Multispectral Imager | ATH1600

Features

- 5-8 bands: 450, 510, 550, 660, 720, 750, 840nm and 1 RGB channel
- Multiple detectors, multiple lenses
- Fast imaging speed and high spatial resolution
- Can adapt to various weather environments
- Can be adapted to multiple models of drones
- Compact design and light weight (300-450g)
- Wide Applications: agriculture, forestry, surveying and mapping, etc
- Full channel fastest 0.5s photo interval
- GPS module, gyroscope module

Application

- Scientific research & Life Science Research ： Climate research, ecology, archeology and remote sensing
- Agriculture & Forest Monitoring：Crop monitoring, growth assessment, pest and disease detection
- Irrigation management, land use and planning
- water quality in River & illegal discharge & Water stress
- Geology and mineral resource：Oil、Mining、Energy
- Environmental science：Natural disasters Monitoring and assessing the impact
- Pubilic Safety: Emergency rescue

Description

The ATH1600 multispectral imager uses multiple lenses and multiple detectors. It has fast imaging speed, high spatial resolution, and can adapt to various weather environments. It has 5-8 bands: 450, 510, 550, 660, 720, 750, 840nm and 1 RGB channel. Users can freely select each channel according to application requirements and perform operations to obtain the required spectral information. This flexibility makes the camera suitable for various agricultural, environmental monitoring and resource management tasks.

The high-speed acquisition capability of the ATH1600 enables it to capture details of fast-moving targets and dynamic processes. The optimized data processing algorithm ensures high quality and accuracy of the image. Whether it is used for crop monitoring, soil analysis or vegetation coverage assessment, the ATH1600 can provide accurate spectral information and rich data support.

It meets the application needs of various industries such as agricultural monitoring, ecological protection, emergency search and rescue, and camouflage identification.

Model	Feature
ATH1600-5	4 band+1RGB
ATH1600-6	5 band+1RGB
ATH1600-7	6 band+1RGB
ATH1600-8	7 band+1RGB

ATH1600-5   ATH1600-6   ATH1600-7

1. Parameter

Spectral performance	Spectral Channel	1) **ATH1600-5：**450nm@30nm，550nm@27nm，660nm@22nm，840nm@30nm，RGB 2) **ATH1600-6：**450nm@30nm，550nm@27nm，660nm@22nm，**720nm@10nm，**840nm@30nm，RGB 3) **ATH1600-7：**450nm@30nm，550nm@27nm，660nm@22nm，720nm@10nm，**750nm@30nm**，840nm@30nm，RGB 4) **ATH1600-8：**450nm@30nm，**510nm@30nm**，550nm@27nm，660nm@22nm，720nm@10nm，750nm@30nm，840nm@30nm，RGB
	Spectral Width	Multispectral：109m×82m@h120m；RGB：2.60cm@h120m
	Ground Resolution	Multispectral：5.28cm@h120m；RGB：2.60cm@h120m
	Bits	Multispectral：12bit；RGB：8bit；
Imaging lens*1	Shutter	Multispectral:Global Shutter；RGB:Rolling Shutter
	Camera Target	Multispectral: 1/1.8"；RGB: 1/2.3"
	Effective pixels	Multispectral：1.3Mpx；RGB：13Mpx
	FOV	Multispectral: 48.8°×37.5°;
	Optical window	Sapphire optical glass window
Electrical performance	Dimension	Φ7.8×80 mm
	Weight	300~450g
	Power	DC，9V~24V
	Power Consumption	8~15 W
	Interface	Drone Interface（type-c or DC），USB Device
	Image format	Multispectral: 16bit original TIFF & 8bit reflectivity JPEG RGB: 8bit JPEG
	Storage medium	SD card
	Shooting trigger	Overlap rate trigger, timing trigger
	Shooting frequency	Photo mode: 1Hz; Video mode: 20Hz
	Working temperature	-10℃~+50℃(Relative wind speed≥1m/s)
	Working humidity	RH(%)≤85%(non-condensing)

2. Application

1.Agriculture and Crop Management: Multispectral cameras can be used for crop monitoring, growth assessment, pest and disease detection, and irrigation management. By capturing different spectral bands reflected by plants, they can assess vegetation health, nutritional status, and water needs, optimizing crop growth and yield.

2. Environmental Monitoring: These cameras can monitor and assess pollution, soil quality, water quality, and vegetation cover in the environment. By analyzing image data from different bands, they can monitor air pollution, water eutrophication, changes in forest

cover, and other environmental parameters, aiding in environmental protection and sustainable development.

3. Land Use and Planning: Multispectral cameras provide high-resolution surface image data for land use planning, urban planning, and land resource management. By obtaining land use information, classifying land types, and monitoring surface changes, they assist decision-makers in making more accurate land management and planning decisions.

4. Water Resource Management: These cameras can monitor water quality, storage, and hydrodynamic characteristics of reservoirs, lakes, and rivers. By capturing the optical properties and color information of water bodies, they provide crucial data for water resource management, such as water quality changes, algae bloom monitoring, and water flow measurement.

5. Natural Disaster Monitoring: Multispectral cameras are useful in emergency response for monitoring and assessing the impact and damage of natural disasters like floods, earthquakes, and forest fires. By capturing image data of disaster areas, they help in disaster assessment, post-disaster reconstruction planning, and emergency response.

6. Resource Exploration: The cameras can be used in geological exploration, mineral resource exploration, and energy surveying. By analyzing surface images and spectral features, they help identify underground mineral resources, geological structures, and energy potential.

7. Camouflage Detection: Shortwave infrared has the ability to penetrate fog and smoke, and is highly sensitive to the spectral reflectance of different materials. With the help of multi-source remote sensing bands such as multi-spectral and long-wave infrared, it can identify sensitive targets such as camouflage.