

Deep Cooled Vacuum CCD

2048 x 2048 • 75kHz • High resolution fluorescence imaging •



Key Features and Benefits

- **Lifetime vacuum guarantee.**
Protection and integrity of the sensor
- **Extremely low dark current.**
Deep cooled to $> -110^{\circ}\text{C}$ delta enables long exposure times
- **Back illuminated 4MP sensor from e2v.**
Enables large field of view imaging
- **13.5 μm x 13.5 μm pixels.**
Enables ultra sharp image resolution
- **High QE: $>90\%$ @ 525nm and 50% @ 380nm & 720nm.**
Optimum photon collection



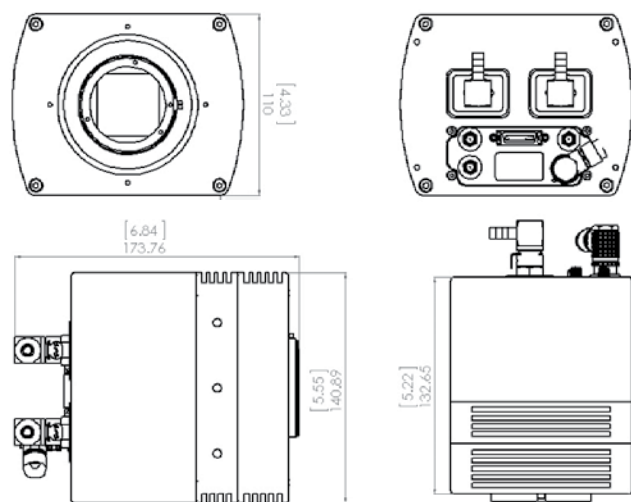
Resolution	2048 x 2048
Dark Current	0.0001 e/p/s
Full Well Capacity	100,000e-
Readout Noise	2.3e-rms
Cameralink	16bit

Specification for Eagle V CCD

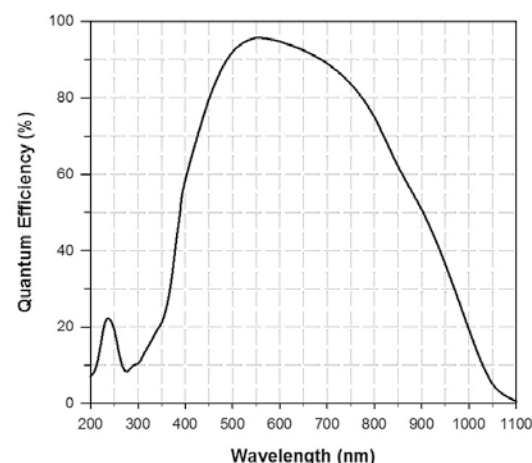
Sensor	E2V CCD42-40 Back Illuminated, AIMO
Active Pixel Array Size	(2048 × 2048) pixels
Pixel Size	13.5µm × 13.5µm
Active Area	27.65mm × 27.65mm (39.10mm diagonal)
Binning	Programmable, up to 64×64 pixels
Full Well Capacity	100 000 e ⁻
Non-Linearity	< 1%
Readout Noise	@ 75kHz pixel readout rate, 2.3 e ⁻ rms @ 2MHz pixel readout rate, 9.0 e ⁻ rms
Binned Read Noise	@75kHz pixel readout rate, 16×16 binning < 5.0 e ⁻ rms
Peak Quantum Efficiency (QE)	> 90% @ 550nm
Spectral Response	300nm-1050nm
Dark Current @ minimum temperature	0.0001 e ⁻ /pixel/second
Shutter	Mechanical, aperture φ = 45mm
Cooling	Active, ΔT > 110°C
Cooling Method	TEC with liquid (utilizing PentaVac™ Technology)
Lens Mount	Nikon F mount (others on request)
Synchronization	Trigger IN and OUT – TTL compatible
Digital Output	16-bit
Data Interface	CameraLink (base)
Power Supply	12V DC ±10%
Total Power Consumption	TEC OFF < 9W TEC ON < 100W
Operating Temperature Range	-20°C to +55°C
Storage Temperature Range	-40°C to +70°C
Dimensions	141mm x 133mm x 110mm
Weight (excluding lens)	3.0kg [6.6lb]

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Dimensions



Quantum Efficiency



Applications

- Adaptive Optics and Astronomy
- Calcium signaling
- Fluorescence imaging / spectroscopy
- High resolution fluorescence imaging
- Particle Imaging Velocimetry (PIV)

Ordering Information

Camera

Eagle Scientific CCD 4MP cooled digital B/W camera EA4240V-CL

Eagle Power Supply cable EA4240V-PSU

Optional Accessories

EPIX(R) EB1 base CL card RPL-EPIX-EB1

EPIX(R) XCAP STD software RPL-XCAP-STD

CameraLink Cable, 2m² RPL-CL-CBL-2M

Water cooler (Recommended coolant flow rate >0.5liters per min. & cooling capacity >100W @ 20°C) Contact us for order information

Optical lenses³ RPL-xx-xxxx

Note2: Longer CL cable available

Note 3: Please consult us to check our range of lenses

Demo is available on request.
Pricing AOR subject to volumes.

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