I.C.M. CONTROLS®

Features

- **Multi-functional control**
- **Microprocessor controlled**
- **Precision timing**
- **Low cost solution**

Mode of Operation

The **ICM6500** air handler control board operates with electric or hot water heating systems. For electric heating systems, the blower fan is turned on with the electric heat. For hot water heating systems, the blower fan, water circulation pump, valve and auxiliary relay are activated by the controller. The blower fan is controlled for cooling cycles.

Specifications

- **Input Voltage:** 24 VAC, 120/240 VAC, 50/60 Hz
- **Valve Output:** 24 VAC, 50/60 Hz, 5A
- **Blower Fan:** 120/240 VAC, 50/60 Hz, 13A/6.5A
- **Water Pump:** 120/240 VAC, 50/60 Hz, 1.5A/1.5A
- **Boiler:** 24 VAC, 50/60 Hz, 5A
- **ECM Output:** 24VAC, 5A
- **Timing:**
  – Cool fan on delay: 0 Seconds
  – Cool fan off delay: 45 Seconds
  – Electric heat fan on delay: 0 Seconds
  – Electric heat fan off delay: 0 Seconds
  – Water heat fan on delay: 60 Seconds
  – Water heat fan off delay: 30 Seconds

Jumper Selection

E/HW Jumper

- **Electric Heat:** The blower is energized only when line voltage is applied to EH.

  Note: A W (heat call) from the thermostat isn't recognized in this mode.

- **Hot Water Heat (w/AQ Off):** With a call for heat, there's a 60 second delay before the blower energizes.

- **Hot Water Heat (w/AQ On):** With a call for heat, the blower is energized only when the AQ input is energized.

AQ On/Off Jumper (Hot Water Heat Only)

- **ON:** Select for control to be used with an Aqua Stat. When the AQ jumper is in the ON position; the fan is not energized during a heat call until 24VAC is applied to AQ.

- **OFF:** Select for control to be used with a thermostat.

T/N Jumper

- **Test Mode:** In test mode, the valve and pump are energized for the first 5 seconds followed by the boiler which is energized for another 5 seconds. Once the valve, pump and boiler have been energized, the MTR and ECM will also be energized for an additional 25 seconds. At the end of the sequence all outputs are de-energized and normal operation is resumed.

N: Normal Mode

- **FP (Freeze Protection):** Energizes boiler, Valve and Pump.
  Note: There's a 30 second off delay after the FP switch reopens.

Pump Timer (Hot Water Heat Only): The circulating pump is energized 6 times daily for 60 second intervals. This is required to purge the coil and piping to prevent stagnate water from accumulating.

ICM6500 Wiring Diagram – External

Legend:
B = Boiler
P = Water Pump
M = Fan Motor
E = ECM
V = Water Valve
XFMR = Transformer
EH = Electric Heat

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