Quest innovations

The Condor[1]

Foveon

Applications

- Color measurement in
  - Printing
  - Textiles
- Color realistic imaging
- Unique wavelength measurement

Benefits

- Less artifacts
- More color detail
- Sharper around the edges
- Light weight solution

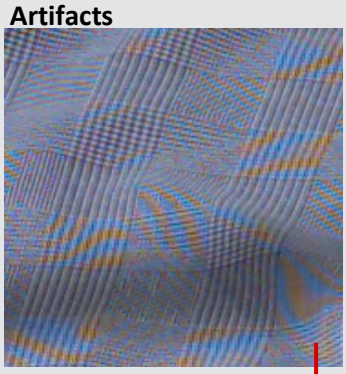
Worlds only machine vision camera using the superior Foveon technique

When exact color measurements are the core of your machine vision requirements, the Condor[1] FV is the camera you need.

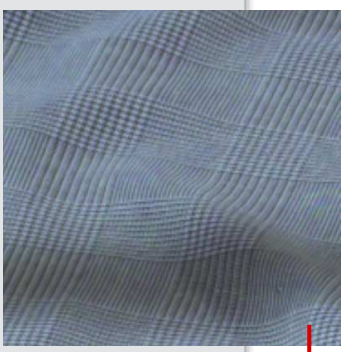
Foveon made history when it developed and patented the world's first three-layer image capture technology, placing a stack of RGB pixels in each pixel location. As a result, Foveon sensors detect all three primary colors in every pixel location, producing images that are sharper and have significantly reduced image artifacts compared to competing image sensor technologies.

In combination with the Quest Innovations technology and software a superior full color camera is realized completing the range of color cameras supplied by Quest. The other possibilities being tree sensor RGB and CIE cameras.

Artifacts



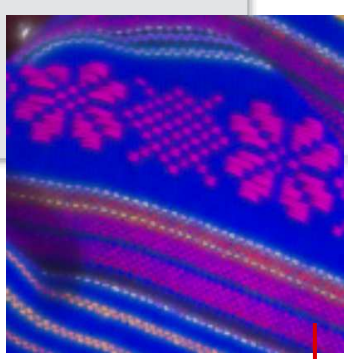
Bayer sensor



Foveon sensor

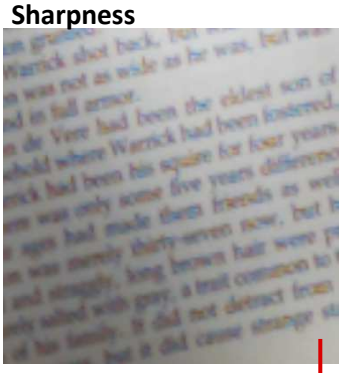
Color

Bayer sensor

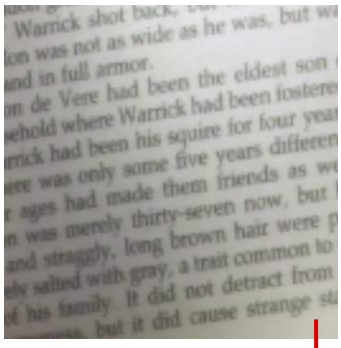


Foveon sensor

Sharpness



Bayer sensor



Foveon sensor

Visitor address

Quest Innovations BV
Industrieweg 41
1775 PW Middenmeer
The Netherlands

Tel: +31 (0)227 604046
Fax: +31 (0)227 604053
info@quest-innovations.com
www.quest-innovations.com

The Condor[1]

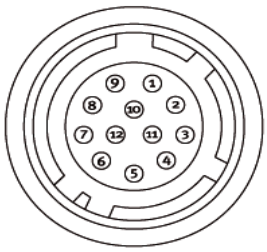
Foveon Datasheet

Specifications

Sensor	Foveon X3
Active area	24.86 mm diagonal
Pixel clock	40 MHz
Active pixels	2688 x 1792 x 3 layers
Frame rate	5 Fps full resolution
Channels	Channel 1: Red Channel 2: Green Channel 3: Blue
Alignment accuracy	100% co registration
S/N Ratio	>56 dB
Bit depths	8 bit 3 channel, 12 bit 3 channel
Video output	Camera Link Base
Trigger modes	Internal and external source (on Camera Link and Hirose connectors)
Synchronization	Fully synchronized due to single chip. Smart trigger unit for advanced trigger schemes
Electronic shutter	Rolling shutter
Control interface	All commands through Camera Link serial interface
Lookup tables	Lookup tables available in 8bit mode, full access to table entries. Table data programmed in flash memory (on request)
External control capability	Exposure, lookup tables, region of interest, image bit depth, trigger source
Weight	300 grams excluding lens
Dimensions	78 x 83 X 93 mm (WxHxD)
Lens mount options	F-mount
Operating temperature	-20 - +50 °C
Regulations	CE (EN 61000-6-2 EN 61000-6-3), FCC Part 15 class B, RoHS/WEE
Back focal length	≥ 46.5 mm in air
Power	18-24V DC +/-10%, 8W
Humidity	20-90% Non condensing

Connector

DC-In / Trigger



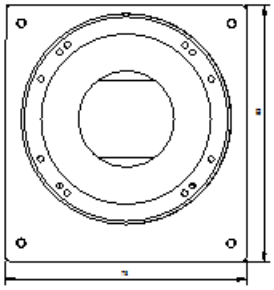
Hirose HR10A-10P-12S

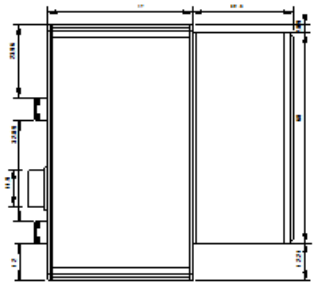
Pin	Signal	Function
1	GND	GROUND
2	Vin	+15-24V
3	DNC	Do not connect
4	DNC	Do not connect
5	DNC	Do not connect
6	DNC	Do not connect
7	Trigger in	Input trigger
8	Trigger out	Output trigger
9	DNC	Do not connect
10	DNC	Do not connect
11	DNC	Do not connect
12	DNC	Do not connect

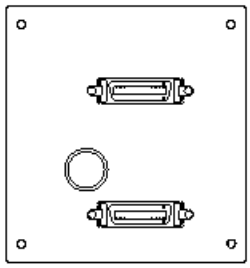
Camera Link Interface
26 pin MDR connector
3M 10226-1A10JL

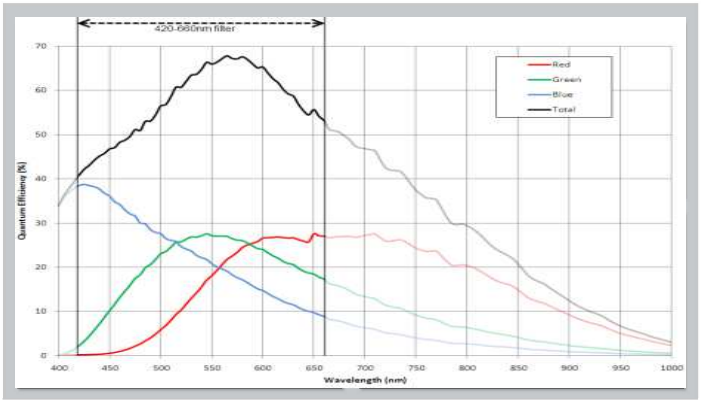
Pin		Signal	Function
1	14	GND	
2	15	X0-/X0+	CL Data
3	16	X1-/X1+	CL Data
4	17	X2-/X2+	CL Data
5	18	Xclk-/Xclk+	CL Clk
6	19	X3-/X3+	CL Data
7	20	Ser TC+/Ser TC-	Serial in
8	21	Ser TFG-/Ser TFG+	Serial out
9	22	CC1-/CC1+	
10	23	CC2+/CC2-	Not Used
11	24	CC3-/CC3+	Not Used
12	25	CC4+/CC4-	Not Used
13	26	GND	

Dimensions









Examples

Spectral response of the Foveon sensor.

Optimal location of NIR cut off is shown in the chart.