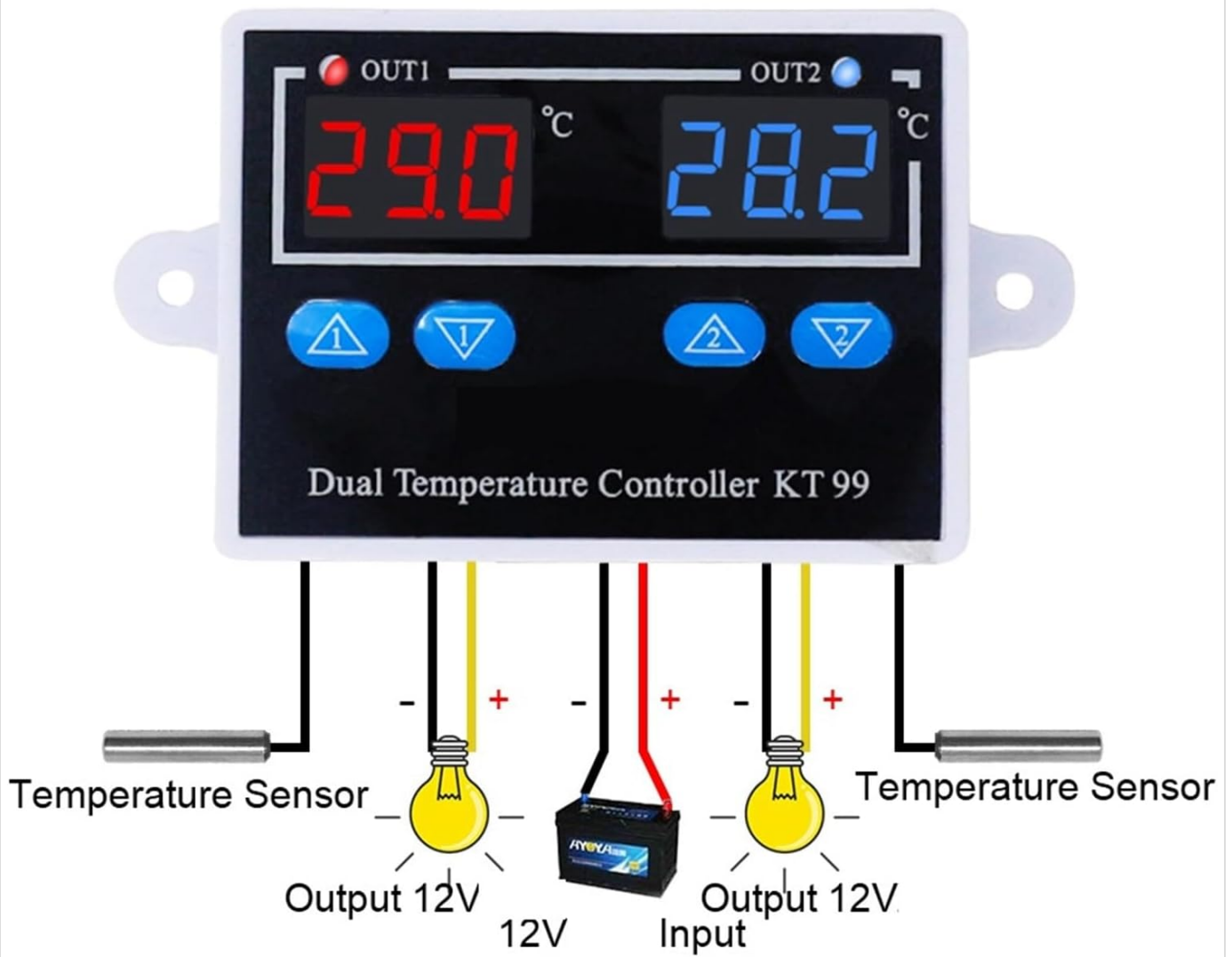


Figure 5.1: Basic 12V DC wiring diagram. Connect the 12V input to the designated terminals. Connect temperature sensors to their respective inputs. Output 1 and Output 2 provide 12V power to connected loads (e.g., heating/cooling elements).

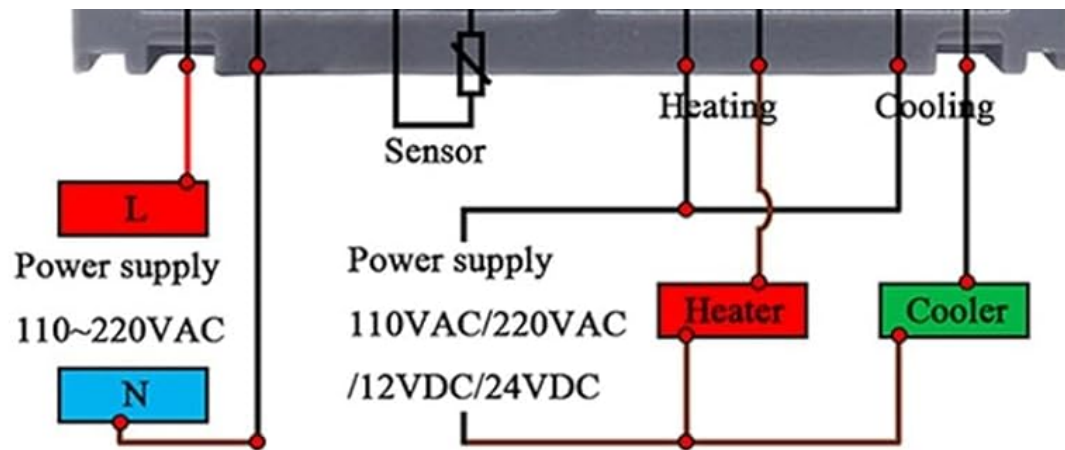
5.2. AC/DC Load Connections (110-220V AC / 12V DC / 24V DC)

The KT1000 supports two main wiring configurations for loads: independent power supply for the load, or using the same power supply for both the controller and the load.

5.2.1. Independent Power Supply for Load

Connection 1: Independent power supply for load





Connection 2: Same power supply for load

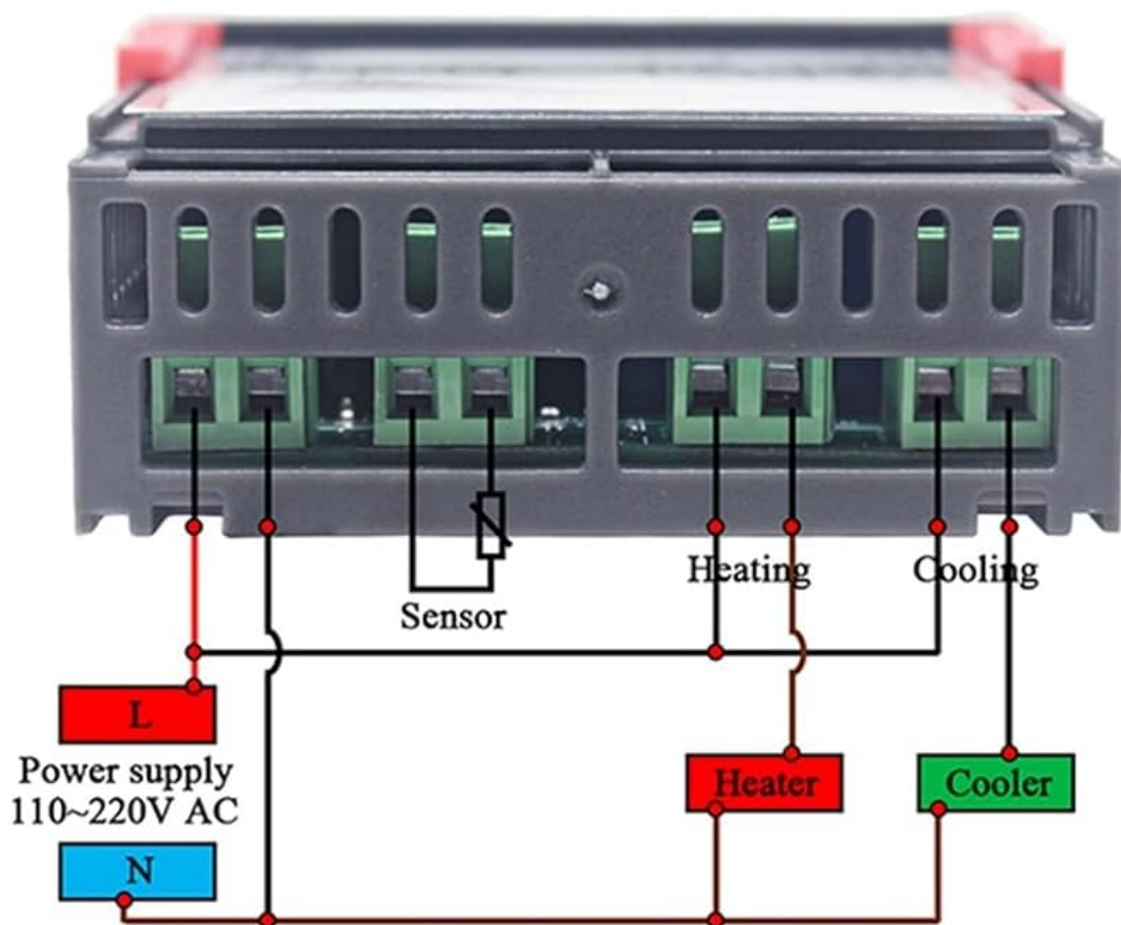
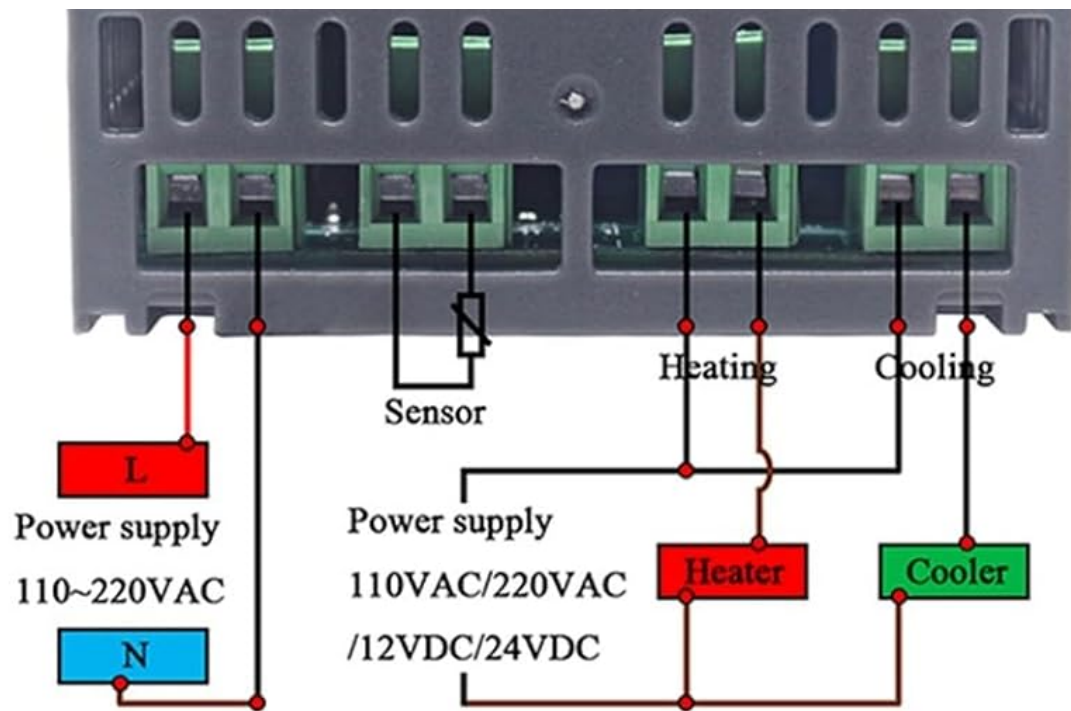


Figure 5.2: Wiring diagram for independent load power (top part of the image). The controller receives power (110-220VAC, 12VDC, or 24VDC) separately. The heating and cooling loads are powered by their own independent power source, switched by the controller's relays.

5.2.2. Same Power Supply for Controller and Load

Connection 1: Independent power supply for load





Connection 2: Same power supply for load

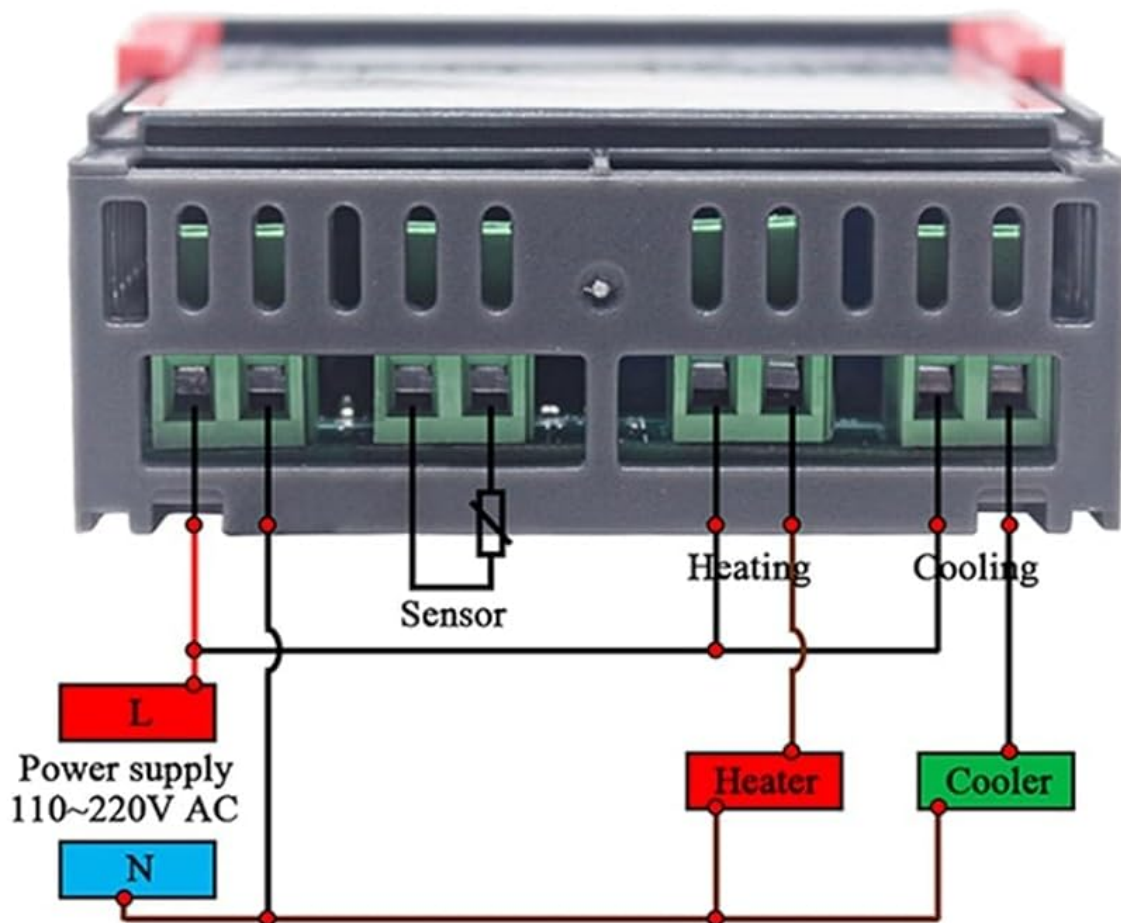


Figure 5.3: Wiring diagram for shared power supply (bottom part of the image). The controller and the heating/cooling loads share the same power source (110-220VAC, 12VDC, or 24VDC). The controller's relays switch the power to the loads directly from this shared source.

Important: Always ensure correct polarity for DC connections and proper phase/neutral for AC connections. Incorrect wiring can damage the device or cause electrical hazards.

6. OPERATING INSTRUCTIONS

The KT1000 features intuitive controls for setting desired temperatures and operating modes.

6.1. Power On/Off

- Connect the controller to the appropriate power supply. The display will illuminate, showing the current temperature.

6.2. Setting Temperature

1. Press the **SET** button (usually indicated by a gear icon or "SET" text). The display will flash, indicating the set temperature.
2. Use the **UP** and **DOWN** arrow buttons to adjust the desired temperature.
3. Press **SET** again to confirm and save the new temperature.

6.3. Switching Between Heating and Cooling Modes

The KT1000 typically has a parameter to select between heating (H) and cooling (C) modes, or it operates based on the set temperature and hysteresis. Consult the specific button functions on your device. For dual relay models, one relay is usually for heating and the other for cooling, activated based on the set point and temperature differential.

6.4. Temperature Unit Selection (Celsius/Fahrenheit)

To switch between Celsius (°C) and Fahrenheit (°F), typically a long press on a specific button (e.g., the SET button or a dedicated C/F button) or accessing a menu parameter is required. Refer to the on-device labels or a more detailed manual if available for your specific model variant.

7. MAINTENANCE

- Keep the controller clean and free from dust. Use a soft, dry cloth for cleaning.
- Regularly check all wiring connections for tightness and signs of wear.
- Ensure the temperature sensor is clean and properly positioned for accurate readings.
- Do not attempt to open or repair the unit yourself. Contact qualified service personnel.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Display is blank	No power, incorrect wiring	Check power supply, verify wiring connections.
Temperature reading is inaccurate	Sensor faulty, sensor not properly placed	Check sensor connection, replace sensor if faulty, ensure sensor is in the correct environment.
Heating/Cooling not activating	Incorrect set temperature, wiring issue, faulty relay	Verify set temperature and mode, check load wiring, test relays.
"HHH" or "LLL" on display	Sensor error (open circuit/short circuit) or out of range	Check sensor connection, replace sensor.

9. WARRANTY AND SUPPORT

For warranty information or technical support, please refer to the documentation provided with your purchase or contact ESSISH customer service through the retailer where the product was purchased. Keep your purchase receipt for warranty

claims.

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.

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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