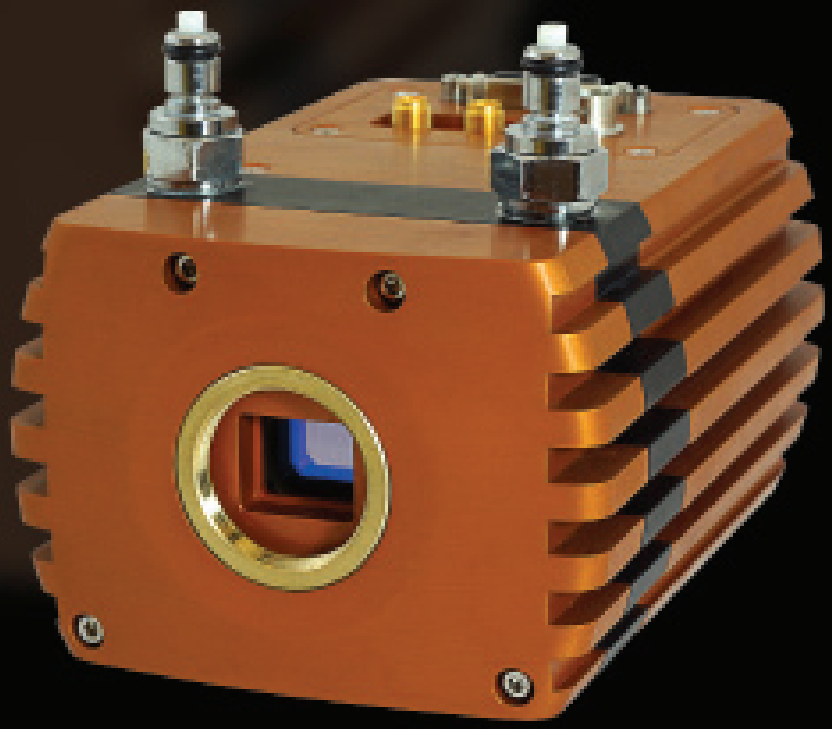
NINOX SWIR 640

High resolution, low noise, cooled, digital VIS-SWIR camera



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 similtaneous 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

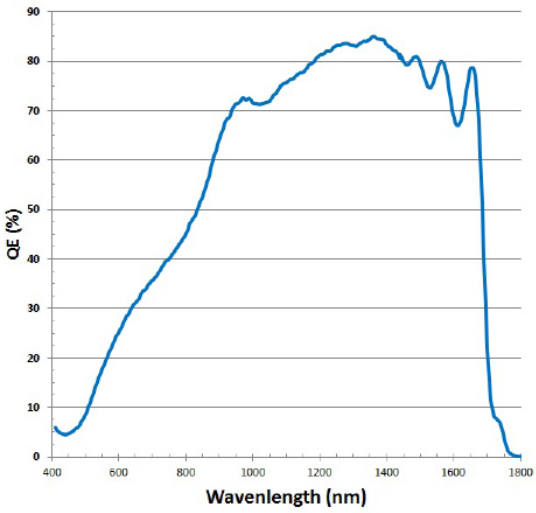
Raptor photonics

Capturing Tomorrow

Specification for NINOX SWIR 640

FPA Specification	
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	700Ke Low Gain
	15Ke High Gain
Pixel Operability	>99.5%
Dark Current	<1,500e/p/s @-20°C
Camera Specification	
Digital Output Format	14 bit CameraLink (Base Configuration)
Exposure time	1μs to 107sec or 1/frame rate
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

Quantum Efficiency

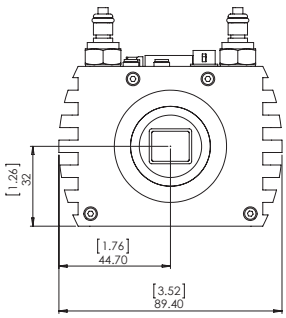


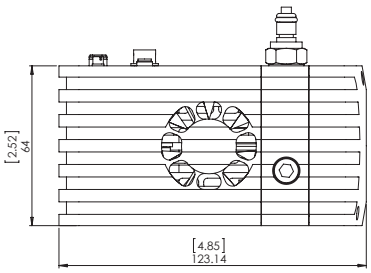
Sample Applications

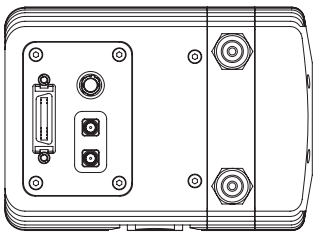
- Astronomy
- Beam Profiling
- Hyperspectral Imaging
- Semiconductor Inspection
- Solar Cell Inspection
- Thermography
- Microscopy
- Art Inspection.

Raptor Photonics Limited reserves the right to change this document at any time without notice and disclaims liability for editorial, pictorial or typographical errors.
Note 1: Optional filters available: Low, High or bandpass Note 2: Measured @ 30°C Note 3: Extended Operating Temperature range on request

Dimensions







Power connector on camera: Hirose HR10-7R-4P

Cable connector (socket): Hirose HR10-7P-4S

CameraLink (Base) MDR

Document #: NINOX 1.7-VS-CL-640 0115R1

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) XCAP STD sofware	RPL-XCAP-STD
CameraLink Cable, 2m[6]	RPL-CL-CBL-2M
Optical SWIR lenses[7]	RPL-xx-xxxx

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

Equipment may require UK Government authorisation for export purposes

Raptor photonics
Willowbank Business Park
Larne, Co Antrim,
BT40 2SF,
Northern Ireland
T: +44(0)2828 270 141
E: sales@raptorphotonics.com
www.raptorphotonics.com