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Data Sheet

August 15, 2026

AGILENT / KEYSIGHT

Agilent/Keysight E4990A

Keysight / Agilent E4990A Impedance Analyzer 20 Hz to 120 MHz The Keysight/Agilent E4990A is an auto-balancing-bridge impedance analyzer with upgradable frequency coverage from 20 Hz to 10/20/30/50/120 MHz. OEM data sheet tables rate basic impedance accuracy of $\pm 0.08\%$ (typical $\pm 0.045\%$), a 25 mOhm to 40 MOhm impedance range at 10% accuracy, and a built-in DC bias of 0 to ± 40 V / ± 100 mA. Passive component characterization, semiconductor C-V/impedance evaluation, dielectric and magnetic material measurements, and production inspection. The Keysight/Agilent E4990A is an auto-balancing-bridge impedance analyzer with upgradable frequency coverage from 20 Hz to 10/20/30/50/120 MHz. OEM data sheet tables rate basic impedance accuracy of $\pm 0.08\%$ (typical $\pm 0.045\%$), a 25 mOhm to 40 MOhm impedance range at 10% accuracy, and a built-in DC bias of 0 to ± 40 V / ± 100 mA. Passive component characterization, semiconductor C-V/impedance evaluation, dielectric and magnetic material measurements, and production inspection. Equivalent circuit analysis and limit test



MODEL

**Agilent / Keysight
E4990A**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

E4990A

LISTING

<https://aumictechlabs.com/products/e4990a-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Keysight E4990A Impedance Analyzer delivers high-precision impedance measurements across 20 Hz to 10/20/30/50/120 MHz with selectable frequency options. Built for R&D,

manufacturing, and quality assurance, this instrument combines $\pm 0.08\%$ basic accuracy (typical $\pm 0.045\%$) with flexible measurement configurations to characterize components, materials, and assemblies across impedance ranges from 25 m Ω to 40 M Ω . Technical Specifications Frequency Range 20 Hz to 10, 20, 30, 50, or 120 MHz (upgradable options) Impedance Measurement Accuracy: $\pm 0.08\%$ (typical $\pm 0.045\%$) Range: 25 m Ω to 40 M Ω (within 10% measurement accuracy) Parameters: $|Z|$, $|Y|$, θ , R, X, G, B, L, C, D, Q, Cp, Cs, Lp, Ls, Rp, Rs, Complex Z, Complex Y, Vac, Iac, Vdc, Idc DC Bias Voltage: 0 V to ± 40 V, 1 mV resolution, $\pm [0.1\% + (5 + 30 \times |I_{mon}|)]$ mV accuracy (typical) Current: 0 A to ± 100 mA, 40 μ A resolution, $\pm [2\% + (0.2 + |V_{mon}|/20)]$ mA accuracy (typical) AC Signal Source Voltage: 5 mVrms to 1 Vrms, 1 mV resolution Current: 200 μ Arms to 20 mArms, 20 μ A resolution Auto Level Control (ALC) maintains signal accuracy across frequency range Measurement Speed Option 120: 3 msec/point (fast mode, ≥ 100 kHz) Options 010/020/030/050: 30 msec/point (fast mode, ≥ 100 kHz) Enhanced speed option (Option 001) available Key Features Four-terminal pair measurement standard; 7-mm 1-port via 42942A Terminal Adapter Impedance probe support using 42941A accessory 10.4-inch color LCD touch screen with 4-channel, 4-trace display Equivalent circuit analysis with seven multi-parameter models Limit line testing for go/no-go production screening Handler interface for automated test system integration Specifications warranted at $23\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$ after 90 minutes warm-up Typical Applications Component characterization and validation Materials analysis and dielectric measurement Semiconductor device testing Manufacturing quality assurance Equivalent parameter extraction Compatibility & Integration Keysight 42942A Terminal Adapter for 7-mm 1-port measurements Keysight 42941A impedance probe support Handler interface integration for production automation

Features & description

From manufacturer datasheet

Built-in +/-40 V / +/-100 mA DC bias

Four channel four trace touch display Equivalent circuit analysis and limit test Technical Specifications
Model: E4990A Instrument Type: Impedance analyzer Frequency Range Maximum: 20 Hz to 120 MHz
with frequency option 120 Frequency Options: 20 Hz to 10/20/30/50/120 MHz (010/020/030/050/120)
Frequency Resolution: 1 mHz Basic Impedance Accuracy: +/-0.08% (typical +/-0.045%) Q Accuracy
Typical: +/-3% at Q=100, frequency <=10 MHz Impedance Range 10 Percent Accuracy: 25 mOhm to 40
MOhm Measurement Terminal: Four-terminal-pair BNC female Osc Level Voltage: 5 mVrms to 1 Vrms, 1
mV resolution Osc Level Current: 200 uArms to 20 mArms, 20 uA resolution Dc Bias Voltage: 0 to
+/-40 V, 1 mV resolution Dc Bias Current: 0 to +/-100 mA, 40 uA resolution Measurement Points: 2 to
1601 Channels Traces: 4 channel / 4 trace Measurement Time Fast Class: 3 ms/point at option 120 and
enhanced-speed options, freq >=100 kHz Display: 10.4 inch TFT color LCD with touch screen
Interfaces: USB LAN USBTMC GPIB 24-bit I/O Depth: 277 mm Weight: 14 kg Operating Temperature
Spec Class: 5 C to 40 C class Chassis Form: benchtop impedance analyzer Notes From Keysight
E4990A Impedance Analyzer data sheet. Frequency ceiling and enhanced-speed option 001 depend
on installed options; option 120 enables 7 mm / probe adapter paths.

E4990A Characteristics / Specifications

PARAMETER	VALUE
Model	E4990A
Instrument Type	Impedance analyzer
Frequency Range Maximum	20 Hz to 120 MHz with frequency option 120
Frequency Options	20 Hz to 10/20/30/50/120 MHz (010/020/030/050/120)
Frequency Resolution	1 mHz
Basic Impedance Accuracy	+/-0.08% (typical +/-0.045%)
Q Accuracy Typical	+/-3% at Q=100, frequency <=10 MHz
Impedance Range 10 Percent Accuracy	25 mOhm to 40 MOhm
Measurement Terminal	Four-terminal-pair BNC female
Osc Level Voltage	5 mVrms to 1 Vrms, 1 mV resolution
Osc Level Current	200 uArms to 20 mArms, 20 uA resolution
Dc Bias Voltage	0 to +/-40 V, 1 mV resolution
Dc Bias Current	0 to +/-100 mA, 40 uA resolution
Measurement Points	2 to 1601
Channels Traces	4 channel / 4 trace
Measurement Time Fast Class	3 ms/point at option 120 and enhanced-speed options, freq >=100 kHz
Display	10.4 inch TFT color LCD with touch screen
Interfaces	USB LAN USBTMC GPIB 24-bit I/O
Depth	277 mm
Weight	14 kg
Operating Temperature Spec Class	5 C to 40 C class
Chassis Form	benchtop impedance analyzer
Operating temperature	Spec Class: 5 C to 40 C class

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Operating temperature	Spec Class: 5 C to 40 C class
Operating Temperature	Spec Class: 5 C to 40 C class
Operating Temperature Spec Class	5 C to 40 C class
Chassis Form	benchtop impedance analyzer Notes From Keysight E4990A Impedance Analyzer data sheet. Frequency ceiling and enhanced-speed option 001 depend on installed options; option 120 enables 7 mm / probe adapter paths.

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	
Specifications	
PARAMETER	VALUE
Model	E4990A
Instrument Type	Impedance analyzer
Frequency Range Maximum	20 Hz to 120 MHz with frequency option 120
Frequency Options	20 Hz to 10/20/30/50/120 MHz (010/020/030/050/120)
Frequency Resolution	1 mHz
Basic Impedance Accuracy	+/-0.08% (typical +/-0.045%)
Q Accuracy Typical	+/-3% at Q=100, frequency <=10 MHz
Impedance Range 10 Percent Accuracy	25 mOhm to 40 MOhm
Measurement Terminal	Four-terminal-pair BNC female
Osc Level Voltage	5 mVrms to 1 Vrms, 1 mV resolution
Osc Level Current	200 uArms to 20 mArms, 20 uA resolution
Dc Bias Voltage	0 to +/-40 V, 1 mV resolution
Dc Bias Current	0 to +/-100 mA, 40 uA resolution
Measurement Points	2 to 1601
Channels Traces	4 channel / 4 trace
Measurement Time Fast Class	3 ms/point at option 120 and enhanced-speed options, freq >=100 kHz
Display	10.4 inch TFT color LCD with touch screen
Interfaces	USB LAN USBTMC GPIB 24-bit I/O
Depth	277 mm
Weight	14 kg
Operating Temperature Spec Class	5 C to 40 C class
Chassis Form	benchtop impedance analyzer
Notes	
From Keysight E4990A Impedance Analyzer data sheet. Frequency ceiling and enhanced-speed option 001 depend on installed options; option 120 enables 7 mm / probe adapter paths.	

Ordering Information

OPTION	DESCRIPTION
Option 120	Frequency Options: 20 Hz to 10/20/30/50/120 MHz (010/020/030/050/120)
Option 001	depend on installed options; option 120 enables 7 mm / probe adapter paths.

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 ·
30-day returns
NAICS 423690 · 811210 · 541380
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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.