

Speedy High-Res Multi-Spectral Imager**ATH1626****Features**

- 5 Multispectral Lenses & 1 RGB Lens.
- 3.2MP & 12.3MP Resolution.
- 12-bit Global Shutter & 8-bit Rolling Shutter.
- DJI X-Port Control.
- Synchronized Imaging for All Channels in 1 Second.
- Onboard Real-time Spectral Inversion and Video Output.
- Standard Downward Light Sensor (DLS).
- Multiple Trigger Modes Including Timed and Overlap Rate Triggers.
- Customizable Lenses for Different Aircraft.

Application

- Plant Growth Status and Growth Evaluation.
- Eutrophication Detection in Water Bodies.
- Monitoring of Black and Odorous Water Bodies.
- Monitoring of Discolored Pinewood.
- Research Institutions and Universities.
- Industrial Sorting.
- Waste Classification.

**Description**

The ATH1626 is a high-speed, high-resolution hyperspectral imager independently developed and designed by Optosky. The system features five 3.2MP multispectral channels and one 12.3MP RGB channel. The ATH1626 has a built-in solid-state band scanning mechanism that allows for scanning across different bands without any mechanical movement. Additionally, the ATH1626 is equipped with a sapphire optical window. It also features a large aperture to reduce distortion and achieve broadband transmission. The aluminum alloy body is paired with glass lenses, making it resilient to environmental changes.

The ATH1626 employs high-resolution CCD imaging devices, resulting in clear images with low noise and strong adaptability to various environments. It meets the requirements for food-grade detection and results output.

The ATH1626 is lightweight and flexible, with excellent endurance, intelligent features, comprehensive data analysis and processing capabilities, and the ability to perform real-time monitoring, real-time calibration, and real-time output of inversion results. It is widely applicable for both outdoor and laboratory use. The ATH1626 high-speed, high-resolution multispectral imager meets the demands of various industries, including precision agriculture, forestry detection, river and lake ecology, and target identification. By combining high-definition photography technology with multispectral detection technology, the data collected features both high spectral resolution and high spatial resolution, allowing for the thorough exploration of the unique spectral and spatial characteristics of materials.

1. Selection Guide

Model	Features
ATH1626	Tissue culture method: 5 multi-spectral channels + 1 RGB channel

2. Parameter

NO.	Indicators	ATH1626
Spectral performance	Spectral channel	450nm@30nm, 555nm@27nm, 660nm@22nm, 720nm@10nm, 840nm@30nm, RGB
	Coverage width	Multispectral: 109m×82m@h120m; RGB: 2.60cm@h120m
	Ground resolution	Multispectral: 5.28cm@h120m; RGB: 2.60cm@h120m
	Number of quantization bits	Multispectral: 12bit; RGB: 8bit
Imaging lens*1	Shutter type	Multispectral: Global; RGB: Rolling shutter
	Target size	Multispectral: 1/1.8"; RGB: 1/2.3"
	Effective pixels	Multispectral: 3.2Mpx; RGB: 12.3Mpx
	Field of view	Multispectral: 48.8°×37.5°; RGB: 47.4°×36.4°
	Optical window	Sapphire optical glass window
Electrical properties	Dimension	130mm×160mm×150mm
	Total weight	780g
	Installation interface	X-Port
	Power supply	X-Port
	Power consumption	10w/15w
	Image format	Multispectral: 16bit original TIFF & 8bit reflectivity JPEG RGB: 8bit JPEG
	Video format	MP4
	Storage medium	USB3.0 storage device with 128G as standard and up to 2T
	Shooting trigger	Overlap rate trigger, timed trigger
	Shooting frequency	Photographing mode: 1Hz; Video mode: 20Hz
	Working environment temperature	-10°C~+50°C(relative wind speed≥1m/s)
	Ambient humidity	RH(%)≤85%(non-condensing)

Note:

*1: Standard imaging lens; other focal length lenses are optional.

*2: This product is independently developed by Optosky. The parameters listed in the table are for reference only. Customization of other parameters is available.

3. Product Image



ATH1626 appearance (mounted on DJI M300 RTK platform)



Appearance of ATH1626 (mounted on DJI M300 RTK platform)

4. Industry application



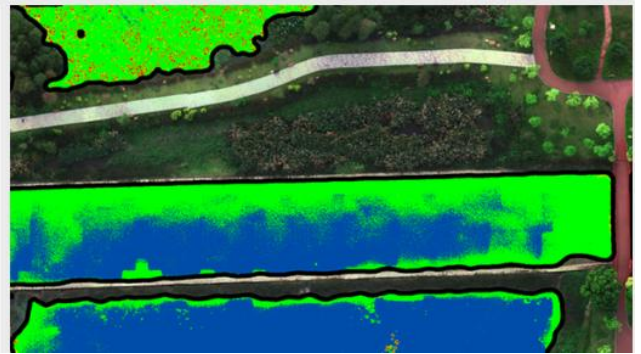
Growth Assessment

Using NDVI and other vegetation indices to quantitatively describe the consistency of vegetation canopy conditions at different spatial scales, this approach assists in characterizing the spectral features of vegetation under various health conditions. It quantitatively assesses the growth status of vegetation, providing data support for irrigation, fertilization, plant protection, and yield estimation.

Growth Assessment of Vegetation in Precision Agriculture

Eutrophication Monitoring of Water Bodies

By referencing the eutrophication status evaluation standards and utilizing characteristic spectra to construct classification indices, this method enables the grading inversion and spatial information statistics of water body eutrophication. It aids in analyzing the impact of agricultural wastewater, aquaculture, and other activities on surrounding water bodies, supporting the identification of pollution sources and water environment assessment.



Monitoring Eutrophication in Water Bodies for Water Quality Assessment