

SWIR SPECTROGRAPH 1000 – 2500 nm

The imaging spectrograph designed for the SWIR (1000 - 2500 nm) wavelength range can be used to transform a SWIR camera with a wide spectral range sensor, such as a cooled mercury-cadmium-telluride (MCT) sensor, into a line-scan hyperspectral imaging device. In the SWIR range, this spectrograph offers the highest optical performance on the market, by reducing keystone and smile aberrations to sub-pixel levels.



SWIR Spectrograph Specifications

Optical Characteristics	N25E
Spectral Range	1000 - 2500 nm
Spectral Dispersion	208 nm/mm
Spectral Resolution	8 nm
Spatial Resolution	RMS spot radius < 15 μ m
Image Size (Spectral x Spatial)	max. 7.6 x 14.2 mm
Numerical Aperture	F/2.0
Optical Input	Telecentric
Average Diffraction Efficiency	> 50%, independent of polarization
Stray Light	< 0.5% (halogen lamp, 1400 nm long-pass filter)
Slit Width, default	30 μ m (50 and 80 μ m available on request)
Slit Length	14.3 mm
Magnification	1:1

Aberrations

Bending of Spectral Lines Across Spatial Axis	Smile < 5 μ m (0.066%)
Bending of Spatial Lines Across Spectral Axis	Keystone < 5 μ m (0.035%)
Astigmatism	None

Mechanical Characteristics

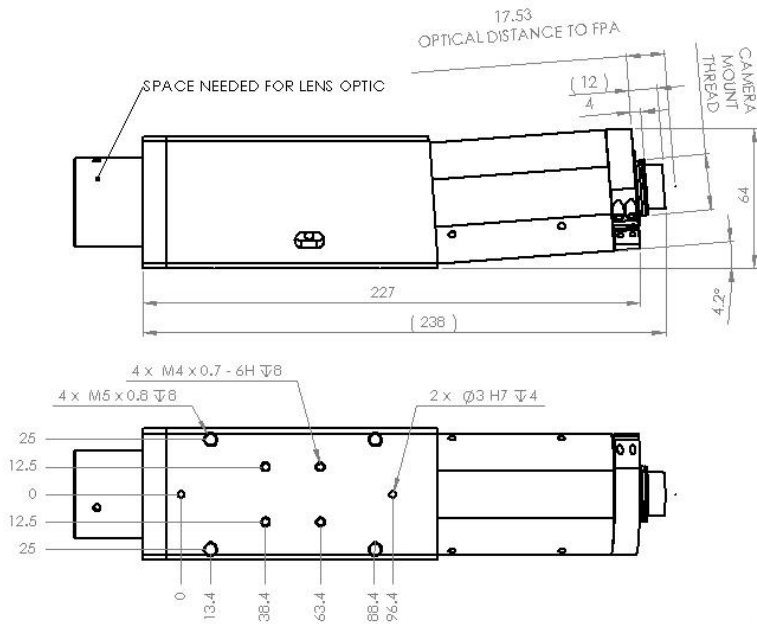
Body	Anodized Aluminum Tube
Size (W x H x L)	60 x 60 x 220 mm
Weight	1500 g
Lens Mount	Standard C-mount Adapter
Camera Mount	Standard U-mount Adapter
User Adjustments	Image axis rotation relative to detector rows, back focal length adjustable \pm 1 mm

Environmental Characteristics

Storage Temperature	- 20 $^{\circ}$ C ... + 80 $^{\circ}$ C, non-condensing
Operating Temperature	+ 5 $^{\circ}$ C ... + 40 $^{\circ}$ C, non-condensing



ImSpector N25E imaging spectrograph



Mechanical dimensions of ImSpector N25E imaging spectrograph

SWIR Spectrographs Ordering Information		
Part Number	Description	Product Name
MRC-305-005-01	ImSpector – Enhanced SWIR Spectrograph N25E, 30 μ m slit* (default)	ImSpector N25E

* When ordering please specify if different slit width is needed.