

White-Rodgers 50A55-843

White-Rodgers 50A55-843 Ignition Control Module User Manual

Universal Integrated Fan Control for HVAC Systems

1. INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, maintenance, and troubleshooting of the White-Rodgers 50A55-843 Universal Integrated Fan Control module. This module is designed to replace various hot-surface ignition control boards in residential furnace applications. Please read this manual thoroughly before attempting any installation or service.

2. SAFETY INFORMATION

WARNING: Disconnect power before servicing. Failure to do so may result in electrical shock, property damage, or personal injury.

WARNING: This unit is not field repairable. Replace only with the exact model number. Improper replacement or repair can lead to explosion and serious injury.

Installation and servicing of heating equipment can be hazardous due to gas and electrical components. Only qualified service personnel should install or service this control module. Improper installation, adjustment, alteration, service, or maintenance can cause property damage, personal injury, or loss of life.

3. PRODUCT OVERVIEW

The White-Rodgers 50A55-843 is a universal integrated fan control module designed for hot-surface ignition systems in various gas furnaces. It manages the ignition sequence, flame sensing, and blower motor operation to ensure efficient and safe heating.

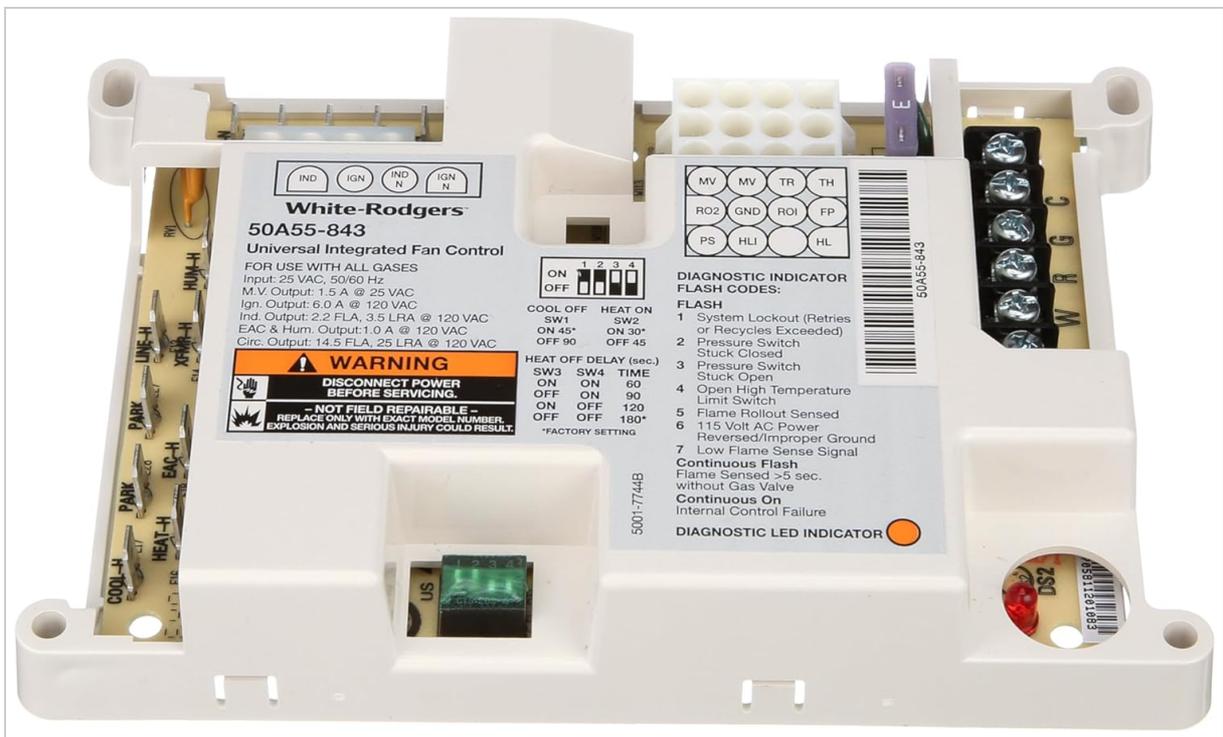


Figure 1: White-Rodgers 50A55-843 Universal Integrated Fan Control Module. This image displays the top view of the control module, showing various terminals, dip switches, and diagnostic LED. Key labels such as "White-Rodgers 50A55-843 Universal Integrated Fan Control" are visible, along with electrical specifications and safety warnings.

Key Features:

- Universal hot-surface ignition module for air control.
- Input Voltage: 25 VAC 50/60 Hz.
- Genuine White-Rodgers replacement part.
- Manages ignition, flame sensing, and fan operation.
- Equipped with diagnostic indicator flash codes for troubleshooting.

4. SETUP AND INSTALLATION

Before beginning installation, ensure the new 50A55-843 module is compatible with your existing furnace system. This module is designed as a universal replacement for many older White-Rodgers control boards, such as the 50A50-571 and 50A50-241. Always verify compatibility with the manufacturer's cross-reference guide or your appliance's specifications.

Installation Steps:

1. **Power Disconnection:** Turn off all electrical power to the furnace at the main service panel. Verify power is off using a voltmeter.
2. **Access Old Module:** Locate and access the existing furnace control module. Take clear photographs of all wiring connections to the old board before disconnecting any wires. This will serve as a reference during reinstallation.
3. **Disconnect Wiring:** Carefully disconnect all wires from the old control module. Label each wire as it is removed to ensure correct reattachment.
4. **Remove Old Module:** Unmount the old control module from its position. The new 50A55-843 module may have slightly different mounting hole positions; some minor adjustments or drilling may be required.
5. **Mount New Module:** Securely mount the new White-Rodgers 50A55-843 module in place.
6. **Reconnect Wiring:** Reconnect all wires to the corresponding terminals on the new module, referring to your photographs and labels. Ensure all connections are secure.

7. **Jumper Wire for Trane Units (RO1 to RO2):** For certain Trane units, a jumper wire may be required between the RO1 and RO2 terminals on the 12-pin connector block. If your furnace does not have existing wires connected to RO1 and RO2, or if you experience a "5 flashes - Open Rollout switch" error code after installation, install the supplied jumper wire between RO1 and RO2.
8. **Verify Connections:** Double-check all wiring connections for accuracy and tightness.
9. **Restore Power:** Restore electrical power to the furnace.
10. **Test Operation:** Initiate a call for heat from your thermostat and observe the furnace's operation. Check the diagnostic LED for any error codes.

If you are unsure about any step, consult a qualified HVAC technician.

5. OPERATING INSTRUCTIONS

The 50A55-843 module operates automatically once installed and power is supplied. It controls the sequence of operations for your furnace, including:

- **Thermostat Call for Heat:** Upon receiving a call for heat, the module initiates the ignition sequence.
- **Ignition Sequence:** Activates the hot surface ignitor, followed by opening the gas valve.
- **Flame Sensing:** Monitors the flame presence. If no flame is detected, it will attempt re-ignition or enter a lockout state.
- **Blower Operation:** Controls the main blower motor for heat distribution and cooling cycles.
- **Heat Off Delay:** Dip switches (SW3, SW4) allow adjustment of the heat off delay (60, 90, 120, or 180 seconds) to ensure proper heat extraction and cooling of the heat exchanger. The factory setting is 180 seconds.
- **Cool Off Delay:** Dip switches (SW1, SW2) allow adjustment of the cool off delay (45 or 90 seconds) for cooling cycles. The factory setting is 90 seconds.

The diagnostic LED on the module provides visual feedback on the system status and any detected faults. Refer to the Troubleshooting section for interpreting these codes.

6. MAINTENANCE

The White-Rodgers 50A55-843 control module itself requires no routine maintenance. However, regular maintenance of your overall furnace system is crucial for its longevity and efficient operation. This includes:

- Annual inspection and cleaning by a qualified HVAC technician.
- Regular replacement of air filters.
- Ensuring proper ventilation and clear exhaust pathways.
- Checking and cleaning the flame sensor and ignitor as part of furnace maintenance.

If the control module is suspected of malfunction, refer to the Troubleshooting section or contact a qualified service professional.

7. TROUBLESHOOTING

The 50A55-843 module features a diagnostic LED indicator that flashes codes to help identify system issues. Observe the flash pattern and refer to the table below:

Flash Code	Description
1 Flash	System Lockout (Retries or Recycles Exceeded)

Flash Code	Description
2 Flashes	Pressure Switch Stuck Closed
3 Flashes	Pressure Switch Stuck Open
4 Flashes	Open High Temperature Limit Switch
5 Flashes	Flame Rollout Sensed
6 Flashes	115 Volt AC Power Reversed/Improper Ground
7 Flashes	Low Flame Sense Signal
Continuous Flash	Flame Sensed >5 sec. without Gas Valve
Continuous On	Internal Control Failure

If you encounter a persistent error code or are unable to resolve the issue, contact a qualified HVAC service technician.

8. SPECIFICATIONS

Attribute	Value
Brand	White-Rodgers
Model Number	50A55-843
Input Voltage	25 VAC, 50/60 Hz
M.V. Output	1.5 A @ 25 VAC
Ignition Output	6.0 A @ 120 VAC
Ind. Output	2.2 FLA, 3.5 LRA @ 120 VAC
EAC & Hum. Output	1.0 A @ 120 VAC
Circ. Output	14.5 FLA, 25 LRA @ 120 VAC
Item Dimensions (L x W x H)	8 x 5 x 2.5 inches
Item Weight	12.8 ounces
UPC	786710100437
Material	Plastic
Color	White

9. WARRANTY AND SUPPORT

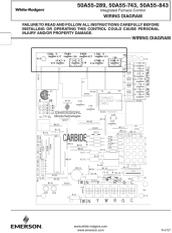
The White-Rodgers 50A55-843 Ignition Control Module typically comes with a 1-year limited warranty from the manufacturer. For specific warranty details, please refer to the documentation included with your purchase or contact White-Rodgers customer support.

For technical assistance or support, it is recommended to contact a qualified HVAC professional or refer to the

official White-Rodgers website for contact information and additional resources.

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Related Documents - 50A55-843

	<p>White-Rodgers Universal Furnace Controls Guide</p> <p>Explore the White-Rodgers Universal Furnace Controls product line, featuring a range of ignition modules, fan timers, and integrated furnace controls. This guide provides cross-reference information for various models and brands.</p>
	<p>White-Rodgers & Emerson HVAC Universal Products Quick Reference Guide</p> <p>This guide provides a quick reference for White-Rodgers and Emerson HVAC universal products, including thermostats, ignition modules, gas valves, and ignitors. It details model numbers, features, and cross-reference information for easy part selection and system compatibility.</p>
	<p>White-Rodgers 50A55 Series Integrated Furnace Control Wiring Diagram</p> <p>Detailed wiring diagram for White-Rodgers 50A55-289, 50A55-743, and 50A55-843 integrated furnace controls. Includes terminal labels, component identification, and safety warnings for HVAC systems.</p>
	<p>White-Rodgers 50A55-843 & 50A65-843 Universal Single Stage Furnace Controls</p> <p>Comprehensive guide to White-Rodgers 50A55-843 and 50A65-843 Universal Single Stage Integrated Furnace Controls. Covers features, benefits, installation, cross-references, and troubleshooting for HVAC professionals.</p>
	<p>White-Rodgers 50A55-3797 Integrated Furnace Control: Installation, Operation, and Troubleshooting</p> <p>Comprehensive installation, operation, and troubleshooting guide for the White-Rodgers 50A55-3797 Integrated Furnace Control. Includes detailed specifications, wiring diagrams, safety precautions, and diagnostic information for HVAC professionals.</p>
	<p>White-Rodgers 50M56X-843 Universal Integrated Ignition Control Kit Installation Instructions</p> <p>Installation instructions for the White-Rodgers 50M56X-843 Universal Integrated Single Stage 120V Hot Surface Ignition Control Kit. This guide covers product description, electrical specifications, configuration options via mobile app or on-board display, detailed installation and mounting procedures, application notes for various furnace types, comprehensive wiring diagrams for multiple OEM systems, and troubleshooting steps with diagnostic codes.</p>

