

# PM1703GNA-II PM1703GNA-II BT

## Personal Radiation Detector



### A new generation gamma-neutron PRD with improved search algorithm and NORM suppress function

The instrument is used for detection and localization of gamma-neutron radioactive sources and measurement of dose equivalent rate (DER).

The implemented suppress NORM algorithm allows to define the category of detected radiation material providing the light alarm differentiating the danger level: green – Natural Occurring Materials (NORM), red – other radionuclides types (IND, NUC, MED).

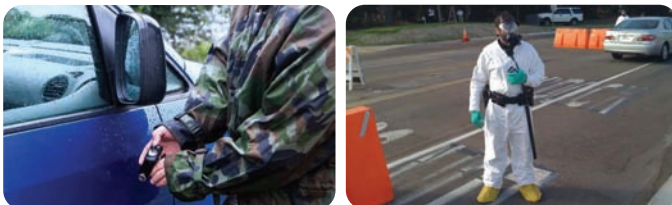
In the search mode the instrument displays the current value of gamma and neutron radiation in counts per second.

The instrument measures the current dose rate in  $\mu\text{Sv/h}$  or  $\mu\text{rem/h}$  with indication on LCD in  $\mu\text{R/h}$  in the measurement mode, and in numerical range from 0 to 9 in additional measurement mode: "Mode 0...9".

The audio, visual and vibration alarms alert the user about gamma radiation thresholds excess. The events history is stored in the instrument non-volatile memory. The stored data can also be transferred from the detector to a PC via USB or Bluetooth (PM1703GNA-II BT).

Device can exchange data with mobile devices in real time via Bluetooth 4.0. Free mobile app **POLISMART** is available at App Store and Google Play.

The instrument is user-friendly, highly sensitive, waterproof and shockproof. No special training to operate with the instrument is required.



### FUNCTIONS

- Search for radioactive and nuclear materials
- Audio, visual and vibration alarms
- Measurement of gamma radiation personal DER

### APPLICATIONS

- Emergency service
- Customs and border patrol
- Civil defense and police

### FEATURES

- Highly sensitive CsI(Tl) scintillation detector
- Highly sensitive  $\text{Li}^6/\text{ZnS}$ -film based neutron detector
- Compliance with ITRAP/IAEA, ANSI N42.32, ANSI N42.42 and IEC 62401
- PC communication via USB and Bluetooth (PM1703MA-II BT)
- Shockproof hermetic case IP6
- Lightweight less than 200 g
- Long lifetime from one AA battery
- User-friendly, two-buttons operation
- Low operation cost
- High operational availability

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## SPECIFICATIONS

<b>Detector</b>	Gamma: CsI(Tl) <b>SiPM</b> Neutron: Li <sup>6</sup> /ZnS
<b>Gamma sensitivity, at least</b>	for 137Cs: 100 cps per μSv/h (1 cps per μrem/h) for 241Am: 500 cps per μSv/h (5 cps per μrem/h)
<b>Neutron sensitivity, at least</b>	0.035 counts x cm <sup>2</sup> /neutron 1.2 counts x cm <sup>2</sup> /neutron
<b>Energy range</b>	Gamma: 0.033 – 3.0 MeV Neutron: from thermal to 14.0 MeV
<b>Dose Equivalent Rate (DER) range</b>	0.01 μSv/h – 300 μSv/h (1 μrem/h – 30 mrem/h)
<b>Accuracy of DER measurement at Cs<sup>137</sup></b> in the collimated radiation in the range from 0.1 to 300 μSv/h, no more	± 30 %
<b>Indication range</b>	Gamma count rate: 1.0 – 9999 cps Neutron count rate: 1.0 – 999 cps
<b>Response time</b>	0.25 s
<b>Alarm type</b>	audio, visual, vibration
<b>Communication with PC</b>	USB Bluetooth 4.0 (PM1703GNA-II BT)
<b>Data recording</b>	2000 data points
<b>Power supply</b>	one AA size alkaline or rechargeable battery
<b>Battery lifetime</b>	no less 800 hours no less 400 hours (in Bluetooth mode)
<b>Battery discharge warning</b>	indication on LCD
<b>Environmental protection</b>	IP65
<b>Drop test on concrete floor</b>	0.7 m
<b>Operating conditions</b>	Temperature : -40°C to 50°C (-40°F to 122°F) Relative humidity : up to 98% at 35°C (95°F)
<b>Dimensions</b>	87x72x32 mm (3 27/64 x 2 53/64 x 1 17/64 in)
<b>Weight</b>	200 g (7.05 oz)

The instrument complies with the requirements of ITRAP/IAEA, ANSI N42.32, ANSI N42.42 and IEC 62401.

The instrument design and specifications of can be changed without further notice. © Polimaster. All rights reserved - Jan 2020

