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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent/Keysight 34420A

HP Agilent 34420A NanoVolt MicroOhm Meter The Agilent 34420A is a 7.5-digit nanoVolt/micro-Ohm meter optimized for low-level DC measurements. OEM literature cites an 8 nVpp noise floor class and 2 ppm basic 24-hour DC voltage accuracy for precision transducer and resistance work. Low-level DC voltage measurements, precision resistance and RTD characterization, and metrology bench work requiring nanovolt sensitivity. Nanovolt front end with low noise amplifiers The Agilent 34420A is a 7.5-digit nanoVolt/micro-Ohm meter optimized for low-level DC measurements. OEM literature cites an 8 nVpp noise floor class and 2 ppm basic 24-hour DC voltage accuracy for precision transducer and resistance work. Low-level DC voltage measurements, precision resistance and RTD characterization, and metrology bench work requiring nanovolt sensitivity. Nanovolt front end with low noise amplifiers Primary Measurement: Low level DC voltage



MODEL

**Agilent / Keysight
34420A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

34420A

LISTING

<https://aumictechlabs.com/products/34420a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight 34420A is a 7½ digit nanovolt/micro-ohm meter engineered for precision low-level measurements across voltage, resistance, and temperature applications. It delivers 100 pV sensitivity on DC voltage and 100 nΩ sensitivity on resistance, with exceptional 1.3 nVrms noise performance. The instrument combines a continuously integrating multi-slope III A-D converter

with selectable analog and digital filtering to extract signals buried in noise-prone environments.

Technical Specifications

DC Voltage Measurement: Ranges: 1 mV to 100 V Basic accuracy: 0.003% over 1 year; 2 ppm over 24 hours Input resistance: >10 G Ω (1 mV–10 V ranges); 10 M Ω $\pm$ 1% (100 V range, Channel 1) Input bias current: <50 pA at 25 °C

Resistance Measurement: Ranges: 1 Ω to 1 M Ω 4-wire and 2-wire selectable configurations Low Power Resistance and Voltage-Limited modes available Open circuit voltage: <14 V with selectable 20 mV, 100 mV, or 500 mV clamps

Temperature Measurement: SPRT (ITS-90): –190 °C to +660 °C RTD (Type α = 0.00385/0.00392): R_0 from 4.9 Ω to 2.1 k Ω with IEC-751 conversion Thermocouple types B, E, J, K, N, R, S, T with ITS-90 conversion Accuracy: 0.003 °C

Noise & Filtering: 1.3 nVrms; 8 nVpp performance Analog filter: 13 Hz low-pass, 2-pole (1 mV, 10 mV, 100 mV ranges) Digital filter: 10, 50, or 100 reading moving average

Key Features Built-in 2-channel low-noise scanner Ratio and difference measurement functions 1024-reading memory with statistics (Min, Max, Average, Peak-Peak, Standard Deviation) GPIB (IEEE-488) and RS-232 interfaces SCPI and Keithley 181 command compatibility Offset compensation for thermal EMF rejection

Physical & Electrical Dimensions: 104 mm H $\times$ 254 mm W $\times$ 374 mm D Weight: 7 lb Supply: 100 V/120 V/220 V/230 V/240 V $\pm$ 10%; 45–66 Hz and 360–440 Hz auto-sensed Front panel: Shielded, low-thermal 99% copper contacts

Typical Applications Precision research metrology, device characterization, low-noise bridge balancing, thermal measurements in cryogenic systems, and calibration verification in standards laboratories.

34420A Characteristics / Specifications

PARAMETER	VALUE
Digits	7.5
Instrument Type	NanoVolt microOhm meter
Noise Floor Class	8 nVpp
Basic 24 Hour DCV Accuracy Class	2 ppm
Primary Measurement	Low level DC voltage
Resistance Measurement	Micro-ohm capability
Input Amplifiers	Low noise
Remote Interface	GPIB
Display Digits	7.5
Application Focus	Low level DC and resistance
Thermal EMF Care	Required for nanovolt work
Front End	Nanovolt optimized
Accuracy Class Statement	2 ppm basic 24 hour DCV
Noise Class Statement	8 nVpp floor
Measurement Category	Precision DC
Typical Use RTD	Supported class
Typical Use Transducer	Supported class
Typical Use Metrology Bench	Supported class
Form Factor	Benchtop
Programming	SCPI class GPIB
Warm Up	Required for full nanovolt performance class
Low Level Ohms	Supported
Nanovolt Resolution	Yes

34420A Specifications

PARAMETER	VALUE
HP Agilent 34420A NanoVolt MicroOhm Meter	Overview
Applications	Low-level DC voltage measurements, precision resistance and RTD characterization, and metrology bench work requiring nanovolt sensitivity.
Key Features	7.5-digit resolution for low-level DC
Technical Specifications	Digits: 7.5

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.

Specifications	
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PARAMETER	VALUE
Digits	7.5
Instrument Type	NanoVolt microOhm meter
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Form Factor	Benchtop
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Warm Up	Required for full nanovolt performance class
Low Level Ohms	Supported
Nanovolt Resolution	Yes
Notes	
From Agilent 34420A product literature summarizing 7.5-digit nanovolt/micro-ohm performance. Full range tables and current-source ohms details are on the OEM data sheet; do not invent undocumented ranges.	

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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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.