Xenics
Infrared Solutions

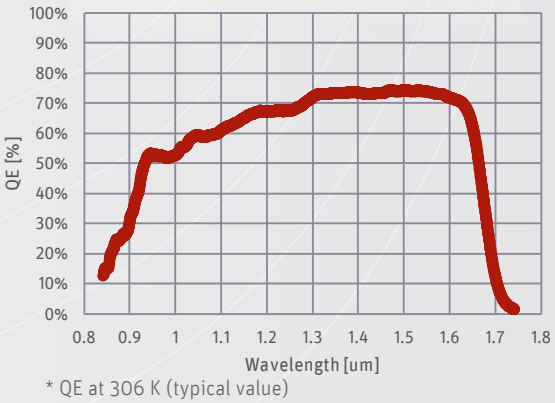
Imagine the invisible

Industrial

Lynx-2048-GigE

High resolution, high speed uncooled SWIR line-scan camera

World's highest resolution SWIR line-scan camera with excellent sensitivity



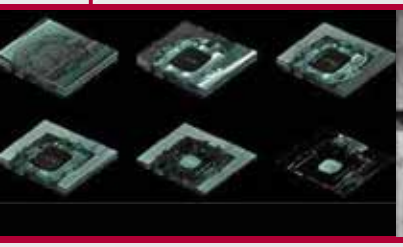
* QE at 306 K (typical value)

The unique high line resolution achieved by the Lynx-2048-GigE will maximize production yields. This SWIR solution is perfectly suited for spectroscopy, and for non-destructive and detail-rich imaging from deeper layers of semiconductor materials or measuring the thickness and uniformity of its functional layers.

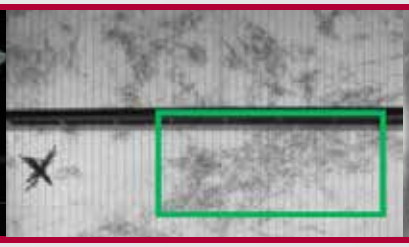
The Lynx-2048-GigE offers in many ways an affordable solution. The small form factor and smallest pixel formats from 12.5 x 12.5 μm^2 square pixels to 12.5 x 250 μm^2 rectangular pixels allow more precision and optimization of compact systems with lower cost lenses. The high line resolution substitutes for costly multiple-camera solutions.

The Lynx-2048-GigE is a flexible solution with an industry-standard GigE Vision and Power over Ethernet interface. You can operate multiple integration times and multiple gain settings. You will reach optimal image quality choosing from various configurations in High Sensitivity mode or High Dynamic Range Mode.

Designed for use in



OCT: cross-sections MEMS



Semiconductor photoluminescence

Web inspection pharmaceuticals

Thermal imaging of hot objects

Applications

- Food inspection
- Non-destructive testing
- Industrial web inspection
- Semiconductor inspection
- High speed line scan imaging
- Optical Coherence Tomography (OCT)
- Non-contact thermal imaging of (hot) objects

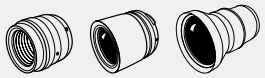
Benefits & Features

- Made in Europe
- Smallest SWIR line-scan camera
- Full flexibility in integration time settings
- Standard GigE Vision and trigger functionality
- Compliant with any software supporting GenICam
- Broad range of pixel sizes, square and rectangular
- Ultra-high resolution and high sensitivity for low-light conditions

Broad range of accessories available to optimize your system

Lens & filter options

Various focal lengths available



> Discover our Lens Selector Guide
www.xenics.com/LSG

Inputs

Outputs

Software

- Xeneth Basic
- Xeneth Advanced (optional)
- Xeneth SDK (optional)
- Xeneth LabVIEW SDK (optional)

Specifications

Camera Specifications

Imaging performance	
Maximum line rate	10 kHz
Pixel rate	25 MPixels/sec
Exposure time range	Full flexibility in settings from 3 µs to several seconds
CDS	Correlated Double Sampling
Gain settings (16 settings)	Various Settings from 30 fF (HS) till 830 fF (HDR) *
Pixel well depth	From 450 Ke⁻ (HS) till 10 Me⁻ (HDR) *
Gain (in 16 bit)	From 8 e⁻/ADU count (HS) till 225 e⁻/ADU count (HDR) *
Dynamic range	From 280:1 (HS) till 2600:1 (HDR) *
A to D conversion resolution	14 bit
On-board image processing	Configurable single Non-Uniformity Correction (NUC) with intelligent bad pixel replacement; user adjustable fixed offset and gain control
Interfaces	
Optical interface	C-mount with adjustable back focus Mounts easily to spectrometers Otional: U-Mount with adjustable back focus Optional: filter holder
Camera control	Gigabit Ethernet: GigE Vision or Xeneth API/SDK
Image acquisition	Integrate while read (IWR)/ integrate then read (ITR); snapshot acquisition
Trigger	Trigger in and/or out; LVCMOS Modes: free running or user configurable line and frame trigger
Operating mode	Stand-alone or PC-controlled
Power requirements	
Power consumption	+/- 4.6 W
Power supply	12 V DC
Physical characteristics	
Ambient operating temperature range	-40 °C to 70 °C (industrial components)
Storage temperature range	-50 °C to 85 °C (industrial components)
Dimensions	49 W x 49 H x 71 L mm
Weight camera head	< 208 g (lens not included)

(*): Typical values, depending on gain setting
(HS): High Sensitivity mode; (HDR): High Dynamic Range mode

Array Specifications

Array type	InGaAs
Resolution	2048 x 1
Pixel size	12.5 µm x 12.5 µm or 12.5 µm x 250 µm
Spectral band	0.9 * to 1.7 µm
Peak quantum efficiency	≈ 80 % @ 1.6 µm
Pixel operability	> 98 %
Array length	25.6 mm
Array cooling	Uncooled
Dark current	1.5 x 10^6 e^-/s ** square pixel array 1.5 x 10^7 e^-/s ** rectangular pixel array

(*) Typical Quantum Efficiency (QE): > 40 % at 0.9 µm to 1.7 µm
(**) @ 25 °C sensor temperature (typical value)

Product selector guide

Part number	# pixels	Pixel size (µm²)	Line rate (kHz)
XEN-000311	2048 x 1	12.5 x 12.5	10
XEN-000434		12.5 x 250	

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Xenics
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