

L-EOS™

HYPERSPPECTRAL CAMERA



KEY FEATURES

1. Scientific-Grade Precision:

low background noise, high dynamic range, and exceptional signal-to-noise ratios.

2. Advanced Thermoelectric Cooling:

4 stages of thermoelectric cooling. Achieve temperatures as low as -60°C or -80°C, optimizing signal-to-noise ratios for precision applications.

3. Industrial-Ready Robustness:

Our infrared cameras, objective telecentric lenses and precise spectrometers are engineered to provide reliability in even the harshest industrial environments.

4. Versatile Applications:

tailored to meet the unique demands of your industry with precision and reliability.

Discover the pinnacle of hyperspectral infrared imaging technology at Photon etc. The L-EOS is your premier source for cutting-edge solutions tailored to industrial applications with its unique combination of scientific grade camera, thermoelectric cooling and industrial design.

TECHNICAL SPECIFICATIONS			
	L-EOS 1.7	L-EOS 2.5	L-EOS 2.8
Spectral range	900 - 1700 nm	900 - 2500 nm	1000 - 2800 nm
Sensor	InGaAs (Alizé™ 1.7 or ZephIR™ 1.7)	HgCdTe (ZephIR™ 2.5)	HgCdTe (ZephIR™ 2.9)
Spatial resolution (RMS spot radius on sensor)	6 pixels	3 pixels	3 pixels
Spectral resolution (FWHM slit image)	7.8 nm	15.3 nm	18 nm
Spectral sampling (Typical dispersion)	1.3 nm/px	5.1 nm/px	6 nm/px
Standard slit width	30 µm		
Slit length	7.7 mm		
Spatial channels	512	256	256
Spectral channels	640	320	320
Aperture	f/2.1	f/2.1	f/2.1
Pixel size	15 µm	30 µm	30 µm
Typical High Gain setting	2.2 e ⁻ /ADU	10.3 e ⁻ /ADU	10.3 e ⁻ /ADU
Typical High Readout noise	35 e ⁻	150 e ⁻	165 e ⁻
Slit width	30 µm		
Cooling Temperature @ 20°C ambient	-60 °C or -80 °C	-80 °C	-80 °C
Max frame rate	250 fps	340 fps	340 fps
Dimensions (L x W x H)	33 cm x 33 cm x 23 cm		
Weight	10 kg		
Operating temperature	10 °C to 35 °C		
Camera interface	USB 3.0 and CameraLink™		
Mechanical shutter	yes		
Harmonic suppression	N/A	yes	yes
Power consumption	20 W	26 W	32 W
Lens options with FOV	HypIRia 11 mm: 37.8° x 0.15° HypIRia 15 mm: 27.8° x 0.11° HypIRia 25 mm: 17.5° x 0.07°		

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MATERIAL SORTING (PLASTICS AND TEXTILES)

In the material sorting subsector, we optimize waste management with advanced optical sensors that detect and separate different types of materials based on their unique optical properties. This results in more efficient and accurate sorting of recyclable materials, reducing the amount of waste sent to landfill.



HYDROCARBON DETECTION

In hydrocarbon detection, the use of infrared sensors and hyperspectral imager improves the detection and identification of hydrocarbons, allowing for monitoring of oil and gas leaks in pipelines and tanks, thereby enhancing safety and environmental protection.



MINING

In the mining subsector, we use photonic technology to improve mineral detection, enabling more precise exploration of mineral deposits and more efficient extraction of minerals. The combination of hyperspectral with other types of optical sensors (LIBS, XRF, LIF) can be used for precise geological analysis, reducing costs and waste in the extraction process.



AGRICULTURAL AND AGRI-FOOD MARKETS

In the agricultural and agri-food markets, our optical sensors monitor crop quality and growth in real time. Infrared sensors can be used to monitor chlorophyll levels in plants with fluorescence allowing for monitoring of their health and growth.

Photon etc. is committed to advancing the industrial sector with our cutting-edge photonic solutions. Let us help you improve productivity, reduce costs, and enhance safety in your industry.