

OUTSIDE AIR TEMPERATURE SENSORS



HARCO outside air temperature sensors are designed and fabricated to stringent standards utilizing integrated 3-D modeling, comprehensive in-house aerodynamic test and evaluation facilities, and specialized manufacturing processes that includes customized fine wire winding of sensing elements.

Features

- Non-De-Iced Fuselage Mount
- Rugged, Hermetically Sealed Construction
- Wide Temperature Range
- Low Excitation Current
- No Moving Parts
- RTCA/DO-160 Environmental Compliance
- Custom Configurations
- Tip-Sensitive Measurement

Benefits

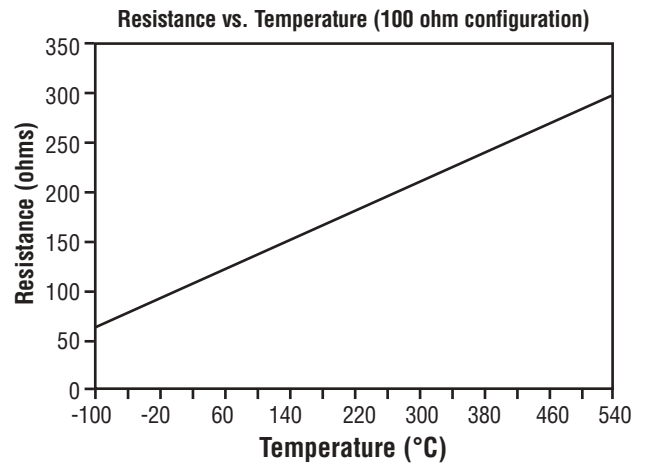
Ideally suited for general aviation, business jets, and helicopters operating up to MACH 0.6.

- High Accuracy
- Excellent Stability
- Low Maintenance
- High Reliability
- Rugged Construction



Typical Specifications

- Configurations: 100 ohm, 500 ohm, 1000 ohm (customization available)
- Excitation Current: 5.0 mA max. (100 ohm)
- Accuracy: $\pm 0.25^{\circ}\text{C}$ (Ref. IEC 751)
- Temperature Range: -55°C to 200°C
- Temperature Coefficient: 0.00385
- Insulation Resistance: 20 megohms @ 100 VDC
- Recovery Coefficient: 0.685
- Self-Heating Error: $0.05^{\circ}\text{C}/\text{mW}$
- Stability: $< 0.1^{\circ}\text{C}$ Per Year
- Packaging: 300 Series Stainless Steel; Impervious to Salt, Humidity, and Dust
- Vibration: 10 to 2000 Hz @ 20 g's
- Weight: 3.2 – 8.0 oz. Depending On Configuration
- Dimensions: Envelope Drawings Available Upon Request



Operation

HARCO outside air temperature sensors utilize Resistance Temperature Detectors (RTDs). RTDs operate on the principle that a material's electrical resistance changes with temperature. Platinum elements are typically used because of their excellent sensitivity, accuracy, and temperature range characteristics.



Represented by: