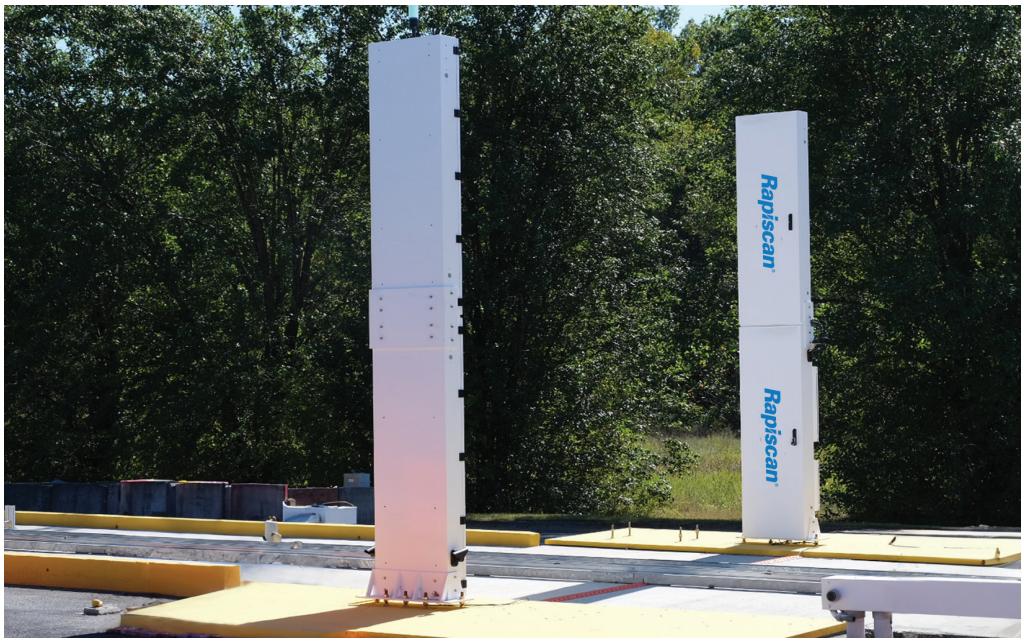
GUARDIAN™ VM SERIES

DATASHEET

Rapiscan®

RADIATION PORTAL MONITORS (RPMs)



Guardian VM1000 radiation portal monitor.

KEY FEATURES AND BENEFITS

Drive-through radiation portal monitors

Superior gamma and neutron sensitivity

Automatic inspection operation



Guardian VM500 radiation portal monitor

Engineered for superior performance, the Guardian Vehicle Monitoring (VM) Series of radiation portal monitors provides exceptional detection of radionuclides in passenger vehicles, freight trucks, trains, and double-stack trains or trucks, while minimizing false alarms.

These robust RPMs reliably monitor background radiation and alert security personnel when levels exceed the localized parameters. The modular design simplifies training, operations, and routine maintenance across the Guardian VM Series. The intuitive software simplifies operations and analysis and is backward compatible with other systems running the same software. Machine learning algorithms refine the RPM data for exceptional NORM discrimination.

With a false alarm rate of less than 0.01%, the Guardian VM Series reliably protects ports, border crossings, transportation hubs, critical infrastructure, and other strategic locations from inadvertent or intentional transport of radioactive materials.

SPECIFICATIONS

GUARDIAN™ VM SERIES

MODEL-SPECIFIC SPECIFICATIONS

	VM500	VM1000	VM1500
Applications	Passenger Vehicles	Passenger Vehicles, Trucks, & Rail	Double Stack Rail or Container Trucks
Gamma Detection Models	VM500G	VM1000G	VM1500G
Gamma & Neutron Detection Models	VM500GN	VM1000GN	VM1500GN
Configurations	1 Left, 1 Right	2 Left, 2 Right (stacked)	3 Left, 3 Right (stacked)
Gamma Detector Volume (Total)	50 liters	100 liters	150 liters
Neutron Detection Volume (Total)	14 liters	28 liters	42 liters

PHYSICAL SPECIFICATIONS

- **Pillars:** Primary and auxiliary
- **Standard Pillar Spacing:** 16.4 ft (5 m) per ANSI N42.35
- **Maximum Allowable Spacing:** 19.7 ft (6 m)
- **Gamma Detector Material:** Polyvinyltoluene (PVT) plastic scintillator
- **Number of Gamma Detectors:** 1 per panel
- **Gamma Detector Volume:** 25 liters per detector
- **Gamma Detector Size:** 60 in H x 10 in W x 2.5 in D (152.4 cm H x 25.4 cm W x 6.35 cm D)
- **Neutron Detector Material:** LiZnS (Ag)
- **Number of Neutron Detectors:** 2 per panel
- **Neutron Detector Volume:** 3.5 liters per detector
- **External Panel Dimensions:** 80 in H x 26 in W x 7.3 in D (203 cm H x 66 cm W x 18.4 cm D)
- **Weight:** Up to 982 lbs (445 kg) per panel

PERFORMANCE SPECIFICATIONS

- **False Alarm Rate:** Less than 1 in 10,000 passages
- **Performance Standards:** ANSI/IEEE N42.35

OPERATION

- **Inspection Speed:** 5 mph (8 km/h) typical
- **Alarms and Alerts:** Visual and audible
- **Communication:** Ethernet

ENVIRONMENT/SAFETY

- **Temperature:** -4 °F to 140 °F (-20 °C to 60 °C)
- **Humidity:** 5 to 95% non-condensing
- **Environmental Protection:** IP65

SOFTWARE FEATURES

- Local or remote system monitoring
- Multiple system monitoring using a single software interface
- NORM discrimination and classification
- Sensitivity level customization
- Recall event using queries
- Real-time State of Health monitoring
- Image capture
- Custom data input screens for operator inputs

OPTIONAL FEATURES

- Spectroscopy for nuclide identification
- Alternate neutron detectors
- Guardian 501: Handheld radionuclide identification device supports secondary inspection—identifying and locating radiological threats
- License plate camera captures an image of the license plate, aiding in vehicle identification
- Overview camera provides a side view of the vehicle as it travels through the RPM
- Backup Power: Rechargeable lead acid battery

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