

# Resistance Temperature Sensor

## PT1000 Duplex Stainless Steel Temperature Sensor

The IU-040-02 is a robust Resistance Temperature Detector (RTD) capable of performing under 1000bar of pressure with an IP69K rating. Providing accurate temperature sensing over a wide measurement range of -60°C to +200°C in standard form\*, the IU-040-02 is equipped to tackle a variety of specialist temperature applications.

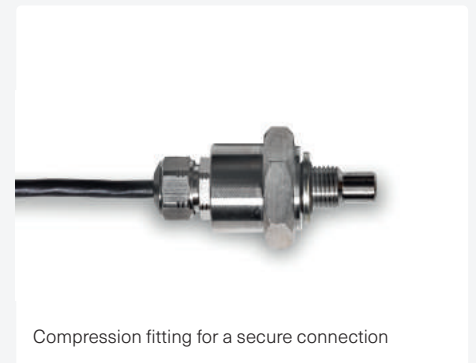
With an  $\pm 0.15\text{K}$  accuracy, the 19.0mm  $\varnothing$  stainless steel 316L probe is suitable for the measurement of liquids and gases.

Provided with a flying lead as standard, the Resistance Temperature Sensor is available with a range of connector options. Further customisation with built-in CPU processing which delivers a ratiometric voltage output is also available.

\* High temperature variants up to 250°C available.



Stainless steel probe for extreme conditions



Compression fitting for a secure connection

### Key Features

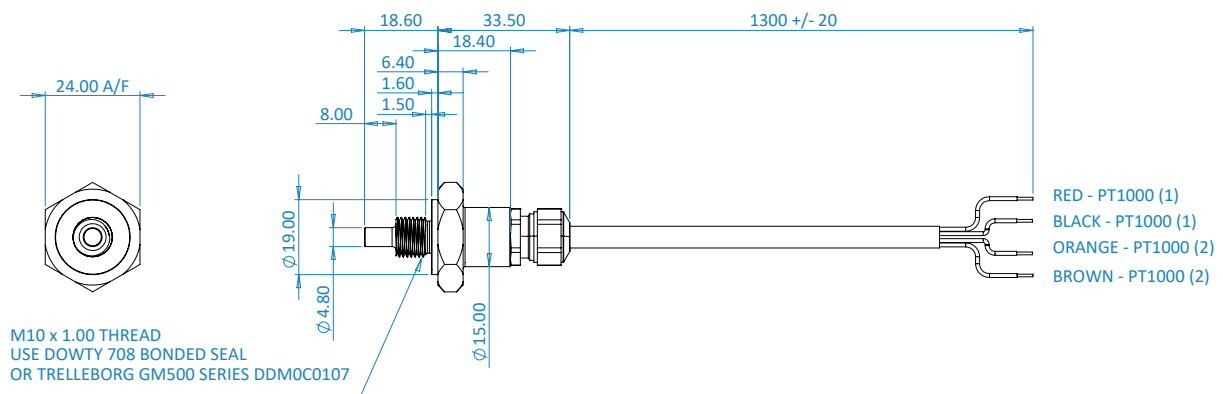
- Solid-state, continuous temperature sensing across a wide range from -60°C to +200°C (high temperature variants up to 250°C available)
- High Accuracy PT-1000 (Class B 1/3 DIN) sensing element
- Designed for long-term reliability in harsh environments
- 1000bar fluid pressure designs available
- Rapid turn-around (2-3 weeks typical)
- Ratiometric resistive output

### Benefits

- No moving parts for increased reliability of sensor measurements.
- Rigorously tested and designed to meet Mil-Std EMC certifications.
- Alternative output formats available (CAN, 0-5V).

### Example Temperature Sensor Dimensions

Example shown with flying lead.  
(Programmable sensor with MIL connector also available.)



Temperature Measurement

Accuracy	±0.15K
Sensing Element	PT1000 Duplex

Output

Type	Resistance
Tolerance Band	Class B, 1/3 DIN

Environmental

Environmental Protection	IP69K
Probe Pressure Rating	1000 bar fluid pressure rating
Vibration	Designed to meet: 10Hz to 2000Hz sine sweep @10G (6hrs per each axis)
Shock	Designed to meet: 50G half sine wave for 11ms,10 times each axis
Operating Temperature	-60°C to +200°C (High temperature variants up to 250°C available)

Mechanical

Construction Material	Stainless Steel 316L (Sensor)
Mass	120g
Sealing Elastomers	Fluorocarbon
Sealing Gasket	Supplied per sensor (Fluorocarbon)

Wiring Specification

Wire Type	Flying lead - 1m 55A, 22AWG, screened RW-200E jacket as standard
Connector Options	MIL-DTL 38999, 26482 and 5015

Wiring Definition

Description	Wire Colour
PT1000 (1)	● Red
PT1000 (1)	● Black
PT1000 (2)	● Orange
PT1000 (2)	● Brown

Specifications may be subject to change without prior notice.