

# GAMMA DOSIMETERS PM1603A PM1603B

DESIGNED TO WORK IN EXTREME CONDITIONS

## Purpose

Dosimeters provide real-time environmental radiation monitoring. All data accumulated and stored in non-volatile memory can be transmitted via infrared channel to a PC for further processing and analysis.

Dosimeters have two independent alarm thresholds within dose equivalent rate and dose equivalent measurement ranges. Audible and visual alarms alert users when the preset thresholds have been exceeded.

The instruments' hermetic, shockproof and water-resistant case and the fluorescent backlight on LCD screen allow for easy operation and precision even in the most harsh and unfavorable environments.

## Functions

- Measurement of the ambient dose rate of external gamma and X-ray radiation
- Measurement of the ambient dose of external gamma and X-ray radiation
- Measurement of dose accumulation time
- Indication of the current time in hours, minutes and seconds
- Can be used independently or as a part of operational dosimetry system for everyday and emergency radiation control
- Register even the slightest changes in the natural background radiation

## Features

- Dose accumulation time measurement
- Two independent alarm thresholds
- Wide dose rate and dose range
- Communication with PC via IR
- Stable to dose up to 300 Sv
- Audible and visual alarm
- Rugged hermetic case
- Small and lightweight
- Non-volatile memory

## Application

- First responders and fire services
- Customs and border services
- Radioisotope laboratories
- Police and civil defense
- Nuclear power plants
- Mining



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## Specifications

Detector	Geiger-Muller tube
Dose rate measurement range <ul style="list-style-type: none"><li>• PM1603A</li><li>• PM1603B</li></ul>	1 µSv/h – 5 Sv/h 1 µSv/h – 10 Sv/h
Dose measurement range	1 µSv – 9.99 Sv
Dose accumulation time range	1 – 9999 h
Dose rate measurement accuracy <ul style="list-style-type: none"><li>• within the range of 1 µSv/h – 5 Sv/h for PM1603A</li><li>• within the range of 1 µSv/h – 10 Sv/h for PM1603B</li></ul>	$\pm(15 + 0.02/H + 0,003 H)\%$ $\pm(15 + 0.02/H + 0,002 H)\%$ where H is the dose equivalent rate, mSv/h
Dose measurement accuracy within the range of 1 µSv – 9.99 Sv	$\pm 15 \%$
Dose rate and dose thresholds range	two thresholds for dose rate and two for dose
Energy range	48 keV – 3 MeV
Energy response relative to 0.662 MeV ( $^{137}\text{Cs}$ ) within the energy range of 0.048 – 3 MeV	$\pm 30 \%$
Alarm type	audible
Data recording	1000 records (500 DER + 500 DE)
Communication with PC	IrDA
Power supply	one CR 2032 battery
Additional functions	alarm clock, timer, stopwatch, calendar
Calendar mode	day of the week, date, month, year
Daily variation of watch at normal conditions	$\pm 0,5 \text{ s/day}$
Battery lifetime	9 months
Battery discharge warning (partial and critical)	indication on LCD
Operating conditions <ul style="list-style-type: none"><li>• temperature range</li><li>• relative humidity</li></ul>	from $-20^\circ\text{C}$ to $70^\circ\text{C}$ up to 98 % at $35^\circ\text{C}$
Case protection	IP67
Dimensions	50 × 56 × 19 mm
Mass (with battery), no more than	85 g

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