



POLIMASTER[®]
Radiation Detection Technologies



X-RAY AND GAMMA RADIATION PERSONAL DOSIMETER

PM1610

PM1610 series of electronic personal dosimeters (EPDs) are intended for extended measurement of the **personal dose equivalent** and **personal dose equivalent rate**. The dosimeters are suitable for multiple applications providing the measurement of **X-ray (continuous and pulsed) and gamma radiation** in the wide energy range. PM1610 has unique features for operation in workplaces requiring the use of personal protective equipment or a harsh environment, including a shockproof rubberized case, a high contrast display with a fluorescent backlight, and two big buttons for easy use even while wearing protective gloves.

PM1610A model has an extended dose measurement range **up to 20 Sv** and **improved accuracy** of the dose rate measurement.

Applications

- First responders
- Industrial facilities
- Police and security
- Emergency services
- Nuclear power plants
- Healthcare professionals
- Customs and border control
- Anyone working under the risk of X-ray and gamma radiation exposure

Features

- Small and lightweight
- Shockproof hermetic case
- USB communication with PC
- Audible, visual and vibration alarms
- Simple navigation with two large buttons
- Measurement of pulsed photon radiation
- Wide dose and dose rate measurement ranges
- Extended energy range: from 20 keV to 10 MeV
- Long-life rechargeable battery: at least 650 hours



SPECIFICATIONS

Detector	Geiger-Mueller tube	
Dose rate measurement range	0.1 μ Sv/h to 10 Sv/h	
Dose rate measurement accuracy	$\pm(15+0.0015/\dot{H})$ % for PM1610 $\pm(10+0.0015/\dot{H}+0.0015\cdot\dot{H})$ % for PM1610A where \dot{H} is the measured dose rate value in mSv/h	
Dose measurement range	0.05 μ Sv to 10 Sv (up to 20 Sv for PM1610A)	
– continuous photon radiation	10 μ Sv to 10 Sv (up to 20 Sv for PM1610A)	
– pulsed photon radiation		
Dose measurement accuracy	± 20 %	
Energy range	20 keV to 10 MeV	
Energy response relative to 0.662 MeV (¹³⁷Cs)	–60 % (20 keV to 33 keV) –40 % (33 keV to 48 keV) ± 30 % (48 keV to 3 MeV) ± 50 % (3 MeV to 10 MeV)	
Minimum pulse duration of pulsed X-ray radiation	1 ms	
Memory	7500 events	Ingress protection IP65
Alarms	visual, audible, vibration	Drop test 1.5 m
Communication	USB	Dimensions $\leq 58 \times 59 \times 20$ mm
Power supply	built-in rechargeable battery; external via USB	Weight ≤ 70 g
Battery lifetime (average dose rate < 0.3 μ Sv/h, active alarms < 20 s / 24 h)	≥ 650 hours	Operating conditions
		– ambient temperature -20 °C to 50 °C
		– atmospheric pressure 84 kPa to 106.7 kPa
		– relative humidity up to 98 % at 35 °C



Holder with a clip for secure fastening



Compatible with PM530 Automated Personal Dosimetry System



Direct micro-USB connection for easy charging and data transfer

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