



Product Overview

The AX-TE-I range of immersion 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 sensors are designed to be fitted into a range of brass and stainless steels pockets to provide accurate reading of fluid temperature without the need for the probe itself to be immersed.

Features

- IP65 Housing
- Large Range of Sensor Options
- Non contact sensing
- Direct Fixing, No Extra Brackets Required
- Manufactured From Flame Retardant ABS

Product Specifications

Output:

Passive: Range of two wire thermistor and PTC platinum elements providing variable resistance.
Active 4-20mA or 0-10V representing -10°C to 110°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:

Housing: VO Rated Flame Retardant ABS
Probe: Brass

Terminals: Rising Clamp for 0.5-2.5mm² Cable

Ambient Temp: 0°C to 70°C 0-95% RH

Dimensions:

Housing: 90 x 115 x 45mm
Probe: 150 x 6.4 mm diameter
Overall Length: 206mm

Country of Origin: United Kingdom

Order Codes

AX-TE-Ixx - Immersion Temperature Sensor.

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

-3K	3K3A1 NTC Thermistor	-100	PT100a Platinum Element
-T	10K3A1 NTC Thermistor	-1K	PT1000a Platinum Element
-A	10K4A1 NTC Thermistor	-N1K	Ni1000a Nickel Element TCR curve
-H	20K6A1 NTC Thermistor	-TAC	1K87A1 NTC Thermistor
-D	30K3A1 NTC Thermistor	-TXI	Active 4-20mA Linear Output
-SAT	SAT1 NTC Thermistor	-TXV	Active 0-10Vdc linear output
-2.2K	2.2K NTC Thermistor		

Installation

The AX-TE-I-xx 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-I-xx sensors are suitable for use with mains voltage.

The AX-TE-I-xx is designed to be installed in conjunction with the Axio range of brass and stainless steel immersion sensor pockets. The sensor probe should be inserted as far as it will go into the sensor pocket and then secured using the grub screw on the pocket. Care should be taken when tightening the retaining screw as excessive force can damage the pocket and the sensor probe.

PLEASE NOTE: The AX-TE-I-xx is NOT suitable for immersing directly in fluids. Always use a suitable immersion pocket.

Trend Sensor Scaling

The following sensor scaling is for the AX-TE-I-10K3A1 passive sensor. If using SET to configure the controller, the AX-TE-I-10K3A1 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 = 0.486	O1 = 110
E = 3	I2 = 0.555	O2 = 105
U = 115	I3 = 0.636	O3 = 100
L = -35	I4 = 0.73	O4 = 95
P = 20	I5 = 0.839	O5 = 90
	I6 = 1.116	O6 = 79.8
	I7 = 1.49	O7 = 69.8
	I8 = 1.992	O8 = 59.8
	I9 = 2.648	O9 = 49.9
	I10 = 3.475	O10 = 39.9
	I11 = 4.462	O11 = 30
	I12 = 6.656	O12 = 10
	I13 = 7.656	O13 = 0
	I14 = 8.33	O14 = -8
	I15 = 8.795	O15 = -15
	I16 = 9.066	O16 = -20
	I17 = 9.288	O17 = -25
	I18 = 9.465	O18 = -30
	I19 = 9.604	O19 = -35
	I20 = 9.711	O20 = -40

Temperature Transmitter 4-20mA



Product Specifications

Power Supply:	8 - 35Vdc
Input:	PT100a to DIN 43760
Output:	4-20mA
Accuracy:	input < 0.25°C
	output < 0.1%
Sample Time:	< 0.7 sec
Measuring Current:	0.3mA
Ripple Immunity:	IEC 770
Temperature Drift: Typical	0.003% / degC
Maximum	0.01% / degC
Ambient Temp:	-40°C to +85°C
Ambient Humidity:	< 98% RH
Electrical Connection:	Screw Terminals

Connections

2 Wire Pt100A Connection



3 Wire Pt100A Connection



4 Wire Pt100A Connection



Note

The AX-TE-ITXI is supplied preconfigured for 2, 3 or 4 wire connection. This connection is not user adjustable. Unless requested otherwise the standard unit is configured for 2 wire connection.