

NEUTRINO® PERFORMANCE SERIES

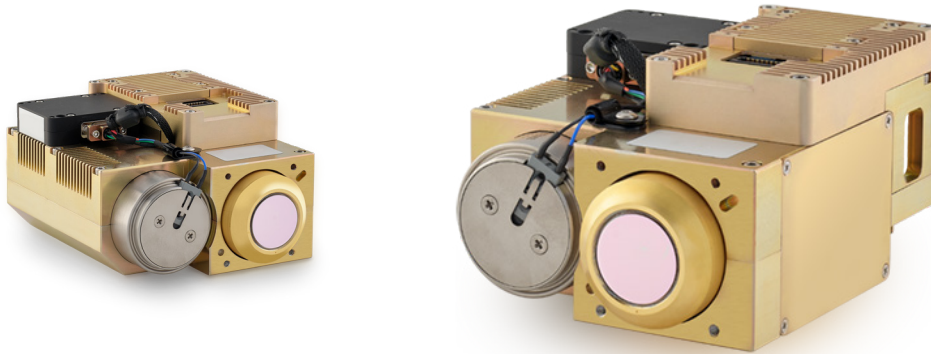
High Resolution MWIR Camera Module

With high resolution and fast frame rates, the Neutrino Performance Series is ideal for ground or airborne intelligence, surveillance and reconnaissance (ISR), targeting, counter-UAS solutions, and Wide Area Motion Imagery (WAMI) applications. Recognizing integrators' different operating requirements, the performance series offers a range of FPA types and optical interface options.

The Neutrino Performance Series was developed with system integrators in mind. The industry-standard interfaces, simple and powerful software controls, complete product documentation and Teledyne FLIR technical support reduces product development risk and shortens time to market.

APPLICATIONS

- UNMANNED AERIAL SYSTEMS (UAS)
- COUNTER-UAS
- AIRBORNE INTELLIGENCE, SURVEILLANCE, AND RECONNAISSANCE (ISR)
- GROUND ISR & SECURITY
- MILITARY DISMOUNT SYSTEMS
- TARGETING



CONFIGURABLE HD+ MWIR CAMERA MODULE

Flexible detector types, FPA window sizes, frame rates, and optical interface options

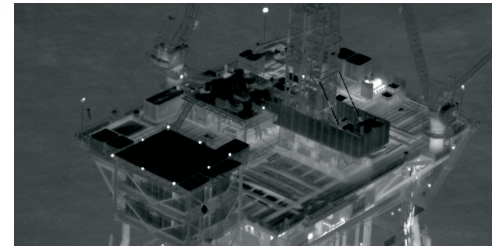
- 2048 x 1536 /10 μm pixel pitch or 1280 x 1024 /12 μm pixel pitch FPA provides high resolution with greater sensitivity
- Crisp imagery for a small instantaneous field of view (IFOV) at longer standoff distances while maintaining a wide field of view (FOV)



DESIGNED FOR INTEGRATORS

Simplify development and shorten time to market

- Built-in support for physical and protocol-level industry standards (e.g. RS-422 and 4-bit corrected CameraLink)
- Mature infrared image processing architecture and robust SDK
- Classified under US Department of Commerce jurisdiction as EAR 6A003.b.4.a



TELEDYNE FLIR VALUE AND REPUTATION

The performance, reliability, and support expected from Teledyne FLIR

- Comprehensive product integration documentation
- Commercially developed, military qualified technology
- Highly qualified Technical Services team available to support integration

For more information visit:
www.teledyneflir.com/neutrino

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SPECIFICATIONS

Imaging	Neutrino QX	Neutrino SX12
Sensor Technology	MWIR	MWIR
Pixel Pitch	10 µm	12 µm
Detector Type	InSb (T2SL option)	InSb (T2SL option)
FPA/Digital Video Display Format	2048 x 1536	1280 x 1024
Spectral Band	3.4 µm – 5 µm (Standard)	3.4 µm – 5 µm (Standard)
Frame Rate	60 Hz (1080P), >30 Hz (QXGA)	120 Hz (720P), >60 Hz (SXGA)
Sensitivity (NEΔT)	<30 mk, f/4, 50% well	<25 mk, f/4, 50% well
Operability	>99.5%	>99.5%
Time to Image	<7 min @ 22°C ambient	<7 min @ 22°C ambient
Physical Attributes		
Size (without optics)	13.4 x 7.0 x 10.3 cm (5.26 x 2.76 x 4.05 in)	12.0 x 7.0 x 10.3 cm (4.732x 2.76 x 4.05 in)
Weight	1.97 kg (4.34 lb)	1.97 kg (4.34 lb)
ROIC Type	Direct Injection, Snapshot	Direct Injection, Snapshot, Integrate While Read
Programmable Integration Time	Yes (.01-16 ms)	Yes (.01-16 ms)
Well Capacity	3 x 10 ⁶ electrons	>11 x 10 ⁶ electrons
Coldshield	f/2 baseline	f/4 nominal, customizable
Sync Modes	Free run, external sync with readout or integration priority	Free run, external sync with readout or integration priority
Interfacing		
Digital Output Format	Camera Link Medium compatible interface	Camera Link Medium compatible interface
Primary Electrical Connector	40-pin Samtec	40-pin Samtec
Input Power	5 VDC Camera, 28 VDC Cryocooler	5 VDC Camera, 28 VDC Cryocooler
Power Consumption	<20 W Steady State	<20 W Steady State
Command and Control	RS-422, selectable BAUD rate	RS-422, selectable BAUD rate
Image Correction	2-point (offset and gain) and bad pixel replacement	2-point (offset and gain) and bad pixel replacement
User Configurable via SDK & GUI	Yes	Yes
Operating Temperature	-40°C to +71°C (-40°F to +160°F)	-40°C to +71°C (-40°F to +160°F)
Non-operating Temperature	-54°C to +80°C (-65°F to +176°F)	-54°C to +80°C (-65°F to +176°F)
Operational Altitude	12,190 m (40,000 ft)	12,190 m (40,000 ft)
Vibration	3.4 GRMS three axis, 1 hr each	3.4 GRMS three axis, 1 hr each
Shock	20 G Shock Pulse W/11 ms Half Sine	20 G Shock Pulse W/11 ms Half Sine

Specifications are subject to change without notice. For the most up-to-date specs, go to www.teledyneflir.com

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