

Headwall is the proud recipient of these honors and more...



Micro-Hyperspec™ SWIR 640

900–2500nm for Hyperspectral Remote Sensing, Machine Vision, and OEM



FEATURES

- Geology, mining, environmental monitoring, sorting for recycling, art and antiquities applications
- Factory integrated and tested
- SWIR wavelength range (900 to 2,500nm)
- Built-in high-performance GPS-IMU, solid-state storage for airborne use
- Compatible with DJI and NDAA-compliant UAVs, rotary stages for ground truth scanning, and the perClass Mira® Scanning Stage



DATASHEET



REVISION 10/2023

INTEGRATED SYSTEM FOR SWIR HYPERSPECTRAL SENSING

The Headwall Micro-Hyperspec® SWIR 640 hyperspectral sensor features 640 spatial pixels and 267 spectral bands in a Stirling-cooled MCT-based imaging system integrated as a drone payload system, turnkey system that includes the drone, or packaged with the perClass Mira® Stage. Also available in high-volume OEM configurations for use in your own instrumentation. The SWIR wavelength range is useful for a variety of applications including geology, archeology, mineral prospecting, mining, environmental monitoring, infrastructure inspection, sorting for recycling, and art and antiquities analysis.

PORTABLE AND ROBUST SYSTEMS FOR HYPERSPECTRAL IMAGING IN A WIDE VARIETY OF ENVIRONMENTS

Because hyperspectral imaging may be needed under a variety of conditions, many of our sensor systems are available with the perClass Mira® Stage for machine vision use, or as airborne packages, featuring UAVs that fold and disassemble to be more easily transportable and quickly deployed in the field.

Rechargeable batteries supply power to systems in the field, and additional batteries as well as chargers are available to extend your missions.

We host workshops and often present on topics such as best practices for planning and undertaking remote sensing missions and machine vision tasks and studies so that our customers can learn from our own experiences.

Training sessions, both in person and online, are given by experts who are not only makers but users of our systems, and have successfully completed studies on a wide variety of applications.

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SPECIFICATIONS	
Wavelength Range	900 – 2500nm
Spectral Bands	267
Spatial Pixels	640
Camera Technology	MCT
Pixel Pitch	15 µm
Aperture	f/2.5
Dispersion/Pixel	6 nm
Entrance Slit Width	20 µm
FWHM Slit Image	8 nm
Frame Rate (Sustained) ¹	200 Hz
ADC Bit Depth	16-bits
Spectrograph Design	Aberration-Corrected
Interface	CameraLink
Weight (sensor only)	1.9 kg / 4.2 lbs
Dimensions (sensor only)	75 x 126 x 212 mm
Power Req (Typical / Max)	Up to 24 W
Operational Temp Range	-30 – 50 °C
Storage Temp Range	-40 – 60 °C
Compatible UAVs	DJI Matrice 600 Pro, FreeFly Alta X

¹ Higher frame rates attainable with certain configurations

Micro-Hyperspec SWIR 640 (900 – 2500nm) Turnkey Packages (UAV and sensor integration included)	
Part Number	Description
1007A-30704	Micro-Hyperspec SWIR 640, Turnkey Package on Freefly Alta X UAV
1007A-10702	Micro-Hyperspec SWIR 640, Turnkey Package on DJI M600 Pro UAV
Micro-Hyperspec SWIR 640 (900 – 2500nm) Payload Packages (UAV and sensor integration sold separately)	
Part Number	Description
1007A-30721	Micro-Hyperspec SWIR 640, Payload Package for Freefly Alta X UAV
1007A-10720	Micro-Hyperspec SWIR 640, Payload Package for DJI M600 Pro UAV

Micro-Hyperspec SWIR 640 (900 – 2500nm) Machine Vision Packages	
Part Number	Description
1007A-307##	Micro-Hyperspec SWIR 640 Sensor
1007A-107##	Micro-Hyperspec SWIR 640 Sensor with Lens