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Data Sheet

August 14, 2026

HP / AGILENT

HP / Agilent 5316A HP-IB Universal Counter

The HP 5316A is a programmable HP-IB universal counter in the 5315/5316 family, providing frequency, period, time interval, ratio, and totalize with IEEE-488 system control. OEM and service references align Channel A/B performance with the 5315 100 MHz universal-counter input set, with optional microwave Channel C and full bus programmability for ATE. Automated frequency and time-interval measurements in HP-IB systems, production test of oscillators and digital timing paths, and bench universal counting where remote programming is required.

Attenuator Family: continuously variable on A/B inputs Slope Selection: independent on A and B Time Interval Average LSD: 100 ns to 10 ps class Display Format: scientific notation except totalize Numeric input and mode limits follow HP 5315A/B family OEM tables applied to the HP-IB 5316A. Confirm exact option codes (Channel C, oven/TCXO) on the specific unit and use calibration data for aging.



MODEL

HP / Agilent 5316A

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

5316A

LISTING

<https://aumictechlabs.com/products/5316a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The HP/Agilent 5316A is a universal counter that performs frequency, time interval, period, ratio, and totalize measurements across multiple channels with selectable coupling and triggering. Its HP-IB (IEEE-488) interface enables remote control and automated data acquisition in ATE and laboratory environments. The instrument delivers 7-digit resolution through reciprocal counting and supports time interval measurements down to 10 ps averaging resolution. Technical

Specifications Frequency Measurements Channels A and B: DC to 100 MHz AC coupled: 30 Hz to 100 MHz Channel C (Option 003): 50 MHz to 1 GHz, prescaled by 10 Low-frequency resolution: 7 digits per second of gate time (reciprocal counting) Time Interval & Period Single-shot time interval: 100 ns to 10^5 seconds Time interval averaging resolution: 10 ps minimum Time interval delay (holdoff): 500 μ s to 20 ms nominally Minimum dead time (stop to start): 200 ns Period range: 10 ns to 10^5 seconds Input Characteristics (Channels A & B) Coupling: AC or DC, switchable Sensitivity: 10 mV rms sine to 10 MHz; 25 mV rms to 100 MHz; 75 mV peak-to-peak pulse (5 ns minimum pulse width) Adjustable sensitivity: up to 500 mV rms nominal Dynamic range: 30 mV to 5 V peak-to-peak (0–10 MHz); 75 mV to 5 V peak-to-peak (10–100 MHz) Trigger level: +2.5 V dc to –2.5 V dc variable Slope selection: + or – independent Input impedance: 1 M Ω nominal, <40 pF shunt Attenuator: X1 or X20 nominal Low-pass filter: Switchable on Channel A, 100 kHz nominal at –3 dB Time Base Options Standard: Internal crystal oscillator Option 001 (TCXO): 10 MHz, $<1 \times 10^{-7}$ /month aging, $\pm 1 \times 10^{-8}$ stability (0–40°C) Option 004 (Oven): 10 MHz, $<3 \times 10^{-8}$ /month aging, $\pm 2 \times 10^{-8}$ stability (0–50°C) Oscillator output: 10 MHz, 50 mV peak-to-peak into 500 Ω Key Features Six independent measurement functions: Frequency A, Frequency A Armed by B, Frequency C, Ratio A/B, Totalize, A Gated by B Independent slope and trigger-level control per channel Switchable input coupling and attenuation for signal conditioning Optional high-stability time base for precision metrology Typical Applications Automated frequency and timing calibration Laboratory characterization of oscillators and signal sources Time interval and jitter measurement Ratio and gated totalize counting in production test Compatibility & Integration HP-IB (IEEE-488) interface for remote instrument control and data logging in networked test systems.

5316A Characteristics / Specifications

PARAMETER	VALUE
ChannelAandBFrequency Capability	DC to 100 MHz (5315 family)
Frequency Measurement Range	0.1 Hz to 100 MHz
Period Range	10 ns to 10 s
Time Interval Range	100 ns to 10 ⁵ s
Time Interval Average Range	0 ns to 10 ⁵ s
Time Interval Holdoff	0 us to 20 ms
Ratio Measurement	supported A/B family
Totalize Function	supported
Remote interface	HPIB IEEE-488
Display Digits	up to 8-digit LED scientific notation
Sensitivity Sine to 10 MHz	10 mV rms
Sensitivity Sine to 100 MHz	25 mV rms
Pulse Sensitivity	75 mV peak to peak, 5 ns minimum width
Coupling	AC or DC selectable
Channel Input Modes	Separate or CommonAExternal Time Base Input: 10 MHz, 1 V rms into 500 ohm class
Oscillator Output	10 MHz rear panel
Basic TI Resolution	100 ns single shot with averaging improvement
Form Factor	system/rack metal instrument
Attenuator Family	continuously variable on A/B inputs
Slope Selection	independent onAandBTime Interval Average LSD: 100 ns to 10 ps class
Display Format	scientific notation except totalize

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 with the 5315 100 MHz universal-counter input set, with optional microwave ChannelCand full bus programmability for ATE.

Applications

Automated frequency and time-interval measurements in HP-IB systems, production test of oscillators and digital timing paths, and bench universal counting where remote programming is required.

Key Features

Standard HP-IB (IEEE-488) programming

Universal counter functions including frequency, period, TI, ratio, and totalize

Optional high-frequency ChannelCfor microwave carriers

Compatible measurement architecture with 5315-series input characteristics

Suitable for rack and system integration

Technical Specifications

Specifications

PARAMETER	VALUE
Form Factor	system/rack metal instrument
Attenuator Family	continuously variable on A/B inputs
Slope Selection	independent on A and B
Time Interval Average LSD	100 ns to 10 ps class
Display Format	scientific notation except totalize

Technical Specifications

PARAMETER	VALUE
Channel A and B Frequency Capability	DC to 100 MHz (5315 family)
Frequency Measurement Range	0.1 Hz to 100 MHz
Period Range	10 ns to 10 s
Time Interval Range	100 ns to 10^5 s
Time Interval Average Range	0 ns to 10^5 s
Time Interval Holdoff	0 us to 20 ms
Ratio Measurement	supported A/B family
Totalize Function	supported
Remote interface	HPIB IEEE-488
Display Digits	up to 8-digit LED scientific notation
Sensitivity Sine to 10 MHz	10 mV rms
Sensitivity Sine to 100 MHz	25 mV rms

PARAMETER	VALUE
Pulse Sensitivity	75 mV peak to peak, 5 ns minimum width
Coupling	AC or DC selectable
Channel Input Modes	Separate or Common A
External Time Base Input	10 MHz, 1 V rms into 500 ohm class
Oscillator Output	10 MHz rear panel
Basic TI Resolution	100 ns single shot with averaging improvement

Technical Specifications

PARAMETER	VALUE
ChannelAandBFrequency Capability	DC to 100 MHz (5315 family)
Frequency Measurement Range	0.1 Hz to 100 MHz
Period Range	10 ns to 10 s
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Time Interval Average Range	0 ns to 10^5 s
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Totalize Function	supported
Remote interface	HPIB IEEE-488
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Sensitivity Sine to 10 MHz	10 mV rms
Sensitivity Sine to 100 MHz	25 mV rms
Pulse Sensitivity	75 mV peak to peak, 5 ns minimum width
Coupling	AC or DC selectable
Channel Input Modes	Separate or CommonAExternal Time Base Input: 10 MHz, 1 V rms into 500 ohm class
Oscillator Output	10 MHz rear panel
Basic TI Resolution	100 ns single shot with averaging improvement

Optional Channel C: to 1 GHz class with family Option 003 styleCchannel

Specifications

PARAMETER	VALUE
Form Factor	system/rack metal instrument
Attenuator Family	continuously variable on A/B inputs
Slope Selection	independent onAandBTime Interval Average LSD: 100 ns to 10 ps class

PARAMETER	VALUE
Display Format	scientific notation except totalize

Notes

Numeric input and mode limits follow HP 5315A/B family OEM tables applied to the HP-IB 5316A. Confirm exact option codes (Channel C, oven/TCXO) on the specific unit and use calibration data for aging.

Ordering Information

OPTION	DESCRIPTION
Option 003	styleCchannel

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

788 S 500 E, Pleasant Grove, UT 84062
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<https://aumictechlabs.com>

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.