

## Smoke Alarm

### FEATURES

- DEP approved. Meets requirements of the NYC Air Pollution Code.
- LCD display, 0-100% opacity.
- Microprocessor-based electronics.
- 2-minute burner shutdown.
- Wide-beam light source and narrow field of view receiver assure noncritical alignment of breeching.
- Auto-calibration.

### APPLICATION

The Hays Cleveland Model A-08730 Smoke Alarm provides reliable, continuous measurement of the density of confined particulates such as dust or smoke. Calibration is automatic using front panel keys. No routine maintenance other than occasionally cleaning the lenses of the light source and receiver units is required.

The basic alarm system consists of an electronics unit and two breeching components. A light source directs a beam through the measured particulate, and a light sensor receives the beam, detects changes in opacity, and sends a proportional signal to the electronics unit. The wide-beam light source and narrow-view receiver make installation easy. Alignment of the breeching units does not need to be precise. The electronics produces a digital readout of percent opacity. SPDT contacts are provided for a remote alarm (which can be purchased separately: Hays Cleveland L-05500-00). After actuation, the alarm must be reset manually. The electronics unit is available in surface-mount and flush-mount styles. It can be installed in any dry, convenient area within 250 feet of the light source and receiver units. The face of the unit has a liquid crystal display and a "burner status" LED.

The Model A-08730 Smoke Alarm is equipped with a 2-minute (120-second) burner cutoff function. The Burner Cutoff Function is a delayed de-energization timer that shuts the burner down if an alarm condition (opacity exceeding 20%) persists for 120 seconds. The alarm must be reset manually after reduction of



*Typical A-08730-\*0-A Smoke Alarm with Breeching Components ( Light Source and Receiver).*

opacity to below 20%: it cannot be reset when opacity is above 20%. This feature meets the requirements of the New York City air pollution control code for alarm and burner control functions. An audible alarm with fixed trip point (20% opacity) is mounted on the front face of the electronics unit. The alarm emits one short beep and the LED blinks once for "Alarm" condition as soon as opacity exceeds 20%. The alarm emits three short beeps and the LED blinks three times for "Burner Cutoff" condition (after 120 second delay).

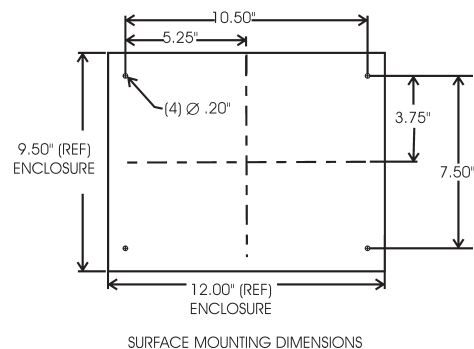
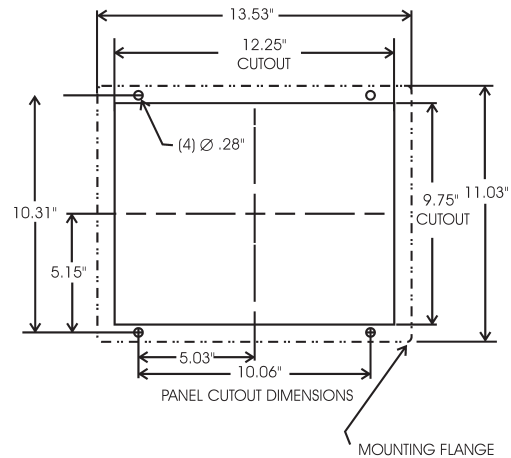
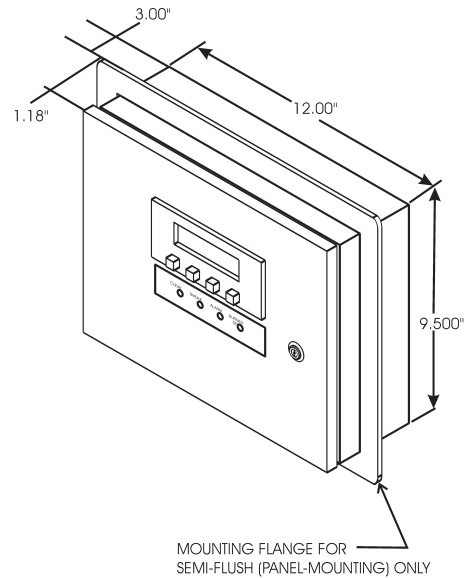
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## NOMENCLATURE

The basic catalog number is shown below. Replace suffix **A** with a cabinet selection. The standard base unit includes light source and receiver units. The electronics unit has a liquid crystal display and a burner status LED. Standard features include: alarm trip point fixed at 20% opacity, 120-second alarm delay, manual alarm reset which is disabled if opacity exceeds 20%, audible alarm located on panel front, and a contact closure for a remote alarm (sold separately).

Base Model: A-08730 -*0-A	
Codes	Description
Base	A-08730 -*0-A
A1	Surface-mount cabinet (for wall-mounting, NEMA-1).
A2	Flush-mount cabinet for (panel-mounting, NEMA-1).
*0 = Current Model	<b>Typical Model Code: A-08730-0-1</b>

SPECIFICATIONS A-08730-0-A Smoke Alarm	
Power requirements	120 V AC $\pm$ 10%, 50/60 Hz.
Ambient temperature ranges	32–130F (0–54C) for electronics unit. 32–160F (0–70C) for light source and receiver units.
Fuse	One, @ 1 amp.
Response time	1 second for 90% of actual change in opacity.
Accuracy	$\pm$ 5% opacity under all specified operating conditions.
Distance, light source to receiver	Minimum: 4 ft. (1.2 m.). Maximum 20 ft. (6.0 m.).
Light source lamp life	1 year minimum.
Spectral response of photocell	350–1100 nM.
Cable length	250 ft. (76 m.) maximum.
Indicator	Red "Burner Status" LED and flashing display.
Alarm contacts	Isolated SPDT, 10 amp, 120 V AC resistive, failsafe.
Trip point for "Warning" Alarm contacts	Fixed at 20% opacity. Immediate response when trip point is reached (single beep).
Trip point for Burner Shutdown Alarm contacts	Fixed at 20% opacity. Delayed response when trip point is reached (three beeps). 120 second timer.
"Warning" Alarm contacts	Automatic reset if opacity goes below 20% within 120 seconds. Manual reset if burner shutdown contacts change state (after 120 seconds).
Burner Shutdown Alarm contacts	Manual reset; resets if opacity is less than 20%.
Housing	NEMA 1.
Relative Humidity	0-90%, non-condensing.
Shipping Weight:	Electronics units: 8.0 lbs. Light source & receiver, combined: 6.2 lbs.
Approvals	NYC DEP approved.
<b>SPECIFICATIONS ARE SUBJECT TO CHANGE.</b>	



Visit us on the World Wide Web at [www.hayscleveland.com](http://www.hayscleveland.com)  
 Hays Cleveland Div. of UniControl Inc.  
 1903 South Congress Avenue  
 Boynton Beach FL 33426

Telephone: 561.734.9400  
 Fax: 561.734.8060  
 e-mail: [salescombustion@unicontrolinc.com](mailto:salescombustion@unicontrolinc.com)

[www.hayscleveland.com](http://www.hayscleveland.com)

Hays Cleveland Div. of UniControl Inc.  
 1111 Brookpark Road  
 Cleveland OH 44109

Telephone: 216.398.4414  
 Fax: 216.398.8558  
 e-mail: [salescombustion@unicontrolinc.com](mailto:salescombustion@unicontrolinc.com)

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