

Data sheet

EVK HELIOS EC64

Vo1-24-EN - Preliminary



Preliminary prototype model. Final design subject to change.
Product specifications and descriptions are subject to change without prior notice. © EVK 2024

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EVK HELIOS EC64

Hyperspectral Imaging Camera for Industrial Applications

- 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 EVK HELIOS EC64 is a push-broom hyperspectral imaging camera that identifies different materials based on their chemical composition. EVK HELIOS EC64 provides spectral data, allowing customers to use their specific data analysis tools or to combine it with the EVK ALPHA edge computing platform and EVK SQALAR software for qualitative and quantitative data analysis and flexible application model development. Together they are 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 at 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
 - Ideally for high speed industrial applications
 - Plug and play: No external calibration necessary
 - GigEVision/ GenICam compliant interface: Easy and standardized integration

- Typical 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 EVK ALPHA Products

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Experts in industrial imaging

Technical Data

Spectral range	930 to 1700 nm
Line scan rate	> 700 Hz at full spectral range
Spectral resolution	6.8 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 (spectral or spatial)
Optical coupling	C-mount lens
Interfaces	2.5/ 5-Base-T GigE Vision (GV) ¹ / GenICam Trigger Input: RS-485
Connectors	Ethernet: M12-X-coded Power/ Trigger: RS-485 over M8 4 pin A-coded
Dimensions without lens (w x h x d)	100 x 100 x 290 mm
Power supply	18 to 36 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

¹ GigE Vision supports configuration & data streaming

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