

Kingfisher

Sony ICX674 / ICX 694 Deep Cooled Vacuum CCD

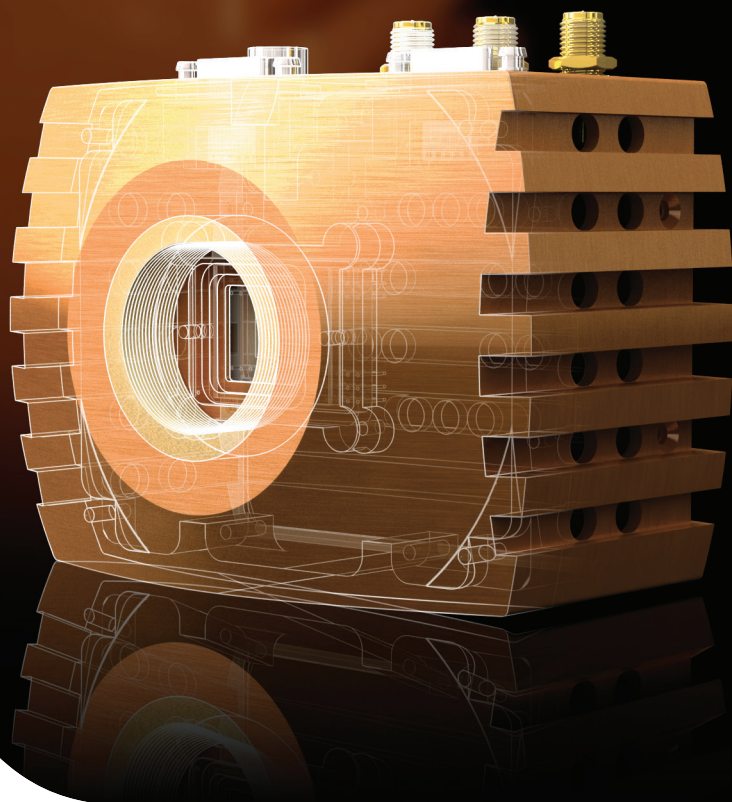
Digital Monochrome 2.8MP / 6MP Scientific CCD Camera



Preliminary



Incorporating
PentaVac
Technology



Key Features and Benefits

Perfect for staring applications!

- **Lifetime vacuum guarantee**
Protection and integrity of the sensor
- **Extremely low dark current.**
Deep cooled to -111°C delta enables long exposure times.
- **Choice of 2.8MP / 6MP sensor.**
Enables large field of view imaging.
- **$4.54\mu\text{m} \times 4.54\mu\text{m}$ pixels.**
Enables ultra sharp image resolution.
- **High QE: $>77\%$ @ 525nm and $>50\%$ @ 380nm & 720nm.**
Optimum Photon collection.

Resolution

- ICX674 - 1940 x 1460
- ICX694 - 2750 x 2200

Dark Current

0.000001 e/p/s

Dynamic Range

65dB

Readout Noise

$<1.75\text{e}$ Noise

Cameralink

16 bit



..... Capturing Tomorrow

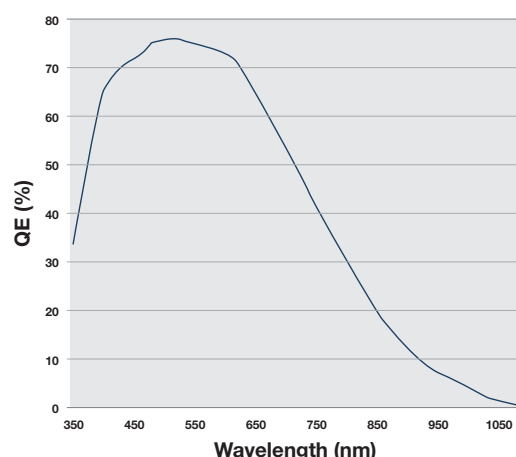
Specification for Kingfisher Sony CCD

Sensor	SONY ICX674	SONY ICX694
	Interline scientific CCD	Interline scientific CCD
Sensor Type	2/3" Scientific CCD	1" Scientific CCD
Active Pixel	1940 x 1460	2750 x 2200
Pixel Size	4.54µm x 4.54µm	4.54µm x 4.54µm
Active Area	8.81mm (H) x 6.63mm (V)	12.49mm (H) x 9.99mm (V)
Full Well Capacity	12000 electrons	
Non Linearity	< 1%	
Readout noise	< 1.75 electrons (Global Shutter)	
Frame Rate	6Hz full frame	
Peak Quantum Efficiency	77% @ 525nm 50% @ 380nm & 720nm	
Spectral response	310 - 1100nm	
Dark Current @ min. temp	< 0.000001 electrons/pixel/sec	
Shutter mode	Global Shutter (Snapshot)	
Cooling	Active	
Cooling Method	TEC with water (Pentavac Technology)	
Lens Mount	C mount	
Synchronisation	Trigger IN and OUT - TTL compatible	
Power Supply	12V DC ±10%	
Total power consumption	< 8W without TEC < 50W with TEC ON	
Operating case temperature ¹	-20°C to +55°C	
Storage Temperature	-40°C to +85°C	
Dimensions	109mm x 85mm x 76.5mm	
Weight (no lens)	553g	

Raptor Photonics Limited reserves the right to change this document at any time without notice and disclaims liability for editorial, pictorial or typographical errors.

Note 1: Extended Operating Temperature range on request

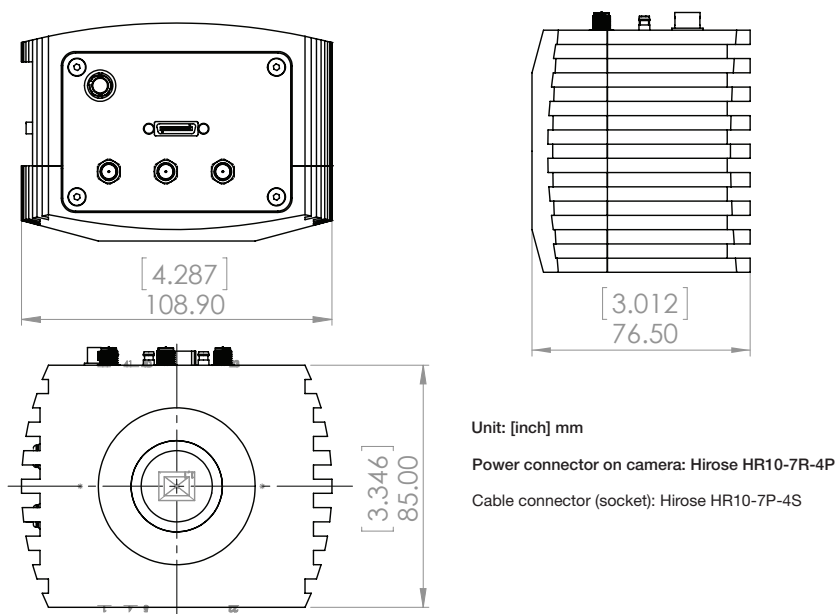
Quantum Efficiency



Sample Applications

- Adaptive Optics and Astronomy
- Bio & Chemi-luminescence
- Calcium signaling
- Fluorescence imaging / spectroscopy
- Flow cytometry
- FRET / FRAP / TIRF
- Genome sequencing
- High content screening
- High resolution fluorescence imaging
- Hyperspectral imaging
- Live Cell Imaging
- Particle Imaging Velocimetry (PIV)
- Single molecule detection
- Solar Cell Inspection

Dimensions



Document #: KF674v / KF694V 101212R1

Ordering Information

Camera

Kingfisher Scientific CCD 2.8MP cooled digital B/W camera KF674v-CL

Kingfisher Scientific CCD 6MP cooled digital B/W camera KF694v-CL

Kingfisher Power Supply cable RPL-HR4-K

Optional Accessories

EPIX EB1 base CL card RPL-EPIX-EB1

Epix XCAP STD software RPL-XCAP-STD

Mini CameraLink Cable, 2m² RPL-MCL-CBL-2M

Optical lenses³ RPL-xx-xxxx

Note 2: Longer CL cable available

Note 3: Please consult us to check our range of lenses