

Model T10005 UNIDOS® Reference-Class Electrometer/ Dosimeter

The Model T10005 UNIDOS® is a high-precision, transfer-standard class electrometer/dosimeter that, by virtue of its superior performance, significantly raises the standard of measurement. It meets the medical physicist's demand for the highest degree of performance that includes low offset current, excellent linearity characteristics and long term stability. In fact, the UNIDOS® significantly exceeds the AAPM ADCL recommendations in all these areas.

The front panel controls include ion chamber selection, temperature and pressure entry, operating mode selection, ion chamber polarizing voltage, and other features. Complete instrument customization may be performed from the front panel to read in any radiological units or electrical units and provides corrected readings based on ion chamber calibration factors and air density at the user's option.

A memory-resident ion chamber library provides calibration parameters for up to 30 chambers with volumes ranging from 0.02 cc to 10 liters. An RS-232 communication port provides for transfer of data to an IBM-compatible computer.

The UNIDOS® operates on AC or the internal rechargeable batteries, which provide 7–9 hours of continuous operation.

Features:

- ▶ High accuracy, excellent resolution, wide dynamic range
- ▶ Measures dose and dose rate simultaneously
- ▶ Timing function
- ▶ 30 ion chamber parameter library
- ▶ Air density correction
- ▶ AC or battery operation



Specifications

Measuring modes/range:

Charge (dose): 2 pC to 22 nC

Current (dose rate): 200 fA to 1 µA

Numerical integration: 2 pC to 65 mC

Measuring quantities and units:

..... absorbed dose to water (Gy), absorbed dose rate to air (Gy/min), air kerma (Gy, Gy/min), exposure (R), exposure rate (R/min), charge (C), current (A)

Interval time range: 6 to 9999 sec, 60 sec interval standard

Accuracy: $\pm 0.5\% + 1$ count

Zero drift: ± 10 fA

Linearity: $\pm 0.5\%$

Stability: $\pm 0.1\%$ per year

Display: 4 digit, electroluminescent

Offset current: ± 1 fA

Time constant, current or dose rate:

..... 200 to 350 ms

Zero: automatic, within 75 sec

Non-volatile memory: 10 year life, typical

Bias supply: ± 400 V, programmable in 50 V steps

Warm-up time: 15 minutes

Data link: RS-232, DB-9

Input connector: triaxial BNC (see options)

Power: 115/230 V, 50/60 Hz, rechargeable NiCd battery 1.8 Ah

Battery life: 7–9 hours operation

Dimensions: 25.7 cm wide, 26.2 cm long, 15.2 cm high (10.1 in x 10.3 in x 6 in)

Weight: 6.4 kg (14 lbs)

Options

T10008 UNIDOS® electrometer with PTW "M" input connector

T10009 UNIDOS® electrometer with TNC input connector

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