RIGID THERMOCOUPLE RAKE ASSEMBLIES

HARCO custom designed thermocouple rake assemblies provide a cost-effective solution for measuring critical temperature parameters in commercial and military aircraft, industrial gas turbines, and marine applications. Building on over 45 years of application experience, HARCO rake assemblies incorporate innovative design, superior construction, excellent performance, and proven reliability for installations around the world.

Features

- Application Specific Design
- Rugged Superalloy Construction
- Mineral Insulated Cable
- Hermetically Sealed
- Wide Temperature Range
- Fast Response Time
- High Shock Resistance
- OEM Spec Compliance
- Multiple Measurement Points
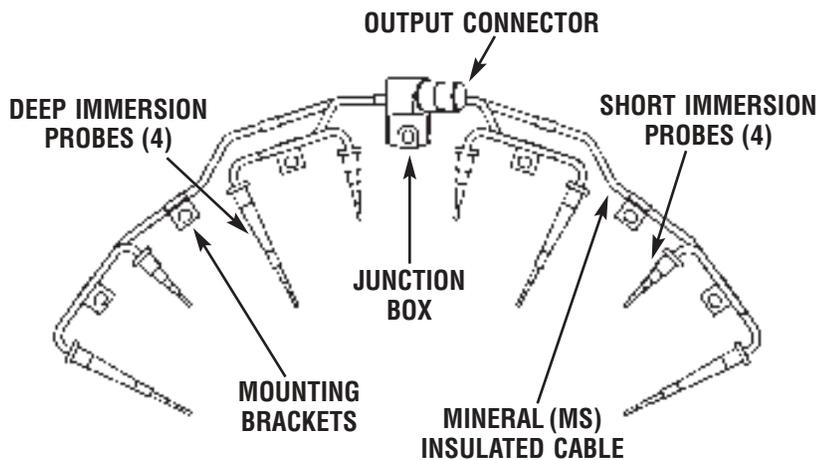- Dual Channel
- Averaging/Individual Readings

Benefits

- Harsh Environmental Operation
- High Accuracy
- Excellent Stability
- Ease Of Installation
- Low Maintenance
- Low-Cost Redundancy

Typical Specifications

- Temperature Range: -65 to 2000°F
- Accuracy: Up to ±2°F -65 to 530°F,
    ±.4% above 530°F
- Response Time: Dependant on design
    (typically 2 seconds)

Operation

OUTPUT CONNECTOR

DEEP IMMERSION PROBES (4)

SHORT IMMERSION PROBES (4)

JUNCTION BOX

MOUNTING BRACKETS

MINERAL (MS) INSULATED CABLE

Rigid thermocouple rake assemblies can be configured for a wide variety of environmental conditions. They are ideal for applications that require long term reliability due to difficult access and extreme environmental conditions.

In the configuration shown, two different immersion depths are used (four long and four short). Dual channel outputs are provided at the connector, each an average of the four sensing junctions on either side of the rake assembly.

Resistance balancing within the MI cable is achieved by varying the length of the cable and the diameter of the individual conductors.

Construction

- Probes: Material Superalloy Sleeve Supports; Engine Flange Mounts
- Cables: Material Insulated (MI), Hastalloy-X Outer Sheath and Support Sleeve (Diameter reduced at sensing junction to enhance response time)
- Junction Box: Hermetically Sealed; Welded High-Temperature Connector

Represented by: