

# Personnel Portal Monitor



**PM-702B**

Gamma-Category II\* low cost personnel portal monitor

## Description

TSA's personnel portal monitor, model PM-702B, is a highly reliable system for the radiometric protection of special nuclear material (SNM). It is designed to exceed the criteria for an ASTM Standard C 1169 Category II\* SNM monitor which will detect 10 grams of <sup>235</sup>U (HEU) on a walk-through basis.

The PM-702B is suitable for indoor or outdoor installation. The system consists of three main components; two vertical pillars each containing an organic plastic scintillator detector, and a crossover pillar. An optional grated step through feature provides optimal SNM monitoring.

A numeric keypad alarm with an LCD display attaches to the pillar and provides both audible and visual alarm indicators. RS-232 communications capability is optional. The system operates from an internal battery. Under normal conditions the memory should be adequate to store data for at least 3 months of operation.

## Specifications

### Model PM-702B SPECIFICATIONS

- SENSITIVITY: Will detect 10g <sup>235</sup>U (HEU) or 0.30g <sup>239</sup>Pu; when tested in accordance with ASTM Standard C 1169 Category II\* for pedestrian SNM monitors.
- DETECTORS: One, 72" h x 3" w x 3" d (183 x 8 x 8cm) organic plastic scintillator detector per pillar; provides approximately 1,296 in<sup>3</sup> (21.2 liters) of detector volume per system.
- ALARM LEVEL: N\*sigma, entered from the numeric keypad
- FALSE ALARM RATES: Typically less than 1 in 1,000 passages
- ALARM INDICATION: Audible and visual alarms
- DISPLAY: LCD, 4 lines x 20 characters
- COMMUNICATIONS: RS-232 communications capability (optional)
- DATA STORAGE: Battery backed RAM (128 KB) is used to store average hourly background data and alarm data.  
Under normal conditions the memory should be adequate to store data for at least 3 months of operation.
- POWER REQUIREMENTS: 90 - 240 Vac, 50 - 60 Hz, or 6 alkaline D cells which provide approximately 12 hours of operation.
- DIMENSIONS: Overall size: 93" h x 53" w x 9" d (236 x 135 x 23cm) The system consists of three main components; two vertical pillars, each one is 6" diameter x 83" h (15 x 211cm), with 6" diameter (15cm) crossover which provides 32" (81cm) pillar spacing.
- WEIGHT: =120 lb (54kg) per pillar

\*ASTM Standard C 1169 is available from The American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428, (610) 832-9585.

## Applications

The PM-702B personnel portal monitor was designed for monitoring applications that do not require the very high sensitivity of TSA's PM-700AG or for situations that require a semi-portable monitor.

While it has adequate sensitivity for security applications, it was primarily designed for use in hospitals, laboratories, and other locations where radioactive SNM materials need to be monitored.