



Charged Plate Monitor

MODEL 280A


ION Systems Model 280A Charged Plate Monitor (CPM) is an easy-to-use, self-contained instrument for precise testing of ionizer performance. The Model 280A, built on the Model 280 platform, incorporates enhanced circuitry that enables it to more accurately measure the performance of high frequency AC ionizers. The architecture of the Model 280A simplifies testing in open or enclosed environments. The detachable plate and programmable automated test sequencing offer remote testing capability, allowing multiple tests without opening an enclosure to reset the instrument.

The Model 280A can be used as a portable CPM and is capable for of up to 6 hours of operation on the internal battery before recharge. It has enough memory for storage of over 1000 tests and more than 100 individual test locations.

Features and Benefits

- Enhanced circuitry bandwidth to measure AC ionizer frequency
- Improved plate capacitance accuracy
- User programmable test protocol
- Delayed start
- AC line input or battery operation
- CPM comes with 6" detachable plate
- Built-in temperature and humidity sensors
- Onboard data archiving memory
- Analog and digital LCD display
- Increased dynamic range to capture AC ionization performance
- Provides more accurate decay times.
- Manual mode or automated test sequencing
- Reduces operator induced field distortion and allows airflow settling
- Portability for easy movement in a variety of test locations
- Ideal for mini-environments, and inside process tools
- Accurately documents environmental test conditions
- Onboard memory holds test data with ability to upload data for records or analysis
- Easy to read and interpret data screen

Specifications

Power Input	IEC type AC power input jack
Input Voltage	90-250 VAC 50/60 Hz @ 12W
Battery Operation	Up to 6 hours with 12V internal rechargeable battery
Battery Charging Time	<8 hours to >90% capacity
Monitor/Control Interface	RS-232
Charging Voltage	±10 to ±1000V differential, adj. 10-100V in 1V increments
Zero Stability	<100 mV/sec
Timer	0.1-999.9 sec in 0.1 sec increments; 1000-9999 sec in 1 sec increments
Start Voltages	1000V ±0.3% standard, adj. between 10-1000V in 1V increments
Stop Voltage	100V ±3% standard, adj. between 0-995 in 1V increments
Peak Displays	Positive and negative peak voltage during float mode
Graphical Display	240 X 64, backlight LCD, character/graphic
Voltage Display	3.5 digits; ±1.0V resolution
Timer Display	4 digits
Accuracy	Electrometer ±0.1% reading, ±1.0V referred to input
Bandwidth	1 kHz at 20 Vp-p, 10 Hz at 2000 Vp-p, response <10 mSec
Zero Drift	<100 mV/sec
Plate Self-discharge	<200 mV/sec
Charged Plate Capacitance	20 pF, ±5% (not including strays)
Operating Temperature	5-35°C (41-95°F)
Temperature Sensor	±2°C (3.6°F), typ.
Humidity Sensor	±5% typ. from 10% to 80% RH @ 25°C (77°F)
Dimensions	11W x 9L x 5H in. (27.9 x 22.9 x 12.7 cm)
Weight	12.5 lb (5.7 kg)
Certifications	

Ordering Information

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

Programmable Tests and Data Storage

The Model 280A can be easily programmed to perform a series of tests. Measurements include discharge time for both positive and negative polarities, balance voltage and swing voltage. Multiple measurements of any or all of the parameters can be automatically recorded at each location. A programmable "measure pause interval" allows the user time to walk away from the instrument before the measurement begins, incorporating an automated settling time into the test sequence. The results can be recorded for each location and the data downloaded to a computer for analysis, archiving and graphing.

The charge plate is detachable, and has a variety of mounting options. A 6" charge plate comes standard with unit and a 1" charge plate is available for environments where space is limited and the application does not require strict adherence to the ESDA Standard SMT3.1 for usage of a 6" charge plate. These options provide flexibility and ease-of-use in a variety of environments, including mini-environments.



The Model 280A 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

As ionization technologies have advanced over the years, new demands have been placed on the capabilities and features of the charged-plate monitors used to evaluate them. Additional and improved features have been incorporated into the Model 280A Charged Plate Monitor which improve the accuracy of the plate measurements and enable the unit to measure higher frequency AC ionizers. This instrument may be used to make measurements described in the ESD Association Standard ANSI/ESD STM3.1.



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