Raptor photonics

Eagle 42-40

2048 x 2048, Vacuum CCD Camera



Key Features and Benefits

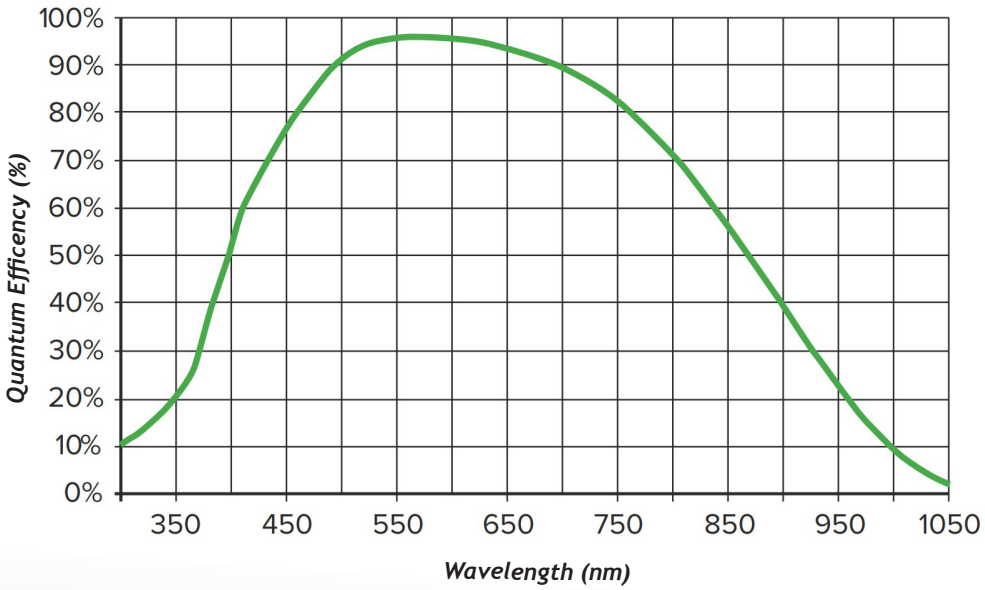
- **7 Year Vacuum Gurantee**
  Protection and integrity of the sensor
- **Back Illuminated 4MP sensor from e2v**
  Enables Large field of view imaging, UV options available
- **Low Noise Electronics**
  No artifical noise added, optmising low light capability
- **Extremly Low Dark Current**
  Cooled to -90ºC with 20ºC liquid coolant for extended exposures.
- **High QE**
  Optimum Photon Collection

Resolution	2048 x 2048
Dark Current	0.0001 e/p/s
Camera Link	16 bit
Readout Noise	2.6e-rms

Specification for Eagle 42-40 Camera Link

Sensor	E2V CCD42-40 Back Illuminated
Active Pixel	2048 x 2048
Pixel Pitch	13.5µm × 13.5µm
Active Area	27.65mm × 27.65 (39.10mm diagonal)
Binning	Programmable, up to 64×64 pixels
Full Well Capacity	Minimum: >80ke (Typical >100ke)
Non-Linearity	< 1%
Readout Noise (RMS)	<3.5e- @ 75kHz (2.6e-typical) <12e- @ 2MHz (9.0e-typical)
Binned Readout Noise	@75kHz pixel readout rate, 16×16 binning < 5.0 e- rms,
Peak Quantumn Efficeny	> 90% @ 550nm
Spectral Response	200 - 1100nm
Dark Current (e/p/s)	<0.001@ -90ºC (0.0001 typical)
Shutter	Mechanical, aperture φ = 45mm
Cooling	Active @ -90˚C with 20˚C coolant
Cooling Method	TEC with Air/Liquid (utilizing PentaVac™ Technology)
Lens Mount	Nikon F mount (others on request)
Synchronization	Trigger IN and OUT - TTL compatible
Digital Output Format	16-bit Camera Link (base)
Power Supply	12V DC ±10%
Camera Power Consumption[2]	<100W (TEC ON, Steady State)
Operating Temperature	0˚C to +55˚C
Storage Temperature	-30˚C to +60˚C
Dimensons(excluding standard mounting)[3]	171mm x 126mm x 118mm
Weight	2.4Kg

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*Data Supplied by Sensor Manufacturer

Specification for Eagle 42-40

Camera

Eagle CCD 4MP Deepcooled Digital Camera (Back thinned visible)	EA4240V-BV-CL
Eagle Power Brick	EA-BRK-150W
Eagle PSU	EA4240V-PSU

Optional Accessories

Mini PC with XCAP STD and Frame Grabber	RPL-PC-mf2280
Thunderbolt Frame Grabber	RPL-mf2280
EPIX® EB1 Frame Grabber	RPL-EPIX-EB1
EPIX® XCAP STD Software	RPL-XCAP-STD
CameraLink Cable (2m)[4]	RPL-MCL-CBL-2M
Thermoelectric Water Chiller Unit (3m)[5]	RPL-Chiller
Water Tubing[6]	RPL-WTUBE-EAGLE
Optical Lenses[7]	RPL-xx-xxx

Applications

- Astronomy
- BioChip reading
- Bio / Chemi luminescence
- Bose Einstein condensate (BEC)
- Calcium signaling
- Fluorescence imaging / Spectroscopy
- Luminescence
- Photovoltaic
- Semiconductor analysis
- X-ray

For detailed tehnical drawings, volume pricing or to set up a demo, contact us at sales@raptorphotonics.com

Document#: INTEAGLE47-10-CL-0525

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