



Digital Charged Plate Monitor

MODEL 280

Ion's next-generation charged plate monitor (CPM) is an easy-to-use, self-contained instrument for precise testing of ionizer performance. The architecture of the Model 280 has been designed to simplify ionizer audits. With Ion's experience in electrostatics engineering, the technology offered by the 280 CPM ensures a consistent discharge time measurement for all plate sizes.


With all measurement parameters of the instrument being programmable, the tests can be designed for optimal results. The Model 280 is a small, portable CPM capable of 6 hours of operation on the internal battery before recharge, and enough memory for storage of over 1000 tests and more than 100 individual test locations.

Features and Benefits

- Delayed measure start
- Automatically accounts for settling time thereby protected from field distortion by operator
- Portable, battery operated
- No need to plug-in and unplug at every station
- User programmable test protocol
- Eliminates human errors in repetitive audits
- Detachable plate with varying sizes
- Ideal for mini-environments, and inside process tools
- Onboard data archiving memory
- RS-232 port for data collection eliminates manual data transcription and need for separate computer for data archiving
- Analog and digital LCD display
- Easy to read and interpret data screen



Specifications

Digital Charged Plate Monitor Model 280	
Charging voltage	±10 to ±1000 volts differential adjustable 10 volts to 100 volt in 1 volt increments
Zero stability	<100 mV/sec
Timer	0.1 to 999.9 seconds in 0.1 second increments, 1000 to 9999 seconds in 1 second increments
Start voltages	1000 volts ±0.3% standard, adjustable between 10 to 1000 volts in 1 volt increments
Stop voltage	100 volts ±3% standard, adjustable between 0 and 995 in 1 volt increments
Peak displays	Positive and negative peak voltage during float mode
Power	90-250 VAC 50/60 Hz, internal 12 volt battery with built-in charger
Graphical display	240 X 64, backlight LCD, character/graphic
Voltage display	3 1/2 ±1.0 volt resolution
Timer display	4 digit
Accuracy	Electrometer ±0.1% reading ±1.0 volt referred to input
Bandwidth	1 kHz at 20Vp-p, 10 Hz at 2000Vp-p
Zero drift	<100 mV/sec
Plate self-discharge	<200mV/sec
Charged plate capacitance	20 pF, ±5%
Battery life	6 hours with 9 volt rechargeable battery
Operating temperature	5–35°C (41–95°F)
Temperature sensor	±2°C (36°F), typical
Humidity sensor	±5% typ. from 10% to 80% RH @ 25°C (77°F)
Dimensions	11W x 9L x 5D in. (12.7W x 22.9L x 27.9D cm)
Weight	12.5 lb (5.7 kg)
Certifications	

Ordering Information

91-0280-C	Digital Charged Plate Monitor
25-0550	5 ft. extension cord
29-0280	Replacement battery
32-0290	Detachable plate (1 x 1" / 2.5 x 2.5 cm)
32-0296	Detachable charged plate (6 x 6" / 15.2 x 15.2 cm)

Programmable Tests and Data Storage

The Model 280 can be easily programmed to perform a series of tests. Measurements include discharge time negative, discharge time positive, offset voltage and swing. Multiple measurements of any or all of the parameters can be automatically recorded at each location. A programmable "measure pause interval" allows the user to walk away from the instrument before the measurement begins, allowing automated settling time. Results can be recorded for each location and then downloaded to the computer as a complete report for analysis, archiving and graphing.

The charge plate is detachable and has a variety of mounting options and sensor sizes, allowing for flexibility and ease-of-use in a variety of environments, including mini-environments.



The Model 280 CPM displays an easy to view LCD screen for tracking of your operating parameters. Users can set the test parameters all by the simple push of a button.

Advanced Instrument Design

The Model 280 uses a contacting electrometer measurement technique, providing improved instrument stability, particularly when making offset voltage measurements at the low levels required for today's smallest electronic devices (e.g. MR heads). Although this instrument configuration is not yet included in ANSI EOS/ESD S3.1-2000, the advanced instrument design makes all the measurements described to standard but with improved stability over conventional designs. Additionally, it allows low-level, long-term, drift-free measurements that are not possible with the older non-contacting fieldmeter test method of the ESD Association standard.



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DS-0280 - Ver. 1
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