

Tracerco™ Personal Electronic Dosimeter 2

X-ray and gamma ray measurement

Built on over a decade of user experience, the Tracerco™ Personal Electronic Dosimeter 2 (PED2) is a rugged, compact, grab-and-go device that is easy to use, easy to manage and offers leading edge radiation protection.

The flexible device measures, records and displays dose rate and accumulated dose in real time with up to four configurable dose and dose rate alarm settings that trigger audible, visual, textual and haptic alerts.

A single button is used to navigate an intuitive carousel menu and a large, easy-to-read colour display ensures that vital information is clear and simple to understand providing unparalleled situational awareness.

Exposure data is automatically logged into a self-managing memory and can be seamlessly and securely transferred into the Tracerco™ DoseVision™ software platform for simple reporting and visualisation. DoseVision™ enables straightforward device configuration and offers optional cloud-based services ensuring secure, auditable, and efficient management of equipment and worker dose data.

Benefits

- Clear and readable transfective display enables use in dimly lit or sun-glare scenarios
- Responds promptly to small changes in radiation whilst also being capable of making accurate and reliable readings in hot zone fields up to 1Sv/h
- Powered by commercially available rechargeable or replaceable batteries


- Secure NFC data download via charging dock also with USB C connection
- PED2+ and PED2-IS+ are BLE and GPS enabled, have enhanced alarm messaging, and can operate in off-body mode for handheld surveys and perimeter monitoring tasks
- Intrinsically safe variants (PED2-IS and PED2-IS+) cater for use in hazardous areas
- DoseVision™ companion software with optional cloud ecosystem



Applications

- Emergency responders and security services
- Offshore and onshore oil and gas
- Industrial radiography
- Border control and military (CBRNe)
- Nuclear and decommissioning
- Medical and life sciences
- Mining

Tracerco™ PED2 specification

Performance			
Radiation detected	X-rays and gamma rays measured from 33 keV to 3 MeV* (48 keV for photon and directional compliance)	Accumulated dose range**	0.01 μSv - 42Sv (0.001mrem - 4200 rem)
Detector	Geiger Muller tube (with RapidResponse technology for increased range and high sensitivity)	Dose rate range**	Standard calibration: 0.12μSv - 100mSv/h (0.012mrem/h-10rem/h) Extended range calibration: 0.12 μSv - 1Sv/h (0.012mrem/h -100rem/h) NB. Devices display up to 200% of the calibrated range
Units	Sieverts or rem (selected in DoseVision™ software)		
Device memory	250MB self-managing device storage capacity. (i.e. > 1 million records) - Personal dose operation >10 years of dose records (including GPS data) - Survey mode > 1 year continuous area monitoring logging every 2 seconds	Screen type	2" TFT Transflective, 65k full colour 240*320 pixels (screen rotate feature)
		Configurable alarms	Audible, visual, haptic Up to 4 dose alarms and 4 dose rate alarms
		Non-volatile memory	NVM data retention > 10 years
Electrical characteristics			
Battery options***	- 2 x AAA 1.2V NiMH rechargeable cells or - 2 x AAA 1.5V Alkaline disposable cells	Charging/ data download	- PED2, PED2+ via supplied USB C cable (Charging dock is an option for above devices) - PED2-IS, PED2-IS+ via supplied charging dock in non-hazardous area only (NB. All devices can operate whilst on charge)
Real time clock	Secondary cell RTC battery back-up and primary cell removal detection		
Physical sensors	- Accelerometer - Temperature	Comms/ location	- PED2-IS : NFC - PED2+ : NFC, BLE 5, GPS - PED2-IS+ : NFC, BLE 5, GPS
Mechanical characteristics			
Size	102mm x 63mm x 31mm	Case material	- Shock, vibration and drop resistant polymers with antistatic properties - Front replaceable protective membrane (anti-tamper)
Weight	< 200g		
Environmental			
Ingress protection rating	IP67 (dust tight and immersion in water at depth of 1m)	Humidity	Up to 95%
		Temperature	-10°C to 50°C (operating) -20°C to 50°C (storage)
Hazardous area classification code (PED2-IS, PED2-IS+ only) ATEX and IECEx: Zone 0, 1, 2 gas group IIA, IIB, IIC		Hazardous area certification code (PED2-IS, PED2-IS+ only) ATEX Marking -  II 1G Ex ia IIC T4 Ga (-20°C ≤ Ta ≤ +50°C) IECEx Marking - Ex ia IIC T4 Ga (-20°C ≤ Ta ≤ +50°C) UKEx Marking - Ex ia IIC T4 Ga (-20°C ≤ Ta ≤ +50°C)	
Standard compliance BS EN 61526 – 2013; IEC 61526:2010; ANSI42.20:2003; EN55011; IEC60079-0; IEC60079-11; IEC61010-1			

*For detailed response curve please see report by Radiation Metrology, UKHSA.

** Accumulated dose indicated relates to personal dose equivalent Hp(10). Corresponding dose rate indicated relates to personal dose equivalent rate except where plus variants are used in Survey mode where the rate indication is related to the ambient dose equivalent H*(10).

*** Specified batteries must be used for IS variants. See user manual for permitted battery types.

Tracerco reserves the right to make changes to the specifications and other information contained in this document without prior notification. Please ensure that you have latest revision.