

Imagine the invisible

Research & Development



# Tigris-640

Cooled midwave infrared camera for scientific and industrial applications

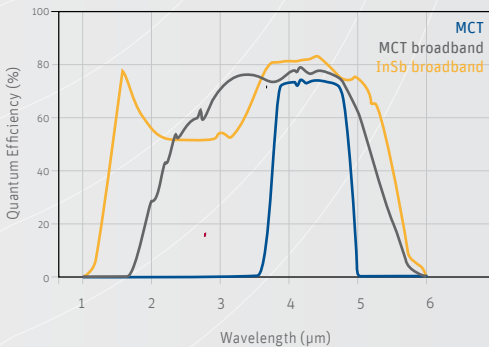
## High speed MWIR camera extendable into the SWIR realm

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.

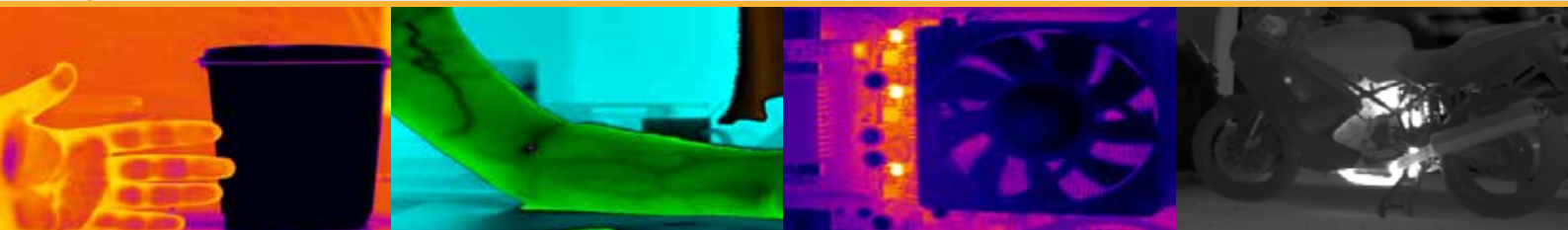
The Tigris-640-InSb camera offers a maximum frame rate up to 357 Hz. For both the MCT and InSb version, a window-of-interest (WOI) mode is available for even higher frame rates.

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



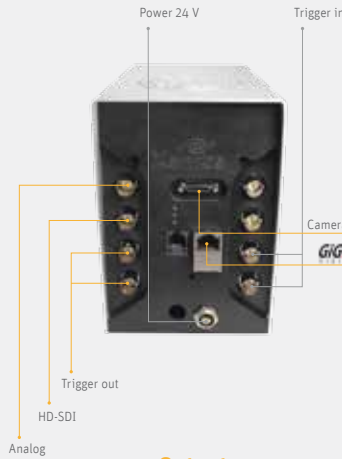
Filter wheel

Various focal lengths available



▶ Discover our Lens Selector Guide  
[www.xenics.com/LSG](http://www.xenics.com/LSG)

## ▶ Inputs



## ▶ Software



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

## ▶ Outputs

## Specifications

Detector specifications	Tigris-640-MCT		Tigris-640-InSb	
	MCT	MCT-BB	InSb	InSb-BB
Array type	MCT		InSb	
Spectral band	3.7 - 4.8 $\mu\text{m}$	1.5 - 6 $\mu\text{m}$	3.6 - 4.9 $\mu\text{m}$	1.5 - 5.4 $\mu\text{m}$
Resolution	640 x 512			
Pixel pitch	15 $\mu\text{m}$			
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	
<b>Lens</b>				
Optical interface	Bayonet			
<b>Imaging performance</b>				
Maximum frame rate	117 Hz		357 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)			
<b>Interfaces</b>				
Camera control	CameraLink and GigE Vision			
Image acquisition	CameraLink, GigE Vision, HD-SDI and Analog (PAL/NTSC)			
Trigger	In or Out (configurable)			
<b>Power requirements</b>				
Power consumption	25 W			
Power supply	24 V			
<b>Physical characteristics</b>				
Camera cooling	Forced convection cooling			
Ambient operating temperature	-40 °C to 60°C			
Dimensions (W x H x L mm <sup>3</sup> )	100 x 149 x 200 (l x b x h) (lens not included)			
Weight camera head	3.5 kg (lens not included)			
<b>Hardware specifications</b>				
Filter wheel options	Start - stop mode			
# filters	Up to 5 filters, 25.4 mm diameter, 1.0 mm thickness			

\* via cameralink and not in full bit resolution

## Product selector guide

Part number	Array type	Wavelength range ( $\mu\text{m}$ )	Thermography
XEN-000610	InSb	3.6 to 4.9	TBA
XEN-000611		1.5 to 5.4	TBA
XEN-000612	MCT	3.7 to 4.8	TBA
XEN-000613		1.5 to 6	TBA