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FEATURES

- Microcontroller Based Circuitry
- Ideal for a Variety of Fuel Burning Stoves, Fireplaces, Furnaces, Boilers, and Barbecues
- LED Indicator Status Panel
- Touchpad Adjustments
- Four Solid State Outputs (Two Phase Controlled for Fans and Blowers)

SPECIFICATIONS

1. Input Voltage

- 1.1 Operating Voltage: 120 VAC
- 1.2 Tolerance: $\pm 20\%$ of Nominal
- 1.3 Frequency: 60Hz

2. Inputs

- 2.1 Tactile Buttons: (3 Places)
 - 2.1.1 SW1: Start (Feed Rate)
 - 2.1.2 SW2: Convection Fan Speed
 - 2.1.3 SW3: Fuel Off/System Shutdown
- 2.2 Temperature Probe
 - 2.2.1 HOT/COLD Thresholds: (RTD) - Pickup: 1.354K Dropout: 1.263K
 - 2.2.2 Feed Rate Override Resistance: 2.141K Ohm

NOTE: The probe dielectric breakdown must meet or exceed 1500 VRMS for 60 seconds.

3. Outputs

- 3.1 Convection Fan
 - 3.1.1 Type: Solid State Phase Controlled
 - 3.1.2 Maximum Current: 2.0 Arms
- 3.2 Combustion Fan
 - 3.2.1 Type: Solid State Phase Controlled
 - 3.2.2 Maximum Current: 2.0 Arms
- 3.3 Igniter
 - 3.3.1 Type: Solid State SPST
 - 3.3.2 Maximum Power: 350 Watts
- 3.4 Auger
 - 3.4.1 Type: Solid State SPST
 - 3.4.2 Maximum Current: 1.0 Arms

Minimum Load Current for All Outputs: 0.1 Arms

4. Indicators

- 4.1 Feed Rate 1,2,3,4: Red LEDs (4 Places)
- 4.2 Fan Speed High, Medium, Low: Green LEDs (3 Places)
- 4.3 Igniter: Red LED (1 Place)
- 4.4 Auger Cycle: Green LED (1 Place)

5. Time Delays

- 5.1 Igniter, Startup Delay: 15 Minutes
- 5.2 Igniter Delay: 5 Minutes
- 5.3 Cool Down Delay: 5 Minutes
- 5.4 Combustion Delay: 10 Seconds
- 5.5 Convection Delay: 3 Seconds
- 5.6 Learning Step Delay: 3 Seconds
- 5.7 Combustion Re-Learn Cycle: See Figure 6.1.1

CD0048-V TEMPERATURE REGULATED HEAT CONTROL SYSTEM



5. Time Delays (Continued)

- 5.8 Auger Feed Rate:
 - 5.8.1 On Time: (First Delay After Start-Up)
 - 5.8.2 Off Time Settings:

Settings	Temperature Probe Thresholds (P1 Full CCW)	Temperature Probe Thresholds (P1 Full CW)	BURN200 Off Time Seconds	BURN300 Off Time Seconds
4	430°F \pm 10°F	535°F \pm 10°F	5	5 (Trim 4 CW)
	410°F \pm 10°F	510°F \pm 10°F	2	2 (Trim 4 CCW)
3	370°F \pm 10°F	470°F \pm 10°F	7	6
	357°F \pm 10°F	460°F \pm 10°F	2	
2	340°F \pm 10°F	450°F \pm 10°F	8.5	7.5
	327°F \pm 10°F	440°F \pm 10°F	6.5	
1	295°F \pm 10°F	420°F \pm 10°F	18	18 (Trim 1 CW)
	280°F \pm 10°F	415°F \pm 10°F	10	10 (Trim 1 CCW)

Time Delay Tolerances: $\pm 5\%$

6. Phase Controlled Outputs

- 6.1 Combustion Phase Control:
 - 6.1.1 Settings:

Selected Feed Rate	Combustion Fan	
	Min	Max
Learned Speed	80 Vrms	115 Vrms
(Rate 1) Learned Speed + $\Delta 1$	80 Vrms	115 Vrms
(Rate 3) Learned Speed + $\Delta 2$	90 Vrms	115 Vrms
(Rate 3) Learned Speed + $\Delta 3$	100 Vrms	115 Vrms
(Rate 1) Full On	120 Vrms	

- 6.1.2 P1 Will Adjust the Phase Control Output From 80 Vrms (CW) to 120 Vrms (CCW)

6.2 Convection Phase Control

- 6.2.1 Settings:

Selected Fan Speed	
Low	70 Vrms
Low/Med	80 Vrms
Med	90 Vrms
Med/High	100 Vrms
High	120 Vrms

NOTE: All values are typical and assume 120 Vrms input.

7. Protection

- 7.1 Transient: Movistor Protected to 10 Joules
- 7.2 Dielectric Breakdown: 1500 Volts RMS Minimum

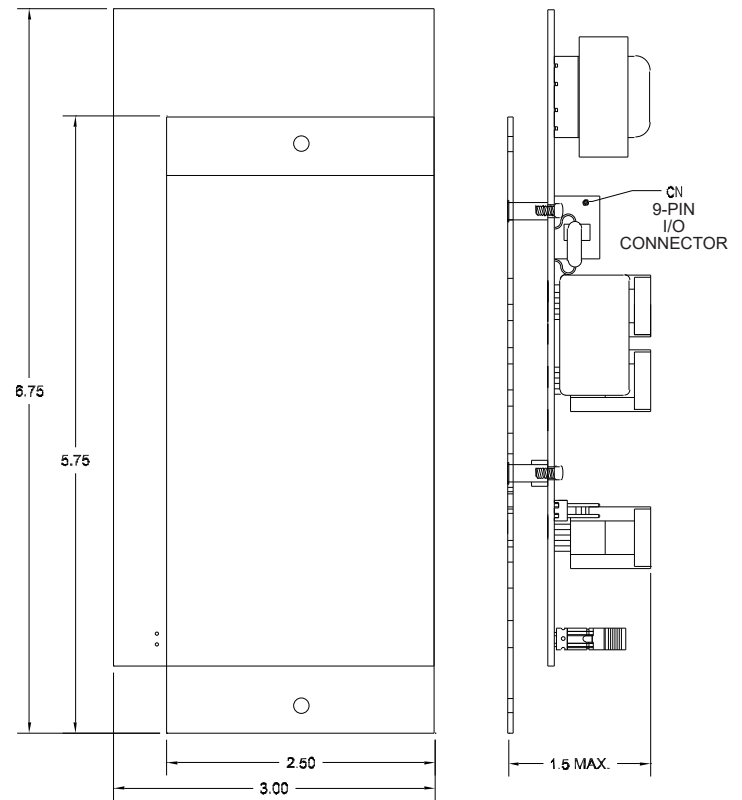
8. Mechanical

- 8.1 Mounting: #6 Screw Clearance (2 Places)
- 8.2 Termination: 9 Circuit, Male Molex Connector
- 8.3 Package: Open Board Attached to Steel Plate With Graphic Overlay

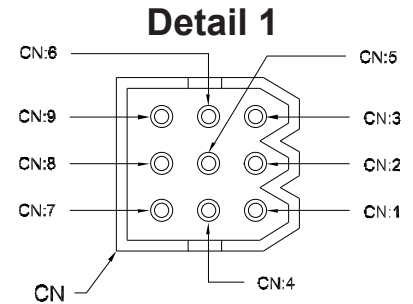
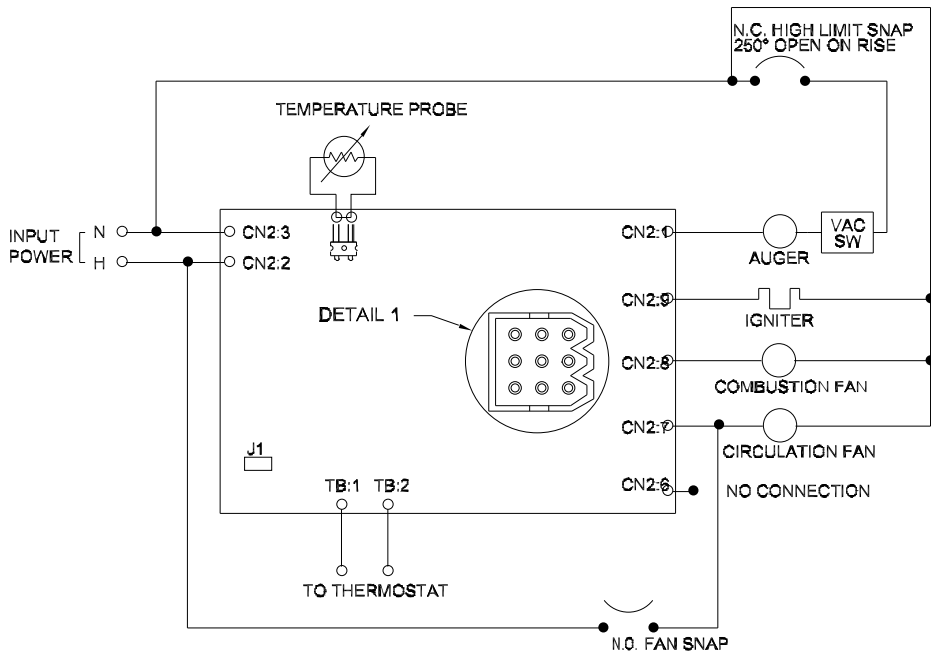
9. Environmental

- 9.1 Operating Temperature: -20°C to +50°C
- 9.2 Storage: -40°C to +85°C
- 9.3 Humidity: 95% Relative, Non-Condensing

DIMENSIONS



CONNECTION DIAGRAM



ORDERING INFORMATION

CD0048-V