

thermo scientific



When worker safety  
is mission critical.

Thermo Scientific EPD TruDose  
Electronic Dosimeter



**ThermoFisher**  
SCIENTIFIC

For over 25 years, Thermo Scientific EPD's have set the standard for trusted radiological performance in electronic personal dosimetry. Building on that history, our next generation electronic personal dosimeter, the Thermo Scientific™ EPD TruDose™ Electronic Dosimeter, delivers the performance and reliability you have grown to trust with the modern features you expect.

# Sensitive. Simple. Safe.

The Thermo Scientific EPD TruDose Electronic Dosimeter delivers unparalleled real-time dose reading improves your employees' safety and streamlines workplace efficiency by providing ultra-precise dosage information.

## Label Recognition

- Place for code of EPDs used

## Ultra Bright LED

- Visible from the top and the front of the EPD

## Infrared Interface

## Select Button

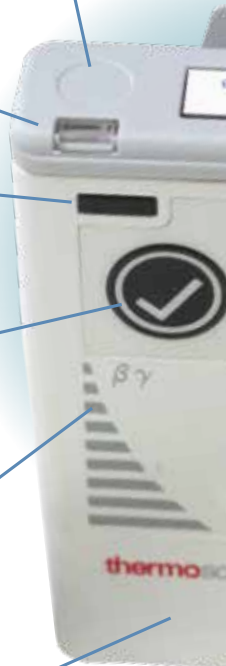
## Detector Marking

- Indicates EPD type

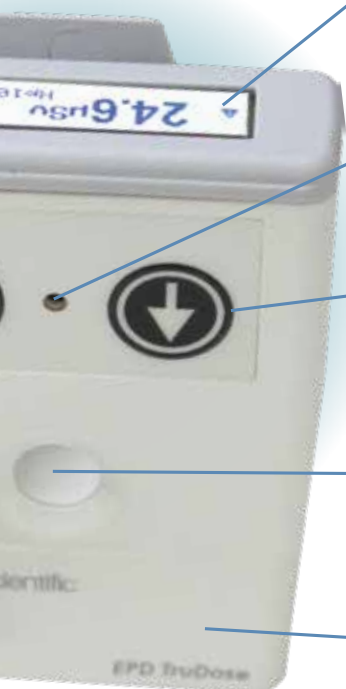
## Integrated Telemetry

## Uncompromised Radiological Performance

- Improved dose rate range
- Unprecedented sensitivity, as low as  $0.05\mu\text{Sv/hr}$  ( $0.005\text{mrem/hr}$ ), at lower dose rates provides assurance in the accuracy of exposure
- Improved pulsed field detection
- Multi-detector technology measuring both gamma and beta radiation
- IP65 (EPD TruDose BG) and IP67 (EPD TruDose G) provides improved protection from dust and water
- Integrated electromagnetic shielding improves tolerance to electromagnetic fields



Access  
color coding populations  
using COTS "dots"



### LCD Display

### Sounder

### Navigate Button


### Beta Window

- Covers the  $\beta$  detector (EPD TruDose3-BG unit only)

### Battery Compartment

- Front load, secured with screws in the back

## Increased User Efficiency

- Integrated Bluetooth Low Energy (BLE) requires no additional module 
- Real time clock simplifies troubleshooting and event documentation
- Improved IrDA data transfer speeds enables increased throughput at checkpoints
- Added warning thresholds enable users to react before an alarm condition arises

Utilizing RadSight Access, a team of workers can be monitored and their dose tracked utilizing RadSight Live.

## Accessories and Options



### EPD TruDose Desktop Reader

- Compatible with EPD TruDose and EPD Mk2 Series



### EPD TruDose IR Reader

- Compatible with EPD TruDose Electronic Dosimeter and EPD Mk2 Series

### Telemetry

- Telemetry Software



### EPD Wall Rack

- Provides convenient storage for Electronic Personal Dosimeters (EPDs).
- Each rack holds 10 EPDs
- Racks can be stacked side-by-side to hold any number of dosimeters

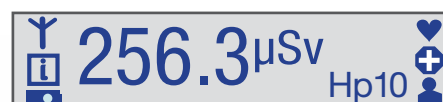
# Simplified User Experience

- Easy to read-and-react graphical display
- Configurable, redundant and proactive messaging
- Simple menu structure

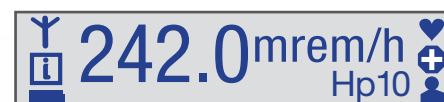
## Measurement Display Layout

Chrome Left	Numeric Area	Units Area	Chrome Right
		Measurement Identity Area	

## Example Dose Display



## Example Rate Display



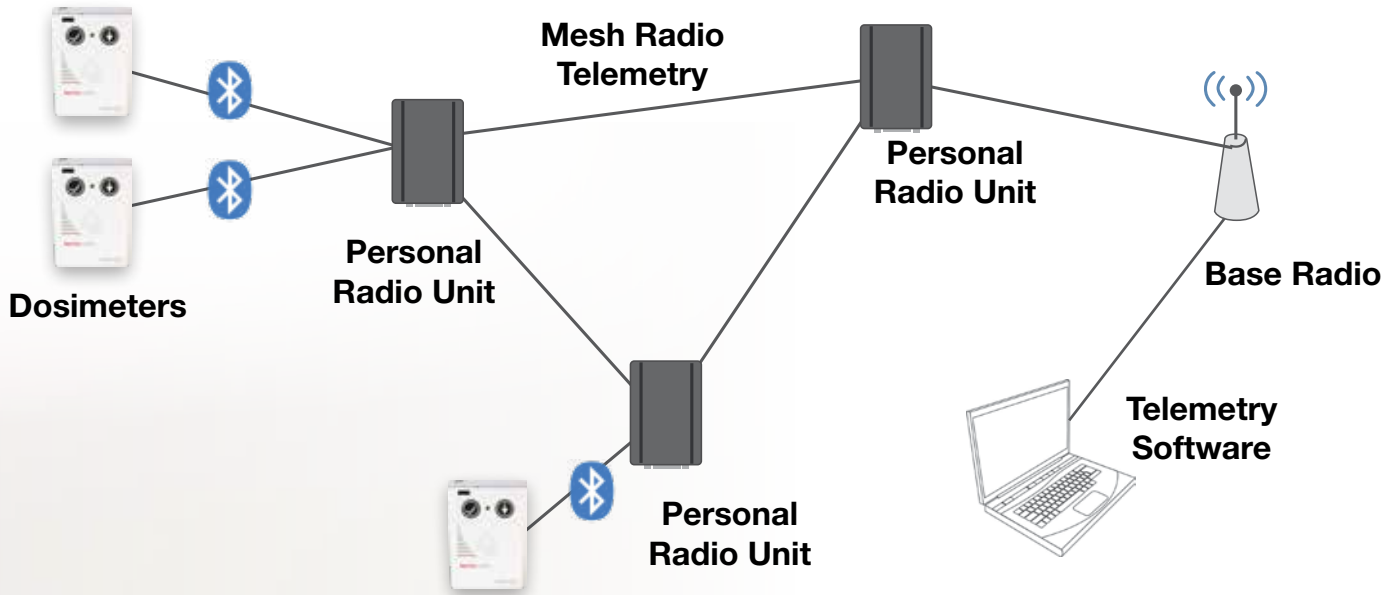
## Wearing the EPD TruDose Electronic Dosimeter



Note that the buttons should be facing outwards.

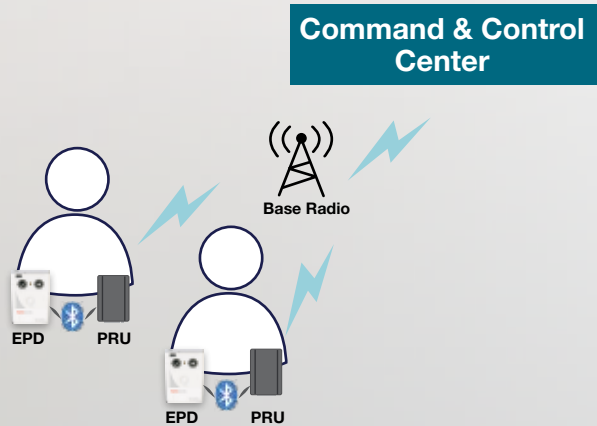
## Bluetooth Low Energy Telemetry

- Integrated telemetry unit requires no additional module
- Real time protection in most critical areas of facility
- Transmitters can receive data from multiple units



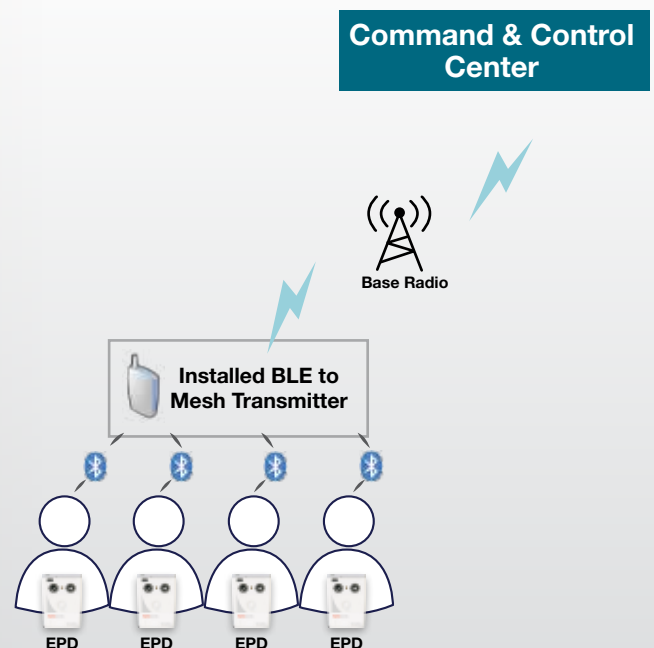
### Option 1: Personal Radio Unit (PRU)

- Wear Personal Radio Unit (transmitter) on the body (pocket, belt)

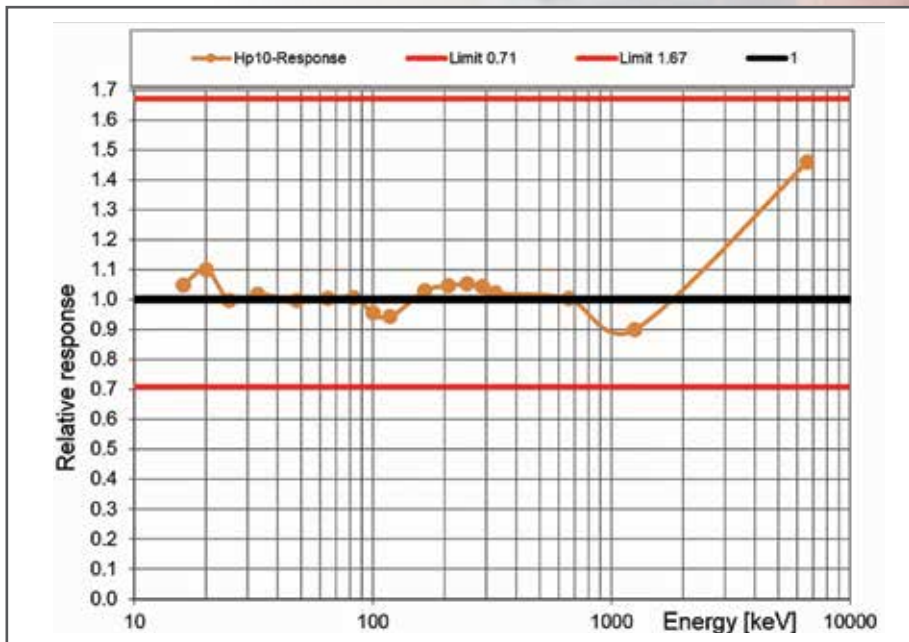


### Option 2: Mesh System

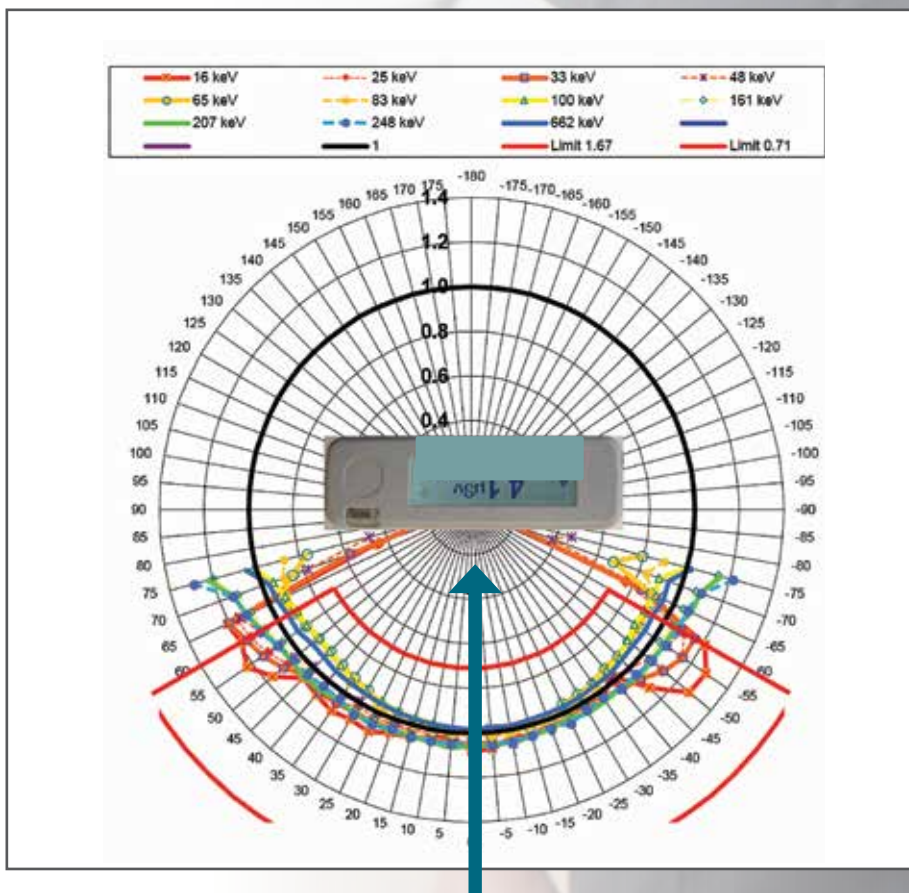
- Install network of local area transmitters



## Energy Response



## Angular Response - Hp(10)



Direction of radiation

# EPD TruDose Electronic Dosimeter Specifications

Dose Range, IEC61526 Ed. 3 (Display & Measurement)	
Hp(10)	Hp(0.07)
<ul style="list-style-type: none"> <li><b>Effective Range of Dose:</b> 1.0 <math>\mu\text{Sv}</math> to <math>\geq 10 \text{ Sv}</math> (0.1 mrem to <math>\geq 1000 \text{ rem}</math>)</li> <li><b>Overload Indication:</b> 10 Sv/h to <math>&gt;50 \text{ Sv/h}</math> (1000 rem/h to <math>&gt;5000 \text{ rem/h}</math>)</li> <li><b>Display Resolution:</b> 0.1 <math>\mu\text{Sv}</math> to 10.00 Sv (0.01 mrem to 1000 rem), up to four decimal places</li> </ul>	<ul style="list-style-type: none"> <li><b>Effective Range of Dose:</b> <ul style="list-style-type: none"> <li>- 500 <math>\mu\text{Sv}</math> to 10 Sv, BG (50 mrem to 1000 rem, BG)</li> <li>- 50 <math>\mu\text{Sv}</math> to 10 Sv, G (5 mrem to 1000 rem, G)</li> </ul> </li> <li><b>Overload Indication:</b> 10 Sv/h to <math>&gt;50 \text{ Sv/h}</math> (1000 rem/h to <math>&gt;5000 \text{ rem/h}</math>)</li> <li><b>Display Resolution:</b> 0.1 <math>\mu\text{Sv}</math> to 10.00 Sv (0.01 mrem to 1000 rem), up to four decimal places</li> </ul>

Dose Rate Range (Display & Measurement)	
Hp(10)	Hp(0.07)
<ul style="list-style-type: none"> <li><b>Effective Range of Dose Rate (IEC60846-1):</b> 1 <math>\mu\text{Sv/h}</math> to 10 Sv/h (0.1 mrem/h to 1000 rem/h)</li> <li><b>Dose Rate Range of Dose (IEC61526 Ed.3):</b> 0.05 <math>\mu\text{Sv/h}</math> to 10 Sv/h (0.005 mrem/h to 1000 rem/h)</li> <li><b>Display Resolution:</b> 0.1 <math>\mu\text{Sv/h}</math> to 10.0 Sv/h (0.01 mrem/h to 1000 rem/h), up to three decimal places</li> <li><b>Overload Indication:</b> 10 Sv/h to <math>&gt;50 \text{ Sv/h}</math> (1000 rem/h to <math>&gt;5000 \text{ rem/h}</math>)</li> </ul>	<ul style="list-style-type: none"> <li><b>Effective Range of Dose Rate (IEC60846-1):</b> 10 <math>\mu\text{Sv/h}</math> to 10 Sv/h (1 mrem/h to 1000 rem/h)</li> <li><b>Dose Rate Range of Dose (IEC61526 Ed.3):</b> 1 <math>\mu\text{Sv/h}</math> to 10 Sv/h (0.1 mrem/h to 1000 rem/h)</li> <li><b>Display Resolution:</b> 0.1 <math>\mu\text{Sv/h}</math> to 10.0 Sv/h (0.01 mrem/h to 1000 rem/h), up to three decimal places</li> <li><b>Overload Indication:</b> 10 Sv/h to <math>&gt;50 \text{ Sv/h}</math> (1000 rem/h to <math>&gt;5000 \text{ rem/h}</math>)</li> </ul>

On-axis Energy Response		
Photon Hp(10) (Ref. $^{137}\text{Cs}$ )	Photon Hp(0.07) (Ref. $^{137}\text{Cs}$ )	Beta Hp(0.07) (Ref: $^{90}\text{Sr}$ )
$\pm 15\%$ 16keV to 1.5MeV -15% to +50% 1.5MeV to 10MeV	$\pm 30\%$ 20keV to 1.5MeV -15% to +50% 1.5MeV to 10MeV	$\pm 30\%$ 200keV to 1.5MeV Detection of Pm-147 starts below 20cm distance

Combined Energy and Angular Response		
Photon Hp(10) (Ref. $^{137}\text{Cs}$ )	Photon Hp(0.07) (Ref. $^{137}\text{Cs}$ )	Beta Hp(0.07) (Ref: $^{90}\text{Sr}$ )
-29% to +67% for 17keV to 6MeV, 0° to 60°	-29% to 67% for 24keV to 6MeV, 0° to 60°	-29% to 67%, 200keV to 1.5MeV, 0° to 45

Accuracy		
Photon Hp(10) (Ref. $^{137}\text{Cs}$ )	Photon Hp(0.07) (Ref. $^{137}\text{Cs}$ )	Beta Hp(0.07) (Ref: $^{90}\text{Sr}$ )
$\pm 5\%$	$\pm 15\%$	$\pm 15\%$

Dose Rate Linearity		
Photon Hp(10) (Ref. $^{137}\text{Cs}$ )	Photon Hp(0.07) (Ref. $^{137}\text{Cs}$ )	Beta Hp(0.07) (Ref: $^{90}\text{Sr}$ )
$\pm 10\%$		
Between 10Sv/h (1000rem/h) and 50Sv/h (5000 rem/h) accumulates dose at a rate $>10\text{Sv/h}$ ( $>1000\text{rem/h}$ )		

Characteristic for Pulsed Radiation		
Characteristic	Rated range	Relative response
<b>Medical X-Ray, pulse width <math>&gt; 2\text{ms}</math>, medical pulse mode</b>		
Max pulse dose rate	0.05 $\mu\text{Sv/h}$ to 10 Sv/h	+/-20% for pulse width $>2\text{ms}$ (-60% at 10Sv/h in normal mode)
Max pulse dose	No limit	
Dose rate overload for dose measurement	10Sv/h to 1000Sv/h	Indication greater as at 10Sv/h
<b>Industrial X-Ray, pulse width <math>&lt; 1\mu\text{s}</math></b>		
Max pulse dose rate		No limit
Max pulse dose		0.01 $\mu\text{Sv}$
Dose overload	Each pulse $> 0.01\mu\text{Sv}$ and $< 1\mu\text{s}$ (industrial pulse mode only)	

<b>Electrical, Mechanical, and Environmental:</b>	
<b>Battery:</b>	
Power Supply	Single AA battery, 1.5V Alkaline or 3.6V Lithium Thionyl Chloride
Battery Life	1.5V Alkaline - 40 days continuous (110 days, assuming 8/24 hr shifts, display off after shift) 3.6V Lithium - 3.5 months continuous (9 months, assuming 8/24 hr shift, display off after shift)
<b>Alarm:</b>	
Audible, Vibration, Visible Alarm	Audible at 97db(A) at 20cm (>80 dB(A) at 1m), Vibration alarm function, Ultra-bright flashing red LED
<b>Communications:</b>	
Desktop/IR Reader	USB connection. Compatible with EPD TruDose Electronic Dosimeter and EPD Mk2 models
Bluetooth	Bluetooth Low Energy (BLE) up to 30 meters range from EPD to receiver
<b>Physical Dimensions:</b>	
Weight	0.106kg (0.233 lbs) with lithium battery and clip
Dimensions	86mm x 63mm x 21mm (3.37 inches x 2.48 inches x 0.83 inches)
<b>Environmental:</b>	
Operating Temperature	-20°C to +50°C
Humidity	20% to 90% RH, non-condensing
IP Rating	EPD TruDose (G) meets IP-67, EPD TruDose (BG) meets IP-65
Warranty	1 Year
<b>Compliance:</b>	
Testing	Instrument is type tested against and is compliant to the IEC 61526 Ed.3 standard, and is consistent with ANSI N42.20-2003 requirement

## Ordering Information

### EPD TruDose Electronic Dosimeter

Version	Without Telemetry	With Telemetry
Gamma	✓	✓
Beta-Gamma	✓	✓

### Accessories

Part Number	Description
436001000	EPD TruDose Desktop Reader (Software not included)
436001001	EPD TruDose Desktop Reader (EasyEPD3 Software included)
436001100	EPD TruDose IrDA Reader (Software not included)
436001101	EPD TruDose IrDA Reader (EasyEPD3 Software included)
43100100113	Front Clip (Supplied with EPD)
43100100106	TruDose Lanyard (Supplied with EPD)
EPD/1/31540/000	WR-1 Wall Rack for EPD TruDose, holds 10 EPD's. Includes mounting brackets.

### Customize your configuration

Please contact your Sales Representative for EPD TruDose Configuration information. Factory configurable options include:

- Case Color
- Customizable Battery Hatch
- Specification Label
- Battery Type
- Approval Label
- Function: Standard – Secure, 15% Gain, Telemetry + 10% gain, or custom
- Display & User Interface Settings
- Alarm Thresholds
- Alarm Configurations

Find out more at [thermofisher.com/epdtrudose](https://thermofisher.com/epdtrudose)