Eagle XV

e2v In-Vacuum Direct Detection Cooled CCD • High Resolution Soft X-ray Scientific Imaging
2048 x 2048 and 1024 x 1024 • 13.5µm × 13.5µm and 13µm × 13µm Pixel Pitch •

Key Features and Benefits

- **Choice of sensors, BN-DD and BN**
  Select the best QE for your application
- **Active / Passive cooling down to -80°C**
  Minimizing noise with Raptor cooling technology
- **Compact platform for In-Vacuum operation**
  Ideal for OEM integration with vacuum pressure <= 10^-5 mbar
- **Full range of Accessories**
  Including vacuum feedthroughs, cables, tubing etc

Resolution	**2048 × 2048** **1024 × 1024**
Digital output	**16 bit**
Non linearity	**< 1%**
Weight	**<1.5kg**

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Specification for Eagle XV

Sensor[1]	E2V 4240 Back Illuminated, AIMO	E2V 4710 Back Illuminated, AIMO
Active Pixel	2048 × 2048	1024 × 1024
Pixel Size	13.5µm × 13.5µm	13µm × 13µm
Active Area	27.6mm × 27.6mm	13.3mm × 13.3mm
Spectral Response	12eV - 20keV	
Image Pixel Well Depth	>80ke- (100ke- typical)	
Non Linearity	< 1%	
Typical Dark Current @ -80˚C	**BN-DD** ~ 0.016 e/p/s	**BN** ~ 0.0005 e/p/s
Readout Noise (RMS)	10e- @ 2MHz <3.5e- @ 75kHz	
Integration Times	Up to 60 mins	
Pixel Readout Rate	2MHz / 75kHz	
Readout Modes	Full 2D Image, Flexible Programmable Binning, ROI Selection	
Trigger Mode	Internal / External	
Digital Output Format	16 bit base Camera Link	
Cooling[2]	-80°C with 10°C coolant	
Synchronisation	Trigger IN and OUT – TTL compatible	
Power Supply	12V DC ±10%	
Total Power Consumption[3]	≤ 65W (TEC ON, Steady State)	
Operating Temperature	-20°C to +55°C	
Storage Temperature	-40°C to +70°C	
Dimensions (L*W*H)[4]	132.67mm x 110.00mm x 110.00mm	
Weight	<1.5Kg	

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

Ordering Information

Camera

Eagle 42-40 X-ray BN sensor	EA4240XV-BN-CL -II
Eagle 42-40 X-ray BN-DD sensor	EA4240XV-BNDD-CL-II
Eagle 47-10 X-ray BN sensor	EA4710XV-BN-CL-II
Eagle 47-10 X-ray BN-DD sensor	EA4710XV-BNDD-CL-II
Eagle XV Power Supply Unit	EAXV-PSU
Eagle XV Power Brick	EA-BRK-85W

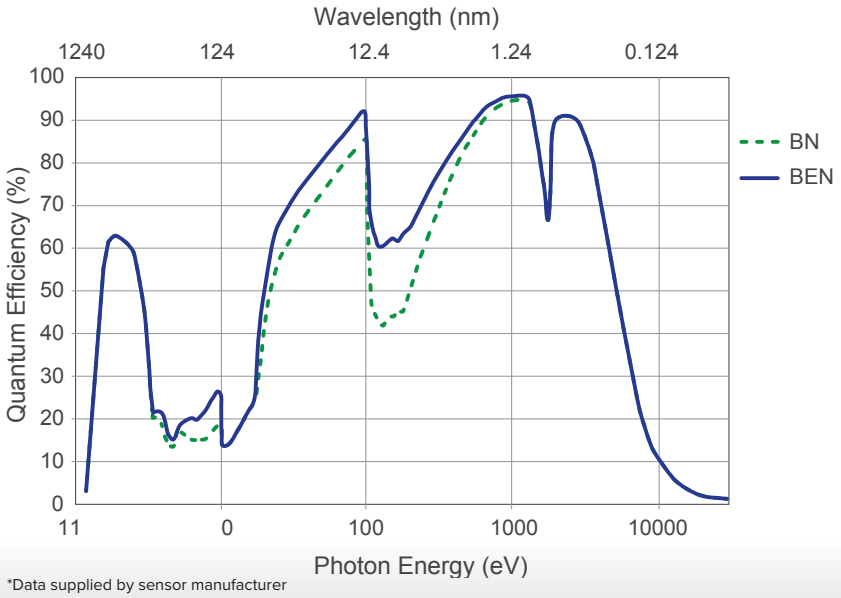
Optional Accessories

Power Feedthrough	RPL-PFC
Camera Link Feedthrough	RPL-CLFC
KF40 Liquid Feedthrough	RPL-DN40KF-WFC
2.75" CF Liquid Feedthrough	RPL-DN40CF-WFC
KF40 Trigger Feedthrough 2 SMAs	RPL-DN40KF-TFC
2.75" CF Trigger Feedthrough 2 SMAs	RPL-DN40CF-TFC
Air Side Water Tubing[5]	RPL-WTUBE-XV
Thunderbolt frame grabber	RPL-mf2280
EPIX® EB1 frame grabber	RPL-EPIX-EB1
EPIX® XCAP Std software	RPL-XCAP-STD
Camera Link Cable (2m)[6]	RPL-CL-CBL-2M
Mini PC with XCAP Std and frame grabber	RPL-PC-mf2280
Thermoelectric Water Chiller Unit[7]	RPL-CHILLER

Note 1: Other sensor format available.
Note 2: For important information about the vacuum pressure requirement before using the TEC, please refer to the user manual.
Note 3: For more detailed power consumption values, please refer to the user manual.
Note 4: Dimensions include all connector parts on the camera interface except for the coolant pipes. Please see the mechanical drawing for all measurements.
Note 5: Includes tubing and connectors.
Note 6: Longer Camera Link cable available.
Note 7: Recommended coolant flow rate >0.5l/min & cooling capacity >100W @ 20°C.

Detailed technical drawings can be downloaded at www.raptorphotonics.com

Quantum Efficiency



*Data supplied by sensor manufacturer

Applications

Scientific

- EUV X-Ray Spectroscopy
- Soft X-Ray Microscopy
- VUV/EUV/XUV Imaging and Lithography Crystallography
- X-Ray Diffraction (XRD) and X-Ray Fluorescence (XRF)
- X-Ray Imaging
- X-Ray Phase Contrast Imaging
- X-Ray Plasma Imaging and Diagnostics
- X-Ray source characterization
- X-Ray Tomography

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