

KEYSIGHT TECHNOLOGIES (AGILENT HP)

E4990A

The Keysight E4990A is a versatile benchtop impedance analyzer designed for evaluating components, materials, and circuits. It offers continuous frequency coverage from 20 Hz up to 120 MHz (depending on the installed option) and provides excellent measurement performance with a basic impedance accuracy of 0.08% (0.045% typical). Built as the successor to the industry-standard 4294A, it features a wide impedance measurement range, extensive DC bias capabilities, and a large touch-screen interface for advanced equivalent circuit analysis and component evaluation.

SPECIFICATIONS

General

Interfaces	USB (Host/Device), LAN, GPIB, Handler
Display	10.4-inch color TFT LCD touch screen

Physical

Power Supply	90 to 264 VAC, 47 to 63 Hz
Operating Temperature	5 °C to 40 °C °C

Measurement Parameters

Impedance (Z) Range	25 mΩ to 40 MΩ (10% measurement accuracy range)
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Test Frequency

Frequency Range	20 Hz to 10 / 20 / 30 / 50 / 120 MHz (by option)
Frequency Resolution	1 mHz

Test Signal (Source)

Test Signal Voltage Range	5 mVrms to 1 Vrms
Internal DC Bias Voltage Range	-40 V to +40 V
Internal DC Bias Current Range	-100 mA to +100 mA

Measurement Accuracy and Speed

Basic Impedance Accuracy	0.08% (0.045% typical)
Measurement Time (Fast)	3 ms / point
Trigger Modes	Internal, External, Manual, Bus

Sweep Characteristics

Sweep Parameters	Frequency, AC voltage, AC current, DC bias voltage, DC bias current
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Calibration and Compensation

Standard Calibration	Open, Short, Load
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Display and Analysis

Equivalent Circuit Analysis	Supported (3-element and 4-element models)
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Environmental

Storage Temperature	-10 °C to 60 °C
Operating Altitude	Up to 2,000 meters

Sweep & Measurement

Maximum Sweep Points	1601 points
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Configuration

Channels	4 channels
Traces per Channel	4 data traces and 4 memory traces

DC Bias

DC Bias Voltage Resolution	1 mV
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Test Signal

Auto Level Control (ALC)	Voltage and Current
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Test Terminals

Test Terminal Configuration	4-Terminal Pair (4TP)
Test Terminal Connectors	BNC female

Inputs & Outputs

External Reference Input Frequency	10 MHz
Internal Reference Output Frequency	10 MHz
External Trigger Input	BNC female, TTL/HCMOS compatible

TECHNOLOGY

Impedance Analyzer

APPLICATIONS

Passive component evaluation, material testing, semiconductor C-V measurement, resonator analysis

Generated by SpecAtlasHub (specatlashub.com). Specifications are compiled from available sources and are subject to change — verify critical values against the manufacturer before purchase.