

1024 x 1024 Imaging Array

24 μm Pixel Size

Highest Dynamic Range

The KAF-1001 sensor used in the PL1001 has two separate output amplifiers. One is designed for low noise and the other is designed for high full well capacity. The PL1001 has software-selectable high and low speed readout for the low noise amplifier, and low speed readout for the high range amplifier. In high range mode, the dynamic range (addressable full well divided by read noise) is over 20,000:1, the highest of any sensor FLI sells.

The KAF-1001 also has excellent quantum efficiency in the near infrared (34% at 900nm) without the etaloning problems characteristic of backside illuminated sensors.



Features

Benefits

1 MHz and 3.3 MHz digitization

Fast Image capture with full 16-bit resolution

1024 x 1024 Array with 24 μm pixels

Resolves fine detail

Flexible binning and readout

Increases frame rate

Thermoelectric Cooling to 60°C Below Ambient°C Below

Excellent low-noise imaging

Excellent quantum efficiency

High sensitivity for fast image acquisition

Optional Nikon F-mount and Canon EOS mount

Wide variety of optical choices

Acquisition software included

Ease of integration with open source SDK

USB 2.0 interface

Industry standard connectivity; fast data transfer



Engineering Excellence

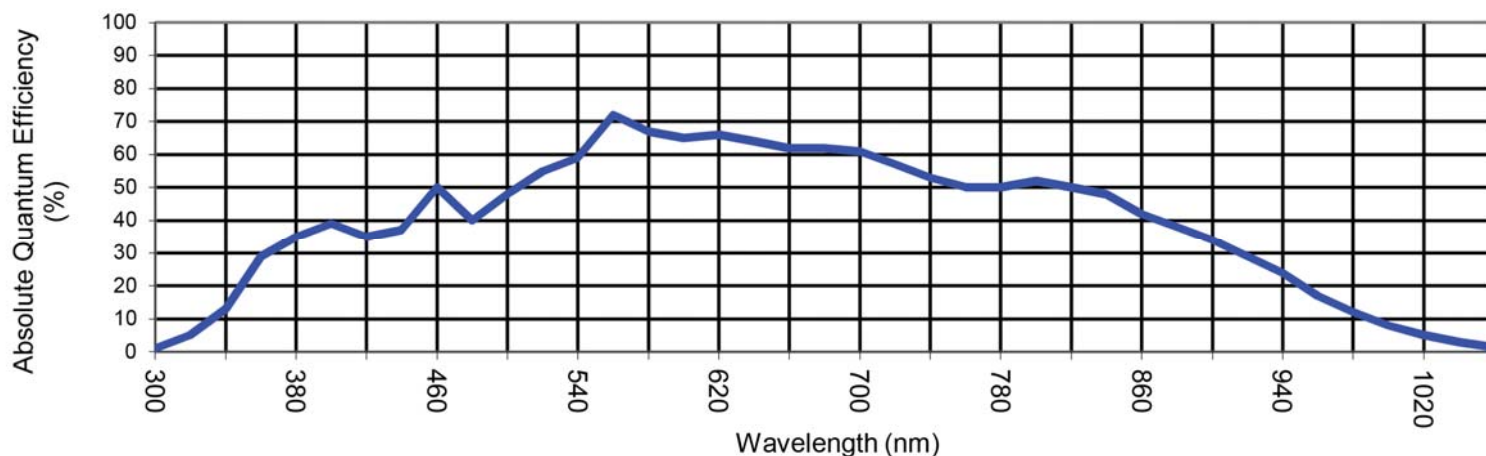
Because Your Image Depends On It.

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Sensor Specifications (from manufacturer)

Sensor	On Semi KAF-1001E	Sensor Size	24.5 X 24.5 mm	Megapixels	1
Pixels	1024 x 1024	Sensor Diagonal	34.6 mm	Video Size (inch)	2.2
Pixel Size	24 μ m	CCD Variants			
Full Well Capacity	900000 electrons	CCD Grades	1, 2		
Color Options	Monochrome	Anti-Blooming	None		
CCD Type	Front Illuminated				

Sensor Quantum Efficiency (Absolute)



Camera Performance

Typical Maximum Cooling	60°C Below Ambient°	Dark Current (typical)	0.02 electrons/pixel/sec at -35°C
Temperature Stability	0.1°C	Cooling Method	Air (Optional liquid)
Digitization Speed	1 MHz (low noise LN and high range HR modes) and 3.3 MHz (LN)		
Typical System Noise	10e- @ 1 MHz (LN); 15e- @ 3.3 MHz; 38e- (HR)	Non-Linearity	<1%
Housing Dimensions	6.2 X 6.2 X 3.8 inches (15.7 X 15.7 X 9.6 cm)	Weight	5.6 lbs (2.5 kg)
Focal Plane to Face Plate	21 mm		
Lens Mounts	Optional Nikon F-mount or Canon EOS mount		
Interface	USB 2.0	Camera Channels	1
Available Shutters	65 mm	Shutter MTBF	1000000
External Triggering	Standard		
Environment	-30°C to 45°C 10% - 90% Relative Humidity		
Power	12V (100-240V AC to 12V DC power supply included). With TEC off: <1A. TEC at 100%: 4.6A. Shutter open: 4A pulse for 100msec. Shutter held open, add 0.22A.		



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