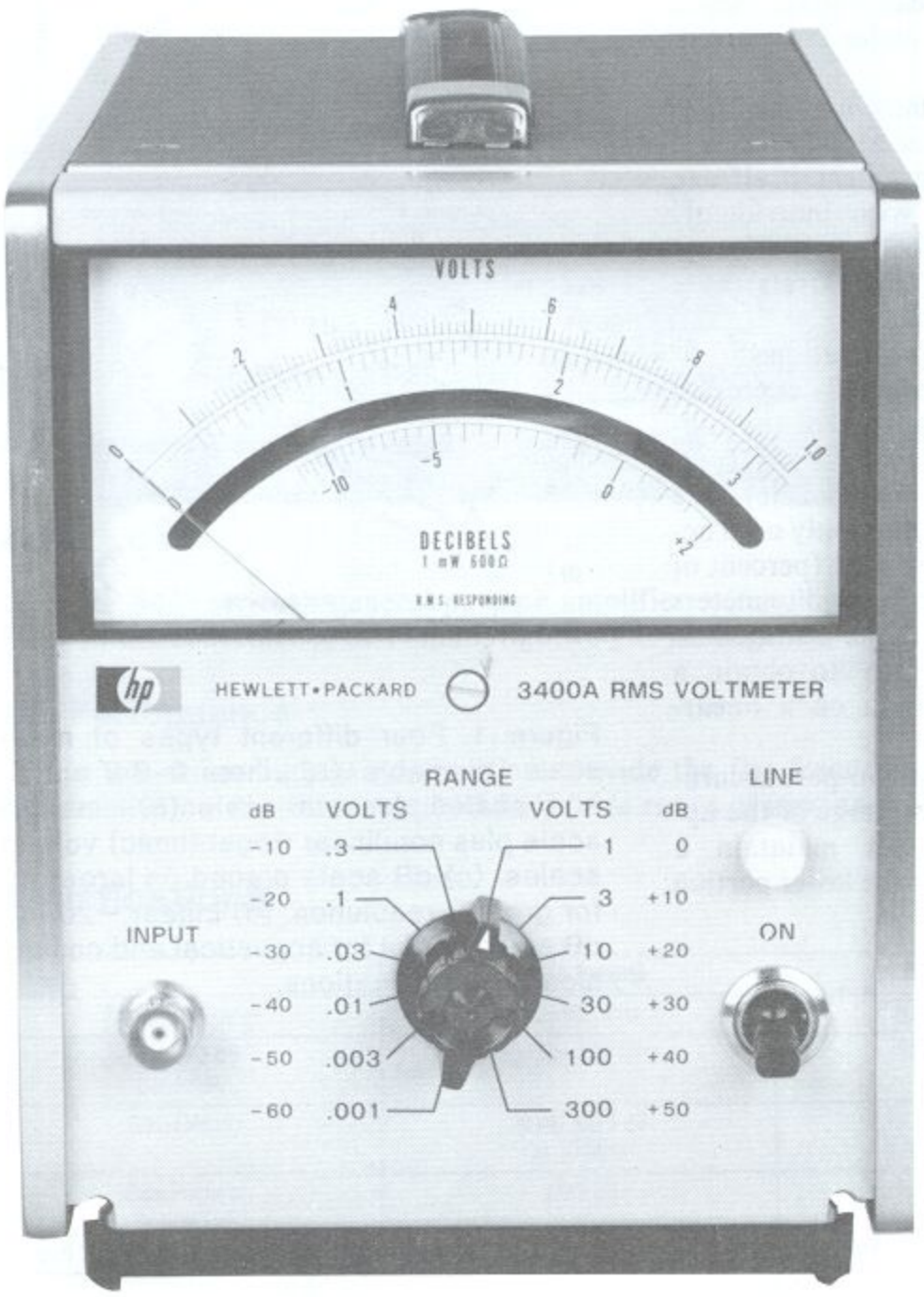
ANALOG VOLTMETERS

10 Hz to 10 MHz True RMS Voltmeter

Model 3400A

- 10 MHz bandwidth
- High crest factor for accurate pulse measurements
- Stable, linear dc output
- 1 mV full-scale sensitivity
- 10 MΩ input impedance
- Taut-band individually calibrated meter



Specifications

Voltage range: 1 mV to 300 V full scale, 12 ranges.
dB range: −72 to +52 dBm (0 dBm = 1 mW into 600Ω).
Frequency range: 10 Hz to 10 MHz.
Response: responds to rms value (heating value) of the input signal for all waveforms.
Meter accuracy: % of full scale (20°C to 30°C)*

10Hz	50Hz	1MHz	2MHz	3MHz	10MHz
±5%	±1%	±2%	±3%	±5%	

AC-to-DC converter accuracy: % of full scale (20°C to 30°C)*

10Hz	50Hz	1MHz	2MHz	3MHz	10MHz
±5%	±0.75%	±2%	±3%	±5%	

* TC: ±0.1% from 0°C to 20°C and 30°C to 55°C.

Crest factor: (ratio of peak to rms amplitude of input signal): 10 to 1 at full scale (except where limited by maximum input) inversely proportional to meter deflection (e.g., 20 to 1 at half-scale, 100 to 1 at tenth scale).
Maximum continuous input voltage: 500 V ac peak at 1 kHz on all ranges; 600 V dc on all ranges.
Input impedance: from 0.001 V to 0.3 V range: 10 MΩ shunted by <50 pF. From 1.0 V to 300 V range: 10 MΩ shunted by <20 pF. ac coupled input.
Response time: for a step function, <5 s to final value.
AC overload: 30 dB above full scale or 800 V p, whichever is less, on each range.
Output: negative 1 V dc into open circuit at full-scale deflection, proportional to meter deflection from 10–100% of full scale. 1 mA maximum; nominal source impedance is 1000Ω. Output noise <1 mV rms.
Power: 115 or 230 V ±10%, 48 to 66 Hz, 15 VA max.
Size: 159 H (without removable feet) x 130 W x 279 mm D (6.25″ x 5.1″ x 11″); ⅓ module.
Weight: net, 3.3 kg (7.3 lb). Shipping, 4.5 kg (10 lb).
Accessories furnished: 10110A Adapter, BNC to dual banana jack.

Description

The Hewlett-Packard Model 3400A is a true root-mean-square (rms) voltmeter, providing a meter indication proportional to the dc heating power of the input waveform.

Six-decade frequency coverage makes the 3400A extremely flexible for all audio and most RF measurements and permits the measurement of broadband noise and fast-rise pulses.

Pulses or other non-sinusoids with crest factors (ratio of peak to rms) up to 10:1 can be measured full scale. Crest factor is inversely proportional to meter deflection, permitting up to 100: 1 crest factor at 10% of full scale.

Permanent plots of measured data and higher resolution measurements can be obtained by connecting an X-Y plotter, strip chart recorder or digital voltmeter to the convenient rear-panel dc output. The dc output provides a linear 0 to 1 volt drive proportional to meter deflection.

Accessories Available	Price
11170A Cable, 12 in., male BNC connectors	$20
11170B Cable, 24 in., male BNC connectors	$20
11170C Cable, 48 in., male BNC connectors	$23
11002A Test lead, dual banana plug to alligator clips	$17
11003A Test Leads, dual banana plug to probe and alligator clip	$15
11076A Carrying Case	$280

Ordering Information

3400A Opt 001 spreads out the dB scale by making it the top scale of the meter. Rear terminals in parallel with front panel terminals and linear log scale uppermost on the meter face are available on special order.	add $40
3400A RMS Voltmeter	**$1400**