Product Datasheet

MUVE™ R430

Radionuclide Identification Device for Unmanned Aerial Systems

The MUVE™ R430 is a radiation detector designed for unmanned aerial systems (UAS) used to detect, locate, measure, map, and identify radioactive sources from above. The SkyRanger® R70 and SkyRanger® R80D serve as the airframe for the R430. The R430 is integrated into the R70 and R80D's Mission Control Software (MCS) providing visible and audible alerts that expedite response measures. The R430 provides a balance of size and weight for various situations including emergency response, environmental monitoring and surveying.

The MUVE™ R430 brings the pedigree of the identiFINDER series of best-selling radionuclide identification devices to the sky. Utilising the same, familiar interface the R430 can go quickly perform assessments in hard-to-reach places and environments while keeping the operator at a safe distance.

Evaluate radioactive threats from a safe distance

When dangerous conditions exist, or are anticipated, utilise the MUVE™ R430 to fly in for an initial assessment.

Reduce reaction times

Quick deployment allows for rapid threat assessment even in areas where contamination would be difficult to access normally.

Fully integrated situational awareness

When gathering a comprehensive view of a scene, the MUVE™ R430 provides the Mission Control Software the data needed to give a complete view.

Tried and trusted

The MUVE™ R430 uses the same tried and trusted detection and spectroscopic algorithms as the other identiFINDER instruments, providing detection and identification of radioactive sources you can trust.

Specifications

General	
Technology	Radionuclide identification device (RID); Gamma and Gamma/Neutron models
Gamma Detector – NaI(Tl)	45 x 45 x 45 mm cubic detector with silicon photomultiplier (SiPM)
High Dose Rate Gamma Detector	Energy Compensated Geiger Müller (GM) Tube
Neutron Detector – ZnS (GN Model only)	27 x 58 x 5 mm moderated panels (2 each)
Energy Range (Gamma)	20 keV - 3 MeV
Gamma Sensitivity (Cs-137)	1610 cps/µSv/h
Neutron Sensitivity	> 4 cps/nv
Gamma Spectrum Length	1024 channels
Dose Rate Range (Cs-137)	10 µrem/h – 1 rem/h ± 10%, 100 nSv/h – 10 mSv/h ± 10%
Dose Rate Range ID Mode (Cs-137)	0.1 µrem/h – 5mrem/h, 1 nSv/H – 50 µSv/h
Overload Dose Rate Range	1 – 100 rem/h, 10 mSv/h – 1 Sv/h
Stabilisation	Sourceless gain stabilisation
Linearisation	Real time linearisation of gamma energy
Typical Resolution	≤ 7% FWHM at 662 keV (20 °C)
Service Interval	5-year factory maintenance

System Interface	
Communication	USB-C, UAS interface port
Data Storage	8GB internal memory
Software	On-board webserver software
Data File Format	According to ANSI N42.42

Sampling and Analysis	
Sample Introduction	Absorption of EM gamma and neutron emissions
Threats	Detects gamma and neutron radiation emitted from natural occurrences in the environment, special nuclear material, industrial, or medical material
Nuclide Identification	According to ANSI N42.42
Library Categories	SNM, IND, MED, NORM
Time to Identification	From a few seconds to a few minutes

Environmental	
Operating Temperature	-22 to 140 °F (-30 to 60 °C)
Operating Humidity	10 to 93%, non-condensing
Storage Temperature	14 to 95 °F (-10 to 35 °C)

Physical Features	
Dimensions (L x W x H)	101.6 x 101.6 x 101.6 mm
Weight	≤0.9 g
Enclosure and Protection	Injection moulded housing with overmould; rating IP67 according to IEC 60529 ; MIL STD 810G (Salt/Fog) compliant

Specifications are subject to change without notice.
For the most up-to-date specifications, please visit www.flir.com

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