Kestrel

Digital Scientific Frame Transfer EMCCD
128 x 128 • 24µm x 24µm pixels • Cooled to -20˚C •

PRELIMINARY

Key Features and Benefits

Ultra low noise readout with THE FASTEST speeds

- **500 frames per second**
  Full resolution speed making it the fastest EMCCD on the market
- **128 x 128 Back-thinned EMCCD sensor**
  Enables optimum image resolution in low light imaging applications
- **16 bit Camera Link output**
  Realtime imaging for low latency photon to digital image
- **Up to 95% QE from back-illuminated sensor**
  Optimum Photon collection
- **Strong UV and NIR reponse and ultrawide bandwidth**
  From 200nm through to 1100nm

Resolution	**128 x 128**
Pixel Size	**24µm x 24µm**
Readout Noise	**<1e**
Frame Rate	**500fps**
Camera Link	**16bit**

Raptor photonics

www.raptorphotonics.com

Specification for Kestrel

Sensor Type	1/3" Back Thinned Frame Transfer EMCCD
Active Pixel	128 x 128
Pixel Size	24µm x 24µm
Active Area	3.1mm x 3.1mm
Full Well Capacity	160ke-
Shift Register Well Depth	800ke-
Non-linearity	<1%
Readout Noise (RMS)	EM Gain ON: <1 electrons EM Gain OFF: <60 electrons
Full Resolution Frame Rate	>500fps
Dark Current (e/p/s)	0.01 @ -20°C
Digital Output Format	16 bit Camera Link (base configuration)
Peak Quantum Efficiency	95%
Spectral Response	300 - 1100nm
TE Cooling	-20°C
Binning	1 x 1 up to 32 x 32
Lens Mount	C-Mount
Synchronisation	Trigger IN and OUT - TTL compatible
Power Supply	12V DC ±10%
Total Power Consumption	<80W
Operating Case Temperature[1]	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions (L*W*H)[2]	129mm x 112mm x 94mm
Weight (no lens)	< 1.5kg

Ordering Information

Camera

Kestrel EMCCD digital camera	KE60V-BV-CL
Power Supply Unit	RPL-HR4-K

Optional Accessories

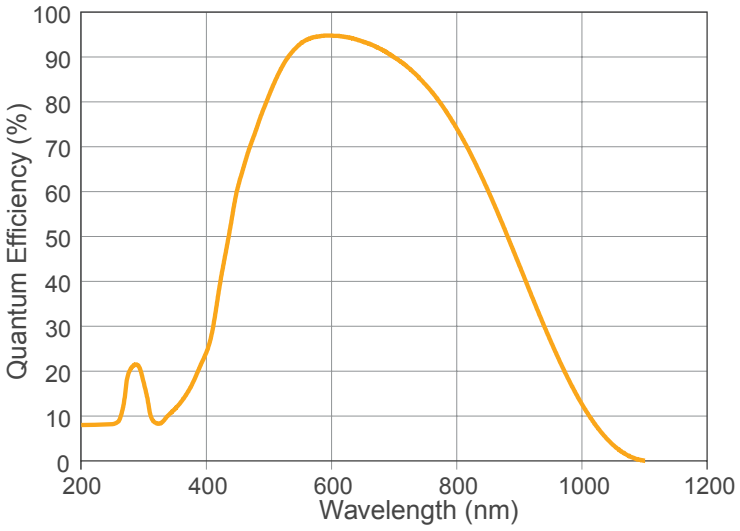
Mini PC with Xcap STD and frame grabber	RPL-PC-EL1
EPIX® EB1 base CL card	RPL-EPIX-EB1
EPIX® XCAP STD software	RPL-XCAP-STD
Camera Link Cable, 2m[3]	RPL-MCL-CBL-2M
Thermoelectric Water Chiller Unit	RPL-CHILLER
Chiller Tubing	RPL-WTUBE-NINOX
Optical Lenses[4]	RPL-xx-xxxx

Note 1: Extended operating temperature range on request.
Note 2: Dimensions include all connector parts on camera interface
Note 3: Longer CL cable available up to 25M
Note 4: Please consult us to check our range of lenses

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

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

Quantum Efficiency



Applications

- Adaptive Optics and Astronomy
- Calcium signaling
- Fluorescence imaging / spectroscopy
- Flow cytometry
- FRET / FRAP / TIRF
- Genome sequencing
- High content screening
- High resolution fluorescence imaging
- Hyperspectral imaging
- Live Cell Imaging
- Photon counting
- Single molecule detection
- Solar cell inspection
- X-ray & High energy

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