



ICM2910

Ignition Control Board



Installation, Operation & Application Guide

For more information on our complete range of American-made products – plus wiring diagrams, troubleshooting tips and more, visit us at www.icmcontrols.com

Features

- Direct Spark Ignition (DSI) control board
- Microprocessor-based
- Controls spark ignitor and gas valve
- Monitors timing, trial for ignition, flame sensing and lockout
- Compatible with LP or natural gas
- Redundant Gas valve design conforms to ANSI Z21.20
- Conforms to UL STDs 60730-1 and 60730-2-5.
- Certified to CSA STD E60730-1 and CSA STD C22.2#60730-2-5

Specifications

- **Control Voltage:** 102-138 VAC
- **Flame Current:** 1uA minimum
- **Current Draw:** 50mA maximum
- **Gas Valve:** 1.5A@120 VAC
- **Flame Failure Response Time:** 0.8 seconds maximum
- **Operating temperature:** -40°F to 175°F (-40°C to 80°C)
- **Dimensions:** 5.32"L x 2.53"W x 1.86"H
- **Mounting:** Surface mount using (2) #8 screws

Ordering Information

ICM P/N	# Ignition Trials	Pre-Purge Time	Inter-Purge Time	Trial for Ignition Time
ICM2910-200-005	1	None	None	10s
ICM2910-201-007	1	None	None	15s
ICM2910-201-501	1	5s	None	4s
ICM2910-201-505	1	5s	None	10s
ICM2910-205-015	3	None	15s	10s
ICM2910-205-017	3	None	15s	15s
ICM2910-205-021	3	None	25s	4s
ICM2910-205-115	3	15s	15s	10s
ICM2910-205-521	3	5s	25s	4s
ICM2910-206-515	3	5s	15s	10s
ICM2910-405-013*	3	None	15s	7s

* Open board design

Replaces

ICM P/N	Fenwal P/N
ICM2910-200-005	35-725200-005
ICM2910-201-007	35-725201-007
ICM2910-201-501	35-725201-501
ICM2910-201-505	35-725201-505
ICM2910-205-015	35-725205-015
ICM2910-205-017	35-725205-017
ICM2910-205-021	35-725205-021
ICM2910-205-115	35-725205-115
ICM2910-205-521	35-725205-521
ICM2910-206-515	35-725206-515
ICM2910-405-013*	35-725405-013

! CAUTION !

Failure to turn off gas and electric supplies can result in explosion, fire, death, or personal injury.

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.

Mode of Operation

When the thermostat initiates a “Call for Heat”, the ICM2910 will perform a hardware check. After the hardware check, the ICM2910 will start a pre-purge where applicable. Once the pre-purge has ended, the spark source and the gas valve relay are energized simultaneously for the duration of the trial for ignition period. A flame rectification circuit confirms the presence of the flame.

Upon flame detection, the spark source is turned off. If flame is not sensed, the control will turn off the spark source and gas valve and start an inter-purge where applicable before the next trial for ignition. If flame is not detected after the trial(s) for ignition, the control will enter a hard lockout. To clear the hard lockout, remove the input voltage to the control or recycle the thermostat’s heat call.

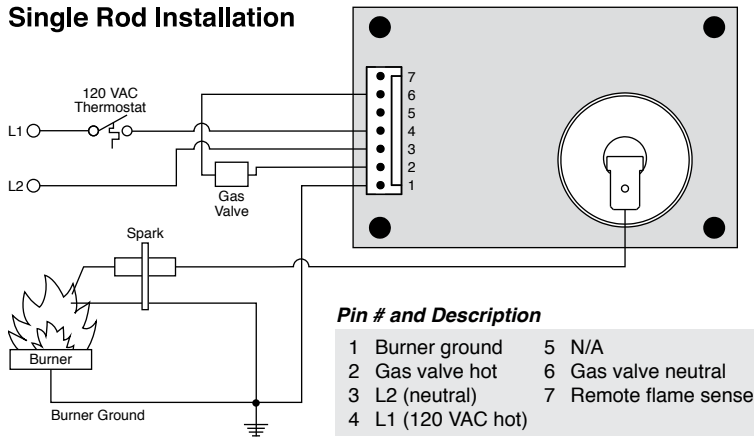
Electrostatic Discharge (ESD) Precautions

CAUTION! Use caution when installing and servicing the furnace to avoid and control electrostatic discharge; ESD can impact electronic components. These precautions must be followed to prevent electrostatic discharge from hand tools and personnel. Following the precautions will protect the control from ESD by discharging static electricity buildup to ground.

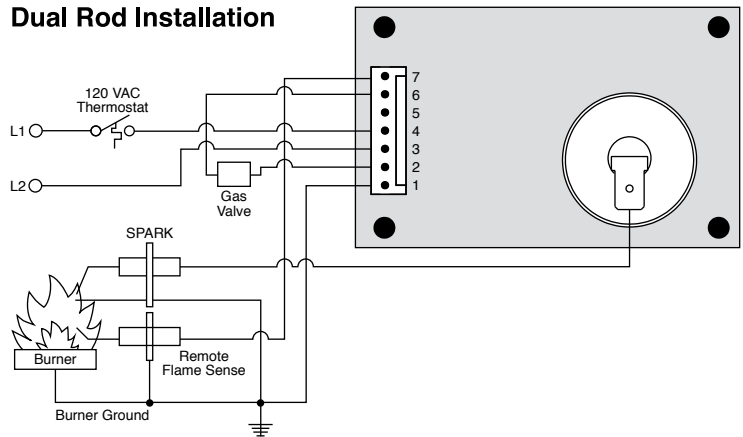
1. Disconnect all power to the furnace. Do not touch the control or the wiring prior to discharging your body’s electrostatic charge to ground.
2. To ground yourself, touch your hand and tools to a clean, metal (unpainted) furnace surface near the control board.
3. Service the furnace after touching the chassis. Your body will recharge with static electricity as you shuffle your feet or move around, and you must reground yourself.
4. Reground yourself if you touch ungrounded items.
5. Before handling a new control, reground yourself, this will protect the control. Store used and new controls in separate containers before touching ungrounded objects.
6. ESD damage can also be prevented by using an ESD service kit.

Wiring Diagram

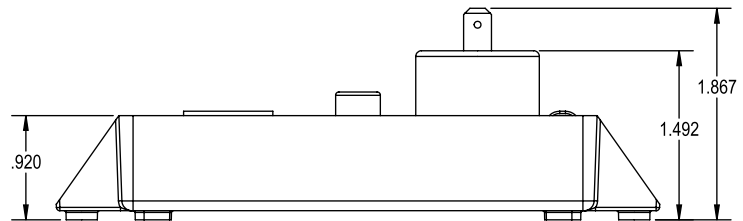
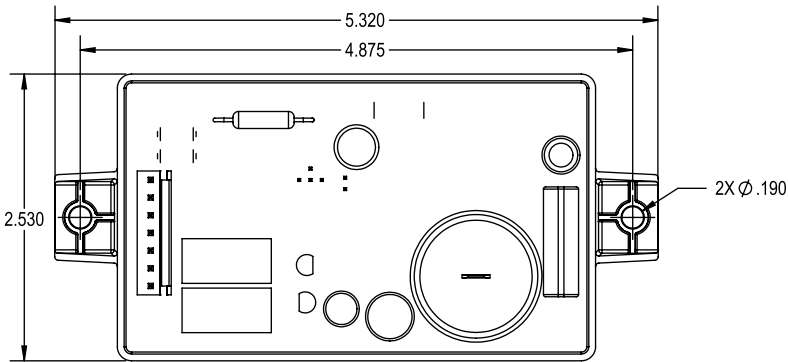
Single Rod Installation



Dual Rod Installation



Dimensions



Troubleshooting

Symptom	Problem
Unit fails to start	Check the following: wiring, voltage between pins 3 and 4. If voltage is not present; check the thermostat and the appropriate fuses or circuit breaker.
No Spark	Check the following: wiring, spark cable connection. Verify the spark electrode is not shorted (there should be 1/8" gap between the center rod and the electrode).
Gas Valve does not open	Verify voltage between pins 2 and 6. If voltage is present, check gas valve for incorrect wiring and defects. If voltage is not present, check polarity of L1 and L2 connections.
Flame not recognized	Remove the heat call and check the following: polarity of L1 and L2 connections, gas supply, spark wiring, flame sense wiring and the burner ground connection. Clean the flame rod. Initiate a call for heat and ensure a steady flame is enveloping the flame rod.

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.



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