

# ELECTRONIC PERSONAL DOSIMETER

## PM1300

## PM1300-01

USED INDEPENDENTLY AND AS PART OF APDS

### Purpose

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 the Automated Personal Dosimetry System.



### Functions

- Measurement of **dose equivalent** and **dose equivalent rate** of continuous and pulsed photon radiation
- Wireless data exchange via RF-interface (**PM1300**) and wired data exchange via USB-interface (**PM1300 and PM1300-01**)
- Alarming in case the preset dose or dose rate threshold is exceeded
- Recording up to 10 000 events in the history



### Features

- Extended range of registered energies of photon radiation: from 15 keV to 20 MeV
- Long battery life: up to 3000 of hours from one power element
- Quick response to the dose rate changes
- RF-interface data exchange with personnel exposure monitoring system (PM1300)
- USB-interface for charging, recording and reading of data
- Remote control of personnel dose exposure while conducting radiation-hazardous works
- Can be supplied together with automated storage rack to collect, store, charge, read out and distribute dosimeters



### Application

- Nuclear power plants
- Medical institutions
- Oil and gas industry
- Radiological and isotope laboratories
- Processing and transportation of radioactive materials



# ELECTRONIC PERSONAL DOSIMETER

## PM1300

### PM1300-01



Complies and exceeds the requirements of IEC 61526,  
ANSI 42.20

#### Dosimeter specifications

- Detector**  
Energy compensated silicon PIN diode
- Dose rate measurement range**  
1 µSv/h – 10 Sv/h
- Dose rate measurement accuracy**  
±15 %
- Dose measurement range**  
1 µSv – 20 Sv
- Dose measurement accuracy**  
±15 %
- Energy range**  
15 keV – 20 MeV
- Energy response (relative to 0.662 MeV)**  
- from 15 keV to 7 MeV ±15%  
- from 7 MeV to 20 MeV ±40%
- Thresholds**  
2 independent thresholds for both dose and dose rate
- Memory:**  
10000 records
- Power supply:**  
standard battery or NiMH accumulator (AAA)
- Battery lifetime:** up to 90 days
- Operation conditions:**  
- temperature from -20 °C up to 50 °C  
- humidity up to 95% at 40°C  
- atmospheric pressure from 84 to 106.7 kPa
- Drop test on concrete floor:**  
1.5 m
- Ingress protection:**  
IP67
- Dimensions:**  
85 x 57 x 20 mm
- Mass (with battery):**  
≤ 95 g

#### RF interface

PM1300 is equipped with a wireless data exchange module which allows:

- transmission of measurement results to the personnel exposure monitoring system
- automated registration of the personnel in exposure monitoring system
- 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

The reader may be located autonomously in different zones of the controlled areas and simultaneously receive data from several dosimeters in the acquisition range.



#### Reader specifications

**Operation frequency range:** 2.4 GHz

**Adjustable readout distance:** from 20 cm up to 10 m

**Output power:** 1mW

**PC communication:** USB, Ethernet, RS-485

**Number of stored events:** up to 50000

**Power supply:**

- mains current or via USB-port from other devices
- backup internal power supply: one AAA accumulator battery

**Operation conditions:**

- temperature from -10 °C up to 50 °C
- humidity up to 98% at 40°C
- atmospheric pressure from 84 to 106.7 kPa

**Ingress protection:** IP40

**Dimensions:** 100 x 100 x 50 mm

**Mass:** ≤ 0.4 kg

Design and specifications of the product can be changed without further notice.

