TSA TM850

Automatically screen moving trains or large vehicles for radioactive materials.

Portal Monitor for Trains or Large Vehicles

Continuously Screen Moving Cargo

High Throughput

Cost Effective

The TSA TM850 automatically screens railroad or vehicular traffic without the need for frequent calibration. High sensitivity allows the TM850 to be used at transportation hubs requiring a wider installation area and high throughput such as at ports and customs and border entry points. The TM850 is designed for use in harsh environmental conditions.

Advanced Design Features

The TSA TM850 is a train and large vehicle monitor with excellent sensitivity and reliability. The TM850 consists of two self-contained, weather resistant pillars placed on either side of the railroad track or roadway to be monitored. Each pillar contains two large plastic scintillator detectors, four neutron detector blocks with either two or four neutron detectors each, multiple occupancy sensors, and an amplifier. The master pillar also has a battery, power supply, battery charger, and a system controller.

Programmable Detection Parameters

Selectable settings for sensitivity, energy discrimination, and fault levels may be entered by the administrator.

Easy-to-Operate

When the system is powered up, it takes twenty seconds to acquire an initial background. The background is continually updated until the system is occupied. When the TM850 senses occupancy, the system starts comparing the current count to the most recent background data. Alarm comparisons are made every 200ms. If the count exceeds the alarm level, both audible and visual alarms will be triggered. The system monitors itself and indicates low and high background conditions.

Flexible Detection Options

The TSA TM850 is available in three configurations; Gamma, Neutron or a combination of Gamma and Neutron detection. Gamma provides detection of ionizing radiation and Neutron provides detection of Special Nuclear Materials (SNM) while the combined Gamma and Neutron provides the most powerful detection capabilities for radioactive isotopes even in shielded materials.

Interface Options

With the optional Remote Alarm Panel operators can view alarms up to 300m from the monitor. The TSA TM850 is compatible with TSA RAVEN™ communications software designed to both capture and view data and video images relating to a radiological detection incident.

Standard Features

Programmable Detection Parameters

Audio and Visual Indicators

Relay Outputs for User Interface

Universal Power Supply

Ethernet Connectivity

Battery Backup

Controller Mounting Options

NEMA 4 Rated Enclosure

IP66 Rated Enclosure

TSA RAVEN™ Compatible

TSA RAVEN™ (Radiation Alarm and Video Event Notification) communications software is used remotely to assist response personnel in the field to pinpoint radioactive sources. RAVEN can monitor multiple detectors and aid in managing individual detector activity.

Markets

Aviation

Critical Infrastructure

Customs and Border Control

Defense

Ports

Rapiscan® systems

An OSI Systems Company

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TSA TM850

Specifications

Sensitivity	200 grams of unshielded HEU, 3 grams of unshielded ^{239}Pu 200 grams of unmoderated ^{239}Pu solely on the basis of neutron detection.
Detectors	Two, 48 h x 12 w x 1.5 d in. (121.9 x 30 x 3.8 cm) organic plastic scintillator detectors per pillar; eight, 2 in. diameter x 36 in. (5 x 91.4 cm) He^3 tubes per pillar
False Alarm Rates	Typically less than 1 in 1,000 passages
Alarm Indication	Alarms are indicated by a red strobe light mounted on the master pillar. High and low faults along with other fault conditions are indicated by an amber light. Neutron alarm is indicated by a blue strobe light.
Display	LCD, 4 lines x 20 characters
Communications	Serial Port and Ethernet communications capability.
Power Requirements	90 – 250 Vac. 47 – 63 Hz, less than 100 VA
Battery Life	Greater than 12 hours of normal operation
Dimensions	120 h x 48 w x 10 d in. (305 x 122 x 25.4 cm)
Typical Pillar Spacing	177 in. (4.5 m)
Weight	1,100 lbs (499 kg) per pillar
Environmental	-30° to 122° F (-34° to 50° C) Designed for outdoor use in most climates. For extreme conditions, optional heating/cooling is available.
Standards	UL

*ASTM Standard C 1169 is available from your Rapiscan Systems sales representative or The American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428 (610) 832-9585

Options

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.

Remote Alarm Panel

TSA RAVEN™ Communications Software

Heavy Duty Mounting Stand

Additional Lead Shielding

Heating or Cooling for Extreme Conditions

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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