

Imagine the invisible

Scientific

Lynx camera series

40KHz High speed
SWIR line-scan camera



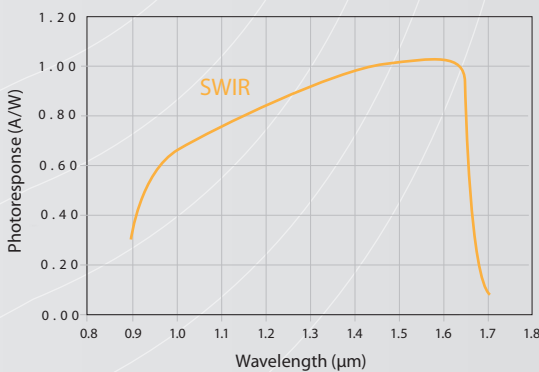
Extreme sensitivity line-scan camera for ultra precise measurements

The Lynx SWIR line-scan camera is raising technology to new peaks for high speed imaging applications in imaging and medical OCT, as well as in low light level applications such as Raman, Emission and Luminescence spectroscopy.

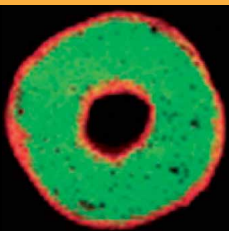
In addition the Lynx features a high line rate of up to 40 kHz (1024-pixel version) and 10 kHz (2048-pixel version).

With three resolution options ranging from 512, 1024 up to 2048 pixels, Lynx offers worldwide the highest SWIR resolution at pixel formats from the smallest in the world of $12.5 \times 12.5 \mu\text{m}^2$ to $25 \times 250 \mu\text{m}^2$ rectangular pixels.

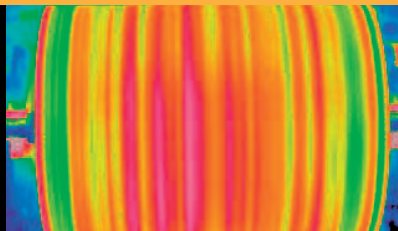
To further reduce dark current and improve signal to noise ratios you can use the Lynx with standard TE1 cooler in High Sensitivity mode (HS) of only a few e-/count, or in a High Dynamic Range mode (HDR); with optional TE3 cooler stage. You can choose from various configurations in between HS and HDR mode in order to optimize the performance for your application.



Designed for use in



⌘ Spectroscopy: food inspection



⌘ High speed: linescan imaging



⌘ Food sorting



⌘ Remote sensing

Applications

- Spectroscopy
- Medical: OCT
- Food inspection
- Line scan imaging
- Non-destructive testing
- Non-contact thermography
- Earth observation (space, airborne)

Benefits & Features

- Spectrograph compatible
- Standard interface connections
- Superb low dark current imaging
- High sensitivity for low-light conditions
- High image resolution up to 2048 pixels
- Broad range of pixel sizes, square and rectangular
- Reduced illumination requirements at system level

Broad range of accessories available to simplify your research

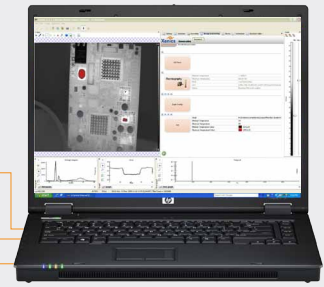
▸ Lens & filter options



▸ Inputs



▸ Software



- Xenith advanced
- Xenith SDK
- Xenith Radiometric (optional)

▸ Outputs

▸ Specifications

Array Specifications	Xlin-1.7-512	Xlin-1.7-1024	Xlin-1.7-2048
Array type	InGaAs		
# Outputs	1 output	2 outputs	
Spectral band	0.9 to 1.7 μm		
# Pixels	512 x 1	1024 x 1	2048 x 1
Pixel pitch	25 μm	12.5 μm	
Pixel height	25 μm or 250 μm	12.5 μm or 250 μm	
InGaAs array length	12.5 mm		25 mm
Thermo-electric cooler	TE1, optional TE3		
Pixel operability	> 99 %		
Camera Specifications	Lynx-1.7-512	Lynx-1.7-1024	Lynx-1.7-2048
Lenses (included)			
Focal length	25 mm		
Optical interface	C-mount with adjustable back focus Mounts easily to spectrometers Optional : U-mount with adjustable back focus Optional : Filter holder		
Imaging performance			
Line rate	Max 40 kHz (CL)		Max 10 kHz (CL)
Pixel rate	25 MPixels/sec	50 MPixels/sec	25 MPixels/sec
Integration time	Full flexibility in settings from 1 μs to several minutes depending on TEC option		
A to D conversion resolution	14 bit		
CDS	Correlated Double Sampling		
Gain capacitor characteristics	Optimized for 12.5 μm pixel performance		
Gain settings	Various Settings from 5 fF (HS) till 2130 fF (HDR)		
Pixel Well Depth (e-)	Various Settings from 60 Ke- (HS) till 25 Me- (HDR)		
Gain (e-/ADU count)	Various Settings from 3.6 e-/cnt (HS) till 1500 e-/cnt (HDR)		
Dynamic Range	Various Settings from 600:1 (HS) till 3200:1 (HDR)		
Interfaces			
Digital Output	14 bit Base CameraLink 14 bit GigE		
Camera control	CameraLink: XSP (Xenics Serial Protocol) Gigabit Ethernet: GigE Vision or Xenith API/SDK RS232: XSP (Xenics Serial Protocol)		
Image acquisition	Integrate while read / integrate then read snapshot acquisition		
Trigger	Trigger in and out; LVCMOS		
External Trigger jitter	40 ns		
Power requirements			
Power consumption	+/- 19 W (without TEC operation)		
Power supply	24 V		
Physical characteristics			
Ambient operating temperature	0°C to 50°C		
Dimensions	140 W x 120 H x 228 L mm		
Weight camera head	2.9 kg		
Camera mount	4 x M6 / Tripod mount		

▸ Product selector guide

Part number	# Pixels	Pixel size (μm^2)	TE Cooler
XEN-000021		25 x 25	TE1
XEN-000023	512 x 1	25 x 250	TE1
XEN-000026		25 x 250	TE3
XEN-000019	1024 x 1	12.5 x 12.5	TE1
XEN-000024		12.5 x 250	TE1
XEN-000027		12.5 x 250	TE3
XEN-000022		12.5 x 12.5	TE1
XEN-000025	2048 x 1	12.5 x 250	TE1
XEN-000028		12.5 x 250	TE3