

REDEYE

NIR Hyperspectral Imaging Camera

The new **RedEye** is a linescan (pushbroom) hyperspectral imaging camera in the near-infrared spectral range that allows the acquisition of real-time data with high spectral and spatial resolution.

This new capability was developed from our vast experience with industrial applications we have delivered in the past decade.

Combining the superior optical design with its advanced 3-D transmission grating technology, high-end electronics, and a fast FPA detector, the **RedEye** camera provides outstanding performance even under harsh environmental conditions.

inno-spec's new approach of material characterization provides reliable measurements combining chemical and spatial information. It therefore enables comprehensive analytical applications for in the laboratory or for critical online or in-line in manufacturing processes.

To meet different user demands, multiple software packages are available: From hardware drivers through laboratory software up to fully automated real-time routines for rapid data acquisition, evaluation, and process control.

NEW



Features:

- **Transmission grating configuration for superior sensitivity**
- **High spatial and spectral resolution**
- **High frame rate**
- **Excellent imaging performance**
- **Robust design without moving parts**



Technical Specifications:

RedEye 1.7 - NEW

Spectrograph

| | |
|---------------------|---------------------------|
| Spectral range | typ. 950 to 1700 nm |
| Dispersion | 106 nm/mm |
| Spectral resolution | 10 nm (with 80 µm slit) |
| Spatial resolution | rms spot radius < 35 µm |
| Smile | < 60 µm |
| Keystone | < 50 µm |
| F-number | 2.6 |
| Slit width, default | 80 µm (others on request) |

Electronics

| | |
|----------------------|--|
| Sensor | InGaAs |
| Pixels in full frame | 320 x 256 |
| Pixel size | 30 x 30 µm |
| Bit depth | 14 bit |
| Frame rate | 330 fps (full frame) 4200 fps (4 bands) |
| Data interface | Gigabit Ethernet (GigE Vision standard) |
| Power supply | 12 VDC / 24 VDC (optional) |
| Cooling | 1-Stage TEC |

Operating Conditions

| | |
|----------------------------|----------------|
| Temperature (operating) | -5°C to + 40°C |
| Temperature (storage) | -5°C to + 40°C |

Mechanics

| | |
|----------------------|--------------------------|
| Dimensions l x w x h | 361 mm x 130 mm x 145 mm |
| Weight | 4.3 kg |
| Lens mount | Standard C-mount |

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

Optionally, by replacing the input optics with a multifiber cable, the **RedEye** can be used as a synchronous multipoint, multichannel spectrometer.

As a well-established manufacturer of spectroscopic measurement equipment, **inno-spec** provides optimized solutions for any individual application: From customized OEM components for system suppliers up to fully integrated turnkey solutions for the end-user.

Accessories:

- Tungsten halogen light sources in modular sizes
- Various mounting accessories
- Different fore optics: 8 mm, 16 mm, 25 mm, 35 mm, 50 mm
- Numerous software packages
- Multifiber bundle (up to 66 channels)

