

FS60/62UAV hyperspectral measurement system



- DJI M350RTK is used as the flight bearing platform.
- Ultra-high speed spectral scanning imaging device with high signal-to-noise ratio provides high stability spectral image acquisition.
- The self-developed image processing algorithm with high efficiency and low power consumption can greatly prolong the flight time and reduce the power consumption of the system.
- Through real-time measurement of spectral image information of plants, water bodies, soil and other ground objects, application and precision agriculture, crop growth and yield assessment, forest pest monitoring and fire prevention monitoring, coastline and Marine environment monitoring, lake and watershed environmental monitoring and other applications.
- Compact system design, imaging spectrometer host spectral resolution up to 2.5nm.
- The whole machine consists of: high stability head, hyperspectral imager, embedded data acquisition, processing and storage unit, wireless image transmission system, GPS-RTK navigation system, ground receiving workstation, ground control system, reflectivity calibration board.

Parameters

Hyperspectral camera FS-60C

Lighting mode	Passive lighting (without light source)
Spectroscopic method	Transmission grating
Spectral range	400-1000nm
Spectral band	1200
Spectral resolution (FWHM)	2.5 nm
Slit width	25um
Transmission efficiency	> 60%
Stray light	< 0.5%
Number of spatial pixels	Max. 1920 (software configurable)
Pixel size	5.86 um
Imaging speed	Full band 128Hz, after ROI can achieve 3300Hz
probe	CMOS
Signal-to-noise ratio	600/1
Camera output	USB3.0 or Gigabit network
Camera interface	C-Mount
attachment	USB3.0 or Gigabit network
ROI	Multiple regions
Embedded data acquisition	Embedded processor 512GSSD storage
Processing storage unit	
dimension	20.5 cmx18.5 cmx12.9 cm
weight	1200g
Power dissipation	40W



- Easy to operate, no need for professional drone operator, can achieve single operation
- The ground station can observe the sampling site of the aircraft in real time and set the preview and correction functions of the route data collected point by point by using the ground station: radiometric correction, reflectivity correction, and area correction support batch processing
- Real-time common vegetation index calculation function
- Support custom real-time analysis model input function
- ENVI is perfectly compatible with multiple data formats

Hyperspectral camera FS-62C

Spectroscopic method	Transmission grating
Spectral range	900-1700nm
Spectral channel number	1024
Spectral resolution (FWHM)	6.5nm
Slit width	25um
Transmission efficiency	> 60%
Stray light	< 0.5%
Number of spatial pixels	1280
Pixel size	5um
Imaging speed	Full band 70Hz, maximum 1800Hz
probe	InGaAs
Signal-to-noise ratio	600/1
exportation	start
Camera interface	C-Mount
attachment	Lens, USB cable, power supply
ROI	Multiple regions
Built-in processing unit	Windows operating system, 8GB of RAM 512GB SSD and camera integrated Design (optional 1TB)
Heat dissipation mode	Internal air cooling heat dissipation
Mode of operation	Easy to operate, no need for professional drone operation Hand control, can achieve single operation



Observation mode	Real-time observation of aircraft sampling sites, hyperspectral images and spectral data by ground stations
Correction mode	Radiometric correction, reflectivity correction, and area correction support batch processing
Data format	Compatible with spe, hdr, and scp formats
Camera size	Less than 135*82*100 mm (L * W * H) (Including lens and built-in embedded data acquisition and processing unit, excluding head) Less than 190*129*100 mm (L * W * H) (Including lens and built-in embedded data acquisition and processing unit, including head)
Camera weight	≤ 740g (including lens and built-in embedded data acquisition and processing unit, excluding PTZ) ≤ 1085g (including lens and built-in embedded data acquisition and processing unit, including head)
attachments	Reflectance calibration board
Lens focal length	25mm
Camera scene	> 25°
Application software	FIGSPEC UAV real-time flight control software, FIGSPEC Merge puzzle software, FIGSPEC Studio image analysis software