

The logo for Corning, featuring the word "CORNING" in white, uppercase, serif font centered within a solid blue square.

microHSI™ 425 Sensor and microHSI™ 425 SHARK

*First commercially available single-sensor hyperspectral solution
covering the full spectral range from 400-2500nm*

Corning's microHSI(TM) 425 Sensor is optimized for space, airborne, industrial, and scientific applications, all in a miniaturized, lightweight hyperspectral imaging sensor package.

The microHSI™ 425 is the first commercially available 400-2500 nm hyperspectral solution in a single sensor. This eliminates the complications of recording and post-processing imagery products from two sensors instead of one, resulting in improved efficiency.



The microHSI™425 Sensor incorporates a single focal plane array and readout electronics package covering the entire spectral range from 400-2500 nm, mated with Corning's modular, compact spectrometer and fore-optics for commercial/industrial applications.

The compact reflective offner spectrometer, when mated to a VISxSWIR focal plane array and a foreoptic, forms a Hyperspectral Imaging (HSI) sensor that is suited for a diverse range of applications. Examples include space, small manned and unmanned aerial vehicles, industrial process monitoring and other platforms and OEM applications requiring high quality imagery data covering the visible, near IR and SWIR spectra.

The spectrometer is coupled to a sterling-cooled 640 x 512 pixel HgCdTe focal plane array (FPA), with pixel size of 15 μ m. The maximum frame rate (full-frame) is 125 Hz. The order sorting filter (OSF) is integrated in close proximity to the FPA, to maintain high performance throughout the wide wavelength range. The sensor has an f/3.3 aperture.

Selectable Hyperspectral Airborne Remote-Sensing Kit (SHARK)

The microHSI™ 425 sensor, integrated with Corning's Selectable Hyperspectral Airborne Remote Sensing Kit (SHARK), comprises a coherent, turnkey airborne remote sensing system. The system is based on Corning's popular microHSI™ 410 Vis/NIR SHARK, currently in wide use for airborne agricultural monitoring and other remote sensing missions.

The flight package, including spectrograph, camera, telescope, navigation system, microcomputer and 1 TB of resident storage weighs 6 pounds (2.7 kg). Command and control of the microHSI™ 425 SHARK is very similar to the 410 SHARK's web based GUI, requiring no other applications to be installed on the user's computer except for a compatible browser. Alternately, the SHARK can be controlled by another device, through the Ethernet socket interface, sending commands detailed in the application programming interface (API).

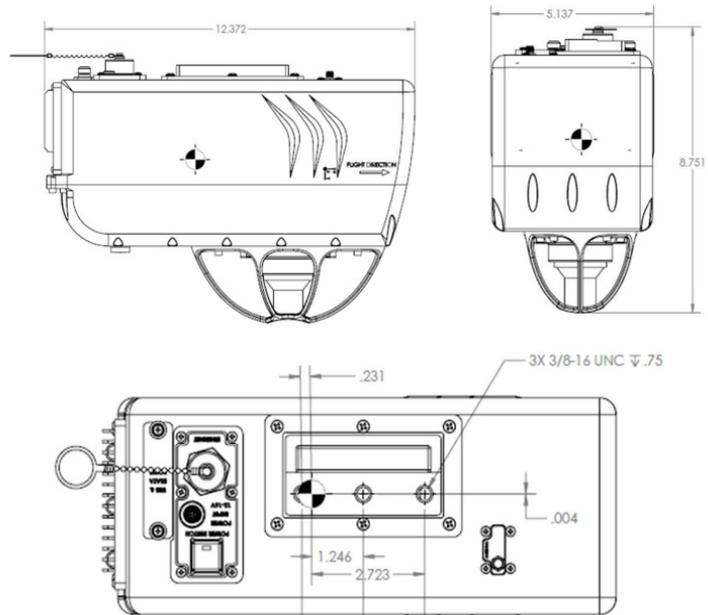
Key Features

Record the entire hyperspectral data cube (468 spectral bands), or record only the bands needed to produce specific data products and solutions.

Image and download digital elevation models before flight to improve post-processing orthorectification and geolocation accuracy.

Flexible image collection planning captures a targeted area of coverage to optimize the use of memory capacity and and reduces post-processing time and complexity.

Ruggedized to help withstand typical commercial and industrial applications when integrated with commercial manned and unmanned aircraft.



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Technical and Performance Characteristics

Pixel size (um)	H (spatial) V (spectral)	15 15
Lens Focal Length	Mm	25
Frame Rate	Hz	125
Used Pixel Array	Spatial Spectral	640 468
Dynamic Range	Bits	16
Spectral range (um)	Low High	400 2500
Spectral resolution (FWHM)	nm	</= 8
Lens Aperture	f#	3.3
Weight (Sensor)	kg	2.7
	lb	6.0
Temperature Range	Operating	5-40 degrees Celsius
	Storage	0-60 degrees Celcius
Humidity	Non-condensing	10-90%
Power Consumption	watts	30
Voltage Range	VDC	12-16

This product may be subject to export control.

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