BLACKINDUSTRY
VNIR V2 Camera
500-1000 nm

HAIP Solutions BlackIndustry VNIR Sensor is a smart line scanning (push-broom) visible and near-infrared hyperspectral imaging camera that allows the acquisition of real-time spectral data with very high spatial resolution.

The outstanding sensitivity in the NIR range from 500 nm to 1000 nm is perfect for the use in industrial in-line applications. With a frame rate of 430 Hz at full frame and up to 1700 Hz at ROI, the sensor is suitable for high conveyor belt speeds, ideal for sorting applications in Food Industry or Recycling.

Features

- Smart Hyperspectral Line-Scanner

- Designed for industrial in-line applications

- VNIR (500-1000 nm)

- High Signal-to-noise ratio in NIR

- Up to 250 spectral bands

- Spatial resolution: 1920 px

- Framerate 430 Hz (Full Frame)

- Internal GPU for pre-processing

BlackIndustry VNIR V2
Hyperspectral Machine Vision Camera

Optics	
Spectral range	500-1000 nm
Spatial resolution	1920 px
Dispersion	130 nm/mm
Pixel resolution	0.26 nm/pixel
FWHM (spectral res.)	< 5 nm (25 µm slit)
Image size	3.9 (spectral) x 7.68 (spatial) mm
Smile	< 5 µm; software corrected
Keystone	< 5 µm; software corrected
Aperture	F/2.0
Slit width (default)	25 µm (10/15 µm on request)
Electronics	
Sensor type	CMOS
Pixels in full frame	1920 (H) × 1080 (V)
Active pixels	1920 (H) × 965 (V)
Pixel size	4 x 4 µm
Radiometric resolution	10 bit
Framerate Full Frame/ROI	430/1700 Hz
Internal data processing	NVIDIA Jetson Nano, 16 GB
Connection	GigE (GenICam compatible)
Sensor cooling	passive
Power input	12 V DC
Power consumption	< 15 W
Mechanics	
Lens mount	Standard C-Mount
Housing	Anodised aluminum
Temperature (Operation)	-10 - +50°C
Temperature (Storage)	-15 - +60°C
Size	80 * 80 * 147 mm
Weight	1.3 kg

Checkout also our other BlackIndustry series cameras, for example the all new BlackIndustry SWIR 1.7 Max with 1280 px spatial resolution.

If your application requires dedicated optics, wavelength ranges or software tools, customization can be done without large NRE costs.
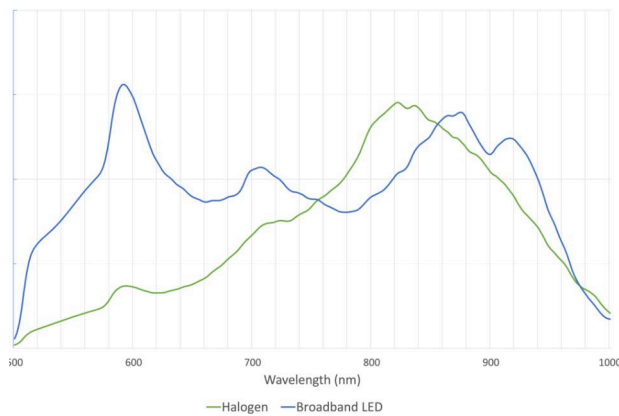
Spectral response - BlackIndustry VNIR V2

Ideal for food industry & recycling

The sensor is suitable for high conveyor belt speeds or chute systems, ideal for sorting applications in Food Industry or Recycling.

Data pre-processing on camera is possible, as the camera has an integrated GPU (Nvidia Jetson). All BlackIndustry series cameras are controllable via HAIP BlackStudio software, GenICam or a dedicated C++/Python API.

Combining superior optical design with advanced holographic transmission grating technology, highend electronics and a sensitive CMOS detector, BlackIndustry VNIR V2 camera is an ideal tool for demanding environments.

The hyperspectral sensor provides a spatial resolution of 1920 pixels with up to 250 spectral channels to be read in, within the wavelength range from 500 nm to 1000 nm.

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