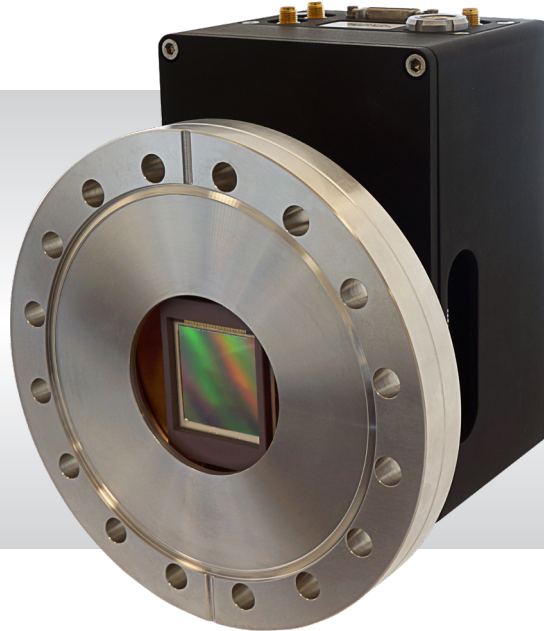


Falcon III – XO

Open Front • Digital Monochrome Scientific Frame Transfer EMCCD • 1024 x 1024 •
10µm x 10µm pixels • Cooled to -70°C • 1MP Scientific • 31.5fps in full frame •



Key Features and Benefits

Fastest Scientific X-ray camera on the market

- **Open front end**
CF152 (6") flange for direct interfacing to vacuum chambers
- **Back Illuminated with no coating**
Optimises sensitivity and large field of view imaging from 1.2keV to 20keV
- **Fast frame in full resolution: 31.5fps**
Ideal for full frame imaging with fast repetition lasers
- **Deep cooled to -70°C**
For minimal background events

Resolution	1024 x 1024
Pixel Size	10µm x 10µm
Readout Noise	<1e-
Frame Rate	31.5fps
Camera Link	16bit

PRELIMINARY

Specification for Falcon III - XO

Sensor Type	1" Back Thinned Frame Transfer EMCCD
Active Pixel	1024 x 1024
Pixel Size	10µm x 10µm
Active Area	10.2mm x 10.2mm
Full Well Capacity	35ke-
Shift Register Well Depth	200ke-
Non-Linearity	<1%
Readout Noise (RMS)	EM Gain ON: <1 electrons EM Gain OFF: <50 electrons
Full Resolution Frame Rate	31.5fps
Exposure Time	1ms to >1hr
Dark Current (e/p/s)	0.001 @ -70°C
Digital Output Format	16 bit Camera Link (base configuration)
Peak Quantum Efficiency	>90%
Spectral Response	1.2eV to 20KeV
Cooling ¹	-70°C
Binning	1x1 up to 32x32
Synchronisation	Trigger IN and OUT - TTL compatible
Power Supply	12V DC ±0.5V
Total power consumption	<100W
Operating case temperature	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions (L*W*H)	120.9mm x 140.2mm x 113.1mm
Weight	<2.5Kg
Flange ²	CF152 (6")

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Ordering Information

Camera

Falcon III -XO EMCCD 1MP	FA351XO-BN-CL
Power Supply Unit	FA-PSU-III

Optional Accessories

Mini PC with Xcap STD and frame grabber	RPL-MINI-EL1
EPIX® EB1 base CL card	RPL-EPIX-EB1
EPIX® XCAP STD software	RPL-XCAP-STD
Camera Link Cable, (2m) ³	RPL-CL-CBL-2M
Thermoelectric Water Chiller Unit	RPL-CHILLER
Chiller Tubing	RPL-WTUBE-NINOX

Note 1: The CCD sensor must be operated in a non condensing environment, otherwise permanent damage may occur. Vacuum pressures $\leq 10^{-5}$ mbar are required to achieve maximum cooling performance.

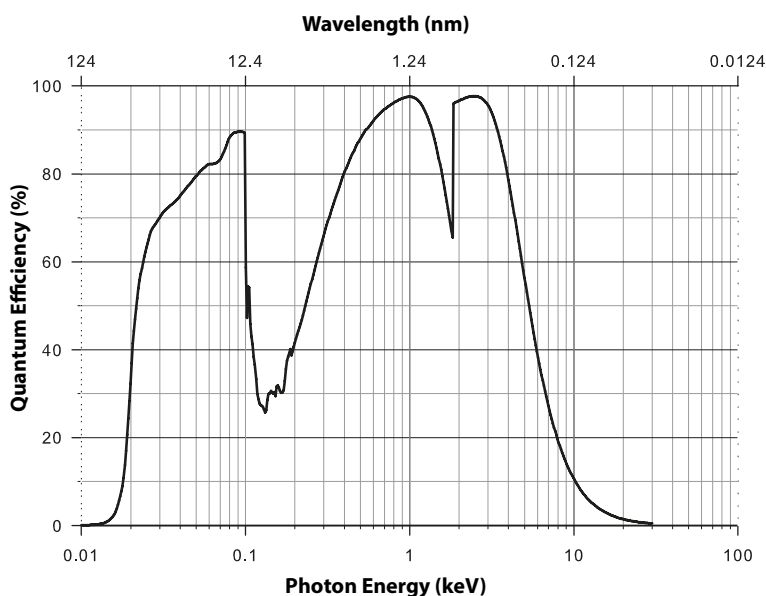
Note 2: Other flange options available.

Note 3: Longer CL cable available.

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

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

Quantum Efficiency



Applications

- X-ray imaging and fluorescence (XRF)
- X-Ray Diffraction (XRD)
- X-ray microscopy
- RIXS
- VUV/EUV/XUV Spectroscopy
- Thin films and nanofibers
- Material Composition and Structure
- X-ray plasma diagnostics
- Holography and lithography

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