# DIGITAL POCKET DOSIMETER - II
## TYPE: PD 716

## Technical Data



## FEATURES :

❖ Si-diode used as the radiation detector.

❖ Serves as an excellent pocket dosimeter (worn on waist belt).

❖ Measures cumulative dose in the range of 1μSv to 999.9 mSv and doserate in the range of 00.1μSv/h to 99.99 mSv/h.

❖ Battery life of more than 2000 hrs. (Easily available alkaline AA cells).

❖ Preset alarm facility for cumulative dose and dose rate.

❖ IR non- contact serial communication port for PC connectively.

**Digital Pocket Dosimeter** Type **PD716** uses Si-diode as the radiation detector. This serves as personnel radiation monitor with alarm to cater to the needs of radiation workers in Nuclear installations, Reprocessing plants, Radiochemical plants, etc. It also finds use in medical, industrial, other applications where radioactive isotopes are used for a variety of applications.

It measures integrated radiation dose in the range of 1μSv to 999.9mSv and doserate in the range of 00.1μSv/h to 99.99 mSv/h. It is also provided with preset alarm feature for generation of audio alarms in the event of high dose / doserate. The user interface to the instrument is through the LCD display and a single push button switch. The dosimeter is provided with an optical port for data communication with PC for the purpose of setting preset alarm levels and for calibration of the dosimeter.

Its design is based on nano watt technology resulting in a battery life of better than 2000 hrs. of continuous use.

## Additional options :

i. Docking station for PD716.
ii. Dose records data management software DS717.

# SPECIFICATIONS

**Radiation detected:** Gamma / X-ray.

**Detector:** Si photo diode.

**Display:** 4 digit 7 segment LCD display.

**Energy dependence:** +/– 25% in the range of 60 Kev to 1.33 Mev.

**Range:** Automatic.

**Dose:** 1µSv to 999.9 mSv.

**Dose rate:** 0.1µSv/hr to 99.99mSv/hr.

**Over range:** 100% over range compliant.

**Alarm Settings :**

**a) Dose:** 1µSv to 999999 µSv.
**b) Dose rate:** 1µSv/h to 99999µSv/h.

**Dose History:** Facilitates storage of dose profile at adjustable time intervals.

**Audio Alarm:** 1Hz alternating short beeps for dose rate and long beeps for dose alarm. Additionally vibration alert is provided for alarm annunciation.

**PC connectivity:** Optical port for communication with PC for configuration/ calibration.

**Batteries:** 2x1.5V AA size alkaline /any batteries to provide a life of more than 2000 Hrs.

**Battery status:** Low battery indication on LCD .

**Control :**
A single push button for

a) Powering the unit ON/ OFF.
b) Viewing dose / doserate.
c) Muting doserate / dose alarm.

**EMI /EMC compliance:** It is not affected by RF over frequency of 20MHz to 1000MHz at an intensity of 1 0V/ m as per ANSI N42.32 – 2003.Tolerant to cell phone interference .

**Dimension:** 67W x 28H x 92L.

**Weight:** 150gms. Approximately.

\* **Optional switch ON / OFF from PC**

**Note**: **Manufactured by NUCLEONIX SYSTEMS based on, Si-diode sensor Technology from Bhabha Atomic Research Center Mumbai.**

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IR Docking Station DS717 under the control of the PC communication software, primarily facilitates automatic readout of **Cumulative Dose** along with the **Unique ID** apart from **configuration/calibration** of the dosimeter. The Docking station communicates with the Dosimeter through IR port at a baud-rate of 1200. On the PC side it gets connected through the USB port. This Docking station DS717 is designed for docking PD717 derives power through the USB port.

**Dose records data management software (DRMS)** is designed to read **total dose** from the dosimeter automatically once the dosimeter is placed on the docking station. It also facilitates Configuration of Alarm Settings for Cumulative Dose and Dose-rate, assigning Unique ID for individual dosimeters, Calibration of the dosimeters for Cumulative Dose. The Application software routes data to Dosimeter through virtual comm. port to Docking station which in turn routes the data through IR port to the Dosimeter. Once the data is retrieved into PC, it gets recorded in a database. Users can retrieve and analyze data - ID-wise, Day-wise, Month-wise, Week-wise.

### FEATURES

**Hardware :**

- Communication with dosimeters over IR port.
- Connects to PC through USB port.

**Software :**

- Automatic cumulative dose & ID readout, into data base.
- Facilitates configuration of alarm settings and dose calibration.
- Data storage automatically after each readout.
- Dose records data base gives weekly, monthly, & yearly cut dose of individuals.



**IR docking station DS717**



**Pocket dosimeter worn on waist belt**