Ninox 640 II

Ultra low noise, cooled, digital VIS-SWIR camera
640 x 512 • 15µm x 15µm Pixel Pitch • 18 electrons (HG) • Air Cooled to -15˚C •

Key Features and Benefits

The best performing VIS-SWIR camera in the World!

- **Air Cooled VIS-SWIR technology**
  Air Cooled to -15°C. Enables low dark current for longer exposures
- **15µm x 15µm Pixel Pitch**
  Enables highest resolution VIS-SWIR image
- **Ultra Low Noise Sensor: 18e- in High Gain**
  Enables ultimate low light Vis-SWIR image
- **Ultra High Intra-scene Dynamic range - 73dB (Typical)**
  Enables similtaneous capture of bright & dark portions of a scene

Resolution	**640 x 512**
Frame Rate	**up to 120Hz**
Readout Noise	**18e- (typical)**
Spectral Response	**0.4µm - 1.7µm**
Typical Dark Current	**<750e-**

Raptor photonics

www.raptorphotonics.com

Specification for Ninox 640 II

Sensor Type	InGaAs PIN-Photodiode
Active Pixel	640 x 512
Pixel Pitch	15µm x 15µm
Active Area	9.6mm x 7.68mm
Spectral Response[1]	0.4µm to 1.7µm
Readout Noise (RMS)[2] **LG = Low Gain HG = High Gain**	LG: <175e- (150e- typical) HG: <22e- (18e- typical)
Peak Quantum Efficiency	>90% @ 1.3µm
Full Well Capacity	LG: 650ke- HG: 10ke-
Pixel Operability	>99.5%
Dark Current (e/p/s)	<1,500 @ -15°C (750 typical)
Digital Output Format	14bit Camera Link (Base Configuration)
Exposure Time[3]	LG: 10µs to 26.8s HG: 100µs to 26.8s
Shutter Mode	Global shutter
Frame Rate	Up to 120Hz
Optical Interface	C-mount (selection of SWIR lens available)
Dynamic Range (Typical)	LG: 73dB HG: 55dB
Trigger Interface	Trigger IN and OUT - TTL compatible
Power Supply	12V DC ±5%
TE Cooling	Cooled to -15°C, ΔT = 35°C
Image Correction	3 point NUC (offset, Gain & Dark Current) + pixel correction
Functions controlled by serial communication	Exposure, intelligent AGC, Non Uniformity Correction, Gamma, Pk/Av, TEC, ROI
Camera Power Consumption[4]	<10W with TEC ON, NUC ON)
Operating Case Temperature[5]	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions (L*W*H)[6]	87.30mm x 78.86mm x 79.30mm
Weight	550g

Ordering Information

Camera

Ninox 640 II Digital Camera	NN1.7-VS-CL-640
Power Supply Cable	RPL-HR4-K

Optional Accessories

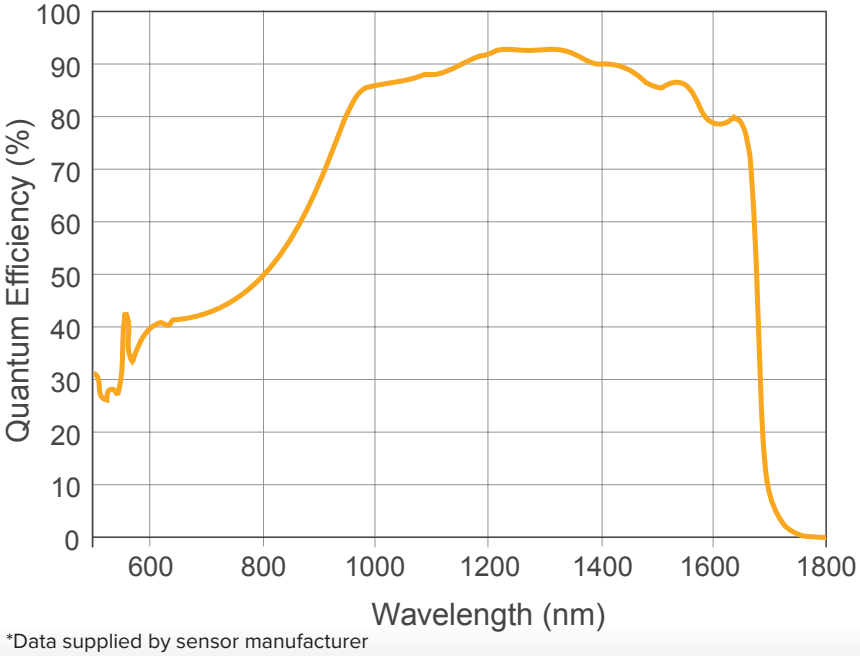
Mini PC with XCAP Std and frame grabber	RPL-PC-EL1
EPIX® EB1 frame grabber	RPL-EPIX-EB1
EPIX® XCAP Std software	RPL-XCAP-STD
Camera Link Cable (2m)[7]	RPL-MCL-CBL-2M
Thermoelectric Water Chiller Unit[8]	RPL-CHILLER
Chiller Tubing[9]	RPL-WTUBE-NINOX
Optical Lenses[10]	RPL-xx-xxxx

Note 1: Optional filters available: low, high or bandpass.
Note 2: Typical readout noise is calculated from an average of the last 20 cameras shipped..
Note 3: In practice, the maximum exposure time will be dark current limited.
Note 4: Measured in an ambient of 25°C with adequate heat sinking. For more detailed power consumption values, please refer to the user manual.
Note 5: Extended Operating Temperature range available on request.
Note 6: Dimensions include all connector parts on the camera interface.
Note 7: Longer Camera Link cable available.
Note 8: This includes the chiller and the liquid. Recommended coolant flow rate >0.5l/min & cooling capacity >100W @ 20°C.
Note 9: This includes the tubing & connectors.
Note 10: 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

Scientific

- Astronomy
- Beam Profiling
- Hyperspectral Imaging
- Semiconductor Inspection
- Solar Cell Inspection
- Thermography
- Microscopy
- Art Inspection

Document #: INNN1.7-VS-CL-640 0120

Raptor photonics

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