

Imagine the invisible

Research & Development



Tigris-640

Cooled midwave infrared camera for scientific and industrial applications

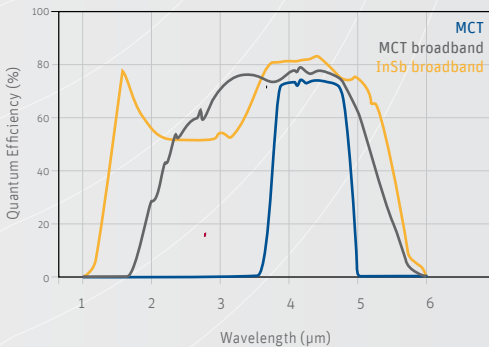
High speed MWIR camera extendable into the SWIR realm

The Tigris-640 is a cooled midwave infrared (MWIR) camera equipped with a state-of-the-art InSb or MCT detector with 640 x 512 resolution. This thermal camera comes with a motorized filter wheel, and uses either a GigE Vision or CameraLink digital interface. Analog out, HD-SDI and triggering are also available.

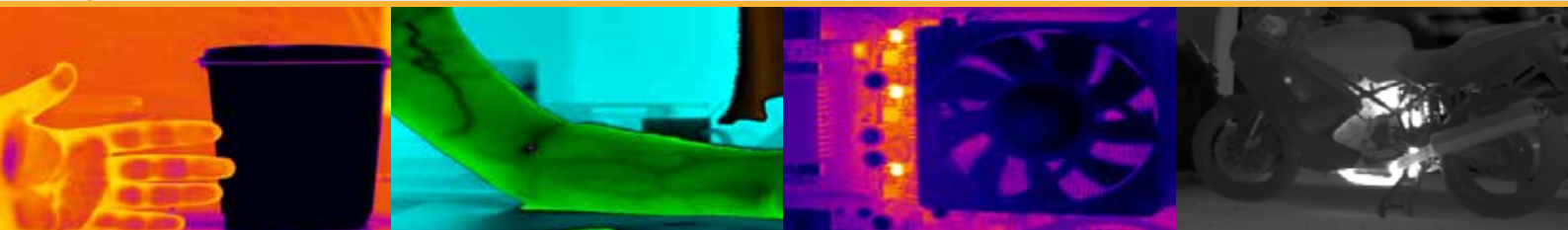
The Tigris-640-InSb camera offers a maximum frame rate up to 250 Hz. For both the MCT and InSb version, a window-of-interest (WOI) mode is available for even higher frame rates.

All Tigris versions are optimized for highly stable thermal imaging in R&D, industrial applications and thermography. For both the MCT and InSb models, we now offer broadband versions for extended spectral sensitivity into the shortwave infrared (SWIR) band.

The Tigris-640-MCT camera offers 14-bit images at a maximum full frame rate of 117 Hz. The Tigris-640-InSb features a digital detector with selectable 13, 14 or 15-bit ADC, and high gain or high dynamic range



Designed for use in



Thermal imaging: cold cup

Medical application: veins

Thermal imaging: electronics circuit

Thermal imagine: engine

Applications

- R&D
- Bio-medical
- Thermography
- Non-destructive testing
- Industrial process monitoring

Benefits & Features

- Access to all camera settings
- Various MWIR lenses available
- GigE Vision, CameraLink and analog interface
- Motorized filter wheel with multiple filters
- Temperature measurement accuracy within +/- 2°C or +/- 2% (thermography option)

Broad range of accessories available to simplify your research

▶ Lens & filter options



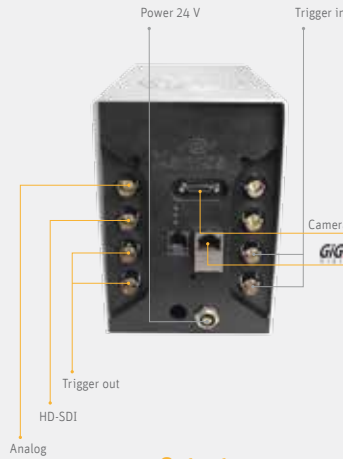
Filter wheel

Various focal lengths available



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

▶ Inputs



▶ Software



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

▶ Outputs

Specifications

Array specifications	Tigris-640-MCT		Tigris-640-InSb	
	MCT	MCT-BB	InSb	InSb-BB
Array type	MCT		InSb	
Spectral band	3.7 - 4.8 μm	1.5 - 6 μm	3.6 - 4.9 μm	1.5 - 5.4 μm
Resolution	640 x 512			
Pixel pitch	15 μm			
Array cooling	Stirling cooled (80 K detector temperature)			
Sensitivity (NETD)	< 25 mK			
Gain modes	1 gain mode		HG & HDR mode	
ADC on detector	NA		13-14-15 bit selectable	
Pixel operability	> 99.5 %			
F/#	F/3			

Camera specifications	Tigris-640-MCT	Tigris-640-InSb
Lens		
Optical interface	Bayonet	
Imaging performance		
Maximum frame rate	117 Hz	250 Hz*
Window of interest	Minimum size 144 x 64	Minimum size 64 x 64
Readout mode	Integrate Then Read / Integrate While Read	
A to D conversion resolution	14 bit	Selectable on detector
On-board image processing	2-point Non Uniformity Correction (NUC) Bad Pixel replacement Auto gain & offset control XIE (Xenics Image Enhancement)	
Interfaces		
Camera control	CameraLink and GigE Vision	
Image acquisition	CameraLink, GigE Vision, HD-SDI and Analog (PAL/NTSC)	
Trigger	In or Out (configurable)	
Power requirements		
Power consumption	25 W	
Power supply	24 V	
Physical characteristics		
Camera cooling	Forced convection cooling	
Ambient operating temperature	-40 °C to 60°C	
Dimensions (W x H x L mm ³)	100 x 149 x 200 (l x b x h)	
Weight camera head	3.5 kg	
Hardware specifications		
Filter wheel options	Start - stop mode	
# filters	Up to 5 filters, 25.4 mm diameter, 1.0 mm thickness	

* Limited bit resolution

Product selector guide

Part number	Array type	Wavelength range (μm)	Thermography
XEN-000610	InSb	3.6 to 4.9	Yes*
XEN-000611		1.5 to 5.4	No
XEN-000612		3.7 to 4.8	Yes*
XEN-000613	MCT	1.5 to 6	No

*only in combination with 25 mm lens

Thermography calibrations*

Part number	Temperature range
ASY-001320	-20 °C to 170 °C
ASY-001321	100 °C to 400 °C
ASY-001322	300 °C to 1200 °C (incl ND filter)
ASY-001323	1000 °C to 2000 °C (incl ND filter)

*available soon

Lenses

Part number	Focal length	F/#	Wavelength range
OPT-000227	25 mm	F/2.3	3 - 5 μm
OPT-000228	50 mm	F/2.3	3 - 5 μm
OPT-000229	100 mm	F/2.3	3 - 5 μm
OPT-000226	25 mm	F/2.3	1.5 - 5 μm