



**POLIMASTER®**

# CONTINUOUS AND PULSE X-RAY AND GAMMA RADIATION PERSONAL DOSIMETER **PM1610B**



**ALARM**



**PULSE  
RADIATION**



**MEASUREMENT**

USB

**These electronic personal dosimeters are excellent instruments for personnel, exposed to pulsed X-ray and gamma radiation.**

The instruments provide measurement of dose equivalent and dose equivalent rate of continuous and pulsed X-ray and gamma radiation, as well as time of dose accumulation.

Devices have audible, visual and vibration alarms to warn the user when preset dose/dose rate threshold levels are exceeded.

For reading data from dosimeters the special software Personal Dose Tracker is provided. It allows to record and monitor radiation exposure of users of dosimeters. The device is ready for use immediately after installing the battery.

## Features

- Easy to use
- Measurement of pulse X-ray and gamma radiation with pulse duration 1 ms and up
- Dose rate measurement up to 10 Sv/h (1000°rem/h) and dose measurement up to 20°Sv (2000 rem)
- Two independent alarm thresholds for dose and dose rate
- Default settings for dose:  
threshold 1 – 5 mSv (500 mrem),  
threshold 2 – 10 mSv (1000 mrem)
- Audible, visual and vibration alarms
- Wide energy range from 20 keV to 10 MeV
- Settings can be controlled (blocked by the user to change) from a PC via USB
- Ability to display measurements in Sv or rem
- Turning off the alarm by pressing any button
- Shockproof hermetic case
- Light weight and small dimensions

## Applications

- First responders
- Customs and border patrol
- Medical professionals
- Radiological and Radionuclide isotope laboratories
- Professionals exposed to pulse radiation

# CONTINUOUS AND PULSE X-RAY AND GAMMA RADIATION PERSONAL DOSIMETER **PMT610B**

## SPECIFICATIONS

<b>Detector</b>	<b>Geiger-Mueller tube</b>
<b>Dose equivalent rate (DER) indication range</b>	<b>0.01 <math>\mu</math>Sv/h - 12.0 Sv/h (1 <math>\mu</math>rem/h - 1200 rem/h)</b>
<b>DER measurement range</b>	<b>0.1 <math>\mu</math>Sv/h - 10.0 Sv/h (10 <math>\mu</math>rem/h - 1000 rem/h)</b>
<b>DER threshold range</b> (in all measurement range)	<b>Two threshold levels</b>
<b>Dose equivalent (DE) indication range</b>	<b>0.001 <math>\mu</math>Sv - 24.0 Sv (0.1 <math>\mu</math>rem - 2400 rem)</b>
<b>DE measurement range:</b> - continuous photon radiation (current) - pulsed photon radiation (pulse duration not less than 1 ms)	<b>0.05 <math>\mu</math>Sv - 20.0 Sv (5 <math>\mu</math>rem - 2000 rem) 10 <math>\mu</math>Sv - 20.0 Sv (1000 <math>\mu</math>rem - 2000 rem)</b>
<b>DE threshold range</b> (in all measurement range)	<b>Two threshold levels</b>
<b>Minimum pulse duration of X-ray and gamma radiation</b>	<b>1 ms at multiple exposure (more than 10 pulses) 10 ms at single exposure</b>
<b>Accuracy of DER measurement</b>	<b><math>\pm(10 + 0.0015/\dot{H} + 0.0015\dot{H}) \%</math>, where <math>\dot{H}</math> - DER value in mSv/h</b>
<b>Accuracy of DE measurement in the measurement range</b>	<b><math>\pm 20\%</math></b>
<b>Energy range</b>	<b>20 keV - 10 MeV</b>
<b>Energy response relative to 0.662 MeV (<math>^{137}\text{Cs}</math>) in the DER and DE measurement mode, not more than</b>	<b>- 60% 20 keV - 33 keV - 40% 33 keV - 48 keV <math>\pm 30\%</math> 48 keV - 3 MeV <math>\pm 50\%</math> 3 MeV - 10 MeV</b>
<b>Communications</b>	<b>USB interface</b>
<b>Features</b>	<b>- Audio, visual and vibration alarms - Holder with clip</b>
<b>Automatic data logging</b>	<b>7500 data points</b>
<b>Power supply</b>	<b>Battery type LR03/AAA</b>
<b>Operating time on new battery in normal conditions</b>	<b>no less than 20 days</b>
<b>Low battery (partial and critical)</b>	<b>Indication on LCD</b>
<b>Operating conditions:</b> - temperature range - pressure	<b>-20 ... +50°C 84 - 106.7 kPa</b>
<b>Case Protection Class</b>	<b>IP65</b>
<b>Dimensions</b>	<b>71x59x20 mm</b>
<b>Weight</b>	<b>90 g</b>

Designed to meet ANSI N42.20-2006 and IEC 61526:2010 requirements



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