

Product brief

EVK HELIOS EC32

Vo2-22-EN



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EVK HELIOS EC32

320-Pixel Hyperspectral Imaging Core Camera

- Line-scan camera with optically corrected spectral data output
- 320 pixels spatial resolution
- Operates in the wavelength band from 900nm to 1700nm

Description

The EVK HELIOS EC32 is a push-broom hyperspectral imaging camera, delivering optically corrected and spatially resolved spectral data. The camera features non-contact and non-destructive, real time infrared imaging spectroscopy for identification of material types in industrial applications.

In combination with the EVK ALPHA classification engine, EVK HELIOS EC32 camera features a powerful system for in-line analysis and monitoring of product streams in a range of industries.

Key features

- Optically corrected, GigE Vision GenICam compliant output data
- Excellent SNR of 3.500 at a nominal spatial resolution of 320 pixels
- Up to 256 spectral bands
- Scan rate of 446Hz at full spectra, up to 3.8kHz using spectral ROI
- Rugged industrial design
- Protection rating IP54
- Temperature Range 0°C - 45°C with full optical stability
- Suitable for in-line classification, metrology, and sorting (in combination with EVK ALPHA product family)

Client benefits

- Hyperspectral imaging camera for real-time, in-line operations
- Plug and play: No external calibration necessary
- Compact and rugged design

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 analyte concentrations in production processes

* In combination with EVK ALPHA Products

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Technical Data

Spectral range	(929 ± 2 - 1702 ± 2) nm
Line scan rate	446 Hz full frame
Spectral resolution	2.5 nm
Spectral sampling	3.1 nm
Spatial resolution	320 pixels
Pixel size	30 x 30 µm
Optical coupling	C-mount lens
Slit	60 µm
Interfaces	GigE Vision (GV) ¹
Trigger input	RS-485
Dimensions without lens	141 x 174 x 326 mm
Weight	approx. 7.8 kg
Power supply	18 - 36 V DC
Power consumption	max. 24W, typical 8W
Protection rating	IP54
Operating temperature	0 to +45 °C
Storage temperature	-25 to +75 °C
Humidity	8 to 80 %
Data output	1. High quality calibrated spectral data (12bit GigE-Vision)

¹ GigE Vision supports configuration & data streaming

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Frame-rate information

Achievable frame rate at spatial full frame (312 Pixels) and exemplary spectral ROIs				
Spectral ROI width	Spectral band-width	Spectral range min	Spectral range max	Max. frame rate
248 pixels	773 nm	929 nm - 1702 nm	929 nm - 1702 nm	446 Hz
220 pixels	685 nm	929 nm - 1615 nm	1017 nm - 1702 nm	500 Hz
200 pixels	623 nm	929 nm - 1552 nm	1079 nm - 1702 nm	547 Hz
160 pixels	498 nm	929 nm - 1427 nm	1205 nm - 1702 nm	674 Hz
120 pixels	372 nm	929 nm - 1302 nm	1330 nm - 1702 nm	878 Hz
100 pixels	310 nm	929 nm - 1239 nm	1392 nm - 1702 nm	1034 Hz
80 pixels	247 nm	929 nm - 1176 nm	1455 nm - 1702 nm	1295 Hz
60 pixels	185 nm	929 nm - 1114 nm	1518 nm - 1702 nm	1607 Hz
40 pixels	122 nm	929 nm - 1051 nm	1580 nm - 1702 nm	2221 Hz
30 pixels	91 nm	929 nm - 1020 nm	1611 nm - 1702 nm	2745 Hz
20 pixels	59 nm	929 nm - 989 nm	1643 nm - 1702 nm	3594 Hz
18 pixels	53 nm	929 nm - 982 nm	1649 nm - 1702 nm	3831 Hz

Spectral ROI width is selectable in 2-pixel steps from 18 pixels to 248 pixels, spectral position is selectable in two-pixel steps over the full possible range.

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Order information

EVK HELIOS Hyperspectral Imaging Cameras:

Product	Order Number
EVK HELIOS EC32	AGX-22008

Supported Standard Optics:

Product	Part Number	Focal Length (mm)	Lense Aperture	Camera Mount
NIR Lens 6mm/1.4	BKO-20063	6	1.8	C-Mount
NIR Lens 8mm/1.4	BKO-20001	8	1.4	C-Mount
NIR Lens 12mm/1.4	BKO-20002	12	1.4	C-Mount
NIR Lens 16mm/1.4	BKO-20003	16	1.4	C-Mount
NIR Lens 25mm/1.4	BKO-20004	25	1.4	C-Mount
NIR Lens 35mm/1.4	BKO-20005	35	1.4	C-Mount

EVK Products in combination with EVK HELIOS EC32:

Product	Part Number	Description
EVK ALPHA G100 CO	HGX-22033	Real-Time Processing Platform for Spectral Imaging

For more information contact

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