



# ICM2904

## Intermittent Pilot Gas Ignition Control Module

### REPLACES

Reznor: 257009

### FEATURES

- Intermittent Pilot Gas Ignition Control Module
- For use with intermittent pilot boilers, furnaces and other heating appliances
- Microprocessor-based
- Monitors timing, trial for ignition, and flame sensing
- Remote flame sensing
- 100% lockout safety feature
- Compatible with LP or Natural Gas
- Brown out monitoring circuit

### SPECIFICATIONS

- **Control Voltage:** Line 18-30VAC 50/60 Hz
- **Pilot Valve:** 1A @24VAC
- **Main Gas Valve:** 2A @24VAC
- **Current Draw:** 100mA maximum
- **Pre-Purge Delay:** 0 seconds
- **Ambient Operating Temperature:** -40°F to 167°F -40C to 75°C
- **Humidity:** 5%-95% R.H. (non-condensing) at +55°C

### SAFETY CONSIDERATIONS

Only trained personnel should install or service heating equipment. When working with heating equipment, be sure to read and understand all precautions in the documentation, on labels, and on tags that accompany the equipment. Failure to follow all safety guidelines may result in damage to equipment, severe personal injury or death.

### REMOVE EXISTING CONTROL

**CAUTION!** *To service control, and prior to disconnection, label all wires. Failure to do so may result in wiring errors that can cause dangerous operation.*

1. Turn thermostat to OFF position or set it to the lowest possible setting.
2. Turn OFF electrical supply to furnace/appliance.
3. Turn OFF gas supply to furnace/appliance.

**CAUTION!** *Failure to turn off gas and electric supplies can result in explosion, fire, death, or personal injury.*4. Label each wire with the correct terminal designation.

4. Label each wire with the correct terminal designation.
5. Disconnect the power supply and the thermostat lead wires from the existing ignition control.
6. Disconnect the sensing probe lead, the high voltage cable, the pilot valve and main valve leads, and any ground leads from the existing ignition control.
7. Remove screws and any other fasteners, and the old ignition board.

### INSTALL NEW CONTROL

1. Mount the new control with metal screws or bolts through the mounting holes of the enclosure.
2. Wire per wiring diagrams on reverse side.
3. Verify the sequence of operation.

**NOTE:** *Do not connect the thermostat wires to the control board until wiring is verified.*

### Sequence of Operation

The ignition control module's operation is divided into two phases: 1) Trial for pilot ignition and 2) Main burner operation

## Trial for Pilot Ignition

Upon a call for heat (24 VAC applied to the TH terminal), the Pilot valve and spark source are energized. The Pilot valve opens to let the gas flow into the pilot burner. The spark lights the pilot flame when pilot gas is present. A Flame rectification circuit confirms the presence of the pilot flame. When the pilot flame is detected, the spark source turns off and the main gas valve is energized. The main Gas valve allows the gas to flow into the main burner. The module will continuously monitor for the pilot flame.

## Main Burner Operation

When the main valve opens, gas flows to the main burner where it is lit by the pilot flame. There is a short flame stabilization period as the main valve opens to allow the pilot flame to stabilize as the main gas lights. The system is now in the run mode with the presence of the pilot flame continuously monitored by the flame rectification circuit. If the pilot flame goes out, the ignition control module senses loss of pilot flame and shuts off both the pilot valve relay and the main valve relay. Flow of gas to pilot and main burner's stops as the valves close (100% shutoff).

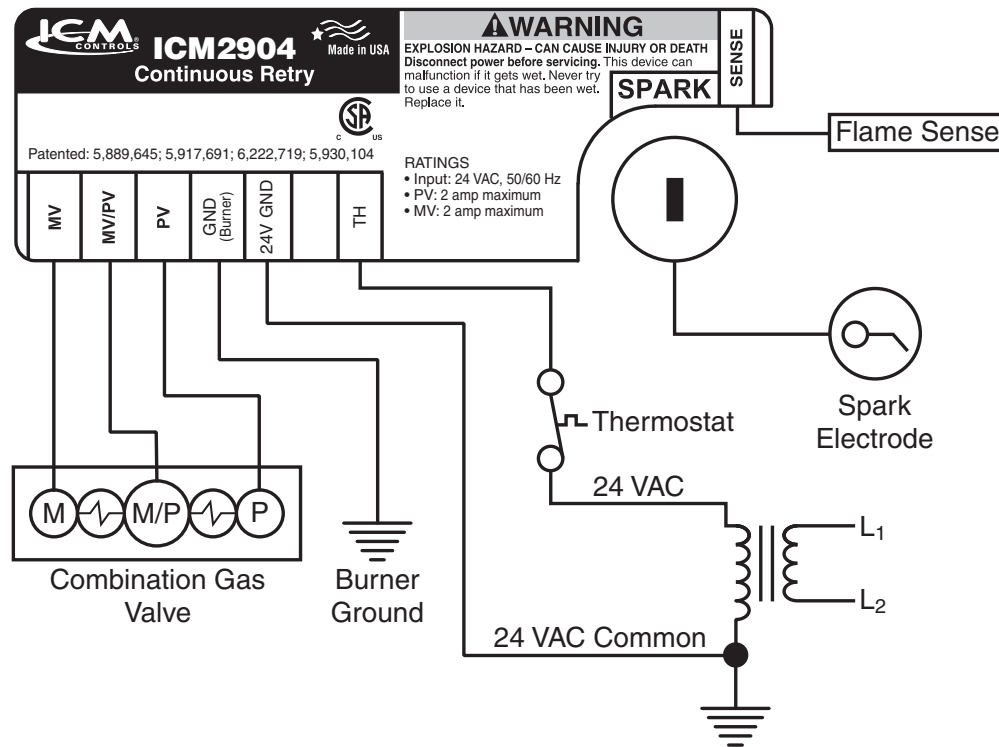
## Failed Trial for Pilot Ignition

The ICM2904 control module provides continuous trials for ignition. If the pilot flame is not sensed, the module will continuously spark until the pilot flame is sensed.

## TROUBLESHOOTING

Symptom	Remedy
<b>Flame not established</b>	Check gas supply, pilot burner, spark and flame sense wiring, flame rod contaminated or not enveloped with flame, burner ground connection.
<b>Flame out</b>	If system fails to light during the trial for ignition, check gas supply, pilot burner, flame sense wiring, contamination of flame rod, burner ground connection.
<b>Flame out of sequence</b>	Check for pilot flame. Replace gas valve if pilot flame present. If no pilot flame, cycle "Call for Heat". If error repeats, replace control.

## ICM2902 TYPICAL WIRING DIAGRAMS



## ONE-YEAR LIMITED WARRANTY

The Seller warrants its products against defects in material or workmanship for a period of one (1) year from the date of manufacture. The liability of the Seller is limited, at its option, to repair, replace or issue a non-case credit for the purchase prices of the goods which are provided to be defective. The warranty and remedies set forth herein do not apply to any goods or parts thereof which have been subjected to misuse including any use or application in violation of the Seller's instructions, neglect, tampering, improper storage, incorrect installation or servicing not performed by the Seller. In order to permit the Seller to properly administer the warranty, the Buyer shall: 1) Notify the Seller promptly of any claim, submitting date code information or any other pertinent data as requested by the Seller. 2) Permit the Seller to inspect and test the product claimed to be defective. Items claimed to be defective and are determined by Seller to be non-defective are subject to a \$30.00 per hour inspection fee. This warranty constitutes the Seller's sole liability hereunder and is in lieu of any other warranty expressed, implied or statutory. Unless otherwise stated in writing, Seller makes no warranty that the goods depicted or described herein are fit for any particular purpose.



7313 William Barry Blvd., North Syracuse, NY 13212  
(Toll Free) 800-365-5525 (Phone) 315-233-5266 (Fax) 315-233-5276  
www.icmcontrols.com LIAF240