

Ninox SWIR 640

GMP
GENERAL
MICROTECHNOLOGY
& PHOTONICS

High resolution, low noise, cooled, digital VIS-SWIR camera
640 x 512 • Cooled to -20°C • <50e in high gain •



Key Features and Benefits

The best performing SWIR camera in the World!

- **Cooled VIS-SWIR technology**
Cooled to -20°C. Enables low dark current and longer exposure
- **15µm x 15µm pixel pitch**
Enables highest resolution VIS-SWIR image
- **<50e in high gain**
Enables highest VIS-SWIR detection limit
- **Ultra high intrascene dynamic range - 70dB**
Enables simultaneous capture of bright & dark portions of a scene
- **On-board intelligent 3 point NUC**
Enables highest quality images

Resolution	640 x 512
Frame Rate	Up to 120Hz
Cameralink	14 bit
Wavelength Range	VIS-SWIR
Dark Current	<1,500 e/p/s

Specification for Ninox SWIR 640

Sensor	SCD
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
Noise (RMS)	<195 electrons Low Gain, <50 electrons High Gain
Quantum Efficiency	Peak >85% (>73% @ 1.064µm, 78% @ 1.55µm)
Pixel Well Depth	650Ke Low Gain, 12Ke High Gain
Pixel Operability	>99.5%
Dark Current	<1,500e/p/s @ -20°C
Digital Output Format	14 bit CameraLink (Base Configuration)
Exposure time	10µs to 26.8sec or 1/frame rate Low Gain 100µs to 26.8sec or 1/frame rate High Gain
Shutter mode	Global shutter
Frame Rate	up to 120Hz
Optical Interface	C-mount (selection of SWIR lens available)
Camera Setup / Control	CameraLink
Dynamic Range	14 bit
Trigger interface	Trigger IN and OUT - TTL compatible
Power supply	12V DC ±10%
TE Cooling	to -35°C Delta
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 ²	< 4W with TEC OFF (Typical)
Operating Case Temperature ³	-20°C to +55°C
Storage Temperature	-30°C to +60°C
Dimensions & Weight	90mm x 64mm x 123mm / 916g

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Ordering Information

Camera

NINOX 640 VIS-SWIR digital camera	NX1.7-VS-CL-640
NINOX Power Supply Cable	RPL-HR4-K
Chiller	RPL-AMS-OASIS160 ⁴
Chiller Tubing	RPL-WTUBE-NINOX ⁵
Water cooling system	RPL-WCUK-WCS

Optional Accessories

EPIX(R) base CL card	RPL-EPIX-EB1
EPIX(R) base notebook CL card	RPL-EPIX-ECB1-34
EPIX(R) base notebook CL card	RPL-EPIX-ECB1-54
EPIX(R) XCAP STD software	RPL-XCAP-STD
CameraLink Cable, 2m ⁶	RPL-CL-CBL-2M
Optical SWIR lenses ⁷	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: This includes the chiller and the liquid

Note 5: This includes the tube + connectors

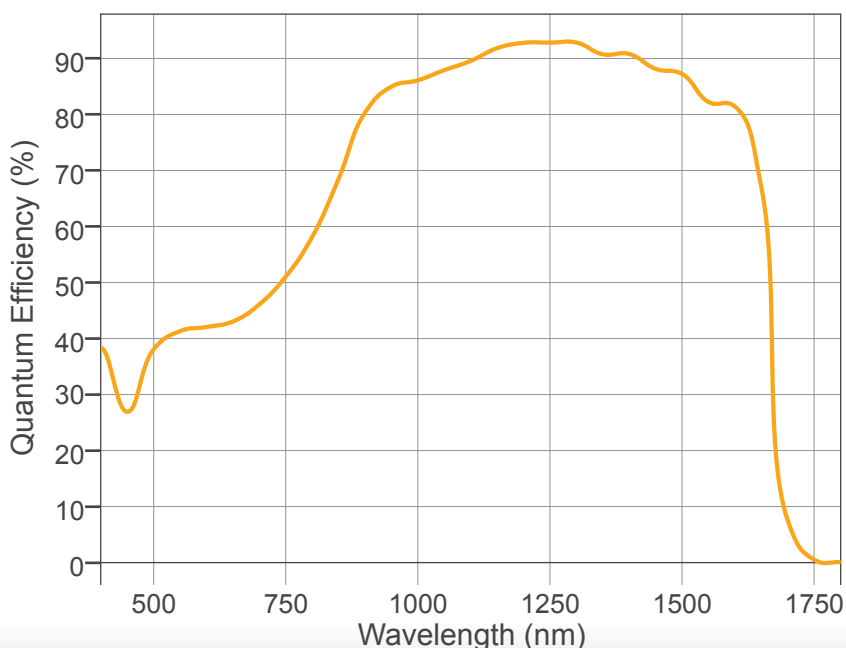
Note 6: Longer CL cable available

Note 7: 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



Applications

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

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