



**POLIMASTER**<sup>®</sup>



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

**ALARM**

**LOCATION**

**MEASUREMENT**





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# PM1401T

## SPECIFICATIONS

<b>PM1401T</b>	
<b>Build-in radiation source</b>	<b>Ba133 (up to 1000 kBq)</b>
<b>Dose equivalent rate</b> 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	<b>1 µSv/h</b> <b>0.2 µSv/h</b> <b>0.2 µSv/h</b>
<b>Scanning depth up to</b>	<b>30 cm</b>
<b>Detection capabilities</b>	
<b>When scanning with the speed no more than 5 cm/s, the PM1401T detects hidden bars:</b> aluminium 30 x 30 x 30 mm polyethylene 70 x 70 x 20 mm steel 30 x 30 x 10 mm <b>behind</b>	<b>1 mm steel partition or 15 mm wood partition</b>
<b>Dimensions</b>	<b>185 x 100 x 130 mm</b>
<b>Weight up to</b>	<b>1400 g</b>
<b>Temperature</b>	<b>-30 up to +50°C</b>
<b>Humidity</b>	<b>up to 95% at 35°C</b>

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

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



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