

MicroLine ML4240 AM

Quality. Cooled. Cameras.

2048 x 2048 Imaging Array

13.5 μm Pixel Size

At 3.7 x 3.7 x 4.8 inches the MicroLine is a small camera with big camera capabilities. Each component of the MicroLine camera is designed and manufactured for a long life in the most demanding conditions. MicroLine download speeds are fast yet maintain the 16-bit resolution necessary to produce high quality images. MicroLine cameras can achieve up to 60°C below ambient cooling without water assist.

This version of the ML4240 uses a back-illuminated sensor on deep depletion silicon with an enhanced multilayer coating, giving high quantum efficiency across the visible and into the near infrared. Deep depletion silicon has substantially higher dark current than standard silicon.



Applications

- | | |
|---------------------|-------------------------|
| Digital Radiography | Gel Documentation |
| Astronomy | Forensic Imaging |
| Bioluminescence | Satellite Imaging |
| Chemiluminescence | Low Light Level Imaging |

Features

Benefits

500 kHz and 2 MHz digitization	Fast Image capture with full 16-bit resolution
2048 x 2048 Array with 13.5 μm pixels	Resolves fine detail
Flexible binning and readout	Increases frame rate
Thermoelectric Cooling to 60°C Below Ambient	Excellent low-noise imaging
Excellent quantum efficiency	High sensitivity for fast image acquisition
Optional Nikon or Canon lens 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.

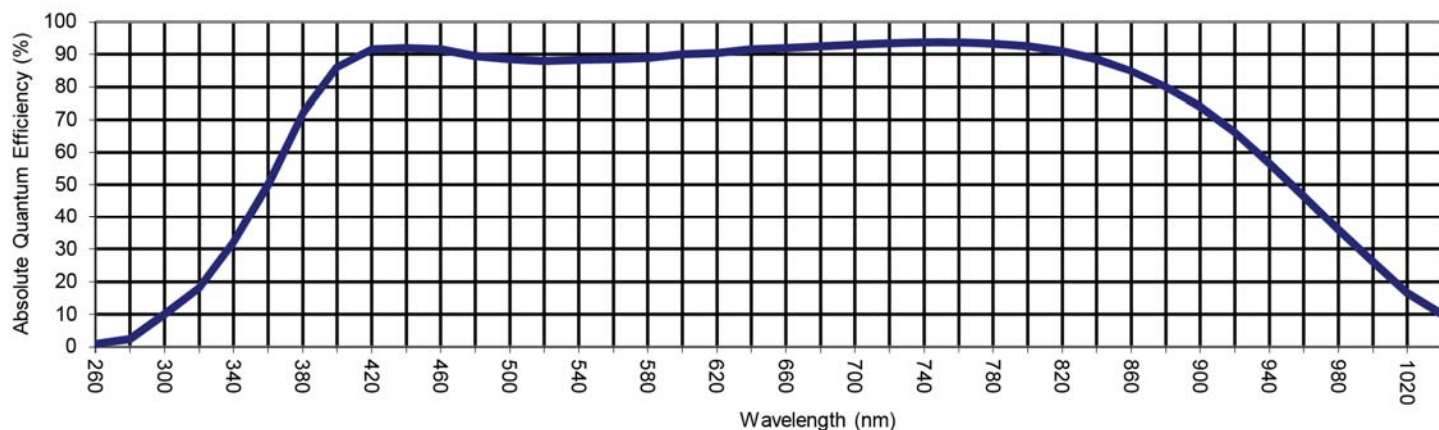
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*Due to continuous development, all specifications subject to change without notice.

Sensor Specifications (from manufacturer)

Sensor	e2v CCD42-40-1-S04 (Deep Depletion with Astro Multilayer-2 coating)				
Pixels	2048 x 2048	Sensor Size	27.6 X 27.6 mm	Megapixels	13.5 mp
Pixel Size	13.5 μ m	Sensor Diagonal	39 mm	Video Size (inch)	2.4
Full Well Capacity	100000 electrons	CCD Variants			
Color Options	Monochrome only	CCD Grades	1		
CCD Type	Full frame	Anti-Blooming	NA		

Sensor Quantum Efficiency (Absolute)



Camera Performance

Typical Maximum Cooling	60°C below ambient	Dark Current (typical)	15 electrons/pixel/sec at -40°C
Temperature Stability	0.1°C	Cooling Method	Air (Optional liquid)
Digitization Speed	500 kHz and 2MHz (up to 2 channels at 3 MHz each)		
Typical System Noise	13 e- at 500 kHz; 16 e- at 2 MHz	Non-Linearity	<1%
Focal Plane to Face Plate	15.7 mm	Weight	2.8 lbs (1.2 kg)
Typical Gain	1.7 e-/count	Housing	3.7 X 3.7 X 4.77 inches (9.3 X 9.3 X 12.1 cm)
Lens Mounts	Optional Nikon or Canon		
Interface	USB 2.0	Camera Channels	1
Available Shutters	45 mm		
External Triggering	Standard	Shutter MTBF	1000000
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%: 4.4A. Shutter open: 4A pulse for 100msec. Shutter held open, add 0.22A.		



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