

 PROSTAT®

CVM-780 Contact Voltmeter Set



Features

A TRUE ELECTROSTATIC VOLTMETER

The CVM-780 Contact Voltmeter™ combines the ease of use of a digital voltmeter with the high input impedance and low input capacitance of a true electrostatic voltmeter in a small, portable, battery operated package.

Being a true electrostatic voltmeter, not a field meter means that it reads actual voltage, without confusing it with electrostatic field strength, which is quite different.



A VALUABLE ESD ANALYSIS TOOL

The CVM-780 Contact Voltmeter™ is powered by rechargeable Nickel Metal Hydride batteries and is the professional ESD practitioner's most valuable ESD Analysis Tool. It measures voltages on conductors in the manufacturing process that can make contact with ESD sensitive devices causing Machine Model (MM) ESD events.

It easily measures voltages on devices and subassemblies that cause Charge Device Model (CDM) and Charged Board (CBE) ESD events.

UNIQUE PROBE DESIGN

The CVM-780 Contact Voltmeter™ uses a unique active probe design which is fully guarded and shielded for minimal environmental interference. It comes supplied with two specially designed ceramic tips and two plated metal tips.

The ceramic tips are used to measure voltage on ESDS devices and subassemblies where discharge and production of transmitted EMI and RFI are major concerns.



THE PERFECT TIP FOR THE RIGHT MEASUREMENT

Whenever two metal parts make contact an ESD event that creates EMI and RFI is likely to occur. The CVM-780's ceramic tips prevent arc discharges that cause disruptive transmitted energy and equipment interference.

Metal tips are used to measure machine tools, production aids, chairs, carts and other objects in the static sensitive environment. The ceramic tips are quite strong but brittle and are used only for ESDS devices, while the plated metal tips are very robust and are used to measure non-ESD sensitive tools and equipment, and to perform routine audit measurements.



Video tutorials of the CVM-780 Contact Voltmeter are available at

EASY TO USE INSTRUMENT

CVM-780 Operation is quite simple:

1. Connect the probe assembly to the CVM-780 with supplied cable
2. Ground the unit
3. Slide the Power switch to the ON position
4. Contact the probe tip to the front panel ground plate to adjust display to zero
5. Measure object by touching it with the probe tip

PORTABLE, EASY TO USE AND ACCURATE

The CVM-780 is designed for general auditing as well as detailed manufacturing process analysis to locate ESD problems and their causes. Use it to measure all critical points in the static sensitive manufacturing process. Until now, revealing potential for such ESD events has never been possible.

The CVM-780 is a must have for the serious ESD Control Team. One can measure electrostatic voltage at virtually any point in the manufacturing process without discharge, without RFI, without device damage.

Portable, easy to use and accurate, the CVM-780 is designed by leading ESD professionals for ESD analysis professionals and practitioners.



WHAT'S INCLUDED

- CVM-780 Contact Voltmeter
- CVM-780 CC 6 ft. DB-9 Connection Cable
- PFP-861LL 72 inch Green Test Lead
- Q007B Common Point Ground Connector
- PGA-710 Analog Connection Cable
- PRS-801BC Bulldog Clip
- CVM-780 Probe Assembly
- CVM-780 Universal Battery Charger
- Metal Pins (2)
- Ceramic Pins (2)
- Pin Tool
- PRS-801-WW Electrode Cleaning Wipes (5)
- User Manual

Technical Specifications

DC CHARACTERISTICS	Intended Operating Range: 0 to ± 525 volts
RESOLUTION	1 volt, 3 digit display
CIRCUIT ACCURACY	$< \pm 1\%$ Note: Maximum measurement range is ± 575 Volts for brief periods
DYNAMIC CHARACTERISTICS	Response Time: Approximately 1ms for a voltage step of 200V at the probe tip to the monitor output. Digital display update: 3 readings per second.
INPUT CHARGE/MEASUREMENT	Approximately 100 femptocoulomb/volt (1.0×10^{-13} C/V)
INPUT IMPEDANCE	$= 10^{14}$ ohm in parallel with < 1 pF Capacitance
MONITOR OUTPUT	Scale Factor: 10,000:1; 100uV/V (Compatible with Prostat PGA-710B Autoanalysis System™)
RECORDING DEVIATION	Typically $< \pm 10$ volts at ± 500 Volts
MEASUREMENT TOLERANCE	When measuring DC voltage reference: 500 V Less or Equal to ± 2 V 100 V Less or Equal to ± 2 V 50 V Less or Equal to ± 2 V 10 V Less or Equal to ± 1 V When measuring floating conductors: 500 V Less or Equal to $\pm 5\% \pm 2$ Counts 100 V Less or Equal to $\pm 5\% \pm 2$ Counts 50 V Less or Equal to $\pm 5\% \pm 2$ Counts 10 V Less or Equal to $\pm 10\% \pm 2$ Counts
PROBE TIPS	Metal: Nominally 0.95 and 0.45 inch Ceramic: 0.90 and 0.40 inch ± 0.05 "
PORTABLE OPERATION	Approximately 3.5 Hours on Full Battery Charge (Operates during Battery Charge)
POWER	4 each Energizer NH15-2500 Nickel-Metal Hydride rechargeable batteries (AA Size)
CHARGER	Universal 90 to 264 Volts, 47 to 63 Hz
METER DIMENSIONS	Without the boot: 6.5 in (16.51 cm) L x 4.0 in (10.16 cm) W x 1.75 in (4.445 cm) H With the boot: 7.5 in (19.05 cm) L x 4.25 in (10.795 cm) W x 2.25 in (5.715 cm) H
METER WEIGHT	Without the boot: 10.6 oz. (300 gr) With the boot: 20 oz. (567 gr)
PROBE DIMENSION	8.75 in (22.225 cm) L x 1.5 in (3.81 cm) W x 0.75 in (1.905 cm) H
PROBE WEIGHT	3.6 oz. (102 gr)