Onca-MWIR-MCT

Stable measurements
with thermal imaging

Imagine the invisible

Xenics
Infrared Solutions

High-detectivity and high-uniformity Onca-MWIR-MCT for accurate analysis

The Onca-MWIR-MCT camera is an affordable midwave infrared imaging camera that is perfect for thermal imaging applications where performance is critical.

High quality, high flexibility

The Onca-MWIR-MCT uses advanced real-time image correction and is equipped with a state of the art 2D MCT array with 320 x 256 or 640 x 512 pixel resolution. The Onca-MWIR-MCT camera offers 14-bit images at various frame rates. Two speed versions are available: a standard video rate version and a high speed version. All camera functions can be customized and all settings are stored in nonvolatile memory to enable optimized use. The Onca-MWIR-MCT is optimized for highly stable stand alone and PC-driven thermal imaging and thermography applications. Camera control and image acquisition are possible according to two standards: CameraLink and GigE.

Benefits & Features

High definition images
640 x 512 pixels for high image quality.

Filter Wheel
Up to 5 filters can be added to the filter wheel in order to perform multi spectral measurements.

Ultimate dynamic range
You can view hot and cold spots in one sequence using super framing mode which increases the dynamic range.

Window of Interest
Increase frame rate and reduce overhead for high speed process monitoring.

Performance optimization
Easy and continuous access to control parameters such as integration time and frame rate.

Thermal imaging
Radiometric calibrations are available to measure temperatures of objects with utmost accuracy.

Comprehensive thermal analysis
Interface with Thermography Studio, most popular recording and analysis tool for dynamic events.

CameraLink and full frame rate for high speed imaging
Export real time more than 100 fps.

GigE Vision-compatible
More than 100 images per second according to GigE Vision standard.

Advantages

- High image resolution
- Multi-spectral imaging
- Highly sensitive imaging performance
- High flexibility in use

Designed for use in

- R&D (MWIR range)
- Thermography
- Non-destructive testing
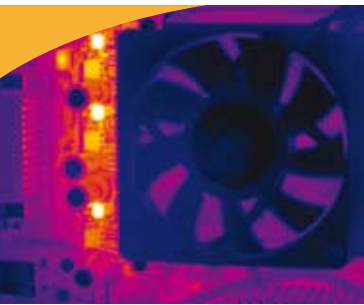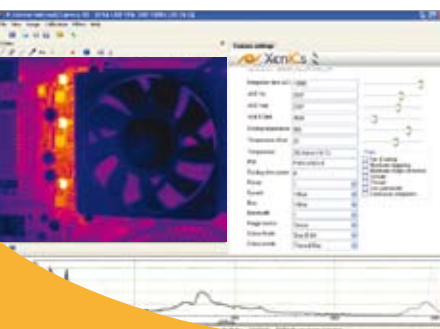- Industrial process monitoring

Thermal imaging: cold cup

Medical application: veins

Thermal imaging: electronics circuit

Array Specifications	Onca-MWIR-MCT-320	Onca-MWIR-MCT-640
Array type	MCT	MCT
Spectral band	3.7 to 4.8 µm	3.7 to 4.8 µm
# Pixels	320 x 256	640 x 512
Pixels pitch	30 µm	15 µm
Array cooling	Stirling cooled	Stirling cooled
Sensitivity (NETD)	< 16 mK	< 16 mK
Pixel operability	99.5 %	> 99.5 %
Cold stop F number	f/2	f/2.5

Camera Specifications	Onca-MWIR-MCT-320	Onca-MWIR-MCT-640
Lens (included)		
Focal length	25 mm	
Optical interface	Bayonet	
Imaging performance		
Frame rate: Video rate / High speed	60 Hz / 320 Hz	30 Hz / 120 Hz
Window of interest	smallest window 64 x 1	smallest window 132 x 1
Integration type	Snapshot	
Exposure time range	>3.0 µs, adjustable to full range	>0.5 µs, adjustable to full range
A to D conversion resolution	14 bit	
Interfaces		
Camera control	GigE / Serial channel CameraLink	
Image acquisition	GigE / CameraLink: 14 bit full frame rate / Analog: PAL or NTSC	
Trigger	Trigger in and out; LVCMOS	
Graphical User Interface (GUI)	Xeneth Advanced, Xeneth Radiometric, Thermography Studio	
Power requirements		
Power consumption	< 50 W at room temperature	
Power supply	24 V	
Physical characteristics		
Camera cooling	Forced convection cooling	
Ambient operating temperature	0 to 50 °C	
Humidity	Non-condensing	
Dimensions	250 L x 170 W x 190 H mm	
Weight camera head	5 kg (Lens not included)	
Hardware specifications		
Filter wheel options	Start – stop mode or Continuous mode	
# Filters	Up to 5 filters, 25.4 mm diameter, 1.0 mm thickness	
GPS time stamp	Can receive GPS data from Accutime Trimble Gold GPS receiver	

Applicable OS: Windows 2000 (SP4), XP Pro (SP2), VISTA (SP1)

Xeneth Advanced	Xeneth radiometric
· Image live view · Store digital Pictures / Movies · Image histogram · Line profiles, Spot meters, Time profiles	Xeneth Advanced features + thermography
· Black hot / White hot · False color mode with various color palettes	**Thermography studio**
Advanced image processing features Including Filter wheel control, Superframing, ...	Analysis and report-generating software of real-time and static images

A dynamic link library (DLL) to communicate with the driver has been designed for flexible software development. A well-documented API with sample code in C, Visual Basic and Delphi is supplied, as well as a Linux SDK. Labview device drivers and a sample program (executable) are also available.

⦂ Product Selector Guide

Onca-MWIR-MCT Part number	# Pixels	Wavelength range	Frame rate (Hz)	Thermography option
ON03GMM060	320 x 256	3.7 to 4.8 µm	60 Hz	Yes
ON03GMM320	320 x 256	3.7 to 4.8 µm	320 Hz	Yes
ON06GMM030	640 x 512	3.7 to 4.8 µm	30 Hz	Yes
ON06GMM120	640 x 512	3.7 to 4.8 µm	120 Hz	Yes

⦂ Accessories

Lenses Part number	Focal Lenghts	Optional	Available on following cameras
XC508-307	Asio 7 mm	✓	
XC508-303	Asio 13 mm	✓	
XC301-302	Asio 25 mm	Included	All
XC508-302	Asio 50 mm	✓	
XC508-301	Asio 100 mm	✓	
XC508-308	Asio 2FOV 50/250 mm	✓	

Cables Part number	Type	Description	Available on following cameras
XC602-306 XC602-307	Trigger in Trigger in & out	Lemo 1B-303	
XC603-303	Analog out	Lemo 1B-305	
XC606-301	CameraLink	SDR-26	All
XC615-301	Ethernet	RJ45, cat. 5E	
XC411-308	Power supply	Powersolve 150W with Lemo-1S-302	

Thermography Part number	Description	Available on following cameras
TH0120	Temperature calibration from -20°C to 120°C	
TH0400	Temperature calibration from 0°C to 400°C	All
TH1000	Temperature calibration from 0°C to 1000°C	

Software Part number	Description	Available on following cameras
XEADV	Xeneth Advanced	
XESDK	Xeneth SDK	All
TST08	Thermography Studio	
XERAD	Xeneth Radiometric	

⦂ Inputs

GPS   Trigger in/out

Power   Analog video

CameraLink

GigE (TCP/IP)

⦂ Outputs

Imagine the invisible

Xenics is a leading developer of innovative infrared detection solutions. We design, manufacture and sell infrared detectors and cameras, both linescan and 2-D, covering the infrared wavelength ranges from 0.4 to 14 micrometers. In addition, Xenics delivers tailor-made solutions produced according to customer-agreed specifications and planning. As a European vendor with a worldwide service and distributor network, we are strategically placed to serve global markets with highly innovative products drawing on a strong science and technology background.

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