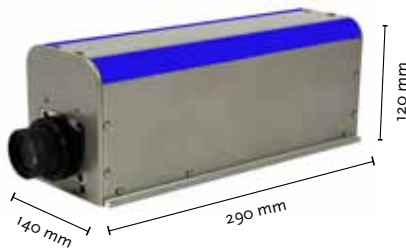


# aisa **EAGLET** compact hyperspectral sensor

The most compact and complete airborne hyperspectral imaging system specifically designed for easy installation in UAVs or small piloted aircrafts. AisaEAGLET provides full, contiguous VNIR data with 1600 pixels across the swath.



AisaEAGLET sensor  
Mass: 3.5 kg

For the first time, high performance hyperspectral imaging and exceptional compactness converge: SPECIM brings AisaEAGLET to the market, a system particularly designed to meet space and weight limitations of UAVs and small piloted aircrafts.

AisaEAGLET acquires full, contiguous VNIR hyperspectral data with a high spatial resolution of 1600 pixels and an excellent sensitivity even in low light conditions.

In addition to its high performance and compactness, AisaEAGLET's cost effectiveness makes it an exceptional and versatile remote sensing tool for environmental, forestry, agricultural, security and defence applications.

## MODULARITY AND COMPACTNESS

The AisaEAGLET system has a total mass of 10 kg including hyperspectral sensor, compact data acquisition computer and GPS/INS unit. The system's modular design facilitates its installation in different payloads.

SPECIM provides support for the implementation of the sensor system control from ground through a telemetric link in the UAV.

As well as other AISA sensors, AisaEAGLET can be easily used in ground based applications thanks to SPECIM's proprietary scanning devices, that allow scanning of the target from a static platform like a tripod or security monitoring facility.

## AisaEAGLET Airborne Hyperspectral Imaging System

SPECIM provides AisaEAGLET as a full, turnkey system. The complete AisaEAGLET system consists of

- AisaEAGLET sensor
- Image acquisition computer with a user-friendly interface and image acquisition software (RSCube)
- High performance GPS/INS sensor
- CaliGeo pre-processing software

For more information about the complete system, please see the AISA Systems brochure and CaliGeo brochure.



AisaEAGLET Data Acquisition Computer  
Mass: 4.5 kg

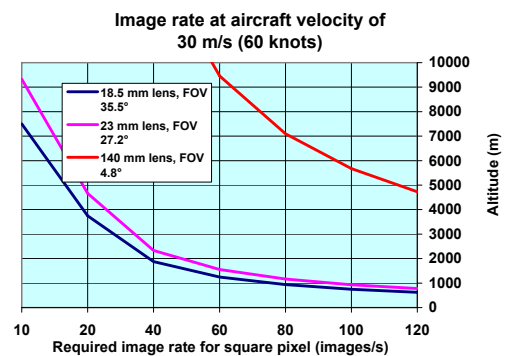
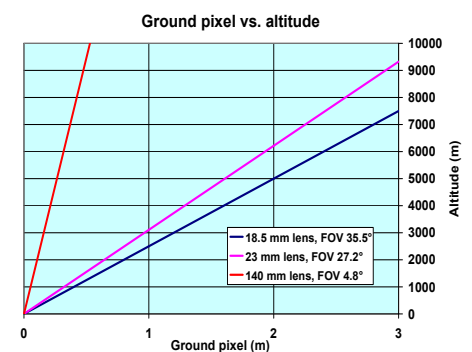
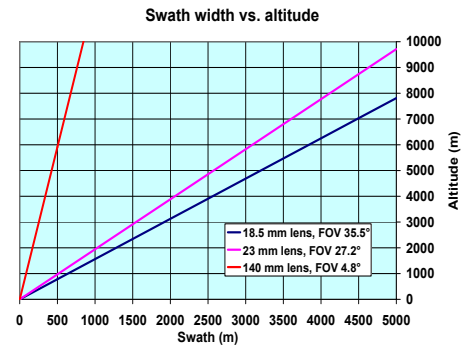


GPS/INS unit  
Mass: 2.2 kg

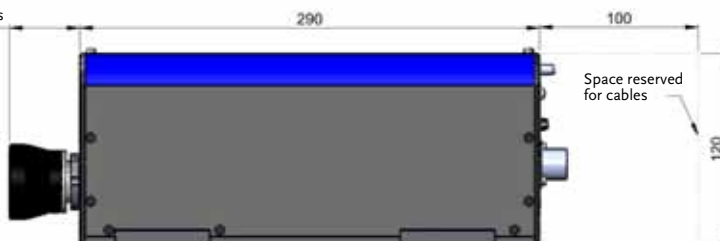
## AisaEAGLET Performance

OPTICAL CHARACTERISTICS		TYPICAL SPECIFICATIONS		
Spectrograph	High efficiency transmissive imaging spectrograph. Throughput practically independent of polarization. Smile and keystone < 2 microns.			
F/#	F/2.4			
Spectral range	400-1000 nm			
Spectral resolution	3.3 nm			
Slit width	30 microns			
FODIS	Diffuse light collector and fiber optic cable (5 m standard) with SMA connector			
Calibration	Sensor head comes with wavelength and radiometric calibration file.			
FORE OPTICS				
Fore optics options	OLE18,5	OLE23	OLE 140	
Focal length	18,5 mm	23 mm	140 mm	
FOV	35.5 degrees	27.2 degrees	4.8 degrees	
IFOV	0.022 degrees	0.017 degees	0.003 degrees	
Swath width	0.64 x altitude	0.52 x altitude	0.085 x altitude	
Ground resolution @ 1000 m altitude	0.4 m	0.33 m	0.053 m	
ELECTRICAL CHARACTERISTICS				
Camera	Progressive scan CCD camera			
Spectral binning options	2x	4x	8x	
Number of spectral bands	410	205	102	
Spectral sampling/band	1.4 nm	2.8 nm	5.6nm	
Image rate, up to (images/s)	30	50	100	
Spatial pixels	1600, of which ca. 100 FODIS pixels (optional)			
Output	12 bits digital			
SNR	120:1 - 280:1 (depending on the band configuration) More detailed SNR data in various conditions available from SPECIM.			
Integration time	Adjustable, independent of image rate			
Shutter	Electromechanical shutter for dark background registration, user controllable by software.			
Operating modes	Hyperspectral and multispectral. The operator can create application specific band configurations, and quickly change from one mode or configuratin to others in flight operation			
Power consumption (complete system)	<100 W Typical, DC 10-30 V			

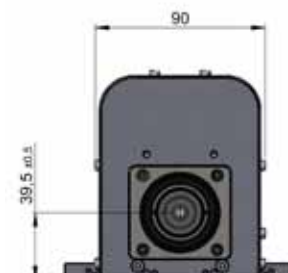
Specifications subject to changes without prior notice.



45 depending on the length of the lens



AisaEAGLET sensor, side view



AisaEAGLET sensor, front view