

Model MAX-4000 Brachytherapy Electrometer

Exceptional sensitivity and a wide dynamic range makes the MAX-4000 electrometer a good choice for brachytherapy measurements. In rate mode it provides immediate measurement of even the lowest activity isotopes. For example, a 0.27 mCi iodine seed, measured in the HDR1000+ well chamber, gives a signal of 1.458 pA. The MAX-4000 can measure 10 Ci and higher iridium sources in rate mode or integrate mode over time.

The built-in countdown timer can be preset in 15 second increments up to 600 seconds. A few buttons control all operations. Zeroing is automatic; press a button and you are ready to measure. A digital filter built into the MAX-4000 eliminates the effect of noise resulting in a very stable and exact measurement.

The MAX-4000 is versatile enough to be used for all external beam applications, using Farmertype ion chambers, chambers typically used for data acquisition in water phantoms and chambers used for quality assurance tests.

The MAX-4000 is designed to exceed AAPM, ADCL and reference-grade instrument stated specifications in many areas, including: reproducibility, resolution, linearity, long-term stability and repeatable measurement accuracy.

Features:

- ▶ Excellent sensitivity: 0.001 pA to 500.00 nA
- ▶ Wide range: 0.01 pC to 999,999 nC
- ▶ Simultaneous display of charge, current and time
- ▶ Digital filter eliminates the effect of noise
- ▶ Includes MAX COMM communication and library software



Specifications

Modes:	rate, charge, timed charge, simultaneous rate and charge
Display:	LCD, 2 lines x 20 digits, 3/16 in high
Ranges:	
Rate:	low: 0.001 pA - 1000.00 pA high: 0.001 nA - 500.00 nA
Charge:	low: 0.01 pC - 999,999 nC high: 0.0 1nC - 999,999 nC
Timing:	0 - 600s in 15s increments, 1s resolution
Repeatability:	short term, $\pm 0.1\%$ ± 1 count long term, $\pm 0.2\%$ maximum over two years
Linearity:	$\pm 0.06\%$ typical for rate and charge Zero drift: < 1 fA at STP
Zeroing:	automatic zero function, user activated
Bias:	nominal ± 450 VDC, switchable -300, -150, 0, +150, +300 V, +450 V, -450
Input:	triaxial BNC
Output:	isolated RS-232, bi-directional, 19,200 baud rate, 8 data bits, no parity, 1 stop bit, Argus QC4 compatible
Power:	110/220 VAC, or internal rechargeable battery, UL listed wall-mount transformer included
Dimensions:	23 x 22 x 7 cm (9 x 8.25 x 2.75 in)
Weight:	1.4 kg (3 lbs)