



海纳光学

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THE FIRST COMPACT HYPERSPECTRAL IMAGER FOR LWIR

SPECIM's airborne thermal hyperspectral sensor AisaOWL, covers the contiguous spectral range from 7.7 to 12.3 μm in nearly hundred spectral bands. It has the sensitivity to detect and classify even gases. The AisaOWL is a fast pushbroom hyperspectral system designed to provide the remote sensing market with a high performance LWIR hyperspectral imager in the smallest achievable size. The AisaOWL has a built-in stirling cycle cooler, greatly reducing complexity and achieving compact size and low weight.

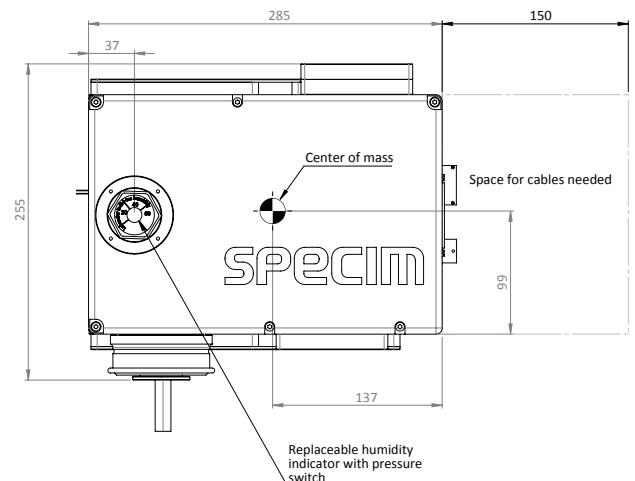
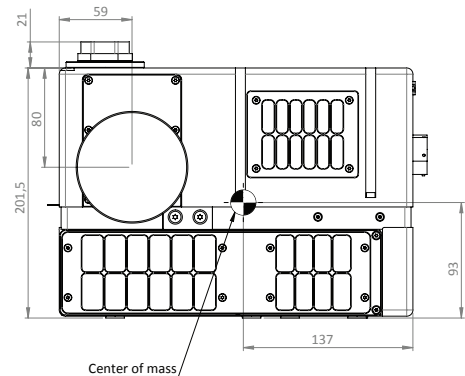
FEATURES AND BENEFITS

- Covers full LWIR 7.7 to 12.3 μm with 96 spectral bands
- Frame rate up to 100 fps
- Compact sensor, weight of only 13.1 kg
- Onboard dual thermal radiometric calibrator
- No special maintenance requirements
- High sensitivity
- Excellent spectral and spatial imaging performance
- Day and nighttime operation
- Completes AisaFENIX for geological applications

BEST SUITED FOR

- Geological exploration
- Mining and mineral mapping
- Gas detection
- Chemical composition analysis
- Target detection

DIMENSIONS



CAMERA SPECIFICATIONS			
Spectrograph	High efficiency push-broom imaging spectrograph		
Spectral range	7.7 - 12.3 μm		
Spectral resolution	100 nm **		
F/#	F/2.0		
Calibration	Sensor provided with spectral, radiometric and geometric calibration file		
Spatial resolution	384 pixels		
Frame rate	Up to 100 Hz		
Integration time	Adjustable, within frame time		
FOV	24° or 32.3°		
IFOV	0.063° or 0.084°		
Swath width	0.425 or 0.58 x altitude		
Ground resolution at 1 000 m altitude	1.1 or 1.5 m		
Electro mechanical shutter	Yes, Dual blackbody calibrator		
Optics temperature stabilization	Yes		
Detector	Stirling cooled MCT		
Number of spectral bands	96		
Spectral sampling / band	48 nm		
Output	14-bit LVDS		
SNR (target 300K)* NESR (mW/m ² sr μm)*	At 8 μm 360 25	At 10 μm 500 20	At 12 μm 200 40
Power consumption	Sensor < 200 W Calibrator < 50 W (typ.) < 400 W (max)		
MECHANICAL CHARACTERISTICS			
Size	Sensor 255 x 285 x 223 mm	Calibrator 365 x 194 x 110 mm	
Weight	Sensor ca. 13.1 kg	Calibrator 4.5 kg	
ENVIRONMENTAL CHARACTERISTICS			
Storage temperature	-20 ... +50 °C		
Operating temperature	+5 ... +40 °C, non-condensing		

* x 2 software binning

** Diffraction limited