



NEW PRODUCT HIGHLIGHT

| 4000 SERIES HIGH ACCURACY RTD TEMPERATURE SENSOR PROBES

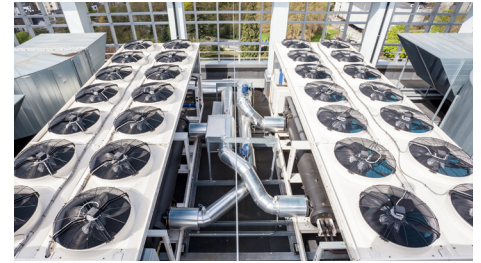
4000 Series probes deliver high accuracy, fast response time temperature measurements in an IP69K housing with silicon jacketed wire, making them applicable for a wide range of temperature sensing applications.

FEATURES

- Highly accurate PT1000 RTD (Class AA)
- 5.9mm diameter brass probe
- IP69K
- -40 to 85°C operating temperature range
- 100nF Capacitor for electrical noise reduction
- Outer polyolefin heatshrink
- RoHS compliant

APPLICATIONS

- HVAC/R Equipment
- Heat Pumps
- Water Heaters
- Industrial Heating and Cooling Equipment



POLYOLEFIN HEATSHRINK

For superior protection against wire bending and water ingress

85%/15% RED BRASS (CDA230) LEAD FREE

High thermal conductivity for fast response time

SILICONE RUBBER WIRE INSULATION

Resistance to chemical substances and to aging under extreme conditions

SILICONE EPOXY FILL

Bolsters sealing by encapsulating sense element and connection in silicone

100 nF CAPACITOR

Reduces electrical noise

OPTIONAL CONNECTOR

Provides design flexibility

4 CRIMP HOUSING TO WIRE SEAL

Ensures IP69K and allows use in 100% condensing applications

HEATSHRINK OVER WIRE CRIMP

Increases di-electric breakdown between leads and brass housing

HIGH ACCURACY CLASS AA RTD

Highest accuracy RTD with tolerance of $\pm 0.1^{\circ}\text{C}$ at 0°C for best system control

SPECIFICATIONS

Material

- Probe – Brass CDA230
- Heatshrink – Flame Retardent Polyolefin
- Wire Insulation – Silicone Rubber

Electrical

Output at Temperature	1000 ohms at 0°C PTC -40 to 0°C: $R(t) = R_0 \times (1 + At + Bt^2 + C[t-100]^3)$ 0 to 85°C: $R(t) = R_0 \times (1 + At + Bt^2)$ $R_0 = 1000$ $A = 3.91 \times 10^{-3}$ $B = -5.78 \times 10^{-7}$ $C = -5.78 \times 10^{-12}$ $t = \text{temperature in } ^\circ\text{C}$
Accuracy	Class AA (F0.1) RTD with +/-0.1 °C accuracy at 0 °C
Recommended Supply Current	≤0.3 milliamps
Output Response Time (T63)	≤18 seconds from stagnant ambient air temperature to 0°C glycol bath
Surge Immunity	IEC 6100-4-5, ten 1KV surge pulses using a 1.2/50 micro second profile

Physical

Vibration	20-2000 Hz, 3 axis with imposed resonance frequencies (engine vibration) 33 Hz 25 G's (transportation vibration)
Mechanical Shock	50 G's, 3 axis per MIL-STD 202G Method 213B, Condition A
Drop (any Axis)	1 meter
Humidity	100% condensing
Ingress Protection	IP69K
Operating Temperature	-40°C to 85°C
Storage Temperature	-40°C to 100°C

ORDERING OPTIONS

Family	4	A	10	C	-	A	12
4000 Series							
Body Style							
A= 2 in long brass tube							
RTD Selection							
10= 1000Ω RTD							
Capacitor Option							
C= 0.1 uF							
Lead Termination							
A= Cut and Stripped Z= Custom *Consult factory							
Lead Length or Custom Identifier							
XX= Lead Length in inches (12" length standard, XX= 12)							

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