



Electrostatic Field Meter Set PFK-100

Data Sheet

Measure fields and voltage generation and balance ionizers

The PFK-100 set includes Prostat's unique PFM-711A dual range field meter, CPM-720A charged plate monitor assembly and PCS-730 charging source. With this instrument set you can measure electrostatic fields, analyze ionizer performance and assess the voltage generation of materials, equipment and personnel.

The battery operated PFM-711A Field Meter is a compact "electronic chopper" design with accuracy of $\pm 5\%$ at ambient conditions (23 °C and 30% Rh). It features automatic polarity, measurement "hold" button, low battery indicator, high and low ranges, distance ranging lights for accurate and repeatable measurements, manual zero control and a ground snap. With the supplied analog output cable, it can be used in conjunction with an X-Y plotter or any analog data-recording device.



Specifications for the PFM-711A Electrostatic Field Meter

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|----------------------|---|
| Overall Range | High Range 0 V to ± 19.99 kV (at $1'' \pm 0.03''$ distance): Least significant digit indicates volts at one inch (kV/in) in 10 Volt increments Low Range 0 V to $\pm 1,999$ V (at $1'' \pm 0.03''$ distance): Least significant digit indicates volts at one inch (V/in) in 1 Volt increments. Measures higher voltages at greater distances, e.g., at 2" double indicated voltage, at 4" multiply indicated voltage by four. |
| Instrument Tolerance | $\pm 5\%$ from 0 V to 10 kV Tolerance at > 10 kV depends on conditions and handling Accuracy unaffected by the presence of air ionization. Note: Performance when mounted in laboratory fixture positioned 1 inch from a 6"x6" reference plate |
| Range Lights | Red "Bulls Eye" at $1'' \pm 0.03''$ distance |
| Meter Display | $3\frac{1}{2}$ digit Liquid Crystal Display with 0.4" digit height. Automatic polarity, HOLD and LOW BATTERY indicators |
| Response | Digital display updates three (3) times per second. Analog Output Time Constant: Either Range 0.1 sec. Display Time Constants: High Range 0.2 sec. Low Range 2.0 sec. |
| Output | Analog signal output and 30" two conductor cable provided. ± 10.0 kV meter reading equals ± 1.0 Volt output |
| Controls | Three position slide switch: KV/INCH - OFF - V/INCH Sample/HOLD push button, and ZERO adjust knob |
| Grounding | Meter circuit grounded through the conductive case and 10 mm snap fastener mounted on back of case |
| Power | 9 Volts alkaline battery. Battery life minimum 40 hours |
| Dimension (LxWxH) | 2.4" x 4.2" x 0.9" (6.1 cm x 10.7 cm x 2.3cm) 1.3" deep with zero knob and snap fastener (3.3 cm) |
| Weight | 5 oz with battery installed (142g) |

Specifications for the CPM-720A Charge Plate Assembly

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|-------------------|---|
| Tolerance | Matches the PFM-711A Field Meter within 5% when calibrated together |
| Capacitance | Plate Capacitance 10 picofarads (pF) ± 1 pF Note: Plate capacitance is 15.8 pF when mounted to PFM-711A Field Meter |
| Range | 0 to ± 5.5 kV $\pm 2\%$ at 23 °C, 30% Rh. |
| Grounding | Through conductive case and snap fastener of PFM-711A Field Meter. |
| Dimension (LxWxH) | 3.25" x 3.25" x 0.9" (8.25 cm x 8.25 cm x 2.3cm) |
| Weight | 8 oz (227g) |

Data Sheet (continued)

Specifications for the PCS-730 Charging Source

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|-------------------|---|
| Input Power | 9 Volts Alkaline Battery. Battery life in excess of 40 hours continuous operation |
| Output | $\pm 1,250 \pm 5\%$ volts DC Current limited to less than 1 Microamp. |
| Output Connector | Female banana jack provided with mating contact wand. |
| Grounding | 10mm female snap fastener on rear of case. Note: Wand must be installed and unit grounded for proper operation |
| Dimension (LxWxH) | 2.5" x 4.0" x 1.5" (6.3 cm x 10 cm x 3.8cm) 2.5" x 4.2" x 1.8" with input jack, switch and snap (6.3 cm x 10.7 cm x 46 cm) |
| Weight | 6 oz with battery installed (170g) |