



# HRXCAM-16K

## THERMAL INFRARED, HIGH-RESOLUTION, MICROSCANNED CAMERA MODULE

INO is proud to introduce its **compact thermal infrared, ultra high-resolution, micro-scanned 16348 x 12288 pixel camera core module**. The outstanding resolution is up to **16 times larger** than solutions currently achievable on the market and enables distinguishing features that are otherwise blurred-out at distances of 1 km or more. This provides unique surveillance and intelligence capabilities for increased situational awareness to the end-users.

The HRXCAM-16K uses a state-of-the-art **uncooled microbolometer detector** for high-resolution/high-sensitivity imaging in the LWIR range. The 1024 x 768 sensor is combined with a **patented microscanned lightweight catadioptric lens**. The camera module, providing a 16-bit raw signal, is ideal for developers since it provides full access to the detector configuration parameters allowing for a very wide dynamic range.

The HRXCAM-16K is built around catadioptric optics based on refractive and reflective elements. Reflective elements are made of light materials, such as aluminum.

Reflective architectures can also be athermalized and used on wider wavebands resulting in reduced weight. By using a folded path, the optics can be made ultra compact. To resolve comparable details with current technology, not only would the optics be up to 16 times larger but the field-of-view would be up to 16 times smaller.



## Preliminary technical specifications<sup>1</sup>

Resolution	16384 x 12288 pixels
Effective pixel pitch	1.0625µm
Detector frame rate	48 fps
FPA	1024 x 768 pixel, 17 micron pitch uncooled microbolometer, 48 fps, Ulis UL05251
NETD (F/#:1.0, 300 K, 30 fps)	< 100 mK
Readout mode	Row per row
TEC-less operation	Single detector parameter configuration for high-gain operation over a broad temperature range
Output	16-bit raw data rate on camera link
Detector configuration via GigE	All detector parameters can be adjusted including input voltages, gain, and integration time
Temperature	<ul style="list-style-type: none"> <li>Operating: -30 to 55°C</li> <li>Start: 0 to 55°C</li> <li>Storage: -40 to 80°C</li> </ul>
Mechanics	Integrated heat sink
Size	11.4 cm (Φ) x 27.6 cm
Weight	1.6 kg
Power supply	12 V
Software	Control and operation software available
Waveband	8 to 14 microns
Focal length	50.0 mm
Effective F/#	F/1.05
FOV	19.8 x 14.9 degrees
Microscan response time	< 1.5 millisecond
Manual focus range	5 meters to infinity
Athermal range <sup>2</sup>	-30°C/60°C

<sup>1</sup> Specifications subject to change without notice.

<sup>2</sup> With focus adjustment.

