

HELIOS EC64

Hyperspectral Imaging Camera
for Industrial Applications



Product Overview

- › Line-scan camera with optically corrected spectral data output
- › 640 pixels spatial sensor resolution
- › Operates in the wavelength band from 930 nm to 1700 nm

DESCRIPTION

The HELIOS EC64 is a push-broom hyperspectral imaging camera that identifies different materials based on their chemical composition. The HELIOS EC64 provides spectral data, allowing customers to use their own data analysis tools or to combine it with the ALPHA edge computing platform and SQALAR software for qualitative and quantitative data analysis, as well as flexible application model development. Together, they form a powerful system for inline analysis, monitoring, and sorting of industrial product streams in real time.

KEY FEATURES

- Enhanced precision in object classification
- Superior SNR at a nominal spatial resolution of 640 pixels
- Full internal calibration and correction for optically corrected output data
- Scan rate of >700 Hz at full spectral range (248 spectral bands)
- Up to multiple kHz at smaller spectral bands and full spatial width
- 3 gain modes for high sensitivity in low-light conditions
- Advanced thermal management
- Rugged industrial design

CLIENT BENEFITS

- Hyperspectral imaging camera for real-time, inline operations
- 640 px spatial sensor resolution for small object detection
- Ideal for high-speed industrial applications
- Plug and play: No external calibration necessary
- GigEVision/GenICam-compliant interface: Easy and standardized integration

APPLICATIONS*

- Removal of foreign bodies in food processing industries
- Material type determination in plastic sorting
- Measurement of material quality in waste management
- In-line quantitative analysis of concentrations in production processes
- Quality control

**In combination with ALPHA products*

Technical Specifications

TECHNICAL DATA

Spectral Range	929 ± 2 to 1702 ± 2 nm
Line Scan Rate	> 700 Hz at full spectral range
Spectral Resolution (FWHM)	≤ 3.7 nm
Spectral Sampling	3.1 nm/pixel
Spatial Sensor Resolution	640 pixels
Spatial Output Resolution	624 pixels
Spectral Bands	248
Signal/Noise Ratio	> 1200:1
Binning	up to 8 px (<i>spectral and/or spatial</i>)
Optical Coupling	C-mount lens
Interfaces	2.5/5-Base-T GigE Vision (GV)* / GenICam Trigger input: RS-485 <i>* GigE Vision supports configuration & data streaming</i>
Connectors	Ethernet: M12-X-coded Power/Trigger: RS-485 over M8 4 pin A-coded
Dimensions Without Lens (W × H × D)	100 × 100 × 290 mm
Weight	approx. 3.4 kg
Power Supply	18 to 30 V DC
Protection Rating	IP54

Internal data corrections for high quality data output and 1:1 replacability of devices:

- Interpolation of defective pixels
- Correction of optical distortions
- Spectral device calibration
- Photometric response calibration