



**POLIMASTER**<sup>®</sup>



Innovating Radiation Detection Technologies Since 1992

# GAMMA DOSIMETERS

**PM1603A/PM1603B** wrist

**PM1604A/PM1604B** breast pocket



## DESIGNED TO WORK IN EXTREME CONDITIONS

**Dosimeters provide real-time environmental radiation monitoring. The instruments can be used independently or as a part of operational dosimetry system for everyday and emergency radiation control, and can be tailored to the specific needs of customers.**

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

All data accumulated and stored in non-volatile memory can be transmitted via infrared channel to a PC for further processing and analysis.

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. The dosimeters are highly sensitive and can register even the slightest changes in the natural background radiation.



### Functions

PM1603A/PM1603B

- Measurement of the ambient DER of external gamma and X-ray radiation  $H^*(10)$ ;
- Measurement of the ambient DE of external gamma and X-ray radiation  $H^*(10)$

PM1604A/PM1604B

- Measurement of the personal DER of external gamma and X-ray radiation  $H_p(10)$ ;
- Measurement of the personal DE of external gamma and X-ray radiation  $H_p(10)$

PM1603A/PM1603B, PM1604A/PM1604B

- Measurement of DE accumulation time
- Indication of current time in hours, minutes and seconds
- Indication of day, month and year
- Using as alarm clock, timer and stop-watch

### Application

- Emergency service
- Customs and border patrol
- Radiological and isotope laboratories
- Medical professionals
- Personnel of nuclear facilities
- Civil defense
- Fire rescue and police
- Mining

### Features

- Wide range of DER and DE measurements
- Stable to dose up to 300 Sv
- Non-volatile memory
- Possibility of measurement of DE accumulation time
- Two thresholds in DER and DE range
- Audio and visual alarm
- PC communication by IR interface
- LCD display, electroluminescent backlight
- Rugged hermetic case
- Lightweight and small dimensions

**ALARM**

**LOCATION**

**MEASUREMENT**



**IRDA**



# PM1603A/PM1603B wrist PM1604A/PM1604B breast pocket

## SPECIFICATIONS

**DER indication range**  
- PM1603A/PM1604A  
- PM1603B/PM1604B

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**Range of dose accumulation time**

**Accuracy of DER measurement**

Within the range 1 μSv/h - 5 Sv/h for PM1603A/PM1604A  
1 μSv/h - 10 Sv/h for PM1603B/PM1604B

**Accuracy of DE measurement** within the range 1 μSv- 9.99 Sv  
**DER and DE threshold range**

**Energy range**

- PM1603A/PM1603B

- PM1604A/PM1604B

**Energy response relative to 0.662 MeV (<sup>137</sup>Cs)**  
within the energy range 0.048 3 MeV

**Alarm type**

**Data recording**

**Communication with PC**

**Power supply**

**Additional functions**

**Calendar mode**

**Daily variation of watch at normal conditions**

**Battery lifetime**

**Battery discharge warning** (partial and critical)

**Power supply**

**Operating conditions**

- temperature range

- relative humidity

**Case Protection Class**

**Dimensions**

- PM1603A/PM1603B

- PM1604A/PM1604B with a clip

**Weight (with battery), no more**

**Geiger-Muller tube**

0.01 μSv/h - 6.5 Sv/h

0.01 μSv/h - 13 Sv/h

0.01 μSv - 9.99 Sv

1 - 9999 h

±(15 + 0.02/H + 0.003 H)%

±(15 + 0.02/H + 0.002 H)%

H is the dose equivalent rate, mSv/h

± 15%

**two thresholds for DER and two for DE**

0.048 - 3 MeV

0.048 - 6 MeV

± 30%

**Audible**

1000 records (500 DER + 500 DE)

**IRDA**

one CR 2032 battery

alarm clock, timer, stop watch, calendar  
day of the week, date, month, year

± 0,5 s/day

**9 months**

**indication on LCD**

one CR 2032 lithium battery

from -20°C to +70°C

up to 98 % at 35° C

**IP67**

50 x 56 x 19 mm

50 x 90 x 19 mm

85 g

Design and specifications of the device can be changed without further notice.

