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## White Rodgers 50A65-476-08

# White Rodgers 50A65-476-08 Furnace Control Circuit Board Instruction Manual

MODEL: 50A65-476-08

## Introduction

This manual provides essential instructions for the installation, operation, and maintenance of your White Rodgers 50A65-476-08 Furnace Control Circuit Board. This upgraded circuit board is designed as a direct replacement for specific Trane and American Standard furnace control boards, ensuring reliable performance for your HVAC system. Please read this manual thoroughly before proceeding with installation or any service.



This image displays the White Rodgers 50A65-476-08 Furnace Control Board. It is a green circuit board featuring various electronic components, relays, and terminal blocks. Key visible markings include "EMERSON Climate Technologies" and

"Intell-Ignition™". The board is equipped with multiple connectors for wiring, a fuse, and diagnostic LEDs (DS1, DS2) for system status indication.

## Important Safety Information

Installation and servicing of heating equipment can be hazardous due to gas and electrical components. Only qualified service personnel should install, repair, or service this furnace control board. Failure to follow these instructions could result in property damage, personal injury, or death.

- **Disconnect Power:** Always turn off the electrical power to the furnace at the main service panel before installing or servicing the control board.
- **Gas Supply:** Ensure the gas supply to the furnace is turned off before working on the unit.
- **Static Discharge:** Handle the circuit board by its edges to avoid damage from electrostatic discharge. Use an anti-static wrist strap if available.
- **Wiring:** Verify all wiring connections are correct and secure according to the furnace manufacturer's specifications and the wiring diagram.
- **Fuse:** Use only the specified fuse rating for replacement.

## Package Contents

Please verify that all items are present and undamaged upon opening the package:

- White Rodgers 50A65-476-08 Furnace Control Circuit Board (1 unit)
- Installation Guide (this document)

## Installation Instructions

Follow these steps carefully to replace your furnace control board. If you are unsure about any step, consult a qualified HVAC technician.

1. **Disconnect Power:** Turn off all electrical power to the furnace at the main service panel. Verify power is off using a voltage meter.
2. **Turn Off Gas:** Close the manual gas shut-off valve to the furnace.
3. **Access Control Board:** Open the furnace access panel to locate the existing control board.
4. **Document Wiring:** Before disconnecting any wires, take clear photographs of the existing wiring connections. Label each wire and its corresponding terminal on the old board. This step is crucial for correct re-installation.
5. **Disconnect Wires:** Carefully disconnect all wires from the old control board.
6. **Remove Old Board:** Unmount the old control board from the furnace chassis. Note how it was secured.
7. **Install New Board:** Mount the new White Rodgers 50A65-476-08 control board in the same location and orientation as the old board. Secure it properly.
8. **Reconnect Wires:** Using your photographs and labels, carefully reconnect all wires to their correct terminals on the new board. Ensure all connections are tight and secure.
9. **Replace Fuse:** If the old board had a fuse, ensure the new board has the correct fuse installed (typically 3A or 5A, check furnace specifications). The image shows a 5A fuse.
10. **Close Access Panel:** Securely close the furnace access panel.
11. **Restore Gas and Power:** Open the manual gas shut-off valve. Restore electrical power to the furnace at the main service panel.
12. **Test Operation:** Initiate a call for heat from your thermostat to verify proper furnace operation. Observe the furnace through a complete heating cycle.

## Operating Principles

The White Rodgers 50A65-476-08 is an automatic furnace control board, part of the Intell-Ignition™ system. It manages the sequence of operations for your furnace, including ignition, fan control, and safety monitoring. Once installed and powered, the board will automatically respond to calls for heat or fan operation from your thermostat.

**Diagnostic LEDs:** The board features diagnostic LEDs (DS1 and DS2, visible on the board) that provide status and fault codes. Refer to your furnace's specific diagnostic chart or the board's label for interpretation of these codes during troubleshooting.

## Maintenance

The White Rodgers 50A65-476-08 control board requires minimal maintenance. However, periodic checks can help ensure its longevity and reliable operation:

- **Annual Inspection:** During your annual furnace maintenance, have a qualified technician inspect the control board for any signs of overheating, corrosion, or loose connections.
- **Keep Clean:** Ensure the area around the control board is free from dust and debris. Use a soft brush or compressed air to gently clean the board if necessary, ensuring power is disconnected first.
- **Wiring Integrity:** Periodically check that all wiring connections to the board remain secure.

## Troubleshooting

Before attempting any troubleshooting, ensure all safety precautions are followed. If you are not comfortable performing these steps, contact a qualified HVAC technician.

Symptom	Possible Cause	Solution
Furnace not starting / No power to board	Blown fuse on board or furnace; tripped circuit breaker; loose wiring.	Check and replace fuse (5A max); reset circuit breaker; verify all power connections are secure.
Burners not igniting	No gas supply; faulty igniter; dirty flame sensor; incorrect wiring.	Ensure gas valve is open; inspect igniter for damage; clean flame sensor; re-check wiring.
Fan not operating correctly	Faulty fan motor; incorrect fan settings; wiring issue.	Check fan motor operation; verify thermostat fan settings; inspect fan wiring.
Diagnostic LEDs (DS1/DS2) indicating fault	Specific system fault (e.g., pressure switch, limit switch, flame failure).	Consult your furnace's diagnostic chart or the board's label for the specific fault code and recommended action.

## Product Specifications

- **Model:** 50A65-476-08
- **Brand:** White Rodgers (Emerson Climate Technologies)
- **Compatibility:** Designed to replace specific Trane and American Standard furnace control boards.
- **Product Dimensions:** 4 x 4 x 6 inches (approximate, as listed in product details)
- **Weight:** 11 ounces (approximate)
- **Special Feature:** Energy Efficient (as listed in product details)
- **Fuse Rating:** 5A (as indicated on board image)
- **Ignition System:** Intell-Ignition™ Automatic Ignition System (ANSI Z21.20)

## **Warranty Information**

This White Rodgers control board is typically covered by a manufacturer's limited warranty against defects in materials and workmanship. The specific terms and duration of the warranty may vary. Please retain your proof of purchase for warranty claims. For detailed warranty information, refer to the official White Rodgers or Emerson Climate Technologies website, or contact your point of purchase.

## **Customer Support**

If you encounter any issues or have questions regarding the White Rodgers 50A65-476-08 Furnace Control Circuit Board that are not addressed in this manual, please contact the seller or a qualified HVAC professional for assistance. Do not attempt repairs beyond the scope of this manual unless you are a certified technician.