



**POLIMASTER**<sup>®</sup>



Innovating Radiation Detection Technologies Since 1992

## PERSONAL RADIATION DETECTORS

### PM1703M/PM1703MA PM1703GN/PM1703GNA



**These devices are used for detection and localization of radioactive sources.**

**The instruments' two operating modes enable the user both search for radioactive and nuclear materials as well as evaluate dose equivalent rate (DER).**

**Extremely sensitive scintillation counters allow detection even of the slightest amounts of gamma and neutron radiation emitting materials.**



Audio, visual and vibration alarms alert user when gamma or neutron radiation thresholds have been exceeded. All data is stored in the detector's non-volatile memory. The stored information can also be transferred from the detector to a personal computer (PC) via infrared channel.

### THE LATEST GENERATION IN RADIATION DETECTION FOR NON-TECHNICAL PERSONNEL

Ease of use and sensitivity make these watertight, robust monitoring tools essential for persons working in emergency services, customs and border patrol, police and for other specialists. Using of these devices doesn't require any special knowledge or intensive training.



**ALARM**



**LOCATION**



**MEASUREMENT**

#### Functions

- Searching for radioactive and nuclear materials using the method of impulse count analysis with alarms and visualization on the built-in LCD of the average gamma and neutron radiation count rate
- Measurement of gamma radiation ambient DER of gamma radiation  $H^*(10)$

#### Applications

- Emergency service
- Customs and border patrol
- Civil defense and police
- Wide range of specialists whose activity is connected with detection and location of radioactive sources

#### Versions

- PM1703M, PM1703MA equipped with scintillation gamma detectors CsI(Tl)
  - PM1703GN, PM1703GNA equipped with scintillation gamma detectors CsI(Tl) and neutron detectors LiI(Eu)
- The PM1703MA and PM1703GNA are more sensitive than PM1703M and PM1703GN

#### Features

- Highly sensitive CsI(Tl) and LiI(Eu) scintillation detectors
- Non-volatile memory
- Audio, visual and vibrating alarm
- IRDA communication with PC
- LCD display, electroluminescent backlight
- Shockproof hermetic case
- Easy-to-use, two-button operation

IRDA



# PERSONAL RADIATION DETECTORS

## PM1703M/PM1703MA PM1703GN/PM1703GNA

### SPECIFICATIONS

	PM1703M/PM1703GN	PM1703MA/PM1703GNA
<b>Detector</b> gamma neutron (only for PM1703GN and PM1703GNA)	<b>CsI(Tl) Li<sub>6</sub>I(Eu)</b>	<b>CsI(Tl) Li<sub>6</sub>I(Eu)</b>
<b>Gamma sensitivity</b> , at least for <sup>137</sup> Cs for <sup>241</sup> Am	<b>85 s<sup>-1</sup>/(μSv/h) 100 s<sup>-1</sup>/(μSv/h)</b>	<b>100 s<sup>-1</sup>/(μSv/h) 200 s<sup>-1</sup>/(μSv/h)</b>
<b>Neutron sensitivity</b> (only for PM1703GN, PM1703GNA), at least for Pu-α-Be for thermal neutrons	<b>0.035 counts x cm<sup>2</sup>/neutron 1.2 counts x cm<sup>2</sup>/neutron</b>	<b>0.07 counts x cm<sup>2</sup>/neutron 1.5 counts x cm<sup>2</sup>/neutron</b>
<b>Energy range</b> of gamma radiation of neutron radiation (only for PM1703GN/GNA)	<b>0.033 – 3.0 MeV from thermal to 14.0 MeV</b>	<b>0.033 – 3.0 MeV from thermal to 14.0 MeV</b>
<b>Dose Rate indication range</b>	<b>0.01 – 99.99 μSv/h</b>	<b>0.01 – 99.99 μSv/h</b>
<b>Gamma count rate indication range</b>	<b>1.0 – 7000 s<sup>-1</sup></b>	<b>1.0 – 7000 s<sup>-1</sup></b>
<b>Neutron count rate indication range</b> (only for PM1703GN, PM1703GNA)	<b>1.0 – 999 s<sup>-1</sup></b>	<b>1.0 – 999 s<sup>-1</sup></b>
<b>Accuracy of DER measurement at <sup>137</sup>Cs</b> in the collimated radiation in the range from 0.1 to 70 μSv/h, no more	<b>± 30 %</b>	<b>± 30 %</b>
<b>Alarm type</b>	<b>Audio, visual, vibration</b>	<b>Audio, visual, vibration</b>
<b>Data recording</b>	<b>1000 data points</b>	<b>1000 data points</b>
<b>Communication with PC</b>	<b>IRDA</b>	<b>IRDA</b>
<b>Drop test on concrete floor</b>	<b>0.7 m (without cover), 1.5 m (with cover)</b>	<b>0.7 m (without cover), 1.5 m (with cover)</b>
<b>Power supply</b>	<b>one AA 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>Battery discharge warning</b>	<b>indication on LCD</b>	<b>indication on LCD</b>
<b>Operating conditions</b> temperature relative humidity	<b>-30°C to 50°C up to 98% at 40°C</b>	<b>-30°C to 50°C up to 98% at 40°C</b>
<b>Environmental protection</b>	<b>IP65</b>	<b>IP65</b>
<b>Dimensions</b>	<b>72x32x87 mm</b>	<b>72x32x87 mm</b>
<b>Weight, no more</b>	<b>180 g</b>	<b>200 g</b>

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



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