Vehicle Mounted Radiation Detection Platform

MODES_SNM Mobile Radiation Detection System

Equipped with Monitoring, Search and Mapping Packages

Mobile detection systems have the versatility to cover a broad spectrum of radiation detection missions. While deployed in the daily business of port security and law enforcement, they can also be kept ready for rapid deployment in emergencies such as reactor accidents, heightened terrorism threats, recovery actions for lost or stolen nuclear materials, or intelligence driven operations.

MODES_SNM Mobile Radiation Detection System

Adapted to your Concepts of Operations

MODES_SNM is a highly modular, customizable platform that detects and identifies radiological and nuclear materials. Three functionality packages allow the system to be configured for your mission.

Detection Technology

Gamma Detectors: MODES_SNM combines proven conventional technology with leading edge proprietary detectors to provide the best performance in its class:

- NaI(Tl) crystals offer good efficiency and energy resolution over a wide energy range. They are equally sensitive to the gamma signatures of Special Nuclear Material (SNM), Naturally Occurring Radioactive Material (NORM), industrial and medical sources.
- Proprietary xenon based detectors combine good energy resolution with exceptional sensitivity for low energy gamma signatures. The detectors have an unparalleled signal-to-background for signatures of SNM. They are less prone to false alarms from fluctuating backgrounds while driving.

Neutron detectors (^{3}He-free): Proprietary Rugged-by-Design™ detectors offer sensitivity for both fast and thermal neutrons. Discrimination between thermal and fast neutrons is a feature unique to this technology, affording superior signal-to-background characteristics. Using SiPM based technology provides for a compact and fully integrated detector.

MODES_SNM Software

Data fusion and spectral identification algorithms analyze data streams from detectors and peripherals to reduce false alarms, provide GPS marked dose rates, and identify/classify sources.

Communications	Via graphical user interface (GUI): Wireless, Ethernet/LAN (optional) External data transmission: GSM (encrypted)
User Interface	User friendly GUI accessible over web browser and wirelessly
Data Export	ANSI 42.42 compatible format accessible via http
Modularity	Fully mission configurable, automatic detector recognition and calibration
Power Options & Autonomy	90-250 VAC, 47-63 Hz or 12 VDC Operates autonomously from battery for at least 8 hours.
Ingress and Electro-magnetic Radiation Protection	The detection system is passive and does not require cargo to be exposed to radiation EMV immunity according IEC/EN 61000-6-2 Temperature range: -30 - 50 °C

			
	Monitor Package	Search Package	Mapping Package
Application	Monitor passing traffic and conveyances to detect nuclear and radiological threats	Detect radiological sources while driving	Patrol areas while automatically creating dose rate maps
Features	Rejection of NORM Defeat masking scenarios Source detection and identification External data transfer via encrypted GSM	Suppression of nuisance alarms from changing backgrounds while driving Source detection and identification Directional information External data transfer via encrypted GSM	Create GPS marked map of dose rates Identify ”hot zones”
Typical Missions	Primary and secondary R/N screening at border crossings, choke points, green borders Mass event access screening Covert measurements Airport screening of luggage & cargo trolleys to/from aircraft Seaport screening of transshipped cargo & arriving/departing trucks Intelligence-driven operations	Large area source search Covert patrolling crowds or parking lots Search for orphan sources in areas after catastrophe or armed conflict Screening vehicles on highway at speed Clearing areas of sources prior to sports events Intelligence-driven operations	Environmental monitoring Establishing maps of background radiation Post event surveys Clearing an area of sources prior to a mass event Save maps of background data to support future source search operations
Typical End Users	Customs, Law enforcement & intelligence Border/port security	Customs, law enforcement & intelligence Civil protection, military	Environmental protection Civil protection, law enforcement
Operation	MODES_SNM is parked up to 3m from traffic, preferably at a natural choke point Operator can be in vehicle or outside Battery operation possible without motor running	MODES_SNM is driven along a search pattern, or directed to inspect specific targets Operable by driver or dedicated operator	MODES_SNM vehicle is used to map the radiation background of an area Operable by driver
Peripherals	Occupancy sensor, camera	GPS receiver, distance measurer, camera	GPS receiver

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