



Ground Zero Electrostatics PRS-812 Resistance Meter Set

PRS-812 Resistance Meter Set Portable, battery operated ohmmeter



Item Number
PRS-812

The PRS-812 is a constant voltage, wide range ohmmeter with data logging and calculating capabilities. Fully portable and battery operated, the PRS-812 measures resistance from <0.1 to 1.0×10^{12} ohms with measurement accuracy of $\pm 5\%$. It can be operated in fully Automatic, Automatic, -Manual and Manual modes.

This sophisticated instrument digitally displays measurements in ohms, kilohms, megohms, gigohms and terohms, and in exponential format, e.g., $1.5E8$.

It simultaneously displays data with a fully synchronous analog scale using $\times 1$, $\times 10$ and $\times 100$ multipliers, and a bank of color coded LED's (<103 to >1012 Ohms). Multiple test voltages include 0.01-10V, constant 10V and 100V ranges, which may be selected automatically by the instrument to comply with industry measurement practices, or manually by the operator.

The PRS-812 records and stores up to 80 measurements, and calculates minimum, maximum and average of all stored data.

Contents

- ☀ PRS-812 Resistance Meter with 2 each 9 Volt batteries
- ☀ PRS-800L 10 foot Silicone Test Lead (2)
- ☀ PRS-801CC Calibration Shunt
- ☀ PRS-800INS Insulated Plate
- ☀ PRS-800MTL Metal Plate
- ☀ PRS-801BC Bulldog Clip
- ☀ PSI-870MAC Metal Clip (2)
- ☀ Operator's Manual

Options

- ☀ PMK-151 Carrying Case with Handle
- ☀ PRS-801-W 5 lbs Conductive Rubber Electrodes
- ☀ PRF-911 Concentric Ring Set

Packaging

Weight: 4 lbs (1.8 kg)
Length: 15.5 Inches (39 cm)
Width: 11.5 Inches (29 cm)
Height: 4 Inches (10 cm)

Fully automatic, the PRS-812 controls test voltage, resistance ranging and electrification period to make the most accurate and repeatable measurements available to ESD Auditors and technicians.

Specifications

Range:

Optimal Resistance Range from <0.1 ($1.0E-1$) Ohms to 1 Tera ohms ($1.0E+12$ ohms). Maximum resistance indication: 200 Tera ohms ($2.0E+14$ ohms).

Test Voltages:

Automatic mode Default: <0.01 to 10 volts Variable $1.0E-1$ to $1.0E+4$ Ohms
Constant Voltage 10 volts $\pm <0.2$ volts $1.0E+4$ to $1.0E+6$ Ohms
At 10 & 100 Volts 100 volts $\pm <2.0$ volts $1.0E+6$ to $2.0E+14$ Ohms

Manual Mode:

< 0.01 to 10 volts Variable $1.0E-1$ to $1.0E+4$ Ohms
10 volts $\pm <0.2$ volts $1.0E+2$ to $1.0E+9$ Ohms
100 volts $\pm <2.0$ volts $1.0E+5$ to $2.0E+14$ Ohms

Accuracy:

Overall: $\pm <5\%$ at ambient conditions (at 23°F and 30% Rh).

Specific Range Tolerances:

$1.0E-1$ to $1.0E+1$ ohms: $\pm 5\%$ Corrected for Test Lead Resistance
 $1.0E+1$ to $1.0E+12$ ohms: $\pm 2.0\%$ with 10-foot Test Leads
 $1.0E+12$ to $2.0E+14$ ohms: $> \pm 50\%$

Display:

Multi-function 2-5/8" x 1-5/8" Liquid Crystal Display with 0.5" digit height. Displays 3-1/2 digits in Ohms, or 1.0EXX in exponential format. Ohms Display indicators: W, KW, MW, GW and TW. Includes 19-segment analog scale (1-10 with 0.5 indication) with $\times 1$, $\times 10$, & $\times 100$ multipliers. Number of Data Points in Memory (0 - 80). Automatic Electrification Time (seconds), or Time required to Manually obtain steady state measurement. Displays data HOLD, BATTERY status, MIN, MAX, AVG, REC and Test Voltage (<10 , 10, or 100 V)

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Ground Zero Electrostatics PRS-801 Resistance System Set

SPECIFICATIONS

LED Indicators:

14 Color LED's from $<10^3$ to $>10^{14}$ ohms. Colors (RED, GREEN, YELLOW, or Blank/OFF).

Timer Memory:

Times measurements In Seconds up to 99 seconds (Displayed on LCD)
Register stores up to 80 data points (MEM # Displayed after RESET)

Response & Electrification:

Response from >0.1 to $<1.0E06$ Ohms: <2.0 seconds
Average Measurement Period from 0.1 ohms to $1.0E12$ Ohms 2.5 Seconds. Calculated Electrification Period per ESD S11.11, 7.5 seconds 0.1 ohms to $10E+12$ Ohms. Programmed Electrification $1.0E+12$ to $>2.0E14$ Ohms: 15.0+ seconds

Power:

Two 9-VDC alkaline batteries. Nominal battery life 25 hours.

Dimensions:

4.0" wide x 6.0" long x 2.0" deep.

Weight:

22 ounces, with batteries

Open Circuit Current (I):

$< 4\text{ma}$ @ 100 Volts

Function/ Mode:

Toggles Through Six (6) Operation Modes:

Resistance Range Select:

2 Triangular button Arrows: UP - and DOWN $\bar{\cdot}$. Select Resistance Range in single decades in Manual and Automatic/Manual modes

Test Volts:

Manual Selection of <10 , 10 or 100 volts in Manual Mode

Record/Recall:

Turns Memory Register ON if OFF Calculates and Displays Minimum, Maximum and Average of data stored in Memory Register.

Clear:

Erases data in Memory Register; if in HOLD mode, discards most recent Held Value

ON/OFF:

Power-up, perform functional & Battery tests. Power down if ON.

Batt. Test:

Displays GOOD on LCD if acceptable voltage or Lo if unacceptable

Reset:

Enters (saves) data into Memory Register, Clears HOLD and Display.

Test:

Begins measurement sequence.

Battery Buss Cut OFF:

ON/OFF Switch isolates batteries from instrument circuits for storage & transport

Automatic Function and Exceptional Accuracy:

The PRS-812's Automatic mode is designed to simplify ESD Auditors' measurement and data recording challenges, while enhancing measurement reproducibility and accuracy. During power-up, the instrument automatically checks its measurement functions, multiple displays and performs a Battery Test. Once "GOOD" is displayed, the operator simply presses the TEST button to obtain an accurate measurement. The instrument automatically selects and adjusts test voltage, resistance range, electrification period, then displays and Holds the measurement. The displayed measurement is the average of eight consecutive measurements, all within $\pm 5\%$ of each other. The measurement is "saved" in the Memory Register by pressing RESET. The instrument is now ready for the next measurement.

Data Log & Calculation:

In RECORD mode, the PRS-812 stores up to 80 measurements, and on demand will calculate and display the Minimum, Maximum and Average measurements stored in the register.



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