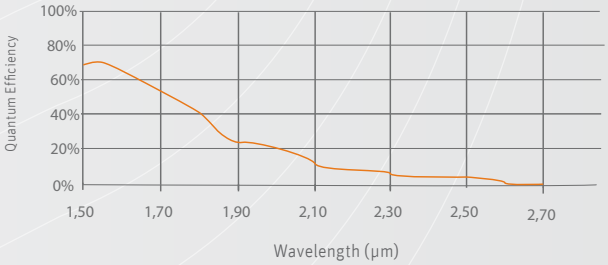
Xenics
Infrared Solutions

Imagine the invisible

Research & Development

Xeva-2.5-320 TE4

Versatile SWIR T2SL camera with response up to 2.5 µm



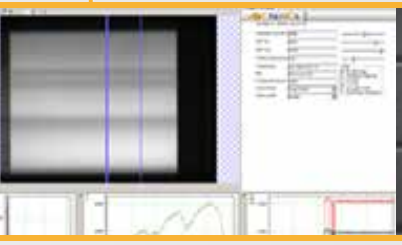
Superior performance for reliable research

The Xeva-2.5-320 is a compact digital camera operating a T2SL detector array for imaging in the 1.0 to 2.5 µm wavelength range. The camera features a resolution of 320 x 256 pixels with a 30 µm pixel pitch. It outputs 14-bit data and comes in a 100 Hz or 350 Hz version.

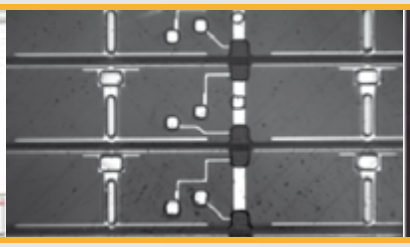
The camera interfaces to a PC via standard USB 2.0 and CameraLink. Each camera is delivered with a Graphical User Interface (GUI) Xeneth, which offers direct access to various camera settings such as exposure time and operating temperature.

Through its advanced thermo-mechanical design, the Xeva-2.5-320 achieves excellent performance levels using a TE4-cooled device operating down to 203K.

Designed for use in



Hyperspectral imaging



Semiconductor inspection

Art inspection

Applications

- R&D (SWIR range)
- Semiconductor inspection
- Hyperspectral SWIR imaging
- Art inspection (seeing through paint)
- Laser beam profiling (1.0 - 2.5 µm)

Benefits & Features

- Spectrometer compatible
- CameraLink for high speed imaging
- Scientific image recording and analysis
- High speed SWIR imaging up to 2.5 µm
- Windowing mode for even higher frame rates
- Flexible programming in an open architecture
- Smallest TE4-cooled camera for low dark current
- Two gain modes for High Sensitivity (HS) or High Dynamic Range (HDR)

Complete camera and software package to simplify your research

Lens & filter options

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

Inputs

Outputs

Software

- Xeneth
- Xeneth SDK (optional)
- Xeneth LabVIEW SDK (optional)

Specifications

Camera specifications	100 Hz	350 Hz
Lens (included)		
Focal length	Visible lens, 16 mm f/1.4	
Optical interface	C-Mount	
Imaging performance		
Maximum frame rate	100 Hz	344 Hz full frame; > 10 kHz at 128x8 window
Window of Interest (WoI)	No	Minimum 128 x 8 pixels
Integration type	Snapshot	
Noise	High gain: 150 electrons; HDR**: 1000 electrons	
Gain	High gain: 10 electrons/ADU; HDR**: 210 electrons/ADU	
A to D conversion resolution	14 bit per pixel	
Interfaces		
Camera control	USB 2.0	
Image acquisition	CameraLink or USB 2.0	CameraLink
Trigger	TTL Levels	
Graphical User Interface (GUI)	Xeneth Advanced	
Power requirements		
Power consumption	7W without cooling; 84 W @ maximum cooling	
Input voltage	24 V	
Physical characteristics		
Camera cooling	Forced convection cooling	
Cool-down time	Approximately 2 minutes	
Ambient operating temperature	0 to 40 °C	
Dimensions	87 W x 115 H x 109 L mm³	
Weight camera head	App. 1.8 kg (without lens)	

* Typical value

** High Dynamic Range mode

Array specifications	Xeva-2.5-320
Array type	T2SL
Spectral band	1.0 µm to 2.5 µm
Resolution	320 x 256
Pixel pitch	30 µm
Array dimensions	W: 9.6 mm H: 7.68 mm D: 12.29 mm or 0.48 in
ROIC noise	High gain: 70 electrons; Low gain: 700 electrons
Integration capacitor	High gain: 10 fF; Low gain: 210 fF
Full well	High gain: 0.17 x 10^6 electrons Low gain: 3.5 x 10^6 electrons
Array cooling	TEC 4 stages (typical sensor temperature 203 K or -70 °C)
Pixel operability	> 99 %
Dark current*	150 x 10^6 e-/s/pixel

Product selector guide

Part number	Date interface	Cooling	Frame rate	ADC
XEN-000617	CL/USB	TE4	100 Hz	14 bit
XEN-000618	CL		344 Hz	

Lenses (optional)

Part number	Focal length	F#	Wavelength range
OPT-000236	25 mm	f/2.5	0.9 µm - 2.5 µm
OPT-000237	35 mm	f/2.0	0.9 µm - 2.5 µm
OPT-000238	50 mm	f/2.0	0.9 µm - 2.5 µm

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Xenics
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