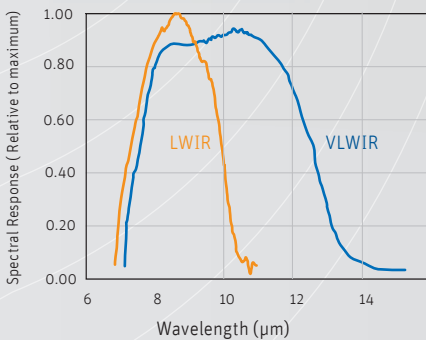Scientific

Onca-LWIR-MCT-384

Multispectral LongWave thermal infrared camera

## High performance thermal imaging camera for demanding scientific applications

The Onca-LWIR-MCT (HgCdTe) incorporates highest quality parts, advanced firmware and PC control and analysis software, the latest product and production techniques and toughest quality assurance procedures to meet the user's demands and expectations with respect to stability, reliability, accuracy and long life of this camera.

The Onca-LWIR-MCT incorporates a state of the art 2D MCT array with 384 x 288 pixel resolution and offers
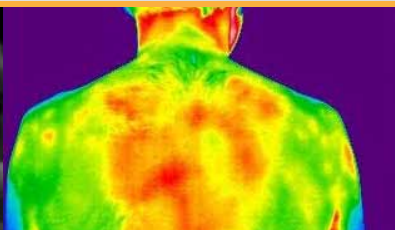
14-bit images at various frame rates: at standard video rate and at high speed. All camera functions can be customized and all settings are stored in nonvolatile memory for maximum ease of use. The Onca-LWIR-MCT is optimized for accurate and stable stand-alone and PC-driven higher resolution thermal imaging and thermography applications. Camera control and data/image acquisition are through CameraLink and GigE.
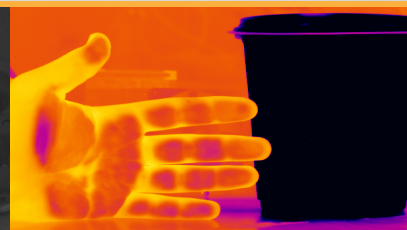
Designed for use in
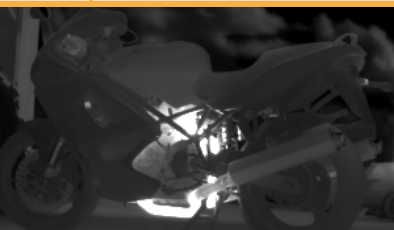
⊩ Thermal imaging engine   ⊩ Medical infection   ⊩ Thermal imaging Formula 1   ⊩ R&D (LWIR-VLWIR)
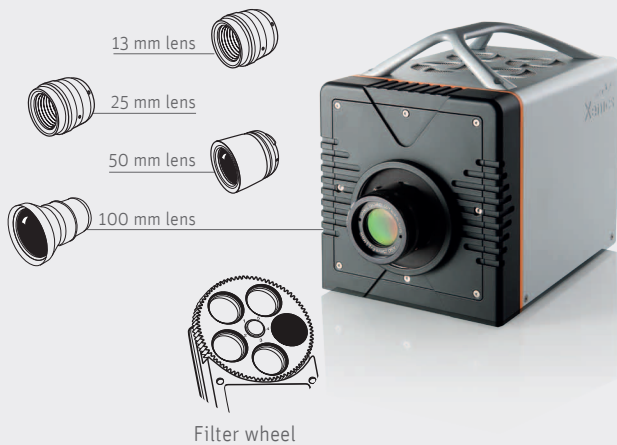
Applications

- Medical
- Target signature
- Multispectral imaging
- R&D (LWIR-VLWIR range)
- Non-destructive analysis
- Cold temperature measurement

Benefits & Features

- Access to all camera settings
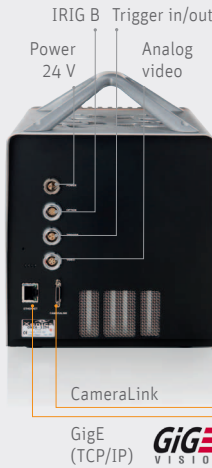- SuperFraming for increased dynamic range
- High speed thermal imaging and thermography
- Both LongWave (LWIR) and Very LongWave (VLWIR) range
- User programmable filter wheel with multiple filters stacking
- Industry standard interfaces such as GigE Vision and CameraLink
- TrueThermal to stitch frames with different integration times and temperature measurement accuracy within +/-1 °C or +/- 1 %

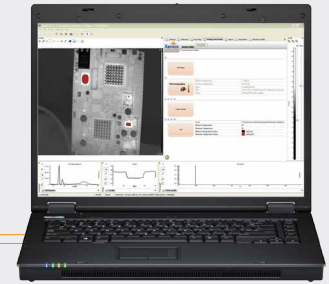## Broad range of accessories available to simplify your research

▸ **Lens & filter options**

13 mm lens
25 mm lens
50 mm lens
100 mm lens

Filter wheel

▸ **Inputs**

IRIG B   Trigger in/out
Power   Analog
24 V   video

CameraLink

GigE
(TCP/IP)   GiGE VISION

▸ **Outputs**

▸ **Software**

- Xeneth advanced
- Xeneth SDK
- Xeneth Radiometric (optional)
- Thermography Studio (optional)

Specifications

Array specifications	Onca-LWIR-MCT-384	Onca-VLWIR-MCT-384
Array type	MCT LWIR	MCT VLWIR
Spectral band	7.7 to 9.5 µm	7.7 to 11.5 µm
# pixels	384 x 288	384 x 288
Pixel pitch	24 µm	24 µm
Array cooling	Stirling cooled	Stirling cooled
NETD @ 25ºC	28 mK	28 mK
Pixel operability	> 98.0%	> 98.0%

Camera specifications	Onca-LWIR-MCT-384	Onca-VLWIR-MCT-384
Lens (included)		
Focal length	25 mm	
Optical interface	Bayonet	
Imaging performance		
Frame rate: Video rate	60 Hz	
High speed	160 Hz	
Window of interest	Any size down to 32 x 16	
Integration time	≥ 1.1 µs	
A to D conversion resolution	14 bit	
Interfaces		
Camera control	GigE Vision Serial channel CameraLink	
Image acquisition	GigE Vision CameraLink: 14 bit full frame rate Analog: PAL or NTSC	
Trigger	Trigger in and out; LVCMOS	
Power requirements		
Power consumption	< 100 W at room temperature	
Power supply	24 V	
Physical characteristics		
Camera cooling	Forced convection cooling	
Ambient operating temperature	0 ºC to 50 ºC	
Dimensions	170 W x 190 H x 250 L mm	
Weight camera head	5.5 kg (Lens not included)	
Hardware specifications		
Filter wheel options	Start - stop mode	
# filters	Up to 5 filters, 25.4 mm diameter, 1.0 mm thickness	

Product selector guide

Part number	# Pixels	Wavelength range (µm)	Frame rate (Hz)
XEN-000040		7.7 to 9.5	60
XEN-000041	384 x 288		160
XEN-000208		7.7 to 11.5	60
XEN-000187			160

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