

# Personal Electronic Dosimeter: PM1630

Continuous and Pulse X-Ray and Gamma Radiation



Wireless charging



X-ray and Gamma Radiation Personal Dosimeter PM1630 is a miniature electronic dosimeter capable of solving a wide range of personal dose monitoring tasks - measurement of DE and DER of X-ray (continuous and pulsed) and gamma radiation.

The dosimeter also provides wireless on-line data transfer (DE and DER) and off-line transfer of instrument history events to radiation monitoring system database of different institutions.

The real time data transfer capability allows to use PM1630 as a mean of control and indication of DER and DE during procedures using ionizing radiation sources and to maintain a database and perform control of personnel exposure for the period of stay in an operating room using Automated Personal Dosimetry System PM531.

PM1630 dosimeters can be also integrated into Automated Personal Dosimetry System PM530 for maintaining the instrument history database and monitoring personnel exposure.

Moreover, PM1630 is equipped with Bluetooth interface for integration with Polismart® application which enables on-line indication of the measurement data on a smartphone or tablet computer and adjust the dosimeter settings.

## Applications

- Medical personnel:
  - X-ray diagnostics
  - Interventional radiology
  - Radiation diagnostics and therapy
- Operators at radioisotope laboratories
- Medical physicists
- Customs and security officers working with X-ray inspection equipment
- Other professionals who work under the risk of X-ray and gamma radiation exposure

## Specifications

- **Dose equivalent (DE) measurement range:** 1.0  $\mu$ Sv - 10.0 Sv
- **DE measurement accuracy:**  $\pm$  15 %
- **Dose equivalent rate (DER) measurement range:** 0.1  $\mu$ Sv/h - 1.0 Sv/h
- **DER measurement accuracy:**  $\pm$  15 %
- **Energy range:** 15 keV - 1.5 MeV
- **Energy response relative to 0.662 MeV:** -29% ... +45%
- **Minimum pulse duration of X-ray and gamma radiation:** 2 ms
- **Thresholds:** 2 independent thresholds for both DE and DER
- **Alarm type:** visual and audible
- **Communication with digital devices:** Bluetooth
- **Automatic data logging:** 6000 data points
- **Possible wearing variants :**
  - in breast pocket (front clip)
  - on breast pocket (rear clip)
  - on any clothes item (with clip type "crocodile")
  - on the wrist (silicone band)
- **The color of PM1630 case:** for orders over 50 pcs, the color of the dosimeter case can be selected by the customer.
- **Power supply:** rechargeable battery (wireless charger provided)
- **Battery lifetime in run mode:**
  - $\geq$  2 months with Bluetooth disabled and average dose rate up to 0.3  $\mu$ Sv/h
  - $\geq$  10 days Bluetooth enabled and average dose rate up to 0.3  $\mu$ Sv/h
  - $\geq$  8 h with Bluetooth enabled and average dose rate up to 1.0 Sv/h
- **Operating conditions:**
  - temperature: from -10 °C up to +50 °C
  - humidity: up to 98 % at +35 °C
  - atmospheric pressure: from 84 up to 106.7 kPa
- **Ingress protection:** IP67
- **Resistance to disinfection:** yes
- **Drop test:** 1.5 m onto concrete surface
- **Dimensions:** 63 x 50 x 18 mm
- **Weight:**  $\leq$  50 g



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Integration with APDS PM530 and APDS PM531



## Features

- Small dimensions and light weight
- Single control button
- Digital indication, sound and LED alarms
- Three clips for different wearing options
- Resistance to cleaning and disinfection agents
- Wireless charging
- Data transfer via Bluetooth
- Function of automatic countdown and display in the Polismart® app of safe stay near radiation hazards



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