

## DOSE 1 Reference-Class Electrometer/ Dosimeter

The DOSE 1 is a high-precision, reference-class electrometer/dosimeter that significantly exceeds the recommendations of the AAPM ADCL.

The front panel controls include a large, high contrast graphic electroluminescent display with 160° viewing angle. The operator interface is ergonomically designed and intuitively easy to use with Windows®-style pop-up menus operated by soft keys. Dose, dose rate, average dose rate, dose per monitor unit, current and charge are displayed simultaneously. The units may be defined via DOSE 1 software that can be expressed by no more than three characters. Time base for the dose rate is selectable prior to or after measurement. Selectable units are: second, minute and hour.

The complete instrument customization may be performed via an RS-232 interface and supplied customization software to read in any radiological units or electrical units, and to provide corrected readings based on the ion chamber calibration factor and air density at user's option. A memory-resident ion chamber library stores calibration factors, physical and geometrical parameters for up to 40 ion chambers and diode detectors with a wide range of sensitivities. Measured data may be transferred to an IBM-compatible computer.

To ensure maximum confidence in the accuracy of the system, the DOSE 1 features an electrical check source, leakage tests and bias voltage tests under load.

The DOSE 1 operates on 100 - 240 VAC. Battery operation with 4 D cells or NiCd rechargeable batteries is an extra cost option.

### Features:

- ▶ Simultaneously measures dose, dose rate, average dose rate, dose per MU, charge and current simultaneously
- ▶ Built in electrical check source, leakage tests and bias load test
- ▶ 40 ion chamber parameter library



### Specifications

<b>Display:</b> .....	graphic electroluminescent, 160° viewing angle
<b>Measuring modes/range:</b>	
Charge (dose): .....	40 pC to 1.0 C (0.1 pC resolution)
Current (dose rate): .....	40 pA to 1000 nA (0.1 pA resolution)
<b>Measuring units:</b> .....	charge (C), current (A), Gy, Sv, R, rad, rem
<b>Time base for rate:</b> .....	second, minute, hour
<b>Interval time range:</b> .....	1 to 9999 sec
<b>Accuracy/Repeatability:</b> .....	±0.2%
<b>Leakage Current:</b> .....	≤10fA, typically 1 fA
<b>Linearity:</b> .....	≤±0.25% up to 1000 nA
<b>Stability:</b> .....	≤±0.1% per year
<b>Zero:</b> .....	automatic, within 60 sec
<b>Memory:</b> .....	all setup and detector parameters stored in EEPROM
<b>PC interface:</b> .....	RS-232 bidirectional
<b>Bias supply:</b> .....	±500 V, programmable in 1 V steps
<b>Warm-up time:</b> .....	15 min
<b>Input connector:</b> .....	triaxial BNC (TNC optional)
<b>Power:</b> .....	100/240 V, 50/60 Hz
<b>Optional battery power:</b> .....	four D-cell rechargeable NiCd batteries with external charger, 2.5 hour operating time
<b>Dimensions:</b> .....	25.9 cm wide, 25.9 cm long, 16.5 cm high (10.2 x 10.2 x 6.5 in)
<b>Weight:</b> .....	3.5 kg (7.7lbs)

### Options

DA20-010 (Standard) .....	AC operation
DA20-310 (Optional) .....	AC and battery operation