



## FXIATS-140 AMBIENT AIR TEMPERATURE TRANSMITTER for use with the PPC4000 Series Fuel/Air Ratio Controller



### DESCRIPTION

The FXIATS-140 offers a fast, stable, repeatable, and accurate means of measuring ambient air temperature in harsh environment. The FXIATS-140 is a 4-20mA signal, Two Wire Operation, Temperature transmitter. Its rugged design makes it ideal for a wide variety of HVAC, Industrial and commercial ambient temperature monitoring applications.

It is packaged in a NEMA 4 (IP-66) enclosure to protect against dust, dirt, water, moisture, etc. The UV-resistant plastic shield protects the sensor from the sunlight and allows for excellent air circulation. Sophisticated integrated circuits provide a high level, fully conditioned, and temperature compensated 4-20mA signal.

#### Features:

- Quick-Response Sensor
- Stable, repeatable and accurate
- Well Vented, Light Colored Sensor Guard
- Watertight Enclosure



**WARNING: The PPC4000 Fuel Air ratio Controller must only be used with the approved ambient air temperature sensor. (e.g.: FXIATS-140). Do not use with any other types of pressure or temperature sensors. UL approval requires these sensors.**



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## ORDERING INFORMATION

Fireeye P/N	Description
FXIATS-140	Ambient air temperature transmitter, -40°F to 140°F, 4-20 mA output, 7 to 40VDC, NEMA 4 enclosure.

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## GENERAL SPECIFICATIONS

**Type:** RTD Transmitter

**Temperature Range:** -40 to 140°F (-40 to 60°C)

**Storage Temperature:** -40 to 176°F (-40 to 80°C).

**Relative Humidity Range:** 0 to 100% RH, non-condensing

**Power Requirements:** 7 to 40VDC

**Transmitter Output:** 4-20mA, 850Ω@24VDC

**Output Wiring:** 2 wire loop

**Sensitivity:** 3.85Ω/°C

**Accuracy:** ±0.065% of span

**Linearity:** ±0.125% of span

**Electrical Connections:** Screw terminal block.

**Probe:** Vented polycarbonate shield, ½" OD

**Probe Length:** 1.2" with ½" NPT threads

**Mounting:** Extension tabs (ears), 3/16" holes

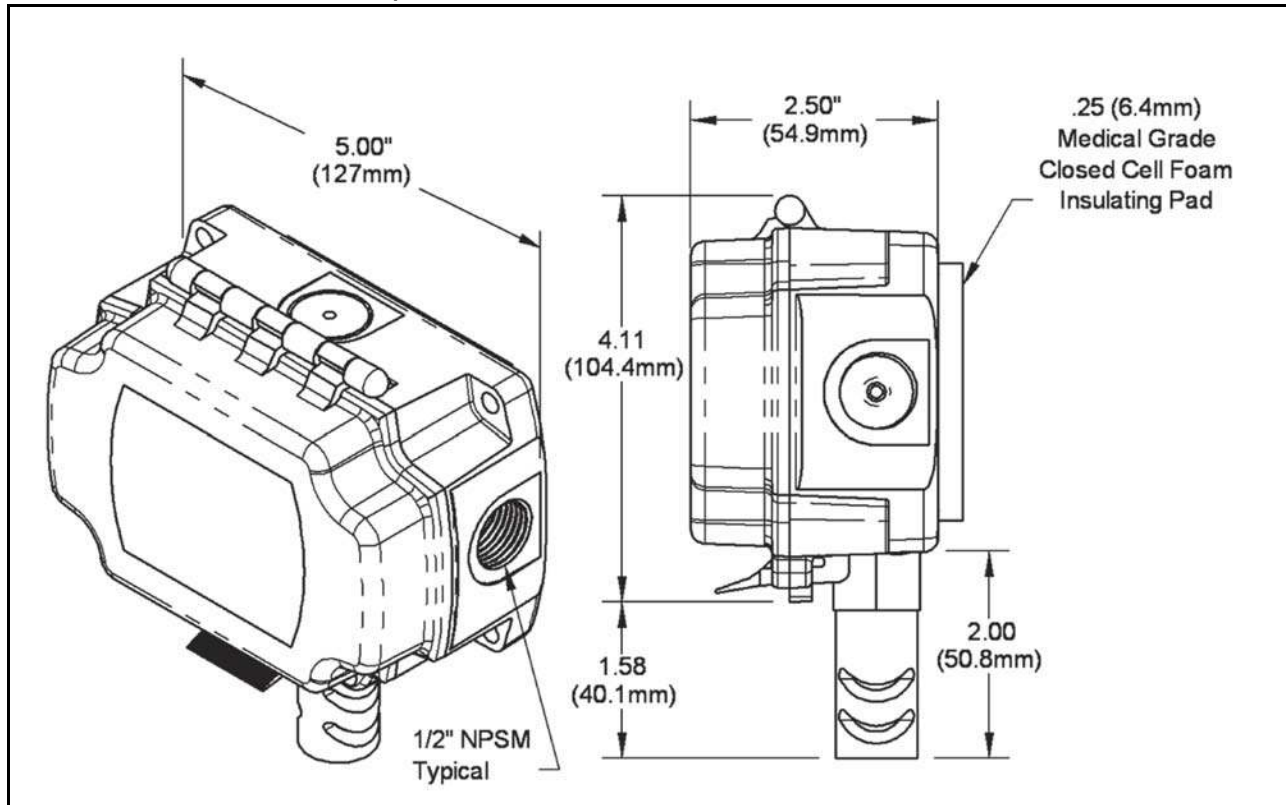
**Conduit Connection:** four ½" NPSM & one ½" drill-out

**Housing Material:** Polycarbonate, UL94V-0, UV rated

**Enclosure Rating:** NEMA 4 (IP66)

**Agency Approvals:** UL, ROHS

**FIGURE 1. Ambient Air Temperature Transmitter enclosure- FXIATS-140**



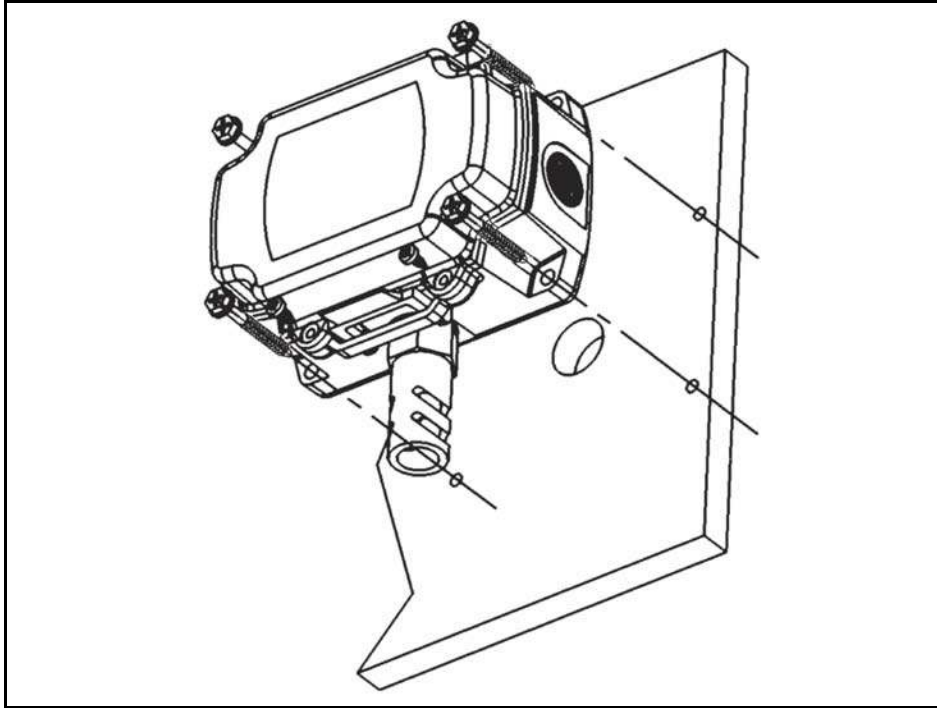
**WARNING**

1. Read these instructions carefully. Failure to follow them could result in a hazardous or dangerous condition.
2. Insure that the range of the selected sensor is appropriate for the application.
3. The sensors must be located where the ambient temperature will not exceed the maximum ambient operating temperature specified for the sensor.
4. Do not mount the transmitter where it could be used as a footstep
5. Installation must be performed by a trained, experienced flame safeguard technician.

## INSTALLATION

FXIATS-140 temperature transmitter placement is critical for good performance. The transmitter should be mounted under an eave, shield, or in an area that is out of the elements or direct sunlight. The transmitter should be mounted with the sensor pointing down to prevent water collection in the sensor cavity. The transmitter should never be in direct sunlight or you will have higher than expected temperature readings by as much as +30%.

**FIGURE 2. FXIATS-140 Temperature transmitter installation**



The sensor shield and probe should always point down and mounted between four feet above the ground/roof and one foot minimum below the eave. (Note: Four feet keeps the sensor above the ground or roof top radiation and one foot under the eave prevents measurement of trapped heat from under the eave.) Drill the mounting holes and mount as shown in the figure 2 above. Snug up the mounting screws to ensure that the foam backing compresses to about 50% of its thickness to make a gasket type seal against the wall surface.

Route the wires into the box and terminate with a 2" drip loop inside the box, thereby preventing costly callbacks. Best practice is to caulk the wiring hole after the wiring is installed. Close the cover of the box and secure with provided cover screws.

Avoid locations where severe shock or vibration, excessive moisture or corrosive fumes are present. Make sure all connections are in accordance with the job wiring diagram and in accordance with national and local electrical codes. Use copper conductors only.

Do not exceed ratings of this device, permanent damage not covered by warranty may result. The transmitter is not designed for AC voltage operation.



**Warning:** Disconnect power supply before installation to prevent electrical shock and equipment damage.

Use electrostatic discharge precautions (e.g., use of wrist straps) during installation and wiring to prevent equipment damage.

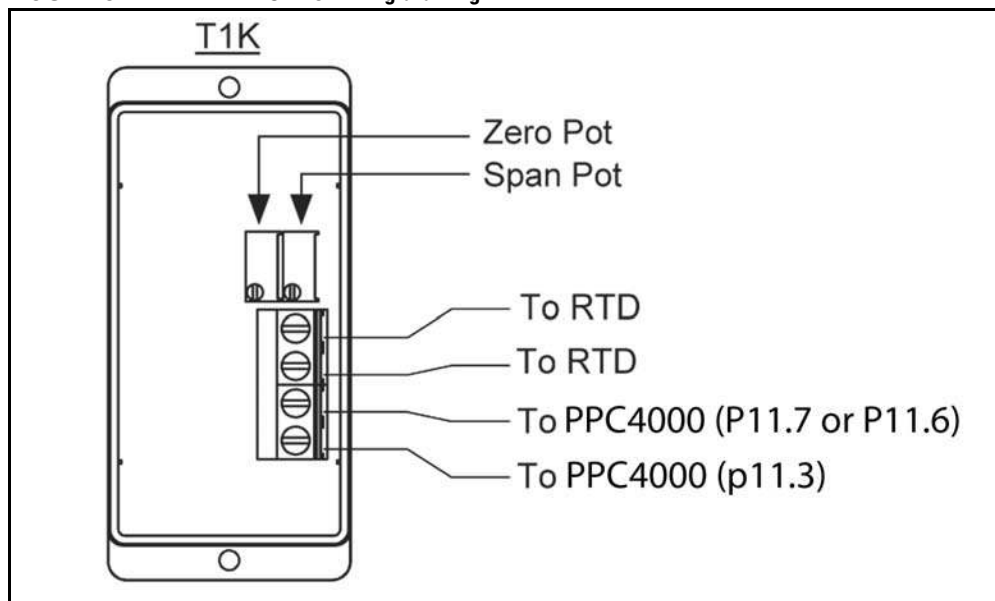
## WIRING



**CAUTION: Disconnect power supply from the PPC4000 Control before connecting wires to prevent electrical shock and equipment damage.**

1. All wiring must be in accordance with National Electrical Code and local codes, ordinances, and regulations.
2. Transmitter housing provides connection for ½" conduit.
3. Use maximum 18 AWG wire for wiring terminals. Refer to Figures 3 wiring information

**FIGURE 3. FXIATS-140 Wiring drawing.**



4. Maximum wiring distance for transmitter is 100 feet.
5. Do NOT run the device's wiring in the same conduit as high or low voltage AC power wiring. Tests show that inaccurate signal levels are possible when AC power wiring is present in the same conduit as the sensor wires.
6. See Table 1 for wiring connection.

**Table 1: PPC4000 wiring connections**

FXIATS-140	SENS4	SENS5
1+	P11.3	P11.3
2+	P11.7	P11.6



**CAUTION: PROGRAM AND SET-UP**

The proper operation of the PPC4000 controller and the ambient air temperature transmitter requires that the selected temperature ranges are appropriate for the application and must match the temperature range programmed on the PPC4000 Control.



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## NOTICE

When Fireeye products are combined with equipment manufactured by others and/or integrated into systems designed or manufactured by others, the Fireeye warranty, as stated in its General Terms and Conditions of Sale, pertains only to the Fireeye products and not to any other equipment or to the combined system or its overall performance.

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## WARRANTIES

FIREYE guarantees for *one year from the date of installation or 18 months from date of manufacture* of its products to replace, or, at its option, to repair any product or part thereof (except lamps and photocells) which is found defective in material or workmanship or which otherwise fails to conform to the description of the product on the face of its sales order. **THE FOREGOING IS IN LIEU OF ALL OTHER WARRANTIES AND FIREYE MAKES NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED.** Except as specifically stated in these general terms and conditions of sale, remedies with respect to any product or part number manufactured or sold by Fireeye shall be limited exclusively to the right to replacement or repair as above provided. In no event shall Fireeye be liable for consequential or special damages of any nature that may arise in connection with such product or part.



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