Model 451B
Ion Chamber Survey Meter

The Model 451B is the successor to the highly successful Model 450B, rugged, lightweight portable survey meter featuring a thin window ionization chamber with a sliding beta shield, microprocessor technology and an auto-on backlit analog/digital liquid crystal display.

The ionization chamber has a thin mylar window for excellent low energy x-ray response and detection of alpha and beta particles. The window is protected by a stainless steel mesh and a beta slide that provides buildup.

It is simple to operate; only ON/OFF and MODE buttons are needed because the microprocessor controls both auto-ranging and auto-zeroing.

The display of the 451B is unique: the 2-1/2 digit display provides reading accuracy for shielding studies, while the 100 element analog bar graph with a faster time constant makes the instrument ideal for surveying changing radiation levels. The integrate (dose) mode registers scatter doses from the shortest radiographic exposures. Integration begins 30 seconds after the instruments has been turned on, and it operates continuously even while in the rate mode. Just press the MODE button to switch to integrate and read the dose that has accumulated during the survey.

The RS-232 interface used with Excel add-in for Windows® allows for data retrieval, user parameter selection and provides virtual instrument display.

The rugged case is sealed against moisture and is available in red/yellow/red (RYR suffix). The 451B is also available in Dose Equivalent SI units (specify DE-SI suffix).

Features:

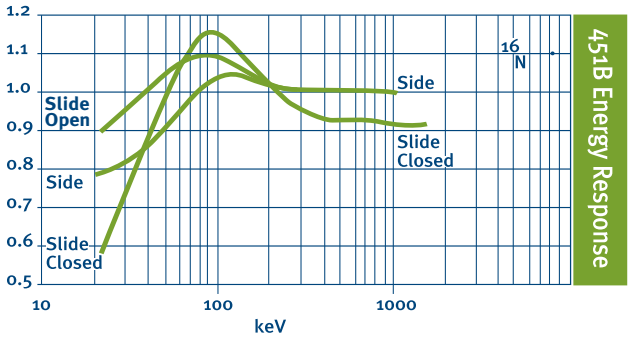
- Microprocessor based
- Digital display with bar graph
- Rugged, lightweight, simple to operate

Specifications

Radiation detected:	x-rays & gamma above 7 keV, beta above 100 keV
Range: (autoranging)	
Rate mode:	0 - 5 mR/h, 0 - 50 mR/h, 0 - 500 mR/h, 0 - 5 R/h, 0 - 50 R/h
Integrate mode:	0 - 5 mR, 0 - 50 mR, 0 - 500 mR, 0 - 5 R, 0 - 50 R
Accuracy:	within 10% of reading between 10% and 100% of full scale indication on any range, exclusive of energy dependence, calibrated to Cs-137
Detector:	ion chamber, 349 cc volume, 1/4 mil mylar window 1.7 mg/cm², protected by thin steel mesh, phenolic wall of 246 mg/cm² plus beta slide 440 mg/cm² thick
Response time:	8 seconds on 0 - 5 mR/h, 2.5 seconds on 0 - 50 mR/h and 2 seconds on all other scales
Display:	auto-on backlit liquid crystal display uses 2-1/2 digits to indicate values, and a 6.4 cm wide 100 element bar graph, units of measurement and operating status
Power:	two 9-Volt alkaline batteries, NEDA 1604 A, provide 200 hours of continuous operation. Instrument can operate on one battery to permit uninterrupted integration when batteries are changed one at a time.

Environmental

Temperature range:	-20° C to +70° C
Humidity:	0 to 100% at +60° C
Geotropism:	negligible
Dimensions:	10 cm W x 20 cm L x 15 cm H (4 in x 8 in x 6 in)
Weight:	1.11 kg (2.5 lbs)



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