



# Electro Optical Components, Inc.

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## Spectral Imaging System NIR 2.2

The Spectral Imaging System NIR is a high performance spectral imaging system designed for NIR applications that require high light throughput, high frame rates, fast data acquisition and good imaging performance.



Spectrograph	
spectral range	typ. 1200 – 2200 nm
dispersion	140 nm/mm
pixel resolution	4.4 nm/pixel
image size	7.68 (spectral) x 9.6 (spatial) mm
spatial resolution*	rms spot radius < 85 µm
smile	< 75 µm
keystone	< 25 µm
numerical aperture	F/2,6
slit width, default	80µm (others on request)
efficiency	> 50% independent of polarization
Electronics	
sensor	InGaAs
pixels in full frame	320 x 256
active pixels	318 x 254
pixel size	30 x 30 µm
bit depth	14 bit
frame rate	330 fps full resolution
data interface	Gigabit Ethernet
camera control	RS 485
internal data processing	Xilinx Spartan 3 FPGA
power consumption	< 9W
supply	24 V/10 A DC
cooling	thermoelectrical cooler
Mechanics	
dimensions l x w x h	560 x 177 x 140 mm
housing	anodised aluminium
weight	7 kg
lens mount	standard C-mount
Operating Conditions	
temperature (operating)	-5 °C - +40 °C
temperature (transport)	-10°C - +50°C

Like all inno-spec spectral imaging systems, the Spectral Imaging System NIR is based on a transmissive optical design with AR-coated lenses, a grating as dispersive element and without moving parts.

By replacing the standard input slit and lens with a multichannel fiber input, the Spectral Imaging System can be used as a multichannel-spectrometer.

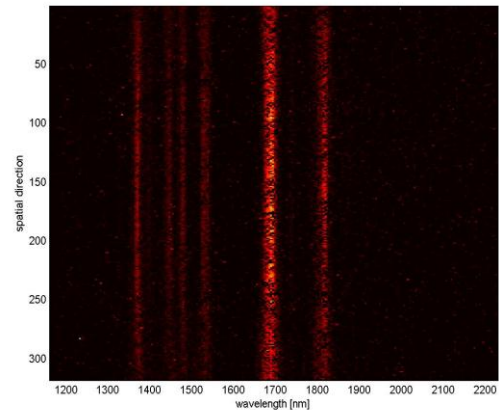
\* depending on the fore optics used



## Optical Quality

Our engineers bestow great care on selecting all optical, mechanical and electronic parts. This means:

- High light throughput due to high diffraction efficiency of transmissive VPH gratings, and AR-coated optics
- Polarization free optical design

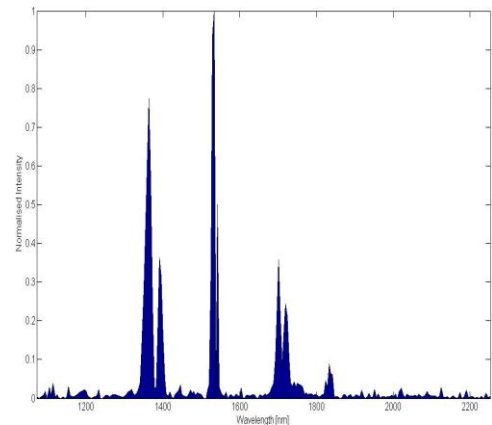


## Customized Solutions

The NIR Spectral Imaging Systems are available for two standard wavelength ranges in the NIR (950 – 1700 nm and 1200 – 2200 nm).

If the application requires dedicated optics, wavelength ranges or software tools, customization can be done without large NRE costs.

inno-spec also offers compatible line lighting, accessories and spectral imaging systems for the visible or UV wavelength range.



## Accessories

- DC-Halogen light sources in modular sizes
- fiber optic adapters to use the Spectral Imaging System NIR as a multichannel-spectrometer.
- Mounting accessories
- Fore optics (8mm/ 12.5mm/ 16mm/ 25mm/ 35mm/ 50mm)