RADSKY

Robotic Ionizing Radiation Measurement and Analysis System
Unmanned Aerial Vehicle (UAV/Drone)

Overview

RADSKY is an advanced radiation measurement system that measures, analyzes, and securely transmits data on radiological and nuclear (gamma and neutron) threats in real time, independently of human involvement, via an unmanned aerial vehicle (drone).

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.

RADSKY provides a safe and effective means of performing radiological and nuclear measurement processes in challenging and hazardous areas. With a payload capacity of 10 kg, a flight time of up to 30 minutes, and a coverage area of 7 km², it can carry out comprehensive scans along planned routes. Using backup battery system, it can be quickly redeployed to continue monitoring activities in additional areas.

Using GNSS RTK module with 2.5 cm accuracy, it can mark potential hazards on a map with high positional precision and transmit detailed reports to the central system. Additionally, its integrated cameras capture visual records of the measured areas, ensuring comprehensive documentation of the data. With its LiDAR-based obstacle avoidance technology, it provides safe operational capability for the user even in complex terrain and in the presence of obstacles.

The radiation performance tests of the RADSKY 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 of 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
- Wide coverage area and long flight duration
- 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 Range	10 nSv/h- 100 µSv/h	Spectroscopic radioisotope analysis
Dose Rate Range	100 µSv/h -10 Sv/h	With different types of detectors

Drone :

Feature	Value	Description
Maximum Speed, Flight Time	29 km/h , 50 min	
Control	Autopilot or control center	
Operating Temperature	Between -20℃ and +50℃	
Battery	44.4 V (12S LiPo)	
Dimensions	110 cm x 110 cmx 65 cm	
Weight	15 kg	
Communication Protocol	3G, 4-5G, Satellite	Satellite is optional

Contact

SMF TECHNOLOGY INC.

Address : Serhat Mahallesi 1147 Cadde 12/10 Yenimahalle/ANKARA

E-mail : info@smf-technology.com

Web : www.smf-technology.com