

Imagine the invisible

Industrial

Lynx-1024-CL

High resolution, high speed uncooled SWIR line-scan camera



Smallest SWIR CameraLink line-scan camera with excellent sensitivity

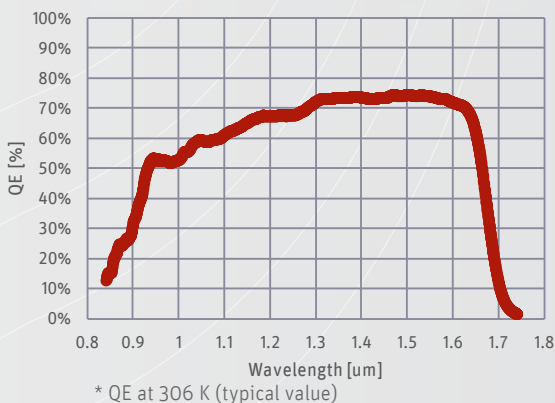
Machine vision inspection using Lynx-1024-CL provides high resolution information about quality assurance measurements. The SWIR camera matches perfectly the absorption spectra of low-level photon emissions, is less sensitive to emissivity changes for thermal measurements and provides increased subsurface penetration depth images.

μm^2 square pixels to $12.5 \times 250 \mu\text{m}^2$ rectangular pixels allow more precision and optimization of compact systems with lower cost lenses.

The Lynx-1024-CL is perfectly suited for high speed scanning with high line rates up to 40 kHz. In addition the camera comes with an industry-standard CameraLink interface.

You will reach optimal image quality with low dark current and excellent signal to noise ratios. Furthermore you can operate multiple integration times.

The Lynx-1024-CL offers in many ways an affordable solution. The small form factor, high resolution and smallest pixel formats from 12.5×12.5



⌘ 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
- Full flexibility in integration time settings
- Compliant with all CameraLink framegrabbers
- Broad range of pixel sizes, square and rectangular
- Standard CameraLink and extended trigger functionality
- Smallest SWIR line-scan camera with smallest pixel pitch
- 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	40 kHz
Pixel rate	50 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 2130 fF (HDR) *
Pixel well depth	From 450 Ke (HS) till 32 Me (HDR) *
Gain (in 16 bit)	From 8 e-/ADU count (HS) till 580 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 Optional: U-Mount with adjustable back focus Optional: filter holder
Camera control	CameraLink 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	+/- 2.6 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 53 L mm
Weight camera head	< 153 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	1024 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	> 99 %
Array length	12.8 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 (μm ²)	Line rate (kHz)
XEN-000313	1024 x 1	12.5 x 12.5	40
XEN-000431		12.5 x 250	