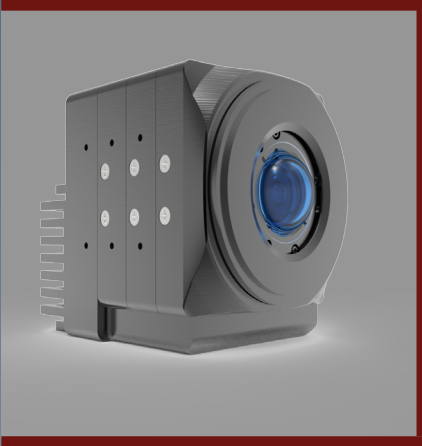
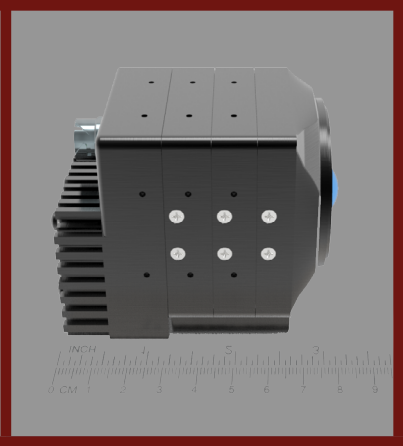
MONOCENTRIC CAMERA

COMPACT HIGH-SPEED CAMERAS





MONOCENTRIC CAMERA SYSTEM

Designed for DARPA's SCENICC program, the Distant Focus monocentric camera systems achieve unprecendented optical resolution in a tiny package. The monocentric lens and curved focal plane result in excellent image quality with high-resolution, low-distortion, and excellent light-collection.

The monocentric lens is ideal for wide field-of-view applications. Traditional lens systems suffer from significant distortion and loss of resolution with increased FOV, and also tend to increase in size and complexity. The monocentric lens design used in this camera solves these problems. It is available in three different F-numbers: F1.7, F2.5, and F4.0.

To connect to the camera via its PCIE interface, either use a dev-kit computer available from DFC or a custom interface can be developed using the DFC software API. The interface allows a computer to see the camera as a PCIE peripheral and enables impressive data-transfer rates from the sensor.

MORE FEATURES

- Color or monochrome 25MP sensor with 4.5um pixels.
- Dynamic range: 10-bits
- Frame rate: 54 FPS
- Arria V FPGA supports real time image processing.
- PCIe interface supports full resolution and frame rate.
- Power: 14W
- Size: 58.5 x 67.5 x 83mm
- Weight: 0.5 kg
- FOV: 96º horizontal and vertical (126 diagonal)

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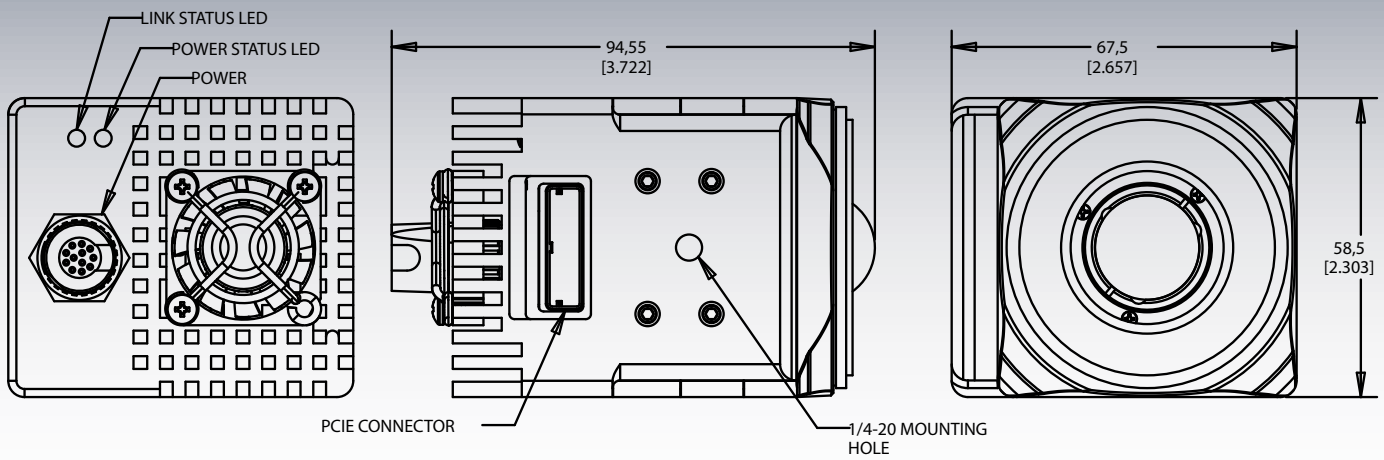
System Specifications	
Resolution	25 Megapixels
Output Format	Raw bayer DNG, Cinema DNG archive, JPEG
Camera Control	HTTP API, preview web page
Camera updates	Field upgradable via maintenance web page
Data Interface	16 Gbps via PCIEx4 (1 server and cable per aperature)
Frame Rate	24 FPS @ 25 MP
Processing	bad pixel correction
Power	14 W @ 12 V (sensors and electronics)
Temperature	0-25 C without additional cooling
Server OS	Debian 8.2, 64-bit
Browsers	Chrome (Recommended), Firefox, Saffari
Size	Size 58.5 x 67.5 x 83mm

Sensor Specifications	
Pixel Array	25 Megapixels
Bitdepth	10-bit
Frame Rate	53 FPS @ 25 MP
Shutter	Pipelined global shutter, electronic rolling shutter
Exposure	1 us to 500 ms, triggered start/stop
Gain	up to 32 dB digital gain, 10x analog gain
Black Level Correction	Automatic, manual
Sensor SNR	43 dB
Dynamic Range	56 dB (global shutter), 59dB (rolling shutter)
Resolution Modes	Region of interest, subsampling (rolling shutter only)
Processing	Fixed pattern noise correction, black level calibration, correlated double sampling (rolling shutter only)



Distant Focus Corporation

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