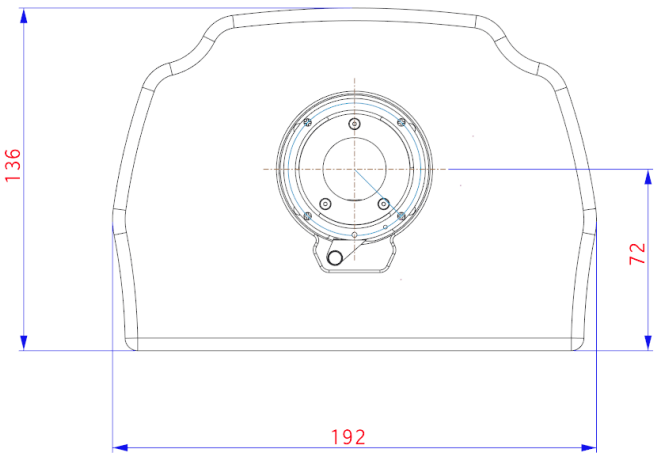
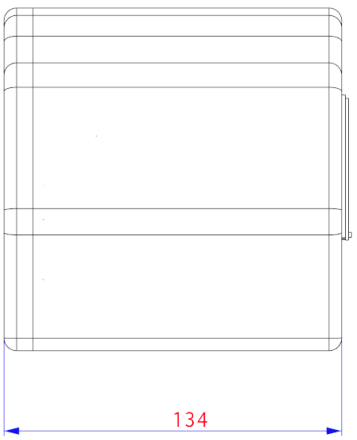
MUSES9-MS1700 TECHNICAL DATASHEET

MUSES9-MS1700 imaging unit is configured to operate with two sensors (Si and InGaAs) covering the entire spectral range 365-1700nm. The camera integrates a spectral band tuning mechanism for selecting or for fully automatic scanning of up to 12 spectral bands. The camera is built upon a modular design, allowing for the customization of both spectral range and spectral band number and options.
Popular customizations include hardware configurations mimicking satellite cameras for land remote sensing like SENTINEL I & II.

- Acquires the spectral cube through spectral scanning (30s), no spatial scanning is required.
- Displays spectral images in real time for spectroscopy-based contrast enhancement.
- Acquires 6-megapixel spectral images and 6 million spatially resolved spectra in the range 370-1000nm
- Acquires 640x512 pixels spectral images in the range 1000-1700nm.
- Adapts to all kinds of lenses/microscopes through a universal C-mount or F-mount thread.

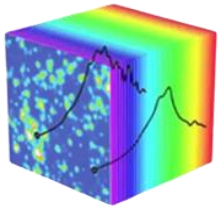




Detailed Specifications

Spectral Filtering Technology	Customizable spectral band tuning mechanism		
	Tunability Range	365-1700nm	
	Light Throughput	94% (polarization independent)	
	Spectral Bands	up to 12 (configurable)	
	Full spectral cube scanning time	30s (depending on shutter speed)	
Imaging Sensors	Dual Sensors	Silicon Sensor (range 370-1000nm)	InGaAs Sensor (range 1000-1700nm)
	Spatial Resolution	3096 (H) × 2080 (V)	640 (H) × 512 (V)
	Format	1/1.8 inch	1/1.6 inch
	Pixel Size	2.4 µm	25µm
	Dynamic range	12 bits	14 bits
	Shutter	20 µs to 5 s	100us to 200ms
Camera Interface	USB3.1		
Lens Thread	F-mount	Adapts to all types of commercial F-mount lenses	
Environmental	Temperature (Operating)	-5 °C to 45 °C	
	Temperature (Storage)	-20 °C to 60 °C	
	Humidity (Operating)	20 % to 80 % (non-condensing)	
	Humidity (Storage)	20 % to 95 % (non-condensing)	
Weight	1,5 Kg		
Software	Computer Control	Fully automated operation, shutter & gain control, auto calibration, filtering mechanism control and image capturing synchronization, light source control	
	Image/Data viewer	On demand video rate display of spectral images, color (reference) imaging, image enhancing tools, vegetation index mapping etc.	
		Subject to change	

Accessories

Advanced Machine learning Software platform 	The λambda^{3+} software suite, incorporating machine learning/AI tools. These tools allow for the development of a trained data structure, where stored spectra have been labelled with the structural information of reference materials. The output of this process is artificial color-coded composition maps of target materials, obtained in situ and non-destructively.
Light sources 	A two-branch halogen/LED multiplexed light source with emission covering the entire camera's spectral range, plus 365nm, 405nm and 450nm LEDs for fluorescence excitation. It is controlled from the camera's SW for synchronization and calibration

SPECTRICON empowers researchers and professionals with the most advanced hyper-/multi- spectral camera systems

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