RADROVER

Robotic Ionizing Radiation Measurement and Analysis System
Robot Dog

Overview

RADROVER is an advanced radiation measurement system that, without human intervention, measures, analyzes, and securely transmits data on radiological and nuclear (gamma and neutron) threats in real time via advanced measurement systems integrated into a remotely controlled robot dog platform.

Using 1024–4096-channel MCA structure, the system is capable of identifying various radioisotopes with high energy resolution. This enables not only dose rate measurement but also the detection of potential radiation sources.

RADROVER provides a safe and effective means of performing radiological and nuclear measurement processes in challenging and hazardous areas while minimizing personnel risk. With a minimum of 60 minutes of continuous operation, a swappable battery design, and modular equipment integration, it offers flexible use for long-term and repetitive missions.

With its integrated GPS positioning feature, it can mark locations where radiation hazards are detected geographically and generate map-based reports. Additionally, its integrated cameras record visual data to support measurement results. Due to mechanical design suitable for challenging terrain and its obstacle detection sensors, it enables reliable scanning of complex and hazardous environments.

The radiation performance tests of the **RADROVER** system are conducted in ISO/IEC 17025 accredited laboratories in compliance with the IEC 60846-1, IEC 60532, and IEC 62327 standards.

Fields of Application

- CBRN (Chemical, Biological, Radiological, Nuclear) threat analysis and risk mapping
- Detection and analysis of radioactive contamination caused by war or terrorism
- Radiological safety of industrial facilities
- Environmental radiation monitoring activities at nuclear power plants
- Identification and monitoring of environmental radiation hazards
- Emergency radiation measurements

Advantages

- Real-time radiation measurement and analysis
- Capability to measure gamma and neutron dose rates
- Radioisotope identification feature
- Map-supported reporting and visual recording
- Safe operational capability under challenging conditions

Technical Specifications

Radiation Measurement System :

Feature	Value	Description
Detector	$LaBr_3$, CsI(Tl), solid-state neutron detector (optional)	
Radiation Type	X-ray, gamma, neutron	
Measured Parameters	H*(10)	
Energy Range	30 keV- 3.0 MeV	For gamma radiation type
Energy Range	0.025 eV - 14.0 MeV	For neutron radiation type
Dose Rate Rage	10 nSv/h- 100 µSv/h	Spectroscopic radioisotope analysis
Dose Rate Rage	100 µSv/h -10 Sv/h	With different types of detectors
Communication Protocol	3G,4G,Uydu	Satellite is optional.

Robot Dog :

Feature	Value	Description
Standing Dimensions	70x31x40cm	
Crouched Dimensions	76x31x20cm	
Weight (including battery)	15kg	
Material	Aluminum alloy + high-strength plastic	
Voltage	28V-33.6V	
Speed	0 ~ 2.5m/h	
Maximum Climbing Angle	30°	
Processor	8 core CPU	High Performance
Maximum Torque	Approximately 45 N·m	
Battery Capacity	8000mAh	Upgradeable to 15,000 mAh capacity
Battery Life	1-2 hour	
Charger	Standard (33.6V 3.5A)	

Contact

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