

# REDEYE

## NIR Hyperspectral Imaging Camera

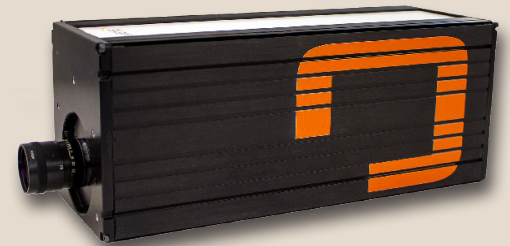
Introducing the **RedEye**, our avant-garde hyperspectral camera designed to deliver real-time data with useful spectral and spatial resolution for a broad range of customer scenarios.

Developed through a decade of experience in delivering industrial applications, the **RedEye** camera incorporates sophisticated optical design, advanced transmission grating technology, and a fast NIR detector, making it suitable for use in even the most demanding applications.

Our innovative approach to material characterization provides comprehensive analytical data for laboratory or manufacturing processes, combining chemical and spatial information at the same time.

### Application areas:

- Recycling industry
- Moisture content determination
- Food and harvest products
- Mining
- Pharmaceutical industry



## Features

- Large pixel size for low-signal detection
- Extended wavelength range up to 1900 nm available
- ROI (selectable region of interest) & Multi-ROI
- High frame rate > 340 fps
- GigE Vision standard interface
- IP 65 / 67 classification
- Robust design



Website



LinkedIn



## Technical Specifications:

### Spectrograph

	RedEye 1.7	RedEye 1.9 - NEW
Spectral range	typ. 950 to 1700 nm	typ. 1100 to 1900 nm
Dispersion	3.1 nm/px	3.7 nm/px
Spectral resolution	9 nm (with 80 $\mu$ m slit)	11 nm (with 80 $\mu$ m slit)
Spatial resolution	rms spot radius < 35 $\mu$ m	rms spot radius < 35 $\mu$ m
Smile	< 60 $\mu$ m	< 75 $\mu$ m
Keystone	< 50 $\mu$ m	< 120 $\mu$ m
F-number	2.6	2.5
Standard slit width	80 $\mu$ m (30, 50 and 100 $\mu$ m available)	

### Electronics

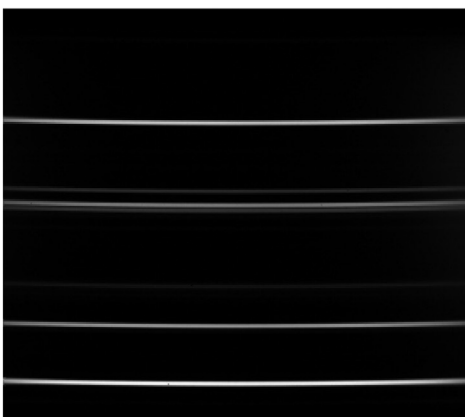
	RedEye 1.7	RedEye 1.9 - NEW
Sensor	InGaAs	extended InGaAs
Pixels in full frame	320 x 256 (spatial x spectral) pixels	
Pixel size	30 $\mu$ m x 30 $\mu$ m	30 $\mu$ m x 30 $\mu$ m
Bit depth	13 bit	14 bit
Frame rate	340 fps (full frame) 4200 fps (4 bands)	330 fps (full frame)
Data interface	Gigabit Ethernet (GigE Vision standard)	Gigabit Ethernet
Camera control	Ethernet	RS 485
Power supply	12 - 36 V DC	24 V DC
Cooling	1-Stage TEC	2-Stage TEC

### Operating Conditions

	RedEye 1.7	RedEye 1.9 - NEW
Temperature (operating)	-5°C to +40°C	-5°C to +40°C
Temperature (storage)	-5°C to +50°C	-5°C to +50°C

### Mechanics

	RedEye 1.7	RedEye 1.9 - NEW
Dimensions l x w x h	368 x 130 x 145 mm <sup>3</sup>	361 x 162 x 145 mm <sup>3</sup>
Weight	4.7 kg	6.0 kg
Lens mount	standard C-mount	standard C-mount



As a well-established manufacturer of spectroscopic measurement equipments, **INNO-SPEC** provides optimized solutions for your individual applications; for example, customized OEM cameras for machine builders & system suppliers.

Please note that any specs on the datasheet are subject to change without notice.

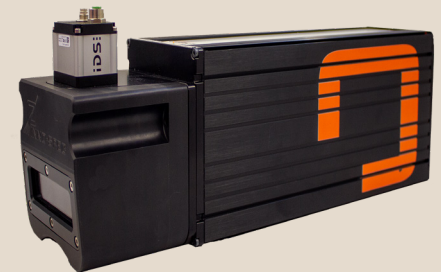


Figure: ColEx + RedEye

## Accessories

- Conveyor belt, stepper table or tripod with a rotary stage as bundle solutions
- ColEx = RGB adapter which is aligned to the NIR optical path
- Tungsten halogen light sources in modular sizes
- Different objective lenses: ranging between 8 mm & 50 mm focal length
- Software packages for customized applications