



POLIMASTER[®]



Innovating Radiation Detection Technologies Since 1992



GAMMA DOSIMETERS

PM1604A PM1604B

DESIGNED TO WORK IN EXTREME CONDITIONS

Dosimeters provide real-time environmental radiation monitoring.

The devices 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

- Measurement of the **personal dose rate** of external gamma and X-ray radiation
- Measurement of the **personal dose** of external gamma and X-ray radiation
- Measurement of dose 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
- Light weight and small dimensions

ALARM

LOCATION

MEASUREMENT



IRDA

polimaster.com

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SPECIFICATIONS

Detector	Geiger-Muller tube
DER indication range	
- PM1604A	0.01 µSv/h - 6.5 Sv/h
- PM1604B	0.01 µSv/h - 13 Sv/h
DE indication range	0.01 µSv - 9.99 Sv
Range of dose accumulation time	1 - 9999 h
Accuracy of DER measurement	
Within the range 1 mSv/h - 5 Sv/h (PM1604A)	±(15 + 0.02/H + 0.003 H)%
1 mSv/h - 10 Sv/h (PM1604B)	±(15 + 0.02/H + 0.002 H)%
	H is the dose equivalent rate, mSv/h
Accuracy of DE measurement within the range 1 µSv - 9.99 Sv	± 15%
DER and DE threshold range	two thresholds for DER and two for DE
Energy range	0.048 - 6 MeV
Energy response relative to 0.662 MeV (¹³⁷Cs)	
within the energy range 0.048 - 3 MeV	± 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, stop watch, calendar
Calendar mode	day of the week, date, month, year
Daily variation of watch at normal conditions	± 0,5 s/day
Battery lifetime	9 months
Battery discharge warning (partial and critical)	indication on LCD
Power supply	one CR 2032 lithium battery
Operating conditions	
- temperature range	from -20°C to +70°C
- relative humidity	up to 98 % at 35° C
Case Protection Class	IP67
Dimensions, with a clip	50 x 90 x 19 mm
Weight (with battery), no more	85 g