

ELECTRONIC COUNTERS

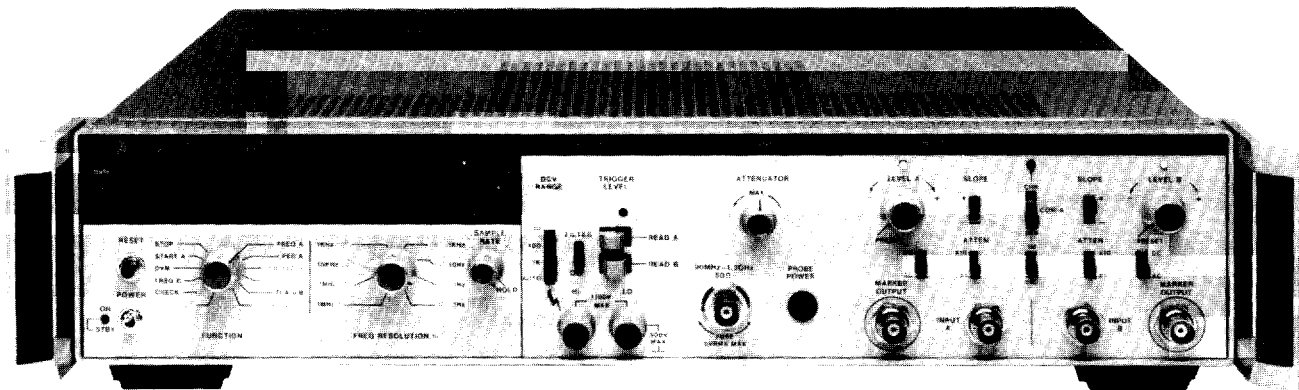
100 MHz Universal Counters

Model 5328B

203

- 100 MHz and 1300 MHz
- 10 ns Time Interval
- T.I. Averaging to 10 ps resolution

- "Armed" measurements
- DVM option
- HP-IB Interface standard



HP 5328B



Solid Universal Counter Performance for Bench or System

- Frequency measurements to 100 MHz, 1.3 GHz optional.
- 10 ns Time Interval resolution, 10 ps with averaging.
- 10 ns Period resolution, 1 fs with averaging.
- ± 1000 V dc DVM and High Stability Oven Time Base options.
- HP-IB programming and External Arming standard.

Condensed Specifications

Input Characteristics

Sensitivity: 25 mV rms, to 40 MHz; 50 mV rms, 40 MHz-100 MHz.
Attenuators (nominal): $\times 1$, $\times 10$ switch selectable.

Frequency A

Range: 0 to 100 MHz.

Period A

Range: 100 ns to 10^7 s with resolution to 10 ns.

Period Average A

Range: 100 ns to 10^7 s with resolution to 1 fs.

Time Interval A \rightarrow B

Range: 10 ns to 10^7 s with resolution to 10 ns.

Time Interval Average A \rightarrow B

Range: 0.1 ns to 1 s with resolution to 10 ps.

Minimum Dead Time: 40 ns.

Ratio B/A

Range: Channel A, 0 to 10 MHz; Channel B, 0 to 100 MHz.

HP-IB Interface Bus

Programmable functions: Functions, resolution, sample rate, (maximum or manual control), arming, display modes, measurement modes, output mode, and reset commands. Trigger level, trigger slope, input impedance, coupling, separate/common/check, invert A and B, Trigger level is programmable in 10 mV steps in $\times 1$; 100 mV in $\times 10$. Trigger level accuracy under remote control in $\times 1$: ± 35 mV.

Interface functions: SH1, AH1, T1, L2, SR1, RL1, PP0, DC1, DT1, C0, E1. (See page 556).

Service request (SRQ): if enabled, indicates end of measurement.

Maximum data output rate: 500 readings/s.

General

Display: 9-digit LED display.

Sample Rate: Variable from less than 2 ms between measurements to HOLD, which holds display indefinitely.

Gate Output: rear panel output; TTL levels.

Time Base Output: rear panel output; TTL levels.

Operating Temperature: 0° to 50°C .

Power Requirements: 100/120/240 V rms, $\pm 5\%$, -10% (switch selectable), 48-66 Hz; 150 VA max.

Time Base Oscillators

Standard Crystal Oscillator

Frequency: 10 MHz.

Aging Rate: $< 3 \times 10^{-7}$ /month.

Temperature: $< 2.5 \times 10^{-6}$, 0° to 50°C .

Line Voltage: $< 1 \times 10^{-7}$ for 10% change.

Option 010: Oven Oscillator

Frequency: 10 MHz.

Aging Rate: $< 5 \times 10^{-10}$ /day after 24-hour warm-up.

Short Term: $< 1 \times 10^{-10}$ rms/s.

Temperature: $< 7 \times 10^{-9}$, 0° to 50°C .

Line Voltage: $< 5 \times 10^{-9}$ for 10% variation.

Warm-Up: within 5×10^{-9} of final value in 20 minutes.

Option 021: High Performance Digital Voltmeter

Range: ± 10 , ± 100 , ± 1000 V dc and Autorange.

Sensitivity: 10 μV , 100 μV , 1 mV, 10 mV, 100 mV for measurement times of 10 s, 1 s ± 0.1 s, 10 ms, 1 ms respectively.

Input: floating pair, 10 M Ω nominal.

Maximum Input: hi to low: ± 1100 V all ranges; low to chassis ground: ± 500 V.

Trigger Level Measurements: 1 mV display resolution.

Option 031: 1300 MHz C-Channel

Input Characteristics

Sensitivity: 20 mV rms sine wave (-21 dBm).

Maximum Input: 5 V rms, ± 5 Vdc, fuse protected.

Frequency C

Range: 90 MHz to 1300 MHz, prescaled by 4 with resolution to 0.1 Hz.

Ratio C/A

Range: channel A, 0 to 10 MHz; channel C, 90 to 1300 MHz

Attenuation: continuously variable for optimum noise suppression.

Ordering Information

HP 5328B Universal Counter

Opt 010 High Stability Time Base

Opt 021 High Performance DVM

Opt 031 1300 MHz Channel C

Opt 050 DVM and Channel C

Opt 908 No Handles Rack Flange Kit

Opt 913 With Handles Rack Flange Kit

Price

\$5400

+\$800

+\$800

+\$1100

+\$1900

+\$30

+\$30