

# COULOMBMETER

## CM-04



Though the electrical charge is the primary phenomenon of the electricity, until few years ago the development and application of the charge measuring technique kept reserve particular allied fields, especially the electrophysics. The demand for charge measuring technique increased by application of plastics in a lot of fields in life and industry with their tendency to static electrification.

The CM-04 is applicable on static electrification measurement on objects, e.g. components, or on persons in a wide volume range.

The measurement of important secondary quantities, as well as capacity, insulation resistance and voltage (electrostatic) is also possible. Furthermore, the supervising of the electric field strength on place of employment can be evaluated.

The CM-04 allows the reading of measuring values in charge units.

High voltage engineering estimations of the influence of parasitical accumulated charges can be carried out by means of the CM-04. Such accumulated charges may arise from flash-over of insulators and they may determine the margin of error of the inception and the flash-over voltage. With a micro-probe it is possible to scan such insulators with high resolution.

We offer several accessories, especially for charge measurements. Four electrodes are deliverable optionally. These electrodes respond either to the static electrical field strength or to the changing of the field strength.

The "Faraday Graduated Jug" is another attachment. The surface charge of an object in the inner cup is displayed. The "Faraday Graduated Jug" can be completed by an attachable high voltage measuring electrode. By a conductive connection to a person with this electrode for example it is possible to detect the potential at defined behaviour.

On request particular sensors, cables and measuring equipments can be delivered.

## Specification

Measuring range	$10^{-13} \dots 10^{-5}$ Coulomb
Polarity	positive/negative
Display	a) moving-coil instrument with middle zero point b) output for an external digital voltmeter measuring range: 20 V
Device test	at internal charge injector $\pm 1$ nC
Error limits	
• base error with insert instrument	$< \pm 2.5 \%$
• added error in the ranges $< 1$ nC	$< \pm 2.5 \%$
Drift at blocked integrator	$< \pm 0.3 \%/h$
Drift at opened integrator	$< \pm 0.01$ pC/s
Disturbing charge if the electrometer contact is switched off	$< \pm 0.05$ pC
Influence of the operating voltage	$< \pm 0.05$ pC/10 %
Temperature coefficient	$< \pm 0.1 \%/K$
Output voltage for an external recording device	$\pm 10$ V in all ranges
Voltage supply	220 V, 50 Hz, 10 VA approx.
Dimensions (in mm)	340 x 260 x 135
Weight	4 kg approx.