

- Sophisticated math functions
- 3½, 4½ digits
- Temperature
- Safety shutter
- Dual display



HP E2373A
HP 970
Series

Handheld Multimeters

These handheld multimeters are ideal for portable measurements requiring basic accuracy from 0.7% to 0.05%, 3½ digits, or 4½ digits.

HP E2373A

This basic multimeter measures dc and ac voltage/current, resistance, diode test and audible continuity. It provides a large 0.85 inch (22 mm) high display as well as an analog bar graph in a compact size.

HP 970 Series Features

These meters come with sophisticated math functions that allow relative (difference) or percent readings for checking tolerances, min./max. with time stamp to monitor all types of measurements including temperature, Hold and Auto Hold for saving a reading manually or automatically and average to quiet noisy measurements. Auto-diode reverses the leads for you to check semiconductor junctions, a secondary digital display shows the range of the function or elapsed time in min./max. and autpower off turns off the meter after 30 minutes of inactivity, or defeats it for extended measurements. The innovative terminal shutter prevents inadvertent use of the current terminals by requiring two operations by the user to connect the terminals.

Description

All meters come with ac/dc volts, ac/dc current, ohms, continuity, diode test, auto-diode test, frequency, and °F and °C high-resolution temperature (using optional temperature probe).

HP 971A

The sophisticated math functions and the extra rugged and bright yellow design make this an ideal meter for general-purpose measurements.

HP 972A

40 mV ac/dc range, 20 kHz bandwidth, capacitance and a dual display distinguishes this meter. The dual display allows the simultaneous reading of voltage and frequency.

HP 973A

For demanding applications this meter has basic dc accuracy of 0.1%, 20 kHz true rms, ac+dc, and dB/dBm for ac. This meter has features and functions for maximum flexibility. You get a dual digital display, frequency, current, capacitance, and thermocouple temperature as added features.

HP 974A

When extra precision is required, so is the HP 974A. 4½ digits, dc accuracy of 0.05%, 100 kHz BW true rms, ac+dc, and dB/dBm with 0.01 dB resolution make this the best value for high precision.

	E2373A	971A	972A	973A	974A
Display count	3200	4000	4000	4000	49999
Basic accuracy					
dc volts	0.7%	0.3%	0.2%	0.1%	0.05%
ac volts	1.2%	1%	0.5%	0.7%	0.5%
ohms	0.7%	0.5%	0.2%	0.2%	0.06%
capacitance	—	—	1.2%	1.2%	—
Frequency response					
ac volts	500 Hz	1 kHz	20 kHz	20 kHz	100 kHz
Resolution/maximum reading					
dcV	100 µV 1000 V	100 µV 1000 V	10 µV 1000 V	10 µV 1000 V	10 µV 1000 V
acV	1 mV 750 V	100 µV 1000 V	10 µV 1000 V	10 µV 1000 V	10 µV 750 V
ohms	0.1 Ω 30 MΩ	0.1 Ω 40 MΩ	0.1 Ω 40 MΩ	0.1 Ω 40 MΩ	0.01 Ω 50 MΩ
current	10 µA 10 A	100 nA 10 A	100 nA 10 A	100 nA 10 A	10 nA 10 A
elapsed time	—	1 min. 1999 min.	1 min. 1999 min.	1 min. 1999 min.	1 sec 9999 min.
frequency	—	1 Hz 100 kHz	0.01 Hz 200 kHz	0.01 Hz 200 kHz	0.01 Hz 200 kHz
Battery life (typical hours)	2,500	1000	600	600	120
Current shutter	•	•	•	•	•
Bargraph	•	•	•	•	•
Thermistor temperature	—	•	•	•	•
Thermocouple temperature	—	—	—	•	—
Dual digital display	—	—	•	•	—
True rms ac response	—	—	—	•	•
dBm/dB	—	—	—	•	•
Warranty (years)	3	3	3	3	3

HP E2373A

Standard accessories include pair of test leads, installed batteries, spare fuse and manual.

Size: 76 mm W x 164 mm H x 33 mm D (3 in x 6.5 in x 1.3 in)

Weight: 240 g (.53 lb)

970 Series

Standard accessories include a pair of test leads, manual, certificate of calibration, spare fuse, rubber boot, and two installed AA batteries.

Size: 87 mm W x 190 mm H x 39 mm D (3.4 in x 7.5 in x 1.5 in)

Weight: 440 g (1 lb) approx.

Digital Multimeters

146

Accessories

Digital Multimeter Accessory Compatibility Chart and Products

Accessory	HP 34401A	HP 3458A	HP E2373/ HP 970 series	HP34420A ¹
34132A Deluxe Test Lead Kit	Yes	No	Yes	No
34132B Deluxe Test Lead Kit	Yes	Yes	Yes	No
34132C Deluxe Test Lead Kit	Yes	No	Yes	No
11059A Kelvin Probe Set	Yes	Yes	No	No
11062A Kelvin Clip Set	Yes	Yes	No	Yes
34133A Precision Electronic Probe	Yes	No	Yes	No
11060A Surface-Mount Device Probe	Yes	Yes	Yes	No
34171A DMM Terminal Connector	Yes	No	No	No
34172A DMM Calibration Short	Yes	No	No	No
11053A Lug-Lug Jumper Set	No	Yes	No	No
11174A Lug-Banana Jumper Set	Yes	Yes	Yes	No
11058A Banana-Banana Jumper Set	Yes	Yes	Yes	No
E2305A Spare Test Leads	No	No	Yes	No
E2301A Surface Type-K Thermocouple Probe	Yes ²	No ³	973A	No
E2303A SMP-Dual Banana Adapter				
E2307A Type-K Thermocouple Bead Temperature Probe	Yes ²	No ³	973A	No
E2308A Thermistor Temp Probe	Yes ²	Yes	Yes, except E2373	No
40653B Thermistor Surface Sensor Assembly	Yes ²	Yes	Yes, except E2373	No
34134A AC/DC Current Probe	Yes	No	Yes	No
34135A AC/DC Current Probe	Yes	No	Yes	No
34330A 30 A Current Shunt	Yes	Yes	Yes	No
34397A 12 Vdc to 115V ac inverter	Yes	Yes	N/A	Yes
34131A Basic Instrument Transit Case	Yes	No	No	Yes
34161A Accessory Pouch	Yes	No	No	Yes
E2304A Handheld Multimeter Carrying Case	No	No	Yes	No

¹ Many accessories are listed as incompatible with HP 34420A because of the specialized termination. Many of these accessories may be rewired onto the low thermal input connector 34104A.

² Need HP 34812A BenchLink Meter or an external program to do temperature measurements.

³ Compatible with voltmeter inputs, however an external program would be needed for temperature calculations.



HP 34132A



HP 34133A



HP 11060A



HP 11059A

Test Leads

HP 34132A/B/C Deluxe Test Lead Kits

The test leads in these kit feature a 1.4 m flexible cable and a soft Sanoprene over mold for a comfortable grip. They are rated at 1000V CAT III. Each kit contains red and black test leads, needle point and alligator test lead tips and red and black retractable hook test leads. Supplied in a reusable nylon pouch.

The kits are available with the following banana plug configurations:

HP Model	Description
HP 34132A	Deluxe test lead kit with straight fixed sheath banana plugs
HP 34132B	Deluxe test lead kit with straight retractable sheath banana plugs
HP 34132C	Deluxe test lead kit with right angle fixed sheath banana plugs

HP 34133A Precision Electronic Test Leads

These precision electronic test leads are designed specifically for working with small components and in dense circuit boards. The test leads are small and light. The spring-loaded tip helps absorb those small movements and the crown point digs into solder. The test leads have a 1.2 m flexible cable, terminated in right angle shrouded banana plugs and have a Sanoprene over-mold for a comfortable grip. Each kit includes one black and one red test lead.

HP 11060A Surface Mount Device Tweezers

The gold plated beryllium copper tweezer design provides an easy method to access and accurately measure SMD resistive networks. Length 1.2 m.

Kelvin Probe and Clips

HP 11059A Kelvin Probe Set

This high quality Kelvin probe set is complete and ready to use for making 4-wire Ohm measurements. The 4 color coded banana jacks and Kelvin clips are both gold plated for maximum conductivity and resistance to corrosion. The probe assembly also includes a ground to guard connector to help remove any ground related errors for the ultimate in high accuracy measurement, ideal for use with the HP 3458A 8½ digit DMM. The wires are encased in a woven shroud for ease of use and to protect the cables.

HP 11062A Kelvin Clip Set

These silver plated Kelvin clips are ideal for constructing your own Kelvin Probe set for 4-wire Ohm measurements. Each set contains 2 clips.



HP 34134A



HP 34135A



HP E2301A with HP 2302A



HP 34330A



HP 34397A



HP 34161A



HP 34131A



HP E2304A

Low Thermal Cables

These cables are used to minimize error in low voltage measurements. Each kit contains one red and one black cable. Length 1.2 m

- HP 11053A Low Thermal Lug to Lug Cable
- HP 11174A Low Thermal Lug to Banana Cable
- HP 11058A Low Thermal Banana to Banana Cable

Current Measurement

HP 34134A DC Coupled Current Probe

A clamp on probe for a wide range of applications such as measuring ground currents, powers ripple or current distribution in systems. Output signals: 1 V/A (1 mV/mA) and 10 mV/A. Frequency range: DC to 2 kHz.

HP 34135A DC Coupled Current Probe

A clamp on probe idea for measuring high current electrical systems. Measurement range 1 to 600A (Peak) AC and 1 to 600A DC. Output signal: 1mV/A. Frequency range: DC to 10 KHz

HP 34330A 30 A Current Shunt

This current shunt can be used to extend the current measurement range. Precision 0.001 Ohm resistor. Output is 1 mV per amp of current passing through the shunt. 15 A continuous; 30A for 15 min continuous.

Temperature Measurement

HP 40653B Thermistor Surface Assembly

10,000 Ohm thermistor with fast response gives real time measurements. Temperature range: -10° C to 100° C. Accuracy: ±1° C. termination: bare wire.

HP E2301A Surface Type-K Thermocouple Probe

Designed for measuring surface temperatures on PC boards, this probe has a narrow tip and quick response to temperature change. Accuracy ±2.2° C or 0.75%, whichever is greater. Temperature range: -130° C to 260° C. Length 0.9m Must be used with the HP E2303A thermocouple probe adapter.

E2307A Type-K Thermocouple Bead Temperature Probe

General-purpose thermocouple temperature probe. Accuracy: -260° C to 110° C, ±2% of reading. Length: 0.9m. Terminated in dual banana plug.

E2308A Thermistor Temperature Probe

General purpose temperature probe. 5KOhm @ 25° C, encapsulated in a stainless steel case. Temperature range: -80° C to 150° C. Accuracy: 0 to 70° C, ±2%. Time constant: 3 seconds typical

Miscellaneous DMM Accessories

HP 34171A DMM Terminal Connector

Provides a convenient and reliable method to connect wires to all five input terminals on the HP 34401A. Qty 2.

HP 34172A DMM Calibration Short

Provides a convenient and secure method to apply a short to the input connectors of the HP 34401A for calibration purposes. Qty 2.

HP 34397A 12 Vdc to 115 Vac Inverter

Hit the road and power your instruments from a cigarette lighter with this dc-to-ac inverter. Accepts inputs from 10.5 to 15 V and provides 100 W max. power at 115 Vac.

HP 34161A Accessory Pouch

Cordura pouch fits on top of the HP 34401A and HP 34420A voltmeters as well as the HP 54131/32/81A counter and the HP 33120A function/arb generator.

HP 34131A Basic Instrument Transit Case

Heavy-duty hard-cover carrying case is constructed from rugged A.B.S. and has rubber-grip steel handles and steel latches. The case can be padlocked. For use with HP 34401A and HP 34420A voltmeters as well as the HP 53131/32/81A counter and the HP 33120A function/arb generator.

HP E2304A Handheld Multimeter Carrying Case

Padded case with dual zipper and snap-on belt strap. For use with HP 970 series handhelds.