

RADIATION DOSIMETER

PN-10 Personal Gamma & X-ray
Dosimeter

USER MANUAL



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PN-10 Personal Gamma & X-ray Dosimeter

Important Notes:

- Before using, read the user manual thoroughly.
- This instrument is not a protection equipment and is not a kind of shield.
- In case of checking or tuning the instrument note and obey radiation protection regulations and standards.
- Keep away from fire, flammable and solvents.
- In case of malfunction contact the manufacturer
- Mobile phones and other sources of strong electromagnetic waves can interfere the instrument's circuits, please keep away from microwave and mobile phones.
- Impacts and intensive mechanical shocks can damage or effect on the accuracy of the measure dose, please avoid the shock.
- Calibration certificate validation period is governing by the local regulatory.

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PN-10 Personal Gamma & X-ray Dosimeter

Introduction:

The PN-10 is a compact electronic personal radiation dosimeter that measures cumulative dose equivalent in Sievert.

Features and Specification:

- Detect gamma radiation and X-ray
- Accuracy: 20%
- Energy response: $\pm 15\%$ from 100 keV to 1.25 MeV
- 3 digit LED display
- Audio alarms system
- Dimensions: 118 x 38 x 26 mm
- Weight: 100 gram
- Continuous operation up to One week
- Wide range of dose measurement capability, up to 1 Sv

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- Stable at high dose rates, linear response from 1 mSv/h to 1 Sv/h
- Preserving accumulated dose data in non-erasable memory
- Micro-USB interface for battery charging
- Simple and user friendly interface
- Re-chargeable internal battery
- Designed and manufactured in Iran

Operation condition:

- Temperature: -10 to 50 °C
- Humidity: up to 95%
- Pressure: 84 to 106 kPa

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Package consists of:

- PN-10 Instrument 1 pcs.
- Charging adapter 1 pcs.
- Charging cable: 1 pcs.
- User manual
- Calibration certificate

Applications:

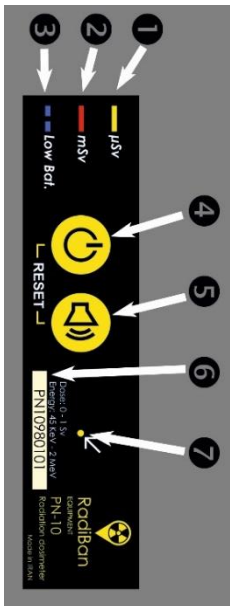
- Radiation protective measures
- Therapeutic radiology
- Nuclear medicine
- Nuclear research activities
- Industrial radiography
- X-ray crystallography

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Side Label:

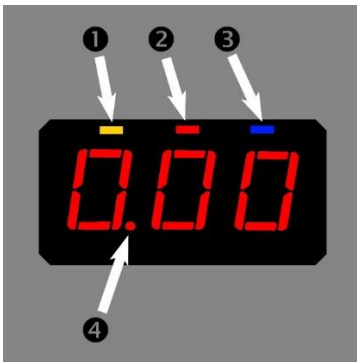
- 1 Position of Yellow LED
- 2 Position of Red LED
- 3 Position of Blue LED
- 4 On/Off button
- 5 Buzzer On/Off button
- 6 Serial Number
- 7 Sensing area



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Front Panel Display:




- ① Yellow LED (microSievert)
- ② Red LED (milliSievert)
- ③ Blue LED (Lowbattery)
- ④ Point

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Operation:


Turn the instrument on:

To turn the instrument on push the button . After about 8 seconds display will show a number which is the cumulative equivalent dose received by instrument from last rest. The number will be appeared for 5 seconds and display goes to standby mode. Note that instrument is active and measures the incident radiation.



Turn the display on:

To turn on the display and read the dose push  once.

Turn the instrument off:

To turn off the instrument press  for 1 seconds. While OFF is blinking the instrument goes off.

Reset equivalent dose value:

Push both keys  and  at the same time. Note: The reset is not undoable.

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Turn audio alarm On/Off:

Press  button.

Measurement and units:

Dose equivalent values are shown in μSv (microsievert) or mSv (millisievert). Color LED's in the display panel indicates the scale as below:

- Yellow for μSv
- Red for mSv

Note: the position of the LED's is indicated graphically and literally on the side label of the instrument.

Battery:

Low battery indicator is a Blue blinking LED placed in the front panel display. It warns user 2 hours before running out.

Instrument can work for one week non-stop in low dose (background

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radiation) and active audio alarm condition.

Charging should be done using a standard micro USB cable and 5-volt standard AC/DC adapter. (Cable and adapter is provided in the package).

Audio alarm:

The instrument is equipped to a beeper (audio alarm). One short beep for every detection of gamma/X photon. More frequent beep defines a more detection rate and relatively higher dose rate.



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