Multispectral camera FS-50 series

The FigSpec® FS-50 series is a new generation of unmanned multispectral cameras from Color Spectrum Technology Company, adapted to the DJI M350/M300RTK flight platform, with 30-180 spectral channels and 2K resolution.

It can meet the application needs of precision agriculture, military defense and homeland security, disaster prevention and forestry monitoring, river and lake ecology, target identification and other industries.

- Ultra-high spectral channels: 30-180 spectral channels (different models)
- 2K spatial resolution
- Global shutter, 12bit high precision sampling data
- Ground station real-time preview data acquisition
- DJI X-Port control and power supply, 512GSSD mass storage
- Dji M350/M300 RTK UAV customization, plug and play
- FIGSPEC UAV real-time flight control software, FIGSPEC Merge puzzle software, FIGSPEC Studion image analysis software

Parameters

| Model number	FS-50/30	FS-50/60	FS-50/90	FS-50/120	FS-50/150	FS-50/180
Number of spectral channels	30	60	90	120	150	180
Spectral channel wavelength	400-1000nm	400-1000nm	400-1000nm	400-1000nm	400-1000nm	400-1000nm
	Per 20nm	Per 10nm	Per 6.6nm	Per 5nm	Per 4nm	Per 3.3nm
	Output a wavelength	Output a wavelength	Output a wavelength	Output a wavelength	Output a wavelength	Output a wavelength
Spectral resolution/half wave width	3.5nm	3.5nm	3.5nm	2.5nm	2.5nm	2.5nm
Spatial resolution	1920					
Sampling rate	128 line/S					
Image sensor	1/1.1 inch CMOS					
Effective pixel	1920					
Shutter type	Global shutter					
Quantization number	12bit					
Visual field	25.36 °					
Ground resolution	2.8 cm @ h120m					
Covering width	54m@h120m					
Optical window	High transmittance optical glass window					
Main engine size	≤155*95*119mm					
Main engine weight	≤840g					
Installation/power supply port	X-Port					
Work loss	45w					
Picture format	12bit.SPE (compatible with third party analysis software such as envi)					
Data storage space	512SSD					
Application software	FIGSPEC UAV real-time flight control software, FIGSPEC Merge puzzle software, FIGSPEC Studion image analysis software					
Shooting method	Real-time acquisition					

Typical application
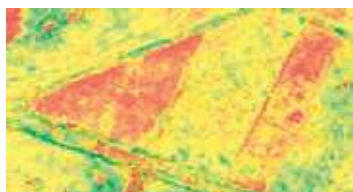
Crop growth assessment Crop growth assessment

FigSpec Studio software is built with NDVI and other vegetation factors to accurately quantify the state of vegetation canopy at different spatial scales, quantitatively assess the health, stress and growth of crops and vegetation, and provide data support for crop growth assessment, yield prediction, disease and pest detection, etc.
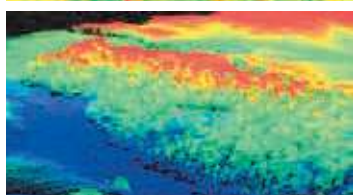
Coverage evaluation

Based on the spectral fingerprint information of plants, accurate classification of plants in the region and crop area statistics are carried out to provide quantitative vegetation canopy data to provide data support for scientific research and production of agriculture and forestry ecological industry.
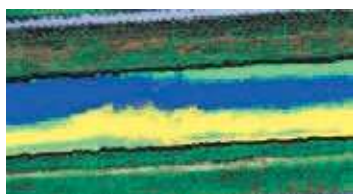
Water quality analysis and monitoring

Using the spectral data and chemical analysis results, the analysis model is constructed to realize the inversion of the classification and water quality parameters of black and odorous water bodies. Combined with spatial information to monitor the impact of domestic sewage and industrial wastewater on surrounding water bodies, help pollution source investigation and water environment assessment.

Water eutrophication monitoring

Spectral data are used to form a classification index to monitor water eutrophication and conduct spatial information statistics. Following the evaluation standards of water eutrophication status, it assists in analyzing water pollution sources such as farmland, aquaculture and fishery, and provides data and powerful data collection tools for pollution source investigation and water environment assessment.