

# Nanocoulombmeter

## Model 230



The Electro-Tech Systems Model 230 Nanocoulombmeter is a battery-powered, precision instrument to measure electrical charge directly in nanocoulombs on objects dropped or placed into one of several available Faraday cups, buckets or probes.

The Model 230 measures charge over three user selectable ranges of 20, 200 and 2,000nC. Testing is as easy as charging an object, dropping it into the Faraday cup/bucket and immediately obtain results on the Model 230 digital display.

This instrument is included with the ETS Model 235 Inclined Plane Test System that evaluates and qualifies material for static-safe applications. Standard calibration modules and custom measurement test fixtures are available to fully address all charge measurement applications.

### Applicable Standards

EIA, IEC, SAE, DOD and ESDA ADV 11.21

### Applications

- Triboelectric Evaluation
- Powder Evaluation
- Clean Rooms
- Medical Products
- Plastic Formulation
- Military Testing
- R&D Materials
- Textile Applications
- Hazard Control

### Key Features

- Range: 0-2,000nC
- Resolution of .01nC @20nC range
- Battery (2 x 9V) or AC power
- 1 Volt Calibration Signal
- Analog recorder output
- Standard Faraday cups/buckets plus custom sizes available. (Optional)
- Charge Detector Probe (Optional)

For specification compliance, all Model 230 measurements should be operated inside a controlled humidity environment. For more information please contact ETS

D00614 Rev D

## **Specifications**

### **Model 230**

**Ranges:** 20, 200, 2000nC

**Resolution:** 0.01, 0.1, 1.0nC

**Accuracy:** 2.0% full scale (max),  $\pm 1$  digit

**Readout:** 2 line/16 character LCD Digital readout with .0171" alphanumeric numerals

**Drift:** <0.05nC/minute

**Zero:** Front panel or optional foot switch.

**Recorder output:**  $\pm 1.99$ V, BNC connector

**Calibration output:** +1.00 Volts,  $\pm 1\%$

**Calibration capacitor:** 0.10  $\mu$ f,  $\pm 1\%$  (Low Leakage)

**Power:** Battery, 2 ea, 9 Volt Alkaline, (20 hrs typical)

AC power module: 95-260VAC, 50/60Hz. Output: 18VDC

**Dimensions:** 7.5"W x 10"D x 3"H (190 x 245 x 70mm)

**Weight:** 2 lbs (4.4kg)

**"Data valid with ETS Probes Only"**

### **Faraday Cups, Buckets, & Probes (optional)**

**Electrical connection:** Std. BNC

**Model 231:** Inner cup: 3-3/8" ID x 4-1/8" Depth (86 x 105mm)

Overall dimensions: 4-5/8" OD x 6"H (117 x 152mm)

**Model 232:** Inner cup: 6-1/2" ID x 7-3/8" Depth (165 x 192mm)

Overall dimensions: 10" OD x 11" H (254 x 279mm)

**Model 233:** In bucket: 22"W x 22"D x 15"H (559 x 559 x 381mm)

Overall dimensions: 24"W x 24"D x 17"H (610 x 610 x 559mm)

**Model 234:** Plug-in 0.375" (9.5mm) conical probe tip

Overall dimensions: 1.0" dia. x 6.0"H (25x152mm)

### **Model 235: Inclined Plane Test System**

**System includes the following additional components:**

Adjustable inclined plane fixture (15° default setting)

[Model 230 Nanocoulombmeter](#)

[Model 231 Faraday Cup](#) with adjustable cup angle fixture

Cylinders: Teflon and Quartz, 36 ea., 1"x1" (25x25mm)

Ionizer with foot switch

[Model 212 Static meter](#) with charged plate detector plus accessories

**Warranty:** One (1) Year Parts & Labor

**For consistent and valid results, annual calibration is required.**

**Contact:** [service@ets2.com](mailto:service@ets2.com) for assistance



*Specifications subject to change without notice*

