

## Trane 50A55-486

# Trane White Rodgers Upgraded Furnace Control Circuit Board 50A55-486 Instruction Manual

Model: 50A55-486

## 1. INTRODUCTION

This instruction manual provides essential information for the installation, operation, and maintenance of the Trane White Rodgers Upgraded Furnace Control Circuit Board, model 50A55-486. This board is designed as a direct replacement for the older part # 50A55-486 and is compatible with Trane and American Standard furnaces. Please read this manual thoroughly before proceeding with installation or service.

## 2. SAFETY INFORMATION

**WARNING: Electrical shock hazard. Disconnect all power to the furnace before installing or servicing this control board. Failure to do so can result in serious injury or death.**

- Always ensure the main power supply to the furnace is turned off at the circuit breaker or fuse box before beginning any work.
- Only qualified technicians should perform installation and service.
- Verify all wiring connections are secure and correct before restoring power.
- Do not bypass any safety devices.

## 3. PRODUCT OVERVIEW

The White Rodgers 50A55-486 is an upgraded furnace control circuit board designed to manage the various functions of your furnace, including ignition, blower operation, and safety protocols. It serves as a direct replacement for the original 50A55-486 part.



Figure 1: White Rodgers 50A55-486 Furnace Control Circuit Board. This image displays the top view of the circuit board, showing various terminals, relays, and components. The board is white with green circuit traces and features multiple connection points for furnace wiring.

## 4. INSTALLATION AND SETUP

1. **Power Disconnection:** Before starting, ensure all electrical power to the furnace is completely disconnected at the main service panel.
2. **Access the Control Board:** Locate and open the furnace access panel to expose the existing control board.
3. **Document Existing Wiring:** It is highly recommended to take clear photographs of all wiring connections to the old control board before disconnecting them. Labeling wires can also prevent errors during reinstallation.
4. **Remove Old Board:** Carefully disconnect all wires and mounting screws from the old control board. Note that the new board may have slightly different component layouts or terminal positions compared to the original.
5. **Install New Board:** Mount the new White Rodgers 50A55-486 control board in the same location as the old one. Secure it with appropriate fasteners.
6. **Connect Wiring:** Refer to your documented wiring (photos/labels) and the wiring diagram provided with your furnace or the new control board. Connect all wires to their corresponding terminals on the new board. Pay close attention to the "TWIN Y W R G C" terminals and "LINE NEUTRAL" connections.
7. **Verify Connections:** Double-check all connections for tightness and correctness. Ensure no wires are loose or incorrectly placed.
8. **Restore Power:** Close the furnace access panel. Restore electrical power to the furnace at the main service panel.
9. **Test Operation:** Initiate a heating cycle to verify proper furnace operation.

*Note: Some users have reported that while this board is a direct replacement, the physical layout of terminals might differ slightly from older versions. Always cross-reference with your furnace's wiring diagram.*

## 5. OPERATION

The furnace control board manages the sequence of operations for your heating system. A typical heating cycle involves:

- **Thermostat Call for Heat:** When the thermostat calls for heat, the control board initiates the heating

sequence.

- **Inducer Motor Activation:** The inducer motor starts to vent combustion gases.
- **Pressure Switch Closure:** Once sufficient draft is established, the pressure switch closes, signaling the control board to proceed.
- **Ignition Sequence:** The igniter is energized, followed by the opening of the gas valve.
- **Flame Sensing:** The control board verifies the presence of a flame.
- **Blower Motor Activation:** After a short delay, the main blower motor starts to distribute heated air.
- **Heating Cycle Completion:** When the thermostat's set temperature is reached, the gas valve closes, the igniter de-energizes, and after a cool-down period, the blower motor shuts off.

Your browser does not support the video tag.

Video 1: Overview of a Furnace Control Circuit Board. This video provides a visual demonstration and explanation of a furnace control board, highlighting its components and general function within a heating system. While the specific model shown may vary, the operational principles are similar.

## 6. MAINTENANCE

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Regular maintenance helps ensure the longevity and efficient operation of your furnace and its control board.

- **Annual Inspection:** Have a qualified HVAC technician inspect your furnace annually.
- **Cleanliness:** Keep the area around the furnace clean and free of dust and debris. Dust accumulation on the control board can lead to overheating or malfunctions.
- **Wiring Integrity:** Periodically check for any loose or corroded wiring connections.
- **Air Filter Replacement:** Regularly replace or clean your furnace's air filter to ensure proper airflow and prevent strain on the system.

## 7. TROUBLESHOOTING

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The control board often includes an LED indicator to assist with troubleshooting. Refer to the specific diagnostic codes for your furnace model, which are typically found on the furnace door or in your furnace's manual.

### Common Issues and Potential Solutions:

- **No Heat:**
  - Check thermostat settings.
  - Verify power supply to the furnace.
  - Inspect the furnace filter for blockage.
  - Check for tripped circuit breakers or blown fuses.
  - Observe the LED indicator for diagnostic codes.
- **Blower Not Operating:**
  - Ensure the thermostat is set to "AUTO" or "ON" as desired.
  - Check for obstructions in the blower compartment.
  - Listen for any unusual noises from the blower motor.
- **Intermittent Operation:**

- Could indicate a loose connection or a failing component.
- Check for proper grounding.

If you are unable to resolve an issue, contact a qualified HVAC technician for assistance.

## 8. SPECIFICATIONS

Feature	Detail
Brand	Trane
Model Name	50A55-486
Part Number	OEM Upgrd Replm. for Part # 50A55-486
Item Weight	12.6 ounces
Product Dimensions	4 x 4 x 6 inches
Installation Type	Screw-in or Snap-in
Material Type	Copper
Control Console	Knob ( <i>Note: This specification seems generic and may not directly apply to the circuit board itself, but rather the furnace it controls.</i> )
Color	White
Date First Available	June 4, 2010

## 9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your specific product packaging or contact the manufacturer directly. As this is a replacement part, warranty terms may vary.

Official service bulletin from Trane and American Standard regarding Integrated Furnace Control (IFC) board failures in specific furnace models. Details error code 5, affected models, and mandatory rework instructions.

Comprehensive guide to Trane XL 80 series gas-fired furnaces (TUD2 and TDD2 models), detailing features, performance data, electrical specifications, and dimensions for upflow, downflow, and horizontal installations.

Comprehensive guide for the installation, operation, and maintenance of Trane and American Standard S8 Series Upflow/Downflow/Horizontal Gas-Fired 1-Stage and 2-Stage Induced Draft Furnaces with High Efficiency Motor. Includes safety warnings, specifications, wiring diagrams, and troubleshooting.

Detailed product data, features, benefits, specifications, performance data, electrical wiring diagrams, and dimensions for the Trane XT95 series of high-efficiency, single-stage, fan-assisted, condensing, direct vent gas-fired furnaces.

Detailed product data and specifications for the Trane S9V2 Series Two Stage Condensing Gas Fired Furnace, covering features, benefits, model variations, technical specifications, and airflow performance tables.

Comprehensive guide for the installation, operation, and maintenance of Trane's Upflow/Horizontal and Dedicated Downflow Gas-Fired, Direct/Non-Direct Vent, Single Stage Condensing Furnaces with High Efficiency Motor. Includes safety warnings, specifications, and troubleshooting.