IMC INSTRUMENTS, INC.

visit us at : www.woodheat.imcinstruments.com

468 Liberty Dr.
Wittenberg, WI,54499 ,
USA

TEL 715- 253 2801   REV 02-26-14
       715- 445 4946
FAX 715- 253 2811

DESCRIPTION

The "WOOD BURN SENTRY" offers an unprecedented level of added efficiency thru proper combustion temperature management. Our WOOD STOVE MONITOR" is intended to provide around the clock supervision of the combustion activity in your wood burning stove. Typical High Efficiency burning WOOD STOVES have a minimum combustion chamber temperature required to maintain a high combustion efficiency burn of up to 75%. By having fast and accurate knowledge of the combustion temperature, flue damper adjustments can be made to maintain combustion temperatures in the HIGH EFFICIENCY range and thus getting every single BTU out of the wood you are burning. Operating combustion temperatures below this temperature decreases the overall efficiency drastically and results in un-burned gases that can condense and form creosote in the exhaust flue system. The WOOD BURN SENTRY will keep your flue system clean adding safety and peace of mind to your wood heat.

The WOOD BURN SENTRY also offers a high level of added safety with the built in TEMPERATURE ALARM. Should the exhaust flue temperature approach a pre-set limit (i.e.800 F adjustable) an audible alarm will initiate slow and steady loud tones alerting you that attention is needed at the stove. If the alarm limit is exceeded the loud tones will increase rapidly in frequency and LED digital display will flash "ALARM" and the actual flue temperature letting you know of the excessive temperatures. An ALARM silence button is available to temporarily mute the audible alarm. After a preset time it will self arm and re-initiate the AUDIBLE ALARM should the temperature still be above the pre-set limit.

The WOOD BURN SENTRY will become your invaluable companion in keeping your wood burn cycles running efficiently and safely.

FEATURES

> Large 4 full digit ½" high RED LED digital temperature display.

> Stainless Steel sheathed K type thermocouple flue stack sensor with very rapid response to DRAFT damper adjustments.

> Flue stack temperature measurement with adjustable alarm set point.

> 90 dB Audible ALARM with self rearming sound reset.

> Intrinsically safe low voltage operation.

> Long life solid state electronics and sensors.

WOOD BURN SENTRY

742.8 °F

IMC Instruments, Inc.
Made in WI, USA

AUDIO   ALARM

ALARM
SET/SILENCE

INSTRUMENTATION WITH QUALITY ENGINEERING

OPERATION

In normal operation the WOOD BURN SENTRY monitors continuously the temperature at the center of the exhaust flue stack. Should the exhaust flue temperature approach a pre-set limit (i.e.830 F adjustable) an audible alarm will initiate slow and steady loud tones alerting you that attention is needed at the stove. The short tones will start at 30F below the actual set point temperature(i.e.800F). If the alarm limit(i.e.830F) is exceeded the loud tones will increase rapidly in frequency and the LED digital display will flash "ALARM" and the actual flue temperature letting you know of the excessive temperatures. An ALARM silence CENTER button is available to temporarily mute the audible alarm. While in the mute MODE the buzzer will be beeping once every 20 seconds until it "times-out" after 3 minutes. There after it will self arm and re-initiate the AUDIBLE ALARM should the temperature still be above the pre-set limit.

To view the ALARM TEMPERATURE setting press the ALARM SET/SILENCE button and the TEMPERATURE will appear in the LED display window. To ADJUST it, press the ALARM SET/SILENCE button and hold it down and simultaneously press the UP button to increase the value or DN button to decrease the value until the desired temperature is displayed. Normal operation will occur after you release the buttons.

INSTALLATION

Power Wiring

General reminders- Make sure that all wiring terminations have 3/16" of clean bare metal wire exposed and all insulation is removed. Before inserting bare wire into the terminal block openings make sure that the screw terminals have all been loosen to permit a clean insertion of the bare wire terminations. Insure that all the filaments in multi stranded wires are inserted with out folds into the screw terminal openings. Loose wires are a hazzard. Make sure that you use wire ties to neat up all the extension wires as shown at the bottom of image 2. Do not place sharp bends in the thermocouple wire. Make sure that all bends have at least a 1" radius in the sensor wire..

Wall Mounting

Remove the face cover by loosening the top and bottom screws on the outside of the enclosure as shown on image (1) and slide out the cover. To mount it to a wall, two #6 Truss head screws with studs are provided for support as shown on image (3)

Power Wiring

Loosen the power terminal screws shown on image (1). Thread the AC power leads into the in to the enclosure as shown on image (2) and insert their bare copper terminations into the AC power terminal block as shown on image (1).

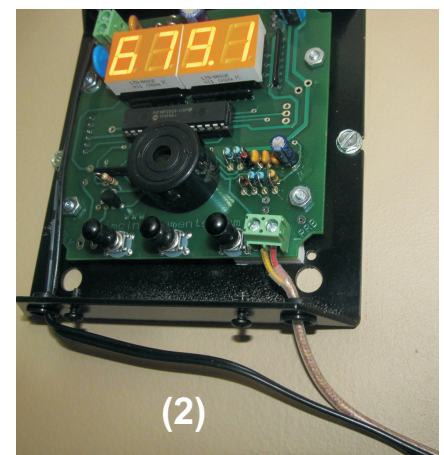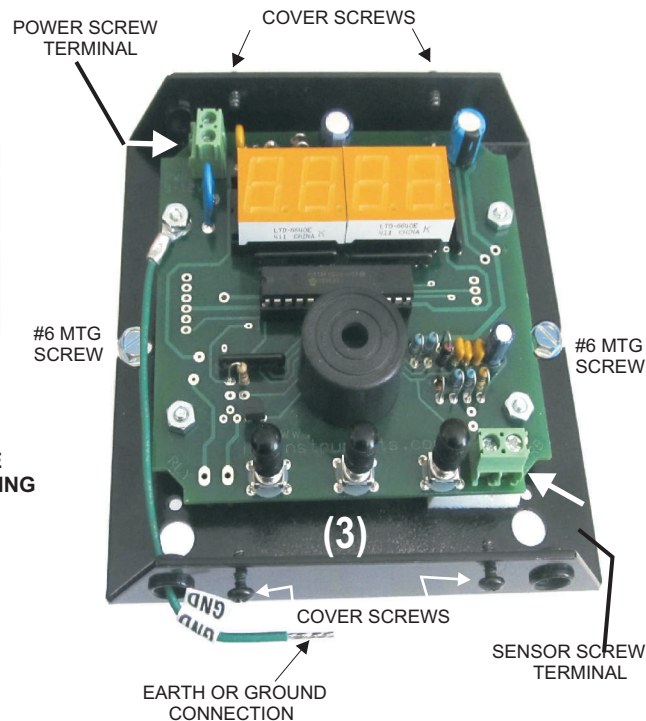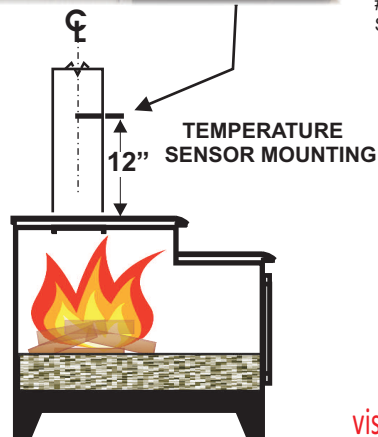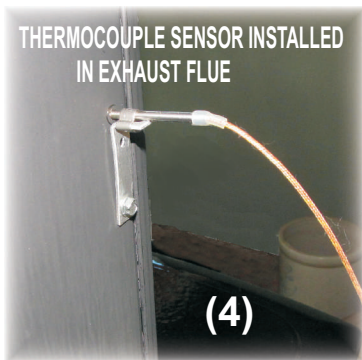### Thermocouple Temperature Sensor Wiring

Loosen the sensor terminal screws shown on image (2) lower right hand corner. Thread the RED and YELLOW sensor leads into the enclosure as shown on image (2) and insert their bare metal terminations into the +(plus) and -(minus) screw terminals of the terminal block as shown on image (2).

Mounting the Thermocouple Temperature Sensor

There are two holes that have to be drilled into the stove pipe before the L bracket and sensor can be mounted. The SENSOR hole is 1/8" and the #10 screw hole is 7/64". Make sure that the sensor is located 12" above the stove. There are 8' of thermocouple wire that will allow the SENTRY unit to be located near by. Make sure that the wire is not placed in an area were it will be exposed to physical abuse. The wire insulation is fiberglass and can not be moistened or exposed to abrasives. It is best to conceal it behind the stove.

Ground or Earth Connection

Provide a ground or earth connection to this terminal marked GND as shown on image (3). This is a very important requirement as it provides protection from very damaging electrostatic discharge caused by walking or rubbing materials prone to electrostatic build up. Use the wire cap provided for final connection.

THERMOCOUPLE SENSOR INSTALLED IN EXHAUST FLUE

(4)

TEMPERATURE SENSOR MOUNTING

12"

POWER SCREW TERMINAL

COVER SCREWS

#6 MTG SCREW

#6 MTG SCREW

(3)

COVER SCREWS

EARTH OR GROUND CONNECTION

SENSOR SCREW TERMINAL

(1)

(2)