Raptor photonics

Eagle 47-10

1056 x 1027, Vacuum CCD Camera

Preliminary



Key Features and Benefits

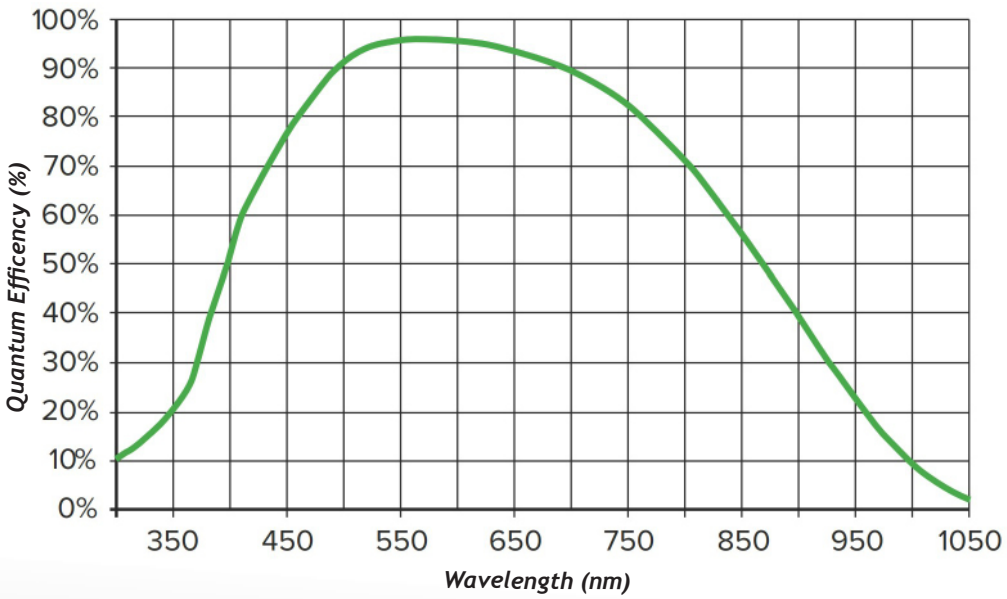
- **7 Year Vacuum Gurantee**
  Protection and integrity of the sensor
- **Back Illuminated 1MP sensor from e2v**
  Enables Large field of view imaging, UV options available
- **Low Noise Electronics**
  Optmising low light capability
- **Extremly Low Dark Current**
  Cooled to -90°C with +20°C liquid coolant for extended exposures.
- **High QE**
  Optimum Photon Collection

Resolution	1056 x 1027
Dark Current	0.0001 e/p/s
Camera Link	16 bit
Readout Noise	2.8e-rms

Specification for Eagle 47-10 Camera Link

Sensor[1]	E2V CCD47-10 Back Illuminated
Active Pixel	1056 × 1027
Pixel Pitch	13µm × 13µm
Active Area	13.73mm × 13.35mm (19.15mm diagonal)
Binning	Programmable, up to 8×8 pixels
Full Well Capacity	Minimum: 60ke (Typical 100ke)
Non-Linearity	< 1%
Readout Noise (RMS)	<3.5e- @ 75kHz (2.8e-typical) <12e- @ 2MHz (9.0e-typical)
Binned Readout Noise	@75kHz pixel readout rate, 8×8 binning < 6.0 e- rms
Peak Quantumn Efficeny	> 90% @ 550nm
Spectral Response	200 - 1100nm
Dark Current (e/p/s)	<0.001@ -90°C (0.0001 typical)
Shutter	Mechanical, aperture φ = 25mm
Cooling	-90°C with +20°C coolant / -80°C air cooled with +25°C ambient
Cooling Method	TEC with liquid (utilizing PentaVac™ Technology)
Lens Mount	C 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]	<60W (TEC ON, Steady State)
Operating Temperature	0°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensons(excluding standard mounting)[3]	143mm x 126mm x 118mm
Weight	2.3Kg

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*Data Supplied by Sensor Manufacturer

Specification for Eagle 47-10

Camera

Eagle CCD 1MP Deepcooled Digital Camera (Back thinned visible)	EA4710V-BV-CS-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

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

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