

Goodman CECOMINOD048324

Goodman Furnace Control Circuit Board B18099-13 Replacement User Manual

1. INTRODUCTION

This manual provides essential information for the installation, operation, maintenance, and troubleshooting of the Goodman Furnace Control Circuit Board, an upgraded replacement for model B18099-13. This circuit board is designed to manage the various functions of a Goodman furnace, ensuring efficient and safe operation. Please read this manual thoroughly before attempting any 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.

- Installation and service should only be performed by qualified HVAC technicians.
- Always verify that the replacement board is compatible with your specific furnace model.
- Wear appropriate personal protective equipment, including safety glasses and insulated gloves.
- Ensure all wiring connections are secure and correctly matched according to the furnace wiring diagram.
- Do not bypass any safety devices.

3. PRODUCT OVERVIEW

The Goodman Furnace Control Circuit Board (replacement for B18099-13) is a critical component responsible for orchestrating the furnace's operational sequence. This includes managing the ignitor, gas valve, blower motor, and various safety sensors. The upgraded design aims to provide reliable performance and compatibility with a range of Goodman furnace models.



Figure 1: Overview of the Goodman Furnace Control Circuit Board. This image displays the green circuit board populated with various electronic components, including relays, resistors, capacitors, and integrated circuits, along with multiple connectors for wiring harnesses. Key labels such as "TEST" and "24V HUM" are visible, indicating diagnostic and functional points.

4. SETUP AND INSTALLATION

1. **Power Disconnection:** Turn off all electrical power to the furnace at the main service panel. Turn off the gas supply to the furnace.
2. **Access the Control Board:** Locate and open the furnace access panel to expose the existing control board.
3. **Document Wiring:** Before disconnecting any wires, take clear photographs or make a detailed diagram of all wiring connections to the old control board. Pay close attention to the position and color of each wire.
4. **Disconnect Wires:** Carefully disconnect all wiring harnesses and individual wires from the old control board.
5. **Remove Old Board:** Unscrew or unclip the old control board from its mounting brackets.
6. **Install New Board:** Mount the new Goodman control board in the same location as the old one, ensuring it is securely fastened.
7. **Connect Wiring:** Reconnect all wiring harnesses and individual wires to the new control board, referring to your photographs or diagram. Double-check each connection for accuracy and security.
8. **Restore Power:** Close the furnace access panel. Restore the gas supply and electrical power to the furnace.
9. **Test Operation:** Initiate a heating cycle from the thermostat and observe the furnace's operation to ensure all components (inducer motor, ignitor, gas valve, blower) function correctly.

For specific wiring diagrams, refer to your furnace's manufacturer manual.

5. OPERATING INSTRUCTIONS

The control board operates automatically based on signals from the thermostat and internal sensors. Upon receiving a call for heat, the board initiates a sequence of operations:

1. **Inducer Motor Activation:** The inducer motor starts to vent combustion gases.
2. **Pressure Switch Check:** The pressure switch verifies proper airflow.
3. **Ignition Sequence:** The ignitor (hot surface ignitor or spark ignitor) is energized.

- 4. **Gas Valve Opening:** Once the ignitor is hot or spark is present, the gas valve opens, allowing gas to flow and ignite.
- 5. **Flame Sensing:** A flame sensor confirms ignition.
- 6. **Blower Motor Activation:** After a short delay, the main blower motor starts to distribute heated air.
- 7. **Cycle Completion:** When the thermostat's set temperature is reached, the gas valve closes, and the blower motor continues to run for a short period to dissipate residual heat before shutting off.

The control board also monitors various safety limits and will shut down the furnace if a fault is detected, often indicated by an LED diagnostic code on the board itself (refer to your furnace's manual for specific codes).

6. MAINTENANCE

The control board itself requires no routine maintenance. However, regular maintenance of the furnace system is crucial for its longevity and proper function. This includes:

- **Filter Replacement:** Regularly replace or clean the furnace air filter to ensure adequate airflow.
- **Component Inspection:** Periodically inspect other furnace components such as the ignitor, flame sensor, and blower motor for wear or damage.
- **Professional Servicing:** Schedule annual professional HVAC inspections and maintenance to ensure optimal performance and identify potential issues early.

7. TROUBLESHOOTING

If your furnace is not operating correctly, consult the following common troubleshooting steps. Always ensure power is disconnected before inspecting internal components.

Symptom	Possible Cause	Action
Furnace not starting (no heat)	No power, thermostat issue, safety lockout, faulty ignitor or flame sensor.	Check circuit breaker. Verify thermostat settings. Inspect ignitor and flame sensor for damage or dirt. Reset furnace power.
Blower runs continuously	Thermostat fan setting, stuck relay on control board, faulty limit switch.	Check thermostat fan setting (should be "Auto"). If issue persists, professional diagnosis is recommended.
Furnace cycles on and off rapidly (short cycling)	Restricted airflow (dirty filter), overheating, faulty flame sensor, incorrect thermostat placement.	Replace air filter. Ensure vents are open. Clean flame sensor. Consult a technician if problem continues.
Ignitor glows but no ignition/gas flow	Faulty gas valve, low gas pressure, issue with control board's gas valve circuit.	Verify gas supply. This often indicates a component failure requiring professional diagnosis.
No LED diagnostic code	Control board not receiving power, or specific fault not triggering a code.	Check power supply. If furnace is completely unresponsive, inspect wiring and power connections to the board.

If troubleshooting steps do not resolve the issue, contact a qualified HVAC technician.

8. SPECIFICATIONS

Feature	Detail
Model Number	CECOMINOD048324 (Replacement for B18099-13)
Manufacturer	Aftmk for Goodman
Item Weight	9.6 ounces
Product Dimensions	6 x 10 x 8 inches
Item Package Quantity	1
Compatibility	Designed as an upgraded replacement for Goodman B18099-13 furnace control boards.

9. WARRANTY AND SUPPORT

This product is typically covered by a manufacturer's warranty. For specific warranty terms and conditions, please refer to the documentation provided with your purchase or contact the seller directly. For technical support or assistance with installation and troubleshooting, it is recommended to consult a certified HVAC professional. For general inquiries about Goodman products, you may visit the official Goodman website or contact their customer service.

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