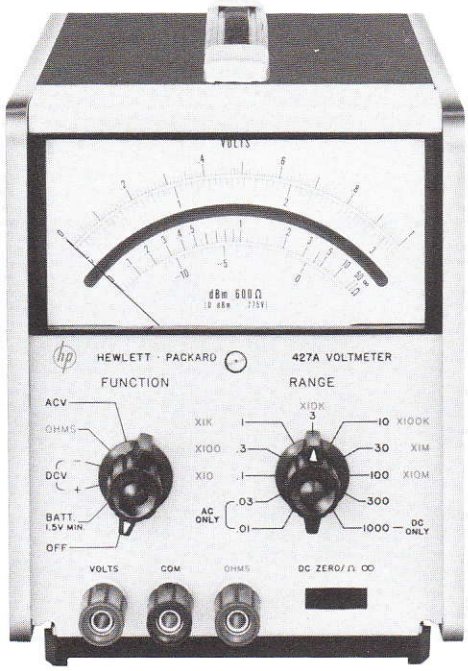
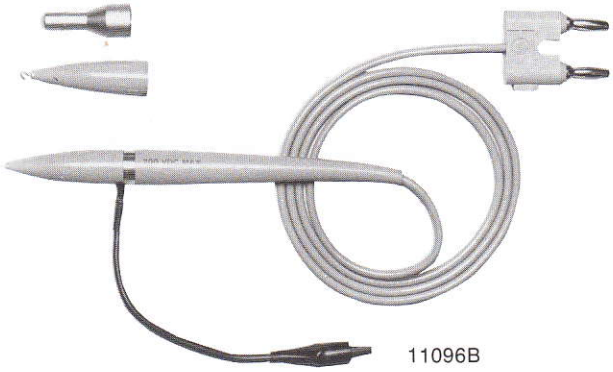
ANALOG VOLTMETERS

Low-cost multi-function meter

Model 427A



427A



11096B

Description

Hewlett-Packard's Model 427A is a portable, versatile, low cost multi-function meter which is valuable in any laboratory, production line, service department, or in the field. It is capable of measuring dc voltages from 100 mV to 1 kV full scale; ac voltage from 10 mV to 300 V full scale at frequencies up to 1 MHz (>500 MHz with the 11096B High Frequency Probe); and resistance from 10Ω to 10 MΩ center scale.

The 427A will operate continuously for more than 300 hours on its internal 22.5 V dry cell battery. AC line and battery operation is available with option 001.

Specifications

DC voltmeter

Ranges: ±100 mV to ±1000 V in 9 ranges in 10 dB steps.
Accuracy: ±2% of range.
Input resistance: 10 MΩ.
AC normal mode rejection(ACNMR): ACNMR is the ratio of the normal mode signal to the resultant error in readout. 50 Hz and above: >80 dB.
Overload protection: 1200 V dc.

AC voltmeter

Ranges: 10 mV to 300 V in 10 ranges in 10 dB steps.
Frequency range: 10 Hz to 1 MHz.
Response: responds to average value, calibrated in rms.
Accuracy

Frequency	Range	
	0.01 V to 30 V	100 V to 300 V
10 Hz to 100 kHz	2% of range	2% of range
100 kHz to 1 MHz		

Input impedance: 10 mV to 1 V range, 10 MΩ shunted by <40 pF; 3 V to 300 V range, 10 MΩ shunted by <20 pF.
Overload protection: 300 V rms momentarily, 1 V range and below; 425 V rms max above 1 V range.

Ohmmeter

Ranges: 10Ω to 10 MΩ center scale in 7 decade ranges. Accuracy (from 0.3 to 3 on scale): ±5% of reading.
Source current (ohms terminal positive)

Range	Open circuit Voltage	Short circuit Current
X 10	0.1 V	10 mA
X 100	0.1 V	1 mA
X 1 k	1 V	1 mA
X 10 k	1 V	100 μA
X 100 k	1 V	10 μA
X 1 M	1 V	1 μA
X 10 M	1 V	0.1 μA

General

Input: may be floated up to ±500 V dc above chassis ground. Ohms input open in any function except ohms. Volts input open when instrument is off.
Operating temperature: 0°C to 50°C.
Power: >300 hr operation per battery.
HP 427A: 22.5 V dry cell battery, Eveready No. 763 or RCA VS102. HP 427A Option 001: battery operation or ac line operation, selectable on rear panel. 115 V or 230 V ±20%, 48 Hz to 440 Hz, 2 VA max.
Size: (standard 1/3 module): 159 H (without removable feet), 130 W, 203 mm D (6¼" × 5⅛" × 8").
Weight: net, 2.4 kg (5.3 lb). Shipping, 3.6 kg (8 lb).

Accessories available

HP 11096A High Frequency AC Probe extends range to >500 MHz. With the 11096A, you can measure 0.25 to 30 V rms signals out to 500 MHz with better than ± 1 dB accuracy. Usable relative measurements can be made up to 1 GHz (3 dB point at 700 MHz). The 11096A is a peak-responding detector calibrated to produce a dc output proportional to the rms value of a sine wave input. Input impedance is 4 MΩ shunted by 2 pF.

Options and accessories

11075A High Impact Case. A rugged case for carrying, storing and operating the 427A
11096B High Frequency AC probe
11001A 45" test lead, dual banana plug to male BNC
11002A 60" test lead, dual banana plug to alligator clips
11003A 60" test lead, dual banana plug to pencil probe and alligator clip
10111A BNC female to dual banana adapter
11067A Test lead kit

Ordering information

427A Multi-function Meter (includes batteries)
427A Option 001 AC power supply & battery