

imSpector NIR & 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

IM SPECTOR		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	

Options, fore optics (NIR, SWIR)

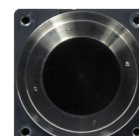
- Fore optics: OLES15, OLES22.5, OLES30 and OLES56

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

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



ImSpector N17E spectrograph, side view



ImSpector N17E spectrograph, front view

Short wave infrared wavelength range

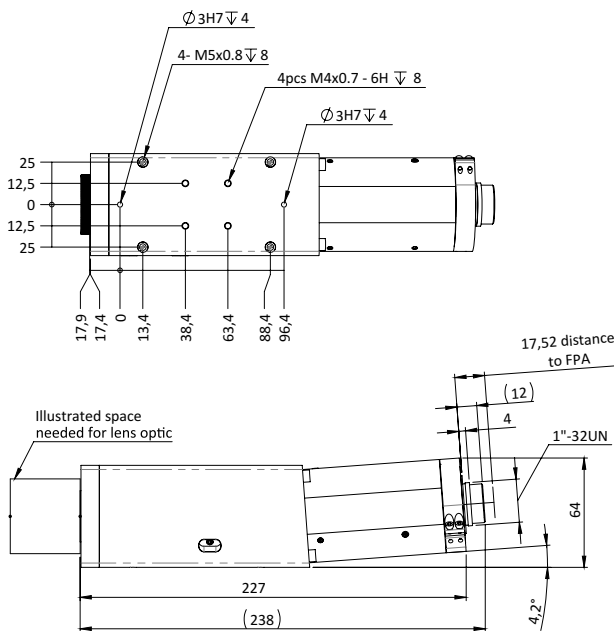
IMSPECTOR		N25E
Optical characteristics		
Spectral range *1		1000 - 2500nm
Dispersion		208nm/mm
Spectral resolution *2		8nm
Image size		max. 7.6 (spectral) x 14.2 (spatial) mm
Spatial resolution *2		rms spot radius < 15µm,
Aberrations		No astigmatism
Bending of spectral lines across spatial axis		Smile < 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.

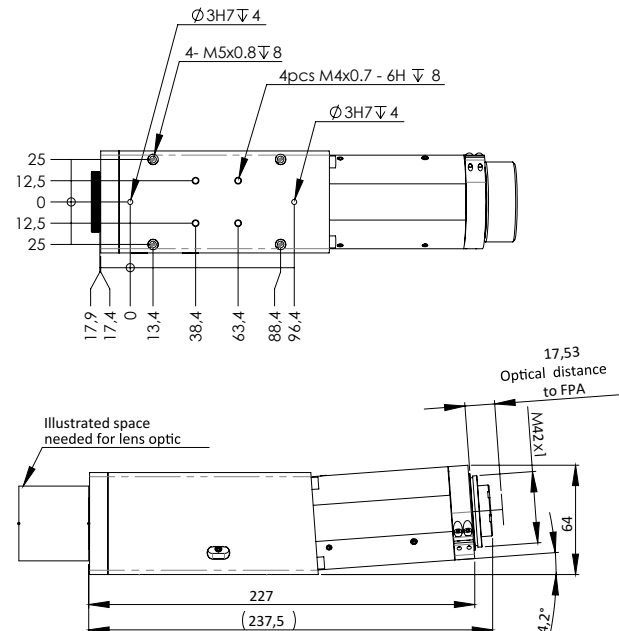
*2 System spectral and spatial resolutions also depend on the discrete imaging nature of detector and lens quality.

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



ImSpector N17E mechanical dimensions



ImSpector N25E mechanical dimensions