

LARGE VEHICLE RADIATION PORTAL MONITOR

DRIVE-THROUGH VEHICLE
MONITOR

AUTOMATED INSPECTION
OPERATION

GAMMA AND NEUTRON
RADIATION DETECTION

PROVEN IN HUNDREDS OF
DEPLOYMENTS WORLDWIDE

MARKETS

- Aviation
- Critical Infrastructure
- Customs and Border Control
- Defense
- Nuclear Facilities
- Ports



THE RAPISCAN TSA TM850 IS A PORTAL MONITOR FOR RADIATION INSPECTION OF LARGE VEHICLES AND TRAINS, ESPECIALLY WITH DENSE CARGO.

It is ideal for screening vehicles at border crossings, seaports, airports, critical infrastructure and nuclear facilities. Vehicles are automatically inspected as they drive between the pillars of the monitor. The TSA TM850 is a standalone device with all the features and capabilities required for effective radiation inspection.

DESIGN

The two pillars of the TSA TM850 are separated by more than 5m. They house the radiation detectors and electronics, including the system controller and occupancy sensors. Operating parameters are easily input with the touchpad on the controller. A rechargeable backup battery supports 8 hours of operation if the main AC power fails. A light indicates a tamper or fault condition.

OPERATION

The TSA TM850 continuously measures the background radiation and signals background alarm conditions. When the occupancy sensors detect a person approaching the monitor, it automatically switches to inspection mode. Radiation alarms are signaled with a flashing light and loud sound. The IP65 rating enables operation in a wide range of environments.

RADIATION DETECTION PERFORMANCE

The TSA TM850 is available with PVT gamma radiation detectors and optional B10 or He-3 neutron detectors. Radiation detection performance meets the requirements of ANSI N42.35 and IEC 62244. The TSA TM850 is designed to detect SNM, including HEU and Pu-239.

REMOTE OVERSIGHT

The TSA TM850 is compatible with Rapiscan remote oversight devices, which enable the radiation inspection operation to be overseen from a remote facility. The TSA AM270 local alarm box signals alarms in a nearby guard booth. The TSA RAVEN™ digital oversight system stores and displays inspection data and CCTV images obtained via a wired or wireless network.



TSA TM850

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systems
An OSI Systems Company

PHYSICAL SPECIFICATIONS

Operating Configuration	Drive-through vehicle monitor
Pillars	Master and slave pillar
Standard Pillar Spacing	19.7ft (6m)
Radiation Detectors	Four gamma radiation detectors (2/pillar)
Gamma Detector Material	Polyvinyltoluene (PVT) plastic scintillator
Gamma Detector Size	48in H x 12in W x 1.5in D (121.9cm x 30.5cm x 4cm)
Gamma Detector Volume	56.6 liters total detector volume
Pillar External Dimensions	160 in H x 48in W x 10 in D (406cm x 122cm x 25cm)
Pillar Weight	1,100 lbs (500kg)

PERFORMANCE SPECIFICATIONS

Gamma Radiation Detection	Meets ANSI N42.35 and IEC 62244
SNM Detection	200g HEU or 3g Pu239
False Alarm Rate	Typically less than 1 in 1,000 passages

OPERATION

Inspection Mode	Drive through
Inspection Speed	5mph (8km/h) nominal
Occupancy Sensors	IR and radar sensors
Radiation Alarms	Flashing light and audible alarm
Tamper/Fault Alarm	Amber light
Main Power	90-240VAC, 50-60Hz
Backup Power	Rechargeable lead acid battery for 8 hr operation
Ports	RS232, Ethernet

OPERATING ENVIRONMENT

Temperature	--34°C to 50°C
Humidity	5 to 95% non-condensing
Environmental Protection Standards	IP65

OPTIONS

Optional Gamma Detectors	Larger gamma detectors for higher sensitivity
Neutron Detectors	B10 detectors – 4 (2/pillar) or 8 (4/pillar)
Optional Neutron Detectors	He ³ detectors - 8 (4/pillar) or 16 (8/pillar)
Neutron Detection	Meets ANSI N42.35 and IEC 62244
SNM Detection	200g Pu239 shielded to less than 1% gamma flux
Alarm Characterization	Alarm classification or alarm identification
Interface Electrical Panel	Electrical panel for control of external devices
Remote Oversight	TSA AM270 local alarm box, TSA RAVEN™, RTDC
Remote Access	Serial Port

*For neutron detection please contact your sales representative to determine availability and quantity of He³ tubes.

STANDARD FEATURES

- Gamma Radiation Detection

DEFINITIONS

- Gamma Detection - For the detection of ionizing radiation.
- Neutron Detection - Typically used to detect Special Nuclear Materials (SNM).
- Gamma and Neutron Detection - For full spectrum detection capabilities.

OPTIONS

- Neutron Radiation Detection
- Large Gamma Detectors
- Remote Oversight
- Serial port
- Pillar Pedestals

With continual development of our products Rapiscan Systems reserves the right to amend specifications without notice. Product pictures are for general reference. Please note that due to US laws and regulations, not all Rapiscan products are available for sale in all countries without restriction. Please contact your Rapiscan Systems sales representative for more information.

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