

Snapshot Hyperspectral Camera For Microscope FirefLEYE 185



2022 V1

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FirefLEYE 185 – Most Flexible Spectral Microscopy HIS camera

The FirefLEYE 185 brings hyperspectral imaging to microscopy, and also enables endoscopy, in life sciences the time-saving advantage of the snapshot technology (thanks to no-scanning) really makes itself known, as saving time saves patients. The camera can also monitor real-time processes, such as samples in petri dishes for example.

The relay lens also allows for a lens change without camera re-calibration. And a close-up lens set allows a macroscopic scale view of a spot size of just a few mm.

Features

- 3D hyperspectral snapshot image (x, y, λ)
- VNIR coverage (450-950 nm)
- 125 spectral bands
- 12-bit / 14-bit version
- 25 Hz max frame rate
- Compatible with microscopes



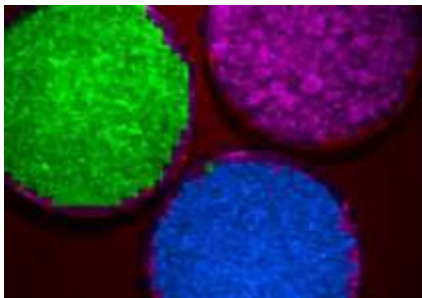
For all scenarios

UAS Mapping - The FirefLEYE 185 was the first-ever light-weight hyperspectral snapshot camera used for aerial mapping from a UAS. The user has a choice of lenses, enabling different fields of view for different tasks.

In lab use the FirefLEYE can be equipped with close-up lenses, allowing a macroscopic scale view with a spot size of only a few mm to cm.

Attaching a relay lens to the FirefLEYE provides for full interchangeability to C-mount lenses. Mount the camera on your microscope or endoscope without the need of an additional calibration.

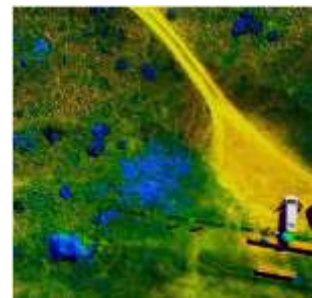
The latest improvements to the FirefLEYE include upgrading the main sensor to a modern CMOS sensor. The 14-bit version has 2x higher signal-to-noise-ratio and 4x higher dynamic range compared to the S185 (needing 4 times longer integration times)



Assessing hyperspectral microscopy in real-time



FirefLEYE 185 mounted on a UAS



Hyperspectral Mapping with the FirefLEYE 185

Specifications

Parameters	FirefLEYE 185
Technology	Multipoint Spectrometer
Number of Sensors	2
Wavelength Range	450 - 950 nm
Spectral Bands	125
Spectral Sampling	4 nm
Spectral Resolution (FWHM)	8 nm @ 532 nm
Spatial Resolution	50 x 50 pixel
Spatial Resolution 2nd Sensor	1000 x 1000 pixel
Total Spectra / Image	2500
Total Data Points / Cube	0.3 Million
Data Depths	12 bit / 14 bit
Readout	Global shutter
Max Frame Rate	25 Hz
Integration Time	0.1 – 1000 ms
Field of View (FOV)	30°, 20°, 13°, 7°, Lens selectable
Power Consumption	7 W
Data Link	2 GigE
Weight	490 g
Size	200 x 67 x 60 mm

Lens Options

For the FirefLEYE different lenses are possible, ranging from 10 mm focal length up to 50 mm focal length. Attaching a Relay Lens to the FirefLEYE provides full interchangeability for C-mount lenses. Mount the camera on your microscope or endoscope without the need for additional calibration. In lab use the FirefLEYE can be equipped with Close-Up Lenses, allowing a macroscopic scale view with a spot size of only a few mm to cm.



Available in Three Different Housing



IP40

Standard Lightweight Housing

Weighing Less than 490g, the camera is perfectly suited for mobile applications, such as deployment on a UAV.



IP65

Industrial Housing

To meet the requirements of harsh industrial environments, a special rugged, robust housing is available, ensuring optimal protection.



IP68

Waterproof Housing

Upgrade the FirefLEYE V185 to IP68 and use it underwater to a depth of 10m for 10h.