

SE International Analog Radiation Detectors

The International Monitor 4 Family of analog radiation detectors are ergonomic, compact, and provide excellent sensitivity and fast response; and they are small enough to can fit inside an average pocket. These handheld Geiger counters make spot surveys quicker with audio click and red-light response with every count. There are three models: Monitor 4, Monitor 4EC, and the MC1K.



Special Features

Monitor 4 (Alpha, Beta, Gamma, X-Ray)

The MONITOR 4 is the SE International basic analog Geiger counter, which reads up to 50 mR per hour. Through the end window it will detect Gamma and X-ray down to 10-12 KeV. It can also (through the end window) detect Alpha and Beta.

Monitor 4EC (Alpha, Beta, Gamma, X-Ray)

The Monitor 4EC has an Energy Compensated GM detector (shielding around the tube). Through the end window, the Monitor 4EC detects exactly like the Monitor 4 (the same energy response would be applicable). The Energy Compensated GM detector shields out lower energy Gamma and X-ray giving the user a more linear reading for Gamma and Xray, only above 40keV. For example: This shielding allows the user to point the side wall of the instrument towards the source (i.e. X-ray cabinet) and a more linear reading will be attained (i.e. less needle bouncing) if it is looking through the side wall of an X-ray cabinet.

The MC1K (Gamma, X-Ray)

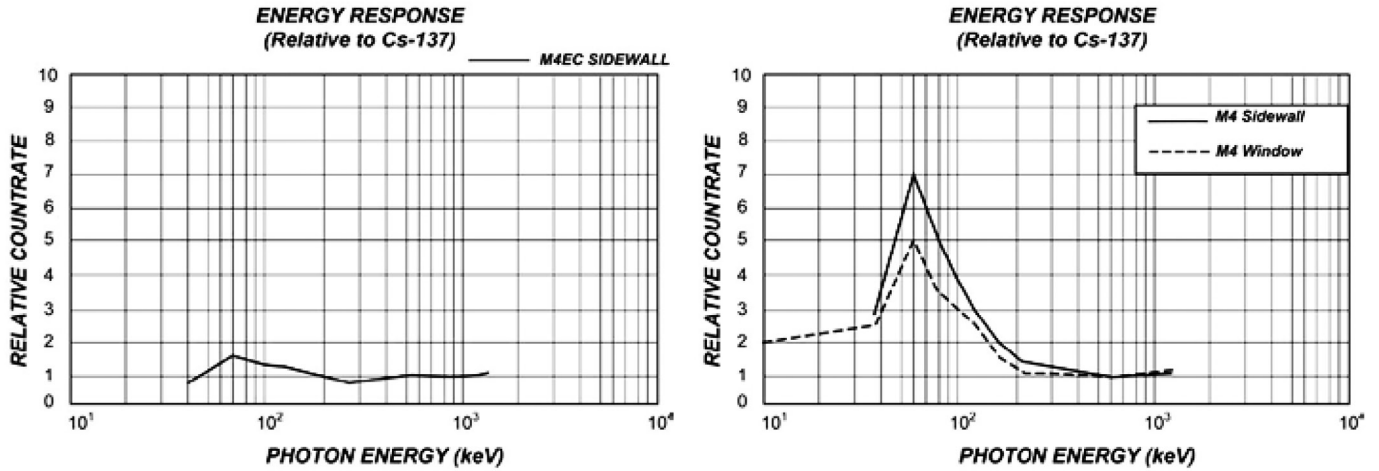
The MC1K has no end window. It is an energy compensated detector for Gamma and X-ray only. It reads up to 1000mR./hr. It allows for more linear response to gammas and X-rays over the full range.

Specifications

	Monitor 4 and Monitor 4EC	MC1K
Applications & Uses	Checking industrial gauges, such as moisture, density, or level gauges containing Cesium-137, Locating Sources, Personal protection, General surveying	Expanded Range up to 1000 mR/hr, Linear Response needs with Energy Compensation, Checking accelerator & x-ray shielding for leakage, Checking industrial gauges; such as moisture, density, or level gauges containing Cesium-137, Locating lost sources, Personal protection, General surveying.
Detector	<u>Monitor 4</u> : Halogen-quenched uncompensated GM tube with thin mica window 1.5-2.0 mg/cm ² thick. <u>Monitor 4EC</u> : Halogen-quenched GM tube, energy compensated sidewall 2mm tin filter. Thin mica window 1.5-2.0 mg/cm ² thick.	Energy compensated halogen-quenched GM tube.
Energy Sensitivity	1000 CPM/mR/hr (Cs137). 4EC is the same as M4 except the energy response for gamma and x-rays through the detector sidewall is flat within +61% or -26% over the range of 40 keV to 100 keV, and within +35% or -17% over the range of 100 keV to 1.3 MeV.	Detects gamma and x-rays down to 40 keV. Response is flat from 40 keV up.
Operating Range	0-.5, 0-5, 0-50 mR/hr 0-500, 0-5,000, 0-50,000 CPM or 0-5, 0-50, 0-500 µSv/hr (SI Scale Meter Option)	X1 position 0 - 1 mR/hr or 0 - .01 mSv/hr X10 position 1 - 10 mR/hr or 0 - .1 mSv/hr X100 position 5 - 100 mR/hr or 0 - 1 mSv/hr X1000 position 50 - 1000 mR/hr or 0 - 10 mSv/hr
Accuracy	Typically ±15% of reading (Cs137)	Typically ±15% of reading (Cs137)
Display	Analog Meter holds full scale in fields as high as 100X maximum reading. CPM & mR/hr scale. Optional SI Scale Meter Available.	Analog Meter holds full scale in fields as high as 100X maximum reading. CPM & mR/hr scale. Optional SI Scale Meter Available.
Audio Indicator	Internally mounted beeper (can be turned off for silent operation).	Internally mounted beeper (can be turned off for silent operation).
Anti-Saturation	Meter will hold at full scale in fields as high as 100 times the maximum reading.	Meter will hold at full scale in fields as high as 100 times the maximum reading.
Power Requirements	9-volt alkaline (included) Approx. 2,000 hrs at background	9-volt alkaline (included) Approx. 2,000 hrs at normal background
Temperature Range	-20° to 55°C (-4° to 131°F)	-20° to 55°C (-4° to 131°F)
Humidity Range	10% to 70% Non-Condensing	10% to 70% Non-Condensing
Weight	M4: 200 g (7.1 oz) M4EC: 224 g (7.9 oz)	217 g (7.7 oz) 3.5 mm headphone jack with pulse out.
Outputs	Headphone 3.5mm jack to count to computer or datalogger.	3.5 mm headphone jack with pulse out.
Size	209 x 71 x 50 mm (8.2 x 2.8 x 1.9 in.)	209 x 71 x 50 mm (8.2 x 2.8 x 1.9 in.)
Includes	Carrying Case with Belt Clip, 9 Volt Battery	Carrying Case with Belt Clip, 9 Volt Battery
Options	SI Meter Option (mR/hr with CPM scale, or, mR/hr with uSv/hr scale), Radiation Response Kit, Observer Serial Software, NIST Calibration	Radiation Response Kit , Observer Serial Software, NIST Calibration
Limited Warranty	1 year limited warranty	1 year limited warranty

Energy Response

Monitor 4 and Monitor 4EC Energy Response



M1CK Energy Response

