MONROE 284

NanoCoulomb meter offers the ability to make direct measurements of charge on materials via battery operation in two ranges: 200 nC and 20 nC.

The Monroe 284 NanoCoulomb meter enables the user to easily and accurately measure the charge generated on items such as electronic components by triboelectric charging processes. Static charges can build up on ICs as they vibrate and slide in shipping tubes or on PC boards as they move around in contact with protective packaging materials. The Monore 284 aids in the selection and evaluation of packaging materials when performing triboelectric charge testing as outlined in the Electronics Industries Association Standards for ESD sensitive Items (EIA-541).

Two interchangeable standard sizes of Faraday Cups serve most needs with inner dimensions of 25/8 dia. x 2¾ in deep and 5¾ dia. x 7 in deep with custom sizes available. Individual areas of semiconductor components, MR heads or other small static-sensitive devices may be examined to evaluate manual or automatic handling techniques. Contact is made to individual leads via the tip of an ordinary 1X passive oscilloscope probe.

APPLICATIONS

- Direct charge measurement
- Component testing
- Materials qualification
- Triboelectric studies
- Static monitoring
- IC handlers

HIGHLIGHTS

- Portable, self-contained
- Battery-powered
- Easy-to-operate
- Large LCD display
- Two ranges
- Interchangeable cups
- Analog output
- Meets requirements of EIA-541 Standard
- Point contact measurement of small areas
- Low cost
- Simple operation
- Minimal training required
- Uses ordinary oscilloscope probe for contact measurement of small objects
- Measures performance of ESD materials

TECHNICAL DATA

Specifications			
Display	½ x 3½ in digit LCD		
	Range	200 nC	20 nC
	Resolution	0.1 nC	0.01 nC
Optional Ranges Available	Range	2000 nC	2.0 nC
	Resolution	1.0 nC	0.001 nC
Accuracy	2% of reading, + zero offset, ± 1 lsd		
Output	0 to ±2 V analog		
Drift	0.1 pC/sec typical		
Battery	9 V Eveready #216 or equivalent NEDA #1604. Battery life over 400 hours		
Dimensions	15 x 9 x 5.5 cm (6 x 3.5 x 2.125 in)		
Weight	0.24 kg (8½ oz) with battery		

Compatible Accessory Cups		
Faraday Cups are equipped with BNC connectors and furnished with a 3 foot mating cable to connect to the Monore 284 instrument. Can be used to measure powders and liquids as well as solid objects.		
Faraday Cup, Monroe 284/22A	Outer dimensions (nominal)	10 x 15 cm (4 dia. x 5.75 in)
	Inner dimensions (nominal)	6.5 x 7 cm (2.625 dia. x 2.75 in)
Faraday Cup, Monroe 284/22B	Outer dimensions (nominal)	20 x 24 cm (8 dia. x 9.5 in)
	Inner dimensions (nominal)	15 x 18 cm (5.75 dia. x 7 in)

REFERENCE NUMBERS

Probes and Optional Accessories	
284/22A	2.625 in Diameter Faraday Cup
284/22B	6 in Diameter Faraday Cup
284-2	Optional Range 200, 20, 2
284-3	Optional Range 2000, 200, 20
1P20B	Test Probe for Model 284