

## SOR/T - SOR/R

Ambient/LLR and  
Tactical Electronic Dosimeter



*detection  
monitoring  
radiation*



### FEATURES

The **SOR** dosimeter line is based on two basic versions:

- The **SOR/T** for tactical (gamma and neutron) and residual/ambient gamma measurements
- The **SOR/R** for residual/ambient gamma measurements
  
- Assignable electronic dosimeters
- Waterproof, light, and small
- Rugged devices for battlefield use
- Hand free communications
- Pass-by data exchange
- Data communication through layered clothing



The SOR was designed and developed as a tactical, durable and versatile dosimeter. An important feature of the SOR Line is its ability to meet the needs of various applications with one product. Given its multi-detector architecture, the measurement range covered is broad, and includes high level gamma and neutron dose rates as well as low level radiations (L.L.R).

These dosimeters have been qualified in accordance with current military and civil standards. The SOR line has exceeded some of the standards currently in use in order to account for harsh operational environments.

The SOR dosimeter has been selected by most of the NATO countries.

## TECHNICAL SPECIFICATIONS:

### Radiological Characteristics

- Hp(10) dose equivalent measurements
- flash gamma dose measurement<sup>†\*\*</sup>: 5 cGy to 10 Gy
- relative error of flash measurement<sup>\*\*</sup>:  
+/- 30 % over measurement range
- ambient gamma dose measurement range: 1µGy to 10 Gy
- gamma dose rate measurement range: from background to 10 Gy/h
- gamma dose rate display: from 1 or 10 µGy/h to 10 Gy/h
- saturation indication (above 10 Gy/h)
- relative error of ambient measurement:  
< +/- 20 % over the dose measurement range
- energy response:  
< +/- 20 % in the range 60 keV to 2 MeV  
< +/- 50 % in the range 2 MeV to 6 MeV

### Functional Characteristics

- redundant architecture with passive measurement components <sup>\*\*</sup>
- selectable units: cGy; cGy/h; mSv; mSv/h; mrem; mrem/h
- 4 configurable dose and dose rate alarm levels
- typical one year lifetime with standard battery
- user selectable display modes
- backlighted display (option)
- periodic exhaustive self-testing including the detector
- historical record of measurements and events (750 steps; 10 s; 1 min, 10 min; 1 h; 24 h)
- data storage in EEPROM (qualified > 10 years without battery)
- battery fault pre-alarm (16 h) and alarm
- neck lanyard or clip
- real time teledosimetry transmission (up to 1000 m - 3281 ft range) for SOR/R
- training mode (option)

### Mechanical Characteristics

- dimensions: 80,4 x 48 x 9 mm (flat housing) (3.16 x 1.85 x 0.35 in)
- weight: 55 g (1.94 oz)

### Environmental Characteristics

- -20° to + 50°C (-4°F + 122°F) (normal operating range, standard battery 3V LiMnO2 CR2450)
- -40° to + 50°C (-40°F + 122°F) (option with battery module 3.6V LiSoCl2)
- TREE protection<sup>\*\*</sup>
- resistant to EMP, EMC, radars
- resistant to water immersion, drops, shocks, vibrations, low pressure, initial conditions, NBC environmental conditions
- complies with the following standards:
  - meets MIL-STD-810 and MIL-STD-461 requirements
  - qualified by most of the NATO military laboratories
  - complies with IEC 1283, ANSI 42-20 and NATO D104

