

## Outside Air Sensors with Radiation Shield

### Features



- IP65 Housing
- Wide range of element types
- PTFE Radiation shield

### Specification

#### Output types:

Thermistor	Resistive
Active	4-20mA or 0-10Vdc (selectable)

#### Accuracy:

Thermistor	±0.2°C (0°C to 70°C)
PT100a	±0.2°C @ 25°C
PT1000a	±0.2°C @ 25°C
NI1000	±0.4°C @ 0°C

#### Probe:

Material	PTFE
Dimensions	40 x 16mm dia.

#### Housing:

Material	ABS (flame retardant type VO)
Dimensions	55mm x 90mm dia.
Mounting holes	4mm spaced 85mm apart

#### Protection

IP65

#### Ambient range

-10°C to +80°C

#### Country of origin

UK

### Product Codes

<b>TT-532-A</b>	(10K3A1) Trend, Seachange, Honeywell Aquatrol
<b>TT-532-B</b>	(10K4A1) Andover, Delta Controls, York <40°C, Siebe
<b>TT-532-C</b>	(20K6A1) Honeywell
<b>TT-532-D</b>	(PT100a) Serck
<b>TT-532-E</b>	(PT1000a) Cylon
<b>TT-532-F</b>	(NI1000a) Sauter
<b>TT-532-G</b>	(Ni1000a/TCR(LAN1)) Siemens, Landis & Staefa
<b>TT-532-H</b>	(SAT1) Satchwell
<b>TT-532-K</b>	(STA1) Landis & Staefa
<b>TT-532-L</b>	(TAC1) TAC
<b>TT-532-M</b>	(2.2K3A1) Johnson Controls
<b>TT-532-N</b>	(3K3A1) Alerton
<b>TT-532-P</b>	(30K6A1) Drayton
<b>TT-532-Q</b>	(50K6A1) Ambiflex
<b>TT-532-R</b>	(100K6A1) York >40°C
<b>TT-532-S</b>	(SAT2) Satchwell
<b>TT-532-T</b>	(SAT3) Satchwell
<b>TT-532-V</b>	(SAT4) Satchwell
<b>TT-532-W</b>	(SIE1) Siebe
<b>TT-532-Y</b>	(STA2) Landis & Staefa
<b>TT-532-Z</b>	(10K NTC) Carel

#### Active output:

##### **TT-532-CVO**

4-20mA/0-10Vdc selectable output

##### **TT-532-CVO-C**

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

### Technical Overview

The TT-532 range of outside air temperature sensors, contain either a high quality thermistor, Nickel or Platinum sensing element.

The element is fitted into a PTFE radiation shield. The radiation shield is designed to provide fast response times to changes in outside air temperature and to protect the element from the effects of direct sunlight.

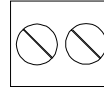
The TT-532-CVO (active output), combines 4 pre-set ranges and selectable output mode, customised output range scaling enabling a choice of outputs and ranges on one unit.

### Installation

1. It is recommended that the unit be mounted with the cable entry at the bottom.
2. 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.
3. Remove the front cover by twisting the lid and separating from the main body.
4. Using the base of the housing as a template mark the hole centres. Drill two pilot holes at 85mm centres in the surface to which the sensor is to be mounted.
5. Fix the sensor to the wall using appropriate screws.
6. The housing is designed to make it easy for an electrical screwdriver to be used if desired.
7. Feed the cable through the waterproof gland and terminate at the terminal block. Leaving some slack inside the housing, tighten the cable gland onto the cable to ensure water tightness.
8. Replace the lid after the electrical connections have been made.

### Connections

Resistive output:



Connections are made via the 2-way terminal block.

Connections for the thermistor/platinum and nickel elements are polarity independent.

4-20mA/0-10Vdc:

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

### Trend Scaling

IQ1xx and early IQ2x series (without type 5, characterise)  
Thermistor A (10K3A1 TYPE 2 linearise thermistor volts)

(-10 to +40°)		(-10 to +110°)	
Brange	-10	Brange	-10
Trange	40	Trange	110
F	8.47	F	8.47
G	7.42	G	5.55
H	6.11	H	2.65
I	4.73	I	1.12
J	3.48	J	0.49

IQ1xx and early IQ2x series (with type 5, characterise)

(-10 to +40°C)		
	Resistance input	Temp. Output
1	5.32	40.0
2	5.89	37.5
3	6.53	35.0
4	7.24	32.5
5	8.05	30.0
6	8.96	27.5
7	10.00	25.0
8	11.16	22.5
9	12.49	20.0
10	14.00	17.5
11	15.71	15.0
12	17.67	12.5
13	19.90	10.0
14	22.47	7.5

## Trend Scaling (continued)

15	25.40	5.0
16	28.79	2.5
17	32.66	0.0
18	37.18	-2.5
19	42.35	-5.0
20	55.30	-10.0

Upper 40.0  
Lower -10.0  
Exp 3  
Points used 20  
Input type 3(kohms)

(-10 to +110°C)

	Resistance input	Temp. Output
1	0.51	110.0
2	0.60	104.0
3	0.72	98.0
4	0.86	92.0
5	1.03	86.0
6	1.25	80.0
7	1.53	74.0
8	1.87	68.0
9	2.31	62.0
10	2.87	56.0
11	3.60	50.0
12	4.54	44.0
13	5.77	38.0
14	7.40	32.0
15	9.57	26.0
16	12.49	20.0
17	16.47	14.0
18	21.93	8.0
19	29.53	2.0
20	55.30	-10.0

Upper 110.0  
Lower -10.0  
Exp 3  
Points used 20  
Input type 3(kohms)