

## 2182A Nanovoltmeter



### 30-SECOND SELL

“The two-channel Model 2182A nanovoltmeter measurement tool makes stable, low noise voltage measurements for characterizing low resistance materials and devices with reliability and repeatability. With a DMM-like user interface, the Model 2182A Nanovoltmeter is ideal for characterizing superconductors, nanomaterials, and many other low resistance, highly conductive materials.”

### PRODUCT HIGHLIGHTS

- Low noise voltage measurements at high speeds
- Delta mode coordinates measurements with a reversing current source at up to 24Hz with 30nV p-p noise (typical) for one reading. Averages multiple readings for greater noise reduction
- Built-in thermocouple linearization and cold junction compensation
- Dual channels



Comparison of the Model 2182A's DC noise performance with a nanovolt/micro-ohmmeter's.



Results from a Model 2182A and Model 6220 using the delta mode to measure a 10mΩ resistor with a 20μA test current.

MODEL	STOCK CODE	VOLTAGE	TEMPERATURE	RESISTANCE	CHANNELS	CURRENT SOURCE
2182A	2074729	1nV – 100V	-200°C – 1820°C		2	—
6220/2182A*	2131305	1nV – 100V	-200°C – 1820°C	10nΩ – 1GΩ	—	±100fA – 100mA
6221/2182A*	2074761	1nV – 100V	-200°C – 1820°C	10nΩ – 1GΩ	—	±100fA – 100mA, with 1mHz – 100kHz, 10Msamples/s, 64k arbitrary waveform generator

\*Delta Mode Resistance Measurement System

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## RECOMMENDED ACCESSORIES

4288-1	Single Fixed Rack Mounting Kit	2131276
4288-2	Dual Fixed Rack Mounting Kit	2131277
KPCI-488LPA	IEEE-488 Interface/Controller for the PCI Bus	2077470
KUSB-488B	IEEE-488 USB-to-GPIB Interface Adapter	2077471
2107-30	Low Thermal Input Cable with spade lugs, 9.1m (30 ft)	NIC
2182-KIT	Low Thermal Test Lead Kit	NIC
2187-4	Input Cable with safety banana plugs	NIC
2188	Low Thermal Calibration Shorting Plug	NIC
7007-1	Shielded GPIB Cable, 1m (3.2 ft)	2131242
7007-2	Shielded GPIB Cable, 2m (6.5 ft)	2131243
7009-5	Shielded RS-232 Cable, 1.5m (5 ft)	NIC
8501-1	Trigger Link Cable, 1m (3.2 ft)	2131252
8501-2	Trigger Link Cable, 2m (6.5 ft)	2131253
8503	Trigger Link Cable to 2 male BNC connectors	2131255

## SHIPS WITH PRODUCT

- 2107-4 Low Thermal Input Cable with Spade Lugs, 1.2m (4 ft)
- User Manual
- Service Manual
- Contact Cleaner
- Power Cord
- Alligator Clips


## ANOTHER PRODUCT FOR CONSIDERATION



Also consider **6220/6221 AC/DC Current Sources** for creating a powerful low power, low resistance measurement system.

**See page 94**

## TOOLS FOR THE CUSTOMER

 Data Sheet

FOR MORE INFO VISIT  
[TEK.COM/LOW-LEVEL-SENSITIVE-AND-SPECIALTY-INSTRUMENTS/NANOVOLTMETER-MODEL-2182A](http://TEK.COM/LOW-LEVEL-SENSITIVE-AND-SPECIALTY-INSTRUMENTS/NANOVOLTMETER-MODEL-2182A)

## 3 Reasons to Buy this Product

- 1 Make sensitive low voltage measurements at higher speeds without compromising accuracy. Measure voltage, temperature, or the ratio of an unknown resistance to a reference resistor with the second channel.
- 2 The DMM-like front panel reduces user learning curves and time to answer. The built-in thermocouple linearization and cold junction compensation eliminates the need for external CJ compensation solutions, and linearizing thermocouple voltage measurements to obtain a temperature reading.
- 3 Keithley is the trusted name for low voltage / low resistance measurements.