



# ICM6700

## 12 VDC DIRECT SPARK IGNITION CONTROL

### Mode of Operation

When the thermostat calls for heat, the ICM6700 will verify the sail switch is open before energizing the inducer blower. Once the inducer blower is energized, the ICM6700 will verify the sail switch has closed and begin a 15 second pre-purge cycle. Following the inducer blower pre-purge cycle, the gas valve and spark ignitor are energized and the ICM6700 will verify the presence of flame. If flame has not been sensed after 7 seconds; the control will attempt 2 more trials for ignition, if flame is not sensed after 3 trials for ignition, the ICM6700 will enter a 1-hour lockout. If flame is detected, the spark ignitor is turned off and the gas valve remains energized. Once the thermostat is satisfied, the gas valve is de-energized immediately and a 90 second post-purge cycle of the inducer blower is enforced. After the 90 second post purge cycle, the inducer blower is turned off. **Note:** Lockout is cleared by recycling the input voltage.

### Specifications

**Input:**

- **Voltage:** 12 VDC
- **Current draw:** 100mA max.

**Outputs:**

- **Gas valve:** 0.5A@12 VDC
- **Inducer blower:** 3.7A@12 VDC

**Time Delay:**

- **Trial for ignition:** 7 seconds
- **ON delay:** 15 seconds
- **OFF delay:** 90 seconds

### Replaces

Suburban: 521099, 35-533900-113    Fenwal: 06-236879-002

### Fault Codes/ Troubleshooting

Flashes	Fault Condition	Problem	Corrective Action
OFF	No fault	N/A	N/A
1	System lockout	The control was unable to sense flame after 3 consecutive trials for ignition	Check gas supply, verify spark assembly is clean, wired correctly and grounded properly
2	Sail switch stuck close	Sail switch was closed before heating call was initiated	Check for a defective sail switch (stuck in closed position)
3	Sail switch stuck open	Sail switch did not close after heating call was initiated	Check for a defective sail switch (stuck in open position) or an open limit switch
4	False flame	Flame was sensed without an active heating call	Check for a faulty gas valve. Check gas supply, verify spark assembly is clean, wired correctly and grounded properly
5	No flame	Flame was not sensed within the 7-second trial for ignition	Check gas supply, verify spark assembly is clean, wired correctly and grounded properly
6	Gas valve shorted	Miswire	Check for stuck gas valve or incorrect wiring of the gas valve
7	Brownout voltage	Input voltage is below 10 VDC	Measure voltage, ensure voltage is at least 12 VDC

Certified to CSA STD E60730-1  
Certified to CSA STD C22.2#60730-2-5  
Conforms to UL STDs 60730-1 and 60730-2-5



# Wiring Diagram

