

# Multispectral Imaging Systems

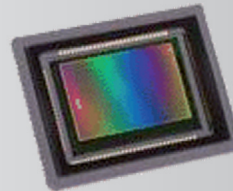
## Condor-1000 MS-1-FV

### Key Features

- Unique 3 Layer full pixel planes
- Full frame and ROI mode
- 14.1 Megapixels effective
- >6 FPS full frame resolution
- 14 KHz color line scan mode
- Rolling shutter and still shot modes
- Internal black level correction
- Internal image correction pipeline
- User LUT conversion tables
- Test pattern outputs
- Onboard 32Bit processor

### Specification:

<b>Sensor</b>	<b>Foveon F13</b>
<b>Resolution</b>	<b>14.1 Megapixels (2652 x 1768 x 3 layers)</b>
<b>Image area</b>	<b>20.68 x 13.79 mm</b>
<b>Image diagonal</b>	<b>24.86 mm</b>
<b>Pixel clock</b>	<b>40 MHz</b>
<b>Pixel size</b>	<b>7.8 µm square</b>
<b>Aspect ratio</b>	<b>3:2</b>
<b>Data rate</b>	<b>~100 Mbytes/sec</b>
<b>Maximum frame rate</b>	<b>6.9 Fps full frame</b> <b>14 KHz Color line scan mode</b>
<b>Data bits</b>	<b>8 to 12 bits per pixel per channel selectable</b>
<b>Output</b>	<b>CameraLink (Base, Medium)</b> <b>Optical Fibre (3.125Gbps)</b> <b>GigE (reduced frame rate)</b>
<b>Dynamic range</b>	<b>&gt; 62dB (measured using green photodiode)</b>
<b>Gain range</b>	<b>T.b.d.</b>
<b>Bandpass filter</b>	<b>420-660nm, optional removed</b>
<b>Operating temp</b>	<b>0 .. 50 °C</b>
<b>Power supply</b>	<b>12..24 Volts</b>
<b>Power Dissipation</b>	<b>t.b.d.</b>
<b>Mass</b>	<b>t.b.d.</b>
<b>Size (wxhxd)</b>	<b>78 x 83 x 80 mm</b>
<b>Lens mount</b>	<b>F-Mount</b>
<b>Control</b>	<b>Serial port via Interface</b>
<b>Power</b>	<b>Hirose HR10 12Pin</b>



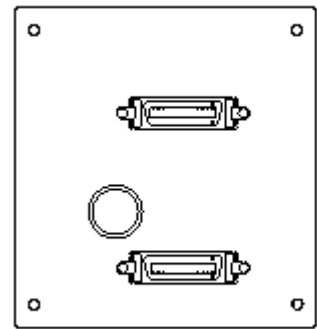
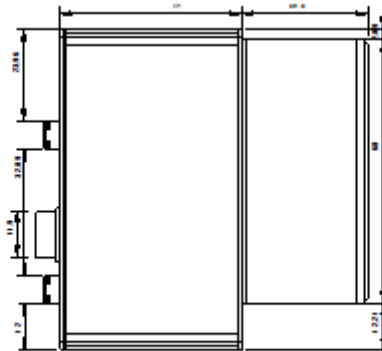
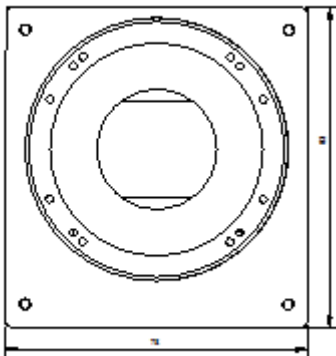
DIRECT  
IMAGE  
SENSOR

The Condor-1000 MS1-FV uses the unique 3 layer technology from Foveon. This technology allows the camera to have full optical resolution at all colors without filter array mosaic artifacts. The camera sends out complete images at full resolution for Red, Green and Blue.

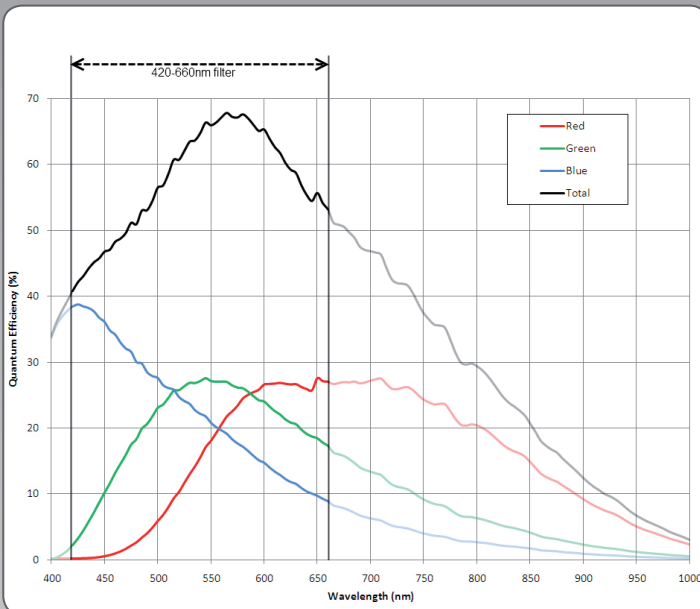
The Condor-1000 MS1-FV has 3 different interfaces available. CameraLink is used for demanding real-time applications. The camera can be run at full speed through Base or Medium connections. For long transmission distance applications (>100m), a Fiber Optic interface is available, which can transfer the image at full speed, full resolution and full bit rate. For applications where interface cost is most important and full transfer rates are not required a GigE interface is available.

Because of the unique 3 layer technology and the special registers on the sensor, the Condor-1000 MS1-FV can be operated in a line scan mode with perfect registration in the RGB channels. The RGB data has no spatial offsets in any direction. Unlike other line scan cameras, the Condor-1000 MS1-FV can be instantly switched between line and area operation to facilitate application development and camera alignment.

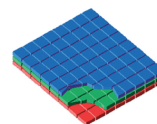
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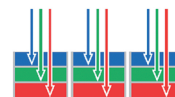
Mechanics are advance information and can be changed before production version.



### Foveon X3<sup>®</sup> Capture



A Foveon X3 direct image sensor features three separate layers of pixels embedded in silicon.

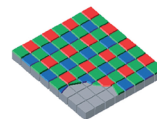


Since silicon absorbs different colors of light at different depths, each layer captures a different color.

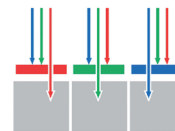


As a result, only Foveon X3 direct image sensors capture red, green, and blue light at every pixel location.

### Mosaic Capture



In conventional systems, color filters are applied to a single layer of pixels in a tiled mosaic pattern.



The filters let only one wavelength of light—red, green, or blue—pass through to any given pixel, allowing it to record only one color.



As a result, mosaic sensors capture only 25% of the red and blue light, and just 50% of the green.

### Distributor information:



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