

Model 35040 Advanced Therapy Dosimeter

The Model 35040 Advanced Therapy Dosimeter is a reference-grade dosimeter that exceeds the recommendations of calibration laboratories for leakage, linearity and stability by a wide margin. It satisfies fundamental user requirements, performs automatic calculations, and provides the flexibility to customize displays via an IBM-compatible PC.

A unique electrometer design provides more accurate dose and dose rate measurements than conventional high meg resistor and capacitor feedback electrometers. The Model 35040 is fully stable within five minutes. The front panel controls selection of chamber calibration factors, enable air density corrections, facilitate temperature and pressure entry, and allow bias voltage selection and display. Effective exposure time is calculated using the average rate and total charge.

The front panel display screen can be customized and can simultaneously (and in real time) show dose, dose rate, effective exposure time, average current/rate, accumulated charge/dose, bias voltage, leakage, and other important information that ensures the validity of the measurement.

The customization software allows the user to design up to 16 display screens that display internal conditions, set-up parameters, measurement values, and text information. Up to 32 ion chamber calibration factors can be stored, and the user can program up to 11 bias voltages (in 1/10 volt increments) from -500 volts to +500 volts in any sequence and select the values from the front panel. The customization software operates with an IBM-compatible PC and connects via an RS-232 cable.



Features

- ▶ High accuracy, good resolution
- ▶ Measures dose and dose rate simultaneously
- ▶ 30 ion chamber parameter library
- ▶ Air density correction
- ▶ AC or battery operation

Specifications

Measuring modes/Range	Charge: 0.01 pC to 20.000 mC
	Current: 0.1 pA to 1.000 uA
Maximum input current.....	1000 nA instantaneous
Measuring units	All practical radiation and electrical units
Calculated	Up to 19,999 sec
eff. time ranges	
Timed charge	20 user programmable settings, 1 to 9,999 s
Accuracy	≤±0.2% + 2 counts, 18–28°C
Linearity	≤±0.1%
Display	4 line x 20 character, vacuum fluorescent
Leakage	<10 fA uncorrected
Bias supply.....	±500 V, programmable in 0.1 V steps
Warm-up time	5 minutes
Data link.....	RS-232, RJ-45 jack
Input connector	Triaxial BNC front panel, triaxial BNC rear panel, connected in parallel
Power.....	10 to 240 VAC, 47/63 Hz, rechargeable lead acid battery, 8 hour continuous operation
Dimensions	21.6 cm wide, 26. cm long, 8.9 cm high (8.5 x 10.25 x 3.5 in)
Weight.....	4.5 kg (10 lbs)