

Pedestrian Portal Monitor Series 5103 and 5105

Benefits



- Reliable operation with a low rate of false alarms
- Simple to install and easy to use
- Uses digital electronics with reduced electrical noise
- Two detection technologies may be combined in a single monitor
- Unattended automatic operation with optional operator screen
- Applicable to indoor or harsh outdoor operation



Features

- Gamma ray, or gamma ray and neutron detection
- Micro-controller based automated operation with diagnostic functions
- RS-232/Ethernet interface for controller set-up or remote monitoring
- User selectable alarm provided as visual, audio or electronic signal
- Digital detector electronics including state of the art ORTEC digiBASE
- Detection and background statistics are archived
- Operates in continuous pass through or hold and measure mode

Description

ANTECH portal monitors are available in two basic configurations, Gamma ray measuring based on the use of sensitive plastic scintillator detectors and combined gamma ray and neutron measuring, again using sensitive plastic scintillators but combined with high-pressure He-3 detectors. The portal monitors are designed to detect radioactive materials and, with neutron detection capability, to detect the presence of plutonium by passive neutron counting. The shielded and collimated plastic scintillator detectors use low noise photo multiplier tubes, with state of the art digital detection electronics based on ORTEC digiBASE. In the case of combined technology portals, the polyethylene moderated high-pressure He-3 detector tubes, providing enhanced neutron detection sensitivity, are connected to high-speed charge collection electronics and operate in neutron totals counting mode.

ANTECH portal monitoring technology is derived from work performed at the Los Alamos National Laboratory (LANL) and implemented in the late 1980's by Jomar Systems. Since the transfer of technology to ANTECH, extensive improvements have been added and the ANTECH portal monitoring technology represents the current state of the art. ANTECH continues to work with technology developers at Los Alamos who are engaged in a process of continuing improvement with a view to optimising the performance for Homeland Security and defence related applications.

The operation of ANTECH portal monitors is automated through the use of an onboard microprocessor controller, which performs system diagnostic testing, input monitoring and background discrimination. The controller employs algorithms based on the sequential probability ratio (SPR) test, developed originally by Fehlau and others at LANL. The portal monitors contain all the necessary electronics, including controller, power supplies, amplification, single channel analyser and high voltage bias supplies to constitute stand alone instruments.

The Series 5103 gamma ray and the Series 5105 combined technology gamma ray and neutron Pedestrian Portal Monitors are available in the standard configuration shown with twin vertical pillars. It is also available without detectors in the bottom (floor) unit. The ANTECH Pedestrian Portal Monitors are compliant with the requirements of ASTM C1112-93 and the units follow the guidelines ASTM C1189-95 for calibration and ASTM C993-92

Specification

- **Typical dimensions of twin pillar configuration**

(L x W x H): 680mm x 140mm x 2200mm (each pillar)

- **Series 5103 has 4 scintillation panels, 5 if bottom unit fitted.**

- **Detection levels (Series 5103):**

0.4 grams total Pu (military grade)

approximately 10 g highly enriched U