

KEITHLEY

2001

The Keithley 2001 is a high-performance 7.5-digit digital multimeter designed for precision testing and measurement. Featuring a true 28-bit A-to-D converter, it delivers exceptional resolution without the need for averaging, ensuring high-speed measurement integrity. Uniquely equipped with an internal peak detector, it can capture transients and spikes down to 1 μ s without requiring a separate oscilloscope.

SPECIFICATIONS

General

Interfaces	IEEE-488.2 (GPIB)
Display	Multi-line Vacuum Fluorescent Display (VFD)
Warm-Up Time	2 hours to rated accuracy

Physical

Power Supply	90V to 134V or 180V to 250V, 50Hz/60Hz/400Hz, 50VA max
Operating Temperature	0 to +50 °C
Dimensions (W×H×D)	214 × 90 × 369 mm
Weight	4.2 kg
Input Terminals	Selectable Front and Rear panel inputs

General Characteristics

Resolution (Digits)	7.5
A/D Converter	28-bit
Primary Measurement Functions	DC/AC Voltage, DC/AC Current, 2-Wire/4-Wire Resistance, Frequency, Period, Peak Spikes

DC Voltage

Measurement Ranges	200 mV, 2 V, 20 V, 200 V, 1000 V
Maximum Input Voltage	1000 V
Single-Range Dynamic Range	1 μ V to 20 V
Input Impedance	> 10 G Ω (200 mV to 20 V ranges)

DC Current

Maximum Input Current	2 A
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Frequency and Period

Frequency Range	1 Hz to 15 MHz
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Peak Detector Capabilities

Minimum Spike Duration (Single)	1 μ s
Maximum Frequency (Repetitive Spikes)	1 MHz

Measurement Speed and Timing

Maximum Reading Rate (Readings/Sec)	2000 (at 4.5 digits)
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Connectivity and Interfaces

Programming Languages / Command Sets	SCPI
Scanner / Multiplexer Card Slots	Built-in 10-channel scanner option available

Environmental

Storage Temperature	-40°C to +70°C
Operating Humidity	80% RH up to 35°C, 70% RH up to 50°C

Performance

DCV Common Mode Rejection Ratio (CMRR)	> 140 dB (at DC, 50Hz, or 60Hz, with 1 k Ω unbalance)
DCV Normal Mode Rejection Ratio (NMRR)	> 60 dB (at 50Hz or 60Hz)

Inputs & Outputs

External Trigger Input	TTL compatible, negative going edge
Voltmeter Complete Output	TTL compatible, negative going pulse

Measurement Capabilities

Resistance Measurement	2-wire and 4-wire (with offset compensation)
Resistance Ranges	20 Ω to 1 G Ω
DC Current Ranges	200 μ A to 2 A
AC Current Ranges	200 μ A to 2 A
AC Voltage Bandwidth	1 Hz to 2 MHz
AC Voltage Measurement Types	AC-coupled True RMS, AC+DC True RMS
AC Crest Factor	Up to 5:1 at full scale

Features

Math Functions	mX+b, percent, limit testing, MIN/MAX/AVG, dB, dBm
Filter Types	Moving average, repeating average

TECHNOLOGY

Digital Multimeter

APPLICATIONS

Precision test systems, benchtop measurement, transient and spike detection, general purpose metrology

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