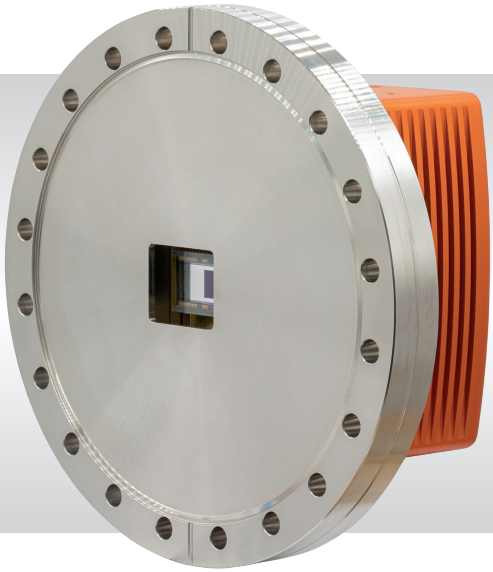
Falcon III – XO

Open Front • Digital Scientific Frame Transfer EMCCD •
1024 x 1024 • 10µm x 10µm Pixel Pitch • Cooled to -70˚C • 31Hz in Full Frame •



Key Features and Benefits

Fastest Scientific X-ray camera on the market

- **Open front end**
  DN160CF (8”) flange for direct interfacing to vacuum chambers
- **Back Illuminated with no coating**
  Optimises sensitivity and large field of view imaging from 12eV to 20keV
- **Fast frame in full resolution: 31Hz**
  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	**31Hz**
Camera Link	**16 bit**

Raptor photonics

www.raptorphotonics.com

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	>29ke-
Shift Register Well Depth	200ke-
Non-Linearity	<1%
Readout Noise (RMS)[1]	EM Gain ON: <1e- EM Gain OFF: <60e-
Full Resolution Frame Rate	31Hz
Exposure Time[2]	1ms to >1hr
Dark Current (e/p/s)	0.001 @ -70°C
Digital Output Format	16 bit Camera Link (Base configuration / SDK)
Peak Quantum Efficiency	>95%
Spectral Response	12eV to 20KeV
Cooling	-40°C with fan / -70°C with 20°C liquid & fan
Binning	1x1 up to 8x8
Synchronisation	Trigger IN and OUT - TTL compatible
Power Supply	12V DC ±10%
Total Power Consumption	<75W (TEC ON, Steady State)
Operating Case Temperature	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions (L*W*H) incl. flange	116mm x 202.5mm x 202.5mm
Weight	<6.5kg
Flange[3]	DN160CF (8")

Ordering Information

Camera

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

Optional Accessories

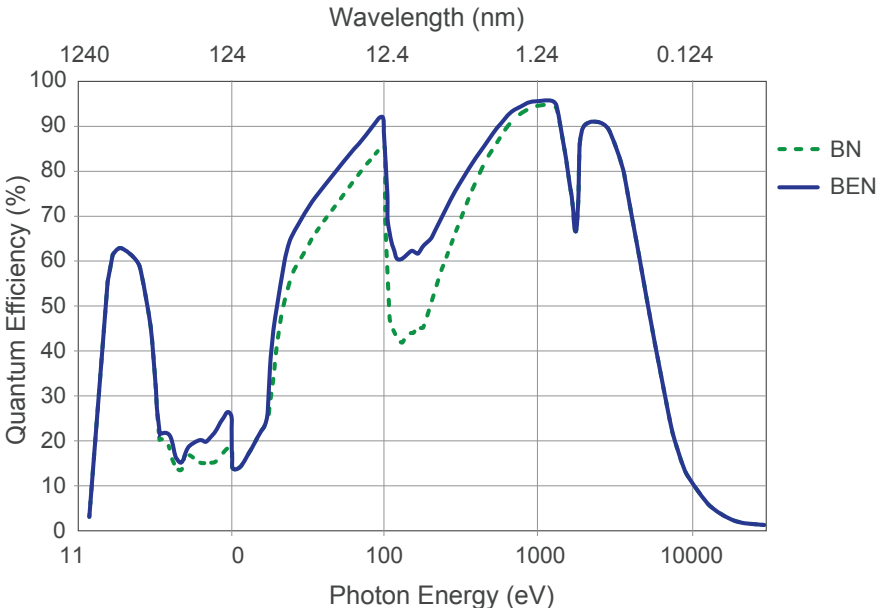
Mini PC with XCAP Std and frame grabber	RPL-PC-mf2280
Thunderbolt frame grabber	RPL-mf2280
EPIX® EB1 frame grabber	RPL-EPIX-EB1
EPIX® XCAP Std software	RPL-XCAP-STD
MDR-SDR Camera Link Cable[4]	RPL-CL-CBL-2M
Thermoelectric Water Chiller Unit[5]	RPL-CHILLER
Chiller Tubing (3m)[6]	RPL-WTUBE-NINOX

Note 1: Measured at 10MHz pixel readout speed.
Note 2: In practice, the maximum exposure time will be dark current limited.
Note 3: Other flange options available such as ISO-K-DN100.
Note 4: Longer Camera Link cable available on request.
Note 5: Recommended coolant flow rate >0.5l/min & cooling capacity >100W @ 20°C.
Note 6: Includes tubing and connectors.

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

Scientific

- 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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