



**Innovating Radiation Detection Technologies Since 1992** 

### **CONTRABAND DETECTOR**

## PM1401T

Portable Contraband Detector for search and detection of hidden inserts (drugs, explosives, weapons, currency, secret compartment, etc.) or emptiness located behind panels, partitions, within precincts of rooms or in any closed volumes (automobile tires, doors, bumpers, fuel tanks, etc.)

#### **Principle of Operation**

The Contraband Detector indicates the presence of hidden material by signaling unexpected changes in the density or thickness of an object. The detector emits a beam of gamma rays into the object being inspected and measures the backscatter. A filled space reflects back more energy than an empty space. As the detector is moved across the surface of the object, the measurement is displayed on LCD and any changes in density trigger an alarm. The detector is capable of penetrating wood, metal, textiles, plastic, etc.

The source of gamma rays is placed in the lead block, so the device design reliably shields the built-in radioactive source. Radiation is let out only during the necessary time and only in the direction of a studied object, so additional protection isn't required for work with the Contraband Detector.

The instrument includes high-sensitivity personal radiation detector PM1401MA on the basis of CsI (TI) scintillator.

#### **Distinguishing features**

- Nondestructive way of check
- Hiding places (inserts and emptiness) are found surely by depth of scanning to 300 mm
- Surely finds ionizing radiation sources
- Fast and reliable results
- Audible, visual and vibration alarms
- Simple in application (transferred in one hand)
- Safe at work (the built-in gamma source is reliably isolated)

#### **Application**

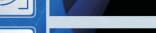
- Law enforcement
- Government Inspectors
- Customs and Border Patrol
- Security Officers













**MEASUREMENT** 

LOCATION

**ALARM** 







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# **DETECTOR**

#### **SPECIFICATIONS**

PM1401T	
Build-in radiation source	Ba133 (up to 1000 kBq)
Dose equivalent rate on the PM1401T radioactive source shielding surface, no more on the PM1401T handle surface, no more at a distance of 0.1 m from the PM1401T surface in working state along radiation emitting direction, no more	1 μSv/h 0.2 μSv/h 0.2 μSv/h
Scanning depth up to	30 cm
Detection capabilities	
When scanning with the speed no more than 5 cm/s,	1 mm steel partition or
the PM1401T detects hidden bars:	15 mm wood partition
aluminium 30 x 30 x 30 mm	
polyethylene 70 x 70 x 20 mm	
steel 30 x 30 x 10 mm	
behind	
Dimensions	185 x 100 x 130 mm
Weight up to	1400 g
Temperature	-30 up to +50°C
Humidity	up to 95% at 35°C

PM1401MA	
Detector - gamma	Cs(Ti)
Sensitivity: - gamma for <sup>137</sup> Cs, no less - gamma for <sup>241</sup> Am, no less	100 cps/(μSv/h) 100 cps/(μSv/h)
Energy range	0.033 - 3 MeV
Time of measurement	0.25 s
Dose Rate	0.01 - 99.99 μSv/h (1 - 9999 μR/h)
Accuracy	±30% (in range 0.1 - 70 μSv/h (10 - 7000 μR/h) )
Standards compliance	ITRAP/IAEA requirements, ANSI N42.32, ANSI N42.33(1), IEC 62401
Alarm type	visual, audio, vibration
Data recording	1000
Environmental protection	IP65
Drop test on concrete floor	1.5 m
Power supply	One AA battery
Battery lifetime	up to 1000 h
Low battery warning	LCD
PC communication	IRDA

Design and specifications of the device can be changed without further notice.

**( €** [ISO 9001]

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