

WHITE-RODGERS

50M56-707
Integrated Single Stage
Hot Surface Ignition Control
INSTALLATION INSTRUCTIONS

FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY BEFORE INSTALLING OR OPERATING THIS MODULE COULD CAUSE PERSONAL INJURY AND/OR PROPERTY DAMAGE.

DESCRIPTION

The 50M56-707 is an Integrated Furnace Control for aftermarket service of Goodman Single-Stage furnace products with PSC blower motor.

TWINNING: 50M56-707 can be twinned. Both control boards must be from the same manufacturer for proper functionality.

Parts included:

- 50M56-707 Integrated Furnace Control
- Installation Instructions
- Mounting Standoffs

SPECIFICATIONS

ELECTRICAL RATINGS [@ 77°F (25°C)]:

Input Voltage: 25 VAC 50/60 Hz

Max. Input Current @ 25 VAC: 0.45 amp

Relay Load Ratings:

- Valve Relay: 1.5 amp @ 25 VAC 50/60 Hz 0.6 pf
- Ignitor Relay: 6.0 amp @ 120 VAC 50/60 Hz (resistive)
- Inducer Relay: 2.2 FLA–3.5 LRA @ 120 VAC
- Circulator Relay: 14.5 FLA–25.0 LRA @ 120 VAC

Flame Current Requirements:

- Minimum current to insure flame detection: 1 µA DC*
- Maximum current for non-detection: 0.1 µA DC*
- Maximum allowable leakage resistance: 100 M ohms
- *Measured with a DC microammeter in the flame probe lead

OPERATING TEMPERATURE RANGE:

-40° to 176°F (-40° to 80°C)

HUMIDITY RANGE:

5% to 93% relative humidity (non-condensing)

MOUNTING:





Surface mount multipoise

Timing Specs: (@ 60 Hz) maximum

- Flame Establishing Time: 0.8 sec
- Flame Failure Response Time: 2.0 sec

GASES APPROVED: Natural, Manufactured, Mixed, Liquid Petroleum, and LP Gas Air Mixtures are all approved for use.

⚠ CAUTION



Risk of Electric Shock. Disconnect electric power to system until installation is complete. Do not use on circuit exceeding specified voltage. Higher voltage will damage the module and could cause shock or fire hazard.

Not intended for use in locations where it may come in contact with water.

May cause flame rollout. Shut off main gas to heating system until installation is complete.

INSTALLATION

MOUNTING AND WIRING

NOTE: All wiring should be installed according to local and national electrical codes and ordinances.

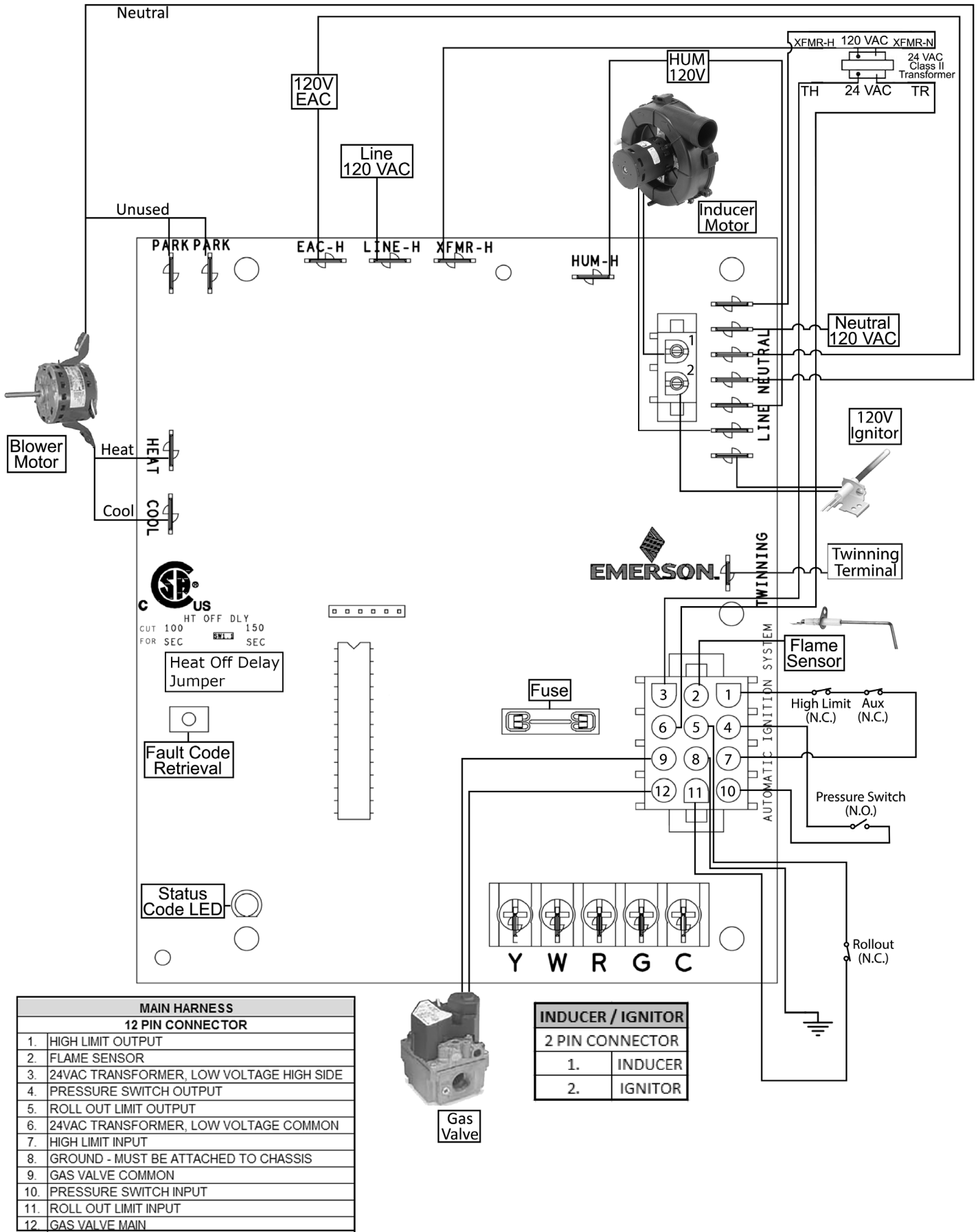
1. Disconnect electrical power and gas supply to unit, then remove unit access panels.
2. Mark and disconnect all wires from the existing control, then remove existing control.

3. Mount the new control board in the unit and reconnect all the wires. Secure any wiring as necessary.
4. Reinstall unit access panels and reconnect electric power and gas supply to the unit.
5. Verify unit operation by placing thermostat in heating mode and initiating a call for heat by adjusting thermostat 5 degrees above room temperature.

NOTE: Default heat off delay is 150 seconds. To change the delay to 100 seconds, please cut the jumper.



WIRING DIAGRAM



HEAT MODE

| Output | Standby | Call for Heat | Pre-Purge | Ignitor Warm-Up | Ignition Activation Period | Heat ON Delay | Heating until Thermostat is Satisfied | Post-Purge | Blower Off Delay | System Off |
|------------------------|---------|---------------|-----------|-----------------|----------------------------|---------------|---------------------------------------|------------|------------------|------------|
| | | | 15 sec | 17-19 sec | < 5 sec | 30 | | 15 sec | 100/150* sec | |
| Thermostat - W | | | | | | | | | | |
| Inducer | | | | | | | | | | |
| Pressure Switch | | | | | | | | | | |
| Ignitor (HSI) | | | | | | | | | | |
| Gas Valve | | | | | | | | | | |
| Flame Sensor (FS) | | | | | | | | | | |
| Blower (Heating Speed) | | | | | | | | | | |
| Humidifier (120V) | | | | | | | | | | |
| EAC | | | | | | | | | | |

* Default

COOL MODE

| Output | Standby | Call for Cool | Cool ON Delay | Cooling until Thermostat is Satisfied | Blower Off Delay | System Off |
|------------------------|---------|---------------|---------------|---------------------------------------|------------------|------------|
| | | | 6 sec | | 45 sec | |
| Thermostat | | | | | | |
| Outdoor Compressor | | | | | | |
| Outdoor Fan | | | | | | |
| Blower (Cooling Speed) | | | | | | |
| EAC | | | | | | |

OPERATION

FAN MODE

| Output | Standby | Call for Fan | Fan until Thermostat is Satisfied | System Off |
|--------------------|---------|--------------|-----------------------------------|------------|
| Thermostat - G | | | | |
| Blower (Fan Speed) | | | | |
| EAC | | | | |
| | | | | |

TROUBLESHOOTING

| Red LED Flash | Status/Error Condition |
|---------------|--|
| 1 | External lockout (exceeded retries) |
| 2 | Pressure switch stuck closed |
| 3 | Pressure switch stuck open |
| 4 | Open high temperature limit switch |
| 5 | Flame sensed with gas valve de-energized |
| 6 | Open rollout switch or open fuse |
| 7 | Low flame sense current |
| 8 | Ignitor relay fault |
| 9 | Twinning error |
| Continuous On | Normal operation |
| Off | Control failure |

FAULT RECALL

When the control is in Standby mode (no call for heat or cool), press the fault recall button for approximately 1 to 5 seconds or until the diagnostic LED turns off. Up to 5 fault codes are stored.

NOTE: While displaying the stored fault codes, the control will ignore any new call for heat, cool or fan.

FAULT CODE RESET

When the control is in Standby mode (no call for heat or cool), press the fault recall button for 5 to 10 seconds or until the diagnostic LED begins to rapid flash.

NOTE: If the switch is held pressed for over 10 seconds the rapid will stop and the LED will be on to indicate return to normal status.

CONTROL RESET

Control automatically resets after 1 hour in lockout. Removing 24VAC power to the control for greater than 10 seconds will reset the control.

TECHNICAL SUPPORT: 1-888-725-9797