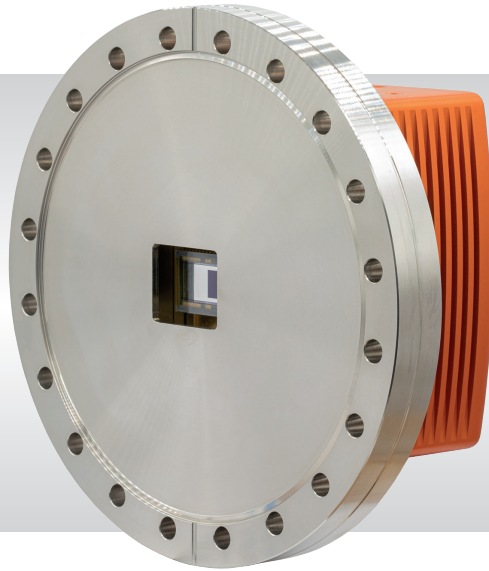


Falcon III – XO

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

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")

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

Ordering Information

Camera

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

Optional Accessories

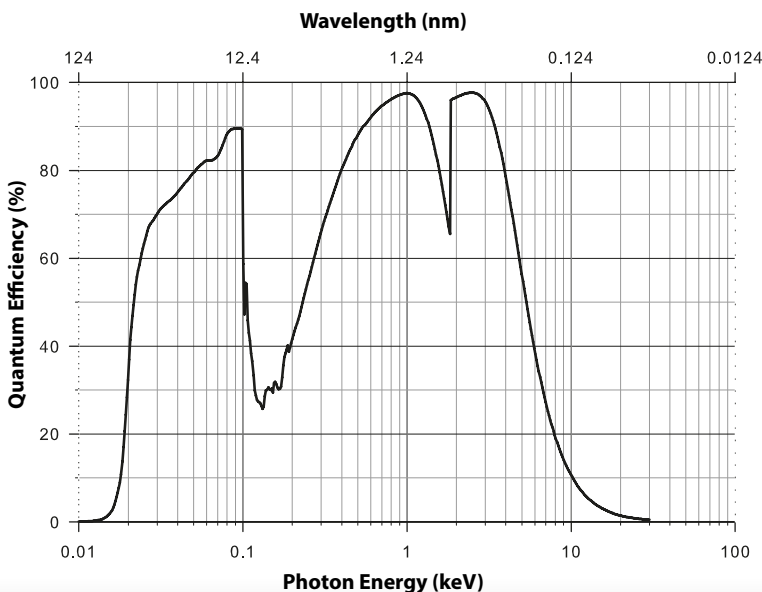
Mini PC with XCAP Std and frame grabber	RPL-MINI-EL1
EPIX® EB1 frame grabber	RPL-EPIX-EB1
EPIX® XCAP Std software	RPL-XCAP-STD
MDR-SDR Camera Link Cable ⁴	RPL-CL-CBL-2M
Thermoelectric Water Chiller Unit ⁵	RPL-CHILLER
Chiller Tubing (3m) ⁶	RPL-WTUBE-NINOX

- 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



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

Document #: USFA351XO-BN-CL 1020



Willowbank Business Park
Larne, Co Antrim
BT40 2SF,
Northern Ireland

Raptor Photonics Ltd. (UK)
T: +44(0)2828 270 141
E: sales@raptorphotonics.com
www.raptorphotonics.com

Raptor Photonics Inc. (USA)
T: +1 (877) 230-4836
E: sales@raptorphotonics.com
www.raptorphotonics.com

