YUSENSE®

Dedicated to DJI M300/M350 RTK

AQ600 PRO

5-band video-grade multispectral

5-Band Video-Grade Multispectral AQ600 Pro

Five 3.2-megapixel multispectral channels and one 12.3-megapixel RGB channel. Sapphire optical window, large aperture, low distortion, broadband projection, all-glass lens and an aluminum alloy camera housing.In addition, AQ600 Pro can transmit spectral remote sensing video and output results in real time, which provides new technical means for precision agriculture, forestry monitoring, river monitoring, ecological protection, target recognition and other industrial applications.

■ Product Features

- ◆ Five Multi-spectral bands and one RGB sensor.

- ◆ 3.2 megapixel multispectral and 12.3 megapixel RGB.

- ◆ Multi-spectral 12bit global shutter and RGB 8bit shutter.

- ◆ Fast integration with DJI X-Port.

- ◆ Fastest 1s synchronous imaging in all bands.

- ◆ Real-time spectral inversion and output video.

- ◆ Downlink light sensor(DLS).

- ◆ 128GB SSD flash drive, supports a maximum of 2TB SSD.

- ◆ Support aircraft trigger and overlap trigger.

- ◆ Deep integration with DJI M300/M350RTK, Pilot software integrated control.

■ Spectral Remote Sensing Hardware System M300/M350 RTK + AQ600 Pro

Multi-source Load

The double gimbal supports the simultaneous mounting of the long light Yusense AQ600 Pro multi-spectral camera and DJI standard camera, which easily realizes the synchronous acquisition of high-definition RGB, multi-spectrum, thermal infrared and other multi-source data.
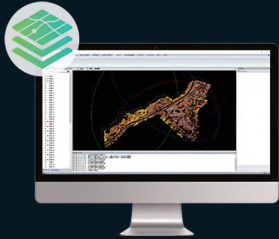
Airborne Integration

It is fully compatible with Payload SDK, Onboard SDK, Mobile SDK and other DJI SDKs, and can complete the parameter setting, status monitoring and data preview of airborne integration through DJI Pilot.

Real-time Data Transmission

Using the Yusense Fly ground station APP developed by YUSENSE, it is easy to realize real-time data return, support the output of results in video mode, without office processing, and is a new tool for multi-spectral video inspection.

Applicable groups: government and enterprise users, scientific research team and remote sensing service team.

Data Preprocessing Software Yusense Map

Yusense Map is a powerful, easy-to-operate multi-spectral image processing software for UAVs. Without too much manual intervention, it can complete a series of tasks such as camera parameter reading, aerial triangulation, Band alignment, orthophoto generation and precise DSM.

Band alignment： Photogrammetric theoretical adjustment solution, automatic precise matching of homonymous image points, and sub-pixel multi-channel registration.

split joint： Automatic aerial triangulation, high-precision screening of matching points, seamless orthophoto stitching.

Multi-source data processing： It can process multi-spectral, thermal infrared, visible light and other data.

Spectral index calculation: Support free editing of index formula.

High-precision radiometric correction: Accurate radiation correction, synchronous calculation of real reflectivity, scientific restoration of the essential characteristics of the target.

Typical Application

Condition monitoring

By using vegetation factors such as NDVI and LAI, quantifying the consistency of vegetation canopy status at different spatial scales, and using characteristic spectra of vegetation in different health states to quantitatively assess vegetation growth,which can provide data support for irrigation, fertilization, plant protection, yield evaluation and other work.

Discolored pine monitoring

Using spectrum and texture information to achieve efficient suppression of the environmental background of soil, withered grass and other objects and high-precision identification of color-change pine. By accurately extracting the location, spatial distribution and canopy area of color-changing pine trees, we can provide data support for the management of diseased trees.

Black and smelly water monitoring

By referring to the evaluation standard of surface black and smelly water, using the characteristic spectrum of black and smelly water to construct the classification index to achieve black and smelly water classification inversion and spatial information statistics. This technology can assist in analyzing the influence of domestic sewage and industrial wastewater on surrounding water, and finally help pollution source investigation and water environment assessment.
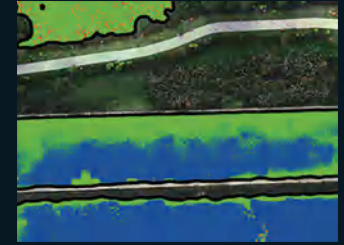
Water eutrophication monitoring

Referring to the eutrophic state evaluation standard, the classification index is constructed by using the characteristic spectrum to realize the classification inversion and spatial information statistics of water eutrophication, to assist the analysis of the impact of farmland wastewater, fishery and aquaculture on the surrounding water body, and to assist the investigation of pollution sources and water environment assessment.

Product Parameters

Band configuration	Five Multi-spectral bands and one RGB sensor	Power supply mode	X-Port
Target surface size	MS: 1/1.8"; RGB: 1/2.3"	Power consumption	—
Effective pixels	MS: 3.2Mpx; RGB: 12.3Mpx	Image format	MS:16bit original TIFF image & 8bit reflectance JPG; RGB: 8bit JPG
Shutter type	Global shutter/Shutter	Video format	MP4
Quantitative figures	MS: 12bit; RGB: 8bit	Data processing software	Yusense Map/Yusense Map Plus
Viewing Angle	MS: 48.8°×37.5°; RGB: 47.4°×36.4°	Control method	Yusense Fly / DJI Pilot
GSD	MS: 5.28cm@h120m; RGB: 2.60cm@h120m	Picture mode	Overlap rate trigger, timing trigger
Image size	MS:109m×82m@h120m; RGB: 106m×79m@h120m	Frequency of taking pictures [2]	Picture mode:1Hz, Video mode:20Hz
Spectral band[1]	450nm@30nm, 555nm@27nm, 660nm@22nm, 720nm@10nm,840nm@30nm, RGB	Storage medium	Standard 128GB solid state USB disk, supporting up to 2TB capacity, USB3.1 high-speed storage device
Optical window	Sapphire optical window	Operating ambient temperature	-10°C~+50°C(Relative wind speed≥1m/s)
Size	≤ 130mm × 160mm × 165 mm (optical axis vertical to the ground)	Storage Environment Temperature	-30°C~+70°C
Weight	≤780g	Environmental humidity	RH(%)≤85%(Non condensation)
Installation interface	X-Port	Product certification	CE、FCC、RoHS

Note: [1] Standard wavelength, The following 18 wavelengths are allowed to be assembled and customized (consult YUSENSE marketing personnel for detailed assembly method and cost): 410nm @ 35nm, 450nm @ 30nm, 490nm @ 25nm, 530nm @ 27nm, 555nm @ 27nm, 570nm @ 32nm, 610nm @ 30nm, 650nm @ 27nm. 660nm @ 22nm, 680nm @ 25nm, 720nm @ 10nm, 720nm @ 15nm (high pass), 750nm @ 10nm, 780nm @ 13nm, 800nm @ 35nm, 840nm @ 30nm, 900nm @ 35nm, 940nm @ 30nm (tolerance ± 5 nm).

[2] Test results of USB storage media with data transmission speed rating of U3 or above (read and write speed ≥ 400MB/s).

Let every drone have the right spectral camera

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