

## MS-100



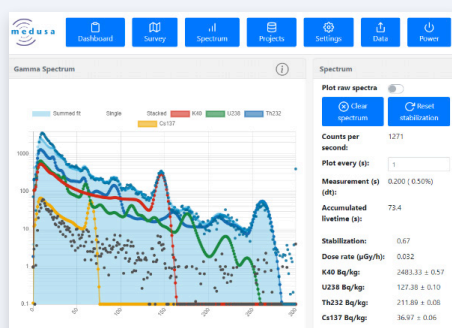
The Medusa MS-100 is a lightweight sensor designed for UAV-borne dose rate mapping. It integrates seamlessly with the SPH SkyHub, making it compatible with all common drone platforms. This survey tool enables the assessment of dose rates across an area and is used to detect anomalies, such as lost radioactive sources, natural radiation variations, and radiation anomalies in materials. The system includes an intuitive survey mapping interface, and the drone integration allows for real-time dose-rate tracking during flight operations.

### Sensor key features

- Compact and lightweight: only 1350 gram
- Ultra-rugged 100 ml CsI scintillator crystal for reliable performance
- Designed for ease of use and rapid deployment
- Onboard data storage and real-time processing
- Life-long software updates
- Seamless integration with commercially available drones

### Typical Applications

- Search and recovery of lost or orphan radioactive sources
- Emergency response and rapid radiation mapping
- Baseline dose-rate surveys for site characterization
- Monitoring around nuclear facilities or waste storage sites
- Surveying contaminated or decommissioned areas
- NORM (Naturally Occurring Radioactive Material) characterization



*'A uniform interface  
for all our sensors'*

### Medusa Detector Operating System (mDOS)

Whether doing an airborne survey, locating a lost source with a UAV, or using our detector for a handheld survey for mapping the environment, you can count on using the same familiar interface.

mDOS is developed for in-the-field usage. Optimized for real-time monitoring, ease of use and automating your survey workflow.

### About Medusa Radiometrics

- Scientific collaboration with eminent research institutes and peer-reviewed publications of the analysis procedures
- We have over 25 years of experience in developing gamma-ray spectrometers and their applications
- We help you to develop your business by delivering state of the art gamma-ray spectrometer solutions, tailored to your needs
- We don't sell, we deliver. Our support is excellent and worldwide. You can count on us, wherever you are
- We share our knowledge and expertise through scientific publications, whitepapers, tutorials, and case studies

**The MS-100 sensor  
is used to detect  
anomalies, such as  
lost radioactive  
sources**



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# MS-100 Technical specifications

Recommend application: dose-rate mapping

## Gamma-ray spectrometer

|                       |  |
|-----------------------|--|
| Scintillation crystal | 2x2" (100 ml) CsI  |
| Typical mapping speed | Up to 10 km/h  |
| Recording frequency   | Up to 5 hz   |
| Radionuclide analysis | <sup>40</sup> K, <sup>238</sup> U, <sup>232</sup> Th, <sup>137</sup> Cs, dose rate |

## Electrical

|                   |                          |
|-------------------|--------------------------|
| Input voltage     | 5 - 35 V                 |
| Power consumption | 3 W (average), 6 W (max) |

## GNSS

|              |                               |
|--------------|-------------------------------|
| Type         | uBlox ZED-F9P                 |
| Accuracy     | 1.5 m CEP                     |
| RTK accuracy | <1 cm                         |
| Signals      | GPS, GLONASS, BeiDou, Galileo |

## Mechanical

|                       |                     |
|-----------------------|---------------------|
| Dimension             | 100 (Ø) x 160(L) mm |
| Weight                | 1.35 kg             |
| Operating Temperature | -20 to +65 °C       |
| IP rating             | IP67                |

## Connectivity

|          |               |
|----------|---------------|
| Wi-Fi    | 2.4 and 5 Ghz |
| Ethernet | 100 Mbps      |
| Port     | RS-232        |

## Data

|                  |                            |
|------------------|----------------------------|
| Format           | JSON, NMEA, CSV            |
| Streaming        | RS-232, ethernet and Wi-Fi |
| Sensors          | Spectrometer, GPS, PTH     |
| Internal storage | 16 GB                      |

## Included software

|                                 |  |
|---------------------------------|--|
| Onboard-processing<br>(by mDOS) | Real-time analysis<br>Survey planner<br>Real-time radionuclide inspection<br>Sample measurements |
|---------------------------------|--|

|                                |  |
|--------------------------------|--|
| Post-processing<br>(by GammAn) | Full spectrum analysis (FSA)<br>Window analysis (WA) |
|--------------------------------|--|

## Support

|                |                                     |
|----------------|-------------------------------------|
| Online support | Extensive library of support guides |
| Custom support | Optional                            |