

## ICM Controls ICM280

# ICM Controls ICM280 Furnace Control Board Instruction Manual

Model: ICM280

## INTRODUCTION

This manual provides detailed instructions for the installation, operation, maintenance, and troubleshooting of the ICM Controls ICM280 Furnace Control Board. The ICM280 is a direct replacement for various OEM models, including Goodman B18099-xx series control boards, designed to ensure reliable furnace operation. Please read this manual thoroughly before attempting any installation or service to ensure proper function and safety.

## SAFETY INFORMATION

**WARNING:** Improper installation, adjustment, alteration, service, or maintenance can cause property damage, personal injury, or death. Read and understand these instructions completely before proceeding.

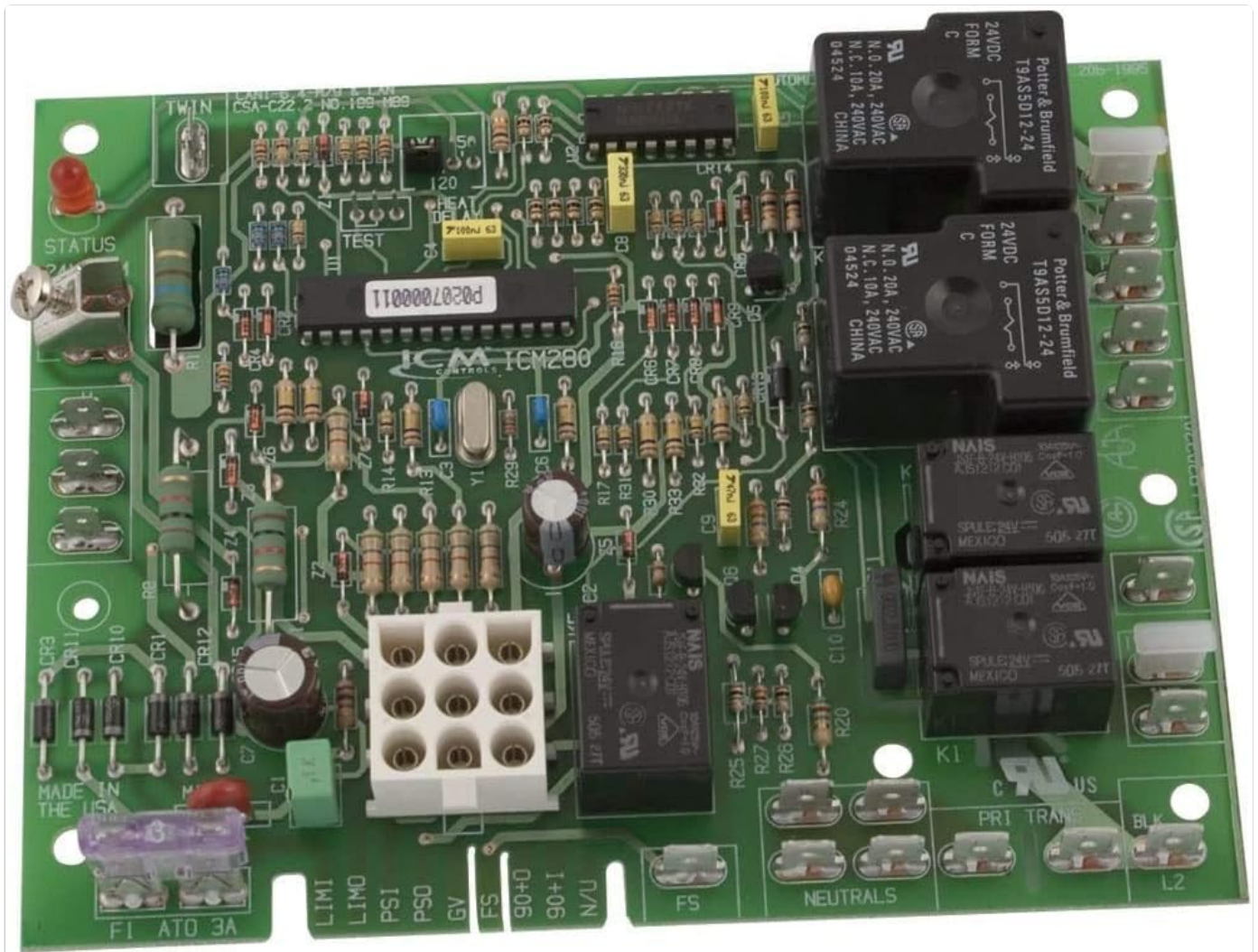
- Always disconnect power to the furnace before installing or servicing the control board.
- Ensure all wiring connections comply with local and national electrical codes.
- Only qualified personnel should attempt installation or service.
- Verify proper grounding of the furnace system.

## SETUP AND INSTALLATION

The ICM280 is designed as a direct replacement. Follow these steps for proper installation:

1. **Power Disconnection:** Turn off all electrical power to the furnace at the main service panel. Verify power is off using a voltage meter.
2. **Access Old Board:** Locate and open the furnace access panel to expose the existing control board.
3. **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.
4. **Remove Old Board:** Disconnect all wires and mounting screws securing the old control board. Carefully remove the old board.

5. **Install New Board:** Position the ICM280 control board in the same location as the old board. Secure it with the appropriate mounting screws.
6. **Connect Wiring:** Refer to your documented wiring and photographs. Connect each wire to its corresponding terminal on the ICM280 board. Ensure all connections are secure and tight. Pay close attention to the terminal labels (e.g., L1, L2, G, Y, W, R, C, etc.).
7. **Verify Connections:** Double-check all wiring connections against your documentation and the wiring diagram (if available for your furnace model).
8. **Close Panel:** Replace the furnace access panel.
9. **Restore Power:** Restore electrical power to the furnace at the main service panel.



**Image 1:** The ICM Controls ICM280 Furnace Control Board. This image displays the green circuit board with various electronic components, relays, and terminal blocks for wiring connections. Key labels such as "STATUS," "TEST," "L1," "L2," "G," "Y," "W," "R," and "C" are visible, indicating connection points for furnace components and power supply.

## OPERATION

After successful installation and power restoration, the ICM280 control board will initiate the furnace's normal operating sequence. The board manages various furnace functions, including:

- **Ignition Control:** Manages the ignition sequence for the main burner.
- **Blower Motor Control:** Activates and deactivates the indoor blower motor based on heating or cooling demands.
- **Safety Monitoring:** Monitors various safety limits and sensors to ensure safe operation and shut down the furnace if a fault is detected.

- **Diagnostic LED:** Provides diagnostic codes via a flashing LED to assist in troubleshooting (refer to the Troubleshooting section).

The specific operational sequence is determined by the furnace manufacturer's design and the thermostat's commands.

## MAINTENANCE

The ICM280 control board itself requires no routine maintenance. However, regular maintenance of the overall furnace system is crucial for its longevity and efficient operation. This includes:

- **Filter Replacement:** Replace or clean the furnace air filter regularly (monthly or as recommended by the furnace manufacturer).
- **Annual Inspection:** Have a qualified HVAC technician perform an annual inspection and tune-up of your furnace.
- **Cleanliness:** Keep the area around the furnace clean and free of obstructions.

Before performing any maintenance on the furnace, always disconnect electrical power at the main service panel.

## TROUBLESHOOTING

The ICM280 features a diagnostic LED (labeled "STATUS" on the board) that provides flash codes to indicate operational status or fault conditions. Consult your furnace's specific manual for a complete list of diagnostic codes, as these can vary by furnace model. Common indications include:

- **Solid ON:** Normal operation, no call for heat/cool.
- **Slow Flash:** Normal operation, call for heat/cool.
- **Rapid Flash:** Indicates a fault condition. The number of flashes typically corresponds to a specific error code.

### General Troubleshooting Steps:

1. **No Power:** Check circuit breakers and furnace disconnect switch. Ensure the furnace door panel is properly closed, as many furnaces have a safety interlock switch.
2. **Furnace Not Starting:**
  - Verify thermostat settings are correct.
  - Check for diagnostic codes on the STATUS LED.
  - Inspect wiring connections on the control board for looseness or corrosion.
3. **Blower Not Operating:**
  - Ensure the thermostat is calling for fan operation.
  - Check for diagnostic codes.
  - Verify blower motor connections.
4. **Intermittent Operation:** This can often be caused by loose connections, faulty sensors, or intermittent power supply issues. Check all wiring and consult a qualified technician.

If you are unable to resolve an issue after following these steps, contact a qualified HVAC service technician.

## SPECIFICATIONS

Feature	Specification
Model Number	ICM280

Input Voltage	24 VAC (typical, consult furnace specifications)
Replaces OEM Models	Goodman B18099-xx Series Control Boards (and others)
Diagnostic Features	STATUS LED for fault codes
Operating Temperature	-40°F to 175°F (-40°C to 80°C)
Humidity Range	0% to 95% non-condensing

*Note: Specific electrical ratings for relays and fuses are printed on the board. Always refer to the markings on the physical product for precise values.*

## WARRANTY INFORMATION

ICM Controls products are backed by a manufacturer's warranty. For specific warranty terms, duration, and claim procedures, please refer to the official ICM Controls website or the warranty documentation included with your product packaging. Typically, warranty coverage addresses defects in materials and workmanship under normal use and service. *Note: Unauthorized repairs or modifications to the control board will void the warranty.*

## TECHNICAL SUPPORT

For technical assistance, installation questions, or troubleshooting guidance beyond the scope of this manual, please contact ICM Controls customer support.

- **Website:** Visit the official [ICM Controls website](#) for product information, FAQs, and contact details.
- **Contact:** Refer to the "Contact Us" section on the ICM Controls website for phone numbers or email support.

When contacting support, please have your product model number (ICM280) and any relevant diagnostic codes ready.

