

Kestrel 1000

Digital Scientific Frame Transfer EMCCD

128 x 128 • 24 μ m x 24 μ m pixels • Cooled to -20°C • 1800fps •



Key Features and Benefits

Ultra low noise readout with THE FASTEST speeds

- **Up to 1800 fps with ROI, 1000 fps in full resolution**

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 VIS and NIR response and ultrawide bandwidth**

From 350nm through to 1100nm

Resolution	128 x 128
Pixel Size	24μm x 24μm
Readout Noise	<1e
Frame Rate	1,000fps
Camera Link	16bit

Specification for Kestrel 1000

Sensor Type	1/8" 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-
Non-linearity	<1%
Readout Noise (RMS)	EM Gain ON: <1e- EM Gain OFF: 200e- Typical
Full Resolution Frame Rate	1,000fps
Dark Current (e/p/s)	<1 @ -20°C
Digital Output Format	16 bit Camera Link (base configuration)
Peak Quantum Efficiency	95%
Spectral Response	350 - 1100nm
TE Cooling	-20°C
Binning	1x1 up to 2x2
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	121mm x 140mm x 113mm
Weight (no lens)	< 1.5kg

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Ordering Information

Camera

Kestrel 1000 EMCCD digital camera	KE60V1000-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
MDR-SDR 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

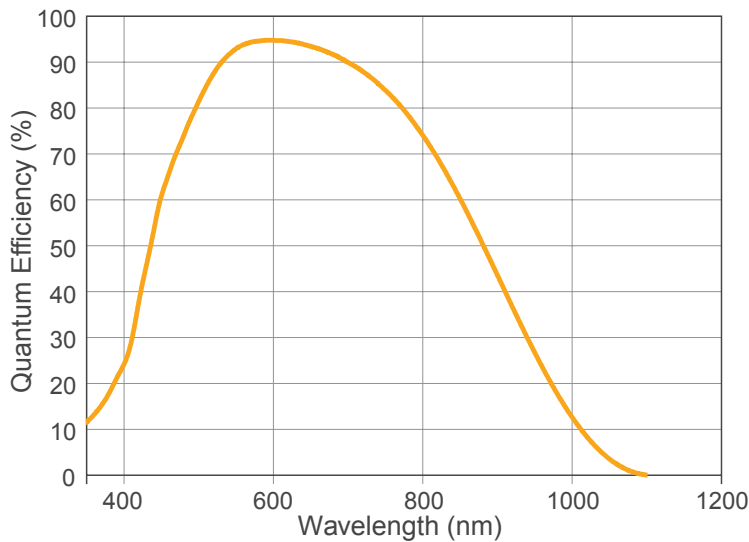
Note 3: Longer CL cable available up to 25M

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



*Data supplied by sensor manufacturer

Applications

- Adaptive Optics and Astronomy
- Calcium signaling
- High resolution fluorescence imaging
- Hyperspectral imaging
- X-ray & High energy
- Particle Image Velocimetry
- High speed object tracking

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