MIRION TECHNOLOGIES

Neutron Telemetry Module

For the DMC 3000 Dosimeter

The purpose of the Neutron Telemetry Module is to provide an additional Neutron measurement and to transmit worker's data (worker information, gamma and neutron radiological data and setpoints) to WRM3 Telemetry System components. Neutron Telemetry Module is also backward compatible with WRM2 Telemetry System.

FEATURES

- Dose and dose rate Neutron *H*p(10) displayed
- Totalized dose for *H*p(10) Gamma + Neutron displayed
- Superior gamma rejection in Neutron channel
- Transmits dosimeter informations, in pre-configured intervals to WRM3 or WRM2 Telemetry receivers
- Low-power optimized for long battery life
  >50 h* for 900 MHZ module and
  >100 h* for 2,4 GHz module
- 900 MHz and 2.4 GHz Options
- Module power supply: AAA battery or micro USB connector
- Full Neutron energy range coverage
- Meets or exceeds applicable IEC and ANSI standards
- Designed for ruggedness and durability
- Excellent EMC Immunity
- Waterproof IP67 (1 m 1 hour)

**With Duracell industrial battery*

DESCRIPTION

The add-on Neutron Telemetry Module attaches to the DMC 3000 dosimeter is able to measure *H*p(10) radiation at a wide range of energy levels. The *H*p(10) measurements (gamma and neutron) are highly visible on the high contrast backlit LCD display of the DMC 3000. The module provides also a supplemental visual alarm indication (LED).

RELATED PRODUCTS

- Telemetry Systems: WRM3 and WRM2
- Readers: LDM 2000™, LDM 3200™, LDM 320D/W™, LDM 1000™
- Software: LDMAccess™, DMCUser™, Teleview 3000™ and TelemetryStudio™
- Dosimeter DMC 3000™

NEUTRON TELEMETRY MODULE | FOR THE DMC 3000 DOSIMETER

PHYSICAL CHARACTERISTICS

Measurement range *Hp*(10) (DMC 3000 + module)

- Neutron energy range : 0.025 eV to 15 MeV

Dose Range, IEC 61526 Ed. 3 (Display & Measurement)

***Hp*(10) N**

- **Effective Range of Dose**: 2 µSv to 100 Sv (0.2 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 >50 Sv (1000 rem to >5000 rem)

Dose Rate Range, IEC61526 Ed. 3 (Display & Measurement)

***Hp*(10) N**

- **Effective Range of Dose Rate:** 1 µSv/h to 10Sv/h (0.1 mrem/h to 1000 rem/h)
- **Display Resolution:** 100 µSv/h to 10 Sv/h (10 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)

Accuracy *Hp*(10) Neutron

- ≤ ± 10% (AmBe, 0.75 mSv/h, 75 mrem/h, target 1,3)
- Hp(10) Typical Energy response from thermal to fast Neutron (see curve)

Dose Rate Linearity *Hp*(10)

- < ± 20% up to 10 Sv/h, 1000 rem/h

- **Transmit power output and sensitivity:**
  - 125 mW (900MHz), 10 mW - 63 mW (2.4 GHz) locally regulated
  - Sensitivity: -106 dBm (900 MHz), -100 dBm (2.4 GHz)
- **Frequencies:** 900 (902-928) MHz or 2.4GHz (ISM frequency range)
- **Transmission interval:** user configurable

ELECTRICAL CHARACTERISTICS

- **Internal Power:** AAA Alkaline Battery (LR03)
- **External Power:** battery adaptor 1.5 V - 3.6 VDC, external power 100 - 220 VAC with USA and Euro adapter or through micro USB connector

MECHANICAL CHARACTERISTICS

- Rugged, high impact polycarbonate-ABS case
- Dimensions with DMC 3000:
  141 x 60 x 21 mm (5.6 x 2.4 x 0.8 in) max. without clip
  141 x 60 x 28mm (5.6 x 2.4 x 1.1 in) with standard clip
- Weight with DMC 3000 and battery: 168 g (5.9 oz)
- Weight NTx module only: 85 g (3 oz)
- Worn by a replaceable clip

ENVIRONMENTAL CHARACTERISTICS

- **Temperature range:** -10°C to 50°C (14°F to 122°F)
- **Storage:** -20°C to 71°C (-4°F to 160°F)
- **Shock, vibration and drop resistant**
- **IP67 protection:** 1 m (39 in) during 1 hour
- **EMC:** complies and exceeds standards by a large margin (CE compliant certificate number: DOC012026)
  - MIL STD 461-RS103 (pulsed electric field): exceeds 200 V/m from 80 MHz to 5 GHz
  - MIL STD 461-RS101 (magnetic field 30 Hz to 100 kHz)
- **Agency Approvals:** FCC (900 MHz) (USA), IC (Canada), and CE (Europe) (2.4 GHz)

PRODUCT CHARACTERISTICS

Display Features

- Additional *Hp*(10) Neutron measurement displayed on DMC 3000 high quality white backlighting LCD
  - Blue LED indication for Neutron dose increment

Alarm Features and communication

- DMC 3000 alarm speaker, vibrator, high efficiency red flash LED, 3 top LEDs and display indicators
- *Hp*(10) Neutron dose/rate alarms, adjustable over the display range
- *Hp*(10) Neutron dose/rate warnings, adjustable over the display range and acknowledgeable

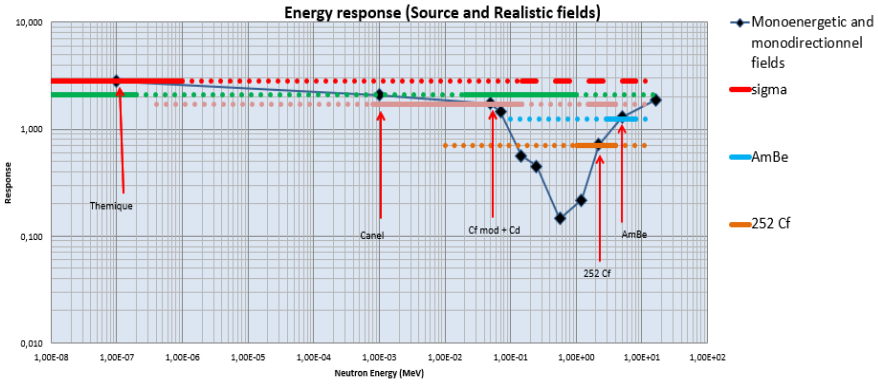
Calibration

- Factory calibration in accordance with ISO/IEC 17025
- Parameters saved into the module

Compatibility

- Compatible with DMC 3000 firmware V7.V or higher
- Compatible with WRM2 or WRM3 system (AWM and more)

Example of a telemetry system



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