
User's Guide

Part Number E2307-90002
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HP E2307A/E2308A
Temperature Probes

HP E2307A Thermocouple Bead Probe

HP E2308A Thermistor Probe

HP E2307A Thermocouple Bead Temperature Probe

- Exposed welded thermocouple junction with Teflon[®]/Neoflon[®] insulation wire, 36 inches (0.9 m) long, terminated in a 0.75 inch dual-banana plug.
- *Thermocouple type:* #24 gage ANSI-K type calibration.
- *Accuracy:*

-260°C to -110°C	(-436°F to -200°F)	2% of reading
-110°C to 260°C	(-200°F to 500°F)	±2.2°C (±4°F)
- *Maximum temperature:* 260°C (500°F)
- *For use with:* HP 973A or any other device that accepts type-K thermocouples and a dual-banana plug.

HP E2308A Thermistor Temperature Probe

- Stainless steel encapsulated thermistor (5000Ω @ 25°C), 36 inch (0.9 m) leads, terminated in a 0.75 inch dual-banana plug.
- *Accuracy:*

-80°C to -40°C	(-112°F to -40°F)	±1°C (2°F)
-40°C to 0°C	(-40°F to 32°F)	±0.4°C (0.8°F)
0°C to 70°C	(32°F to 158°F)	±0.2°C (0.4°F)
70°C to 100°C	(158°F to 212°F)	±0.3°C (0.6°F)
100°C to 150°C	(212°F to 302°F)	±1°C (2°F)
- *Maximum temperature:* 150°C (302°F)
- *Time constant:* 3 seconds typical in well-stirred water
- *Isolation:* 42 volts peak max
- *Stability (for 10 months):*

25°C	<0.01°C
100°C	<0.2°C
150°C	<1.5°C
- *Stainless Steel Probe:* 1.5 in. L x 0.125 in. dia. (38 mm L x 3.2 mm dia.)
- *For use with:* HP 971A/972A/973A/974A and HP 3458A.
Can also be used with the HP 34401A with application software.

Combined Instrument and Temperature Probe Specification

When using the HP E2307A and HP E2308A temperature probes, you must add the specifications of the instrument to the specifications of the probe. The specifications are shown below for the HP E2307A and HP E2308A probes when used with HP 970-Series Handheld Multimeters.

HP E2307A Thermocouple Probe

	HP 973A
Measurement Range	-50°C to 260°C, -58°F to 500°F
Resolution	1°C, 1°F
Accuracy ±(% reading + no. of degrees)	2% + 4°C (8°F)

Note: Specifications apply only when the probe is used without any extension wire.

HP E2308A Thermistor Probe

Measurement Range	-80°C to -40°C -112°F to -40°F	-40°C to 0°C -40°F to 32°F	0°C to 70°C 32°F to 158°F	70°C to 100°C 158°F to 212°F	100°C to 150°C 212°F to 302°F
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HP 971A

Resolution	0.1°C, 0.2°F				
Accuracy	±1.5°C, 3°F	±0.9°C, 1.8°F	±0.7°C, 1.4°F	±0.8°C, 1.6°F	±1.5°C, 3°F

HP 972A /973A

Resolution	0.1°C, 0.2°F				
Accuracy	±1.3°C, 2.5°F	±0.7°C, 1.3°F	±0.5°C, 0.9°F	±0.6°C, 1.1°F	±1.3°C, 2.5°F

HP 974A

Resolution	0.1°C, 0.1°F				
Accuracy	±1.2°C, 2.4°F	±0.6°C, 1.2°F	±0.4°C, 0.8°F	±0.5°C, 1°F	±1.2°C, 2.4°F

Other temperature probes suitable for the HP multimeters are available for almost any application. Type-K thermocouples may be used with the HP 973A. Some probes may require an adapter to properly connect the probe to the instrument's dual-banana termination.

Thermistor temperature probes, 5000Ω @ 25°C with a 25°C / 125°C ratio of 29.26, are suitable for the HP 971A /972A /973A /974A.