

SPECIM



SPECTRAL IMAGING

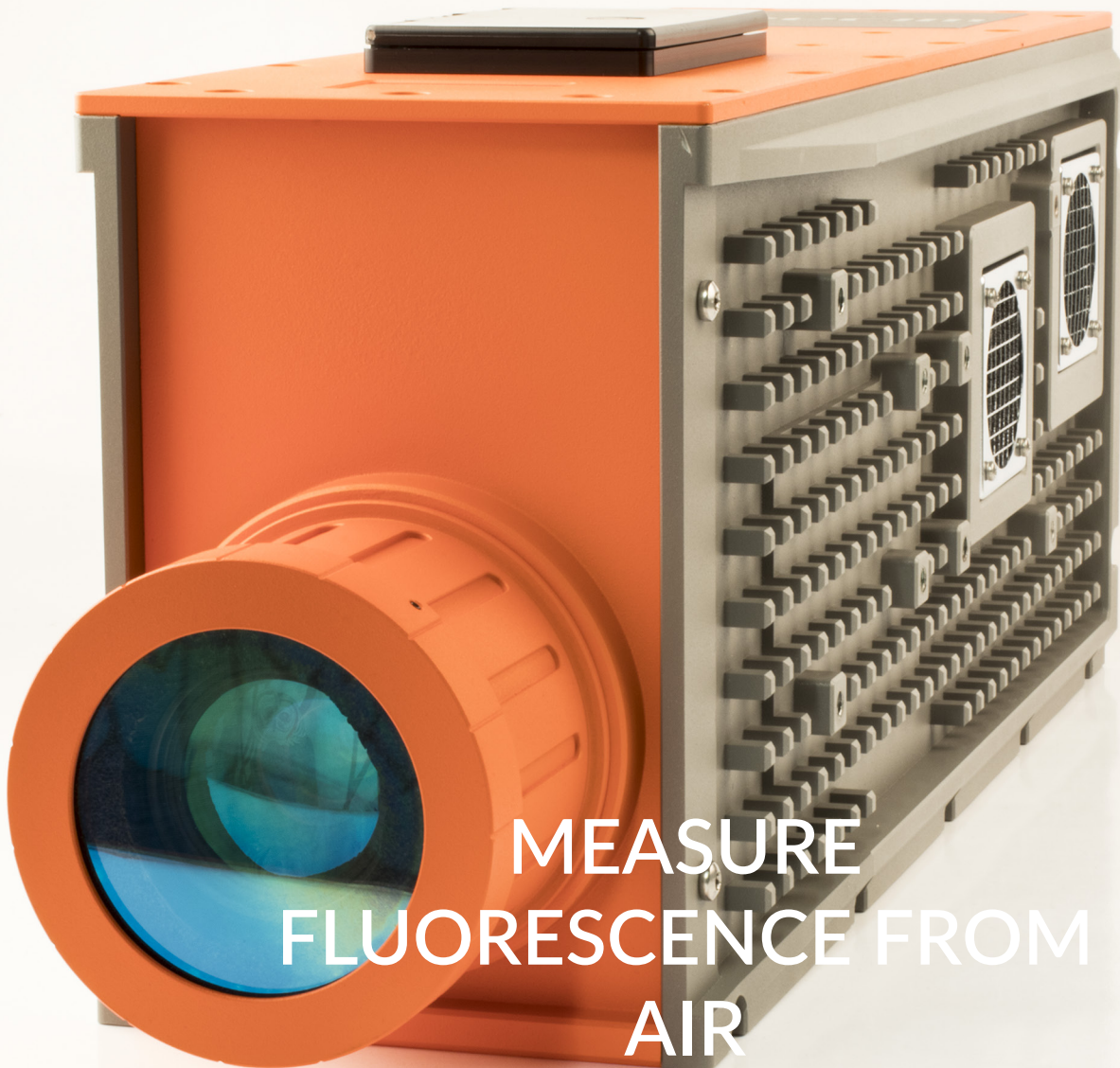


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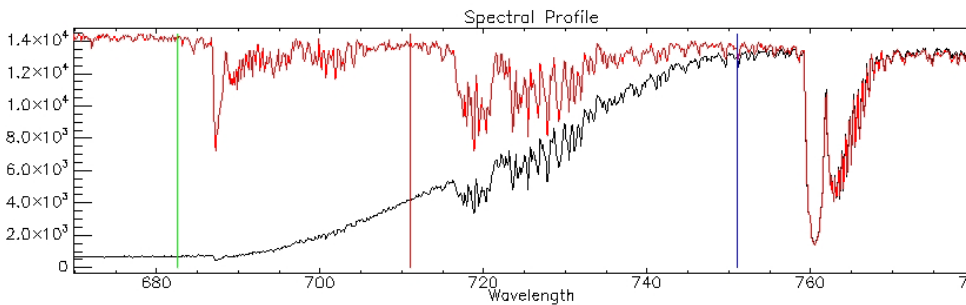
AISAIBIS



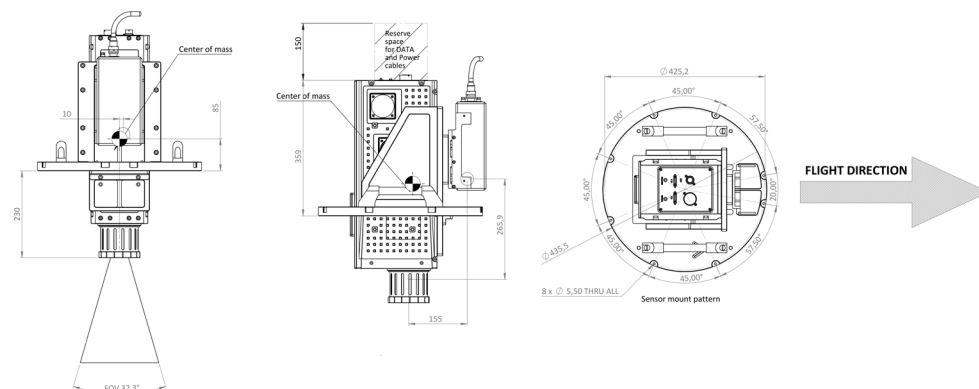
MEASURE
FLUORESCENCE FROM
AIR

Camera specifications		
Spectral range	670 - 780 nm	
Spectral sampling	0.11 / 0.22 nm	
F/#	F/1.7	
Signal-to-noise ratio (peak)	680:1	
Spatial pixels	384 / 768	
Frame rate	Up to 65 Hz	
Integration time	Adjustable, within frame time	
FOV, focusing range	32.3° 0.5m to infinity	
Electro mechanical shutter	Yes	
Optics temperature stabilization	Yes	
Detector	sCMOS, snapshot mode	
Detector cooling	Peltier	
Data interface	CameraLink 16-bit	
Power consumption **)	Nominal 135W, Max 200W	
Input voltage	18 - 36 VDC	
Mechanical characteristics		
Size	Sensor 588 x 227 x 160mm	DPU 300 x 260 x 195 mm
Weight	14.2 kg	9.5 kg
Environmental characteristics		
Storage temperature	- 20 ... +50 °C	
Operating temperature	+ 5 ... +30 °C, non-condensing	

*) Complete system with DPU



AisaIBIS sample spectra



The new SPECIM AisaIBIS is a Unique Hyperspectral Imager for Measuring Sun-induced Fluorescence known as “the secret light of plants”. SPECIM’s 20 years of experience of building high quality hyperspectral imagers for airborne and field use, where solid stability and ease of use are crucial once again creates a masterpiece. AisaIBIS with its sampling of 0.11 nm and high light throughput of F/1.7 for the first time meets the challenge of measuring fluorescence from an airborne platform.

THE SECRET LIGHT OF PLANTS

During the photosynthesis, plants convert light energy from the sun into chemical energy that is used to fuel organism growth. During that process plants basically absorb one colour and emit another – the fluorescence. Measured fluorescence can be used as an indicator of photosynthetic activity of the plant thus telling its vitality.

TECHNICAL CHARACTERISTICS

AisaIBIS is designed to measure the sun induced fluorescence with the so-called Fraunhofer Line Depth Method. In this method, the weak fluorescence signal is detected and quantified at the bottom of the two oxygen absorption lines in the specific spectral region of 670 – 780 nm. AisaIBIS meets the challenging requirements that this method places for the instrument. By applying SPECIM’s high light throughput (F/1.7) imaging spectrometer, and novel sCMOS camera technology, low noise, high dynamic range and signal-to-noise ratio are achieved with excellent spectral sampling (0.11 nm) and superb image quality even at the high image rate required in flight conditions.