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Data Sheet

August 14, 2026

HP / AGILENT

HP / Agilent 5315B 100 MHz Universal Counter

The HP 5315B is a 100 MHz universal counter in a metal EMI-performance package for bench and system use. Per HP Journal and OEM specification summaries, Channels A and B accept DC-coupled signals from 0 to 100 MHz (AC-coupled 30 Hz to 100 MHz), with frequency measurement from 0.1 Hz to 100 MHz, period, time interval, time interval average, time interval holdoff, ratio, and totalize. An optional Channel C (Option 003) extends frequency measurement to 1 GHz. Measurements except totalize display in scientific notation with up to eight digits of resolution. Frequency and period measurement on RF and baseband signals, time interval and pulse characterization, ratio and totalize in production and service, and system use where metal packaging EMI performance is preferred over the plastic-cased 5315A.



MODEL

HP / Agilent 5315B

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

5315B

LISTING

<https://aumictechlabs.com/products/5315b-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The HP/Agilent 5315B is a 100 MHz universal counter delivering frequency, period, time interval, ratio, and totalize measurements with 8-digit LED display resolution. Its metal cabinet construction provides enhanced electromagnetic shielding suitable for laboratory and rack-mounted test systems. Expandable to 1 GHz with optional Channel C, the 5315B combines flexible input coupling, variable trigger control, and multiple time base options for precision frequency measurement from 0.1 Hz to 100 MHz. Technical Specifications Measurement Capabilities

Frequency: 0.1 Hz to 100 MHz; up to 1 GHz with Option 003 (Channel C) Period: 10 ns to 10 s Time Interval: Single-shot (100 ns resolution), Averaging (10 ps resolution), and Delay modes Ratio: Two-input frequency ratio measurement Totalize: 0 to 100 MHz, manual or external gating via Input A or Input B Input Channels A & B Frequency Range: DC-coupled 0 Hz to 100 MHz; AC-coupled 30 Hz to 100 MHz Sensitivity: 10 mV rms to 10 MHz; 25 mV rms to 100 MHz; 75 mV peak-to-peak pulse (5 ns minimum width); continuously variable to 500 mV rms Dynamic Range: 30 mV to 5 V peak-to-peak (0–10 MHz); 75 mV to 5 V peak-to-peak (10–100 MHz) Signal Operating Range: +2.5 Vdc to –2.5 Vdc Input Impedance: 1 M Ω nominal shunted by <40 pF Attenuator: X1 or X20 nominal Trigger Level: Variable +2.5 Vdc to –2.5 Vdc with independent slope selection Filter: 100 kHz low-pass, switchable on Channel A Channel C (Option 003) Frequency: 50 MHz to 1 GHz at 25 mV sensitivity to 100 MHz Time Base Options Standard: 10 MHz, <3 parts in 10⁷/month aging, $\pm$ 5 parts in 10⁶ temperature stability (0–50 °C) Option 001 (TCXO): 10 MHz, <1 part in 10⁷/month aging, $\pm$ 1 part in 10⁹ temperature stability (0–40 °C) Option 004 (Oven): 10 MHz, <3 parts in 10⁸/month aging, $\pm$ 2 parts in 10⁸ temperature stability (0–50 °C) Key Features Metal cabinet for RFI immunity and mechanical durability Reciprocal counting at low frequencies for enhanced resolution AC/DC coupling selection per input Selectable attenuator for extended dynamic range Multiple time base stability grades Typical Applications Frequency and period measurement in RF/microwave development Precision time interval analysis and jitter characterization Signal ratio and event counting in automated test systems Laboratory calibration and standards verification Compatibility & Integration Rack-mountable metal construction integrates into benchtop and ATE environments with minimal EMI considerations.

5315B Characteristics / Specifications

PARAMETER	VALUE
Frequency Measurement Range	0.1 Hz to 100 MHz
ChannelAandBRange DC Coupled	0 to 100 MHz
ChannelAandBRange AC Coupled	30 Hz to 100 MHz
Sensitivity Sine to 10 MHz	10 mV rms
Sensitivity Sine to 100 MHz	25 mV rms
Sensitivity Pulse	75 mV peak to peak at minimum pulse width 5 ns
Period Range	10 ns to 10 s
Period LSD Displayed	100 ns to 10 ps depending on gate time and input
Time Interval Range	100 ns to 10 ⁵ s
Time Interval LSD Displayed	100 ns
Time Interval Average Range	0 ns to 10 ⁵ s
Time Interval Average LSD	100 ns to 10 ps depending on gate time and input
Time Interval Holdoff Delay	0 us to 20 ms between START (A) and enabling STOP (B)
Basic Time Interval Resolution	100 ns single shot; averaging improves to less than 1 ns on repetitive signals
Display Digits	8-digit LED
Oscillator Output	10 MHz, 50 mV pk-pk into 50 ohm, rear panel
External Frequency Standard Input	10 MHz, 1 V rms into 500 ohm, rear panel
Dimensions WHD	212 × 81 × 345 mm
AC Line Voltages	100, 120, 220, 240 V
Package Type	Metal case rack-compatibleBversion
Attenuator	continuously variable up to X500
Slope Selection	independent + or - onAandBChannel Input Mode: Separate or CommonA Notes Specs from HP Journal Jan 1979 5315A/B article, Radiomuseum OEM summary, and distributor technical data. Option availability and time-base aging vary by configuration; verify faceplate and calibration certificate for unit-specific limits.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

performance package for bench and system use. Per HP Journal and OEM specification summaries, ChannelsAandBaccept DC-coupled signals from 0 to 100 MHz (AC-coupled 30 Hz to 100 MHz), with frequency measurement from 0.1 Hz to 100 MHz, period, time interval, time interval average, time interval holdoff, ratio, and totalize. An optional Channel C (Option 003) extends frequency measurement to 1 GHz. Measurements except totalize display in scientific notation with up to eight digits of resolution.

Applications
Frequency and period measurement on RF and baseband signals, time interval and pulse characterization, ratio and totalize in production and service, and system use where metal packaging EMI performance is preferred over the plastic-cased 5315A.

Key Features
Reciprocal counting architecture with MRC multiple-register counter IC
Independent slope selection and Separate or CommonAchannel input modes
Rear-panel 10 MHz oscillator output and external frequency standard input
Optional TCX0 (001), 1 GHz Channel C (003), and oven time base (004)
8-digit LED display with scientific notation for most functions

Technical Specifications

Specifications

PARAMETER	VALUE
Dimensions WHD	212 x 81 x 345 mm
AC Line Voltages	100, 120, 220, 240 V
Package Type	Metal case rack-compatible B version
Attenuator	continuously variable up to X500
Slope Selection	independent + or - on A and B
Channel Input Mode	Separate or Common A

Technical Specifications

PARAMETER	VALUE
Frequency Measurement Range	0.1 Hz to 100 MHz
ChannelAandBRange DC Coupled	0 to 100 MHz
ChannelAandBRange AC Coupled	30 Hz to 100 MHz
Sensitivity Sine to 10 MHz	10 mV rms
Sensitivity Sine to 100 MHz	25 mV rms
Sensitivity Pulse	75 mV peak to peak at minimum pulse width 5 ns
Period Range	10 ns to 10 s
Period LSD Displayed	100 ns to 10 ps depending on gate time and input
Time Interval Range	100 ns to 10^5 s

PARAMETER	VALUE
Time Interval LSD Displayed	100 ns
Time Interval Average Range	0 ns to 10 ⁵ s
Time Interval Average LSD	100 ns to 10 ps depending on gate time and input
Time Interval Holdoff Delay	0 us to 20 ms between START (A) and enabling STOP (B)
Basic Time Interval Resolution	100 ns single shot; averaging improves to less than 1 ns on repetitive signals
Display Digits	8-digit LED
Oscillator Output	10 MHz, 50 mV pk-pk into 50 ohm, rear panel
External Frequency Standard Input	10 MHz, 1 V rms into 500 ohm, rear panel

Option 003 ChannelCRange: 50 to 1000 MHz, prescaled by 10

Specifications

PARAMETER	VALUE
Dimensions WHD	212 x 81 x 345 mm
AC Line Voltages	100, 120, 220, 240 V
Package Type	Metal case rack-compatibleBversion
Attenuator	continuously variable up to X500
Slope Selection	independent + or - onAandBChannel Input Mode: Separate or CommonA Notes

Specs from HP Journal Jan 1979 5315A/B article, Radiomuseum OEM summary, and distributor technical data. Option availability and time-base aging vary by configuration; verify faceplate and calibration certificate for unit-specific limits.

Ordering Information

OPTION	DESCRIPTION
Option 003	ChannelCRange: 50 to 1000 MHz, prescaled by 10

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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NIST-traceable calibration · SAM registered ·
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.