

Enhance Your EPD® with vibration and audio alarming capability. The External Alarm Module offers options and enhancements for your EPD.

Vibe Unit

EPD® External Alarm Module™



Enhanced Alarming Capability

- LED light from the EPD activates the vibration and audio alarm through fiber hook
- Easily attached, optional, audible earpiece alarm
- Larger, brighter LED
- Vibrating alarm
- External audible alarm jack capability
- Alarm deactivation using reset button
- Rubber boot on fiber hook isolates other light sources
- Requires 9-volt battery
- Clip for easy attachment to clothing
- Rugged plastic case

Radiological

- Sensitive to X and γ radiation, β particles
- Direct readout of dose equivalents $H_p(10)$ (deep/whole body) and $H_p(0.07)$ (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 μ Sv to >16 Sv (0 mrem to >1600 rem) auto ranging
- Resolution for display 1 μ Sv (0.1 mrem), up to 10 mSv (1 rem)
- Resolution for storage 1/64 μ Sv (=1.5 μ rem)
- Dose rate display 0 μ Sv/h to >4 Sv/h (0 mrem/h to >400 rem/h) auto ranging
- Alarms dual $H_p(10)$ dose and dose rate alarms; $H_p(0.07)$ dose and dose rate alarms
- Energy response:

Photon, $H_p(10)$
 $\pm 50\%$ 15 keV to 17 keV (ref. ^{137}Cs)
 $\pm 20\%$ 17 keV to 1.5 MeV (ref. ^{137}Cs)
 $\pm 30\%$ 1.5 MeV to 6 MeV (ref. ^{137}Cs)
 $\pm 50\%$ 6 MeV to 10 MeV (ref. ^{137}Cs)

Photon, $H_p(0.07)$
 $\pm 30\%$ 20 keV to 6 MeV (ref. ^{137}Cs)
 $\pm 50\%$ 6 MeV to 10 MeV (ref. ^{137}Cs)

Beta, $H_p(0.07)$
 $\pm 30\%$ 250 keV to 1.5 MeV E (ref. $^{90}\text{Sr}/^{90}\text{Y}$)

- Angular response:

$H_p(10)$ ^{137}Cs $\pm 20\%$ up to $\pm 75^\circ$

$H_p(10)$ ^{241}Am $\pm 50\%$ up to $\pm 75^\circ$

$H_p(0.07)$ $^{90}\text{Sr}/^{90}\text{Y}$ $\pm 30\%$ up to $\pm 55^\circ$

- Accuracy

$H_p(10)$ ^{137}Cs
 $\pm 10\%$ $H_p(0.07)$ $^{90}\text{Sr}/^{90}\text{Y}$ $\pm 20\%$

- Dose rate linearity:

$H_p(10)$ ^{137}Cs
 $\pm 10\%$ <0.5 Sv/h (<50 rem/h)
 $\pm 20\%$ 0.5 Sv/h to 1 Sv/h (50 to 100 rem/h)
 $\pm 30\%$ 1 Sv/h to 2 Sv/h (100 to 200 rem/h)
 $\pm 50\%$ 2 Sv/h to 4 Sv/h (200 to 400 rem/h)

Between 4 Sv/h and 50 Sv/h continues to accumulate dose at a rate > 4Sv/h

$H_p(0.07)$ $^{90}\text{Sr}/^{90}\text{Y}$
 $\pm 20\%$ <1Sv/h (<100 rem/h)

Between 1Sv/h and 50 Sv/h continues to accumulate dose at a rate > 1Sv/h

Memory

- 10 year data retention without battery
- Short term dose registers for $H_p(10)$ and $H_p(0.07)$
- Approved Dosimetry Service (Dose of Record) dose memory area with password protection
- Peak dose rates with time of occurrence
- All stored times have 1 second resolution
- 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, stores transitions of $H_p(10)$ and $H_p(0.07)$ at a resolution of 1 μ Sv (0.1 mrem); will store up to 579 records for transitions up to 127 μ Sv or less

Alarms

- Audible and visual alarms for dose, dose rate, count down time, read time and failure modes.
- $H_p(10)$ dose chirp settable from 0.01 μ Sv/chirp to 100 μ Sv/chirp (1 μ rem to 10 mrem/chirp)

Electrical and Mechanical

- Power supply: single AA battery 1.5 V alkaline cell for typically 8 weeks continuous operation, OR 3.6 V lithium for typically 5 months continuous operation (interchangeable)
- Alarm sounder: fully sealed typically 97dB(A) at 20 cm with multiple modes
- Communications: IR interface up to 1 meter range (39")
- Display and function control by a single button on front (recessed to prevent inadvertent operation)
- Size: 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

Environmental

- Operating temperature: -10 $^\circ\text{C}$ to +40 $^\circ\text{C}$ (+15 $^\circ\text{F}$ to +105 $^\circ\text{F}$)
- Humidity: 20% to 90% RH non-condensing
- Vibration: IEC 1283: 2g, 15min., 10 to 33 Hz
- Shock: 1.5 m (5') drop on each surface onto concrete
- EMI/EMC: Exceeds MIL STD 461D RS103

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