

TC806A Photoelectric, TC807A Ionization, and TC808A Thermal Electronic Sensors

SPECIFICATION DATA



GENERAL

The TC806A Photoelectric Smoke Sensor, TC806A Photoelectric Smoke with Integral Thermal Sensor, TC807A Ionization Smoke Sensor, and TC808A Electronic Thermal Sensor are intelligent detection devices that provide two-way communication with the DeltaNet FS90 Plus Fire & Security ("FS90 Plus") System. The FS90 Plus System uses a proprietary communication protocol containing both digital and analog signals which allows each sensor to communicate its individual address, sensor type (e.g., photoelectric, ionization, or thermal), and an analog value. The FS90 Plus analyzes the analog signal to measure the sensitivity of each sensor and to determine its status: alarm, prealarm (needs maintenance), normal, and trouble.

The TC806A has an optical sensing chamber and uses the light-scattering principle. The TC807A uses a dual, unipolar ionization chamber. The TC808A senses ambient temperature by means of dual thermistors (negative temperature coefficient resistors). TC808A thermal sensors are available in both fixed temperature, and fixed temperature with rate-of-rise. 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. A common mounting base accommodates the TC806A, TC807A, or TC808A. A mounting base is also available with an integral horn for local audible annunciation.

FEATURES

- Early detection of fire conditions
- 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-degree viewing
- Base available with horn for audible annunciation
- Local test feature



SPECIFICATIONS

Sensors

Models:

- TC806A Photoelectric Smoke Sensor
- TC806A Photoelectric Smoke with Integral Thermal Sensor
- TC807A Ionization Smoke Sensor
- TC808A Electronic Thermal Sensor
- TC808A Electronic Thermal Sensor with rate-of-rise

Operating Voltage:
15-28 Vdc

Power Consumption:
5 mA alarm current with LEDs latched on
0.2 mA maximum supervisory current

Environmental Limits:

	TC806A	TC807A	TC808A
Temperature:	32F to 120F 0C to 49C	32F to 120F 0C to 49C	32F to 100F 0C to 38C
Humidity:	10% to 93% noncondensing	10% to 93% noncondensing	10% to 93% noncondensing

Sensor Placement:
Sensors must be applied per NFPA 72. The UL listed spacing of thermal sensors is 50 feet (15 meters).

Nominal Sensitivity:
TC806A: 1.63 percent/foot obscuration
TC807A: 1.5 percent/foot obscuration
TC808A Fixed 135F (57C) or 15F (8C)/min rate of rise
TC808A with Rate-of-Rise: 140F (60C) or 15F (8C) per min.

Velocity Ratings:
TC806A: 3000 ft/min
TC807A: 1500 ft/min constant airflow; 2500 ft/min wind gusts without false alarms

Indicators and Switches:
Two LEDs on opposite sides of sensor 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 sensor address (01-99)

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

Weight:
5 oz (142 g)

Lamp Life:
LED rated at 40 years

14506414 Base

Models:

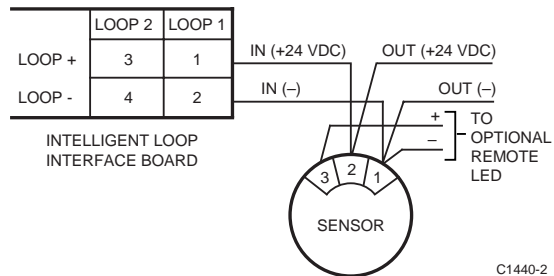
- 14506414-001: Mounts on 4 in. square x 1-1/2 in. deep electrical box or mounts on 3 in. or 4 in. octagonal x 1-1/2 in. deep electrical box (for domestic use)
 - 14506414-002: Mounts on 50, 60, or 70 mm electrical box (for international use, metric base)
 - 14506414-003: Mounts on 4 in. square x 1-1/2 in. deep electrical box or mounts on 3 or 4 in. octagonal x 1-1/2 in. deep electrical box (with ULC label for use in Canada)
 - B601BH/B501: Mounts on 4 in. square x 1-1/2 in. deep electrical box (includes base horn mounted to metric base)
- NOTE: This is the same as the V14506414-004 order with B601BH/B501 part number.

Mounting:
Surface mounted on ceiling or wall

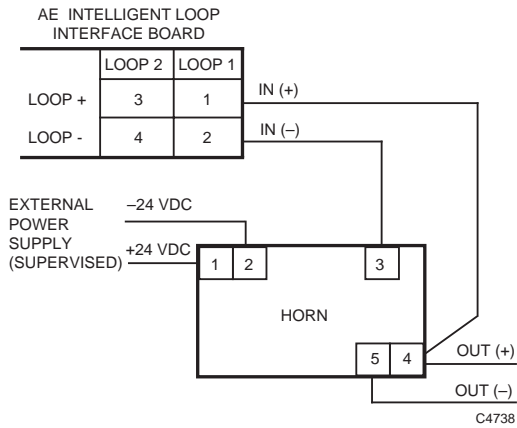
External Power Supply (for B601BH/B501 Horn Base):
Operating Voltage: 17-32 Vdc (24 Vdc nominal) from supervised external power supply
Standby Current: 1.0 mA max
Alarm Current: 15 mA max
Max Ripple Voltage: 10% of supply voltage

Sound Output:
Reversing polarity of power supply for B601BH/B501 Horn Base causes all horns on the power supply circuit to sound Individual horn sounds when sensor LED latches on for 10 sec
Greater than 90 dBA measured in anechoic room at 10 ft (3m), 24V
85 dBA minimum measured in UL reverberant room

Base Terminals:
Screw terminals accept up to 12 AWG (3.3 sq mm) wire See wiring diagrams for sensor wiring and Horn Base wiring:

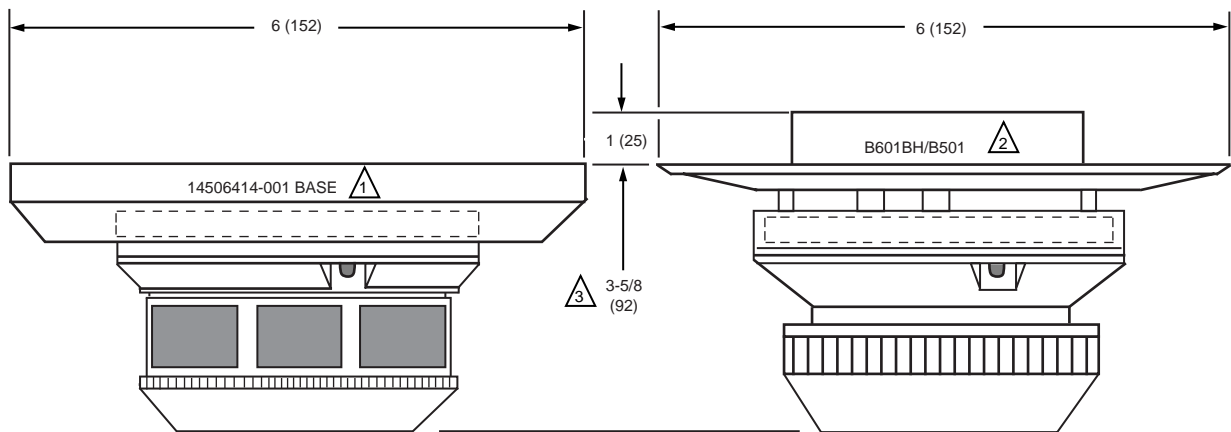


Wiring for 14506414-001, -002, and -0903 base.



Wiring for B601BH/B501 Horn Base.

Dimensions:
See dimension diagrams



- 1 14506414-003 BASE IS SIMILAR TO 14506414-001 BASE. 14506414-001 BASE SHOWN WITH TC806A.
- 2 14506414-002 BASE IS SIMILAR TO B601BH/B501 HORN BASE WITHOUT HORN. B601BH/B501 HORN BASE SHOWN WITH TC807A.
- 3 MAX PROFILE FOR TC806A, TC807A, OR TC808A WITH 14506414-001, -002, OR -003 BASE. B601BH/B501 HORN BASE ADDS 1 IN. (25 MM).

C4739-1

Dimensions in Inches (Millimeters)

Approvals

UL Listed per UL Standard 268
CSFM Listed
EN54

Additional Equipment

Optional magnet for local testing of individual sensors
SSDRA400Z Remote LED

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