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Data Sheet

August 13, 2026

HP / AGILENT

HP / Agilent 4342A Q-METER

The HP/Agilent 4342A is an all-solid-state Q-meter for measuring quality factor, inductance, capacitance-related RF parameters, dissipation factor, and dielectric properties. It covers 22 kHz to 70 MHz in seven bands with Q from 5 to 1000 in four ranges. Push-button frequency and Q/Delta-Q range selection with automatic leveling replaces fragile thermocouple designs of earlier Boonton/HP 260A class meters. Option 001 lowers the frequency range to 10 kHz to 32 MHz.



MODEL

HP / Agilent 4342A

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

4342A

LISTING

<https://aumictechlabs.com/products/4342a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The HP/Agilent 4342A is a solid-state Q-meter engineered for precision measurement of quality factor (Q) in inductors, capacitors, and resonant circuits across a broad frequency spectrum. This instrument delivers direct-reading Q measurements, dissipation factor and dielectric constant determination for insulating materials, transformer coupling coefficient analysis, and RF resistance and reactance calculations. Elimination of fragile thermocouple components ensures operational durability across diverse test environments. Technical Specifications Frequency Range: 22 kHz to 70 MHz (standard); optional 10 kHz to 32 MHz (Option 001). RF accuracy $\pm 1.5\%$ from 22 kHz to 22 MHz; $\pm 2\%$ from 22 MHz to 70 MHz; $\pm 1\%$ at L-point reference. Seven sub-ranges provide approximately 1% resolution increments. Q Measurement: Range 5 to 1000 across four overlapping sub-ranges (5–30, 20–100, 50–300, 200–1000). Delta-Q (ΔQ) spans 0 to 100 with

±10% full-scale accuracy. Upper scale resolution 0.1 (0–10); lower scale 0.05 (0–3). Resonating Capacitor: Main dial 25 to 470 pF with ±1% or 1 pF accuracy (whichever greater); vernier dial ±5 to +5 pF with ±0.1 pF accuracy. Increments: 1 pF (25–30 pF), 2 pF (30–200 pF), 5 pF (200–470 pF) on main dial; 0.1 pF on vernier. Inductance (L): Direct-reading 0.09 μH to 1.2 H at seven specified frequencies. Power: 25 VA maximum (40 VA maximum per updated specification). 115 or 230 V ±10%, 50–400 Hz. Operating Temperature: 0°C to 50°C.

Key Features Push-button frequency range selection and Q/ΔQ switching Direct-reading expanded scale for Q measurements Solid-state signal detection - no thermocouple thermal drift Dual-dial capacitor tuning with fine vernier adjustment

Typical Applications Component Q and dissipation factor characterization Dielectric constant measurement of insulating materials Transformer coupling coefficient and frequency response analysis Mutual inductance and RF impedance determination

Compatibility & Integration Standard mains operation (115/230 V, 50–400 Hz) supports laboratory integration. Low power consumption accommodates multi-unit test setups.

Features & description

From manufacturer datasheet

Features

- Solid-state design without fragile thermocouple

Applications

- Q and inductance measurement of RF coils

4342A Characteristics / Specifications

PARAMETER	VALUE
Model	4342A
Manufacturer	Hewlett-Packard / Agilent / Keysight
Instrument Type	Q-Meter
Alias	HP 4342A; Agilent 4342A
Frequency range standard	22 kHz to 70 MHz
Frequency bands	7
Q range	5 to 1000
Q ranges count	4
Frequency accuracy 22 kHz to 22 MHz	1.5%
Frequency accuracy 22 MHz to 70 MHz	2%
Design	all solid-state
Leveling	automatic
Scale	direct-reading expanded
Delta Q	yes
Mains	115 or 230 V AC
Dimensions	425 × 138 × 414 mm
Form	benchtop tabletop
Measurement modes	Q, Delta Q, inductance, capacitance methods
Primary parameters	QLRFRXDF dielectric
Replacement lineage	supersedes Boonton/HP 260A thermocouple class
Introduction era	about 1970
Display	analog meter with automatic scale indication Notes Specs from HP historical Q-meter literature, radiomuseum notes, and reseller summaries. Confirm Option 001 and residual RF residual on the unit faceplate/manual.
Option 001	10 kHz to 32 MHz

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.

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Ordering Information

OPTION	DESCRIPTION
Option 001	lowers the frequency range to 10 kHz to 32 MHz.

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
sales@aumictech.com · +1 (484) 841-9341
<https://aumictechlabs.com>

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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.