Atom® 640

Uncooled Infrared Camera Core with VGA Resolution

- Frame Rate: 60Hz VGA
- Very Low Power Consumption
- < 50mK Detector Thermal Sensitivity
- Lightweight
- 17 micron Pixel Technology
- 8-14 micron Detector Spectral Range

Shown actual size with 35mm lens. A variety of fixed and variable focal length lenses available.

Incorporating an advanced 640×480 thermal image sensor array, the Atom 640 delivers a highly uniform image in a VGA format. The camera core is designed for a wide variety of applications that benefit from its superb image detail and excellent thermal sensitivity. Because of it's small compact size and low power consumption, the Atom 640 is easy to integrate, and ideally suited for a wide range of military and COTS thermal imaging systems.

The Atom 640's short thermal time constant produces superior thermal image quality even while imaging fast moving objects, making the system an ideal choice for hand held targeting devices, ground and airborne vehicle, UAV, 24/7 surveillance, EOIR platforms and advanced fusion-based night vision systems.

Sensor Type	ULIS Gen2 microbolometer
Array Size	640×480 pixels
Pixel Pitch	17 microns
Detector Spectral Range	8-14 microns
Frame Rate	60Hz / 30Hz/ 9Hz
Detector Sensitivity (f/1)	< 50 mK
Time to First Image	< 2 seconds
Video Processing	Non-uniformity correction, Auto/Manual gain, BPR, Digital Zoom, Digital Filtering, Built-in Self Test, Test patterns, External Synchronization, Image Orientation

FEATURES	BENEFITS
• 640×480 resolution with 17 micron pixels	• VGA resolution for high performance applications
• < 50mK detector thermal sensitivity	• Increased range and detection performance
• 60Hz / 30Hz frame rate	• Smooth motion within scene
• <1 Watt (Minimum configuration)	• Longer battery life
• Tested to Mil-Spec 810G	• Ready to integrate into tactical systems

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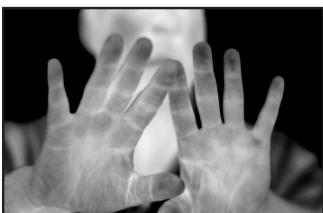
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ATOM 640 IMAGER SPECIFICATIONS

Description	Standard with Camera Link & Chassis Option	Standard	Basic
Frame Rate	9Hz/ 30Hz/ 60Hz		
Operating Temp. Range	-40°C to 60°C		
Non-operating Temp. Range	-45°C to 70°C		
8 or 14-bit Digital Output	Camera Link	3.3 V CMOS (Hirose 50 pin connector)	
Analog Video	NTSC or PAL (MCX connector)	NTSC or PAL (Available on Hirose 50 pin connector)	
Serial Control Interface	USB or Camera Link	LVCMOS level UART	
Graphical User Interface	Included	Included (Requires customer furnished interface as COM port)	
Size (lens not included) W × H × L	1.6"× 1.6"× 1.3" w/o M34	1.6" x 1.6 x 1" w/o M34	1.2" x 1.2"× 0.9"
Weight	90g (with M34 without lens)	60g (with M34 without lens)	30g
Lens Mount	M34 (Removable, Other interfaces available)		N/A
Lens Options (Other lenses including continuous zoom available; please call for info)	8mm F1.2 HFOV 68.4° / 14mm F1.2 HFOV 42.5° 19mm F1.2 HFOV 32° / 25mm F1.2 HFOV 24.6° 35mm F1.2 HFOV 17.7°		N/A
Input Voltage	USB 5v (PoCL 12v Available)	4-5.5 VDC (Hirose 50 pin connector)	
Power Consumption	< 1.6 W (USB or PoCL)	<1 W	

Technical characteristics described in this data sheet are for information only and are not contractual. Because of ongoing product enhancements, specifications are subject to change without notice.

Export of these products from the United States is controlled by the US Dept. of Commerce. Prior authorization is required for re-export or transfer.

ACCESSORIES

Tripod mount / Camera Link cable / Analog video cable / External sync cable

Lenses are also available as separate items, Calibration for additional lenses

DESKTOP SOFTWARE

Software Development Toolkit (SDK) for C++ or C#

D*STAR Digital Storage and Retrieval Image Processing Software Suite for ATOM 640. To be used in thermal imaging R&D applications