



MIRION
TECHNOLOGIES

Radiation. **Safety.**

DMC 3000

Personal Electronic Dosimeter



Nuclear
Power



Homeland
Security
& Defense



Industrial and
Manufacturing



Healthcare



Labs and
Education

OVERVIEW

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.

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.

Best of all, the DMC 3000 provides all of this protection, for over 2500 hours of continuous use, with a single AAA battery.

Finally, Mirion Technologies provides users with

www.mirion.com

additional tools for calibration, positive entry control, and remote monitoring.

Radiation Safety. Perfected.

The DMC 3000 offers an enhanced communication protocol for additional features and includes a compatibility mode for previous Mirion Technologies products including Access Control, Turnstiles and Telemetry infrastructure.

KEY FEATURES

- Loud alarm, 85 dB (A) typical, (> 90 dB (C) peak)
- Vibrating alarm
- Highly visible backlit display
- Optional telemetry module
- Factory upgradeable firmware
- Simple 2-buttons navigation
- Extended dose rate alarms
- Dual ultrabright LED alarm
- Superior X-ray and gamma energy response
- Meets or exceeds applicable IEC and ANSI standards

Health Physics Division

PHYSICAL CHARACTERISTICS

- Compliant with IEC 61526Ed. 3, ANSI 42.20(*)/ (*) isotropy ^{241}Am and ^{137}Cs with $\pm 75^\circ$ angle
- Measurement and display:
 - X and gamma energy range: 15 keV to 7 MeV
 - Energy response better than $\pm 20\%$ (typically $\pm 10\%$) from 16 keV to 7 MeV
- Accuracy Hp(10):
 - $\leq \pm 10\%$ * (^{137}Cs , ~ 24 mSv/h); $\leq \pm 15\%$ * (^{241}Am , ~ 23 mSv/h);
 - $\leq \pm 19\%$ ** X-ray 16keV
 - (*including $\pm 5\%$ extended uncertainty k=2);
 - (** including $\pm 9\%$ extended uncertainty k=2)
- Display units: mSv, μSv , or mrem
- Display dose: 1 μSv to 10 Sv (0.1 mrem to 1000 rem)
- Display rate: 10 $\mu\text{Sv/h}$ to 10 Sv/h (1 mrem/h to 1000 rem/h) or 1 $\mu\text{Sv/h}$ to 10 Sv/h (0.1 mrem/h to 1000 rem/h) extended option.
- Measurement range: 1 μSv to 10 Sv (0.1 mrem to 1000 rem) 0.1 $\mu\text{Sv/h}$ to 20 Sv/h (0.01 mrem/h to 2000 rem/h),
- Saturation indication above 10 Sv (1000 rem) or 10 Sv/h (1000 rem/h)
- Dose Rate Linearity:
 - $< \pm 20\%$ up to 10 Sv/h (1000 rem/h) (Co and X H30 20 keV)
 - $< \pm 20\%$ up to 6 Sv/h (600 rem/h) (Pulsed X-rays 20 ms width, 1, 10, & 20 pps)

ELECTRICAL CHARACTERISTICS

- Standard AAA (LR03) 1.5 V Alkaline battery
- 9 calendar month battery life (typical, 8 h per day, 5 days per week in run mode, without excessive alarms)*
- 2500 h battery life in continuous run, without excessive alarm*
 - *0.2% of the time in alarm

MECHANICAL CHARACTERISTICS

- Rugged, high impact polycarbonate-ABS case
- Dimensions: 86 x 56 x 21 mm (3.4 x 2.2 x 0.8 in) without clip
- Weight with alkaline battery and clip: < 88 g (3.1 oz)
- Worn by a replaceable clips (2 different style back clips or one a front-facing clip for DMC worn inside the pocket)

ENVIRONMENTAL CHARACTERISTICS

- Temperature range: -10°C to 50°C (14°F to 122°F): deviation in response less than $\pm 5\%$
- Relative humidity: $< 90\%$ at 42°C (108°F)
- Storage: -20°C to 71°C (-4°F to 160°F)
- Shock, vibration and drop resistant (1.5 meter on concrete)
- Waterproof IP67: 1m (39 in) during 1 hour
- EMC: complies and exceeds standards by a large margin (CE compliant, certificate number: 153720)
 - MIL STD 461F RS103 (pulsed electric field): exceeds 200 V/m from 30 kHz to 5 GHz
 - MIL STD 461F RS101 (magnetic field 30 Hz - 100 kHz)
- Factory calibration approved under ISO/IEC 17025, COFRAC accreditation Nber 2-1663

Histogram Features

- Dose increments with a 1 μSv (0.1 mrem) resolution saved on non volatile memory (EEPROM) in configurable steps (10 s, 60 s, 10 min, 1 hour, 24 hours)
- Dose rate saved at each dose increment when using enhanced communication protocol
- Event log (alarms, faults, changes) saved during the selected time periods

- Stores data for several consecutive workers entries and exits (more than 1000 steps)

Display Features

- Large LCD display with high quality white backlighting
- 8 alpha-numeric digit display for full name display (scrolling) and fix dose/rate display format
- 3 top LEDs for Alarming (Red), gamma counting (Green), and Hp(0.07) or Neutron counting (Blue)
- 2 push buttons for an easy customized data and parameters display

Alarm Features and Communication

- Alarming speaker with level of 85 dB (A) typical (> 90 dB (C) peak) at 30 cm (11.8 in), frequency < 4800 Hz
- Vibrating alarm
- High efficiency red flash LED on front
- 3 Top LEDs and display indicators
- Dose/rate alarms, adjustable over the display range
- Dose/rate warnings, adjustable over the display range and acknowledgeable
- Remaining time before alarm and run time alarms
- Hands-free communication, frequency: 125 kHz
- Backward compatibility with existing readers (LDM 2000, LDM 220/210)
- Range of communication with LDM 220: 10 cm (3.9 in)
- Enhanced protocol to support additional features with the new readers (LDM 320D, LDM 320W, LDM 2000 (*))
 - * requires reader firmware upgrade

ADDITIONAL PICTURES



> GERMANY - HAMBURG

T: +49 40 85193 0 | E: hamburg-info@mirion.com

> USA - SMYRNA, GEORGIA

T: +1 770 432 2744

> FRANCE - LAMANON

T: +33 (0) 4 90 59 59 59

> FINLAND - TURKU

T: +358 2 4684 600 | E: radosturku@mirion.com

> CHINA - SHANGHAI

T: +86 21 6180 6920

Copyright (c) 2014 Mirion Technologies, Inc. or its affiliates. All rights reserved. Mirion, the Mirion logo, and other trade names of Mirion products listed herein are registered trademarks or trademarks of Mirion Technologies, Inc. or its affiliates in the United States and other countries. Third party trademarks mentioned are the property of their respective owners.