



**POLIMASTER**®



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**Innovating Radiation Detection Technologies Since 1992**

## **PERSONAL COMBINED RADIATION DETECTOR/DOSIMETER PM1703MO-1**



The energy-compensated detector PM1703MO-1 combines in one package the functions of the personal radiation detector using CsI(Tl) based detector and precise accumulated dose and dose rate measurement using GM tube based dosimeter. The small size of the unit can easily fit on the utility belt or on the vehicle dash board. At the same time PM1703MO-1 offers the highest performance of an instrument of this type currently available on the market and meets requirements of ITRAP/IAEA, IEC 60846, IEC 62401, ANSI N42.32 and ANSI N42.33 standards.



The range of the possible use applications varies from the health physics needs and the personnel acute dose monitoring to the security applications and area monitoring.

**Currently PM1703MO-1 is available in two versions:**

### **PM1703M-O1 (IAEA version)**

This customization fulfills all requirements of International Atomic Energy Agency (IAEA) users and widely used for radiation security of international events.

### **PM1703MO-1 (USA version)**

The model features expanded dose rate measurement range and large LCD for better result readings.

Accessories. Additionally, the PM1703MO-1 (USA version) is equipped with the optional vehicle charger/mounting cradle for easy placement on the dash board. At the user request instrument can be equipped with wide belt clip to fit on the utility belts up to 2 1/4" wide.

**ALARM**

**LOCATION**

**MEASUREMENT**

### **Features**

- Easy to use, two-buttons operation
- Does not require any special knowledge or intensive training
- Two independent detectors: small-sized GM tube and highly sensitive CsI(Tl) scintillation detector
- Visual, audio and vibration alarms
- Non-volatile memory
- Shockproof hermetic case
- Low EMI interference from portable radio and cell phones

### **Application**

- First responders
- Customs and Border Patrol
- Police
- Emergency response teams
- Law enforcement
- HazMat teams
- Security guards

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**IRDA**



# PERSONAL COMBINED RADIATION DETECTOR/DOSIMETER

# PM1703MO-1

## SPECIFICATIONS

	PM1703MO-1 (USA)	PM1703M-O1 (IAEA)
<b>Detector</b> - gamma search - gamma measurement	<b>CsI(Tl) GM tube</b>	<b>CsI(Tl) GM tube</b>
<b>Sensitivity</b> - for $^{137}\text{Cs}$ , $\pm 20\%$ - for $^{241}\text{Am}$ , no less	<b>100 (s<sup>-1</sup>)/(μSv/h) (1.0 (s<sup>-1</sup>)/(μR/h)) 70 (s<sup>-1</sup>)/(μSv/h) (0.7 (s<sup>-1</sup>)/(μR/h))</b>	<b>100 (s<sup>-1</sup>)/(μSv/h) (1.0 (s<sup>-1</sup>)/(μR/h)) 130 (s<sup>-1</sup>)/(μSv/h) (1.3 (s<sup>-1</sup>)/(μR/h))</b>
<b>Energy range</b> - for gamma	<b>0.033 - 3.0 MeV</b>	<b>0.033 - 3.0 MeV</b>
<b>Time of measurement</b>	<b>0.25 s</b>	<b>0.25 s</b>
<b>Dose Rate</b>	<b>0.01 μSv/h - 10 Sv/h (1 μR/h - 1000 R/h)</b>	<b>0.01 μSv/h - 10 mSv/h (1 μR/h - 1000 mR/h)</b>
<b>Dose</b>	<b>0.01 μSv - 9.99 Sv (1 μR - 999 R)</b>	<b>-</b>
<b>Accuracy (at <math>^{137}\text{Cs}</math>)</b>	<b><math>\pm(20+K/H)\%</math> in measurement range 0.1 μSv/h - 10 Sv/h (10 μR/h - 1000 R/h), where H - dose rate value in mSv/h; K - coefficient 0.005 mSv/h (H - dose rate value in mR/h; K - coefficient 0.5 mR/h)</b>	<b><math>\pm(15+K1/H+K2*H)\%</math> in measurement range 0.1 μSv/h - 10 Sv/h (10 μR/h - 1000 R/h), where H - dose rate value in μSv/h; K1 - coefficient 0.0045 μSv/h, K2 - coefficient 0.0015 (μSv/h)<sup>-1</sup></b>
<b>Alarm type</b>	<b>visual, audio, vibration</b>	<b>visual, audio, vibration</b>
<b>Data recording</b>	<b>2000</b>	<b>1000</b>
<b>Environmental protection</b>	<b>IP65</b>	<b>IP65</b>
<b>Drop test on concrete floor</b>	<b>1.5 m (4.9 ft) 0.7 m (2.3 ft) without cover</b>	<b>1.5 m (4.9 ft) 0.7 m (2.3 ft) without cover</b>
<b>Power supply</b>	<b>one AA standard or rechargeable battery</b>	<b>one AA battery</b>
<b>Battery life time</b>	<b>up to 1000 hours</b>	<b>up to 1000 hours</b>
<b>Operating temperature</b>	<b>-30°C to 50°C (-22°F to 122°F)</b>	<b>-30°C to 50°C (-22°F to 122°F)</b>
<b>Size (without cover)</b>	<b>72 x 32 x 87 mm (2 13/16" x 1 1/4" x 3 7/16")</b>	<b>72 x 32 x 87 mm (2 13/16" x 1 1/4" x 3 7/16")</b>
<b>Weight</b>	<b>200 g (7.05 oz) 240 g (8.5 oz)</b>	<b>200 g (7.05 oz) 240 g (8.5 oz)</b>
<b>Low battery warning</b>	<b>LCD</b>	<b>LCD</b>
<b>Overload indication</b> - gamma	<b>OL</b>	<b>OL</b>

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



**ITRAP/IAEA requirements, ANSI N42.32,  
ANSI N42.33 (1), ANSI N42.33 (2), IEC 60846, IEC 62401**