

The GM-10 Detector

0 to 42,000 CPS

Radiation Detection Division

Health Physics

The GM-10 detector is designed for efficient surface monitoring of alpha, beta and gamma radiation contamination on skin, clothing, shoes, laboratory bench tops, floors, equipment etc.

It is an ideal detector for maintaining the highest safety standards in laboratory environments, nuclear medicine, molecular biology, radiochemistry, transport of nuclear material and storage facilities

The Detector can be connected to the DRM-3000, DPU-3, RAM DA 2000 and RAM R-200 (RG-10) meters. The GM-10 uses a pancake GM detector with a thin mica window. This is encased in a rugged, splash proof housing for protection against shock, vibration and humidity. The probe also contains a high voltage power supply, pulse shaper, GM saturation indicator, detector identifier and malfunction detection circuitry. This configuration minimizes noise, improving sensitivity and stability.



Applications

Portable Detector

Our Ram Surf Meter uses this detector to measure alpha beta and gamma
Connected to a RAM DA-2000 the GM-10 provides an additional
contamination measuring device



Area Monitoring Detector

Used in the WebiSmarts System to measure low energy gamma radiation

Technical Data

GM Type	Pancake LND 73118 or equivalent
Window	Mica 1.5 - 2.0 mg/cm ² protected by a fine stainless steel wire mesh
Sensitivity (137Cs)	Approximately 350 cpm/μSv/hr (3500 cpm/mR/hr)
Accuracy	±15% of reading
Count Rate Range	0 - 42,000 cps
Output Signals	TTL pulses. Detector status ID, OK, malfunction, GM saturation
Temperature Range	Operation: -10°C to +50°C (15°F to 122°F) Storage: -20°C to +60°C (-5°F to 140°F)
Humidity Range	40% to 95% RH (non condensing)
Dimensions	260mm (10.2") length, 70mm (2.8") width, 75mm (2.9") height
Weight	370g (0.8lbs)
Casing	Aluminum, splash proof

Isotope	E _{max} (keV)	2p Effic (%)	Sensitivity cpm/Bq/cm ²	MDL * Bq/cm ²
¹⁴ C	156	3	15	5
³⁵ S	167	8	40	2
¹⁴⁷ Pm	224	15	75	1
⁹⁹ Tc	290	20	100	0.8
⁹⁰ Sr + ⁹⁰ Y	580 + 2280	50	500	0.2
⁶⁷ GA	900	48	235	0.35
¹²³ I	1000	55	280	0.3
³⁶ Cl	714	45	210	0.4
²¹⁰ Pb	1160	50	250	0.3
³² P	1710	70	330	0.3
⁵¹ CR	325	0.2	1	75
^{99m} Tc	140	5.3	25	3
¹²⁵ I	35	0.5	2.4	32
¹³¹ I	610	40	190	0.4
²³⁰ Th	4600	14	65	1.1
²⁴¹ Am	5400	14	65	1.1

Rotem Part# BAK-1170

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