

**FLUKE®**

**Calibration**

# Specialty Instruments from Keithley

Offered by your Fluke Calibration  
sales representative



# Specialty Instruments from Keithley

To bring our customers the highest level of measurement capabilities, Fluke Calibration is proud to offer these precision metrology-grade products from Keithley Instruments.



## 6517B Electrometer/High Resistance Meter

The 5½-digit Model 6517B Electrometer/High Resistance Meter offers accuracy and sensitivity specifications unmatched by any other meter of this type. It also offers a variety of features that simplifies measuring high resistances and the resistivity of insulating materials. With reading rates of up to 425 readings/second, the Model 6517B is also significantly faster than competitive electrometers, so it offers a quick, easy way to measure low-level currents.

- Measures resistances to  $10^{16} \Omega$
- 1 fA – 20 mA current measurement range
- <20  $\mu V$  burden voltage on lowest current ranges
- 200 T $\Omega$  input impedance
- <3 fA bias current
- Up to 125 rdgs/s
- 0.75 fA p-p noise
- Built-in  $\pm 1$  kV voltage source
- Unique voltage reversal method for high resistance measurements



## 6487 Picoammeter/Voltage Source

The 5-1/2 digit Model 6487 Picoammeter and Voltage Source provides 10 fA resolution, superior sensitivity, voltage sweeping and alternating voltage resistance measurements making it well suited for low level current measurements. This cost-effective instrument can measure currents from 20 fA to 20 mA, take measurements at speeds up to 1000 readings per second, and source voltage from 200  $\mu V$  to 505 V.

- Resistance/relativity measurements
- 10 fA resolution
- 5-1/2 digit resolution
- <200  $\mu V$  burden voltage
- Alternating voltage method ohms measurements
- Automated voltage sweeps for I-V characterization
- Floating measurements up to 500 V
- Up to 1,000 readings/second
- Analog output

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## About Keithly Instruments

Keithley is renowned as a leader in low-level precision electrical measurements, and these products present an opportunity to help you further reduce uncertainties in your lab.



## 6220/6221 DC and DC/AC Current Sources

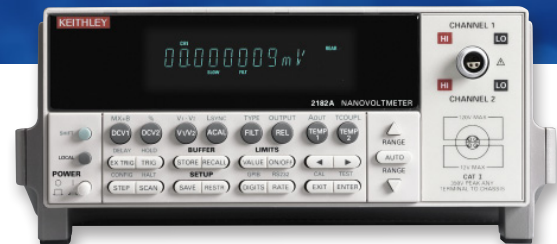
The 6220 DC Current Source and Model 6221 AC and DC Current Sources combine ease of use with exceptionally low-current noise. High sourcing accuracy and built-in control functions make the Models 6220 and 6221 ideal for resistance measurements using the delta mode, pulsed measurements and differential conductance measurements. These 622X sources, when linked to the Model 2182A Nanovoltmeter, provide control with excellent measurement results for low-value, low-noise resistance measurements.

### 6220 and 6221

- Source and sink (programmable load) 100 fA to 100 mA
- $10^{14} \Omega$  output impedance ensures stable current sourcing into variable loads
- 65,000-point source memory allows executing comprehensive test current sweeps directly from the current source
- Reconfigurable triax output simplifies matching the application's guarding requirements
- Delta mode enabling of 2182A Nanovoltmeter for ultra-low noise-voltage and resistance measurement capability

### 6221 only

- Sourcing of ac currents from 4 pA to 210 mA up to 100 KHz
- Built-in arbitrary waveform generator with 1 MHz to 100 kHz at 10 msp/s update
- Four user defined waveforms plus sine, square and ramp
- Programmable pulse widths to 50  $\mu$ sec (micro-seconds) for effective control of power dissipation



## 2182A Nanovoltmeter

The two-channel Model 2182A Nanovoltmeter is optimized for making stable, low-noise voltage measurements and for characterizing low-resistance materials and devices reliably and repeatably. It provides higher measurement speed and significantly better noise performance than alternative low-voltage measurement solutions.

- 7 1/2 digit resolution provides 1 nV sensitivity on 10 mV setting
- High accuracy:  $\pm 2$  ppm rdg
- 3x lower noise than the Agilent 34420A at 1 PLC
- Make low-noise measurements at high speeds, typically just 15 nV p-p noise at 1s response time, 40-50 nV p-p noise at 60 ms
- Delta mode coordinates measurements with a reversing current source at up to 24 Hz with 30 nV p-p noise (typical) for one reading; averages multiple readings for greater noise reduction
- Synchronization to line provides 110 dB NMRR and minimizes the effect of ac common-mode currents
- Dual channels support measuring voltage, temperature, or the ratio of an unknown resistance to a reference resistor
- Built-in thermocouple linearization and cold-junction compensation

**Fluke Calibration.** *Precision, performance, confidence.™*

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