ELECTRONIC PERSONAL DOSEMETER IN CREDIT-CARD SIZE

THE SMART ULTRA COMPACT DOSEMETER

With its credit-card size, dosicard features the smallest electronic dosemeter 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 centres, and the nuclear industry. Therefore, it is of outstanding performance in the alara strategy of minimizing received doses.

- Stand alone electronic dosemeter 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/g 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
- More than 12 thousand units already operating worldwide
Overview

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, Dose-Manager and DoseNetwork Systems allow easy operation, and database management for efficient operational dosimetry monitoring.

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 & visual alarms. Three touch buttons allow programming and display set-up of the current dose, dose rate and cumulative doses per day/month/quarter/year/5 years. 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.

Operational Dosemeter

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.

Compact and Autonomous

For most convenient use, the badge offers:
- Credit card format, 8 mm thick
- Large autonomy: typically 3,000 hour operation
- Transparent and decontaminable vinyl protective pocket with clip

Simple and Powerful

Three operating modes are provided: Permanent (non-stop integration of doses), Zone (integration of doses only within control zones, setting into operation by access/exit badge readers), and Manual DOSIMAN specific badge with optional on/off switch. A large memory capacity enables storage of detailed dose history including:
- current and daily dose, 100 last sampled doses, quantified and time-sampled overflows,
- 90 last daily doses, 60 last monthly doses, month/quarter/year/5 year cumulative doses

Such dose history can be accessed via a badge reader and is protected by confidential password. Safe storage is guaranteed via a non volatile EEPROM memory for 10 years without battery.

Multiple Applications

- Surveillance of 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
**Specifications**

- Energy compensated silicon pin diode detector
- Hp(10) dose equivalent according to ICRU 39 Official certification in compliance with IEC 1283
- Energy response: ± 15% from 60 keV to 1.25 MeV, ± 30% from 50 keV to 2 MeV (137Cs reference), starts at 30 keV
- Dose equivalent: 1 µSv to 10 Sv
- Dose rate: 1 µSv/h to 1 Sv/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 dosemeter, last 100 sampled doses, and time-sampled overflows, 90 daily doses over the last 3 months, 60 monthly doses over the last 5 years, day/month/quarter/year/5 year cumulative doses
- Badge configuration via the LCB reader: “Permanent” mode or “Zone” mode (“Manual” DOSIMAN version with specific rear panel and on/off switch)
- LCB badge reader: bidirectional infrared communication through the plastic protective pocket
- Connection between LCB and PC: via RS232 link and DoseManager software
- Power supply: Lithium battery CR2450, hourly control, typically 3,000 hour operation
- Dimensions / mass: 89 x 57 x 8 mm / 50 g (98 x 100 x 8.5 mm / 65 g with pocket and clip)
- Temperature range: -10 to +60°C; 80% relative humidity
- Protection class: IP67
- Electromagnetical: meets IEC 1283 requirements
From Personal Dosemeter to Complete System

The DOSICARD badge can be connected to any PC type computer thanks to the LCB badge reader, with user-friendly DoseManager 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 people, with centralized management software (DoseNetwork).