



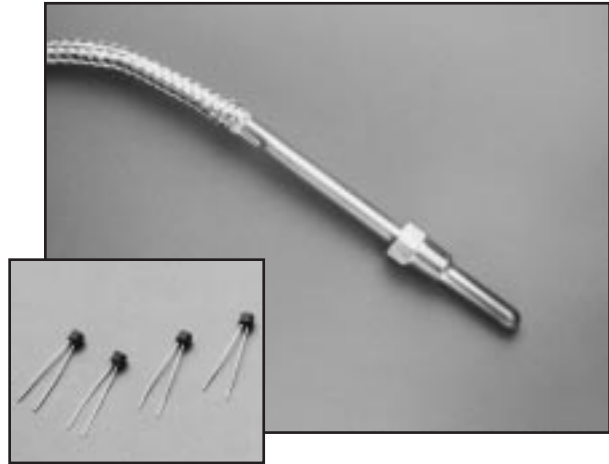
HIGH TEMPERATURE PROBES

INDUSTRIAL SENSOR – INHT (A-1282)

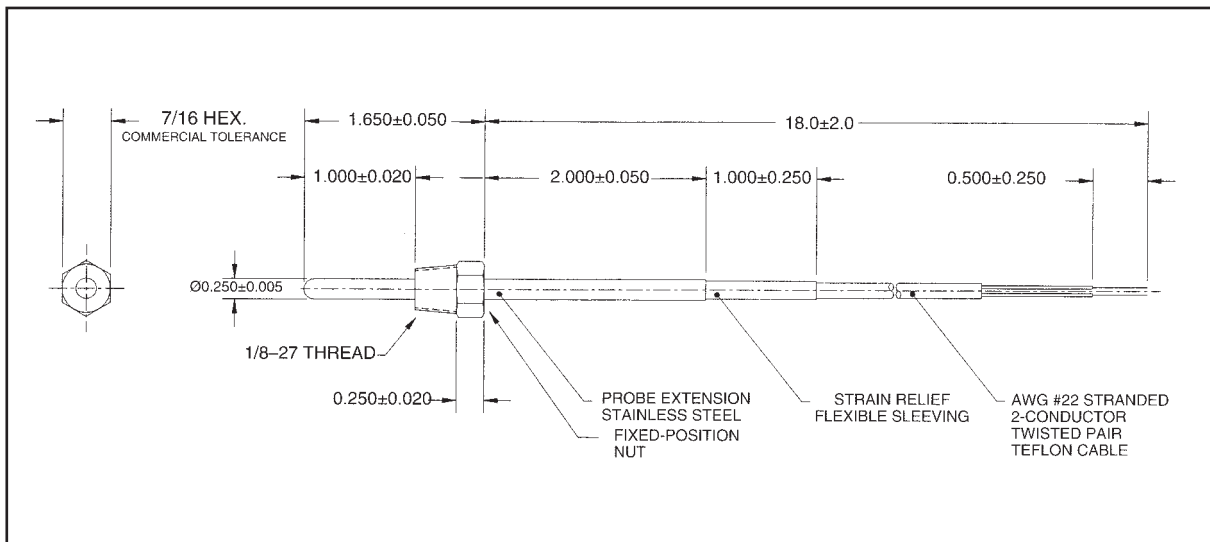
DESCRIPTION:

This rugged probe is designed for industrial applications. Uses may include generators, compressors and furnace controls. The maximum operating temperature of the INHT sensor is 1000°C.

The standard INHT sensor is supplied with a fixed-nut design for short-leaded applications. The free-spinning nut design is also available for those applications requiring long-lead lengths. Consult the application engineering department for other design option availabilities.



TEMP (°C)	INHT-MT	INHT-HT
T[°C]	R [OHMS]	R [OHMS]
-40	720,000	
25	60,000	
200	1,424.0	
300	365.2	
400	141.0	2,621,409
500	74.1	231,136
600	47.8	36,327
700	35.3	8,555
800	28.6	2,677
900	24.7	1,032
1000		466



HIGH-TEMPERATURE PROBES

High-temperature thermistor probes have been in existence for over 15 years. Recently, however, technology advanced to produce rugged cost-effective designs.

New developments achieved by our High Temperature Program have expanded the usable temperature range to 1000°C. Additionally, cost-efficient packaging has been developed to allow the sensor to operate in hostile environments.

COMPARISON OF TEMPERATURE MEASUREMENT SYSTEMS

Thermistors, thermocouples and RTDs can all be used to monitor high-temperature environments. Of these three technologies, high-temperature thermistors offer the best overall system cost and most effective system performance.

The electronic circuitry needed to interface with the different sensor technologies varies considerably.

- For Thermistors, a pull-up resistor interface can be utilized along with a standard-resolution A/D converter to obtain a temperature reading.
- Although an RTD can use a pull-up resistor interface, a high-resolution A/D converter or amplifier is needed to process the signal.
- Thermocouples require junction voltage compensation as well as a very high-resolution A/D converter or amplifier as an interface.

The ease of interfacing for Thermistors is due to the high sensitivity of the thermistor versus either thermocouples or RTDs. Thermocouples and RTDs change only a few millivolts per degree C change in temperature, whereas thermistors can change over 100 millivolts per degree C.

TEMPERATURE RANGE

Until recently the usable range of thermistors was limited to relatively low temperatures. Fresh thinking in materials technology has now extended this temperature span so that the thermistor's usable temperature measurement range is now from -270°C to 1000°C. Some parts are suitable for short-term operation up to 1200°C.

In addition, the thermistor has good long-term stability over its operating temperature range. Also, it can be packaged in a variety of housings to withstand different environments.

APPLICATION ENGINEERING

We are showcasing three styles of high temperature probes for the automotive, appliance and industrial markets. The company's long-standing commitment to customized products is well known in the industry. The upshot is that you have a composite wealth of application engineering know-how right at your fingertips. Just phone if you have a specialized assembly in mind...the sure way to tap into this unparalleled resource.