

TC846A Pinnacle™ Laser Ultra-High Sensitivity Smoke Detector

SPECIFICATION DATA



FEATURES

- Sleek, low profile design.
- Fast response to detect very early particles of combustion.
- Ultra-high sensitivity capability.
- On-board drift compensation.
- Transient rejection algorithms.
- Environmental tracking.
- Wide sensitivity range.
- Analog communications
- Low standby current.
- Direct-dial decade switches for easy address entry.

APPLICATION

The TC846A is an intelligent, laser-based photoelectric smoke detector featuring on-board signal processing capabilities designed to improve smoke response. The TC846A also features a patented smoke sensing chamber, designed to amplify signals from smoke, but diminish stray internal reflections. By using a laser diode instead of a standard LED light source in the sensing chamber, the TC846A is able to achieve sensitivities from 0.02% to 2% per foot obscuration.

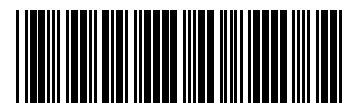
The detectors' extensive software processing includes multi-alert drift compensation, internal self diagnostics and superior transient signal rejection algorithms to produce unprecedented stability at ultra-high sensitivities over the complete temperature range.

Because the TC846A is base-compatible with all other Honeywell TC806 to TC808 series detectors, system designers can seamlessly mix the Pinnacle™ with other standard detection technologies thereby reducing overall cost. Other advantages of the TC846A over other high sensitivity detection methods are:

- Pinpoint identification of fire location resulting from addressability.
- No delay in response because of smoke dilution or smoke transportation time as in aspirated systems.
- Complete supervision of wiring and detector.

The TC846A is designed to protect valuable assets and operations where systems must remain on-line at all times, as well as for areas requiring very early warning fire detectors (VEWFD), such as telecommunications facilities covered under NFPA 76. Many sensitive areas cannot tolerate even small amounts of smoke. Some ideal applications for Pinnacle include:

- Telecommunications switching facilities.
- Cellular telephone infrastructure.
- Integrated circuit fabrication facilities.
- Computer rooms.
- Traffic control center.
- Clean rooms.



SPECIFICATIONS

Model: TC846A Pinnacle™ Laser Ultra-High Sensitivity Smoke Detector.

Electrical Ratings:

Operating Voltage: 15 to 32 Vdc peak.
 Standby Current (maximum average): 230 µA at 24 Vdc (without communication), 330 µA at 24 Vdc (one communication every five seconds with LED enabled).
 LED Current (maximum): 6.5 mA at 24 vdc (on).

Temperature Ratings: 32°F to 100°F (0°C to 38°C).

Humidity Ratings: 10 to 93% RH, noncondensing.

Detector Placement: Detectors must be applied per NFPA 72.

Smoke Sensitivity:

Nine Levels:
 0.02, 0.03, 0.05, 0.10, 0.20, 0.50, 1.00, 1.50, 2.00% ft obscuration; (0.06, 0.10, 0.16, 0.33, 0.66, 1.65, 3.24, 4.85, 6.41%/m obscuration).

Velocity Ratings: 0 to 4000 ft/min. (0 to 20.3 m/s).

Compatible Controller:

FS90 Plus: AE Board.

Indicators and Switches: Two LEDs on opposite sides of detector head for 360-degree viewing angle. LEDs blink for normal operation and are latched on for alarm condition. As an option, normal blinking can be suppressed for use in a sleeping area. Two decade switches for setting detector address (01-99).

Self Diagnostics: Initiated by control panel; activated by test magnet.

Drift Compensation:

High sensitivity maintenance alert signal.
 Low sensitivity maintenance alert signal.
 Maintenance urgent signal.

Testing: Built-in magnetic reed switch for testing with magnet.

Construction: Flame-retardant, off-white plastic.

Insect-Resistant Screen: 0.025 in. max. (0.635 mm) opening.

Dimensions: 1-11/16 in. (43 mm) high, 4 in. (107 mm) diameter.

Shipping Weight: 5.6 oz (159g).

Approvals: UL Listed per UL Standard 268.

14507371 Mounting Base

Model:

14507371-001: Mounts on 4 in. square x 1-1/2 in. deep electrical box or mounts on 3 in. or 4 in. octagonal x 1-1/2 in. deep electrical box (for domestic use).

NOTE: The TC846A can be used with all Honeywell Intelligent Sensor Bases, including the B501BH Horn Base, B501BHT Temp Tone Sounder Base, 14507371-003 Relay Base, 14506412-002 Flangeless Base and 14507371-005 Isolator Base.

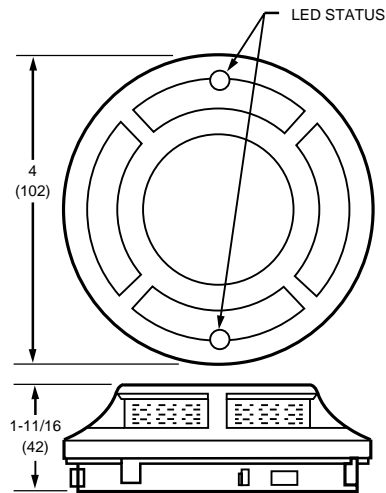
Dimensions: See Fig. 1 and 2.

Mounting: Surface mounted on ceiling or wall.

Wiring: Screw terminals in Base accept up to 12 AWG (3.3 sq mm) wire. See Fig. 3.

Additional Equipment:

Optional magnet for local testing of individual detectors.
 RA400Z Remote Annunciator.



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Fig. 1. TC846A dimensions in in. (mm).

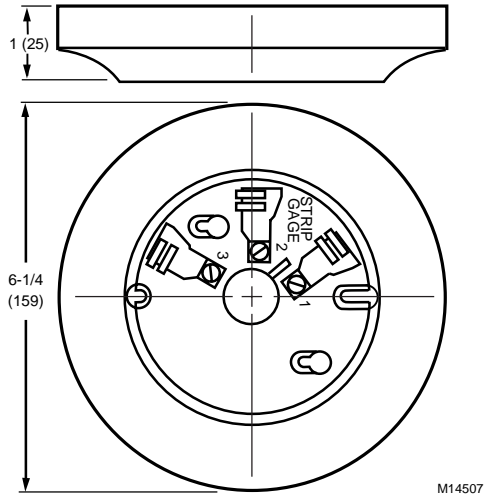


Fig. 2. 14507371 dimensions in in. (mm).

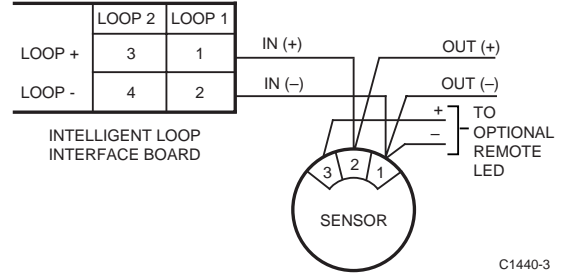


Fig. 3. 14507371-001 Base wiring.

Honeywell

Home and Building Control Home and Building Control

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