



Hand-held Combined Metal and Gamma-radiation Monitor

The new model MS-MGM is an easy to use hand-held metal detector with an additional function to detect and locate gamma-radioactive substances in checked baggage, objects and personnel. During just a single scan the MS-MGM allows simultaneous detection of metals and radioactive substances, thus substantially reducing clearance time and the quantity of instruments used by personnel at the check-point.



The unique operational advantage of the MS-MGM model that makes it different from any existing analogues is the sensitivity of its gamma detector. The MS-MGM uses a CsI(Tl) scintillation detector, similar to specialized PRDs (personal radiation detectors) used in homeland security. This substantially extends the range of applications of the instrument, making it in particular useful in cases where the use of regular PRDs is intolerable. Given the common housing and shape of the instrument it makes it easy to e.g. hide the additional scan for radioactive substances, while doing a regular security check with a metal scanner, etc. Another application area is the management of medical waste, where the need for simultaneous control of syringe needles and radioactively contaminated substances is needed.

The MS-MGM can be used both indoors and outdoors for inspection of people, vehicles, luggage, premises and open areas. It requires little training and is easy and convenient to use.

ADVANTAGES

- Ultimate sensitivity (similar to specialized PRDs)
- Proprietary algorithm providing low false alarm rate
- Self-calibrating to different backgrounds
- Wide temperature range
- Sound and vibration alarms
- Rugged and lightweight
- Requires no or little training

TYPICAL APPLICATIONS

- Customs and border protection check points
- Medical waste management
- Airports and seaports, points of entry
- Public and sport events
- Building security and critical infrastructure protection



Specifications

Radiological		Mechanical	
Detector	3cc CsI(Tl) +SiPM	Ingress protection	IP54
Sensitivity	100 cps/μSv/h (Cs-137)	Dimensions, mm	420×85×45
Energy range	from 50 keV to 3 MeV	Weight, g	470 (with battery)
Preset threshold	30 μR/h (0.30 μSv/h)	Environmental	
Typical time to alarm, gamma	< 2 sec.	Temperature range	from -20 to +50 °C
Metal		Pressure	from 84,0 to 106,7 kPa
Typical detection distance (in the air) — knife, mm	150 (±10)	Humidity	up to 95% at +35 °C
Typical detection distance (in the air) — gun, mm	200 (±10)	Functional	
Typical detection distance (in the air) — magnetic plate 100×100 mm, mm	200 (±10)	Three-colour LED indication	Green LED = ON; Blue LED = GAMMA ALARM; Red LED = METAL ALARM
Typical detection distance (in the air) — lead container, mm	200 (±10)	Battery	one 9V (type 6F22)
Metal detector, frequency	40 kHz	Battery lifetime	80 hours (at normal operation conditions)
Scanning speed, m/s	from 0.1 to 0.5		

Specifications are subject to change without notice.
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