Duct Averaging & True Duct Averaging Temperature Sensors

Features:

- Weatherproof Housing
- Wide range of sensing element types
- TT-625 senses over the entire length of probe

Benefits:

- Hinged lid with the facility of tamper proofing
- Uniformity of sensors with other Sontay products

Technical Overview

The TT-325 range is used for measuring temperatures in ducts where an average reading across the air flow is required. The sensing elements are spaced at 500mm (19.69”) intervals along the standard 2m (6.56ft) length of Nylon 12 tube. Units contain either a high quality thermistor, Nickel or Platinum sensing element.

True duct averaging sensors (TT-626) use a PT100b sensing element that measures along the full length of the copper tube apart from the first 100mm (3.94”).

The -CVO active output option combines 4 pre-set ranges and selectable output mode, customised output range scaling enabling a choice of outputs and ranges on one unit.

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Specification:

Output types:

Passive	Resistive
Active (selectable)	Current 4-20mA *or*
	Voltage 0-10Vdc

Accuracy (TT-352):

Thermistor	±0.2°C 0 to 70°C (32 to 158°F)
PT100a	±0.2°C @ 25°C (77°F)
PT1000a	±0.2°C @ 25°C (77°F)
NI1000	±0.4°C @ 0°C (32°F)
-CVO	±0.4°C @ 25°C (77°F)

Accuracy (TT-626):

PT100b	±0.425°C @ 25°C (77°F)
-CVO	±0.6.25°C @ 25°C (77°F)

Probe:

TT-325

Material	Nylon 12
Dimensions	2.2m x 8mm dia. (7.22ft x 0.31")

TT-626

Material	Copper
Dimensions	2.05m (6.73ft) x ¼" dia.

Housing dimensions:

TT-325	74 x 70 x 50mm (2.91 x 2.76 x 1.97"
TT-626	116 x 106 x 52mm (4.57 x 4.17 x 2.05")

Housing material	ABS (flame retardant type VO)
Protection:	
Snap-shut lid	IP54
	IP65 (see page 3 note 6)
Ambient range	-10 to +90°C (14 to 194°F)
Weights:	
TT-325	220g (0.49lb)
TT-626	420g (0.93lb)
Country of origin	UK

CE

The TT-xxx-CVO products referred to in this data sheet meet the requirements of EU Directive 2004/108/E

Part Codes:

TT-325 Duct Averaging Sensor

Sensing Element (add type to above code)

Passive output:

-A	(10K3A1) Trend, Cylon, Distech
-B	(10K4A1) Andover, Delta Controls
-C	(20K6A1) Honeywell
-D	(PT100a) Serck
-E	(PT1000a) Cylon
-F	(NI1000a) Sauter
-G	(Ni1000a/TCR(LAN1)) Siemens
-H	(SAT1) Satchwell
-K	(STA1) Landis & Staefa
-L	(TAC1) TAC
-M	(2.2K3A1) Johnson Controls
-N	(3K3A1) Alerton
-P	(30K6A1) Drayton
-Q	(50K6A1) Ambiflex
-R	(100K6A1) York >40°C
-S	(SAT2) Satchwell
-T	(SAT3) Satchwell
-W	(SIE1) Siebe
-Y	(STA2) Landis & Staefa
-Z	(10K NTC) Carel

Active output:

-CVO	4-20mA/0-10Vdc selectable output
-CVO-C	4-20mA/0-10Vdc selectable output with custom temp. scaling

Suffix (add to part code)

-5M	5m (16.40ft) probe length

TT-626 True Duct Averaging Sensor

Passive output:

-PT100B

Active output:

-CVO	4-20mA/0-10Vdc selectable output
-CVO-C	4-20mA/0-10Vdc selectable output with custom temp. scaling

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Installation:

1. Select a location in the duct where the sensor probe will give a representative sample of the prevailing air condition.

2. Drill a 8.5mm (0.33") diameter hole in the duct, then use the housing as a template mark the hole centres, drill and fix the housing to the duct with the screws supplied. The housing is designed to make it easy for an electric screwdriver to be used if desired.

3. Release the snap-fit lid by gently squeezing the locking tab.

4. Feed the cable through the waterproof gland and terminate the cores at the terminal block (see page 4 for connection details). Leaving some slack inside the unit, tighten the cable gland onto the cable to ensure water tightness.

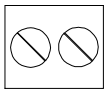
5. If the sensor is to be mounted outside, it is recommended that the unit be mounted with the cable entry at the bottom. If the cable is fed from above then into the cable gland at the bottom, it is recommended that a rain loop be placed in the cable before entry into the sensor.

6. Snap shut the lid after the connections have been made if IP65 protection is required, secure the lid with two screws provided.

Connections:

All connections to BEMS controllers, data recorders etc. should be made using screened cable. Normally, the screen should be earthed at one end only (usually the controller end) to avoid earth hum loops which can create noise. Low voltage signal and supply cables should be routed separately from high voltage or mains cabling. Separate conduit or cable trays should be used. Where possible, the controller's earth should be connected to a FUNCTIONAL EARTH, rather than the mains safety earth. This will provide better immunity to high frequency noise. Most modern buildings have a separate earth for this purpose.

Passive output:



Connections are made via the 2-way terminal block. Connections for thermistor, platinum and nickel sensing elements are polarity independent.

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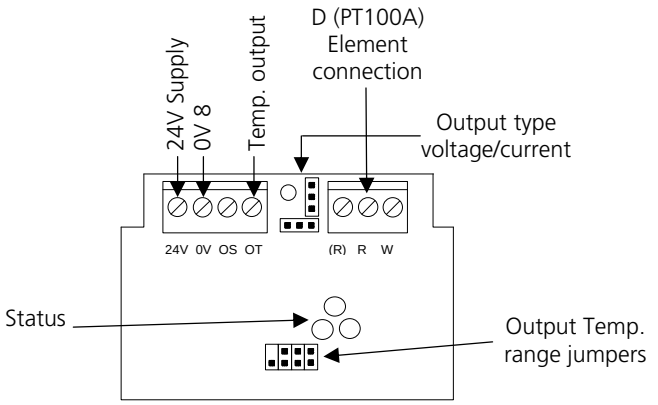
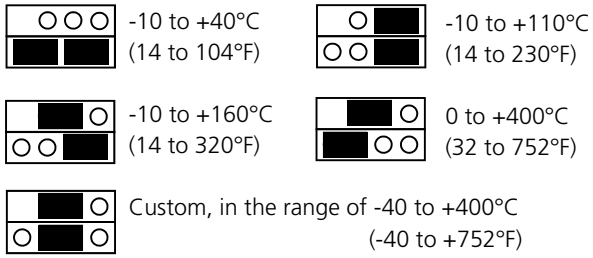
Connections (continued):

Active output:



***** Not required with 4-20mA output



Notes:

Voltage output — Nominal voltage 24Vac/dc.

Current output — If using in current output mode, the sensor must only be used with a 24Vdc supply. The sensor may be damaged if supplied with AC.

The selectable output temperature ranges are dependent on sensor type, ambient and application.

For full connection and specification please refer to the TT-CVO data sheet.

Whilst every effort has been made to ensure the accuracy of this specification, Sontay cannot accept responsibility for damage, injury, loss or expense from errors or omissions. In the interest of technical improvement, this specification may be altered without notice.

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