

## BackDraft Alarm Users Guide

### General Operation

The device will monitor the Temperature every 16 seconds.

If the temperature is above the threshold (130 °F nominal) a timer will start, the device will monitor the temperature every 8 seconds. If the temperature stays above the threshold for the time delay (3minutes nominal) The Alarm will Sound. The alarm will pulse on-off at 1hz rate, 0.5sec ON – 0.5sec Off. The frequency of the tone is 2.049Khz. This is the resonant frequency of the buzzer.

If the temperature drops below the threshold – hysteresis (130-10 = 120°F nominal) the timer will be reset.

If the Alarm is on, there are 2 ways to turn it off.

- 1) Press the RESET/TEST button. This will stop the alarm and reset the counter. If the temperature is still above the threshold the timer will begin counting again and the alarm will sound after the time delay has been reached.
- 2) If the Temperature drops below the hysteresis temperature limit the alarm will turn off and the timer will get reset to 0.

### RESET/TEST Button

If the alarm is on, pressing the button will turn it off.

If there is no alarm, pressing the button will play the alarm steady.

### Low Battery

The low battery threshold is set at 5V.

When battery voltage drops below 5V the device will chirp every minute.

### Power LED

The Power LED will blink every minute to indicate the device is operating normally.

### Dip Switch Configuration

The Factory default is all positions on.

This will select the following nominal operating parameters:

Temperature limit	- 130°F
Delay Time	- 3minutes
Temperature hysteresis	- 10°F

These parameters can be modified by changing the Dip Switch Settings

0 = ON position  
1 = OFF position

Temperature Limit  
Switch Positions 1-3

	DIP Position 321	Temp Limit °F
0	000	130
1	001	120
2	010	125
3	011	130
4	100	135
5	101	140
6	110	145
7	111	150

Delay Time  
Switch Positions 4-5

	DIP Position 54	Delay time Minutes
0	00	3
1	01	1
2	10	2
3	11	4

Temperature hysteresis  
Switch Positions 6-7

	DIP Position 76	Temp hysteresis °F
0	00	10
1	01	5
2	10	15
3	11	20

Dip Switch position 8 is unused.

To make the new setting take effect you must press the RESET/TEST button.

**Additional Unimplemented features.**

There is a 2.5digit LCD Display that has not been configured with this release of the device

There is a serial port that could be used to send/receive information to the controller. A special Cable adaptor will be required to interface to PC.

There are 256 bytes of EEPROM storage on the Microcontroller that could be used for event logging. The current implementation of the software does not have a calibrated time base so a real time clock function would not be real accurate.