

Personal Electronic Dosimeter: PM1610 Series

Continuous and Pulse X-Ray and Gamma Radiation



PM1610

Gamma & X-Ray

Professional personal dosimeter for measuring continuous and pulse X-Ray and Gamma Radiation in the energy range 20 keV – 10 MeV. The dosimeters are recommended to protect professionals, who work with or around X-ray or gamma radioactive materials. They measure the personal dose equivalent $H_p(10)$ and personal dose equivalent rate $H_p^*(10)$.

The instrument's non-volatile memory allows for manual or automatic recording up to 7500 events of the dose rate change, acute dose levels, time and levels when the present threshold values were exceeded.

Instrument's shockproof rubberized case and the LCD with fluorescent backlight allows for easy operation even in the harshest, most unfavorable environments or weather conditions.

Personal Dose Tracker software, enables serial connection up to 100 units of PM1610 dosimeters. Software enables information transfer by USB-protocol to a personal computer to analyze, process, and generate corresponding databases in a control center or an expert center.

Applications

- Medical (Nuclear medicine, Radiopharmacy, ...)
- Industry (Mining, Oil&gas, NDT,...)
- Emergency (Police, Firefighters, Military, Customs, ...)
- Nuclear Power

Specifications

	PM1610	PM1610-01	PM1610A	PM1610A-01
Detector	Geiger-Mueller tube			
Dose equivalent rate (DER) range	0.01 μ Sv/h - 12.0 Sv/h			
DER threshold range	Two threshold levels within all measurement range			
DE measurement range: - continuous photon radiation (current) - pulsed photon radiation (pulse duration not less than 1 ms)	0.05 μ Sv to 10.0 Sv 10 μ Sv to 10.0 Sv		0.05 μ Sv to 20.0 Sv 10 μ Sv to 20.0 Sv	
DE threshold range	Two threshold levels within all measurement range			
Minimum pulse duration of X-ray and gamma radiation	1 ms at multiple exposure (more than 10 pulses) 10 ms at single exposure			
Accuracy of DER measurement in the range 0.1 mSv/h - 10 Sv/h	$\pm(15+0.0015/\dot{H})\%$ where \dot{H} is DER value in mSv/h		$\pm(10+0.0015/\dot{H}+0.0015\dot{H})\%$ where \dot{H} is DER value in mSv/h	
Accuracy of DE measurement in the range 0.05 mSv - 10 Sv	$\pm 20\%$			
Energy range	20 keV - 10 MeV			
Energy response relative to 0.662 MeV (^{137}Cs)	- 60 % from 20 to 33 keV - 40 % 33 to 48 keV $\pm 30\%$ 48 keV to 3 MeV $\pm 50\%$ 3 to 10 MeV			
Communications via USB interface	+	+	+	+
Communications via ISO15693 interface	-	+	-	+
Features	- Audio alarm - Visual alarm - Vibration alarm - Holder with clip			
Automatic data logging	7500 data points			
Power supply	Built-in rechargeable battery, charging via USB			
Rechargeable battery capacity	30 days			
Low battery (partial and critical)	Indication on LCD			
Operating conditions: - temperature range - pressure	-20...+50°C 70-106.7 kPa			
Case Protection Class	IP65			
Dimensions	58x58x18 mm			
Weight	70 g			

Features

- Measures continuous and pulse X-Ray and gamma radiation
- Alerts user via audio, visual and vibration alarms when preset thresholds are exceeded
- Records manually or automatically for up to 7500 events in the instruments' non-volatile memory
- Communicates with a PC via USB channel with the simultaneous battery charging
- Use of different types of wireless readers in compliance with ISO15693 (for PM1610-01 and PM1610A-01)
- Low battery warning
- User friendly interface with two buttons operation



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