AX-TE-Rxx
Room Temperature Sensor

AXIO

Product Overview

The AX-TE-R range of space 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 housing is designed for both direct surface mounting and with fixing holes for standard recessed patress and conduit boxes.

The housing is designed to maximise air flow through it thus providing fast response times and returning values indicitive of the space in which it is installed.

Features

- Large Range of Sensor Options
- Accurate Sensing of Room Temperature
- 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 - 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

Material: VO Rated Flame Retardant ABS

Terminals: Rising Clamp for 0.5-2.5mm^2 Cable

Ambient Temp: -10°C to 60°C

Dimensions: 85 x 85 x 26mm (max.) (transmitter 70 x 119 x 32mm)

Country of Origin: United Kingdom

Order Codes

AX-TE-Rxx - Room Temperature Sensor.

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

-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			
-2.2K	2.2K NTC Thermistor			

Installation

The AX-TE-R- sensor should be installed by a suitably qualified technician in conjuction 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-R- sensors are suitable for use with mains voltage.

The AX-TE-R is designed to be fixed directly to an internal wall using the lugs at the base of the housing. The type of fixing used will depend on the material that the sensor is being mounted on.

Connection

Passive Sensors:

Passive sensors are polarity independant. Wires should be stripped and screwed into the two way termnal 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-R- is to be connected to.

Active Sensors - 4-20mA:

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.

+24Vdc   4-20mA Output
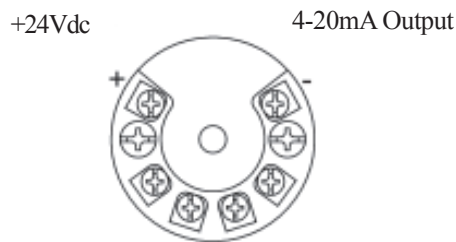
Dimensions (not to scale)
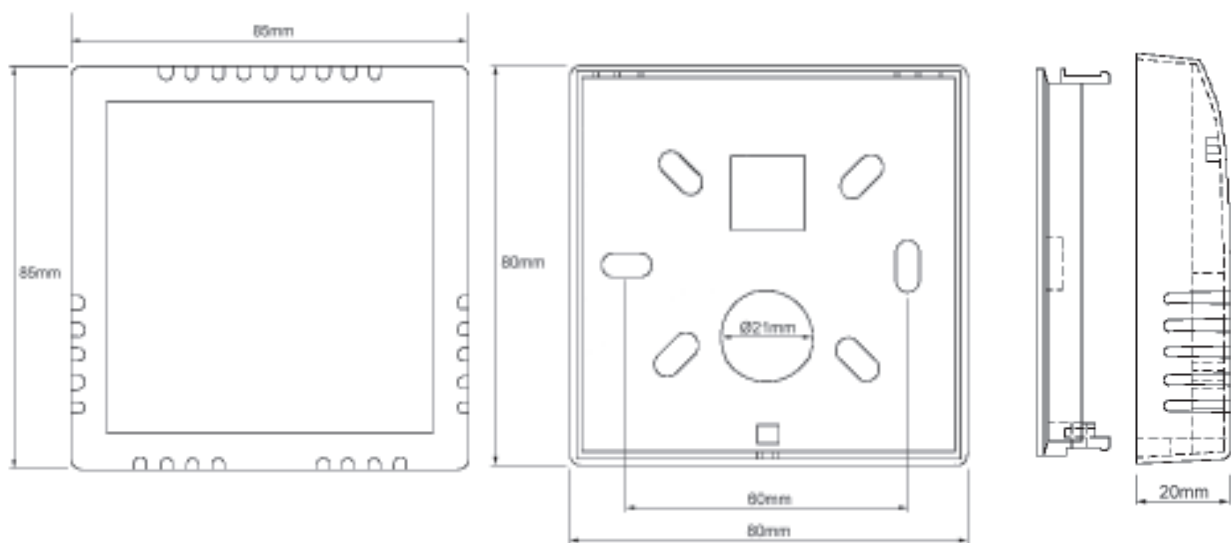
Overall Depth When Installed - 26mm

Trend Sensor Scaling

The following sensor scaling is for the AX-TE-RT passive sensor. If using SET to configure the controller, the AX-TE-RT 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 firmwire 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

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