

AX-TE-AVC-x

Copper Duct Averaging Temperature Sensor

AXIO



Product overview

The AX-TE-AVC-x range of flexible duct averaging 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 units are available in four lengths of copper tube incorporating flexible duct cable with several thermistor beads incorporated over the length of the cable.

Features

- IP65 Housing
- Large Range of Sensor options
- Cross-axis flow tip for maximum accuracy
- 4 lengths 1800, 3600, 6000, 7200mm
- Flexible copper tube
- Housing is flame retardant ABS

Product specifications

Output:	Passive	Range of 2 wire thermistor and 3 wire PTC Platinum elements providing variable resistance.
	Active - Current	4-20mA representing -20°C to 105°C (unless specified otherwise)
	Active - Voltage	0-10Vdc representing -20°C to 105°C (unless specified otherwise)
Accuracy:	Thermistor	±0.2°C between 0°C and 70°C
	Platinum/Nickel	±0.35°C between 0°C and 100°C (PT100a, PT1000a and Nickel)
	Active	±0.1% of range
Materials:	Housing	VO Rated Flame Retardant ABS
	Tube	Flexible copper tube
Ambient Temperature Range:		-10°C to 70°C
Dimensions:	Housing	115 x 85 x 55mm
	Tube	1800, 3600, 6000, 7200mm
Country of Origin:		Canada

Order codes

AX-TE-AVC-xx-zzzz Copper Duct Averaging Temperature Sensor

xx - Denotes sensor type, please see table below. (e.g. AX-TE-AVC-T-1800)

zzzz - Denotes copper tube length in mm - 1800, -3600, -6000, -7200

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

Order Online at: www.annicom.com Email orders and enquiries to: Sales@annicom.com

ANNICOM

© Copyright Annicom 2014. All Rights Reserved

Annicom Ltd

Unit 21, Highview, Bordon, Hampshire. GU35 0AX

Tel: +44 (0)1420 487788 Fax: +44 (0)1420 487799

Email: sales@annicom.com Website: www.annicom.com

Installation

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

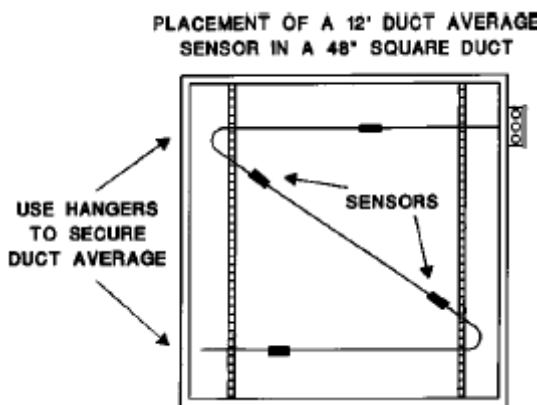
The flexible averaging sensors can be installed onto hangers in the duct using tube clamps or wire ties and should be located in a straight section of duct from heating, cooling or humidifier elements. The flex duct sensor can be easily shaped to fit any duct size but observe a minimum bend of six inches to prevent damage to wires or sensors. Flex duct elements are not recommended for high humidity applications.

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-AVC is to be connected to.



Wiring & colour codes

All 2-wire sensors are polarity insensitive. The 3-wire sensors have the following colour code: To connect a 3-wire sensor as a 2-wire, tie the EXCitation and SENse lines together. All connections should be made using either buttsplices or soldering. The use of wire nuts is not recommended.

Connection Flex Duct Wire Colour
EXCitation RED
SENse GREEN
NEGative BLACK

Trend sensor scaling

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

	11 = 2.641	O1 = 50
Y = 1	12 = 3.47	O2 = 40
E = 3	13 = 4.46	O3 = 30
U = 50	14 = 6.66	O4 = 10
L = -5	15 = 7.668	O5 = 0
P = 6	16 = 8.102	O6 = -5

Typical wire resistance values

GAUGE WIRE TYPE	18 AWG	22 AWG	24 AWG
STRANDED (OHMS/FOOT)	5.85 mΩ	14.75 mΩ	23.29 mΩ
SOLID (OHMS/	6.4 mΩ	15.85 mΩ	25.72 mΩ

Every effort has been taken in the production of this data sheet to ensure accuracy. Axio do not accept responsibility for any damage, expense, injury, loss or consequential loss resulting from any errors or omissions. Axio has a policy of continuous improvement and reserves the right to change this specification without notice.