

HAWKeye 4123 sCMOS Camera



Starlight to full daylight 24-hour operation ruggedised camera

The camera uses state of the art BAE Fairchild sCMOS 4123 sensors with 0.5 electron readout noise, very low dark current and low defective pixel count. Available as monochrome or colour.

Thanks to the proprietary back illumination process and thermo electric cooling, the new Hawkeye 4123 camera allows uncompromised low light level imaging down to starlight conditions.

HD-SDI & Gigabit Ethernet Vision compliant interfaces enable easy integration into existing systems. Camera Link high speed interface that allows uncompressed video data transmission at full speed, is available on demand.

OEM versions with special form factors / cooling options are made to order for special programmes into specific payload and surveillance systems.

Available with passive or active cooling

Auto control exposure

Region of interest allowing digital zooming

Pixel binning for improved sensitivity

Colour or multi spectral filters

Key Features

- | >80 dB intra-scene dynamic range
- | Read out noise
0.5 electron RMS
- | 30 fps
with HD resolution
- | Excellent linearity
response to varying intensities and / or exposures
- | HD-SDI , Gigabit Ethernet Vision (GEV) compliant
Camera Link Interface
- | Software option:
SDK (Windows and Linux for GEV versions)
- | Python based Graphical User Interface:
advanced post processing functions, remote camera
controls through LAN using socket commands.

Applications

Surveillance

Hyper Spectral Imaging

Payload

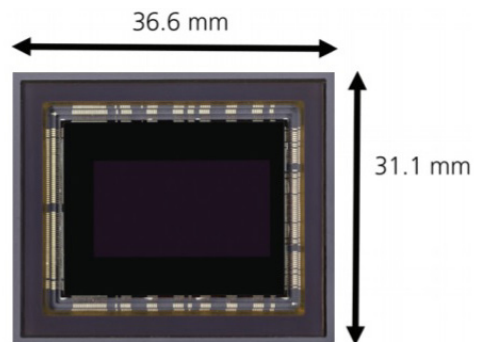
Unmanned Vehicles

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Characteristics	HAWKeye 4123
Spectral Range	380 - 1100 nm
Resolution (pixels)	4096 x 2300
Sensor Size	18.9 mm x 10.6 mm (21.6mm diagonal)
Sensor Frame Rate	30 fps at HD resolution in High Dynamic Range mode (High gain and low gain channels recombined)
Pitch	4.6µm
Full Well Capacity	7,000 electrons
Sensor Read Out Noise	0.5 electron
Reading Mode	Integrate While Read / Rolling Shutter
Dark Current	2 electron/pixel/second at 30°C
Corrections	Correction of sensor defects to provide optimal image output over varying temperature and light conditions
ADC	12-bit with 16-bit digital processing
Exposure	25 microseconds up to 250 milliseconds
Non Linearity	<1%
Interface	Gigabit Ethernet Vision compliant
Video HD Output mode 1	1920 x 1080 ultra high sensitivity mode with 9.2µm effective pixel size
Video HD Output mode 2	4x Digital zoom over a 1920 x 1080 Region of Interest with 4.6µm pixel size
HDMI Video Adaptor	Displays Digital Video stream directly to HDMI HD screen

Provisional datasheet

Data, text & images are subject to change.



HWK4123

HAWKeye 4123 sCMOS sensor