Photon etc
A spectrum of solutions

5795 DE GASPE AVENUE, #222
MONTREAL, QUEBEC, H2S 2X3
CANADA

Tel: 514-385-9555
sales@photonetc.com

ZephIR™ 2.5e
INFRARED CAMERA



Introducing the groundbreaking ZephIR 2.5e, the first camera to feature a T2SL sensor up to 2500 nm. With its state-of-the-art thermo-electric cooling, the ZephIR 2.5e delivers unparalleled operability and ultra-low noise performance. Engineered for speed and equipped with versatile connectivity options, it's the ideal solution for both industrial precision and scientific exploration. Step into the future of infrared imaging and redefine what is possible with the ZephIR 2.5e.

TECHNICAL SPECIFICATIONS			
Sensor	T2SL FPA		
Sensor Format	640 x 512		
Pixel size	15 µm		
Spectral range	900 - 2500 nm		
Peak Quantum Efficiency	> 70%		
Typical operability	> 99%		
Cooling Temperature @ 20°C ambiant	-80 °C		
Cooling method	TEC + forced air		
Typical Dark Current	30 Mē/px/s		
	High	Med	Low
Typical Gain setting (ē/ADU)	2.3	7.4	90
Typical readout noise (ē)	45	75	300
Typical full well capacity (kē)	28	110	1400
Readout modes	CDS ITR, CDS IWR, IMRO IWR		
Frame Rate	240		
ROI Frame Rate	Up to 4000		
Integration time range	from 1 µs to full well capacity		
Digitization	14 bits		
Image Format	16 bits HDF5, FITS and TIFF		
Software	PHySpec™ control and analysis software, SDK (C++, Python)		
Computer interface	USB 3.0 and CameraLink™		
External control	Trigger IN/OUT		
Ambient temperature range	10 °C to 35 °C		
Power Supply	12V DC		
Dimensions	169 mm x 130 mm x 97.25 mm		
Weight	2.9 kg		
Certification	CE ETL Intertek		

MAIN ADVANTAGES OF TEC + AIR SYSTEM

- » Compact
- » No maintenance
- » Highly reliable
- » Low dark current
- » Long lifetime
- » Low readout noise

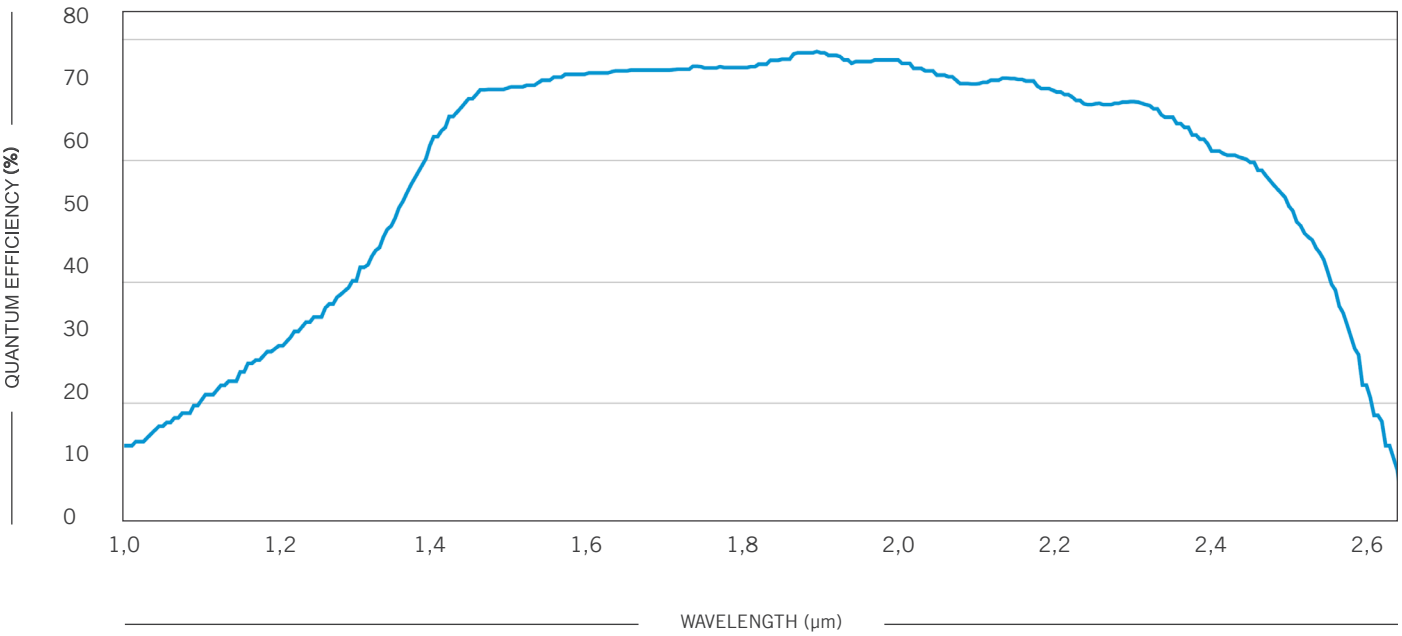
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CERTIFIED SYSTEM BNQ ISO 9001:2015

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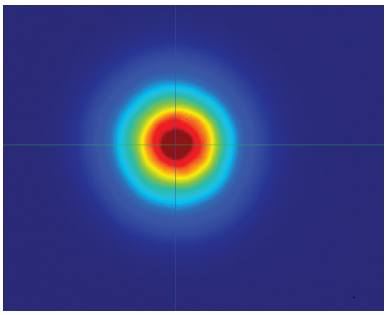
Quantum efficiency presented at -80 °C

APPLICATIONS



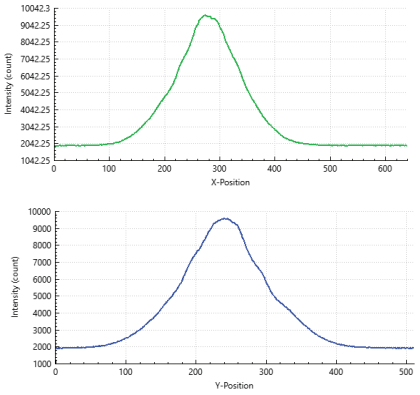
SWIR Imaging in Degraded Environment

The images highlight the advantages of SWIR imaging using our ZephIR 2.5e camera. In the visible spectrum (left), dense smoke obscures the view, making it difficult to see through. However, the SWIR image (right) reveals details hidden in the smoke in the visible spectrum. This capability is crucial for applications such as surveillance, search and rescue, and industrial monitoring, where visibility is often hindered by environmental factors like smoke or fog. The ZephIR 2.5e provides enhanced visibility in challenging conditions, offering critical insights in degraded environments.



2-D Intensity Profiling with ZephIR 2.5e

The ZephIR 2.5e SWIR T2SL camera delivers precise 2-D intensity profiling of collimated supercontinuum sources. Detailed spatial energy distributions are captured, with horizontal and vertical axis profiles providing critical insights into beam uniformity and alignment. Accurate beam profiling, whether for lasers or supercontinuum sources, is essential for maintaining optimal system performance.



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