PPM

PEDESTRIAN RADIATION PORTAL MONITOR



Sturdy and durable mechanical structure

Large, high-sensitivity plastic scintillators

Customizable and modular architecture

- Integrated camera for motion detection, meas. start and snapshots of alarm events
- Built-in alarm column
- Rugged structure fixed to the floor
- Connectable to interlock devices
- Neutron detection sub-system available

The **PPM** pedestrian radiation portal monitor is designed to monitor persons passing through the device for detection of smuggled radioactive sources or possible contamination.
The system features a portal mechanical structure, with two columns on the sides of the measuring area, each containing one plastic scintillator detector with a large sensitive area.
Both detectors are shielded with lead sheets in order to reduce the contribution from the environmental background radiation.
The measurement starts when the built-in camera detects the passage of a person through the portal. **PPM** measures the radioactivity level, subtracts the background contribution and compares the net result with a pre-set alarm threshold. All measured data and information about alarm and failure statuses are displayed by the software.
The background level is automatically determined by the monitor when no passage through the portal is occurring.
The acoustic-luminous alarm column installed on the top of the portal indicates the status of the system. An output is available to control external interlock devices, e.g. to forbid the passage in case of alarms.
All alarm and failure events are archived, including the event date/time, the measurement data and the current alarm threshold setting.

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Information in this publication supersedes all earlier versions
All specifications are subject to change without notice

January 2024 - rev 6

TECHNICAL SPECIFICATIONS

Measurement features

- False alarm rate: <1/10'000 (alarm threshold at 5 σ)
- Energy range: 35 keV ÷ 2 MeV
- Efficiency referred to Cs-137: 50 kcps/µGy/h (per detector)
- Minimum Detectable Activities (5 σ confidence level):
  - Cs-137: 20 kBq
  - Pu-239: 10 mg
  - Enriched-U, 93% in U-235: 300 mg
  - Natural-U: 30 g

Detection unit

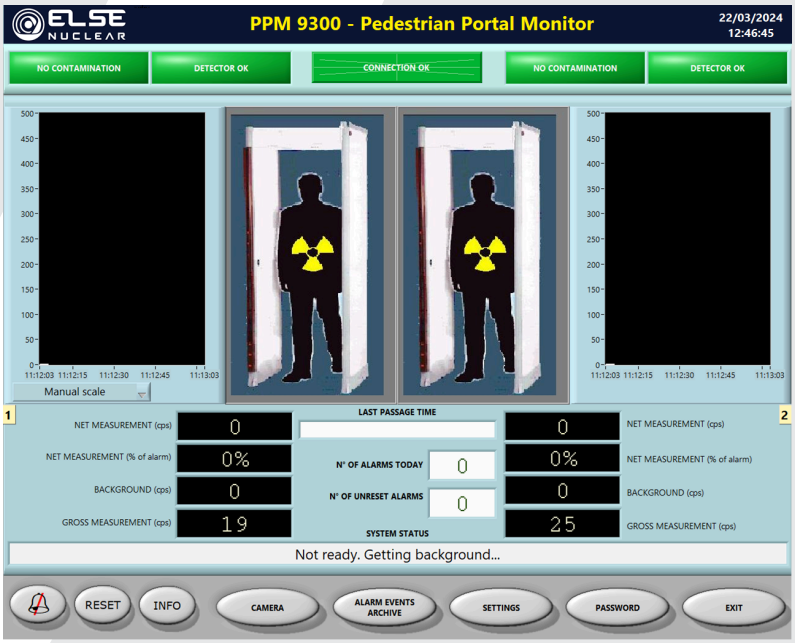
- Detection: 2 plastic scintillators
- Dimensions (WxDxH): 28 x 4 x 198 cm
- Lead shielding thickness: 10 mm

Acquisition and power supply module

- Status management:
  - 4 relays NO/NC for built-in alarm column
  - 4 relays NO/NC for interlock purposes (in parallel with the above outputs)
- Detector signal sampling rate: 1 second

Weight and dimensions

- Overall dimensions (WxDxH): 104 x 40 x 225 cm
- Weight: 360 kg



PPM software interface

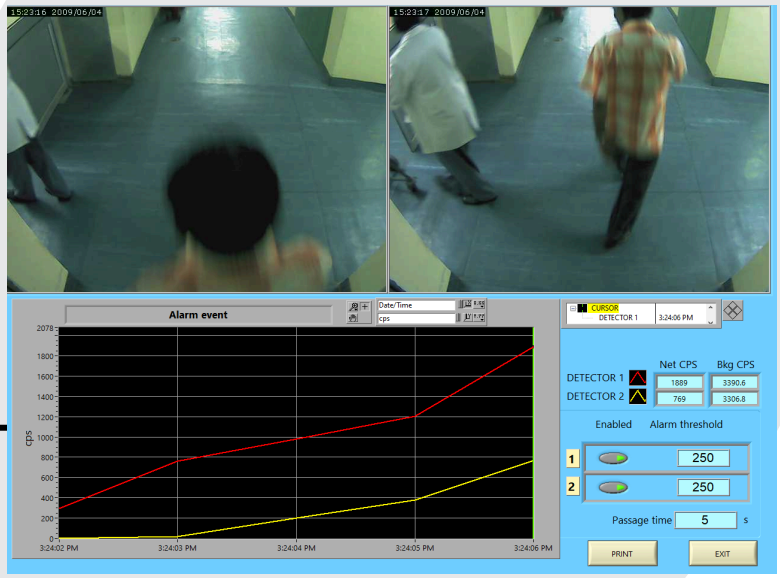


Image acquisition

ACCESSORIES AVAILABLE UPON REQUEST

- Passage interlock device
- Neutron detection sub-system
- Warranty extension from 12 months to 24 months

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