

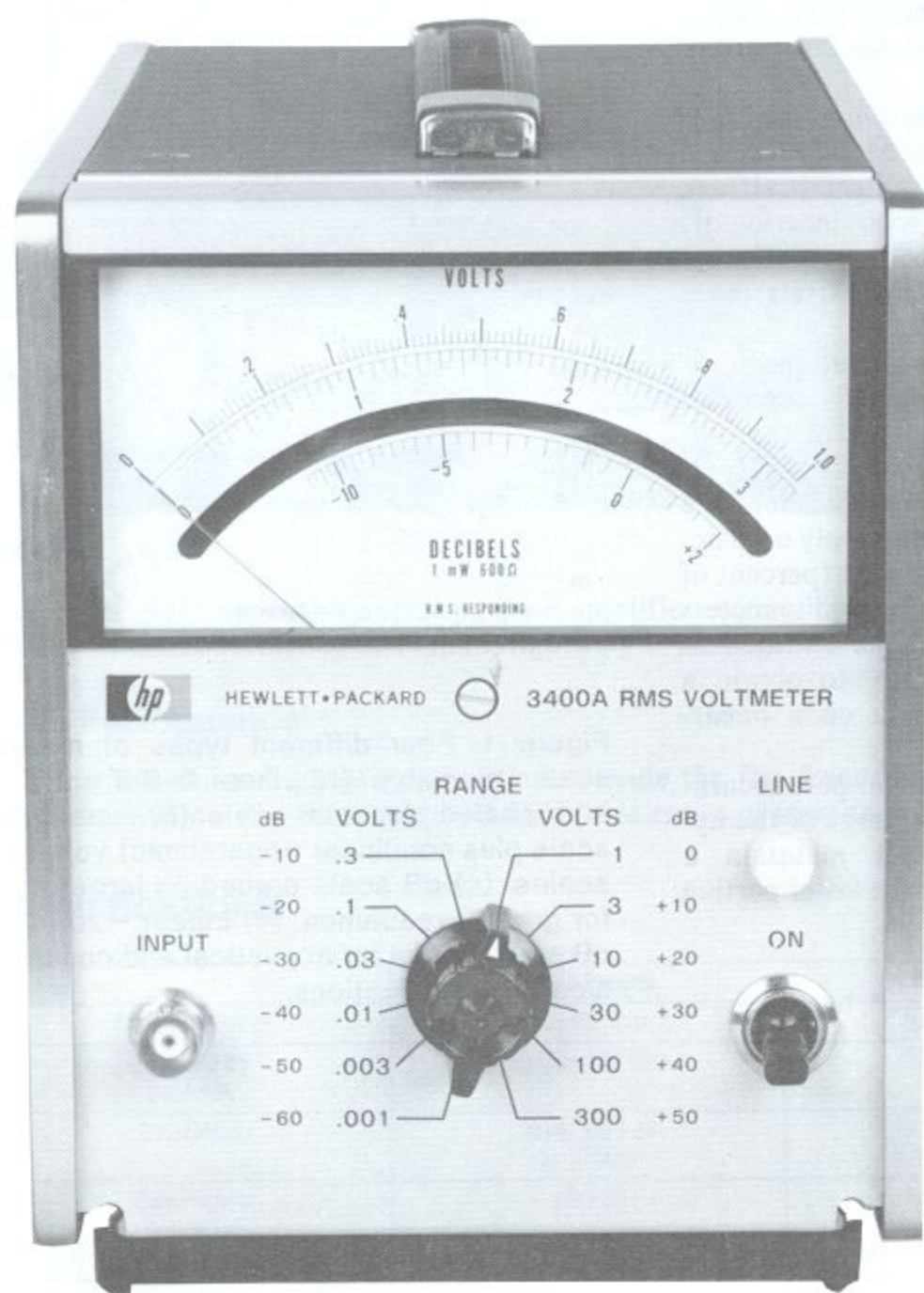
ANALOG VOLTMETERS

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 M Ω input impedance
- Taut-band individually calibrated meter



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.

Specifications

Voltage range: 1 mV to 300 V full scale, 12 ranges.

dB range: -72 to +52 dBm (0 dBm = 1 mW into 600 Ω).

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 M Ω shunted by <50 pF. From 1.0 V to 300 V range: 10 M Ω 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 1000 Ω . 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"); 1/2 module.

Weight: net, 3.3 kg (7.3 lb). Shipping, 4.5 kg (10 lb).

Accessories furnished: 10110A Adapter, BNC to dual banana jack.

Accessories Available

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. add \$40

Rear terminals in parallel with front panel terminals and linear log scale uppermost on the meter face are available on special order.

3400A RMS Voltmeter

\$1400