

# ELECTRONIC FLAME SUPERVISION DIGITAL FLAMEOUT LOCATOR

MODEL: DFL

Revision: 0

BULLETIN  
7163

## DESCRIPTION

The model 7163 Digital Flameout Locator is an accessory for the Pyronics Sens-A-Flame II models 7131 and 7112. It mounts on a control panel to provide remote indication of the Sens-A-Flame II program functions. The gasketed display unit prevents dust and other contaminants from entering the control enclosure. Lights indicating "Purging", "Purged", "Flame On" and "Reset" are displayed. An optional electrical reset switch is available. The multiple burner model provides numeric indication of the first burner flame out. This feature will identify a burner failing to ignite during trial for ignition period.

Control system operation is simplified by use of the model 7163-DFL. The flush mounted display unit provides full start up and operating information with the control cabinet door closed. Maintenance time can be saved by keeping an operator informed as the Sens-A-Flame II manages the combustion system light-off and operation. Problems can be quickly identified.

Optical coupling to the Sens-A-Flame II provides operation of the model 7163-DFL. This isolation maintains the Sens-A-Flame II's high degree of reliability. A memory system retains the first flame out indication should power to the flame safeguard be interrupted during the shut down process (when the memory switch is in the "On" position). When placed in the "Clear" position the memory switch permits the numerical display to follow the burner ignition process. When operating, "Purging", "Purged", "Flame On", and "Reset" lights indicate on the display in sequence. A test switch is provided to illuminate all indicator lights simultaneously for detection of a display failure. The optional Reset switch is mounted on the display unit to energize a solenoid mechanism for operation of the Sens-A-Flame II Reset button. The optical detector unit replaces the model 7131 and 7112 Sens-A-Flame II enclosure cover.

## SPECIFICATIONS

Voltage : 120V 50/60Hz +10% -15%

Current : 0.08A (10VA maximum)

Ambient Temperature : 0 degrees to 125 degrees F (-16 degrees to 52 degrees C)

Controls : Memory - Clear/On, Display- Test, and Reset (optional)

Display : First flame out - 01 to 40, 1/2" LED digits (as required) and Purging, Purged, Flame On, Reset- LED indicators

Cable Length : 10 foot standard

Overall Size : 9.25" Wide x 4.5" High x 4" Deep

Mounting : Refer to dimension drawing on page 2



## FEATURES

- Panel mount display of Sens-A-Flame II indicator lights
- Numeric display, indicating burner failure location
- Unique memory retains first burner outage independently of Sens-A-Flame II
- Solid-state LED indicators for long life
- Gasketed and sealed display enclosure to prevent entrance of dust and dirt
- Optional display mounted reset switch

## APPLICATIONS

- Reduce maintenance time. Display locates problems fast and identifies specific burner location.
- Simplify light-off. Follow Sens-A-Flame II program sequence using panel mounted display.
- Minimize unauthorized access to control center. Reset combustion safeguard from panel without opening the control enclosure.

CAUTION: Operation of combustion equipment can be hazardous resulting in bodily injury or equipment damage. Each burner should be supervised by a combustion safeguard and only qualified personnel should install, make system adjustments and perform any required service.



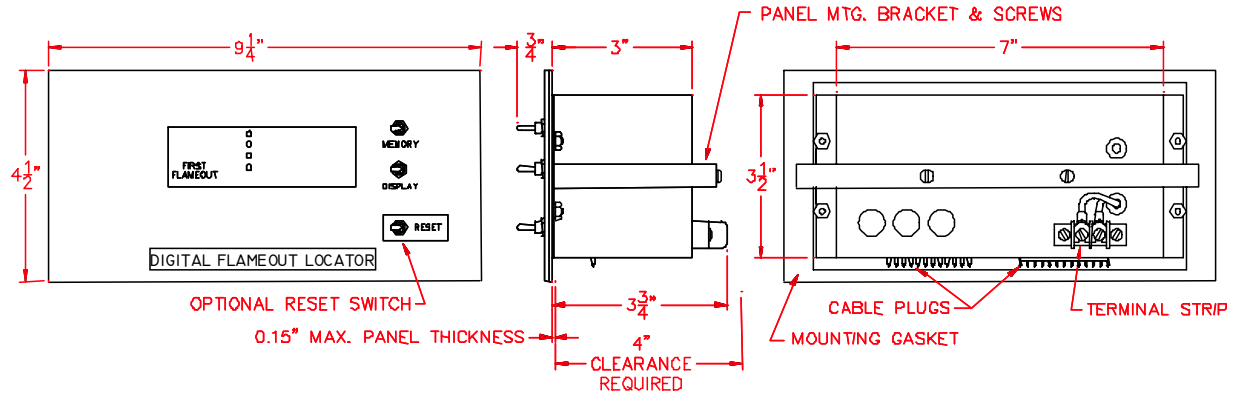
**ORDAN THERMAL PRODUCTS LTD**  
Combustion Equipment & Controls for Industry  
21 Amber St # 9, Markham Ontario Canada L3R 4Z3  
Tel: (905) 475-9292 Fax: (905) 475-3286  
[www.ordanthermal.com](http://www.ordanthermal.com)

NOTICE: PYRONICS practices a policy of continuous improvement in the design of its products. It reserves the right to change the specifications at any time without prior notice.

# ELECTRONIC FLAME SUPERVISION

BULLETIN  
7163  
PAGE NO.2

## DIMENSIONS / DISPLAY UNIT

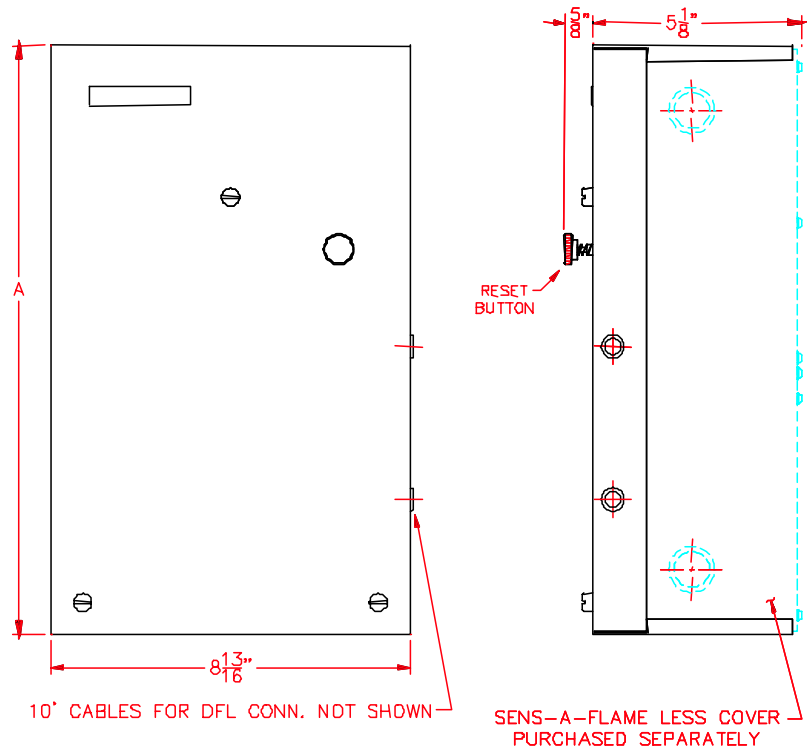


## DIMENSIONS / OPTICAL DETECTOR UNIT

**NOTE :**

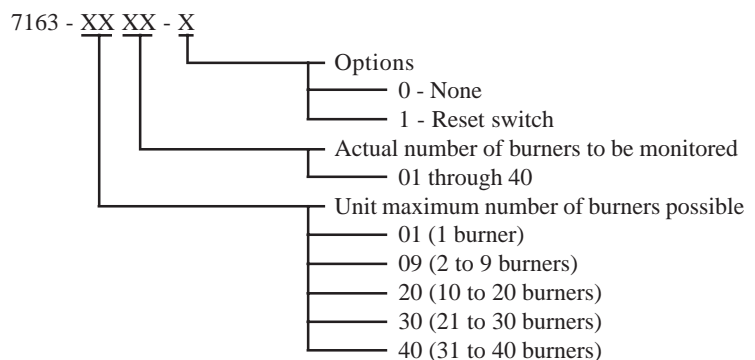
1. All Dimensions are in inches
2. All Weights are in pounds
3. Shipping Weight is combined total of display & optical detector units

A	Used On	Weight
8-1/4	Single burner unit	8.25
14-1/8	2-20 burner unit	8.75
20	21-40 burner unit	10.00



## ORDERING INFORMATION

1. For use with model 7112 or 7131 Sens-A-Flame
2. 10 foot standard cable length. Consult factory for other cable lengths
3. Specify Shipping instructions



# ELECTRONIC FLAME SUPERVISION

BULLETIN  
7163  
PAGE NO.3

## INSTALLATION

1. Make cutout according to figure 1, allowing 4" clearance behind panel.
2. Remove mounting bracket and 2 mounting screws as shown in general Dimension /Display Unit
3. Insert housing into cutout. Replace mounting bracket and 2 mounting screws.
4. Secure unit to panel using 2 mounting screws to clamp mounting bracket in place **Do not over tighten.**
5. Connect power (120v 50/60Hz) to the terminal strip.
6. Replace Sens-A-Flame II enclosure cover with Optical Detector Unit. Note : mounting screw thread may be different on Optical Detector Unit from original cover. If so, replace slide on fasteners using those provided with the Optical Detector Unit.
7. Route cables from the Optical Detector Unit to the Display Unit. Isolate cables from line or high voltage wiring. Connect red and green coded sockets on cables from Optical Detector Unit to respective plugs on Display Unit. Refer to Figure 2. Note : one cable (red) is used on single burner unit only, Model 7163-01010x. Flange on side of socket should engage clip on side of plug to provide positive polarity connection.

FIGURE 1

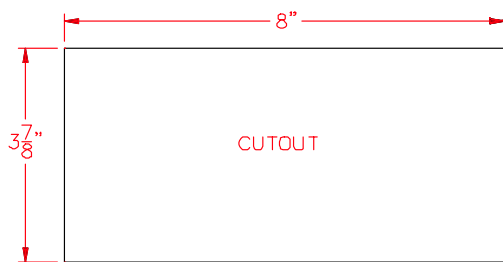
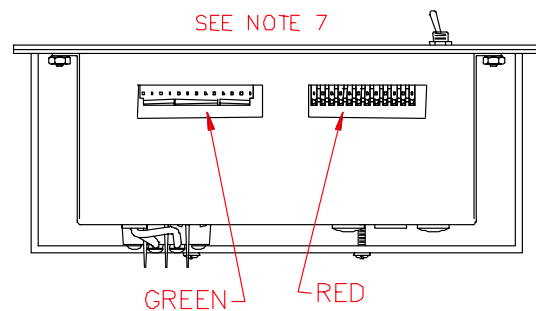


FIGURE 2



## INSTALLATION CHECKOUT

1. Check all wiring for proper connection and polarity. Examine for short circuit or loose connections. Do not stress, pull or cut Optical Detector cable assembly.
2. Verify that Optical Detector cable assembly is isolated from high voltage wiring.
3. Optical Detector cover must be squarely mounted on Sens-A-Flame II chassis. The cover must be fully seated and properly engaged. Do not over tighten mounting screws. Finger tight is adequate.
4. Test Display Unit by placing "Display" switch in Test position. All LED's should be illuminated.
5. Sequence Sens-A-Flame II to verify that all functions are indicating. Note : erroneous numbers, a multiple display, or a blank display indicate light leakage into the Optical detector Unit. Check that cover is properly installed.

CAUTION: Operation of combustion equipment can be hazardous resulting in bodily injury or equipment damage. Each burner should be supervised by a combustion safeguard and only qualified personnel should install, make system adjustments and perform any required service.



**ORDAN THERMAL PRODUCTS LTD**  
Combustion Equipment & Controls for Industry  
21 Amber St # 9, Markham Ontario Canada L3R 4Z3  
Tel: (905) 475-9292 Fax: (905) 475-3286  
www.ordanthermal.com

NOTICE: PYRONICS practices a policy of continuous improvement in the design of its products. It reserves the right to change the specifications at any time without prior notice.

# ELECTRONIC FLAME SUPERVISION

BULLETIN  
7163  
PAGE NO. 4

## OPERATING INSTRUCTIONS

1. Supply power from ahead of limits.
2. Place "Display" switch in the test position. All display lights should be illuminated and each first flame out digit used should read 8.  
Example :  
(7163-01XX-X uses no digit display)  
(7163-09XX-X uses one digit display)  
(7163-20XX-X uses two digit display)  
(7163-30XX-X uses two digit display)  
(7163-40XX-X uses two digit display)  
The switch is momentary and will return to normal when released.
3. Place the "Memory" switch in the Clear position during start up. The display will then directly indicate which burner out light on the Sens-A-Flame II is illuminated. The display will follow the flame out indicator during light off, always displaying one unlighted burner until all burners have ignited.
4. The programming sequence will be indicated as the Sens-A-Flame II program progresses.  
"Purging" - Sens-A-Flame II Purge Delay in progress  
"Purged" - Purge period completed  
"Flame On" - All flames on  
"Reset" - Reset of Sens-A-Flame II required
5. When flame is proven for all burners ("Flame On" illuminated), place the memory switch in the On position. This will enable the memory circuit to display and retain the first burner out. The display will retain the burner out indication until the Memory switch is set to Clear.
6. Optional "Reset" switch - When the system does not ignite within the pilot flame ignition period, the Sens-A-Flame II will lock out (Reset light on) and require reset. Operation of the momentary "Reset" switch on the DFL face will reset the unit.  
Note : Operation of the "Reset" switch at any time during cycle will stop the sequence and return to a start of purge.

## FRONT VIEW OF DISPLAY UNIT



CAUTION: Operation of combustion equipment can be hazardous resulting in bodily injury or equipment damage. Each burner should be supervised by a combustion safeguard and only qualified personnel should install, make system adjustments and perform any required service.



**ORDAN THERMAL PRODUCTS LTD**  
Combustion Equipment & Controls for Industry  
21 Amber St # 9, Markham Ontario Canada L3R 4Z3  
Tel: (905) 475-9292 Fax: (905) 475-3286  
[www.ordanthermal.com](http://www.ordanthermal.com)

NOTICE: PYRONICS practices a policy of continuous improvement in the design of its products. It reserves the right to change the specifications at any time without prior notice.