PRODUCT DATA SHEET

BlackIndustry SWIR 1.7 Max

HAIP Solutions BlackIndustry SWIR 1.7 Max Spectral Imaging System is a smart line scanning (push-broom) 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 900 nm to 1730 nm is perfect for the use in industrial in-line applications. With a frame rate of 130 Hz at full frame and up to 1000 Hz at ROI, BlackIndustry SWIR 1.7 Max is a high performance spectral imaging system designed for applications that require high light throughput, fast data acquisition and good imaging performance.

Features

- Smart Hyperspectral Line-Scanner
- Designed for industrial in-line applications
- SWIR (900-1730 nm)
- Up to 800 spectral bands (selectable)
- Spatial resolution: 1296px
- Framerate: 130 Hz (Full Frame)
- Internal GPU for pre-processing

PRELIMINARY

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HAIP

BlackIndustry SWIR 1.7 Max

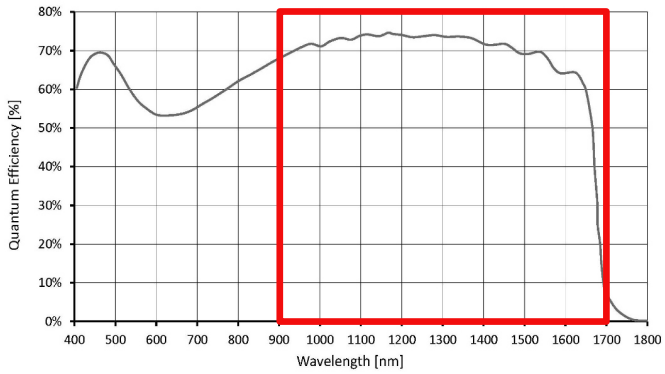
Hyperspectral Machine Vision Camera

Optics	
Spectral range	900-1730 nm
Spatial resolution	1296 px
Dispersion	160 nm/mm
Pixel resolution	0.8 nm/pixel
Image size	5.16 (spectral) x 6.48 (spatial) mm
Smile	< 10 µm; software corrected
Keystone	< 10 µm; software corrected
Aperture	F/1.8
Slit width (default)	50 µm (others on request)
Electronics	
Sensor type	InGaAs (SenSWIR)
Pixels in full frame	1296 (H) x 1032 (V)
Pixel size	5 x 5 µm
Radiometric resolution	8, 10, 12 bit
Framerate (Full Frame)	130 Hz
Internal data processing	NVIDIA Jetson Nano, 16 GB
Connection	GigE/GigE Vision
Sensor cooling	passive
Power input	24 V DC
Power consumption	< 15 W
Mechanics	
Lens mount	Standard C-Mount
Housing	Anodised aluminum
Temperature (Operation)	-10 - +45°C
Temperature (Storage)	-15 - +60°C
Protection class	*Pending*
Size	100 * 100 * 215 mm
Weight	2 kg

PRELIMINARY

BlackIndustry SWIR 1.7 is also available in a high frame rate version of 250 Hz (full frame).

If your application requires dedicated optics, wavelength ranges or software tools, customization - our very true strength - can be done without large NRE costs.



BlackIndustry SWIR 1.7 Max - Spectral response

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.

Additional data pre-processing on camera is possible, as the camera has an integrated GPU (Nvidia Jetson). BlackIndustry is controllable and readable via a GUI or API.

Combining superior optical design with advanced holographic transmission grating technology, highend electronics and a sensitive InGaAs detector, BlackIndustry SWIR 1.7 Max camera is an ideal tool for demading environments.

The hyperspectral sensor provides a spatial resolution of 1296 pixels with up to 800 spectral channels to be read in, within the wavelength range from 900 nm to 1730 nm.

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