

MOBILE STATION FOR PERSONNEL MONITORING (MSPM) SYSTEM

Introduction: MSPM System is a transportable Gamma Portal Monitor which is used for rapid screening of personnel with respect to radiation contamination during nuclear or radiological emergency. The system can also be used at entry and exit of important installations to interrupt the unauthorized movement of radiation source. The system utilizes six plastic scintillator detectors mounted on all the four sides of the portal (two each on left & right and one each on top & bottom). The user can set the monitoring mode (walk through or programmable counting time). The system continuously acquires the counts and monitors the background radiation. The data is displayed on the front panel touch LCD. The system generates an alarm when the counts exceed the preset alarm values. The instrument can work in standalone mode however a remote control station has also been developed. The counts and alarm data can be transferred via Ethernet or wireless RF communication. The image of the occupant can be seen at the remote control station and image can be captured in case of contamination and corresponding data can be stored for further analysis. It is equipped with a rechargeable battery. The complete system is modular, can be quickly set up and can be packed inside a transportation case.

Salient Features:

- Radiation Detector: Six Plastic Scintillator cylindrical sensor rods (diameter: 5cm & length 50 cm) Each coupled with PMT having inbuilt high voltage and pre amplifier.
- Sensitivity: 2 μ Ci of ^{137}Cs under ambient background condition
- Monitoring Modes: Walk-Through and Stop & Count (1 to 9 second programmable)
- Alarm, Display & Controls: Audio as well as visual LED indicators, Display of signal counts for all detectors simultaneously, Adjustable radiation alarm level, signal & background counting interval etc.
- Power Supply: 230 VAC as well as Battery operated (8 hrs battery backup)
- Integrated Camera for image capturing
- Remote Control and display for centralized viewing of portal monitor operations through Ethernet/ RF
- Weight: 50 kg approx (Without battery and carrying case)
- Portal Construction: PVC/HDPE/POM cylindrical enclosure, SS base with wheels.
- Pedestrian opening: 185 x 75 cm (H x W) approx
- Modular, Transportable, Self-contained, quick and easy set up (Approx. 15 minutes)



MSPM System with Remote Control Station and Transportation Case



Application: Screening of personnel for radiation contamination during nuclear or radiological emergency Armed Forces, Disaster Management Agencies, Airport and Strategic Installations

Status: Prototype has been developed and tested.