

# Ninox 1280 VIS-SWIR

High resolution, low noise, cooled, digital VIS-SWIR camera  
1280 x 1024 • Cooled to  $-15^{\circ}\text{C}$  •  $<50\text{e}$  readout noise in high gain •



## Key Features and Benefits

*The best performing Scientific VIS -SWIR camera in the World!*

- **Cooled VIS-SWIR technology**  
Cooled to  $-15^{\circ}\text{C}$ . Enables low dark current for longer exposures
- **$10\mu\text{m} \times 10\mu\text{m}$  pixel pitch**  
Enables highest resolution VIS-SWIR image
- **$<50$  electrons readout noise in high gain**  
Enables highest VIS-SWIR detection limit
- **Ultra high intrascene dynamic range - 68dB (Typical)**  
Enables simultaneous capture of bright & dark portions of a scene
- **On-board intelligent 3 point NUC**  
Enables highest quality images

Resolution	<b>1280 x 1024</b>
Frame Rate	<b>10 to 60Hz</b>
Camera Link	<b>12 bit</b>
Wavelength Range	<b>VIS-SWIR</b>
Dark Current	<b><math>&lt;1,500</math> e/p/s</b>

## Specification for Ninox 1280 VIS-SWIR

Sensor Type	InGaAs PIN-Photodiode
Active Pixel	1280 x 1024
Pixel Pitch	10µm x 10µm
Active Area	12.8mm x 10.24mm
Spectral Response <sup>1</sup>	0.4µm to 1.7µm
Readout Noise (RMS) LG = Low Gain HG = High Gain	LG: <190 electrons (160 electrons typical) HG: <50 electrons (47 electrons typical)
Quantum Efficiency	>80% @ 1.55µm
Full Well Capacity	LG: 450ke- HG: 10ke-
Pixel Operability	>99.5%
Dark Current (e/p/s)	<1,500 @ -15°C
Digital Output Format	12bit Camera Link (Medium Configuration)
Exposure Time	LG: 300µs to [Frame Period – Readout Time] HG: 600µs to [Frame Period – Readout Time]
Shutter Mode	Global shutter
Frame Rate	10 – 60Hz
Optical Interface	C-mount (selection of SWIR lens available)
Dynamic Range	LG: 69dB HG: 47dB
Trigger Interface	Trigger IN and OUT - TTL compatible
Power Supply	12V DC ±0.5V
TE Cooling	Active, 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 <sup>2</sup>	<10w (Typical)
Operating Case Temperature <sup>3</sup>	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions (L*W*H) <sup>4</sup>	87.30mm x 78.86mm x 79.30mm
Weight	550g

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## Ordering Information

### Camera

Ninox 1280 VIS-SWIR digital camera	NX1.7-VS-CL-1280
Power Supply Cable	RPL-HR4-K

### Optional Accessories

Mini PC with Xcap STD and frame grabber	RPL-PC-EL1
EPIX® E8 base CL card	RPL-EPIX-E8
EPIX® XCAP STD software	RPL-XCAP-STD
Camera Link Cable, 2m (x2) <sup>5</sup>	RPL-MCL-CBL-2M
Liquid Recirculator Unit <sup>6</sup>	RPL-RECIRC
Chiller Tubing <sup>7</sup>	RPL-WTUBE-NINOX
Optical Lenses <sup>8</sup>	RPL-xx-xxxx

Note 1: Optional filters available: Low, High or bandpass  
Note 2: Measured @ 30°C

Note 3: Extended Operating Temperature range on request  
Note 4: Dimensions include all connector parts on camera interface

Note 5: Two cables required

Note 6: This includes the chiller and the liquid

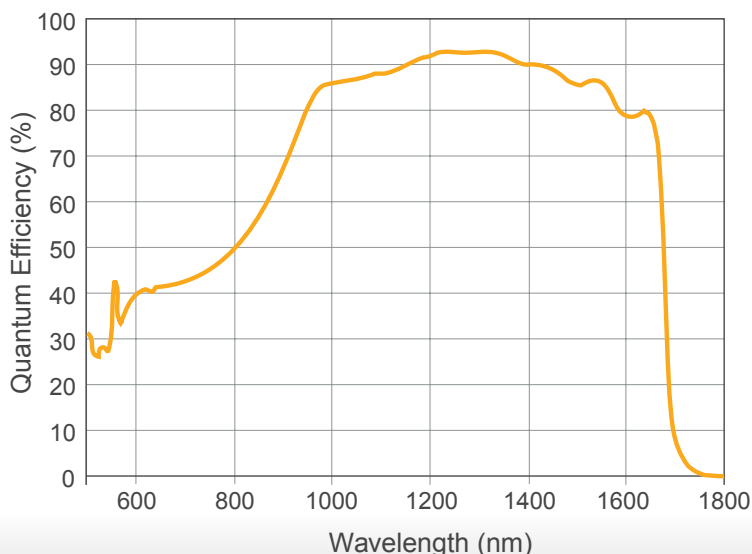
Note 7: This includes the tube + connectors

Note 8: 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](http://www.raptorphotonics.com)

## Quantum Efficiency



\*Data supplied by sensor manufacturer

## Applications

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

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