

Imagine the invisible

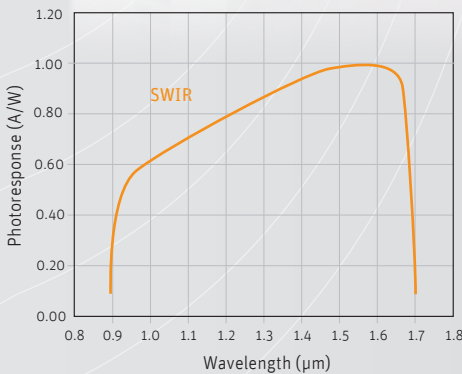
Research & Development



Xeva-1.7-320 TE3

Advanced research in SWIR imaging

Stable TE3-cooled SWIR research where every photon counts



In one compact housing, the Xeva-1.7-320 TE3 digital camera combines a thermo-electrically cooled InGaAs detector head and the control and communication electronics.

The Xeva-1.7-320 TE3 unit is available with standard (up to 1.7 µm) InGaAs detector arrays and comes in various speed versions: 60 Hz, 100 Hz and 350 Hz. It allows you to choose the most suitable detector-camera configuration for your specific application.

The camera head interfaces to a PC via standard USB 2.0 or CameraLink.

Each camera is delivered with a graphical user interface Xeneth, which offers direct access to various camera settings such as exposure time and operating temperature. The software tools include two-point uniformity correction and bad pixel replacement.

Designed for use in



⌘ R&D SWIR

⌘ Food inspection

⌘ Art inspection

Applications

- Wafer inspection
- R&D (SWIR range)
- Hyperspectral imaging
- Low-light-level analysis
- Semiconductor inspection
- Solar cell inspection EL/PL

Benefits & Features

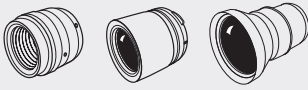
- Spectrometer compatible
- Thermal imaging of hot objects
- High sensitivity for low-light conditions
- Extending SWIR imaging to the visible
- Cooled operation for low light-level imaging
- Flexible programming in an open architecture
- CameraLink and triggering for high speed imaging
- Extended coverage from SWIR into the visible range

Broad range of accessories available to simplify your research

▶ Lens & filter options

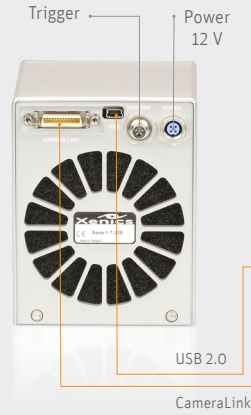
16 mm lens (included)

Various focal lengths available



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

▶ Inputs



▶ Outputs

▶ Software



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

Specifications

Camera Specifications	60 Hz	100 Hz	350 Hz
Imaging performance			
Maximum frame rate	60 Hz	100 Hz	346 Hz
Window of Interest (WoI)	Yes		
Exposure time range	1 μ s up to several seconds (high gain mode); or up to 10 s @ max cooling (high gain mode)		
Integration type	Snapshot		
Readout mode	Integrate Then Read (ITR)		
Noise	High gain: 180 e- Low gain: 1400 e-		
Gain	High gain: 60 dB Low gain: 68 dB		
A to D conversion resolution	12 bit over USB 14 bit over CameraLink		
Interfaces			
Optical interface	C-Mount, spectrograph fixation holes (Broad selection of lenses are available)		
Camera control	USB 2.0		
Image acquisition	CameraLink	USB 2.0* CameraLink	CameraLink
Trigger	Trigger In or Out (configurable) TTL levels		
Graphical User Interface (GUI)	Xeneth Advanced		
Power requirements			
Power consumption	< 4 W without TEC operation; Max. 30 W with TE3-cooling		
Input voltage	12 V		
Physical characteristics			
Camera cooling	Forced convection cooling		
Ambient operating temperature range	0 to 50 °C		
Dimensions	90 W x 110 H x 110 L mm ³		
Weight camera head	1.8 kg		

* Image acquisition USB 2.0: Only recommended for part number XEN-000101

Array Specifications

Array type	InGaAs Focal Plane Array (FPA) ROIC with CTIA* topology
Resolution	320 x 256
Pixel size	30 μ m x 30 μ m
Spectral band	0.9 to 1.7 μ m
Peak quantum efficiency	80%
Pixel operability	> 99%
Array size	9.6 mm x 7.68 mm; 12.29 mm diagonal
Array cooling	TE3-cooled
ROIC noise	High gain: 70 e-; low gain: 700 e-
Dark current	0.19 x 10 ⁶ e-/s at 280 K
Integration capacitor size	High gain: 10 fF; low gain: 210 fF
Full well	High gain: 1.7 x 10 ⁵ e-; low gain: 3.5 x 10 ⁶ e-

Product selector guide

Part number	Digital interface	Analog interface	Frame rate (Hz)	Cooling
XEN-000101	USB 2.0		100	TE3
XEN-000108	Camera Link	No	60	
XEN-000109			100	
XEN-000110			350	