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FEATURES

- Microcontroller Based Circuitry
- Ideal For a variety of fuel Burning Stoves, Fireplaces, Furnaces, Boilers & Barbeques
- LED Indicator Status Panel
- Touchpad adjustments
- Four Solid State Outputs (Two Phase Controlled for fans & blowers)
- Custom Programming Available For Specific Applications & Requirements

SPECIFICATIONS

1. Input Voltage

- 1.1 Operating Voltage: 120 or 230 VAC
- 1.2 Tolerance: $\pm 20\%$ of nominal
- 1.3 Frequency: 60 Hz

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 (BURN100 & BURN200):
 - 2.2.1 HOT/COLD Thresholds:
 BURN200 (RTD)- Pickup: 1.354K Dropout: 1.263K
 - 2.2.2 Feed Rate Override Resistance:
 BURN200: 2.141Kohm

NOTE: The probe dielectric breakdown must meet or exceed 1500 Vrms for 60 seconds.
- 2.3 Snap Disk (BURN300)
 - 2.3.1 HOT/COLD switch input (thresholds determined by snap disk selection).

3. Outputs.

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

Minimum load current all outputs: 0.1Arms

4. Indicators.

- 4.1 Feed Rate 1,2,3,4: Red LED's (4 places)
- 4.2 Fan Speed HI, Med. & Low: Green LED's (3 places)
- 4.3 Igniter: Red LED (1 place)
- 4.4 Auger Cycle: Green LED (1 place)

5. Time Delays.

- 5.1 Igniter, Start-up Delay:
 - 5.1.1 Setting: 15 Minutes
- 5.2 Igniter Delay:
 - 5.2.1 Setting: 5 Minutes
- 5.3 Cool Down Delay:
 - 5.3.1 Setting: 5 Minutes

BURN-RITE

Temperature Regulated Heat Control System



- 5.4 Combustion Delay:
 - 5.4.1 Setting: 10 Seconds
- 5.5 Convection Delay:
 - 5.5.1 Setting: 3 Seconds
- 5.6 Learning Step Delay:
 - 5.6.1 Setting: 3 Seconds
- 5.7 Combustion Re-Learn Cycle:
 - 5.7.1 See Figure 6.1.1
- 5.8 Auger Feed Rate:
 - 5.8.1 On Time: (first delay after start-up)
Setting: 3 Seconds
 - 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 $\pm 10^\circ\text{F}$	535°F $\pm 10^\circ\text{F}$	5	5 (trim 4 CW)
	410°F $\pm 10^\circ\text{F}$	510°F $\pm 10^\circ\text{F}$	3	
	370°F $\pm 10^\circ\text{F}$	470°F $\pm 10^\circ\text{F}$	2	2 (trim 4 CCW)
3	370°F $\pm 10^\circ\text{F}$	470°F $\pm 10^\circ\text{F}$	7	
	357°F $\pm 10^\circ\text{F}$	460°F $\pm 10^\circ\text{F}$	6	6
	340°F $\pm 10^\circ\text{F}$	450°F $\pm 10^\circ\text{F}$	5	
2	340°F $\pm 10^\circ\text{F}$	450°F $\pm 10^\circ\text{F}$	8.5	
	327°F $\pm 10^\circ\text{F}$	440°F $\pm 10^\circ\text{F}$	7.5	7.5
	327°F $\pm 10^\circ\text{F}$	440°F $\pm 10^\circ\text{F}$	6.5	
1	295°F $\pm 15^\circ\text{F}$	420°F $\pm 10^\circ\text{F}$	18	18 (trim 1 CW)
	280°F $\pm 15^\circ\text{F}$	415°F $\pm 10^\circ\text{F}$	14	
	280°F $\pm 15^\circ\text{F}$	415°F $\pm 10^\circ\text{F}$	10	10 (trim 1 CCW)

All 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 2) Learned Speed + $\Delta 2$	90 Vrms	115 Vrms
(Rate 3) Learned Speed + $\Delta 3$	100 Vrms	115 Vrms
(Rate 4) 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

6.2.2 Note: All values are typical values and assumes 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 face w/overlay label

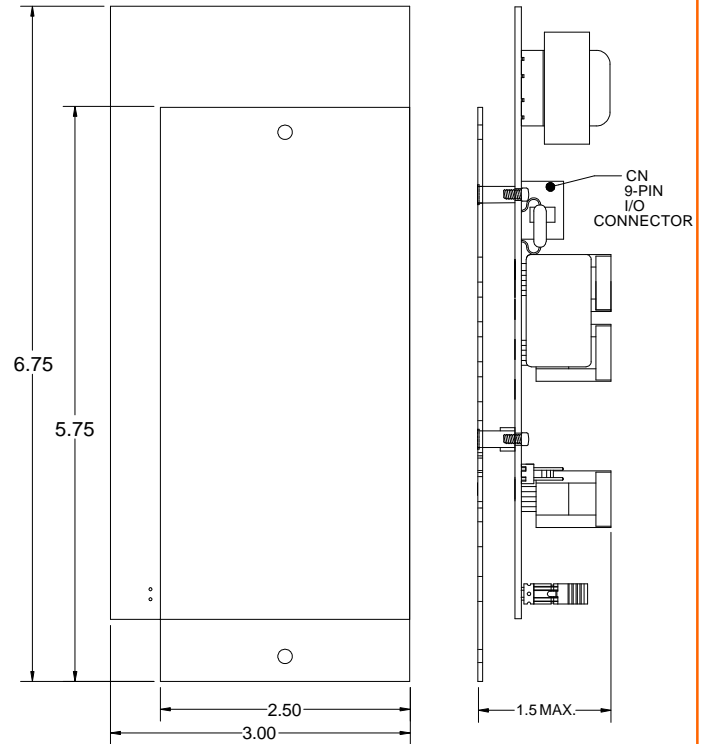
9. Environmental.

9.1 Operating temperature: -20°C to +50°C

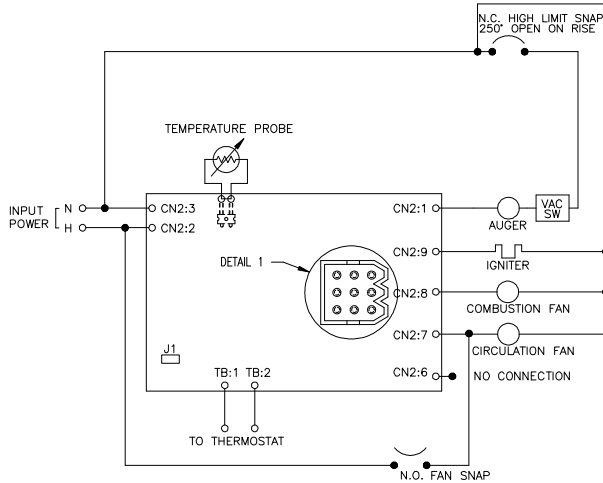
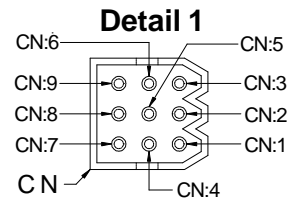
9.2 Storage temperature: -40°C to +85°C

9.3 Humidity: 95% relative, non-condensing

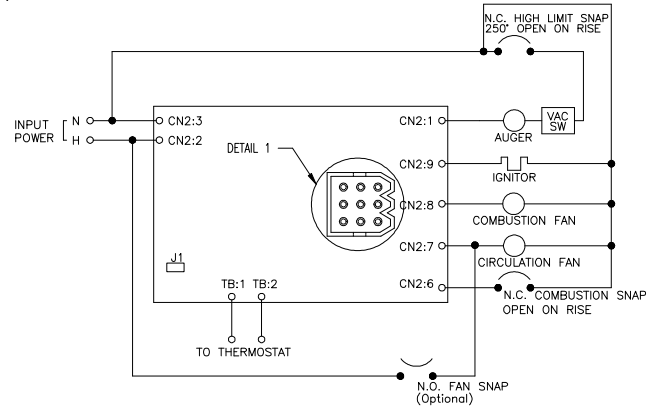
DIMENSIONS



CONNECTION DIAGRAMS



BURN200



BURN300

ORDERING INFORMATION

SERIES	INPUT VOLTAGE	OPTIONS
BURN2 (RTD probe)	5 - 120VAC	0 - NONE
BURN3 (Snap Disk)	6 - 230VAC	