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Model: 50A55-3797 | Brand: DDORUU

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the DDORUU 50A55-3797 Furnace Control Board. This board is designed as a direct replacement for various White-Rodgers and Trane single-stage integrated furnace controls.

The 50A55-3797 Furnace Control Board is an automatic gas interrupted ignition control system. It utilizes a microprocessor to continuously monitor, analyze, and control the proper operation of the gas burner, inducer, and fan within your furnace system.

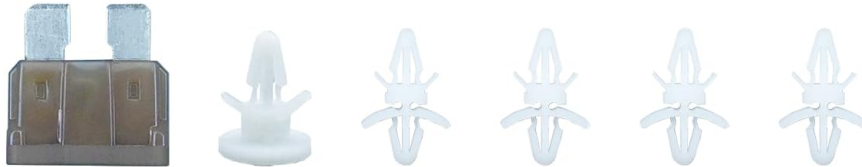
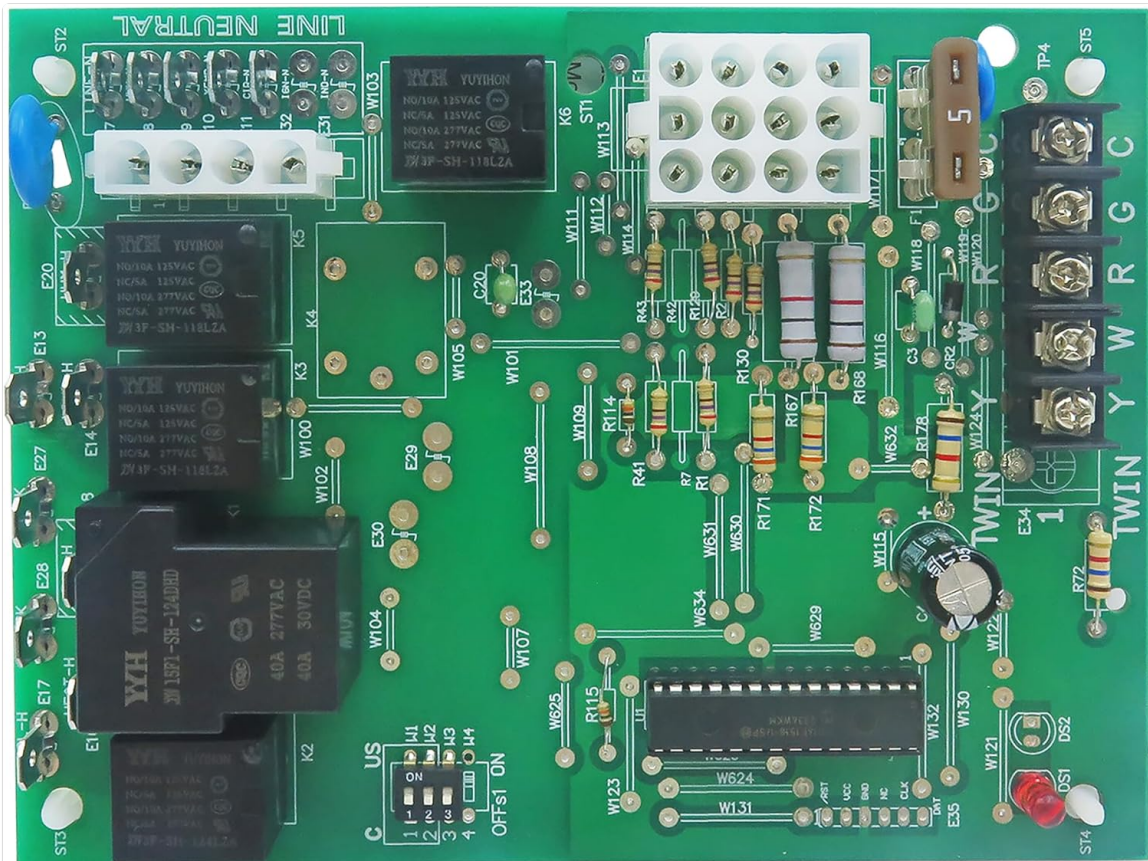


Image 1.1: The DDORUU 50A55-3797 Furnace Control Board.

1.1 Compatible Models

This control board is designed as a replacement for the following models:

- **White-Rodgers:** 50A55-3797, 50A55-474, 50A55-476, 50A55-571
- **Trane Single Stage:** CNT02891, CNT03797, CNT02789

It is designed as a replacement for the following controls:

Trane

CNT02891

CNT03797

CNT02789

White-Rodgers

50A55-3797

50A55-474

50A55-476

50A55-571

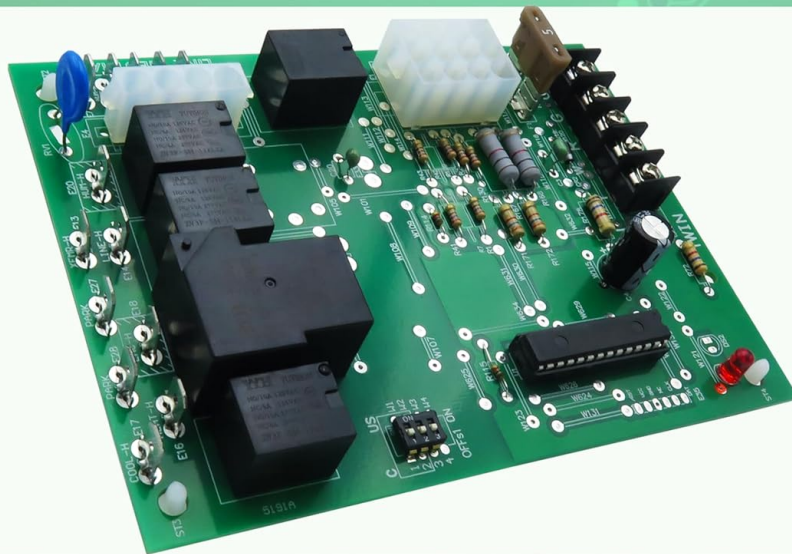


Image 1.2: List of compatible White-Rodgers and Trane control board models.

2. SAFETY INFORMATION

WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury, or death. Read the installation, operating, and maintenance instructions thoroughly before installing or servicing this equipment.

- Always disconnect power to the furnace before installing or servicing the control board.
- Ensure all wiring connections are secure and correct according to the furnace manufacturer's specifications.
- This control board should only be installed by a qualified technician.
- Do not attempt to repair the control board. If a failure occurs internally, the entire control should be replaced.

3. INSTALLATION (SETUP)

Follow these steps for proper installation of the 50A55-3797 Furnace Control Board:

1. **Power Disconnection:** Turn off all electrical power to the furnace at the main service panel. Verify power is off using a voltage meter.
2. **Access Old Board:** Open the furnace access panel to locate the existing control board.
3. **Document Wiring:** Carefully label all wires connected to the old control board. Take photographs of the wiring configuration for reference.
4. **Disconnect Wires:** Disconnect all wires from the old control board.
5. **Remove Old Board:** Unmount the old control board from its position.
6. **Mount New Board:** Install the DDORUU 50A55-3797 control board in the same location as the old board. Ensure it is securely fastened.
7. **Connect Wires:** Reconnect all labeled wires to the corresponding terminals on the new control board. Refer to your photographs and the furnace wiring diagram to ensure correct connections.
8. **Close Access Panel:** Securely close the furnace access panel.
9. **Restore Power:** Restore electrical power to the furnace at the main service panel.
10. **Test Operation:** Initiate a heating cycle to verify proper operation of the furnace.

Note: Always refer to your specific furnace manufacturer's installation guidelines in conjunction with these instructions.

4. OPERATING PRINCIPLES

The 50A55-3797 control board manages the sequence of operations for your furnace. It incorporates system fault analysis for quick gas shut-off and automatic ignition retry upon sensing a fault correction.

4.1 Operational Sequence

Upon a call for heat from the thermostat, the control board initiates the following sequence:

1. Inducer motor activation.
2. Pre-purge period.
3. Ignitor activation.
4. Gas valve opening.
5. Flame sensing and verification.
6. Main burner ignition.
7. Circulator fan activation (after a delay).
8. Continuous monitoring of system operation.

When the thermostat call for heat ends, the gas valve closes, and the circulator fan continues to operate for a set cool-down period before shutting off.

These controls incorporate system fault analysis for quick gas flow shut-off, coupled with automatic ignition retry upon sensing a fault correction.

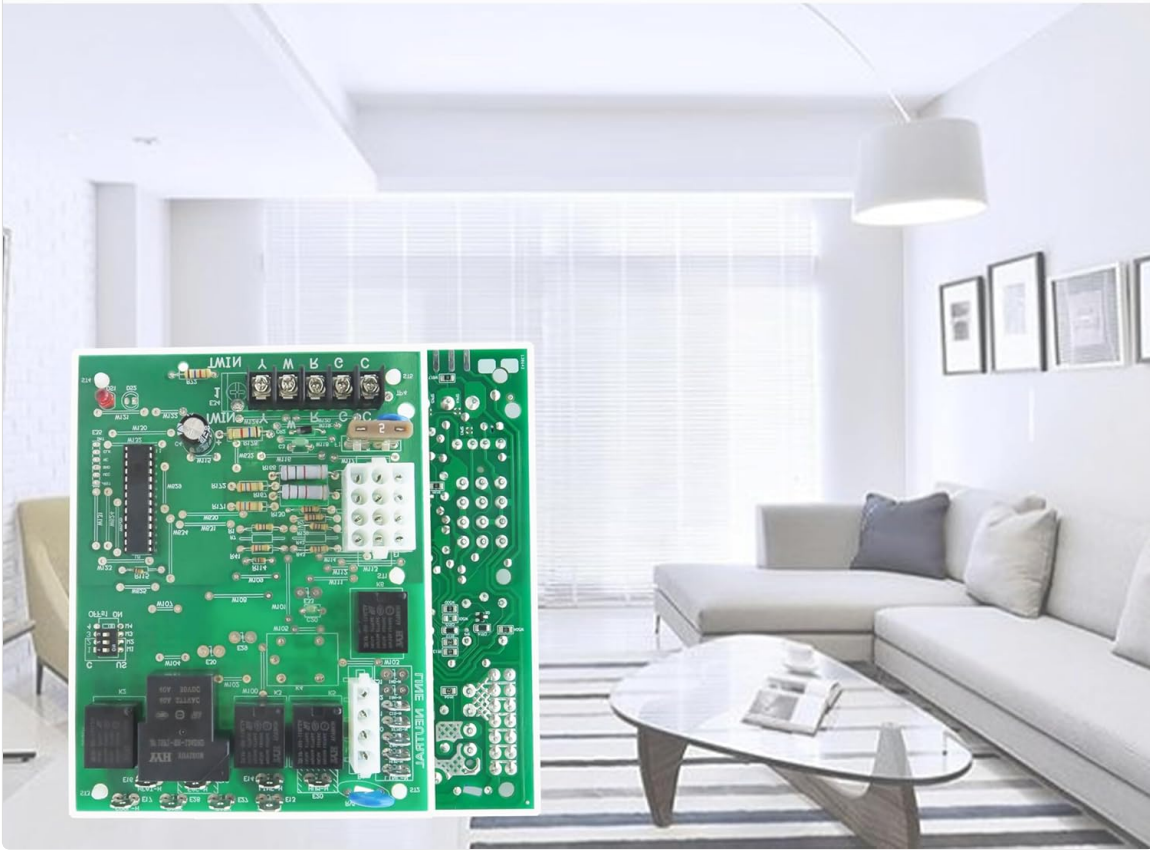


Image 4.1: The control board features system fault analysis for safety and reliability.

5. MAINTENANCE

The 50A55-3797 Furnace Control Board itself requires no routine maintenance. However, regular maintenance of your furnace system is crucial for its longevity and efficient operation. Consult your furnace manufacturer's manual for recommended maintenance schedules.

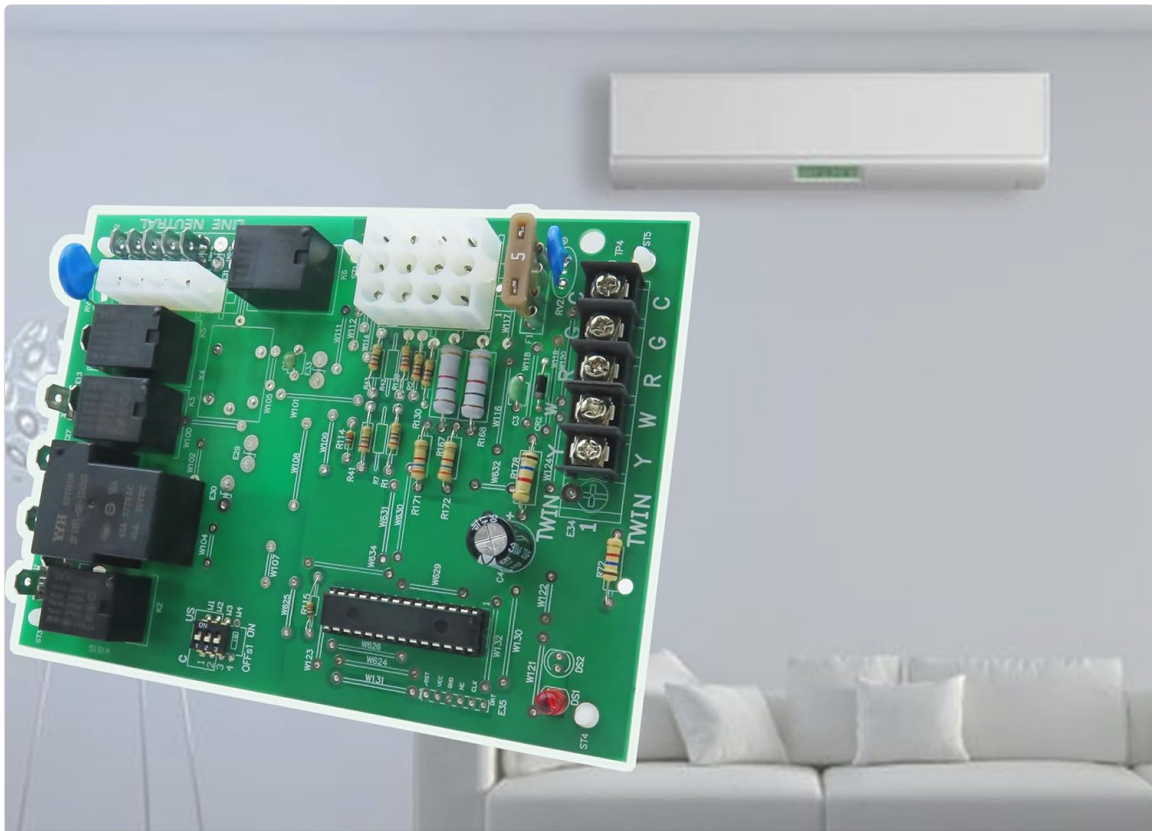
If the control board becomes dirty, ensure power is disconnected before gently cleaning with a soft, dry brush. Do not use liquids or solvents.

6. TROUBLESHOOTING

The 50A55-3797 control continuously monitors its own operation and the operation of the system. If a failure occurs, the onboard LED will indicate a failure code. Refer to your furnace's specific diagnostic codes for detailed interpretation.

Important:

- If the LED light stays off, it indicates an internal failure within the control board. In this scenario, the entire control board should be replaced, as it is not field-repairable.
- Always disconnect power before attempting any troubleshooting or inspection.
- If you are unsure about any troubleshooting steps, contact a qualified HVAC technician.



The 50A55-3797 Furnace Control Board is an automatic gas interrupted ignition control that employs a microprocessor to continually monitor, analyze, and control the proper operation of the gas burner, inducer, and fan.

Image 6.1: The control board features an LED for diagnostic fault codes.

7. SPECIFICATIONS

8. WARRANTY

The DDORUU 50A55-3797 Furnace Control Board comes with a free return and exchange policy within six months of purchase. Please retain your proof of purchase for warranty claims.

9. CUSTOMER SUPPORT

For technical assistance, warranty claims, or further inquiries, please contact DDORUU customer support through the retailer where the product was purchased. Provide your model number (50A55-3797) and purchase details for efficient service.

Online resources may also be available on the DDORUU brand page or the retailer's website.