

PERSONAL RADIATION DETECTOR

PM1703MA-II

PM1703MA-II BT



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 which differentiates 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 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. Free mobile app **POLISMART** is available at Google Play.

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



ALARM

LOCATION

MEASUREMENT

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 IP65
- 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

Detector	CsI(Tl) SiPM
Gamma sensitivity , at least for ^{137}Cs for ^{241}Am	100 cps per $\mu\text{Sv/h}$ (1 cps per $\mu\text{rem/h}$) 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 ^{137}Cs 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 • relative humidity	-40°C to 50°C (-40°F to 122°F) up to 98% at 35°C (95°F)
Dimensions, no more	87x72x32 mm (3 27/64 x 2 53/64 x 1 17/64 in)
Weight, no more	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 can be changed without further notice.

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Quality management system
ISO 9001

- Customer focus
- Customer satisfaction
- Continuous improvement
- System/process effectiveness

ID 15 100 148764

www.tuv-thuringen.de

America

Polimaster Inc.
44873 Falcon Place, Suite 128
Sterling, VA 20166, USA
Phone: +1 703 525 5075
Fax: +1 703 525 5079
info@polimaster.us
www.polimaster.us

Europe, Asia, Africa, Australia and Oceania

Polimaster Europe UAB
Ezero g. 4, Didziasalio k.
Nemezio sen., Vilniaus r.
LT-13264 Republic of Lithuania
phone: +370 5 210 2323
fax: +370 5 210 2324
polimaster@polimaster.eu
www.polimaster.com

Japan

Polimaster Japan Co., Ltd.
AUBE2 5-177 Kuratsuki
Kanazawa, Ishikawa Prefecture
920-8203 Japan
phone: +81 076 201 8623
fax: +81 076 201 8624
pacific@polimaster.jp
www.polimaster.jp