

KEYSIGHT TECHNOLOGIES (AGILENT HP)

34410A

The Keysight Technologies (formerly Agilent) 34410A is a high-performance 6½ digit digital multimeter designed for rapid triggering and high-throughput system applications. Building on the industry-standard 34401A, the 34410A delivers up to 10,000 readings per second at 5½ digits, features standard USB, LAN, and GPIB connectivity, and supports advanced dual-display measurements, temperature, and capacitance testing.

SPECIFICATIONS

General

Interfaces	GPIB (IEEE-488.2), USB 2.0 (USB-TMC), LAN (10/100 Base-T, LXI Class C compliant)
Display	Dual line vacuum fluorescent display (VFD)
Warm-up Time	1 hour to full specifications
Real-Time Clock	Battery-backed real-time clock

Physical

Operating Temperature	0 °C to 55 °C °C
Weight	3.72 kg kg

DC Voltage Specifications

DC Voltage Ranges	100 mV, 1 V, 10 V, 100 V, 1000 V
DC Voltage Resolution	100 nV (on 100 mV range)
Input Resistance	10 MΩ ±1% or >10 GΩ (selectable for 100 mV, 1 V, 10 V ranges)
Best 1-Year DC Voltage Accuracy	±(0.0030% of reading + 0.0005% of range)
Temperature Coefficient	(0.0005% of reading + 0.0001% of range) per °C (outside 18 °C - 28 °C)
Normal Mode Rejection Ratio (NMRR)	60 dB for 50/60 Hz (with aperture >= 1 PLC)
Common Mode Rejection Ratio (CMRR)	140 dB for DC (with 1 kΩ LO lead unbalance)

AC Voltage Specifications

AC Voltage Ranges	100 mV, 1 V, 10 V, 100 V, 750 V
AC Voltage Resolution	100 nV (on 100 mV range)
Measurement Method	AC-coupled True RMS
AC Frequency Bandwidth	3 Hz to 300 kHz

Resistance Specifications

Resistance Ranges	100 Ω , 1 k Ω , 10 k Ω , 100 k Ω , 1 M Ω , 10 M Ω , 100 M Ω , 1 G Ω
Resistance Resolution	100 $\mu\Omega$ (on 100 Ω range)
Input Protection	1000 V on all ranges
Best 1-Year Resistance Accuracy	$\pm(0.010\%$ of reading + 0.001% of range)

DC & AC Current Specifications

DC Current Ranges	100 μA , 1 mA, 10 mA, 100 mA, 1 A, 3 A
AC Current Ranges	100 μA , 1 mA, 10 mA, 100 mA, 1 A, 3 A
Current Resolution	100 pA (on 100 μA range)
Best 1-Year DC Current Accuracy	$\pm(0.05\%$ of reading + 0.005% of range)

Frequency, Period & Diode/Continuity

Frequency Range	3 Hz to 300 kHz
Period Range	3.33 μs to 333 ms
Diode Test Current	1 mA (fixed)
Diode Open Circuit Voltage Limit	5 V
Continuity Threshold	1 Ω to 1000 Ω (adjustable)

Capacitance & Temperature Specifications

Capacitance Ranges	1 nF, 10 nF, 100 nF, 1 μF , 10 μF , 100 μF , 1000 μF , 10,000 μF
Capacitance Best 1-Year Accuracy	$\pm(1.0\%$ of reading + 0.1% of range)
Supported Temperature Sensors	RTD (PT100) and Thermistor (2.2 k Ω , 5 k Ω , 10 k Ω)

System Speeds & Digitizing

Maximum Reading Rate (to Memory)	10,000 readings/s at 5½ digits
Maximum Reading Rate (to Bus)	10,000 readings/s at 5½ digits
Aperture / Integration Time Options	0.006 PLC to 100 PLC
Autozero Settings	Off, On, Once
Internal Reading Memory Buffer	50,000 readings

Connectivity & Software Integration

Web Browser User Interface	Yes, built-in LAN web interface
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Physical and Power Specifications

Storage Temperature Range	-40 °C to 70 °C
Safety Certifications	IEC 61010-1, EN 61010-1, UL 61010-1, CAN/CSA-C22.2 No. 61010-1

DC Voltage

DC Input Bias Current	< 30 pA at 25 °C
Maximum DC Input Voltage	1000 V on all ranges

AC Voltage

Maximum AC Input Voltage	750 V rms (1000 V peak)
AC Bandwidth Filter Settings	3 Hz, 20 Hz, 200 Hz

Resistance

Offset Compensated Ohms (OCO)	Available on 100 Ω , 1 k Ω , and 10 k Ω ranges
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System & Connectivity

LXI Compliance	LXI Class C, Version 1.0
Emulation Modes	Agilent 34401A SCPI compatibility

Power

Power Line Frequency	45 Hz to 66 Hz and 360 Hz to 440 Hz (automatically sensed)
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Environmental

Pollution Degree	Pollution Degree 2
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Measurement Technology

Frequency Measurement Method	Reciprocal counting technique
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Resistance Measurement

Maximum 4-Wire Lead Resistance	10% of range per lead (100 Ω , 1 k Ω ranges), 1 k Ω per lead (other ranges)
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Front / Rear Panel Features

Input Terminals Selection	Front / Rear switchable from front panel
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Software & Connectivity

USB Connection Class	USB-TMC
Ethernet Protocols	VXI-11, Sockets
LAN Speed	10/100 Base-T

AC Current

AC Current Bandwidth	3 Hz - 10 kHz
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