IMSPECTOR *NIR and SWIR*

SPECIM ImSpectors designed for NIR (900 - 1700nm) and SWIR (1000 - 2500nm) wavelength ranges can be used to transform a NIR camera with an InGaAs sensor or SWIR camera with an MCT sensor into a line-scan spectral imaging device. ImSpectors provide easiest integration and highest optical performance for NIR and SWIR ranges on the market.

Near infrared wavelength range

ImSpector	N17E
Optical characteristics	
Spectral range	900 - 1700nm
Dispersion	110nm/mm
Spectral resolution *1	5nm (with 30µm slit)
Image size	max. 7.6 (spectral) x 14.2 (spatial) mm
Spatial resolution *1	rms spot radius < 15µm *1
Aberrations	No astigmatism
Bending of spectral lines across spatial axis	Smile < 5µm
Bending of spatial lines across spectral axis	Keystone < 5µm
Numerical aperture	F/2.0
Slit width, default	30µm (50, 80 and 150µm on request)
Slit length	14.2mm
Optical input	Telecentric
Efficiency	> 50%, independent of polarization
Stray light	< 0.5% (halogen lamp, 1400nm long-pass filter)
Mechanical characteristics	
Size, OEM	(W)60 x (H) 60 x (L) 220mm
Weight	1500g
Body, OEM	Anonized aluminium tube
Lens and camera mount	Standard C-mount for lens
	Standard C-or U-mount adapter for camera
User adjustments	Image axis relative to detector rows, back focal length adjustable ± 1mm
Environmental characteristics	
Storage	-20 ... +85 °C, non-condensing
Operating	+5 ... +40°C, non-condensing

*1 System spectral and spatial resolutions also depend on the discrete imaging nature of detector and lens quality.

Options, fore optics (NIR, SWIR)

- Fore optics: OLES15, OLES22.5, OLES30 and OLES56

More information about fore optics can be found from Hyperspectral fore lenses -data sheet.

ImSpector N17E spectrograph, side view

ImSpector N17E spectrograph, front view

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Short wave infrared wavelength range

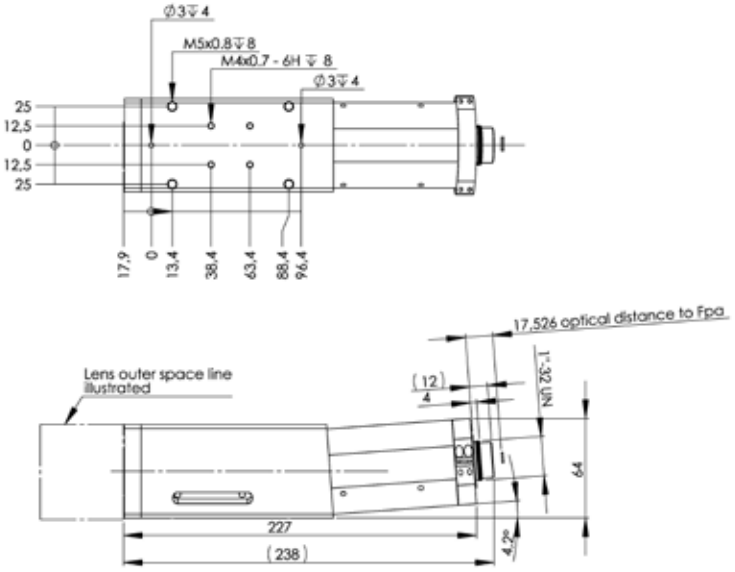
ImSpector	N25E
Optical characteristics	
Spectral range *1	1000 - 2500nm
Dispersion	208nm/mm
Spectral resolution *2	8nm
Image size	max. 7.6 (spectral) x 14.2 (spatial) mm
Spatial resolution *2	rms spot radius < 15µm,
Aberrations	No astigmatism
Bending of spectral lines across spatial axis	Smile < 5µm
Bending of spatial lines across spectral axis	Keystone < 5µm
Numerical aperture	F/2.0
Slit width, default	30µm (50 and 80 µm on request)
Slit length	14.2mm
Optical input	Telecentric
Efficiency	> 50%, independent of polarization
Mechanical characteristics	
Size, OEM	(W) 60 x (H) x 60 x (L) 220cm
Weight	1500g
Body, OEM	Anonized aluminium tube
Lens mount	Standard C-mount adapter
Camera mount	Standard U-mount adapter
User adjustments	Image axis relative to detector rows, back focal length adjustable ±1mm
Environmental characteristics	
Storage	-20 ... +80 °C
Operating	+5 ... +40 °C, non-condensing

*1 Order blocking filter is available for mounting on the detector window.
*2 System spectral and spatial resolutions also depend on the discrete imaging nature of detector and lens quality.

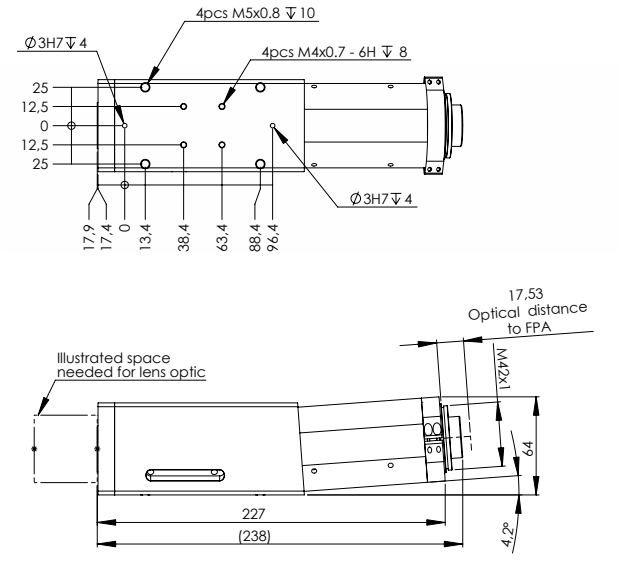
Options, accessories (NIR, SWIR)

- Mechanical shutter
- Collection fiber optics
- Order blocking filter; OBF 1400 for N25E (rectangular, 18 x 18mm)
- Fiber optic diffuse irradiance sensor (FODIS) for light source monitoring

More information about fiber optics can be found from Multipoint spectrometers -data sheet.



ImSpector N17E mechanical dimensions



ImSpector N25E mechanical dimensions