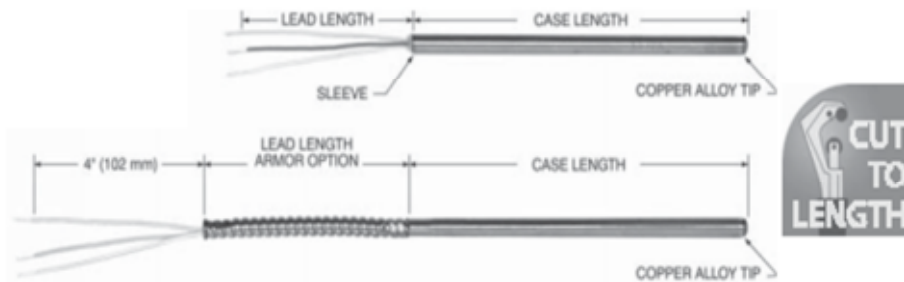


Tip-sensitive RTDs & Thermocouples



Overview

The probe sensing tip is constructed of copper alloy which is twenty times more conductive than stainless steel. The sensors react more quickly to changes and indicate tip temperature instead of stem temperature. The result is better accuracy in thermowells, bearings, and other installations. Minco recommends 0.250" diameter probes for use in thermowells.

- Copper alloy tip for fast response
- Accurate sensing to 260°C (500°F)
- Non-armor models can be user-shortened

Temperature Transmitters

Minco's Tempran™ RTD transmitters provide a 4 to 20 mA signal or HART® Protocol that can be sent over long distances with a simple 2-wire system. See

Special high-accuracy calibration: For high system accuracy, specify transmitters with matched calibration. Calibration data traceable to NIST will also be provided.

Specifications

Temperature range:

Thermocouple: -184 to 260°C (-300 to 500°F).
RTD: -50 to 260°C (-58 to 500°F).

Case: Stainless steel with copper alloy tip.

Minimum case length:

Thermocouple: 2.5" (63.5 mm).
RTD: Single element probes: 2.8" (71.1 mm).
Dual element probes: 4.0" (101.6 mm).

Maximum case length: 48" (1220 mm), longer on special order.

Leads:

Thermocouple: Solid thermocouple wire, AWG 20 (except AWG 24 on model TC355), PTFE insulation, stainless steel overbraid, or stainless steel armor.
RTD: 2, 3, or 4 leadwires, stranded copper with PTFE insulation. AWG 22, except 0.188" diameter dual probes AWG 24. For 2-lead RTDs add 0.03 Ω per foot (0.05 Ω per foot for 0.188" diameter dual probes) of combined case and lead length to element tolerance. Copper (CA, CC) models must have 3 leads.

Time constant:

Thermocouple: Typical value in moving water:
Grounded junction: 1.5 seconds.
Ungrounded junction: 7 seconds.
RTD:
2.0 seconds typical in moving water.
3.0 seconds for dual element models.

Pressure rating:

100 psi (6.9 bar).

Insulation resistance:

Thermocouple: 10 megohms minimum at 100 VDC, leads to case, ungrounded junctions only.
Single element RTD probes: 1000 megohms min. at 500 VDC, leads to case.
Dual element RTD probes: 100 megohms min. at 100 VDC, between elements and leads to case.

Vibration:

Withstands 10 to 2000 Hz at 20 G's min. per MIL-STD-202, Method 204, Test Condition D.

Shock:

Withstands 100 G's min. sine wave shock of 8 milliseconds duration.