

Carrier HK42FZ014

Carrier HK42FZ014 Furnace Control Board Instruction Manual

Model: HK42FZ014

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of the **Carrier HK42FZ014 OEM Replacement Furnace Control Board**. This control board is a critical component designed to manage the various functions of your furnace, including ignition, blower operation, and safety protocols. Adherence to these instructions is crucial for safe and efficient operation.

The HK42FZ014 is an original equipment manufacturer (OEM) replacement part, ensuring compatibility and performance with specified Carrier furnace models.

2. SAFETY INFORMATION

WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, personal injury, or loss of life. Installation and service must be performed by a qualified installer, service agency, or gas supplier.

- **Disconnect Power:** Always disconnect all electrical power to the furnace before installing or servicing the control board. Failure to do so can result in electrical shock, personal injury, or death.
- **Electrostatic Discharge (ESD) Precautions:** Electronic components are sensitive to static electricity. **AVOID ELECTROSTATIC DISCHARGE** by touching a grounded metal object (such as the furnace chassis) before handling the control board. Use an ESD wrist strap if available.
- **Verify Wiring:** Ensure all wiring connections are correct and secure according to the furnace manufacturer's specifications and wiring diagrams.
- **Professional Installation Recommended:** Due to the complexity and safety implications, installation by a certified HVAC technician is strongly recommended.

3. CONTROL BOARD COMPONENTS OVERVIEW

The Carrier HK42FZ014 control board integrates various circuits and terminals to manage furnace operations. Familiarize yourself with the key areas:

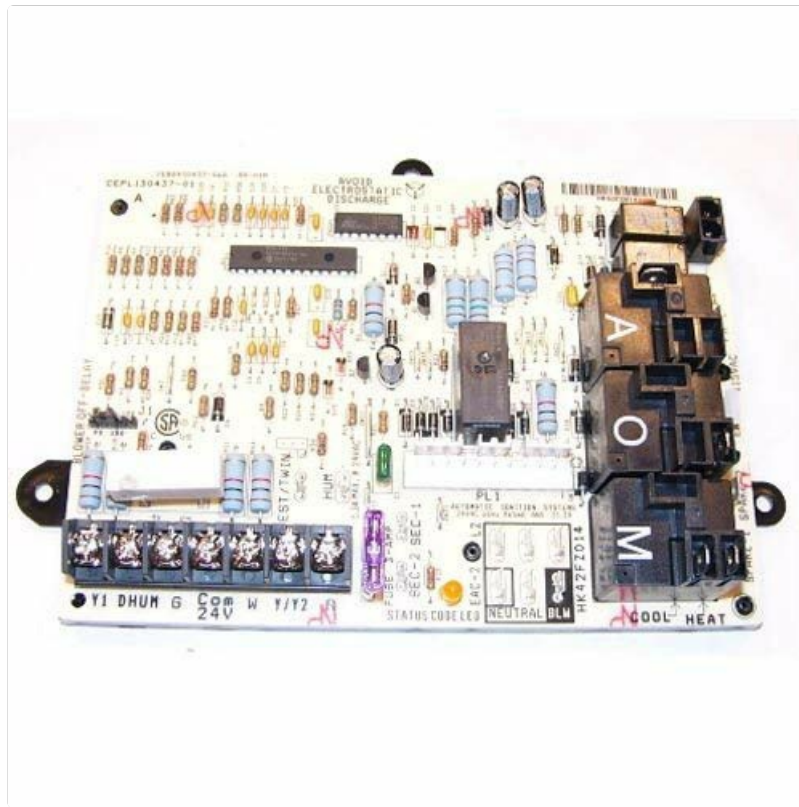


Figure 3.1: Carrier HK42FZ014 Furnace Control Board. This image displays the full circuit board with various components, relays, and terminal blocks visible.

- **Terminal Blocks (Y1, DHUM, G, Com, W, Y/Y2, 24V):** These screw terminals are for connecting low-voltage thermostat wires and other control signals. "Com" typically refers to the common wire, and "24V" is the 24-volt power supply.
- **Fuses:** The board includes fuses (e.g., 3-AMP) to protect the circuitry from overcurrent. Always replace with a fuse of the same rating.
- **Relays (A, O, M):** These larger black components are relays that switch higher voltage circuits for components like the blower motor, igniter, and gas valve. The labels "A", "O", and "M" correspond to specific functions.
- **Status Code LED:** A small LED indicator provides diagnostic fault codes. Refer to the furnace service manual for specific flash codes.
- **Connectors (EAC-1, EAC-2, SEC-1, SEC-2):** Various plug-in connectors for accessories or specific furnace components.
- **"COOL HEAT" Indicators:** These labels near the relays indicate connections for cooling and heating functions.
- **"BLOWER OFF-RELAY":** This label indicates the relay responsible for controlling the blower motor's off cycle.

4. INSTALLATION INSTRUCTIONS

Follow these general steps for replacing the furnace control board. Always refer to your specific furnace model's service manual for detailed wiring diagrams and procedures.

1. **Power Disconnection:** Turn off all electrical power to the furnace at the main service panel. Verify power is off using a voltage tester.
2. **Access Control Board:** Open the furnace access panel to locate the existing control board.
3. **Document Wiring:** Before disconnecting any wires, take clear photos or draw a detailed diagram of all connections to the old board. Label each wire carefully.

4. **Disconnect Wires:** Carefully disconnect all wires from the old control board.
5. **Remove Old Board:** Unmount the old control board from the furnace chassis. Note how it was secured.
6. **Install New Board:** Mount the new HK42FZ014 control board in the same location and orientation as the old one. Ensure it is securely fastened.
7. **Connect Wiring:** Reconnect all wires to the new board, matching them precisely to your documented diagram. Double-check every connection for tightness and correctness. Pay attention to the "Y1 DHUM G Com W Y/Y2" terminals for thermostat wiring and "COOL HEAT" connections for relays.
8. **Verify Fuses:** Ensure the fuses (e.g., 3-AMP) are correctly seated and are of the appropriate rating.
9. **Close Access Panel:** Once all connections are verified, close the furnace access panel.
10. **Restore Power:** Restore electrical power to the furnace at the main service panel.
11. **Test Operation:** Initiate a heating or cooling cycle to verify proper furnace operation. Observe the "STATUS CODE LED" for any diagnostic indications.

5. OPERATION

The HK42FZ014 control board operates automatically, responding to signals from the thermostat and internal furnace sensors to manage the heating and cooling cycles. Key operational aspects include:

- **Ignition Sequence:** Controls the sequence for igniting the burner, including pre-purge, igniter activation, gas valve opening, and flame sensing.
- **Blower Control:** Manages the operation of the indoor blower motor for both heating and cooling cycles, as well as continuous fan operation if selected at the thermostat. The "BLOWER OFF-RELAY" helps manage this function.
- **Safety Monitoring:** Continuously monitors various safety devices (e.g., limit switches, flame sensor) and will shut down the furnace if a fault is detected, displaying a diagnostic code via the "STATUS CODE LED".
- **Diagnostic LED:** The "STATUS CODE LED" provides visual feedback on the board's status and any detected faults. Consult your furnace's service manual for a list of LED flash codes and their meanings.

6. MAINTENANCE

The HK42FZ014 control board itself requires minimal maintenance. However, periodic inspection of the furnace system is recommended to ensure optimal performance and longevity of all components, including the control board.

- **Annual Inspection:** Have a qualified HVAC technician perform an annual inspection of your furnace. They can check electrical connections, clean components, and verify proper operation of the control board and associated safety devices.
- **Cleanliness:** Ensure the area around the control board is free from dust and debris, which can interfere with electronic components.
- **Wiring Integrity:** Periodically check for any loose or corroded wiring connections to the control board. (Ensure power is disconnected before inspection).

7. TROUBLESHOOTING

If your furnace is not operating correctly after control board installation, or if issues arise, the "STATUS CODE LED" on the HK42FZ014 board is your primary diagnostic tool. Always disconnect power before

inspecting or attempting repairs.

- **No Power to Furnace:**
 - Check the main circuit breaker for the furnace.
 - Verify the furnace disconnect switch is in the "ON" position.
 - Inspect the fuses on the control board (e.g., 3-AMP fuse) for continuity.
- **Furnace Not Heating/Cooling:**
 - Check thermostat settings and ensure it's calling for heat or cool.
 - Observe the "STATUS CODE LED" for diagnostic flashes. Refer to your furnace manual for code interpretations.
 - Verify all low-voltage thermostat wires are securely connected to the "Y1 DHUM G Com W Y/Y2" terminals.
- **Blower Not Operating:**
 - Check if the thermostat fan setting is "ON" or "AUTO".
 - Listen for the "BLOWER OFF-RELAY" clicking.
 - Consult LED codes for blower-related faults.
- **Intermittent Operation:**
 - Loose wiring connections can cause intermittent issues. Re-check all connections.
 - Ensure proper grounding to prevent electrostatic interference.

If troubleshooting steps do not resolve the issue, contact a qualified HVAC technician for further diagnosis and repair.

8. SPECIFICATIONS

Feature	Detail
Model Number	HK42FZ014
Manufacturer	Carrier
Product Type	OEM Replacement Furnace Control Board
Dimensions	6 x 6 x 6 inches
Weight	13.72 ounces
ASIN	B00FPP02EY
Date First Available	October 8, 2013

9. WARRANTY INFORMATION

As an OEM replacement part, the Carrier HK42FZ014 Furnace Control Board is typically covered by the manufacturer's standard warranty for replacement parts. Warranty terms and duration may vary. Please refer to the official Carrier warranty documentation provided with your original furnace or contact Carrier customer service for specific details regarding this replacement part.



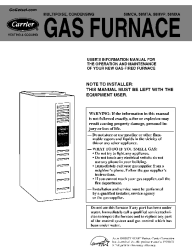


Retain your proof of purchase for any warranty claims.

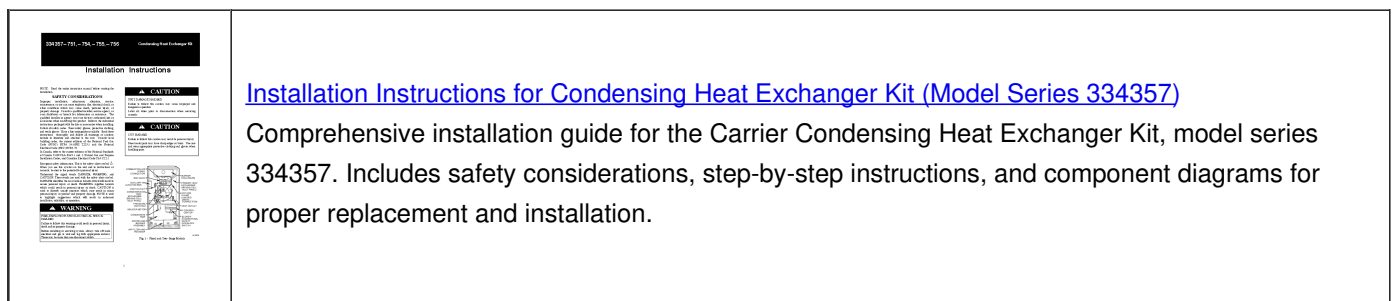
10. TECHNICAL SUPPORT

For technical assistance, complex troubleshooting, or professional installation, it is recommended to contact a qualified and certified HVAC technician. They possess the necessary expertise and tools to safely diagnose and resolve issues related to furnace control boards and overall HVAC system operation.


You may also refer to the official Carrier website or contact their customer support for product-specific inquiries.

Related Documents - HK42FZ014

	<p>Carrier Furnace Control Board with NFC Technology Quick Start Guide</p> <p>Quick start guide for technicians on using Carrier's Service Technician app with NFC-enabled furnace control boards for easier installation, troubleshooting, and servicing.</p>
	<p>Carrier Non-Condensing Gas Furnace Owner's Manual</p> <p>Comprehensive owner's manual for Carrier non-condensing gas furnaces. Provides essential guidance on installation, safe operation, routine maintenance, and troubleshooting for optimal performance and longevity.</p>
	<p>Carrier 58MCA, 58MTA, 58MVP, 58MXA Gas Furnace User Manual</p> <p>Comprehensive user information manual for Carrier's 58MCA, 58MTA, 58MVP, and 58MXA multipoise, condensing gas furnaces, covering operation, maintenance, safety, and troubleshooting.</p>
	<p>Carrier 59MN7C Modulating High Efficiency Condensing Gas Furnace Installation and Service Manual</p> <p>Detailed installation, start-up, operation, service, and maintenance guide for the Carrier 59MN7C Modulating High Efficiency Condensing Gas Furnace. Covers safety, technical procedures, and troubleshooting for HVAC professionals.</p>
	<p>Carrier 58TP0B/58TP1B Gas Furnace Installation, Operation, and Service Manual</p> <p>Comprehensive guide for the Carrier 58TP0B/58TP1B 80% AFUE, variable speed, two-stage gas furnace. Covers installation, start-up, operation, and maintenance procedures for optimal performance and safety.</p>



Documents - Carrier – HK42FZ014

 Carrier Great Lakes	Carrier Great Lakes	Table of Contents
Carrier Residential Equipment		
Carrier Furnaces		2
Carrier Condensing Units		17
Carrier Heat Pumps		30
Evaporator Coils		42
Carrier Fan Coils		46
Carrier Carbon Monoxide Alarms		49
WQ, Air Cleaners, Humidifiers, UV Lights		50
Carrier Thermostats		56
Carrier Zoning		60
Carrier Commercial Equipment		
Carrier Small Packaged Commercial Units		65
Carrier Commercial		66
Commercial Accessories - MicroMod		80
Fourton Wireless HVAC Energy Management System		84
Payne Residential Equipment		
Payne Gas Furnaces		85
Payne Condensing Units		93
Ductless Split Systems		
Carrier Ductless Split Systems		104
Ductless Split System Accessories		106
Geothermal		
Geothermal Equipment		108
Geothermal Accessories		112
Boilers		
Carrier Boilers		115
HTP Modulating Boilers / Indirect Water Heaters		118
Tankless Water Heaters		
Navien Tankless Water Heaters/Combi Boiler		120
Heat Energy Recovery Ventilation		
Carrier Heat Energy Recovery Ventilation		122
RenewAire Energy Recovery Ventilation		124
Unit Heaters		
Modine Unit Heaters		126

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Doc Page 1

[pdf] User Manual Guide Accessories Catalog

Book Generate TOC Indx Plndx pwilliams Carrier Great Lakes Go Now Residential Equipment CarrierGreatLakes Furnaces 59MN7A Furnace Accessories Concentric Vent KGAVT0201BRA KGAHT0101CFP Part Description Use With Price Carriergreatlakes View guide user manual Url carriergreatlakes assets Catalog 6 28 2013 catalog |||

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lang:en score:23 filesize: 8.86 M page_count: 430 document date: 2013-06-28

	Carrier Great Lakes <small>Commercial HVAC & Controls Division</small>	Table of Contents
Residential Equipment		
Carrier Furnaces.....	1	
Carrier Condensing Units.....	17	
Carrier Heat Pumps.....	29	
Evaporator Coils.....	37	
Carrier Fan Coils.....	40	
Carrier Carbon Monoxide Alarms.....	43	
WQ, Air Cleaners, Humidifiers, Dehumidifiers, UV Lights, GPS.....	44	
Carrier Thermostats.....	51	
Residential Zoning.....	57	
Payne Gas Furnaces.....	62	
Payne Condensing Units.....	70	
Ductless Split Systems		
Carrier Ductless Split Systems.....	78	
Geothermal		
Geothermal Equipment.....	82	
Boilers		
Carrier Boilers.....	86	
Navien High Efficiency Boilers/Combi Boiler.....	88	
Radon in Floor Heating.....	89	
Tankless Water Heaters		
Navien Tankless Water Heaters.....	91	
Heat Energy Recovery Ventilation		
Carrier Heat Energy Recovery Ventilation.....	92	
Renewable Energy Recovery Ventilation.....	94	
Unit Heaters		
Modine Unit Heaters.....	96	
E-TAC Units		
GRILE Engineered Terminal Air Conditioner.....	99	
Fourton Wireless HVAC Energy Management System.....	100	
Commercial Equipment, Accessories		
Carrier Small Packaged Units.....	101	
Carrier Commercial Units.....	102	
Carrier Commercial Thermostats.....	108	

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Doc Page 1

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lang:en score:17 filesize: 9.36 M page_count: 430 document date: 2015-09-29

		Table of Contents
www.CarrierGreatLakes.com		
Carrier Residential Equipment		
Carrier Furnaces		2
Carrier Condensing Units		17
Carrier Heat Pumps		30
Evaporator Coils		45
Carrier Fan Coils		49
Carrier Carbon Monoxide Alarms		50
WQ, Air Cleaners, Humidifiers, UV Lights		52
Carrier Thermostats		59
Carrier Zoning		63
Carrier Commercial Equipment		
Carrier Small Packaged Commercial Units		68
Carrier Commercial		69
Commercial Accessories - MicroMod		83
Fourton Wireless HVAC Energy Management System		87
Payne Residential Equipment		
Payne Gas Furnaces		88
Payne Condensing Units		96
Ductless Split Systems		
Carrier Ductless Split Systems		104
Ductless Split System Accessories		106
Geothermal		
Geothermal Equipment		108
Geothermal Accessories		112
Boilers		
Carrier Boilers		115
HTF Modulating Boilers / Indirect Water Heaters		118
Tankless Water Heaters		
Navien Tankless Water Heaters/Combi Boiler		120
Heat Energy Recovery Ventilation		
Carrier Heat Energy Recovery Ventilation		122
Renewable Energy Recovery Ventilation		124
Unit Heaters		
Modine Unit Heaters		126

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106 Page 1

[pdf] User Manual Accessories Catalog

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lang:en score:16 filesize: 8.95 M page_count: 433 document date: 2013-08-21

	Carrier Great Lakes <small>www.CarrierGreatLakes.com</small>	Table of Contents
Residential Equipment		
Carrier Furnaces.....	1	
Carrier Condensing Units.....	17	
Carrier Heat Pumps.....	31	
Evaporator Coils.....	37	
Carrier Fan Coils.....	40	
IQ2 - Air Cleaners, Humidifiers, Dehumidifiers, UV Lights, UPS.....	43	
Carrier Carbon Monoxide Alarms.....	49	
Carrier Thermostats.....	50	
Residential Zoning.....	56	
Payne Gas Furnaces.....	61	
Payne Condensing Units.....	69	
Ductless Split Systems		
Carrier Ductless Split Systems.....	73	
Geothermal		
Geothermal Equipment.....	77	
Boilers		
Bradford White Boilers.....	81	
Carrier Boilers.....	84	
Navien High Efficiency Boilers/Combi Boiler.....	86	
Radiant In-Floor Heating.....	86	
Water Heaters		
Bradford White Water Heaters.....	90	
Navien Tankless Water Heaters.....	96	
Heat Energy Recovery Ventilation		
Carrier HeatEnergy Recovery Ventilation.....	97	
RenewAir Energy Recovery Ventilation.....	99	
Unit Heaters		
Modine Unit Heaters.....	101	
E-TAC Units		
GRIE Engineered Terminal Air Conditioner.....	103	
Carrier Wireless HVAC Energy Management System.....	104	
Commercial Equipment, Accessories		
Carrier Commercial Rooftops.....	105	
Carrier Commercial Thermostats.....	112	

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lang:en score:13 filesize: 13.36 M page_count: 445 document date: 2017-06-23

	Carrier Great Lakes <small>www.CarrierGreatLakes.com</small>	Table of Contents
Residential Equipment		
Carrier Furnaces.....	2	
Carrier Condensing Units.....	16	
Carrier Heat Pumps.....	32	
Evaporator Coils.....	38	
Carrier Fan Coils.....	41	
Air Cleaners, Humidifiers, Dehumidifiers, UV Lights, Air Purifier.....	44	
Thermostats - Ecobee, Edge.....	49	
Thermostats - Carrier.....	52	
Residential Zoning.....	54	
Payne Gas Furnaces.....	57	
Payne Condensing Units.....	63	
Ductless Split Systems		
Carrier Ductless Split Systems.....	67	
Boilers		
Bradford White Boilers.....	73	
Carrier Boilers.....	82	
Navien High Efficiency Boilers/Combi Boiler.....	86	
Radiant In-Floor Heating.....	90	
Water Heaters		
Bradford White Water Heaters.....	96	
Navien Tankless Water Heaters.....	104	
Heat Energy Recovery Ventilation		
Carrier HeatEnergy Recovery Ventilation.....	105	
RenewAir Energy Recovery Ventilation.....	107	
Unit Heaters		
Modine Unit Heaters.....	109	
PTAC Units		
Friedrich PTAC Units.....	111	
Commercial Equipment, Accessories		
Carrier Commercial Rooftops.....	112	
Indoor Air Quality		
Humidity Controls - Honeywell, Trane.....	119	
Air Cleaners - Field Controls, Honeywell, Trane.....	122	
Air Filters - Purifier.....	123	

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[Carrier Great Lakes HVAC Product Catalog and Specifications](#)

Comprehensive catalog from Carrier Great Lakes featuring a wide range of residential and commercial HVAC equipment, including furnaces, air conditioners, heat pumps, boilers, water heaters, ductless systems, and indoor air quality products, along with their specifications and accessories.

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