

Product Datasheet

DMC 3000 PRD

Combination of Electronic Dosimeter and Personal Radiation Detector Sensor

The DMC 3000 PRD consists of a new Personal Radiation Detector (PRD) Module connected to Mirion's state-of-the-art DMC 3000 X-rays and gamma radiation electronic dosimeter. The PRD Module is a plug-in extension powered by the DMC 3000 dosimeter.

The DMC 3000 PRD can be worn on a belt or in a pocket for automated, hands free operation for alerting the user, or handheld for searching nearby a suspect item. The PRD module gives radiation counting information for source and hot spot location assessment, while providing dosimetry protection to the operator.

The DMC 3000 PRD is intended for First Responders, Law Enforcement, Customs Inspectors and other radiation safety personnel protecting critical infrastructures against unexpected radiation sources.



Features

- Compliant with ANSI 42.32, IEC 62401 Ed. 2 and IAEA NSS 1
- Detects and alarms radiation level increases of $\leq 0.5 \mu\text{Sv/h}$ in less than 2 seconds.
- Runs continuously for > 1000 hours on the AAA battery of the dosimeter.
- Connect and ready to use.
- Designed for ruggedness and durability.
- Excellent EMC Immunity.
- Waterproof IP67.

Specifications

Detection Characteristics (PRD Module Only)

Detector	3 cm ³ CsI(Tl) scintillation detector
Radiation detected	Gamma and X-ray radiation
Energy range	59 keV to 1,5 MeV
Display range	0 to 2999 cps
False Alarm Rate	≤ 1 false alarm per period of 24 hours in 0.1 μSv/h (natural background)
Response time	≤ 2 seconds for a 0.5 μSv/h increase of gamma dose rate

Typical sensitivity at room temperature	<ul style="list-style-type: none"> – ²⁴¹Am : 117 cps / μSv/h – ¹³⁷Cs : 115 cps / μSv/h – Co60 : 52 cps / μSv/h Automatic background measurement at startup Overload indication
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History Data Function

Measurement and Events	Are automatically stored in the DMC 3000 PRD histograms The PRD related measurements include the following events: <ul style="list-style-type: none"> – PRD alarm appearance – PRD alarm time stamp (start/end) background acquisition – Background evolution notification
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Electrical Characteristics

Power	Powered by the standard AAA (LR03) 1.5V Alkaline of the DMC 3000
Duration	Over 1000 hours of continuous operation

PRD Measurement Display and Alarms

Acoustic Alarm	Alarming speaker with level 85 dB (A) typical (> 90 dB (C) peak) at 30 cm, frequency < 4800 Hz
Visual Alarm	Blue LED
Chirping	Activated upon PRD alarm

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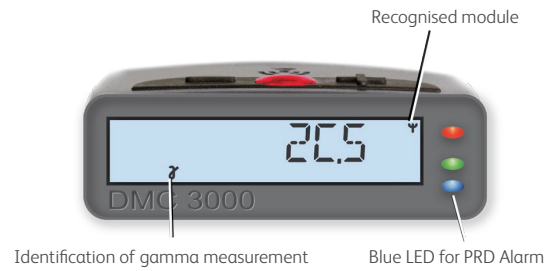
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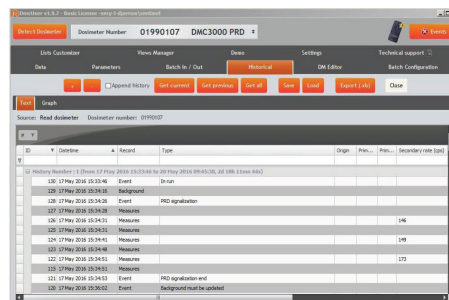


Mechanical Characteristics

Case	Rugged, high impact polycarbonate-ABS case
Dimensions	131 mm x 60 mm x 21 mm (5.1 in x 2.4 in x 0.8 in) max. without clip 131 mm x 60 mm x 28mm (5.1 in x 2.4 in x 1.1 in) with standard clip
Weight	156 g (5.5 oz) incl. battery
	Worn by a replaceable clip in pocket or on belt

Environmental Characteristics

Temperature range	-20°C to 50°C (-4°F to 122°F)
Relative humidity	<90% at 42°C (108°F)
Mass	Shock, vibration and drop resistant
Waterproofing	Waterproof IP67, 1 m (39 in) for 1 hour
EMC	Complies with and exceeds standards <ul style="list-style-type: none"> – MIL STD 461F RS103 (pulsed electric field) exceeds 150 V/m from 10 kHz to 5 GHz – MIL STD 461F RS103 (pulsed electric field) exceeds 150 V/m from 10 kHz to 5 GHz



DMCUser history with PRD events

