



## ELECTRONIC PERSONAL DOSIMETER PM1300

Polimaster PM1300 is a compact direct-reading electronic personal dosimeter designed for real-time control of radiation situation and measurement of personnel exposure.

The instrument may be used both for autonomous work and as a part of automatic personnel exposure monitoring system.

### FEATURES

- Complies with and exceeds requirements of IEC61526 and ANSI 42.20 standards
- Extended energy range and improved energy response
- Electronic reference of the instrument to a TLD badge
- Automatic calculation of the time left until the dose equivalent alarm threshold will be triggered

### APPLICATION

- Nuclear power
- Medicine
- Non-destructive testing
- Oil and gas industry

### FUNCTIONS



Measurement of dose equivalent and dose equivalent rate of continuous and pulsed photon radiation



Visual, audible and vibration alarms when one of the thresholds is exceeded



Recording up to 10 000 events in the history



USB data transfer



Wireless radio frequency data transfer



Creation of personnel exposure database

# ELECTRONIC PERSONAL DOSIMETER PM1300

Complies with and exceeds the requirements of IEC 61526, ANSI 42.20

## DOSIMETER SPECIFICATIONS

- **Detector:** Energy compensated silicon PIN diode
- **Dose equivalent measurement range:**  
1  $\mu$ Sv - 20 Sv
- **Dose equivalent rate measurement range:**  
1  $\mu$ Sv/h - 10 Sv/h
- **Average dose equivalent rate of pulsed photon radiation measurement range:** 10 mSv/h - 10 Sv/h
- **Energy range:** 15 keV - 20 MeV
- **Accuracy:**
  - dose measurement:  $\pm 15\%$
  - dose rate measurement:  $\pm 15\%$
- **Energy response relative to 0.662 MeV:**
  - in the range from 15 keV to 7 MeV:  $\pm 15\%$
  - in the range from 7 MeV to 20 MeV:  $\pm 40\%$
- **Thresholds:** 2 independent thresholds for both dose equivalent and dose equivalent rate
- **Operating conditions:**
  - temperature: from -20 to +50 °C
  - humidity: up to 95 % at +40 °C
  - atmospheric pressure: from 84 to 106.7 kPa
- **Ingress protection:** IP67
- **Dimensions:** 85 x 56 x 20 mm
- **Weight** (including battery):  $\leq 84$  g
- **Power supply:** AAA alkaline or rechargeable battery

## SYSTEM INTEGRATION

### USB interface allows:

- Wired data transmission and adjusting parameters of the instrument
- Registration of personnel in exposure monitoring system and issuing personal radiological work permits
- Battery recharging

### Automated storage rack allows:

- Storing and controlling the access to the set of personal dosimeters by means of authorization in facial recognition system or entering access code
- Remote data transmission and adjusting parameters of the instruments
- Automated registering in exposure monitoring system and issuing personal radiological work permits
- Battery recharging

## RF READER SPECIFICATIONS

- **Operational frequency:** 2.4 GHz
- **Readout distance:** up to 10 m
- **Output power:** 1 mW
- **PC communication:** USB, Ethernet, RS-485
- **Memory capacity:** up to 50 000 events
- **Power supply:** mains current or USB (backup rechargeable battery)
- **Dimensions/weight:** 100 x 100 x 50 mm/ $\leq 0,4$  kg
- **Operating conditions:**
  - temperature from -10 to +50 °C
  - humidity up to 98% at +40°C
  - atmospheric pressure from 84 to 106.7 kPa



### RF interface allows:

- Wireless data transmission and adjusting parameters of the instrument
- Automated registration of the personnel in exposure monitoring system and issuing personal radiological work permits
- Simultaneous transmission of measurement results to the personnel exposure monitoring system from several dosimeters. Transferred data may be linked to a certain controlled area.
- Remote control of the access, movement, location and duty hours of personnel in the restricted areas under issued radiological work permits
- Integration to automatic access control systems

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