

# PM1703 Series Gamma & Gamma/Neutron Pager

Radiation Measurement & Protection

**Thermo**  
ELECTRON CORPORATION

These pagers are highly sensitive radiation detection devices utilized by First Responders and those seeking potentially harmful nuclear materials.

- Miniature pager type instrument
- Gamma dose rate indication
- Simple two button controls
- Data logging
- Configurable via PC

## Available Models

- **PM1703M**  
for Gamma
- **PM1703GN:**  
for Gamma & Neutron



## General

The PM1703 series of pagers are designed as highly sensitive measurement devices, conveniently worn on a belt to provide warning of rising levels of gamma or gamma and neutron radiation. These compact units are typically used to search for, detect and locate radioactive materials in a variety of situations. They also provide an excellent tool for extending stationary monitoring systems to expand the surveillance or to verify alarms of such systems and locate the offending item(s).

Unlike traditional electronic pocket dosimeters which are designed to track individual dose, the PM1703 type pagers offer significantly enhanced sensitivity to provide early warning capability.

## Configurations

The PM1703 is available in one of two possible configurations; the Model PM1703M which is exclusively gamma sensitive and the Model

PM1703GN for simultaneous gamma and neutron detection.

A photodiode CsI(TL) scintillation detector senses gamma emitting radioactive materials and provides a useful indication over the range of .01 to 40  $\mu\text{Sv/h}$  (10 to 4000  $\mu\text{R/h}$ ). The neutron detector is a LiI(Eu) scintillator sensitive to neutrons between thermal and 14 MeV.

## Controls

Two simple pushbuttons provide access to all the necessary functions of this user-friendly design. These devices offer a top mounted display to make reading of the current radiation level simple without requiring removal of the device from the belt.

The pagers include an integral vibrator which may be set by the user to activate any time an alarm setpoint is exceeded.

## SPECIFICATIONS

### Gamma

Detector: CsI(Tl) scintillator.  
Measurement Range: 0.1 to 40  $\mu\text{Sv/h}$  (10 - 4000  $\mu\text{R/h}$ ). Equivalent dose rate  $^{137}\text{Cs}$ .  
Energy Range: 0.06 to 3.0 MeV.

### Neutron

Detector: LiI(Eu) scintillator.  
Energy Range: Thermal to 14 MeV.



### General

Measurement Time: 0.25 seconds.  
Detection Sources: Meets ITRAP (Illicit Trafficking Radiation Detection Assessment Program).  
Alarm Types: Audio tone and/or vibration.  
Power Requirements: One AA size battery. Life expectancy is approximately 800 hours.  
PC Communications: Through IR-interface.  
Data Collection: 900 data points stored in non-volatile memory.  
Operating Temperature:  $-22^{\circ}$  to  $+122^{\circ}$  F ( $-30^{\circ}$  to  $+50^{\circ}$  C).  
Water Tightness: Meets IP67.  
Drop Test: 27.5" (0.7 m) onto concrete surface.  
Dimensions: 87 x 72 x 32 mm (3.4" x 2.8" x 1.2" ). Not including clip.  
Weight: PM1703M: 180 g (6.3 oz). Including battery.  
PM1703GN: 230 g (8.0 oz). Including battery.