



MBD-2

Tactical/Occupational
Personal Dosimeter



Nuclear
Power



Homeland
Security
& Defense



Industrial and
Manufacturing



Healthcare



Labs and
Education

OVERVIEW

The MBD-2 dosimeter is a real-time, self-indicating device that requires no user intervention for operation. The MBD-2 dosimeter is based upon Mirion Technologies' patented Direct Ion Storage (DIS) technology.

The DIS detectors are used in the Instadose 1 and Instadose 2 NVLAP accredited dosimeters. The MBD-2 measures and records dose for gamma and neutron.

It is ergonomic, and designed to be worn comfortably on the wrist, or clipped to a garment. The MBD-2 is lightweight and low profile in size. Its edges are rounded to accommodate clothing and gear. The device closely resembles a wristwatch and therefore is natural to observe when reading the display.

KEY FEATURES

The dosimeter includes indication of its operational health to ensure the User is properly monitored. When activated, the MBD-2 will report the results of its continuous monitoring of levels of radiation dose on the LCD display.

- Accurate and reliable Direct Ion Storage technology
- Hybrid device (active/passive)
- Self-reading for effective decision making
- Hands-free operation
- Programmable display
- Configurable operating parameters including dose alarm threshold
- NFC and/or BLE communication
- Wrist worn or clipped to lanyard or garment
- Internal Histogram with non-volatile memory
- Pulsed-xray measurements to 65 nsec pulses
- Field Replaceable Main & Internal Batteries

RADIOLOGICAL CHARACTERISTICS

Detectors

Gamma (Deep)

- DIS Low Range: 1 mrem - 60 rem
- DIS High Range: 100 mrem - 600 rem
- MOSFET: 1 rem - 2000 rem

Neutron (Deep)

- DIS G + N: 150 mrem - 60 rem
- DIS G 150 mrem - 60 rem (for net neutron dose)
- Pin Diode: 1-1000 rad

Range:

- Photon: 18 keV - 2 MeV
- Neutron: 550 keV – 2.13 MeV
- Accuracy: <20% across the energy range

MECHANICAL & ENVIRONMENTS CHARACTERISTICS

- Color: Black or Gray
- Dimensions: 2.08" x 2.2" x 0.94"
- Weight: 2 oz with batteries
- Environmental & EMI compliance IAW NSWC CD Contract # N00167-15-P-0206
- Power:
 - Main: Lithium coin cell, COTS Model CR2450N
 - Internal Lithium coin cells, COTS Model CR1216MFR
- Communications:
 - NFC, 13.56MHz
 - BLE, 802.15.4, 2.4 GHz

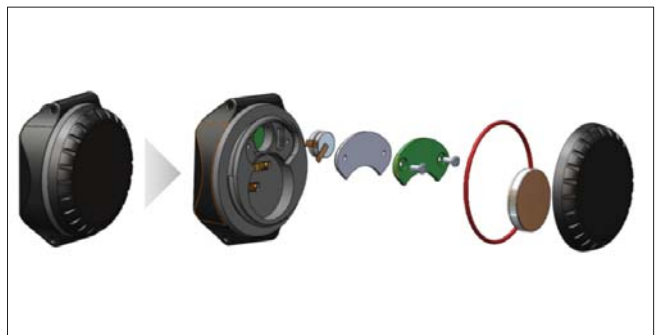
FUNCTIONAL CHARACTERISTICS

- Display of incremental dose
 - Gamma (Deep)
 - Neutron
 - Deep Total
- Configurable display units rem, rad, cGy, Gy, cSv, Sv
- Configurable dose alarm threshold
- Assignments
 - Store user identification
- Flexible data recording intervals
- Histogram of events
 - Date & Time Stamping
 - Performance check dates
 - Dose reset dates
- Customer specified factory configuration

ADDITIONAL PICTURES



Lanyard Style (Pulsed X-Ray Version Shown)



Field Replaceable Batteries



MBD-2 with Wireless PC Reader & Software

OPTIONAL ACCESSORIES

- DC-1 Data Collector
- DAK-1 with RF Dongle & MBD-1 Reader Software
- Data Protocol may be provided upon formal request and approval.

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