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› AUBE TECHNOLOGIES RC840T-240 Electric Heating Relay User Manual

## AUBE TECHNOLOGIES RC840T-240

# AUBE TECHNOLOGIES RC840T-240 Electric Heating Relay User Manual

Model: RC840T-240

## 1. INTRODUCTION

The AUBE TECHNOLOGIES RC840T-240 is an on/off switching electric heating relay designed for controlling 208V/240V electric heating systems using a low-voltage thermostat. This all-in-one relay features a built-in 24 V transformer, simplifying installation and ensuring compatibility with various thermostat types. It serves as a direct replacement for many brand-name relays and offers improved temperature control through immediate relay activation.

Key features include:

- Direct replacement for various relay brands.
- Integrated 24 V transformer for streamlined installation.
- Compatibility with 24V thermostats using 2-wire (R, W) or 3-wire (R, W, C) connections.
- Immediate relay activation for enhanced temperature control and comfort.

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## 2. SAFETY INFORMATION

**WARNING:** Installation must be performed by a qualified electrician in accordance with all local and national electrical codes. Failure to follow these instructions could result in electric shock, fire, or property damage.

- Always disconnect power at the main service panel before installing or servicing this device.
  - Ensure all wiring connections are secure and properly insulated.
  - Do not exceed the specified electrical ratings of the device.
  - This device is designed for indoor use only.
  - Keep away from water and excessive moisture.
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### 3. PACKAGE CONTENTS

Your package should contain the following item:

- One (1) AUBE TECHNOLOGIES RC840T-240 Electromechanical heating relay with a built-in 24V - 208/240V transformer.

### 4. SPECIFICATIONS

<b>Brand</b>	AUBE TECHNOLOGIES
<b>Model Number</b>	RC840T-240
<b>Operation Mode</b>	Electric
<b>Coil Voltage</b>	24 Volts
<b>Contact Current Rating</b>	8 Amps (Note: Device label may indicate 22 Amps for resistive load at 60Hz)
<b>Maximum Switching Voltage</b>	24 Volts (for control circuit)
<b>Load Voltage</b>	208V/240V (for heating system)
<b>Connector Type</b>	Screw
<b>Contact Material</b>	Silver Alloy
<b>Contact Type</b>	Normally Open
<b>Mounting Type</b>	Panel Mount
<b>Number of Terminals</b>	3 (for low voltage control)
<b>Item Weight</b>	12.8 ounces
<b>Product Dimensions</b>	1 x 1 x 2 inches

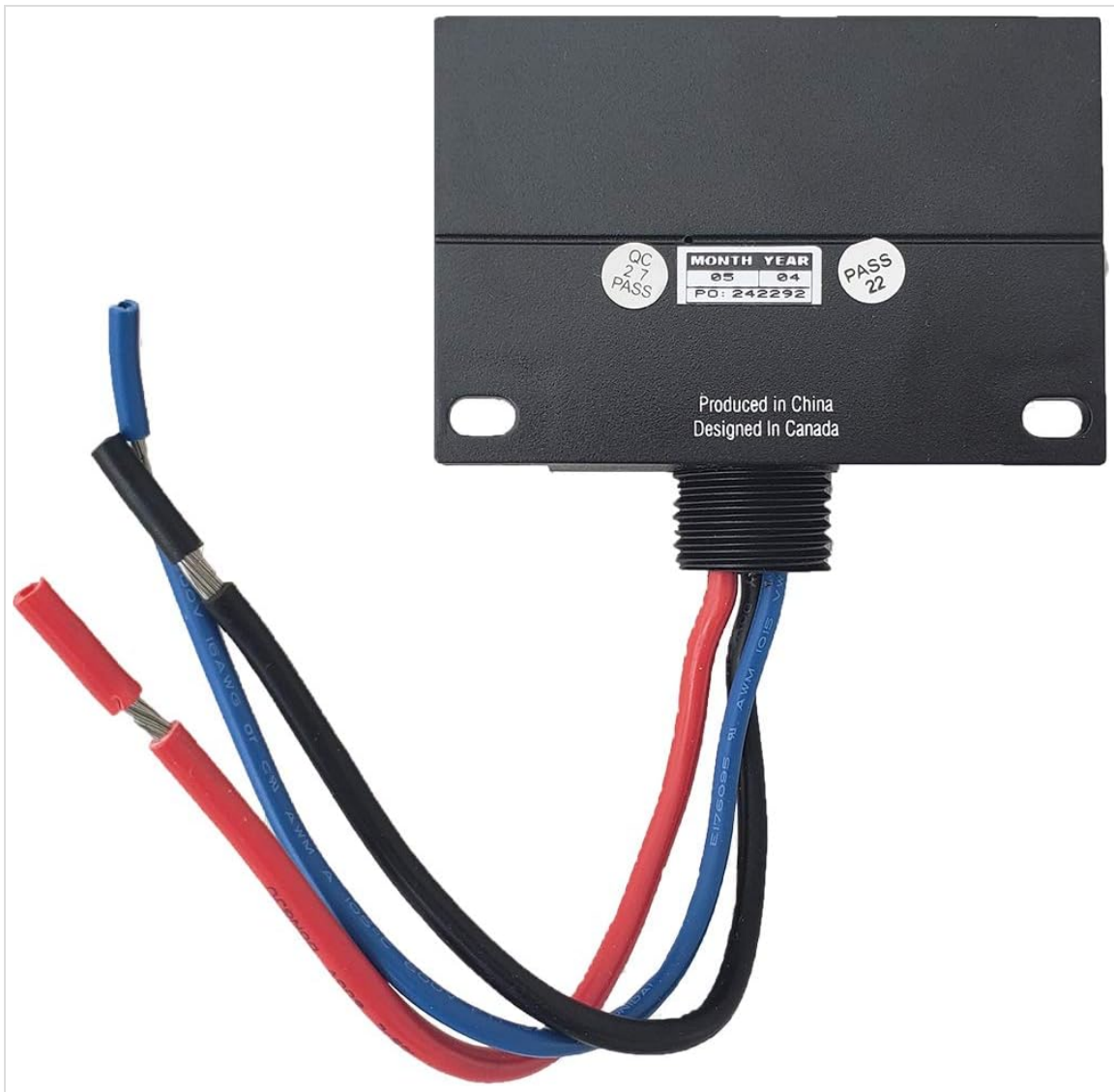
*Note: Specifications are subject to change without notice. Always refer to the product label for the most accurate information.*

### 5. SETUP AND INSTALLATION

**IMPORTANT:** Installation of this electric heating relay involves high voltage wiring. It is strongly recommended that installation be performed by a qualified and licensed electrician to ensure safety and compliance with all applicable electrical codes.

#### 5.1 Mounting the Relay

The RC840T-240 relay is designed for panel mounting. Choose a suitable location near your heating system and thermostat wiring, ensuring it is accessible for future servicing but protected from physical damage and moisture. Secure the relay using appropriate fasteners through its mounting tabs.



**Figure 1:** Top view of the RC840T-240 relay, showing the main housing and the high-voltage and low-voltage wiring harnesses. The unit is designed for panel mounting.

## 5.2 Wiring Connections

The RC840T-240 relay has two sets of wires: high-voltage wires for the heating load and low-voltage terminals for the thermostat connection.

### 5.2.1 High-Voltage (208V/240V) Load Connections

These wires connect the relay to your 208V or 240V electric heating system and the main power supply.

- **Black Wires:** These are typically for the incoming 208V/240V line voltage and the outgoing connection to one side of the heating load.
- **Red Wires:** These are typically for the other side of the incoming 208V/240V line voltage and the outgoing connection to the other side of the heating load.

Connect the high-voltage wires from your electrical panel and heating unit to the corresponding wires on the relay. Ensure all connections are made using appropriate wire connectors (e.g., wire nuts) and are securely tightened.

### 5.2.2 Low-Voltage (24V) Thermostat Connections

The RC840T-240 includes a built-in 24V transformer to power your thermostat and receive control signals. The low-voltage connections are made to the screw terminals on the side of the relay.

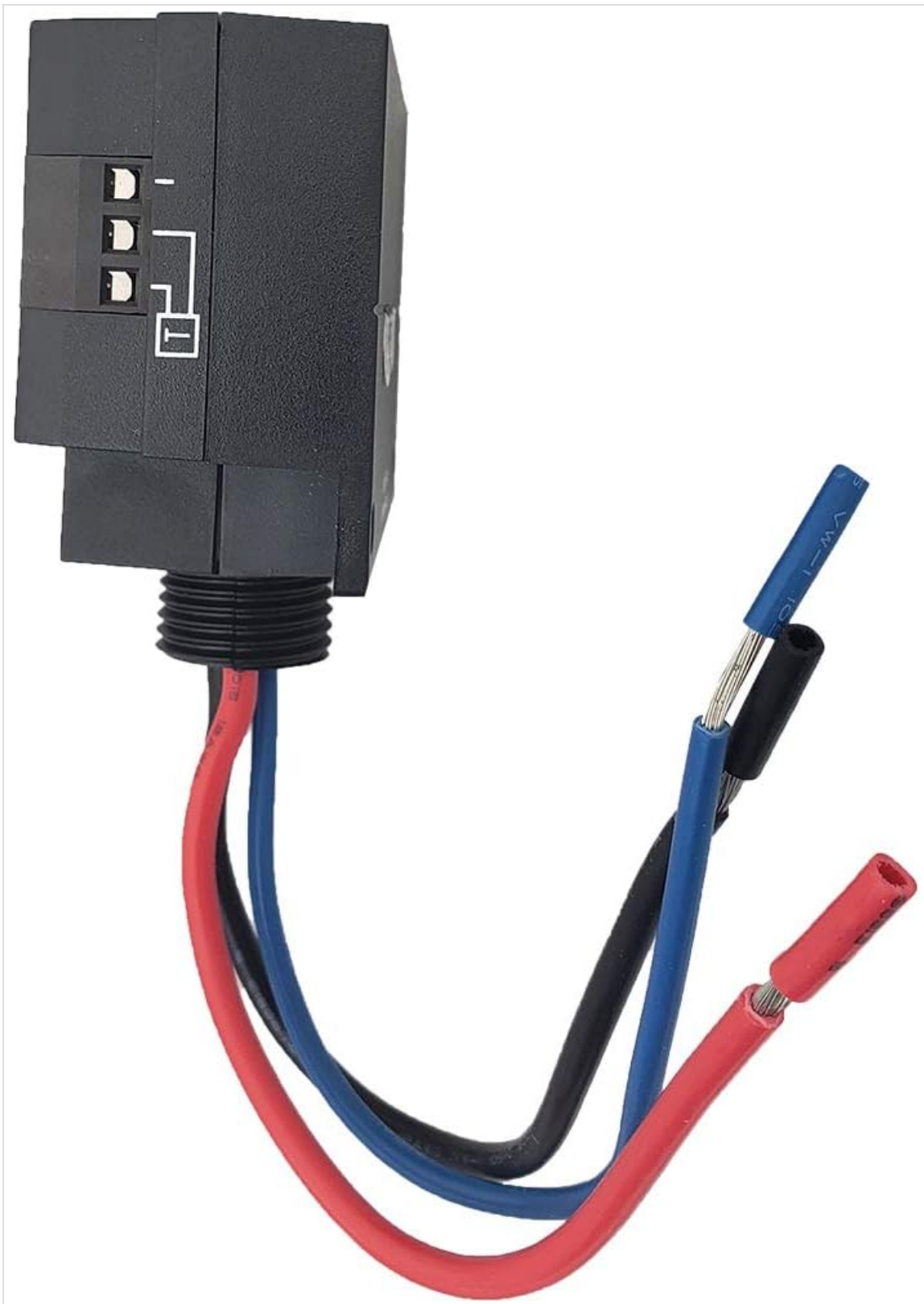


Figure 2: Side view of the RC840T-240 relay, highlighting the low-voltage screw terminals labeled R, W, and C for thermostat connections.

Connect your 24V thermostat to the relay's terminals as follows:

- **R Terminal:** Connect to the R (or RH) terminal on your thermostat. This provides 24V power.
- **W Terminal:** Connect to the W terminal on your thermostat. This is the call for heat signal.
- **C Terminal (Common):** Connect to the C terminal on your thermostat. This provides a common return path for 24V power, enabling 3-wire thermostat operation. If your thermostat only uses 2 wires (R and W), the C terminal may not be used.

After all connections are made, double-check all wiring for correctness and security before restoring power.

## 6. OPERATING INSTRUCTIONS

Once properly installed and wired, the AUBE TECHNOLOGIES RC840T-240 relay operates automatically in conjunction with your 24V thermostat.

- When your thermostat calls for heat, it sends a 24V signal to the 'W' terminal of the relay.
- Upon receiving this signal, the RC840T-240 relay immediately activates, closing its internal contacts to supply 208V/240V power to your electric heating system.
- When the thermostat satisfies the set temperature and stops calling for heat, the signal to the 'W' terminal is removed, and the relay deactivates, cutting power to the heating system.
- Some models of the RC840T-240 may feature a visible red LED indicator that illuminates when the relay is activated, providing a visual confirmation of operation.

Ensure your thermostat is programmed and set correctly according to its own instruction manual to achieve desired heating performance.

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## 7. MAINTENANCE

The AUBE TECHNOLOGIES RC840T-240 electric heating relay is designed for maintenance-free operation. There are no user-serviceable parts inside.

- Periodically inspect the relay and its wiring for any signs of damage, loose connections, or overheating.
  - Keep the area around the relay clean and free from dust and debris to ensure proper ventilation.
  - If any issues are observed, disconnect power immediately and consult a qualified electrician.
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## 8. TROUBLESHOOTING

If your electric heating system is not functioning as expected with the RC840T-240 relay, consider the following troubleshooting steps:

### 1. No Heat / Heating System Not Turning On:

- **Check Power:** Ensure power is supplied to the heating system and the relay at the main electrical panel. Check for tripped circuit breakers.
- **Thermostat Setting:** Verify that the thermostat is set to a temperature higher than the current room temperature and is in heating mode.
- **Thermostat Wiring:** Confirm that the low-voltage wires from the thermostat are securely connected to the R and W terminals on the relay. A loose connection can prevent the call for heat signal from reaching the relay.
- **Relay Indicator:** If your relay has an LED indicator, check if it illuminates when the thermostat calls for heat. If not, there might be an issue with the thermostat, its wiring, or the relay's internal 24V transformer.
- **High-Voltage Wiring:** Ensure the high-voltage connections to the heating load are secure and correct.

### 2. Heating System Not Turning Off:

- **Thermostat Setting:** Ensure the thermostat is set to a temperature lower than the current room temperature or is turned off.
- **Thermostat Malfunction:** A faulty thermostat might continuously send a call for heat signal.
- **Relay Malfunction:** The relay contacts might be stuck in the closed position. This requires professional

inspection and replacement if confirmed.

### 3. Intermittent Operation:

- **Loose Connections:** Recheck all low-voltage and high-voltage wiring connections for tightness.
- **Thermostat Issues:** An aging or faulty thermostat can send inconsistent signals.

If these steps do not resolve the issue, it is recommended to contact a qualified electrician or AUBE TECHNOLOGIES customer support for further assistance. Do not attempt to open or repair the relay yourself.

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## 9. WARRANTY AND SUPPORT

For information regarding the product warranty, please refer to the documentation provided with your purchase or visit the official AUBE TECHNOLOGIES website.

For technical support, troubleshooting assistance beyond this manual, or to inquire about replacement parts, please contact AUBE TECHNOLOGIES customer service through their official channels.

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