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JOCCOS XMTD-2201

JOCCOS PT100 Thermostat XMTD-2201 Temperature Controller User Manual

Model: XMTD-2201

1. Introduction

This manual provides detailed instructions for the installation, operation, and maintenance of the JOCCOS PT100 Thermostat XMTD-2201 Temperature Controller. Please read this manual thoroughly before using the device to ensure safe and efficient operation.
The XMTD-2201 is a digital display temperature controller designed for precise temperature management in various industrial and commercial applications. It supports PT100 sensor input and operates on a 220V power supply, offering upper and lower limit control capabilities.

2. Safety Information

- **Electrical Hazard:** Ensure the power supply is disconnected before installation or maintenance to prevent electric shock.
- **Qualified Personnel:** Installation and wiring should only be performed by qualified electricians.
- **Voltage Compatibility:** Verify that the power supply voltage matches the device's rated voltage (220V).
- **Proper Grounding:** Ensure the device is properly grounded to prevent electrical hazards.
- **Environmental Conditions:** Do not expose the device to excessive moisture, dust, or corrosive gases.
- **Sensor Compatibility:** Use only compatible PT100 temperature sensors with this controller.

3. Product Overview

The JOCCOS XMTD-2201 is a compact and reliable temperature controller. Below are images illustrating its physical characteristics and key components.

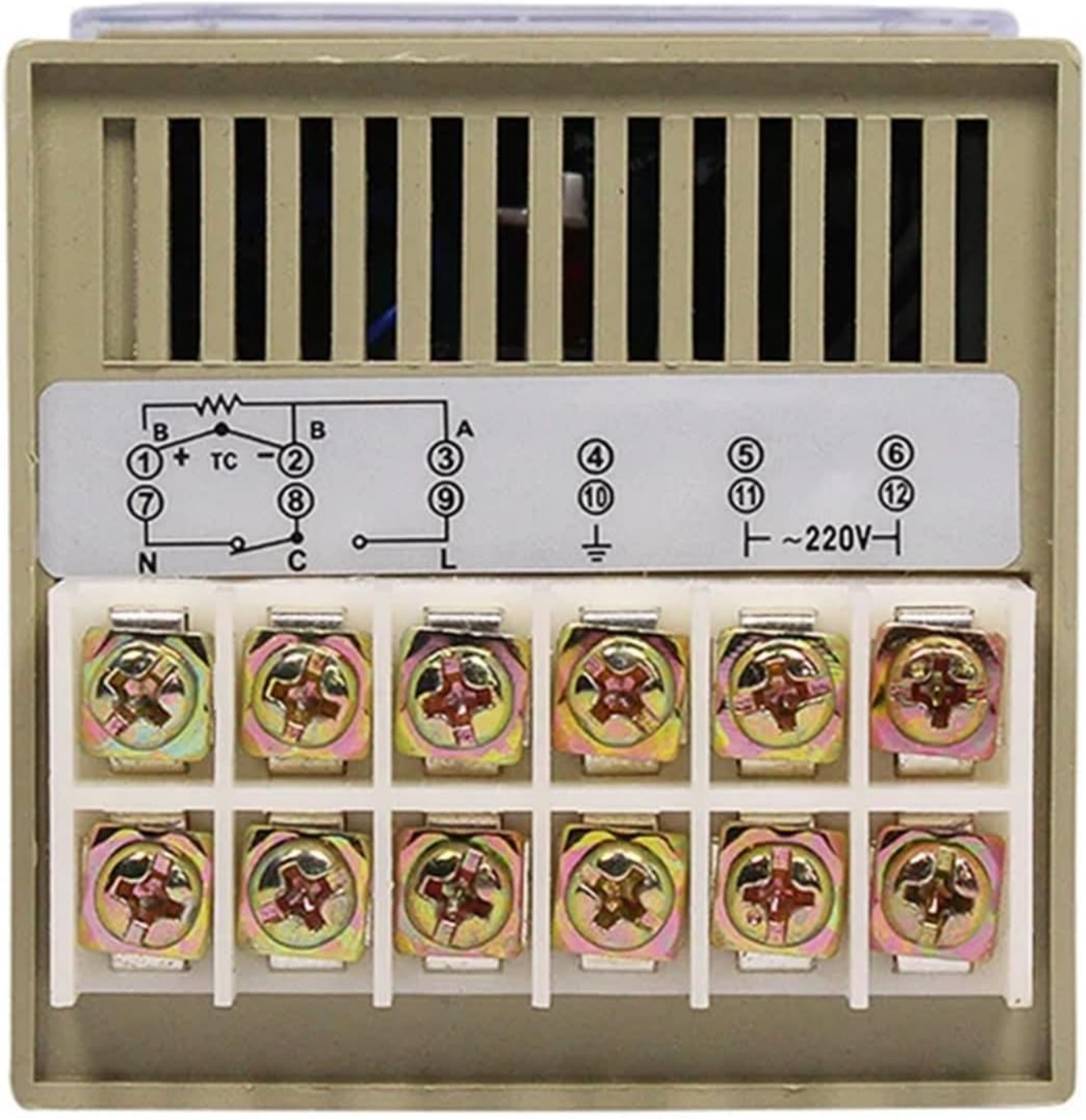


Figure 3.1: Front view of the JOCCOS XMTD-2201 Temperature Controller. This image shows the digital display and control elements on the front panel.



Figure 3.2: Side view of the JOCCOS XMTD-2201 Temperature Controller. The label on the side indicates the model type (XMTD-2201), temperature range (0-400°C), output type (Relay), and power supply (220VAC, 50/60Hz).



Figure 3.3: Close-up of the XMTD-2201 front panel. This image highlights the digital display, the ON/OFF indicator, and the rotary potentiometers for setting upper and lower temperature limits.

4. Specifications

Feature	Specification
Model	XMTD-2201
Installation Form	Embedded
Working Voltage	220V AC
Dimensions (L*W*H)	72mm * 72mm * 115mm
Hole Size	67mm * 67mm
Temperature Measurement Error	±1°C

Feature	Specification
Temperature Range	0°C to 400°C
Sensor Input	PT100
Control Type	Upper and Lower Limit, Three-Position Meter
Output	Relay

Note: Specifications are subject to change without prior notice.

5. Installation

5.1 Mounting

The XMTD-2201 is designed for embedded installation. Follow these steps:

1. Cut a rectangular opening in the mounting panel with dimensions of 67mm x 67mm.
2. Insert the temperature controller into the opening from the front.
3. Secure the controller using the provided mounting brackets from the rear of the panel.

5.2 Wiring

Refer to the wiring diagram below for proper connection of the power supply, sensor, and output. Ensure all connections are secure and correctly polarized.

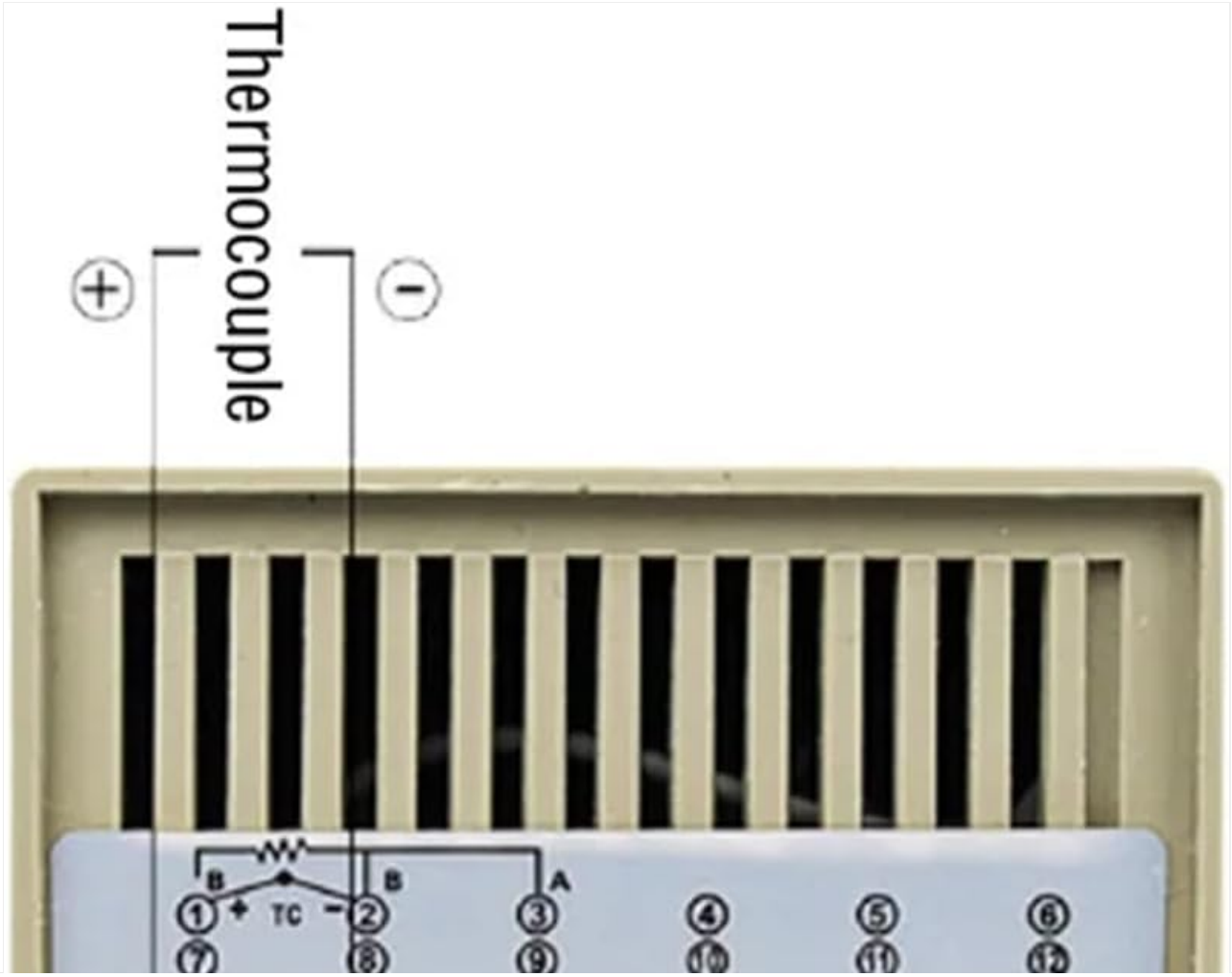




Figure 5.1: Rear view of the XMTD-2201 showing wiring terminals. This image displays the screw terminals for connecting the thermocouple (1, 2), power supply (11, 12), and control output (7, 8, 9).

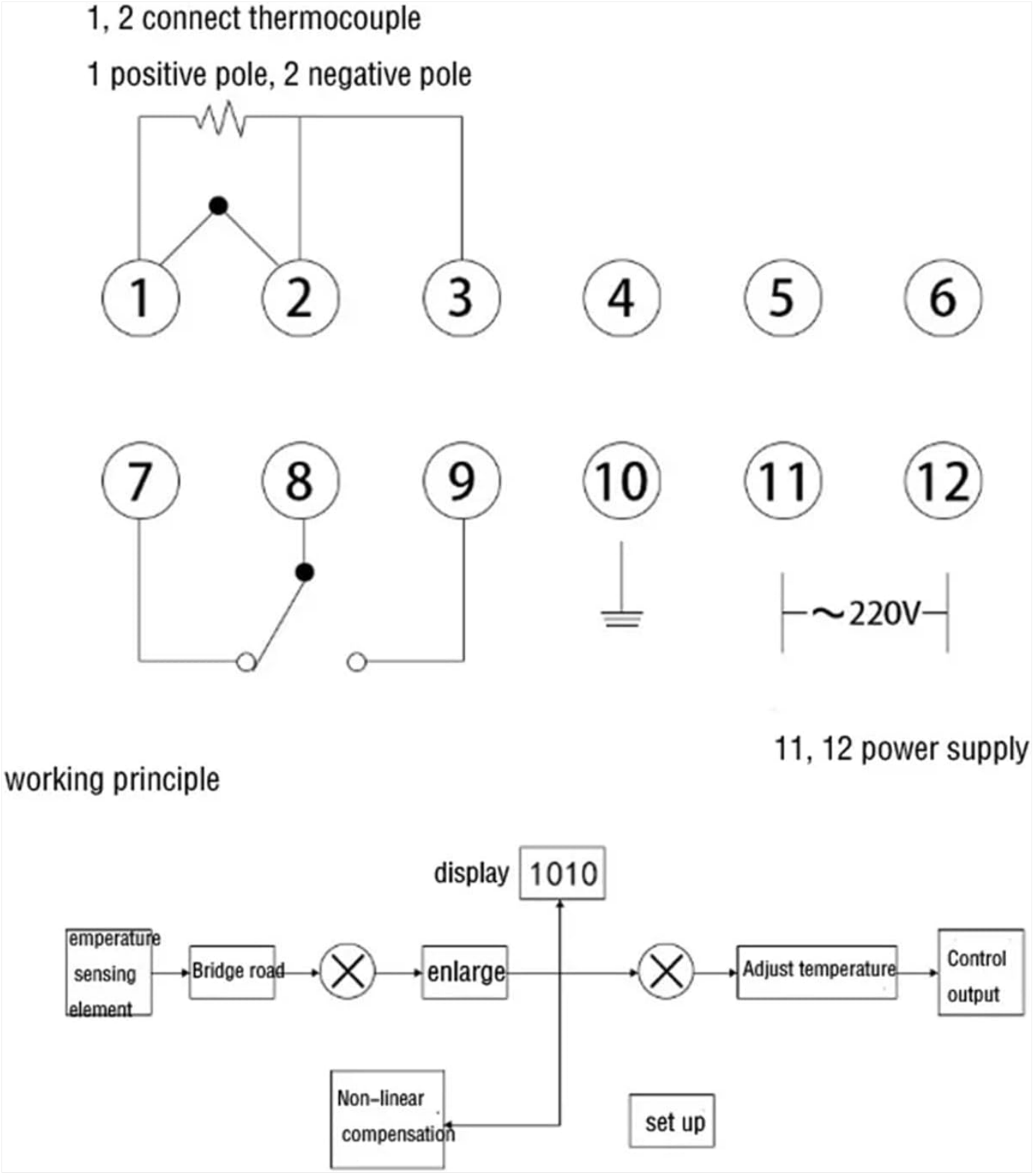


Figure 5.2: Detailed wiring diagram for the JOCCOS XMTD-2201. This diagram illustrates the connections for the thermocouple (terminals 1 and 2, with 1 being positive and 2 negative), power supply (terminals 11 and 12 for 220V), and the relay output (terminals 7, 8, 9 for common, normally closed, and normally open contacts respectively). It also includes a basic working principle block diagram.

Wiring Key:

- **Terminals 1 & 2:** Thermocouple input (1: Positive, 2: Negative). Ensure correct polarity for PT100 sensor.
- **Terminals 11 & 12:** 220V AC Power Supply input.
- **Terminals 7, 8, 9:** Relay Output. These are typically used for controlling external heating or cooling elements.
  - **Terminal 7:** Common (C)
  - **Terminal 8:** Normally Closed (NC)
  - **Terminal 9:** Normally Open (NO)

- **Terminal 10:** Ground connection.

Warning: Incorrect wiring can damage the device or cause electrical hazards. Always consult a qualified electrician.

6. Operation

6.1 Powering On

After completing all wiring, apply 220V AC power to terminals 11 and 12. The digital display will illuminate, showing the current measured temperature.

6.2 Setting Temperature Limits

The XMTD-2201 features rotary potentiometers for setting upper and lower temperature limits. These are typically adjusted using a small screwdriver.

1. **Upper Limit Setting:** Rotate the potentiometer labeled " " (Upper Limit Setting) to adjust the maximum desired temperature. The display will show the set value as you adjust.
2. **Lower Limit Setting:** Rotate the potentiometer labeled " " (Lower Limit Setting) to adjust the minimum desired temperature. The display will show the set value as you adjust.

The controller will activate or deactivate the relay output based on the measured temperature relative to these set limits, maintaining the temperature within the defined range.

6.3 Display Indicators

- **Digital Display:** Shows the current measured temperature.
- **ON/OFF Indicator:** Indicates the status of the control output (e.g., relay active/inactive).

7. Maintenance

- **Cleaning:** Periodically clean the front panel with a soft, dry cloth. Do not use abrasive cleaners or solvents.
- **Inspection:** Regularly inspect wiring connections for looseness or signs of damage. Tighten connections as needed.
- **Environmental Check:** Ensure the operating environment remains within specified conditions (temperature, humidity, absence of corrosive gases).
- **Sensor Check:** Verify the PT100 sensor is free from damage and properly installed. A faulty sensor can lead to inaccurate readings.

Caution: Always disconnect power before performing any maintenance.

8. Troubleshooting

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
No display/No power	◦ No power supply ◦ Incorrect wiring ◦ Blown fuse (internal/external)	◦ Check 220V AC power supply. ◦ Verify wiring to terminals 11 & 12. ◦ Inspect and replace fuse if necessary (by qualified personnel).
Inaccurate temperature reading	◦ Faulty sensor ◦ Incorrect sensor type ◦ Loose sensor connection ◦ Sensor not properly placed	◦ Replace sensor. ◦ Ensure PT100 sensor is used. ◦ Check connections to terminals 1 & 2. ◦ Relocate sensor to a representative measurement point.
Control output not activating	◦ Temperature within deadband ◦ Incorrect set limits ◦ Faulty relay ◦ Incorrect output wiring	◦ Adjust set limits or observe temperature trend. ◦ Verify upper and lower limit settings. ◦ Test relay (by qualified personnel). ◦ Check wiring to terminals 7, 8, 9.

If the problem persists after attempting these solutions, please contact JOCCOS customer support.

9. Warranty and Support

JOCCOS products are manufactured to high-quality standards. While specific warranty details are not provided in this document, typically, products are covered by a limited warranty against manufacturing defects for a period from the date of purchase.

For warranty claims, technical support, or service inquiries, please contact your retailer or JOCCOS customer service with your product model number (XMTD-2201) and purchase details.

Contact Information: Please refer to the JOCCOS official website or your purchase documentation for the most current support contact details.

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