



# HYPERSPECTRAL CAMERA



Captures Hyperspectral Data With Precision

# Products

## Hyperspectral Camera FS-60C



The FS-60C is an advanced UAV-based hyperspectral analysis system designed for comprehensive environmental monitoring and water quality analysis. This cutting-edge technology utilizes hyperspectral imaging to capture detailed spectral data of water bodies, soil, and crops.

## Hyperspectral Camera FS-62C



The FS-62C Hyperspectral Camera is a cutting-edge imaging device designed for a wide range of environmental and agricultural applications. Compatible with the DJI Matrice 350 RTK, this high-speed spectral scanning camera offers ultra-high stability and precision.

# Product Specification

## Hyperspectral Camera FS-60C



<b>Lighting Mode</b>	Passive Lighting (without light source)
<b>Spectroscopic Method</b>	Transmission Grating
<b>Spectral Range</b>	400-1000nm
<b>Battery Performance</b>	Spectral Band
<b>Spectral Resolution (FWHM)</b>	2.5 nm
<b>Slit Width</b>	25um
<b>Transmission Efficiency</b>	> 60%
<b>Stray Light</b>	< 0.5%
<b>Number of Spatial Pixels</b>	Max. 1920 (software configurable)
<b>Pixel Size</b>	5.86 um
<b>Imaging Speed</b>	Full band 128Hz, after ROI can achieve 3300Hz

<b>Probe</b>	CMOS
<b>Signal-To-Noise Ratio</b>	600/1
<b>Camera Output</b>	USB3.0 or Gigabit Network
<b>Camera Interface</b>	C-Mount
<b>Attachment</b>	USB3.0 or Gigabit network
<b>ROI</b>	Multiple Regions
<b>Embedded Data Acquisition Processing Storage Unit</b>	Embedded Processor 512GSSD Storage
<b>Dimension</b>	20.5 cmx18.5 cmx12.9 cm
<b>Weight</b>	1200g
<b>Power Dissipation</b>	40W

# Application

## Hyperspectral Camera FS-60C

**Environmental Monitoring:** By capturing hyperspectral images, the FS-60C provides detailed maps indicating nitrogen levels, phosphorus content, chlorophyll concentration, and suspended solids in water bodies. This real-time data is crucial for urban river monitoring and identifying pollution sources.

**Agriculture:** The camera enables large-scale analysis of crop health by detecting plant nutrition levels, soil fertility, and pest infestations. Farmers can compare spectral curves at different points to monitor crop phenotypes and estimate yields. Hyperspectral analysis can identify diseases in crops, such as rice diseases and pine wood nematode disease, by analyzing specific wavelengths and spectral reflectance.

**Soil Analysis:** The FS-60C captures images that reveal the metal content in rocks and soil, providing comprehensive maps for environmental and agricultural applications. This helps in assessing soil health and detecting contamination.

**Non-Contact Testing:** The system can be used for non-contact testing of alcohol gas in various settings, including laboratories and vehicles. This feature is particularly useful for online detection in parking lots and entry/exit points, enhancing safety and regulatory compliance.

**Urban Development:** The FS-60C identifies and maps polluted water bodies in urban rivers, helping city planners and environmental agencies to address and mitigate pollution issues effectively.



# Product Specification

## Hyperspectral Camera FS-62C



<b>Spectroscopic Method</b>	Transmission Grating	<b>Exportation</b>	Start
<b>Spectral Range</b>	900-1700nm	<b>Camera Lens Interface</b>	C-Mount
<b>Spectral Band</b>	1024	<b>ROI Function</b>	Multiple Regions
<b>Spectral Resolution (FWHM)</b>	6.5 nm	<b>Built-In Processing Unit</b>	Windows Operating System, 8GB of RAM 512GB SSD and Camera Integrated Design (optional 1TB)
<b>Slit Width</b>	25um	<b>Heat Dissipation Mode</b>	Internal air cooling heat dissipation
<b>Transmission Efficiency</b>	>60%	<b>Mode of Operation</b>	Easy to operate, no need for professional drone operation Hand control, can achieve single operation.
<b>Stray Light</b>	<0.5%	<b>Observation Mode</b>	Real-time observation of aircraft sampling sites, hyperspectral images and spectral data by ground stations.
<b>Number of Spatial Pixels</b>	1280	<b>Correction Mode</b>	Radiometric correction, reflectivity correction, and area correction support batch processing.
<b>Pixel Size</b>	5μm	<b>Data Format</b>	Compatible with spe, hdr, and scp formats
<b>Imaging Speed</b>	Full band 70Hz, maximum 1800Hz		
<b>Probe</b>	InGaAs		
<b>Signal-To-Noise Ratio</b>	600/1		

# Application

## Hyperspectral Camera FS-62C

**Environmental Monitoring:** The FS-62C provides comprehensive real-time spectral data for various environmental monitoring tasks. It captures hyperspectral images of water bodies, soil, and vegetation, allowing for accurate assessment and detection of environmental changes and pollutants. This real-time capability is crucial for immediate response and decision-making in environmental conservation and management.

**Precision Agriculture:** The FS-62C is an essential tool for precision agriculture, enabling detailed analysis of crop health and soil conditions. It provides real-time data on plant nutrition, soil fertility, and pest infestations. The high spectral resolution allows for the early detection of diseases and nutrient deficiencies, helping farmers optimize crop management practices and improve yield.

**Crop Growth Assessment:** Utilizing the FS-62C, farmers can monitor crop growth stages and assess the impact of agricultural practices. The camera's ability to capture subtle spectral variations helps in understanding plant physiology and growth patterns, leading to more informed decisions on irrigation, fertilization, and pest control.

**Pest Monitoring:** The FS-62C's hyperspectral imaging capabilities allow for the early detection of pest infestations by identifying changes in plant reflectance caused by pests. This early warning system helps in timely intervention, reducing crop damage and improving pest management strategies.

**Soil Composition Studies:** The FS-62C captures detailed spectral data of soil, aiding in the analysis of soil composition and health. This information is vital for soil fertility assessments, detecting contaminants, and planning sustainable land management practices.

**Water Quality Analysis:** The FS-62C provides detailed spectral data on water bodies, allowing for the monitoring of water quality parameters such as nutrient levels, pollutants, and chlorophyll content. This information is essential for managing water resources and ensuring the health of aquatic ecosystems.





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