



# Beta Module *Hp(0,07)*

For the DMC 3000 dosimeter



Nuclear  
Power



Healthcare



Homeland  
Security  
& Defense



Labs and  
Education



Industrial and  
Manufacturing

## OVERVIEW

The Beta Module provides operational dosimetry for hospital personnel, first responders, and radiation workers where there is a Beta radiation risk.

The add-on Beta Module attaches to the DMC 3000 dosimeter is able to measure *Hp(0,07)* radiation at a wide range of energy levels.

The *Hp(0,07)* and beta measurements, display and alarms are highly visible on the DMC 3000's LEDs and high contrast backlit LCD display.

Powered by the DMC 3000, the add-on module does not require any supplementary battery and remains operational over 1800 hours in continuous use. Calibration and functional parameters are stored in the module.

## KEY FEATURES

- Dose and dose rate *Hp(0,07)* displayed
- Connect and ready for use
- High efficiency beta measurement
- Superior *Hp(0,07)* energy response
- Meets or exceeds applicable IEC and ANSI standards
- Excellent EMC Immunity
- Designed for ruggedness and durability

## RELATED PRODUCTS

- Telemetry module, Neutron module
- Readers: LDM 2000, LDM 3000M, LDM 3200, LDM 320D, LDM 320W
- Software: DMCUser, DosiCare, DosiServ

## PHYSICAL CHARACTERISTICS

- **Compliant with IEC 61526 Ed. 3, ANSI 42.20(\*)**  
(\* isotropy Am-241 and Cs-137 with  $\pm 75^\circ$  angle)
- **Hp(0,07) Measurement range (DMC3000 + module)**
  - X and gamma energy range: 15 keV to 7 MeV at  $0^\circ$
  - Beta  $E_{\text{mean}} > 60$  keV ( $E_{\text{max}}$ : 0.22 MeV to 2.3 MeV)
- **Accuracy Hp(0,07)**
  - $\leq \pm 5\%$  (Cs-137,  $\sim 24$  mSv/h, 2.4 rem/h);
  - $\leq \pm 10\%$ , (Am-241,  $\sim 23$  mSv/h, 2.3 rem/h);
  - $\leq \pm 10\%$  X-ray 16keV  
(\*without  $\pm 5\%$  extended uncertainty  $k=2$ ) ;  
(\*\* without  $\pm 9\%$  extended uncertainty  $k=2$ )
- **Responses:**
  - Relative Hp(0,07) Beta response of Pm-147, Kr-85 and Sr-90/Y-90 within  $\pm 20\%$  (\*)
  - Hp(0,07) X and gamma response within  $\pm 20\%$  (\*) from 16 keV to 7 MeV  
(\* in reference to the typical curve given here below
- **Hp(0,07) Dose Rate Linearity**
  - $< \pm 20\%$  up to 10 Sv/h, 1000 rem/h
- **Display of Hp(0,07) measurement**



## ELECTRICAL CHARACTERISTICS

- Powered by DMC 3000
- 8 calendar month battery life for beta module and the DMC 3000 (typical, 8 h per day, 5 days per week in run mode, without excessive alarms\*)
- 1800 h battery life for DMC 3000 with beta module and DMC 3000 in continuous run, without excessive alarms\*  
\*0.2% of the time in alarm

## MECHANICAL CHARACTERISTICS

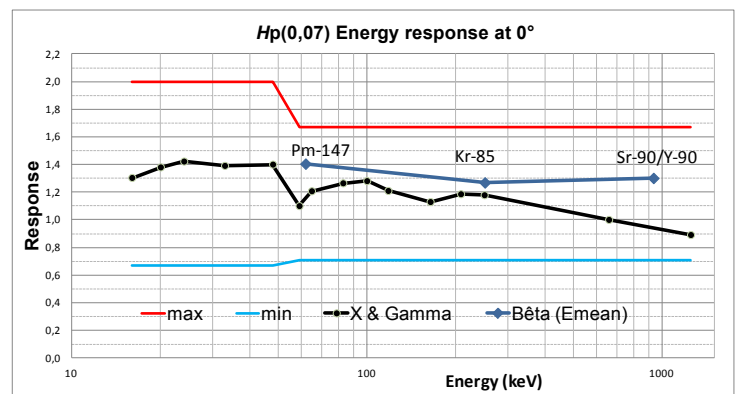
- Rugged, high impact polycarbonate-ABS case
- Dimensions with DMC 3000:
  - 122 x 60 x 21 mm (4.8 x 2.4 x 0.8 in) max. without clip
  - 122 x 60 x 28 mm (4.8 x 2.4 x 1.1 in) with standard clip
- Weight with DMC 3000:  $< 112$  g (3.9 oz) with clip
- Worn by a replaceable standard clip

## ENVIRONMENTAL CHARACTERISTICS

- Temperature range:  $-10^\circ\text{C}$  to  $50^\circ\text{C}$  ( $14^\circ\text{F}$  to  $122^\circ\text{F}$ )
- Storage:  $-20^\circ\text{C}$  to  $71^\circ\text{C}$  ( $-4^\circ\text{F}$  to  $160^\circ\text{F}$ )
- Shock, vibration and drop resistant
- IP50 protection
- EMC: complies and exceeds standards by a large margin (CE compliant)
- MIL STD 461F RS103 (pulsed electric field): exceeds 200 V/m from 10 kHz to 5 GHz
- MIL STD 461F RS101 (magnetic field 30 Hz to 100 kHz)

## PRODUCT CHARACTERISTICS

- **Histogram Features**
  - Additional Hp(0,07) measurement (dose, dose rate and maximum dose rate) saved on non volatile memory (EEPROM) at the same time as Hp(10) measurement in configurable steps (10 s, 60 s, 10 min, 1 hour, 24 hours)
- **Display Features**
  - Additional Hp(0,07) measurement displayed on DMC 3000 high quality white backlighting
  - Blue top LED for Hp(0,07) dose increment indication
- **Alarm Features and Communication**
  - DMC 3000 alarming speaker, vibrator, high efficiency red flash LED, 3 top LEDs and display indicators
  - Hp(0,07) dose/rate alarms, adjustable over the display range
  - Hp(0,07) dose/rate warnings, adjustable over the display range and acknowledgeable
- **Calibration**
  - Factory calibration in accordance with ISO/IEC 17025
  - Parameters saved into the module
- **Compatibility**
  - Backward compatibility with LDM 2000, LDM 3000M and LDM 3200 readers (requires reader firmware/software upgrade)
  - Compatible with LDM 320D/W readers
  - Compatible with DMC 3000 V7.x firmware (new communication protocol)



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