POLIMASTER®

Innovating Radiation Detection Technologies Since 1992

PERSONAL RADIATION DETECTOR PM1703MA-II MBT

A new PRD generation 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 exclude the alarm when the natural gamma background value increases and Naturally Occurring Radioactive Materials (NORM) are detected.

The instrument displays the current level of gamma radiation in counts per second in the search mode.

The "Mode 0…9" is designed to display the current level of gamma radiation background in form of digits from 0 to 9.

The measurement mode is designed for the measurement of gamma radiation dose equivalent rate and dose equivalent.

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

The instrument is user-friendly, highly sensitive, waterproof, and shockproof. The PRD is applied in emergency services, customs and border patrol, police, etc. No special training to operate with the instrument is required.

ALARM

LOCATION

MEASUREMENT

Functions

- Searching for radioactive and nuclear materials
- Audible, visual and vibration alarms
- Measurement of gamma radiation ambient DER H*(10) up to 10 Sv/h (1000 R/h)

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

Features

- Highly sensitive CsI(Tl) scintillation detector and GM-tube for extended dose rate measurement range
- 1000 data points stored in non-volatile memory
- Compliance to ITRAP/IAEA, ANSI N42.32, ANSI N42.42 and IEC 60846, IEC 62401.
- PC communication via USB and Bluetooth
- Shockproof hermetic case IP65
- User-friendly, two-button operation

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SPECIFICATIONS

Detector	**CsI(Tl) and GM-tube**
Gamma sensitivity, at least for ^{137}Cs for ^{241}Am	**100 s^{-1}/(μSv/h) (1 s^{-1}/(μR/h))** **200 s^{-1}/(μSv/h) (2 s^{-1}/(μR/h)**
Energy range	**0.033 – 3.0 MeV**
Dose Rate (DER) indication range	**0.01 μSv/h – 12 Sv/h (1 μR/h – 1200 R/h)**
Accuracy of DER measurement at ^{137}Cs in the collimated radiation in the range from 0.1 to 10 Sv/h, no more	**± 30 %**
Dose (DE) indication range	**0.01 μSv – 10 Sv (1 μR – 1000 R)**
Accuracy of DE measurement	**± 20 %**
Gamma count rate indication range	**1.0 – 9999 s^{-1}**
Response time	**0.25 s**
Alarm type	**Audio, visual, vibration**
Data recording	**1000 data points**
Communication with PC	**USB, Bluetooth 4.0**
Power supply	**one AA size alkaline or rechargeable battery**
Battery lifetime	**no less 1000 hours**
Battery discharge warning	**indication on LCD**
Environmental protection	**IP65**
Drop test on concrete floor	**0.7 m (without cover)** **1.5 m (with cover)**
Operating conditions • temperature • relative humidity	**-30°C to 50°C (-22°F to 122°F)** **up to 98% at 35°C (95°F)**
Dimensions, no more	**98x72x32 mm (3 55/64 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 60846, IEC 62401.

The instrument design and specifications of can be changed without further notice.

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