MIRION TECHNOLOGIES

DOSIMETRY

DMC 3000™

Personal Electronic Dosimeter

Mirion Technologies provides a complete line of hardware and software products targeted to Health Physics and Radiation Protection personnel, in order to meet current Nuclear Industry challenges.

DESCRIPTION

Covering a wide range of X-ray and Gamma radiation detection, our DMC 3000 Electronic Dosimeter represents over 25 years of real-world electronic dosimetry experience, continually refined through customer feedback.

The unique, high contrast and backlit LCD display provides a clear indication of wearer's dose and ambient dose rate for deep dose equivalent. More importantly, multiple methods (audible, visual, and tactile) are utilized to alert the wearer of alarm conditions.

The DMC 3000 provides all of this protection, for over 3,000 hours of continuous use, with a single AAA alkaline battery. Best of all, connected with plug and play add-on modules the DMC 3000 offers detection and radio transmission capabilities beyond traditional use.

The DMC 3000 dosimeter offers an enhanced communication protocol for additional features and includes a compatibility mode for previous Mirion Technologies products including calibration tools, access control, turnstiles and telemetry infrastructure.

FEATURES

- Loud, vibrating and dual ultrabright LED alarm
- Highly visible backlit display
- Simple 2-button navigation
- Additional modules (Beta, Neutron, Telemetry and Neutron Telemetry)
- Superior X-ray and gamma energy response (Hp(10) and Hp(0.07))
- Exceeds applicable IEC and ANSI standards
- Excellent immunity to electromagnetic interference
- Designed for ruggedness and durability

DOSE RANGE, IEC61526 ED. 3 (DISPLAY & MEASUREMENT)	
***Hp*(10) γ**	***Hp*(0.07) γ**
• Effective range of dose: 0.01 µSv to 100 Sv (0.001 mrem to 10000 rem) • Display resolution: 0.1 µSv to 10 Sv (0.01 mrem to 1000 rem) up to four decimal places • Overload indication: from 10 Sv to > 100 Sv (1000 rem to > 10000 rem)	• Effective range of dose: 0.01 µSv to 100 Sv (0.001 mrem to 10000 rem) • Display resolution: 0.1 µSv to 10 Sv (0.01 mrem to 1000 rem) up to four decimal places • Overload indication: from 10 Sv to > 100 Sv (1000 rem to > 10000 rem)
DOSE RATE RANGE IEC61526 ED. 3 (DISPLAY & MEASUREMENT)	
***Hp*(10) γ**	***Hp*(0.07) γ**
• Effective range of dose rate: 0.05 µSv/h to 20 Sv/h (0.005 mrem/h to 2000 rem/h) • Display resolution: 1 µSv/h to 10.0 Sv/h (0.1 mrem/h to 1000 rem/h) up to three decimal places • Overload indication: from 10 Sv/h to > 50 Sv/h (1000 rem/h to > 5000 rem/h)	• Effective range of dose rate: 0.05 µSv/h to 20 Sv/h (0.005 mrem/h to 2000 rem/h) • Display resolution: 1 µSv/h to 10.0 Sv/h (0.1 mrem/h to 1000 rem/h) up to three decimal places • Overload indication: from 10 Sv/h to > 50 Sv/h (1000 rem/h to > 5000 rem/h)

ON-AXIS ENERGY RESPONSE	
Photon *Hp*(10) (Ref. ^{137}Cs)	**Photon *Hp*(0.07) (Ref. ^{137}Cs)**
• ±15% from 15 keV to 1.5 MeV • -15% to +20% from 1.5 MeV to 10 MeV	• ±30% from 20 keV to 1.5 MeV • -15% to +20% from 1.5 MeV to 10 MeV
COMBINED ENERGY AND ANGULAR RESPONSE	
Photon *Hp*(10) (Ref. ^{137}Cs)	**Photon *Hp*(0.07) (Ref. ^{137}Cs)**
• -29% to +67% from 16 keV to 10 MeV, 0° to 60°	• -29% to 67% from 24 keV to 10 MeV, 0° to 60°
ACCURACY	
Photon *Hp*(10) (Ref. ^{137}Cs)	**Photon *Hp*(0.07) (Ref. ^{137}Cs)**
±5%	±5%
DOSE RATE LINEARITY	
Photon *Hp*(10) (Ref. ^{137}Cs)	**Photon *Hp*(0.07) (Ref. ^{137}Cs)**
±10% Between 10 Sv/h (1000 rem/h) and 50 Sv/h (5000 rem/h) cumulative dose	

CHARACTERISTIC FOR PULSED RADIATION		
Characteristic	**Rated Range**	**Relative Response**
Medical X-ray, pulse width >1 ms, pulse rate mode		
Max. pulse dose rate	0.05 µSv/h to 5 Sv/h (0.005 mrem/h to 500 rem/h)	±20% for pulse width >1 ms (-40% at 10 Sv/h, (1000 rem/h))

Accessories and Options

MODULES
- Beta Module *Hp*(0.07)
- Neutron Module *Hp*(10)
- Telemetry Module
- Neutron Telemetry Module

READERS
- LDM 320D/W™
- LDM 2000™
- LDM 3200™
- LDM 1000™

SOFTWARE
- DMCUser™
- DosiFFR™
- DosiCare™
- DosiServ™
- LDMAccess™

CALIBRATOR
- IRD 2000™

TELEMETRY
- WRM2™/WRM3™
- iPAM-Tx
- RDS-31iTx - RDS-32iTx
- TeleView 3000

SIMULATION
- DMC 3000TD
- SCC (Simulation Control Center)

DMC 3000 Beta *DMC 3000 Neutron* *DMC 3000 Telemetry* *DMC 3000 Neutron Telemetry*

ELECTRICAL CHARACTERISTICS

- Battery: standard AAA (LR03) 1.5 V Alkaline
- Autonomy:
  - 12 calendar months battery life (typical, 8 h per day, 5 days per week in run mode, without excessive alarms) *(1)*
  - 3,000 h battery life in continuous mode, without excessive alarm *(1)*

(1) 0.1% of the time in alarm, with a quality industrial battery

MECHANICAL CHARACTERISTICS

- **Case:** rugged, high impact polycarbonate-ABS
- **Dimensions:** 87 x 60 x 21 mm (3.4 x 2.3 x 0.8 in) max. without clip
- **Weight:** < 88 g (3.1 oz) with alkaline battery and clip
- **Replaceable clips:** 3 back clips and 1 front-facing clip

ENVIRONMENTAL CHARACTERISTICS

- **Temperature range:** -10 °C to +50 °C (+14 °F to +122 °F)
- **Relative humidity:** < 90% at +42 °C (+108 °F)
- **Storage:** -20 °C to +71 °C (-4 °F to +160 °F) without battery
- **Shock, vibration and drop resistant** (1.5 meter on concrete)
- **Waterproof IP67:** 1 m (39 in) during 1 hour
- **EMC:** complies and exceeds standards by a large margin (CE compliant, certificate number: 153720)
  - MIL STD 461-RS103 (square wave modulation, electric field): exceeds 200 V/m from 10 kHz to 5 GHz
  - MIL STD 461-RS101 (magnetic field) 30 Hz to 100 kHz
- **Factory calibration** approved under ISO/IEC 17025, COFRAC accreditation N° 2-1663 (See www.cofrac.fr)

ALARM FEATURES

- Audible and tactile
  - Alarming speaker with level of 85 dB (A) typical (> 90 dB (C) peak) at 30 cm (11.8 in), frequency < 4800 Hz
  - Vibrating alarm
- Visual
  - High efficiency red flash LED on front
  - Three top LEDs for Alarming (Red), gamma counting (Green), and *Hp*(0.07) or Neutron counting (Blue)
- Customize
  - Adjustable dose and dose rate alarms
  - Adjustable and acknowledgeable dose and dose rate warnings
  - Configurable visual and audible alarm chirp
  - Configurable latched dose rate alarm and warning
  - Remaining time and run time alarms

DISPLAY HISTOGRAM FEATURES

- **Dose increments** with a 1 µSv (0.1 mrem) resolution and dose rate saved on non-volatile memory (EEPROM) in configurable steps (10 s, 60 s, 10 min, 1 hour, 24 hours)
- Event log (alarms, faults, changes) saved during the selected time periods
- Stores data for several consecutive workers' entries and exits (more than 2,500 steps)

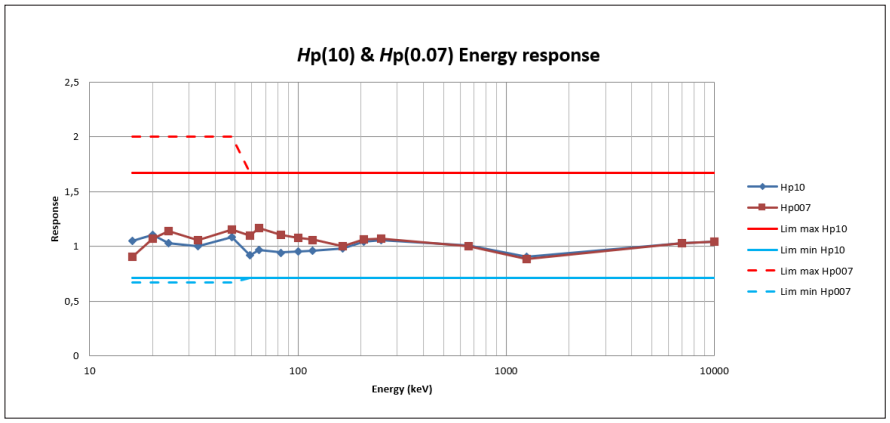
COMMUNICATION

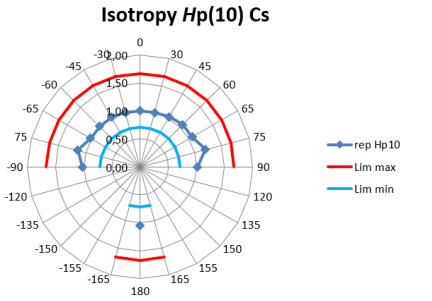
- Hands-free communication, frequency: 125 kHz
- Backward compatibility with existing readers
- Enhanced protocol to support additional features with the new readers (LDM 320D, LDM 320W, LDM 2000, LDM 3200, LDM 1000 models)

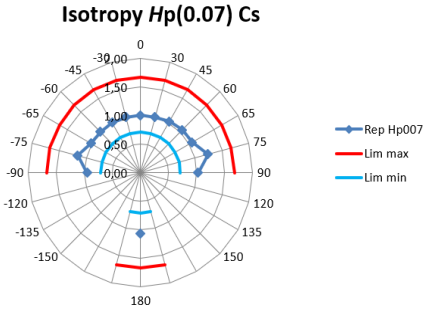
FUNCTIONAL FEATURES

DISPLAY FEATURES

- Large LCD display with high quality white backlighting
- Eight alphanumeric digit display for full name display and fix dose/ dose rate display format
- Two push buttons for an easy customized data and parameters display







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