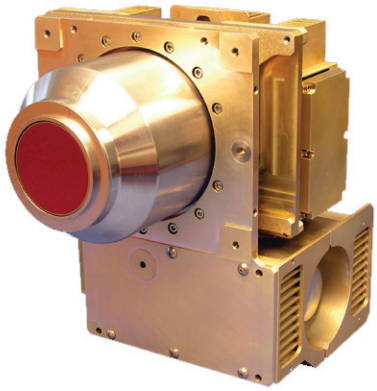
L3HARRIS™
FAST. FORWARD.

LARGE-FORMAT INFRARED SENSOR ENGINE

Intelligence, Surveillance and Reconnaissance (ISR) for Wide-Area Persistent Surveillance

SENSOR ENGINE	2K x 2K	4K x 4K
Camera System Parameters		
Sensor Type	MWIR InSb reticulated	MWIR InSb reticulated
Sensor Size	2,048 x 2,048 pixels, 15 µm pitch	4,096 x 4,096 pixels, 15 µm pitch
f/#	f/3.07 - custom f/# available	f/2.9 - custom f/# available
Spectral Band	3.35 to 5.10 µm with rejection of CO_2 notch	3.50 to 5.10 µm with rejection of CO_2 notch
Focal Plane Array (FPA) Size	30.7 mm horizontal x 30.7 mm vertical (active area); 43.4 mm diagonal	61.4 mm horizotal x 61.4 mm vertical (active area); 86.9 mm diagonal
System Control	RS-422 serial interface	RS-422 serial interface
Video Format (digital)	Parallel, 2 x 14-bit, single-ended LVTTL interface (Camera Link option also available)	Parallel, 4 x 14-bit, single-ended LVTTL interface (Camera Link option also available)
Power Requirements		
Power Source	+28 VDC to linear cooler drive electronics (LCDE) +15 VDC to electronics	+28 VDC to linear cooler drive electronics (LCDE) +15 VDC to electronics
Power Consumption (+28 VDC)	Max (cool down): < 80 W (@71 °C) Steady state: < 23 W (@ 23 °C) < 42 W (@ 71 °C)	Max (cool down): < 210 W (@71 °C) Steady state: < 54 W (@ 23 °C) < 65 W (@ 55 °C)
Power Consumption (+15 VDC)	< 10.5 Watts max	< 10.5 W max
Mechanical		
Weight	< 8 lb	~20 lb
Size	6.5" L x 6.5" W x 5.0" H (may vary depending on final configuration)	14" L x 10.2" W x 8.5" H
Cooler*	1.5 Watt (smaller coolers optional)	5 Watt
Operating Temperature	-40 °C to +71 °C	-40 °C to +55 °C
Interface	ICD provided upon request	ICD provided upon request
Typical Performance		
Cool-Down Time	<10 min (@ 23 °C) <15 min (@ 71 °C)	~20 min (@ 23 °C) ~50 min (@ 55 °C)
Frame Rate	30 Hz max	15 Hz
NETD	< 30 mK @ 25 °C (1/2 well fill)	< 34 mK @ 27 °C (1/2 well fill)
Operability	> 99% of pixels	> 99% of pixels

* SLS FPA technology available for reduced SWaP and extended cooler life.



An innovative solution for users who need the benefits of large-format, wide-area imagery within the constraints of lower size, weight and power (SWaP) and affordability. Combat users appreciate the situational awareness provided through the wide field-of-view (WFOV), while still maintaining the high resolution needed to track ground vehicles, individuals and identify intent.

The infrared sensor engine is a best-value, low-SWaP solution for ultra-wide FOV, high resolution needs. Empowers warfighters with unprecedented situational awareness through WFOV persistent “stare” coverage, providing high-resolution surveillance imagery which can be analyzed real time or post-mission. Already proven successful in global combat zones, the 4K x 4K infrared sensor engine is an intelligence, surveillance and reconnaissance (ISR) game-changer for wide-area persistent surveillance.

Testing includes environmental stress screening (thermal cycle), electro-optical: read capability, responsivity, linearity, noise, pixel and operability.

BENEFITS AND APPLICATIONS/MISSIONS

Eliminates the “soda straw” effect which constrains traditional electro-optical/infrared systems. Enables the tracking of multiple vehicles and dismounted targets of interest through enhanced digital zoom capability without image pixilation. Optimized for performance and SWaP with electronics available to support up to 30 Hz operations for the 2K x 2K and 15Hz for the 4K x 4K. Applications and missions include UAV ISR: target development, pattern-of-life analysis and counter-IED surveillance; persistent surveillance; maritime surveillance; border/perimeter security; manned/unmanned airborne reconnaissance; low-earth-orbit wide-area surveillance and remote unattended ground sensing systems.

The 4-megapixel sensor provides significant coverage. The 16-megapixel sensor provides substantially more ground coverage than a 4-megapixel sensor.

Large Format Infrared Sensor Engine

L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers’ mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.

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