



### Product Overview

The AX-TE-Fx range of flying lead temperature sensors are designed to interface with a wide variety of HVAC control equipment. Units are available with a high quality thermistor element or with an active linear output.

The sensor provides a low cost solution for applications such as fan coil unit return air temperature sensing or where a discrete element is required.

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### Features

- Low Profile Cap
- Large Range of Sensor Options
- Complete With 2m Cable
- Flame Retardant Acetyl Resin

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### Product Specifications

#### Output:

Passive: Range of two wire thermistor and PTC platinum elements providing variable resistance.  
Active - Current: 4-20mA representing -10°C to 40°C (unless specified otherwise)

#### Accuracy:

Thermistor: +/- 0.2°C between 0°C and 70°C  
Platinum: +/- 0.35°C between 0°C and 100°C (PT100a and PT1000a)  
Active: +/- 0.1% of range

**Materials:** Acetal Resin

#### Terminals:

Passive: 100mm Outer Sheath Removed - 5mm Conductor Insulation Stripped and Solder Coated  
Active: Rising Clamp for 0.5-2.5mm<sup>2</sup> Cable

**Ambient Temp:** -10°C to 60°C

#### Dimensions:

**Probe:** 20 x 6mm diameter  
**Overall Length:** 2m

**Country of Origin:** United Kingdom

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### Order Codes

AX-Te-Fxx - Flying Lead Temperature Sensor.

xx Denotes sensor type, please see table below. (eg. AX-TE-FT)

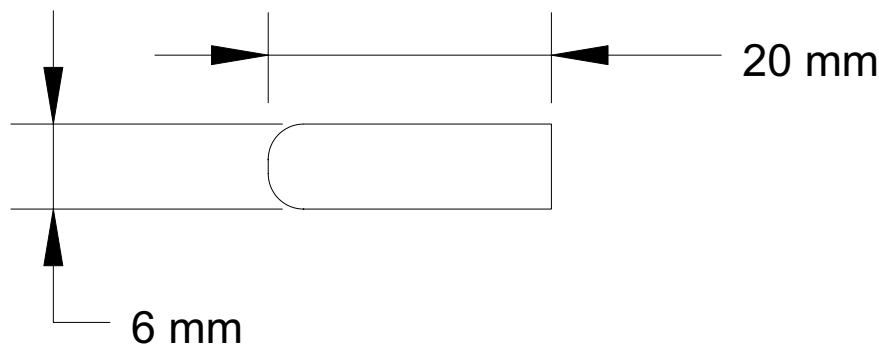
-T	10K3A1 NTC Thermistor	-100	PT100a Platinum Element
-A	10K4A1 NTC Thermistor	-1K	PT1000a Platinum Element
-H	20K6A1 NTC Thermistor	-NIK	Ni1000a Nickel Element TCR curve
-3K	3K3A1 NTC Thermistor	-TXI	Active 4-20mA Linear Output
-SAT	SAT1 NTC Thermistor		

**Installation**

The AX-TE-Fx sensor should be installed by a suitably qualified technician in conjunction with any guidelines for the equipment which it is to be connected to. Field wiring should be installed to satisfy the requirements set out by the manufacturer of the equipment that the sensor is being connected to. As a general rule, screened cable should be used to connect the sensor to a BMS or other controller. Please note that none of the AX-TE-Fx sensors are suitable for use with mains voltage.

The AX-TE-Fx is designed for a variety of sensing applications. Typically, the sensor is used to sense return air temperature for fan coil units. The bead should be installed such that the correct air source is passing across it. Often ceiling mounting fan coil units will have tempered fresh air introduced at the inlet grille which is at a different temperature from the return air and can be a factor in providing spurious readings if the AX-TE-Fx bead is in the fresh air stream.

**Probe Dimensions (not to scale)**



## Connection

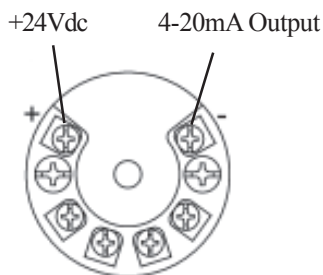
### Passive Sensors:

Passive sensors are polarity independent. Wires should be stripped and screwed into the two way terminal block in the main body of the sensor housing. Do not over-tighten the terminal screws as excessive force can cause damage to the terminal block and housing.

If screened cable is used, the shortest possible section of outer sheath should be removed to effect wiring. As there is no earth connection in the sensor, the screen must be connected to a functional earth elsewhere (often provided at the BMS or HVAC controller) in accordance with the instructions for the equipment that the AX-TE-Fx is to be connected to.

### Active Sensors - 4-20mA:

For active sensor types, the electronics are located in an IP65 housing. Two wires are required for this sensor type but, unlike the passive sensors, correct polarity must be observed and the device should be connected as follows.



## Trend Sensor Scaling

The following sensor scaling is for the AX-TE-FT passive sensor. If using SET to configure the controller, the AX-TE-FT has the same characteristics as a Trend Thermistor.

Prior to commissioning, ensure that the universal input jumper is set to T to accept a thermistor input.

If the sensor is being scaled manually the following information should be used for IQ2xx controllers with firmware v2.1 and above and IQ3 series controllers. For scaling on older controllers, please refer to the engineering data in the Axio catalogue.

### Sensor Type Module Settings

Set the sensor type scaling mode to 5 - characterise

Y = 1	I1 = 2.641	O1 = 50
E = 3	I2 = 3.47	O2 = 40
U = 50	I3 = 4.46	O3 = 30
L = -5	I4 = 6.66	O4 = 10
P = 6	I5 = 7.668	O5 = 0
	I6 = 8.102	O6 = -5