

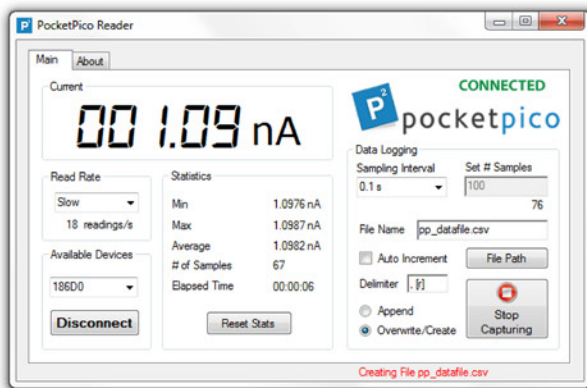
PocketPico Picoammeter

The Portable, Easy to Use, and Affordable Low Current Meter



Bench-Top Accuracy in the Palm of Your Hand

The PocketPico Picoammeter is dedicated to the task of measuring very low electrical current. When connected over USB, the PocketPico accurately measures, displays, and records DC current via your computer and display. Use the PocketPico with the bundled PocketPico Reader software, or with common programming environments like LabVIEW and MATLAB.



Applications

- Photodiode & dark current measurements
- Ion beam monitoring and measurement
- Optical fiber alignment
- Component and device I-V characterization
- Materials resistance testing
- Leakage current testing
- Mixed-signal circuit testing & analysis
- Teaching labs
- Product demonstrations

Technical Specs

Min test current	20pA
Max test current	2mA
Ranging	Continuous (single range)
Accuracy	± 0.5% of input
Resolution	4½ digits, 100fA min
Sampling rate	15,000/s (internally), 1,100/s (to USB)
Maximum voltage	5V DC
Input voltage burden	<10mV
Measurement method	Unidirectional sink (positive current only)
Analog input	BNC
Digital output & power	USB 2.0
Communication interface	Virtual serial port
Command interface	SCPI subset
Included software	PocketPico Reader™
Software compatibility	LabVIEW, MATLAB & others
Size	2.7 × 1.4 × 3.7in (69 × 36 × 94mm)
Weight	8oz (227g)
Included accessories	Low-noise BNC cable, USB cable, custom travel case, installation instructions, calibration certificate
Operating system	Windows XP or later

ASSEMBLED IN  USA

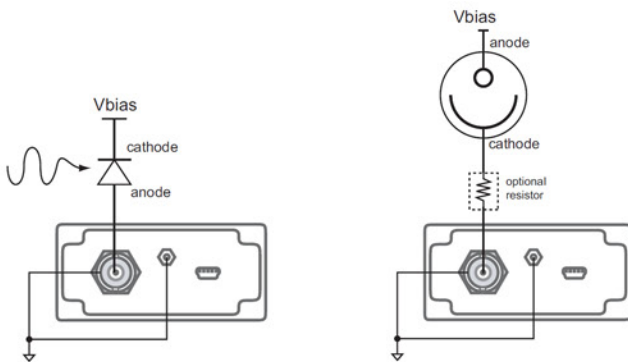


“PocketPico has proved to be ideal for our testing of photodiodes. It is easy to use and we were able to integrate it into our existing test set up quickly and with minimal effort.”

- Graham C. Systems Engineer

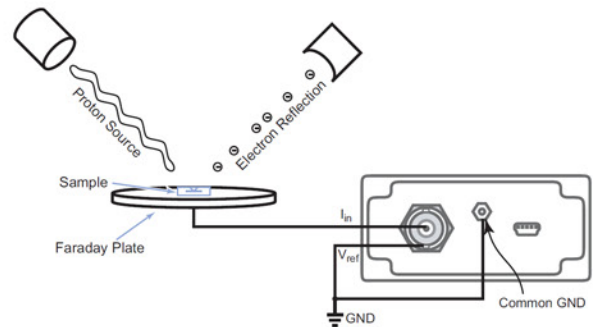
COMMON PICOAMMETER APPLICATIONS

Optical Measurements



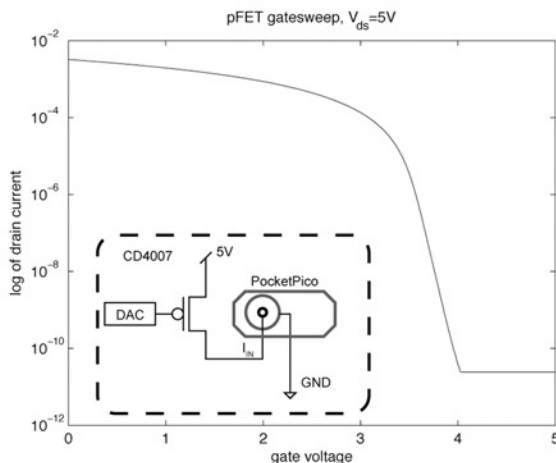
The PocketPico Picoammeter can be used for the analysis of the exponential behavior of photodiodes and phototubes. The exponential current relationship to optical intensity can be used to characterize the performance of a photodiode (above left). The Picoammeter may also be used to measure the current induced by optical phonons in a phototube (above right).

Ion Beam Alignment



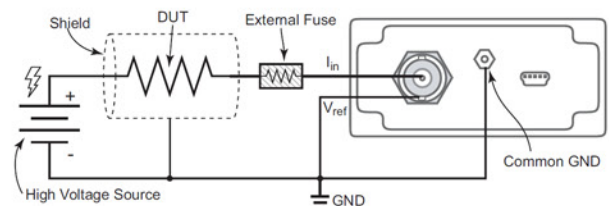
The PocketPico Picoammeter can be used to align any beam of positively charged ions. A ion source creates photo-generated electrons upon impact with a sample. When the electrons are reflected into an electron multiplier for analysis, the sample and plate will act as a Faraday plate, generating a positive current. Using the Picoammeter, one can measure the induced current to correctly align the ion stream.

MOS Transistor Characteristics



The PocketPico Picoammeter can be used to measure the current through MOSFET devices in both above-threshold and sub-threshold operation. The sub-threshold region is useful for extracting device characteristics, such as body effect, channel charge sharing, and leakage current.

Resistance Measurements



Resistance, including leakage current and capacitor leakage, can be measured using the PocketPico Picoammeter by setting a voltage, measuring the current and calculating the resistance. The Picoammeter can be used to measure very high resistances with a high voltage source; an external fuse is recommended to provide a level of protection against accidental shorts.

Current Direction

The PocketPico Picoammeter uses log compression and a current sink measurement technique. To function properly, current must flow into the ammeter, i.e. a positive current. The reference voltage for the summing node must be less than the voltage at the source.