Duct, Immersion & High Temp. Sensors

Features:

- Weatherproof Housing
- Wide range of sensing element types
- Stainless steel probe
- Optional probe lengths, 65, 150 & 250mm (2.56, 5.91, 9.84")

Benefits:

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

Technical Overview

This range of temperature sensors are used to detect air temperature in ducts (TT-322) and liquid temperature in pipes (TT-341 & TT-342). Units contain either a high quality thermistor, Nickel or Platinum sensing element.

Duct sensors are supplied with a neoprene gasket to ensure a good seal between the sensor and the duct. A flange plate is available for adjustment of penetration depth (order as TT-DFP).
Immersion sensors are for direct mounting into the TT-PO range of stainless steel pockets. The TT-342 can also be used to measure high temperatures in duct above 90°C (194°F) using the optional TT-DFP duct flange plate.

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:

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)

Probe (TT-322 & TT341):

Material	Stainless steel
Dimensions	65, 150, 250mm x 6mm dia. (2.56, 5.91, 9.84" x 0.24" dia.)

Probe (TT-342):

Material	Stainless steel
Dimensions	150, 250mm x 6mm dia. (5.91, 9.84" x 0.24" dia.)
Cable length	1 Meter (3.28ft)
Terminal head	53 x 49mm dia. (2.09 x 1.93" dia.)

Housing:

Material	ABS (flame retardant type VO)
Dimensions	75 x 70 x 50mm (2.91 x 2.76 x 1.97")

Protection:

Snap-shut lid	IP54
	IP65 (see page 3 note 6)

Ambient range	-10 to +90°C (14 to 194°F)

Weights:

TT-322	160g (0.35lb)
TT-341	160g (0.35lb)
TT-342	340g (0.75lb)

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-322 Duct Sensor

TT-341 Immersion Sensor

TT-342 High Temperature Immersion 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 (at extra cost):

-65	65mm Probe length *
-250	250mm Probe length

Accessory

TT-DFP Duct penetration adjustment flange plate

Notes:

† Not available on the TT-341
* Not available on the TT-342

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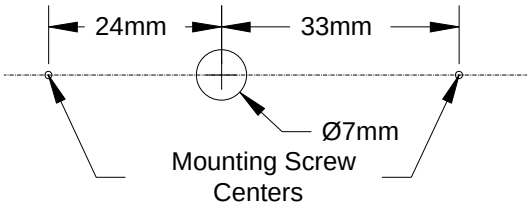
Installation:

TT-322

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

2. Sensor direct to the duct.
   Drill a 7mm (0.28") diameter hole in the duct, then use the housing as a template mark the hole centres or use the dimensions below), drill and fix the housing to the duct with the screws supplied.



3. Sensor with optional flange.
   If depth adjustment is required, use the TT-DFP. Drill a 7mm (0.28") diameter hole and use the flange as a template to mark the hole centres. Drill then using the screws supplied fix to the duct. Insert the probe to the desired depth and tighten the grub screw.

TT-341

1. Select a location in the system where the liquid is to be measured, install pocket as per datasheet TT-PO.

2. Insert the probe into the pocket and secure with the grub screw provided within the pocket.

3. The TT-341 must be used with a pocket, it is not designed for direct mounting.

TT-342

1. Select a location in the system where the liquid is to be measured, install pocket as per datasheet TT-PO. Alternatively the TT-342 can be used to measure high temperatures within duct work systems. Install a duct flange (TT-DFP) as per TT-322 point 3.

2. Insert the probe into the pocket or duct flange and secure with the grub screw provided.

3. Using the main housing as a template mark the hole centres (57mm (2.24")), drill and fix the housing to a suitable surface using suitable screws supplied (surface temp. must not exceed 90°C (194°F)).

Common installation:

4. Release the snap-fit lid by gently squeezing the locking tab and feed the cable through the waterproof gland & 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.

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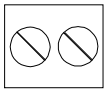
Connections:

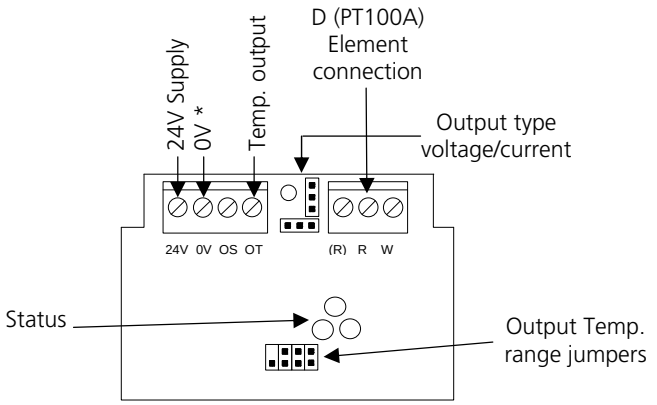
All connections to BEMS controllers, data recorders etc. should be made using screened cable. Normally, the screen should be earthed at one end only (usually the controller end) to avoid earth hum loops which can create noise. Low voltage signal and supply cables should be routed separately from high 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.

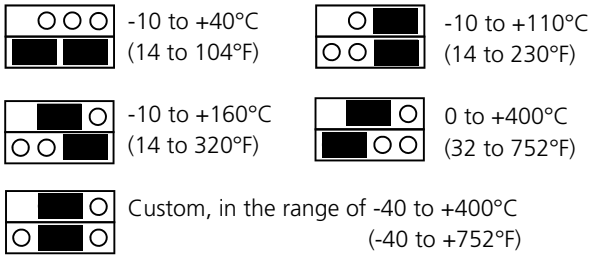
Passive output:



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

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.

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