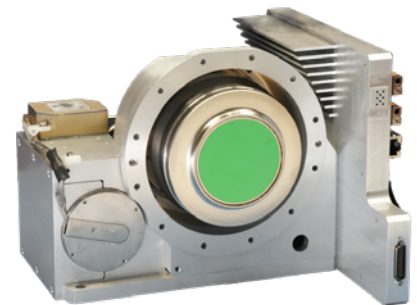


NIGHT GUARDIAN

Large-format infrared sensor engine for wide-area ISR persistent surveillance

SENSOR ENGINE	
Camera System Parameters	
Sensor Type	MWIR HOT SLS
Sensor Size	6,144 x 4,096 pixels, 8 µm pitch
f/#	f/1.5 — custom f/# available
Spectral Band	3.50 to 5.10 µm with rejection of CO ₂ notch
System Control	GigE Vision (Ethernet)
Video Format (digital)	10 Gb GigE Vision
Power Requirements	
Power Source	+28 VDC
Power Consumption	Max (cool down): < 115 W (@23°C) Steady state: < 100 W (@23°C)
Mechanical	
Weight	< 16 lbs
Size	9.125 L x 9.125 W x 7.375 H in
Operating Temperature	-40°C to +55°C
Interface	ICD provided upon request
Performance	
Cool-Down Time	~35 min (@ 23°C)
Frame Rate	24 Hz full frame + 96 Hz region of interest
NETD	< 28 mK @ 27°C (full well) < 16 mK @ 27°C (processed windowed mode)
Well Capacity	4.0-4.5 Me-
Operability	> 99.5% of pixels
Additional Designs	
6K x 6K available late 2027	
8K x 6K available in 2029	



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. The solution delivers superior situational awareness for ground, naval and airborne operations where visibility is mission-critical. The architecture provides comprehensive coverage of surrounding waters and airspace, enabling warfighters to detect, identify and track multiple surface vessels, low-flying aircraft and potential ground threats.

The infrared sensor engine is a best-value, low-SWaP solution for ultra-wide FOV, high-resolution needs. Built to military standards for reliability and durability, the solution integrates seamlessly with existing combat management systems, providing real-time thermal intelligence when every second counts. Already proven successful in global combat zones, the 6K by 4K infrared sensor engine is an intelligence, surveillance and reconnaissance game-changer for wide-area persistent surveillance.

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



Sample footage highlighting system capability

BENEFITS AND APPLICATIONS/MISSIONS

The wide field-of-view solution excels in search and rescue operations under low-visibility conditions, target development, multi-target tracking, remote unattended ground systems, and border patrol by providing 24/7 thermal surveillance in low light and poor weather conditions. It's optimized for performance and SWaP with electronics available to support 24 Hz operations and digital zoom without image pixelation.

Whether deployed on naval ships, ground vehicles, offshore platforms, or patrol aircraft, this solution delivers the persistent wide-area awareness that modern military operations demand.

Night Guardian

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