



Ninox 1280

High resolution, low noise, cooled, digital VIS-SWIR camera
1280 x 1024 • 10µm x 10µm Pixel Pitch • Cooled to -15°C • 28e- readout noise •



Key Features and Benefits

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

- **Cooled VIS-SWIR technology**
Cooled to -15°C. Enables low dark current for longer exposures
- **10µm x 10µm pixel pitch**
Enables highest resolution VIS-SWIR image
- **28 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

Resolution	1280 x 1024
Frame Rate	10 to 60Hz
Camera Link	12 bit
Wavelength Range	VIS-SWIR
Typical Dark Current	<2,000 e/p/s

Specification for Ninox 1280

Sensor Type	InGaAs PIN-Photodiode
Active Pixel	1280 x 1024
Pixel Pitch	10µm x 10µm
Active Area	12.8mm x 10.24mm
Spectral Response ¹	0.6µm to 1.7µm
Readout Noise (RMS) ² LG = Low Gain HG = High Gain	LG: <190e- (160e- typical) HG: 28e-
Peak Quantum Efficiency	>90% @ 1.3µm
Full Well Capacity	LG: 450ke- HG: 10ke-
Pixel Operability	>99.5%
Dark Current (e/p/s)	<4,000 @ -15°C (2,000 typical)
Digital Output Format	12bit Camera Link (Medium Configuration)
Exposure Time	LG: 20µs to 10s HG: 40µs to 80ms
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 ±5%
TE Cooling	Active, ΔT = 35°C
Image Correction ³	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	<8W (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

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

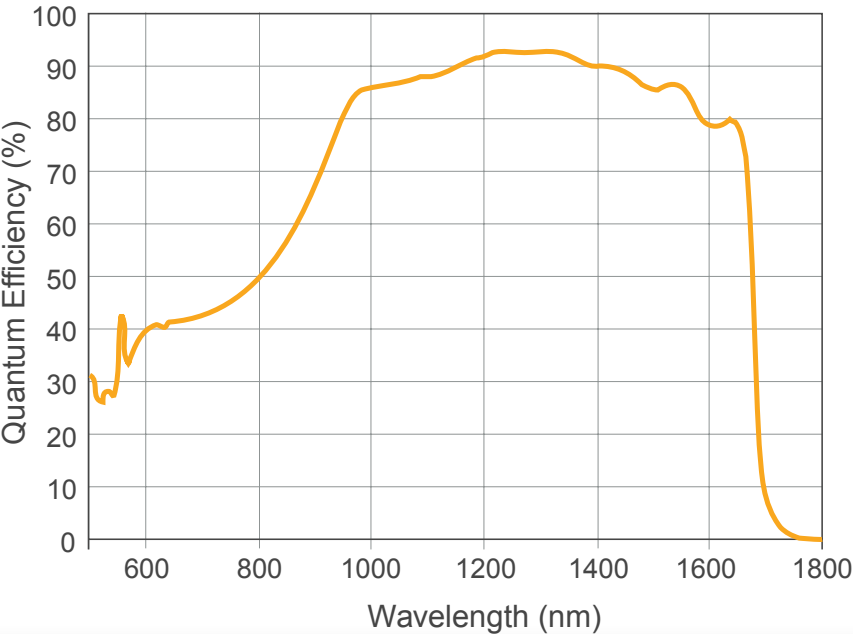
Camera	
Ninox 1280 Digital Camera	NX1.7-VS-CL-1280
Power Supply Cable	RPL-HR4-K
Optional Accessories	
Mini PC with XCAP STD and frame grabber	RPL-PC-mf2280
Thunderbolt frame grabber	RPL-mf2280
EPIX® E8 frame grabber	RPL-EPIX-E8
EPIX® XCAP Std software	RPL-XCAP-STD
MDR-SDR CameraLink Cable (2m) ⁷	RPL-MCL-CBL-2M
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: The NUC is not active for exposure times after 92.5ms. For more detailed information, please refer to the user manual.
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: Two cables are required. The maximum cable length is 2m. For more information, please refer to the user manual.
Note 8: This also includes the liquid.
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**
- Art Inspection
 - Astronomy
 - Beam Profiling
 - Hyperspectral Imaging
 - Microscopy
 - Semiconductor Inspection
 - Solar Cell Inspection
 - Thermography

Document #: INNINOX 1.7-VS-CL-1280 0322