

Digital Multimeters

Educational Training Equipment for the 21st Century

Bulletin 424-100C

H-444-1 Digital Multimeter



MODEL H-444-1
Digital Multimeter



Test Leads

Purpose

The **MODEL H-444-1** Digital Multimeter is a hand-held laboratory-grade multimeter designed for accurate measurements in any environment. The casing is constructed of an elastomer material for better grip and impact resistance as well as added safety and ease of use.

Specifications

Structure: Dust proof

Measuring Method:

Dual integration mode

Display:

LCD 3.5 digit display max. reading of "6000" with 31 segments analog bar graph display and annunciators ("9999" for Hz)

Polarity:

Appears when the polarity is negative

Over Range Indication:

"OL" mark indication

Low Battery Indication:

" \pm " mark is displayed when the battery voltage drops below operating voltage.

Sampling:

Digital display 2.3 times/sec.

(1 time/sec. for Hz)

Analog bar graph display 23 times/second

Operational Temperature & Humidity:

-10°C~55°C,
0°C~40°C @80% RH max.
40°C~50°C @70% RH max
(Non-condensing)

Storage Temperature & Humidity:

-25°C~60°C @70% RH max.
(Non-condensing)

Temperature Coefficient:

Accuracy of: 0.1/°C
(-10°C~18°C & 28°C~55°C) max.

Common Mode Voltage:

Max. 1000V rms (between input terminals and earth)

Power Supply:

1.5V (AA size, UM-3) x 4

Battery Life:

Approximately 300 hours
(Alkaline batteries in DCV range)

Size & Weight:

3.4"W x 7.5"H x 1.5"D, Approx. 1.4 lbs.

Safety Class:

Complies with IEC348 safety class II

Accessories:

Instruction Manual (1)
Test Lead (1 set)
Batteries (2)
Spare fuse (500mA) (1)

Special Functions

- Data hold
- Auto hold
- Resistance
- Relative and % display
- W zero adjustment
- Average reading
- Automatic diode test
- Diode test
- Continuity check
- ADP adapter
- Center zero bar graph
- Over input alarm
- Fuse alarm
- Fuse check
- Auto power off
- Back light
- Safety lock shutter
- -50°C ~+150°C temperature test with H-444-9 probe

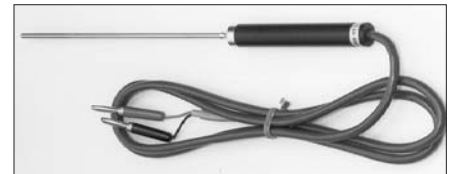
Features

- 6 - DC Voltage Ranges: 40mV to 1kV
0.3% of reading + 1 digit accuracy
- 6 - AC Voltage Ranges: 40mV to 1kV
1.0% of reading + 2 digits accuracy
- 5 - DC Current Ranges: 400 μ A to 10A
1.0% of reading + 2 digits accuracy
- 5 - AC Current Ranges: 40 μ A to 10A
1.5% of reading + 5 digits accuracy
- 6 - Resistance Ranges: 400 Ω to 40M Ω
0.5% of reading + 1 digit accuracy

Stated accuracy is typical and may vary depending on range and frequency. Complete specifications are available upon request.

Optional Equipment

- **Model H-444-9** Thermistor Probe



Optional **MODEL H-444-9** Thermistor Probe

All Hampden units are available for operation at any voltage or frequency

Hampden
ENGINEERING CORPORATION

111811

Digital Multimeters

Educational Training Equipment for the 21st Century

H-444-1 Digital Multimeter

MEASUREMENT RANGE

DC Voltage

Range	Resolution	Accuracy	Input Resistance	Max Input Voltage
600mV	0.1mV	0.09 + 2	10MΩ	DC 1000V AC 1000Vrms
6V	0.001V		11MΩ	
60V	0.01V		10MΩ	
600V	0.1V			
1000V	1V	0.15 + 2		

Response time: 1 second max. to rated accuracy within selected range
NMRR: >60dB (50/60Hz) CMRR: >120dB

AC Voltage

Range	Resolution	Accuracy			Input Impedance	Max Input Voltage
		50/60Hz	40-500 Hz	500Hz-1KHz		
600mV	0.1mV	0.15 + 5	1 + 5	1.5 + 5	10MΩ, <200pF	AC 1000Vrms DC 1000V
6V	0.0001V				11MΩ, <50pF	
60V	0.001V				10MΩ, <50pF	
600V	0.01V					
1000V	0.1V					

Response time: 2 second max. to rated accuracy within selected range
Conversion Type: AC coupled average sensing, calibrated to read the RMS value of sine wave
CMRR: >60dB ~ 60Hz (Rs = 1kΩ)

DC Current

Range	Resolution	Accuracy	Voltage Drop	Max Input Current
600μA	0.1μA	0.2 + 2	<0.12mV/μA	440mA rms (fuse-protected)
6000μA	1μA		<3.3mV/mA	
60mA	0.01mA			
600mA	0.1mA	0.5 + 5	<0.1V/A	
6A	0.001A			
10A	0.01A			

Response time: 1 second max. to rated accuracy within selected range

AC Current

Range	Resolution	Accuracy		Voltage Drop	Max Input Current
		50/60Hz	40Hz - 1kHz		
600μA	0.1μA	0.75 + 5	1.5 + 5	<0.12mV/μA	440mA rms (fuse-protected)
6000μA	1μA			<3.3mV/mA	
60mA	0.01mA				
600mA	0.1mA				
6A	0.001A			<0.1V/A	10A (fuse protection)
10A	0.01A				

Response time: 2 second max. to rated accuracy within selected range

Temperature Test (°C) (H-444-9)

Range	Resolution	Accuracy	Input Protection
-50.0 ~ 600°C	0.001V	2 + 2°C	1000V rms

Resistance

Range	Resolution	Accuracy 40Hz - 500Hz	Maximum Testing Current	Open Circuit Voltage	Open Circuit Voltage
600Ω	0.1Ω	0.4 + 1**	<1.2mA	<3.5V	1000 rms
6kΩ	0.001kΩ		<110μA		
60kΩ	0.01kΩ		<13μA		
600kΩ	0.1kΩ		<1.3μA		
6MΩ	0.001MΩ		0.5 + 1	<130nA	
60MΩ	0.01MΩ	1 + 20(0-40MΩ) 2 + 20(0-40MΩ)			

*400Ω range: Accuracy is specified after Ω zero adjustment
Response time: 400Ω-400Ω range - 2 second max. to rated accuracy within selected range
4MΩ-40MΩ range - 10 second max. to rated accuracy within selected range
Input protection: 60V rms
Ω zero adjustment: External lead wire resistance is zero adjustable (Max. 9.9Ω)
Full scale voltage: 400Ω-4MΩ <300mV DC, 4MΩ range <810mV DC

Continuity Check

Range	Resolution	Continuity Beeper	Max Test Current	Open Circuit Voltage	Input Protection
600Ω	0.1Ω	<20Ω	1.2mA	<3.5V	1000V rms

Diode Test

Range	Resolution	Accuracy	Test Current	Open Circuit Voltage	Input Protection
2V	0.001V	1 + 2	Approx. 0.5mA (Vf=0.6V)	<3.5V	1000V rms

Frequency Measurement

Range	Resolution	Accuracy	Input Protection
10.00-99.99Hz	0.01Hz	0.02 + 1	0.2 - 600V rms
90.0 - 999.9Hz	0.1Hz		0.4 - 600V rms
0.900 - 9.999Hz	0.001kHz		0.8 - 100V rms
9.00 - 99.99kHz	0.01Hz		

Capacitance

Range	Resolution	Accuracy	Input Protection
2V10nF	0.01nF	2 + 10**	1000V rms
100nF	0.1nF	2 + 5	
1μF	0.001μF		
10μF	0.01μF		
100μF	0.1μF	3 + 5	
1000μF	1μF		

All Hampden units are available for operation at any voltage or frequency

Hampden
ENGINEERING CORPORATION