The Thermo Scientific EPD-G is the gamma-only variant of the original Mk2 beta/gamma electronic personal dosimeter; incorporating essentially the same design and features, but with the beta detector and window removed. The EPD-G is suitable for use where there is no requirement for beta detection and measurement. The EPD-G provides a cost-effective design, advanced radiological performance and enhanced unit ruggedness due to the removal of the beta window.

The Thermo Scientific EPD-G dosimeter is perfect for utilities, agencies, medical facilities, research laboratories and other applications where only gamma doses and dose rates need to be monitored and recorded. The EPD-G has inherited the excellent mechanical, sealing, thermal, and EMC performance of the beta/gamma unit. The G-variant also boasts a ruggedized battery cap and an improved display.

The unit is powered by a single standard AA cell, either 1.5V alkaline or 3.6V Lithium Thionyl Chloride for maximum battery life. Pre-use integrity checks may be initiated over the IR (Infra-Red) communications link as part of the EPD Issue process of Access Control or Dosimetry Management systems. These checks include detector test, battery test and battery voltage read. Display and function are controlled by a single button on the front of the unit, recessed to prevent inadvertent operation.

Key Features

- Advanced radiological performance, 15 keV to 10 MeV, in a small, lightweight design
- Multi-detector technology
- Excellent response to gamma and X-radiation
- Improved power management and battery monitoring
- Loud configurable audible alarm
- Excellent immunity to electromagnetic interference
- Enhanced, easy-to-read display with optional backlight
- Rugged battery cap and enhanced clip retention
- Improved reliability of LCD and case
- Additional software features provided
- Compatible with Thermo Scientific EPD teledapter for wireless operations
- Single AA battery powers the unit
### Radiological
Sensitive to X and gamma radiation

- Direct readout of dose equivalents $Hp(10)$ [deep/whole body] and $Hp(0.07)$ [shallow/skin]
- Display Units: Sv and rem (with prefixes) OR scaled in Sv and cGy (with prefixes)
- Neutron Response: < 2%
- Dose Display and Storage: 0 μSv to > 16 Sv (0 mrem to > 1600 rem)
- Display Resolution: 1 μSv (0.1 mrem), up to 10 Sv
- Storage Resolution: 1/64 μSv (=1.5 μrem)
- Dose Rate Display: 0 μSv/h to > 4 Sv/h (0 mrem/h to > 400 rem/h); auto ranging
- Energy Response: Photon: $Hp(10)$: [All ref. $^{137}$Cs]: ±50% 15keV to 17 keV; ±20% 17 keV to 1.5 MeV; ±30% 1.5 MeV to 6 MeV; ±50% 6MeV to 10 MeV
- Angular Response: $Hp(10)$ $^{137}$Cs ±20% up to ±75º; $Hp(10)$ $^{241}$Am ±50% up to ±75º; $Hp(0.07)$ $^{137}$Cs ±20% up to 75º $^{241}$Am ±50% up to 60º
- Accuracy: $Hp(10)$ $^{137}$Cs ±10%; $Hp(0.07)$ $^{137}$Cs ±10%
- Dose Rate Linearity: $Hp(10)$ $^{137}$Cs: ±10% <0.5 Sv/h (<50 rem/h); ±20% 0.5 to 1 Sv/h (50 to 100 rem/h); ±30% 1 to 2 Sv/h (100 to 200 rem/h); ±50% 2 to 4 Sv/h (200 to 400 rem/h); Between 4 and 50 Sv/h continues to accumulate dose at a rate > 1 Sv/h
  - $Hp(0.07)$ $^{137}$Cs: ±20% <1 Sv/h (<100 rem/h); Between 1 Sv/h and 50 Sv/h continues to accumulate dose at a rate > 15 Sv/h

### Electrical and Mechanical
Display and function controlled by a single button on front of unit (recessed to prevent inadvertent operation)

- Power Supply: Single AA battery, 1.5V alkaline cell, OR 3.6V lithium thionyl chloride; battery voltage is displayable (subject to display configuration settings); ON/OFF modes switchable over IR communications link or from button (when enabled), for power-saving in intermittent usage application:
  - Typical battery life: 1.5V alkaline - 45-50 days continuous, extending to 70-90 days with typical use of OFF mode
  - 3.6V lithium - 5 months continuous, extending to – 10 months with typical use of OFF mode
- Alarm: Fully-sealed audible and LED visual alarms for dose, dose rate, count down time, read time, and failure mode; Time to Dose alarm display, based on current dose rate; audible alarm typically 98dB(A) at 20 cm with multiple modes; $Hp(10)$ dose chirp settable from 0.01 to 100 μSv/chirp (1 μrem to 10 mrem/chirp); optional acoustic coupler/earpiece
- Communications: Infra-red (IR) interface up to 1 meter range (39”); compatible with Thermo Scientific EPD Teleadapter for wireless operations
- Dimensions: 85 x 63 x 19 mm (3.3” x 2.5” x 0.8”), excluding clip
- Weight: 95 g (3.2 oz), including battery and clip
- Case Material: High-impact polycarbonate/ABS blend

### Memory
10 year data retention without battery
- Short term dose registers for $Hp(10)$ and $Hp(0.07)$
- Additional total-dose stores for multiple job periods
- Peak dose rates with time of occurrence
- All stored times have 1 second resolution
- Selectable fast dose rate response setting
- Dose clear events recorded
- Count down timer: 1 hour, 39 minutes, 59 seconds maximum, resolution 1 second
- Event Log: 23 entries for time recording of alarms, etc., for incident assessments
- Dose Profile History: Settable interval from 2 seconds to 35 hours, store transitions of $Hp(10)$ and $Hp(0.07)$ at a resolution of 1 μSv (0.1 mrem); will store up to 579 records for transitions up to 127 μSv or less

### Environmental
Operating Temperature: -10ºC to +50ºC (+14ºF to +122ºF)
- Humidity: 20% to 90% RH, non-condensing
- Vibration: IEC 1283: 2g, 15 minutes, 10 to 33 Hz
- Shock: 1.5 m (5’) drop on each surface onto concrete
- EMI/EMC (incl. static discharge): Exceeds IEC 81526 requirements; exceeds more onerous MIL Standard 461D RS103

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