



DOSICARD™ – DOSIMAN Electronic Personal Dosimeters in Credit Card Size

Features

- Stand-alone electronic dosimeter with LCD display, large non-volatile memory and programmable alarm levels on doses and dose rate
- Ultra thin/compact – light weight – shockproof – low cost
- Measures the X/γ dose equivalent Hp(10) according to ICRU 39
- Meets the latest regulations regarding the EMI compatibility – CE type approval
- Keystone of complete unique operational dosimetry systems

Description

With its credit-card size, DOSICARD™ features the smallest electronic dosimeter available on the market.

It is also one of the most technologically advanced. It provides real time monitoring of the personal dose and dose rate. DOSICARD is the key element within a unique operational dosimetry system that can be tailored to your specific applications. DOSICARD addresses all workers exposed to a radiological risk in nuclear facilities, research and medical centers, and the nuclear industry. Therefore, it is of outstanding performance in the ALARA strategy of minimizing received doses.

The DOSICARD badge is your radiation surveyor. It keeps you informed in real time of the radiation rate, allowing immediate reaction in case of radiation occurrence, thus drastically reducing the exposure to nuclear radiation.

DOSICARD can also be part of a system: from nuclear laboratories of a few persons to nuclear facilities of several thousand workers, Dosemanager II and CARD Systems allow easy operation, and database management for efficient operational dosimetry monitoring.

DOSICARD can display either Sv or rem, selection being made by the user in Dosemanager II. DOSIMAN can be delivered with either Sv or rem display (factory set).

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DOSICARD – Efficient and easy-to-use

DOSICARD features a silicon detector, complete analog and digital circuitry, including a microcontroller with large non-volatile memory, a LCD display and audio and visual alarms.

Three touch buttons allow programming and display setup of the current dose, dose rate and cumulative doses per day/month/quarter/year/five years.



DOSICARD – DOSIMAN Electronic Personal Dosimeters in Credit Card Size

Non-volatile EEPROM memory safely stores the detailed history of the daily doses, times when alarm levels have been exceeded, as well as relevant data concerning the user and the badge itself.

DOSICARD – Operational dosimeter

Visual and audible alarms are generated as soon as a predefined threshold is exceeded on doses or dose rate.

Only three buttons are necessary for daily use.

Permanent or temporary display of current dose or dose rate values are available on the easy-to-read LCD screen. The direct access by the user to month/quarter/year/five year cumulative doses is protected by confidential password.

DOSICARD – Compact and convenient

- Credit card format, 8 mm thick.
- Long battery life: typical 3000 hours.
- Transparent vinyl protective pocket with clip. Easy and low cost replacement in case of contamination.

DOSICARD – Simple and powerful

Two operating modes are provided: Permanent (continuous integration of doses) and Zone (integration of doses only within control zones, with operation controlled by entrance/exit badge readers).

A large memory capacity enables storage of detailed dose history including:

- Dose accumulation modes:
 - Daily: dose accumulated since midnight.
 - Manual periodical: dose accumulated since manual start.
- Last 90 daily doses, last 60 monthly doses, month/quarter/year/five year cumulative doses.

Such dose history can be accessed via a badge reader and is protected by a confidential password.

Safe storage is guaranteed via a non-volatile EEPROM memory for 10 years without battery.

DOSICARD – Multiple applications

- Monitoring personnel in controlled zones: nuclear research centers and laboratories, reprocessing plants, companies handling radioactive sources, etc.
- Dosimetry management in the biomedical domain (Nuclear Medicine, Cobaltotherapy, etc.).
 - Individual survey in the vicinity of nuclear facilities, uranium mines, granitic grounds, high altitude sites, etc.
 - Follow-up of aircraft crews.

DOSIMAN – Switch ON and Go!

Special DOSICARD with on/off switch for users who do not need to monitor dosimetry via database. Once switched off, DOSIMAN clears data information and is ready for next use.

Specifications

- Energy compensated silicon pin diode detector.
- Hp(10) dose equivalent according to ICRU 39. Official certification in compliance with IEC 1283.
- Energy response: $\pm 15\%$ from 60 keV to 1.25 MeV, $\pm 30\%$ from 50 keV to 2 MeV (^{137}Cs reference), starts at 30 keV.
- Dose equivalent: 1 μSv to 10 Sv (100 μrem to 1000 rem).
- Dose equivalent rate: 1 $\mu\text{Sv/h}$ to 1 Sv/h (100 $\mu\text{rem/h}$ to 100 rem/h).
- Alarms: audio by buzzer, visual by flashing red LED.
- Alarm thresholds: current dose and dose rate, day dose, month/quarter cumulative doses.
- Data storage: complete identification of badge bearer and dosimeter, last 100 sampled doses, and time-sampled overflows, 90 daily doses over the last three months, 60 monthly doses over the last five years, day/month/quarter/year/five year cumulative doses.
- Badge configuration via the LCB reader: “Permanent” mode or “Zone” mode.
- LCB badge reader: bidirectional infrared communication through the plastic protective pocket.
- Connection between LCB and PC: via RS-232 link and Dosemanager II software.
- Power supply: lithium battery CR2450, hourly control, typical 3000 hours battery life.
- Dimensions/weight: 89 x 57 x 8 mm/50 g (98 x 100 x 8.5 mm/65 g with pocket and clip).
- Temperature range: $-10\text{ }^{\circ}\text{C}$ to $+60\text{ }^{\circ}\text{C}$ ($+14\text{ }^{\circ}\text{F}$ to $+140\text{ }^{\circ}\text{F}$); 80% relative humidity.
- Protection class: IP67.
- Electromagnetical: meets IEC 1283 requirements.

From personal dosimeter to complete system

The DOSICARD badge can be connected to any PC type computer with the LCB badge reader, with user-friendly Dosemanager II Windows® software: transfer of the user personal data (name, ID number, company, professional training, medical aptitude, etc.) into the badge memory and retrieval of the stored data and detailed dose history are easily handled.

Connection of several PCs to Ethernet-TCP/IP or other networks can be made within a powerful configuration including control zone access/exit readers (BIO), multiplexers (BAC) and server, for the dosimetry management and zone access control of large facilities of thousands of people, with centralized management software (CARD).

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