Which Keithley nanotechnology solution is best for your sourcing or measurement application?

Keithley instrumentation is being used in a growing list of nanotechnology research and production test settings. The applications shown here are only a sampling of the nanotechnology test and measurement tasks for which our instruments and systems are suitable. If your tests require sourcing or measuring low level signals, Keithley instrumentation can help you perform them more accurately and cost-effectively.

Want seamless control over current pulse sourcing and measurement?

When linked together, the **Model 6221 AC+DC Current Source** and **Model 2182A Nanovoltmeter** are designed to operate like a single instrument to make high speed pulse mode measurements. **Learn more on pages 9, 13, and 14.**

Studying highly resistive nanowires?

The **Model 6430 Sub-Femtoamp Remote SourceMeter®** instrument's low noise and drift performance make it ideal. It measures currents with 400aA (400×10^{-18}A) sensitivity. **Learn more on page 12.**

Trying to characterize high resistance nanomaterials?

The **Model 6517A Electrometer/High Resistance Meter's** built-in 1kV source, 200TΩ input resistance, and low current sensitivity make it an ideal solution. **Learn more on page 15.**

Want low current measurements without the high price tag?

With <200µV burden voltage, the cost-effective **Model 6485 Picoammeter** ensures accurate low current measurements, even in circuits with very low source voltages. **The Model 6487 Picoammeter/Voltage Source** adds a 500V bias source for high resistance and resistivity measurements. **Learn more on page 16.**

Polymer Nanofibers/ Nanowires — High R/Low I, 1MΩ to 10^{16}Ω

Semiconductor Nanowires — Low Power, R < 10MΩ, Pulse

Carbon Nanotubes — Low Power, R < 100kΩ

Single Electron Devices/Transistors — Low I, Low V

Carbon Nanotube Field Effect Transistors — Low I, Pulse

Nanobatteries — Low I, Low Power

Nanophotonics — Low I, Pulse

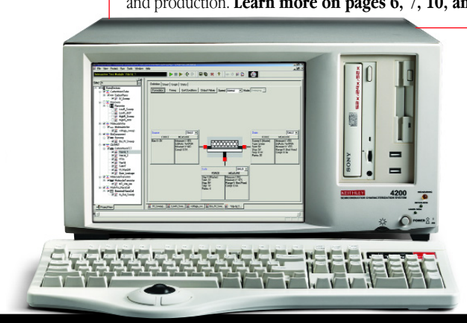
Synthesized Molecular Electronics/Wires — Low I, Low Power

Nanosensors & Arrays — Low I, Low V

Thermal Transport — Low I, Low Power, Pulse

Want multiple channels of sourcing and measurement?

The fully integrated **Model 4200 Semiconductor Characterization System** brings together up to eight channels in one easy-to-operate package. It's used in many phases of nano research, development, characterization, and production. **Learn more on pages 6, 7, 10, and 11.**



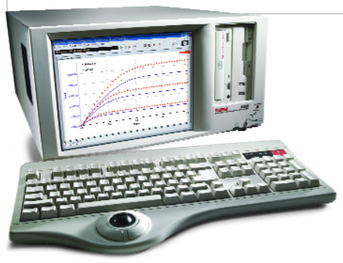
Need tighter control over your pulses?

Our newest pulse generation solutions, **Series 3400 Pulse/Pattern Generators**, can output voltage pulses with widths as short as 3ns, with independently adjustable rise and fall times as short as 2ns. **Learn more on pages 9 and 19.**

The Model 4200-SCS conforms to and supports the new IEEE Standard P1650™-2005: "IEEE Standard Test Methods for Measurement of Electrical Properties of Carbon Nanotubes," the world's first electrical measurement standard for these devices.

Troubled by overheating problems?

The **Model 4200-PIV Option** for the Model 4200-SCS combines a pulse generator, an oscilloscope, a specialized interconnect, and powerful software to control pulse I-V testing of devices with self-heating issues. **Learn more on page 8.**



Testing lots of devices?

Series 2600 System SourceMeter instruments let you make precision DC, pulse, and low frequency AC source-measure tests quickly, easily, and economically. They offer virtually unlimited flexibility to scale the system's channel count up or down to match changing application needs. **Learn more on page 17.**

Looking for just a single channel?

Each **Series 2400 SourceMeter instrument** is a complete, single-channel DC parametric tester. Choose from a variety of ranges and functions to suit specific application needs. The Model 2430 can be programmed to produce individual pulses or pulse trains up to 5ms wide. **Learn more on page 18.**

Need really high current pulses?

The **Model 2520 Pulsed LIV Test System** can source pulses up to 5A with programmable pulse on times from 500ns to 5ms. A remote test head minimizes cable effects and maximizes the signal-to-noise ratio for greater pulse measurement accuracy. **Learn more on page 19.**

To discuss how we can work with you to configure a solution for a specific nanotechnology application, contact Keithley's Applications Engineering department and ask to speak with one of our nano measurements experts. In the U.S., call us toll free at 1-888-KEITHLEY (534-8453). Or contact one of the sales offices listed on the back cover for guidance.