

Strap-on Sensors

Features

- IP65 Housing
- Wide range of element types



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	Brass
Dimensions	15mm x 6mm dia.
Housing:	
Material	ABS (flame retardant type VO)
Dimensions	55mm x 90mm dia.
Cable length	2 Meters
Protection	IP65
Ambient range	-10°C to +80°C
Country of origin	UK

Product Codes

TT-551-A	(10K3A1) Trend, Seachange, Honeywell Aquatrol
TT-551-B	(10K4A1) Andover, Delta Controls, York <40°C, Siebe
TT-551-C	(20K6A1) Honeywell
TT-551-D	(PT100a) Serck
TT-551-E	(PT1000a) Cylon
TT-551-F	(NI1000a) Sauter
TT-551-G	(Ni1000a/TCR(LAN1)) Siemens, Landis & Staefa
TT-551-H	(SAT1) Satchwell
TT-551-K	(STA1) Landis & Staefa
TT-551-L	(TAC1) TAC
TT-551-M	(2.2K3A1) Johnson Controls
TT-551-N	(3K3A1) Alerton
TT-551-P	(30K6A1) Drayton
TT-551-Q	(50K6A1) Ambiflex
TT-551-R	(100K6A1) York >40°C
TT-551-S	(SAT2) Satchwell
TT-551-T	(SAT3) Satchwell
TT-551-W	(SIE1) Siebe
TT-551-Y	(STA2) Landis & Staefa
TT-551-Z	(NTC 10) Carel, Distech

Active output:

TT-551-CVO

4-20mA/0-10Vdc selectable output

TT-551-CVO-C

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

Suffixes (at extra cost):

-5M

5m Cable length

-R

Brass lug potted

Technical Overview

The TT-551 range of strap-on temperature sensors are used for detection of pipe temperatures, where it isn't possible to insert a pocket. Units contain either a high quality thermistor, Nickel or Platinum sensing element.

The sensing element is housed in a 50mm long shaped brass probe, with 2 meters of PTFE screened cable.

The TT-551-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

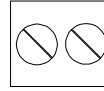
1. It is recommended that the unit be mounted with the cable entry at the bottom.
2. If the cable is fed from above then into the cable gland at the bottom, it is recommended that a rain loop be placed in the cable before entry into the sensor.
3. Remove the front cover by twisting the lid and separating 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 (surface temp. must not exceed 60°C).
5. Fix the housing to the surface using appropriate screws.
6. The housing is designed to make it easy for an electrical screwdriver to be used if desired.
7. Secure the brass lug to the surface to be monitored, using the strap supplied.
8. 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.
9. Replace the lid after the electrical connections have been made.

-R Option

A -R option is available for chilled/cold water applications. The potting will protect the element from condensation that could form inside the brass lug and cause the sensing element to short.

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
15	25.40	5.0

Trend Scaling (continued)

15	28.79	2.5
16	32.66	0.0
17	37.18	-2.5
18	42.35	-5.0
19	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
16	16.47	14.0
17	21.93	8.0
18	29.53	2.0
19	55.30	-10.0

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