



# Electro Optical Components, Inc.

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## Spectral Imaging System NIR 1.7

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.



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 fibre input, the Spectral Imaging System can be used as a multichannel-spectrometer.

Spectrograph	
spectral range	typ. 900 – 1700 nm
dispersion	106 nm/mm
pixel resolution	3,2nm/pixel
image size	7,68 (spectral) x 9,6 (spatial) mm
spatial resolution*	rms spot radius < 35 µm
smile	< 60 µm
keystone	< 50 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	400 x 184 x 180
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

\* 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 grating, 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)

