Complete THz Offer

MICROXCAM-384i-THz

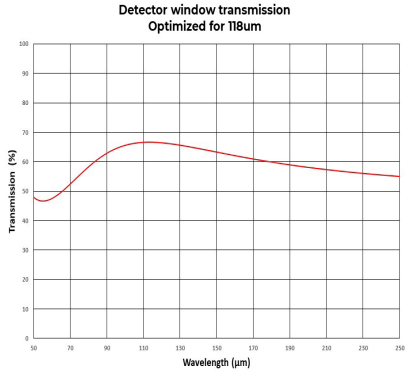
Our Microxcam-384i-THz camera allows you to see through materials such as fabric, ceramics, plastic, leather, and cardboard.

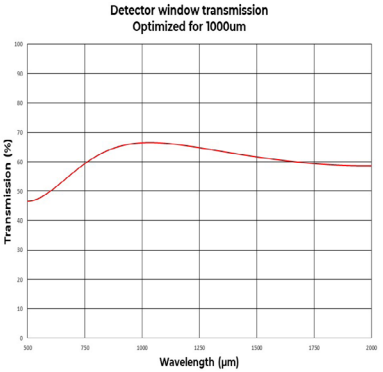
- 384 x 288 pixels, uncooled microbolometer detector
- 35 µm pixel pitch
- 50 Hz, real time imaging
- Broadband sensitivity, 90 GHz to 10 THz
- Active area of detector 10 x 13 mm

Camera Options

AR Coating

- Is applied to the external detector window and optics
- Highly recommended to increase transmitted power to the detector
- Can achieve up to 67% transmission at specific wavelengths
- Reduces potential interference of the reflected beams with the transmitted signal beams





Microshutter

- Performs the offset correction to compensate background
- Recommended if you use the camera in an environment where the temperature could vary or if the camera is not readily accessible

IR Filters

- Used to directly block IR signal that is within the field of view that would otherwise be picked up by the detector
- Long-pass filter; 30 µm cut-off

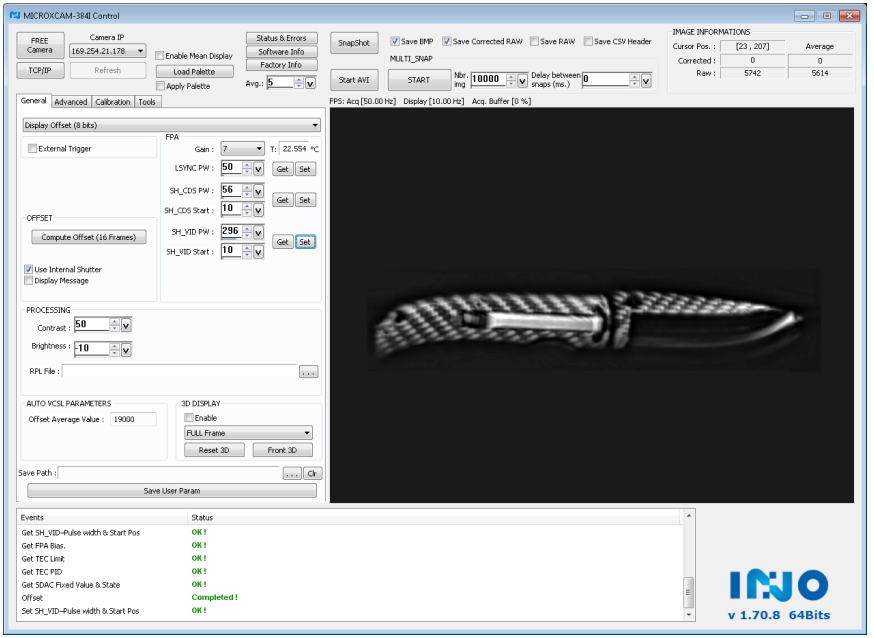
Camera Features

Software

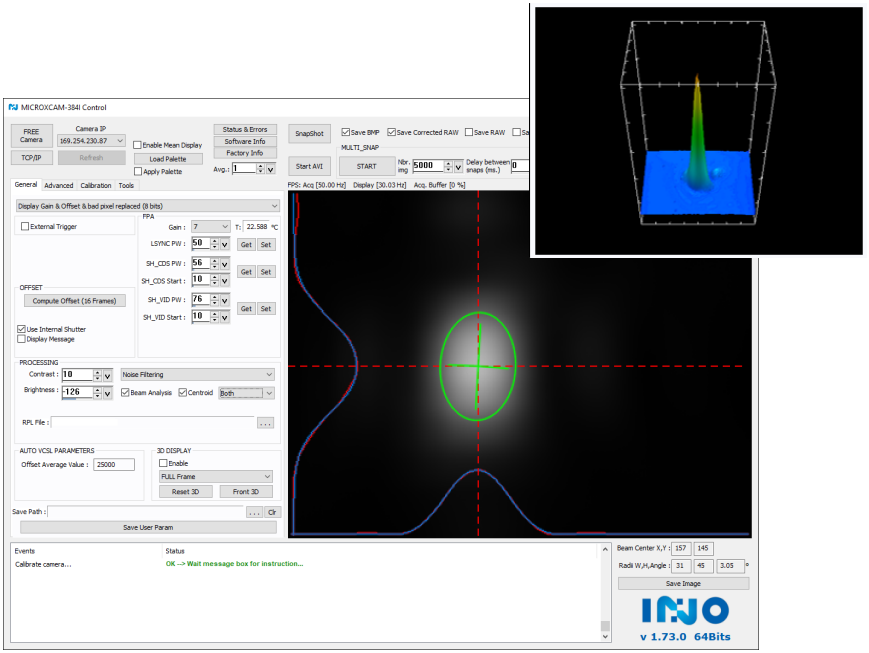
- Microxcam Control Software is included with the camera
- The camera can communicate to the software via GigE

Allows users to:

- Set camera parameters
- Correct image data (gain and offset)
- Calibrate the camera (gain correction factor and bad pixel replacement)
- Save an image snapshot to disk
- Record a video in AVI format (8 bits)



Beam Profiling



A set of features are available for beam profiling applications showing characteristics such as center position, radii, width, height, tilt angle. Furthermore we can add a gaussian fit to the image.

Software Development Kit (SDK)

- Included with the camera
- Create your own application
- Compatible to Labview programs

External Trigger

For customers wishing to initiate the capture of an image via an external signal, our camera has an SMA input gold-coated connector at the back of the unit.

Noise Equivalent Power (NEP)

The NEP is a measure of the sensitivity of the uncooled microbolometer detector. The typical NEP for specific wavelengths is given below:

4.25 THz* : 70pW
2.5 THz* : 50pW
1.39 THz* : 80pW
0.45 THz* : 88pW
0.396 THz* : 60pW
0.198 THz* : 66pW
0.100 THz** : 3nW

*Measured with Golay Cell detector from Tydex

**Measured with pyro detector TPR-D-69-THz from Gentec

The values above are for a detector with an optimized AR coated window. For windows without the AR coating, NEP values are 10-20% higher.

System Requirements

OS: Windows XP service pack 2 or more recent
Display Monitor: Minimum resolution of 1280x1024 pixels is recommended to use the Software
GigE Ethernet card

Two Modes of Operation

- Transmission: the object under test is placed between the THz illumination system and the camera
- Reflection: the THz illumination system is located on the same side as the camera with respect to the object under test

Objective

Ultrafast Optics F/#0.7

- High Resistivity Float Zone Silicon (HRFZ-Si)
- Images objects from 60 cm to infinity
- 44 mm focal length
- Field of View:
  - H-FOV: 17.36 degrees
  - V-FOV: 13.06 degrees
  - D-FOV: 21.61 degrees

Illumination System

- 282 GHz ≈4 mW, 515 GHz ≈1.25 mW, Custom
- 4.5 x 6 inches, near flat-top illumination
- Matches aspect ratio of the FPA
- Compatible with reflection & transmission modes
- Alignment & calibration procedure

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