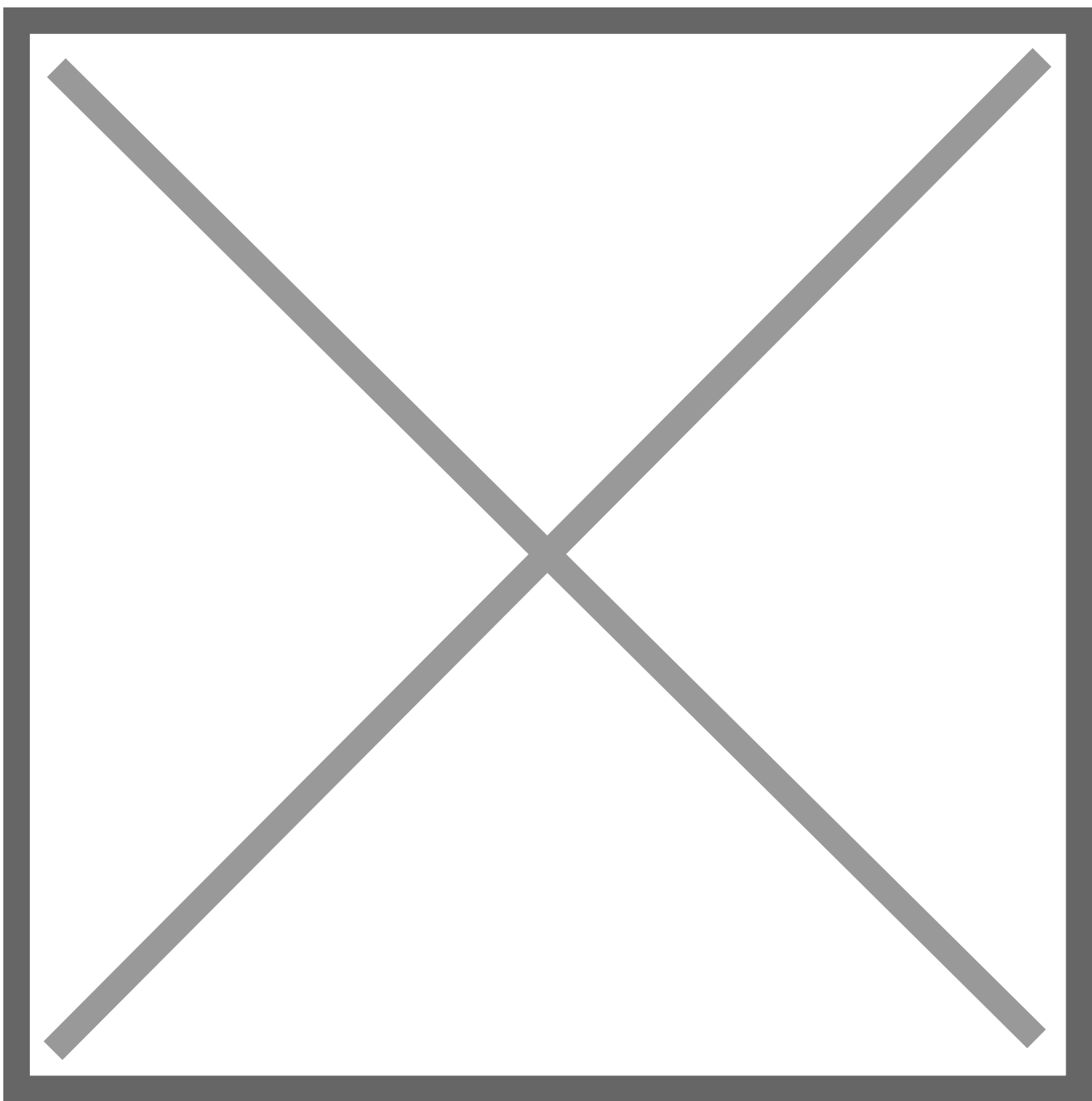




# FS-50 SERIES MULTISPECTRAL CAMERA

FS-50 Series Multispectral Camera, designed for compatibility with the DJI M350/M300RTK flight platform, this series features 30 to 180 spectral channels and offers 2K resolution.

The FS-50 Series meets the diverse needs of various sectors, including precision agriculture, military defense, homeland security, disaster prevention, forestry monitoring, and river and lake ecology. Additionally, it excels in target identification and other industry applications, ensuring high performance and reliability in a wide range of environments.



## APPLICATIONS

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### Typical application

FS-50 Series Multispectral Camera

#### Crop Growth Assessment

FigSpec Studio software integrates NDVI and other vegetation indices to accurately quantify the state of vegetation canopy at various spatial scales. It quantitatively assesses the health, stress, and growth of crops and vegetation, providing data support for crop growth assessment, yield prediction, and disease and pest detection.

FS-50 Series Multispectral Camera

#### Coverage Evaluation

Based on the spectral fingerprint information of plants, this technology enables accurate classification of regional plants and crop area statistics. It provides quantitative vegetation canopy data to support scientific research and production in the agriculture and forestry ecological industries.

FS-50 Series Multispectral Camera

## Water Quality Analysis and Monitoring

Using spectral data and chemical analysis results, an analysis model is constructed to classify and determine water quality parameters of polluted water bodies. Combined with spatial information, it monitors the impact of domestic sewage and industrial wastewater on surrounding water bodies, aiding in pollution source investigation and water environment assessment.

FS-50 Series Multispectral Camera

## Water Eutrophication Monitoring

Spectral data are utilized to create a classification index for monitoring water eutrophication and conducting spatial information statistics. By following water eutrophication evaluation standards, it helps analyze pollution sources such as farmland, aquaculture, and fisheries, providing data and powerful tools for pollution source investigation and water environment assessment.

## FEATURES

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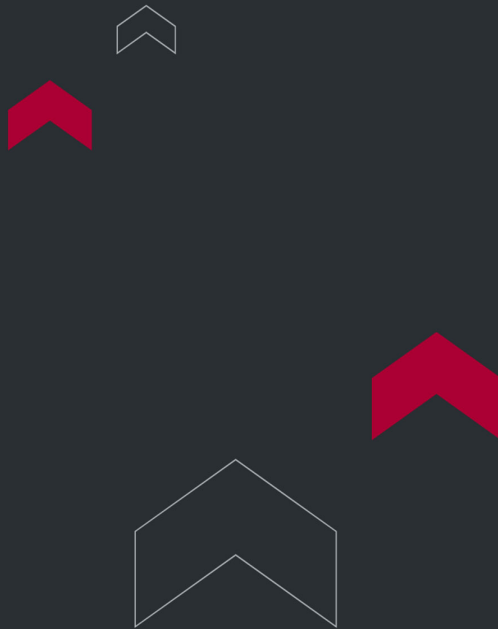
- Ultra-high spectral channels: 30-180 spectral channels (varies by model)
- 2K spatial resolution
- Global shutter with 12-bit high precision sampling data
- Real-time data acquisition and preview via ground station
- DJI X-Port for control and power supply, with 512GB SSD mass storage
- Customizable for DJI M350/M300 RTK UAV, plug and play functionality
- Equipped with FIGSPEC UAV real-time flight control software, FIGSPEC Merge puzzle software, and FIGSPEC Studio image analysis software

# TECHNICAL SPECIFICATIONS

|                                             |                                                  |                                                  |                                                   |                                                 |                                                 |                                                   |
|---------------------------------------------|--------------------------------------------------|--------------------------------------------------|---------------------------------------------------|-------------------------------------------------|-------------------------------------------------|---------------------------------------------------|
|                                             |                                                  |                                                  |                                                   |                                                 |                                                 |                                                   |
| 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<br>Per 20nm<br>Output a<br>wavelength | 400-1000nm<br>Per 10nm<br>Output a<br>wavelength | 400-1000nm<br>Per 6.6nm<br>Output a<br>wavelength | 400-1000nm<br>Per 5nm<br>Output a<br>wavelength | 400-1000nm<br>Per 4nm<br>Output a<br>wavelength | 400-1000nm<br>Per 3.3nm<br>Output a<br>wavelength |
| Spectral resolution/half 2.5nmwave<br>width | 3.5nm                                            |                                                  |                                                   | 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 Studio image analysis software |
| Shooting method                | Real-time acquisition                                                                                                |

| Optional Accessories |                                                                  |                                      |
|----------------------|------------------------------------------------------------------|--------------------------------------|
| Parts Material Code  | Name                                                             | Applicable instrument type           |
| 3.06.10.1007-0       | Hyperspectral camera stand with whiteboard                       | FS-1X/2X series                      |
| 5.19.01.0021-0       | Hyperspectral camera bench (translation table with light source) | FS-1X/2X series                      |
| 5.20.01.0015-0       | Hyperspectral camera technology service fee                      | Full range of hyperspectral products |
| 3.01.18.1020-0       | Hyperspectral tripod with crossbar                               | FS-2X series                         |
| 3.05.12.0090-0       | Reflectance calibration cloth 18%                                | FS-60C,60,62,62C                     |
| 3.05.12.0068-0       | Reflectance calibration cloth 80%                                | FS-60C,60,62,62C                     |



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