High Temperature / Flue Gas Sensor

TIHS

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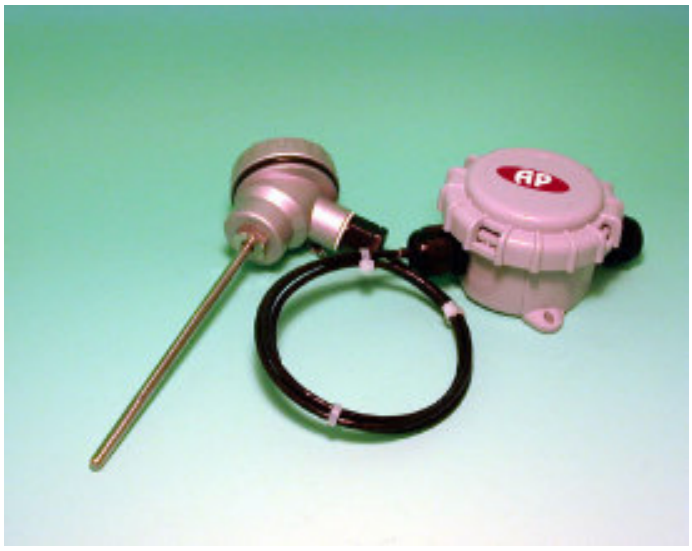

TIHS

Features

- **High temperature up to +400°C**
- **2 different immersion lengths**
- **RTD element class A**
- **Pt100 or Pt1000 passive output**
- **Stainless steel probe fitted to an aluminium head**

Application

The immersion temperature sensor TIHS for accurate measurement of fluid temperatures in medium and high pressure hot water system and are intended for direct interfacing to any Energy Management System.

Can also be used in flue gas applications.

Technical Data

Output	Direct resistance ±0,35°C (0-100°C)
Connections	2-wire screw terminals 0,5 to 2,5mm²
Temperature range	
Probe	-20…+400°C
Cable	-20…+200°C
Housing	-20…+60°C
Protection	IP65

Design Features

The TIHS is an immersion sensor for use in high temperature applications, such as in boiler flues and on medium/high temperature hot water systems, up to +400°C.

The unit consists of a stainless steel probe, fitted to an aluminium head.

This is connected by a 1000 mm cable to a plant sensor housing, where terminations and sensor is located.

The TIHS can be supplied in 2 standard lengths, either 150 mm or 250 mm.

Ordering Codes

TIHS PT100.15	length 150 mm	-20…+400°C
TIHS PT100.25	length 250 mm	-20…+400°C
TIHS PT1000.15	length 150 mm	-20…+400°C
TIHS PT1000.25	length 250 mm	-20…+400°C

Supplements

BRP	pocket in brass. see BRP/SSP datasheet
SSP	pocket in stainless steel, see BRP/SSP datasheet
TD DFP	adjustable flange plate

Mounting

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.

Remove the front cover by twisting the lid and separating from the main body.

Using the base of the housing as a template mark the hole centres.

Drill two pilot holes at 85 mm centres in the surface on which the sensor is to be mounted, and fix the sensor with appropriate screws.

The housing is designed to make it easy for an electric screwdriver to be used if desired.

Feed the cable through the waterproof gland and terminate the cores at the terminal block.

Leaving some slack inside the unit, tighten the cable gland onto the cable to ensure watertightness.

Replace the lid after the electrical connections have been made.

Wiring Diagram

For direct connection, the 2 white wires can be connected together and the 2 red wires can be connected together (4 wire mode).

Alternatively just one white and one red can be used (2 wire mode).

For long runs of cable, greater than 1 metre, 4 wire mode should be used.

Connections are not polarity sensitive, and should be connected to a resistance input to the controller.

Penetration of Depth

A flange plate TD DFP is available for adjustment of penetration depth i.e. installation in ducts.

Installation and Connection Details

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.

The brass or stainless steel pocket is screwed into a 1/2" BSP female boss in the pipe, and the sensor probe then inserted in the pocket.

The nut on the pocket can be tightened to hold the sensor in firmly, if required.

Probe collars are available to fit larger diameter pockets (contact AP).

Function

The sensing element is a RTD.

The element change its resistance proportional to temperature.

Dimensions