MONROE 288B

Easy-to-use, innovative high voltage electrometer provides tests to unprecedeted low voltage with unmatched stability

The Monroe 288B is the first charged plate monitor to incorporate a microprocessor and data storage, eliminating the need for a dedicated computer. All test parameters are programmable allowing tests to be optimized and not dictated by equipment limitations. Once programmed, the Monroe 288B will perform a series of tests automatically: ± decays, balance, balance peaks, temperature, humidity, time/date are stored and may be reviewed via the display or downloaded to a PC. The included software allows the user to define and name ionizer locations, test setups, and sequences and then upload these to the CPM. All of these features result in a flexible, easy-to-use instrument that facilitates audits while minimizing errors.

AT A GLANCE

Electrometer Dynamic Range

±1200 V

Charge Plate Size

15 x 15 cm (6 x 6 in)

Data Storage

1500 Readings

PRODUCT HIGHLIGHTS

- Fully configurable operating parameters
- Soft keys for highly intuitive programming
- Meets requirements of ANSI/ESD STM 3.1
- Manual and automated testing of decay and balance
- Internal storage for up to 1500 tests, 500 locations, and 4 test protocols
- Internal battery for portable operation (also line operated)
- Large, easy-to-read, high contrast LCD display
- Detachable 6 x 6 in plate (optional plate 1 X 1 in plate available)
- RS232 interface
- Built-in temperature and humidity sensors
- Auto-ranging to 0.1V resolution below 100V
- Compatible with optional 288B graphing software

TECHNICAL DATA

Display Specifications		
240 x 64 character/graphic		
Voltage	3½ digit display (Decay and Peak reading)	
	Accuracy	±0.1% of reading ±3 V
	Resolution	1 volt
Balance	0.1 volt for readings < 150 volts	
Time	4 digit display	
	Accuracy	0.1% of reading ±1 lsd
	Resolution	0.1 second for readings < 1000 seconds
		1 second for reading > 999 seconds

Electrometer Specifications	
Dynamic Range	±1200 volts
Follower Error	< 10 mV
Speed of Response	<10 msec for 1 kV to 0 volts (90 to 10%)
Bandwidth	-3db @ 1 Khz 20 V_{p-p}
	-3db @ 10 Hz 2000 V_{p-p}
Noise	< 12 mV rms

Monitor Output	
Divide by 200	
Accuracy Output	0.1% of reading ±1 mV Refer to Output
Impedance	1K ohm

Charge Plate Specifications	
Capacitance	20 pF ±2 pf
Zero Drift	< 100 mV/sec (no incident ion flow)
Self Discharge	< 200 mV/sec

Peak Detector Specifications (Balance Test)	
Bandwidth	<10 Hz

Voltage Specifications			
	Start Voltages	Stop Voltages	Charge Voltages
Voltage	1000 V Standard	100 volts Standard	-
Range	±10 to ±1000 volts	0- ±995 volts	10 to 100 volts above the start voltage
Resolution	Settable to 1 volt	Settable to 1 volt	Settable to 1 volt increments
Accuracy	0.3% of setting ±2.5 volts	0.3% of setting ±2.5 volts	0.3% of setting ±2.5 volts

Sensor Specifications			
	Temperature	Humidity	
Range	0 to 50°C	10 to 80% RH @ 25°C	
Accuracy	±2°C typ	±5% typ	

TECHNICAL DATA (CONTINUED)

Stop Voltages		
100 volts Standard		
Range	0- ±995 volts	
Resolution	Settable to 1 volt	
Accuracy	0.3% of setting ±2.5 volts	

Mechanical Specifications		
Dimensions (H x W x D)	280 x 229 x 152 mm (11 x 9 x 6 in)	
Weight	5.7 kg (12.5 lb)	
Data Storage	1500 Readings	
Battery Life	Typ > 6 hrs	
Charge Time	< 8 hrs to > 90% capacity	
Power	Voltage	90 to 250 VAC 50/60 Hz
	Wattage	< 12 watts operating

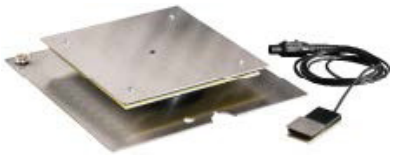
Environmental Specifications	
Temperature	5 to 35°C (41 to 95°F)
Humidity	to 80%, noncondensing

TREK 288B OPERATION

The Trek 288B performs manual or automatic decay and balance tests on critical ionization equipment and stores the results and averaged decay times for up to 500 workstations. Temperature and relative humidity are displayed real-time and recorded with the test data. All pertinent test information is presented on a large format LCD display. Custom protocols and personal workstation definitions can be uploaded and results downloaded for analysis via a bi-directional RS232 link. In decay mode, the plate is charged to a predetermined voltage from ±10 to ±1000. During test, the plate will discharge toward zero in the presence of ionization. The elapsed time of decay between the start voltage and a preset stop voltage, as low as zero volts, is displayed. In balance mode, isolated plate voltage, test duration and ± peak voltages are displayed. Self-tests include battery check, tests for functional errors and a built-in decay self confidence check.

PLATE ASSEMBLY

The 15 x 15 cm (6 x 6 in) plate assembly includes a detachable ground plane that is used for improved consistency in decay readings. Built in self-test resistor for function confidence check is also incorporated. (Optional 1.0” x 1.0” plate assembly is available.) Small diameter (3mm) low noise zcoaxial cable is used for inter-connection to main unit.



ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than three decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

AE's power solutions enable customer innovation in complex semiconductor and industrial thin film plasma manufacturing processes, demanding high and low voltage applications, and temperature-critical thermal processes.

With deep applications know-how and responsive service and support across the globe, AE builds collaborative partnerships to meet rapid technological developments, propel growth for its customers and power the future of technology.

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