

Electrostatic Field Measurement Meter MCE 20

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This is a convenient small digital display meter for measuring electrostatic fields. By selecting the measurement distance, we obtain the field strength in volts directly.

General points about static electricity

Currently the problem of electrostatic charges is relevant for many work stations. Hence, although modern microelectronics (integrated components) are especially sensitive, other industrial sectors are also greatly affected: telecommunications, plastics, and explosives. This problem causes considerable lost time and financial losses and it can affect personal health. Charges well over 10,000 volts can accumulate on people, clothes, materials and equipment. An accumulation of 100 V is sufficient to damage electronic components. Charges of 3,000 volts and more can lead to the formation of sparks that could cause an explosion in a dangerous environment.

Technical characteristics

The box is made of antistatic plastic material with a skin covering on the front panel. The influence measurement electrode is in the form of a star. A modulation rotor, connected to earth and with the same star shape, rotates close to it. A system of annular electrodes around the influence electrode protects it mechanically.

Dimensions (l x h x d) : 70 x 122 x 26 mm

Weight: 130 gm (without the battery)

Power supply: 9 V IEC alkaline battery

- Efficient
- Strong
- Proven reliability
- Standard version
- Made to measure and delivered quickly



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TECHNICAL DATA

Measurement ranges:

* Distance	1 cm	0.....8 kV	max. resolution 1 V
* Distance	2 cm	0.....16 kV	max. resolution 2 V
* Distance	5 cm	0.....40 kV	max. resolution 10 V
* Distance	10 cm	0.....80 kV	max. resolution 10 V
* Distance	20 cm	0.....160 kV	max. resolution 20 V

Display:

LCD screen comprising two alphanumeric display lines
(12 characters on each line)

Working time:

In continuous operation, approx. 10 hours

Measurement principle:

The electrical field measurement meter is a parametric amplifier. The charges subject to the influence of the electrical field create an alternating current proportional to the voltage. This current is measured using a selective amplifier, without abstraction of energy on the electrical field in the mean time. No radioactive substance is used.

Operating instructions:

To start, press the "function/on" key on the front panel. A double click on the same key switches the instrument off. The instrument is switched off automatically after 5 minutes to prevent the battery discharging completely.

"Hold" function

To assist use in areas of difficult access, the meter has a hold function to save the display of the value measured. Pressing the "function/on" key, freezes the value displayed on the screen. "Hold" appears on the top line and the measured value on the bottom line. Pressing the "function/on" key deactivates the hold function and the current value of the field being measured is again displayed.

Measurement range

Every time the meter is switched on, a measurement distance of 2 cm is displayed automatically. To take measurements at this distance simply hold the instrument 2 cm from the object to be measured. Two distance gauges, fitted on either side of the field generator, guarantee the accuracy of the distance.

This distance is ideal in most situations as it allows charges up to 20 kV to be measured (see technical characteristics). However, there are situations where the measurement distance needs to be increased: for example, when the objects are only accessible at a greater distance, or if you need to measure very high charges or if the surface of the object is rough. However, if the charges to be measured are low, or if the surface of the object measured is flat, it is preferable to choose a smaller measurement distance i.e. 1 cm.

Once the meter is operating, continuous pressure on the "function/on" key accesses the distance adjustment menu.

