

PM1703MA PM1703MA

Personal Radiation Detector



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

The instrument is used for detection and localization of gamma 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).

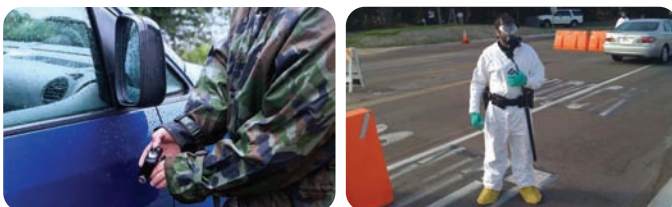
In the search mode the instrument displays the current value of gamma radiation in counts per second.

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 (PM1703MA-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
- 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

PM1703MA-II PM1703MA-II BT

SPECIFICATIONS

Detector	CsI(Tl) SiPM
Gamma sensitivity, at least	for 137Cs: 100 cps per $\mu\text{Sv/h}$ (1 cps per $\mu\text{rem/h}$) for 241Am: 500 cps per $\mu\text{Sv/h}$ (5 cps per $\mu\text{rem/h}$)
Energy range	0.033 – 3.0 MeV
Dose Equivalent Rate (DER) range	0.01 $\mu\text{Sv/h}$ – 300 $\mu\text{Sv/h}$ (1 $\mu\text{rem/h}$ – 30 mrem/h)
Accuracy of DER measurement at Cs¹³⁷ in the collimated radiation in the range from 0.1 to 300 $\mu\text{Sv/h}$, no more	$\pm 30 \%$
Gamma count rate indication range	1.0 – 9999 cps
Response time	0.25 s
Alarm type	audio, visual, vibration
Communication with PC	USB Bluetooth 4.0 (PM1703MA-II BT)
Data recording	2000 data points
Power supply	one AA size alkaline or rechargeable battery
Battery lifetime	no less 1000 hours no less 500 hours (in Bluetooth mode)
Battery discharge warning	indication on LCD
Environmental protection	IP65
Drop test on concrete floor	0.7 m
Operating conditions	temperature : -40°C to 50°C (-40°F to 122°F) relative humidity : up to 98% at 35°C (95°F)
Dimensions	87x72x32 mm (3 27/64 x 2 53/64 x 1 17/64 in)
Weight	200 g (7.05 oz)

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

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