

Survey Meter SM 8 D

Portable survey meter for the detection of low intensities of alpha, beta, X and gamma radiation



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The Survey Meter SM 8 D is a hand-held, battery powered radiometer to detect low intensities of alpha, beta, X-ray and gamma radiation.

Product Characteristics:

- wide energy range for photons (10 keV ... 1.3 MeV)
- qualitative detection of Alpha and Beta activities
- large graphical display with a high resolution
- measurement of equivalent dose and equivalent dose rate
- audible and optical impulse detection
- USB port with data acquisition and evaluation software (optional)
- adjustable alarm thresholds
- switchable measured variable: dose rate ($\mu\text{Sv/h}$), dose (μSv), counts per second (cps), area activity (Bq/cm^2)
- wide range of accessories (e.g. energy compensation filter, sample cup, positioning frame)

Areas of application:

- Medicine, Life-Sciences, Industry, research and development facilities
- Measurement of pulse rates in mixed alpha, beta and gamma radiation fields
- Measurement of equivalent dose rates und area activities
- Evaluation of workplaces
- Fast investigations of solid and liquid food regarding of radioactive contamination

Because of the high sensitivity of the detector, the device is suited for school experiments with natural radioactivity.



Optinal Equipment:

- energy compensation filter
- sample cup for solid and liquid foods
- positioning frame
- USB cable, data aquisition and evaluation software

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Technical specifications

Measuring range	Pulse rate 0 .. 1999.9 cps (measurement range overflow indication) Timer / Impulse 1 .. 119940 counts Measuring time adjustable (10 sec, 30 sec, 60 sec) Local dose rate of photon radiation 0.1 $\mu\text{Sv/h}$... 299 $\mu\text{Sv/h}$ (calibrated with Co-60) (Signal at overflow) Area activity (calibrated at Am-241 and Sr(Y)-90, typical value) 0.1 .. 199.9 $\text{Bq/cm}^2 \cdot k_a$ ($k_a = 6$ for Am-241) 0.1 .. 199.9 $\text{Bq/cm}^2 \cdot k_b$ ($k_b = 2$ for Sr(Y)-90, typical value) adjustable alarm thresholds
Sensitivity	6 cps / $\mu\text{Sv/h}$ (referring to Co-60)
Energy range	Photons: 10 keV bis 1.3 MeV Beta: qualitatively, energies > 160 keV Alpha: > 2 MeV
Radiation detector	End window Geiger-Mueller tube (area mass density < 2 mg/cm^2), not energy-compensated, effective diameter 44.5 mm
Display	large graphical display with a high resolution, background lighting Audible and optical impulse signalisation
Outputs	USB-port Evaluation software (optional)
Power supply Batteries Battery lifetime	2 x 1.5 V LR06 (AA) approx. 35 hrs (at background radiation level)
Operating conditions Temperature Rel. Humidity	0 °C ... + 50 °C max. 75 % (at 30 °C)
Weight	≤ 400 g
Dimensions (L x W x H)	152 x 83 x 35 mm



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