

TC806E Photoelectric, TC807E Ionization, and TC808E Electronic Thermal Sensors

SPECIFICATION DATA



FEATURES

- Direct-dial decade switches for easy address entry
- Continuous monitoring of sensor sensitivity
- Electronics conformal-coated to resist corrosion
- Optional tamper resistant mounting
- Easy plug-in of sensor heads to common mounting base
- Dual LEDs provide 360° viewing
- Base available with horn for audible annunciation
- Local test feature
- Low profile option
- Compatible with FS90 Plus, FS45/M1000 and XLS200/1000 systems

DESCRIPTION

The TC806E Photoelectric Smoke Sensor, TC807E ionization Smoke Sensor, and TC808E Electronic Thermal Sensor are analogue addressable fire detection devices that provide two-way communication with Honeywell's Life Safety systems. FS90 Plus, FS45/M1000 or XLS200/1000 panels, all use a proprietary communication protocol containing both digital and analogue signals which allows each sensor to communicate its individual address, sensor type (e.g. photoelectric, ionization, or thermal), and an analogue value.

The fire alarm panel analyses the analogue signal to measure the sensitivity of each sensor and to determine its status: alarm, pre-alarm (needs maintenance) normal, and trouble.

The TC806E has an optical sensing chamber and uses the light scattering principle. The TC807E uses a dual, unipolar ionization chamber. The TC808E senses ambient temperature by means of a dual thermistor (negative temperature coefficient resistor). The TC808E fixed temperature model provides more static performance characteristics, and will effectively respond as a Grade 2 sensor. The TC808E ROR model provides in addition to the fixed temperature response, Rate of Rise characteristics to Grade 1 performance levels (as defined by EN54 Part 5). All sensors provide stability and fast response to a broad range of fire conditions.

The address for each sensor is set via two direct-dial decade switches. Dual LEDs on the sensors provide 360-degree visual indication. The LEDs pulse whenever the fire alarm panel polls the sensor and the LEDs latch on whenever the sensor is in alarm.

Several different mounting bases are available for the TC806E, TC807E and TC808E to accommodate various configurations. If using the mounting base with integral horn, a local audible alarm occurs whenever the sensor is in alarm.

The sensor heads are sealed to prevent entry of dust and dirt. In addition the sensors have an insect-resistant screen (0.025 in [0.6 mm] openings) to reduce nuisance alarms.

The TC806E Photoelectric Smoke Sensor and the TC807E Ionization Smoke Sensor are also available as low profile options.



Fig 1: Low Profile Smoke Sensor

SPECIFICATIONS

Sensor Models:

TC806E Photoelectric Smoke Sensor
 TC806E Photoelectric Smoke with Integral Thermal Sensor
 TC806E Low Profile Photoelectric Smoke Sensor
 TC807E Ionization Smoke Sensor
 TC807E Low Profile Ionization Smoke Sensor
 TC808E Electronic Thermal Sensor (Fixed Temperature)
 TC808E Electronic Thermal Sensor (Rate of Rise Grade 1)

Operating Voltage

15-28V dc

Power Consumption:

5 mA alarm current with LEDs latched on 0.2 mA maximum supervisory current

Temperature Setting:

TC808E Fixed: EN54 Part 5 Grade 2
 TC808E Rate of Rise: EN54 Part 5 Grade 1

Nominal Sensitivity:

TC806E: 2%/foot t .2%
 Low Profile: 2%/foot t .2%
 TC807E: Y Value= 0.8
 Low Profile: Y Value= 0.8

Indicators and Switches

Two LEDs on opposite sides of sensor head for 360° 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 sensor address (01-99)

Testing:

Built-in magnetic reed switch for testing with magnet

Weight:

TC806E/TC807E: 0.5lb (227g)
 Low Profile: 3.6oz (104g)
 TC808E: 5oz (150g)

Lamp Life:

LED rated at 40 years

Base Terminals:

Screw terminals accept up to 12 AWG (3.3 sq mm) wire.

Environmental Operating Limits:

Temperature:

Standard Profile: 14 to 140F (-10 to 60C)
 Low Profile: 32 to 120F (0 to 49C)

Humidity:

10 to 93% rh, non-condensing

Velocity Ratings:

TC806E: 3000 ft/min (15 m/sec)
 TC807E: 1500 ft/min (7.5 m/sec) constant airflow
 2500 ft/min wind gusts without false alarms

Mounting Bases:

14506414-001:

Mounts on 4 in. square x 1.5 in. deep electrical box or mounts on 3 in. or 4 in. octagonal x 1.5 in. deep electrical box. (for use in UL markets)

14506414-007:

Mounts on 50, 60, or 70 mm electrical box (for international use)

14506414-005:

The same as -007 with integral relay to signal external devices

14506414-006:

The same as -007 with a built-in fault isolator (relay)

SSDB524IEFT:

Low profile solid state fault isolator base

14507371-001:

Similar to 14506414-001 for use with Low Profile Sensors

14507371-003:

Relay base for Low Profile Sensors

14507371-005:

Isolator base for Low Profile Sensors

SSDB501BH:

Mounts on 4 in. square x 1-1/2 in. deep electrical box (with integral horn for local audible annunciation; requires external power supply)

Additional Equipment:

SSDRMK400:

Recess Mounting Kit.

SSDSMK400:

Surface Mounting Kit

SSDRA400Z:

Remote LED

SSDMOD400R:

Detector Sensitivity Tool for use with most analogue or digital multimeters. Satisfies the requirements of NFPA72E

SSDXR-5:

Detector Removal Tool for Standard Sensors

SSDXR-2:

Detector Removal Tool for Low Profile Sensors

SSDXP-4:

3 x 4.8 ft (1.5 m) Extension Poles for SSDXR-5 and SSDXR-2

SSDCRT400

Detector Cover Removal Tool

External Power Supply:

(for SSDB501BH Horn Base):

Operating Voltage: 17-32V dc (24V dc nominal) from supervised external power supply

Stand-by Current: 1.0 mA max Alarm

Current: 15 mA max

Max Ripple Voltage: 10% of supply voltage

Sound Output:

Reversing polarity of power supply for SSDB501BH (horn base) causes each horn on the power circuit to sound when sensor LED latches on for 10 seconds

Greater than 90 dBA measured in anechoic room at 3m
 24V 85 dBA minimum measured in UL reverberant room

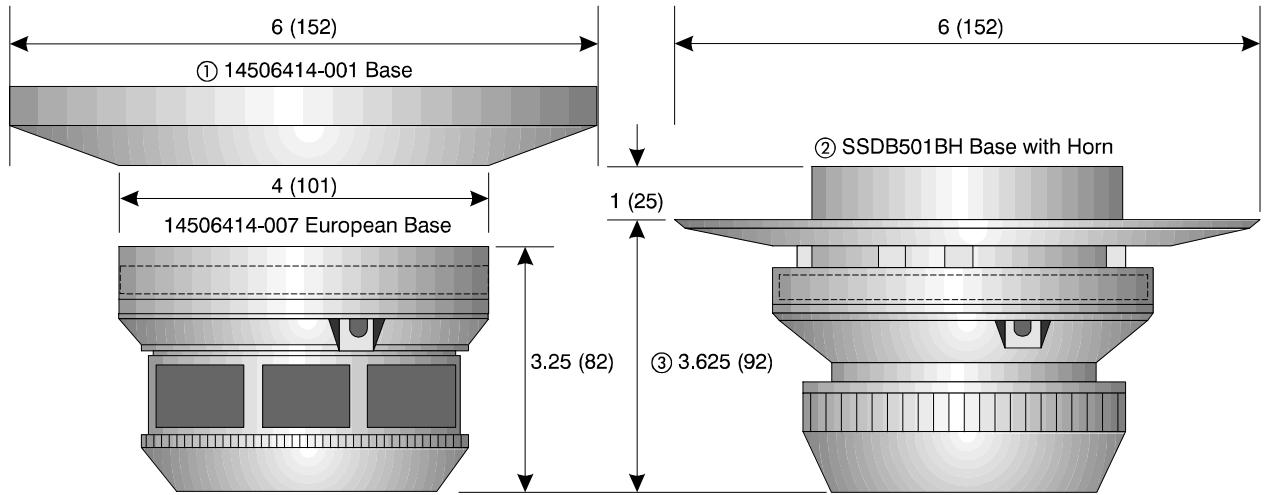
Mounting:

Surface Mounted on ceiling or wall

Sensor Placement:

Sensors must be installed in accordance with local codes

Dimensions In Inches (Millimeters)



- a 14506414-003 Base is similar to 14506414-001 Base.
14506414-007 Base shown with TC806E
- b SSDB501BH Horn Base shown with TC807E
- c Maximum profile for TC806E, TC807E or TC808E with 14506414-001 or -007 Base.
SSDB501BH Horn Base adds 1 in. (25 mm)

Fig. 2: Standard Sensors and Mounting Bases

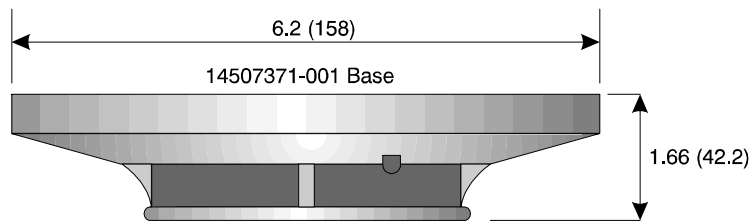


Fig. 3: Low Profile Sensors and Mounting Base

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Comfort from Experience

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