

# ZephIR™ 1.7

## INFRARED CAMERA



The ZephIR 1.7 is a high-end, scientific grade, 640 x 512 pixels resolution, InGaAs camera that marries performance with reliability. It has extremely low noise levels, high efficiency, and a rapid frame rate compatible with an external trigger. This is made possible by a combination of state-of-the-art control electronics and a four stage thermoelectric cooler (TEC) which can maintain an operating temperature as low as -80 °C. The TEC, in turn, uses forced air cooling which requires none of the maintenance of a water or liquid nitrogen chilled unit.

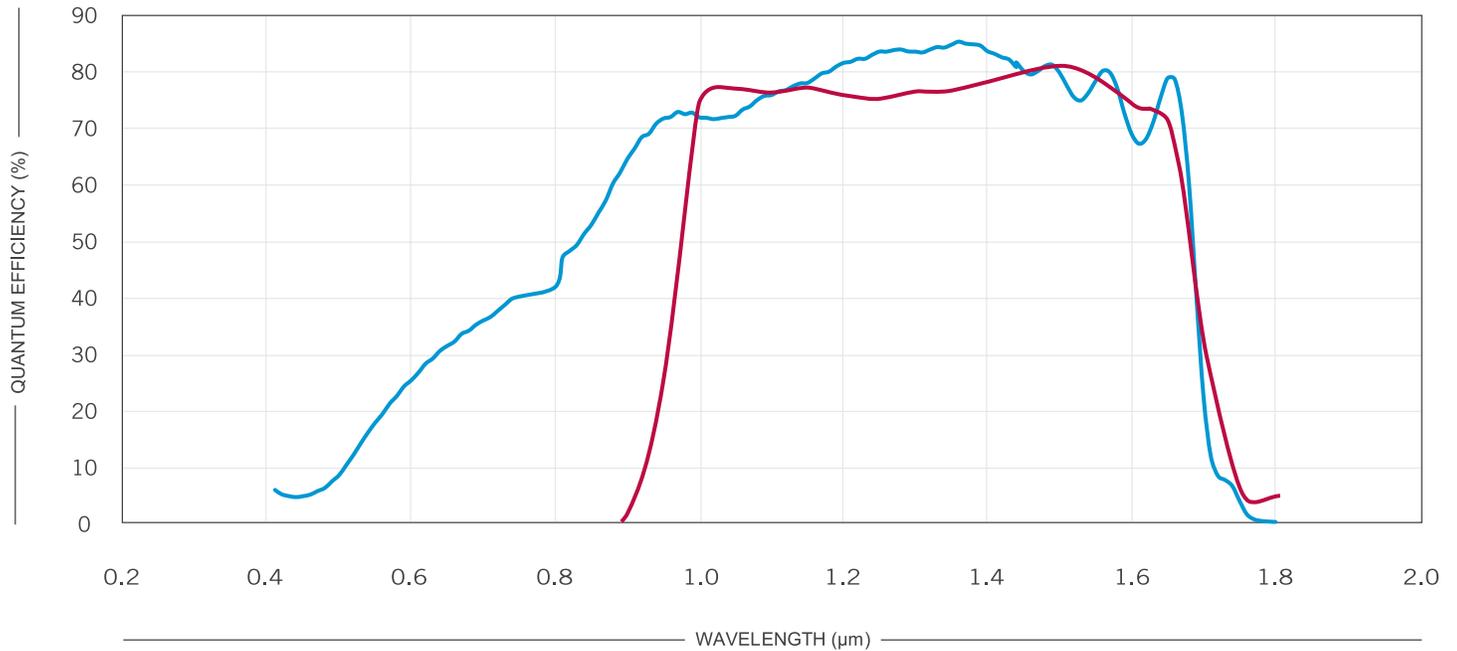
The ZephIR 1.7 is one of the most sensitive and dependable InGaAs cameras on the market.

### TECHNICAL SPECIFICATIONS

	ZephIR 1.7x		ZephIR 1.7s		
Sensor	InGaAs FPA		InGaAs FPA		
Sensor Format	640 x 512		640 x 512		
Pixel size	15 µm		15 µm		
Spectral range	500-1700 nm		900 - 1700 nm		
Peak Quantum Efficiency	> 85 %		> 80 %		
Typical operability	> 99.9 %		> 99.5%		
Cooling Temperature @ 20°C ambient	-80 °C		-80 °C		
Cooling method	TEC + forced air		TEC + forced air		
Typical Dark Current*	125 e-/px/s		150 e-/px/s		
	High	Low	High	Med	Low
Typical Gain setting (e-/ADU)	2.67	47.5	2.2	7.4	89
Typical readout noise (e)	22	135	28	75	315
Typical full well capacity (ke)	8.5	250	27	110	1400
Readout modes	CDS ITR	STD ITR	CDS ITR, CDS IWR, IMRO IWR		
Frame Rate	110	220	250		
ROI Frame Rate	Up to 500	Up to 900	Up to 4300		
Integration time range	from 1 µs to full well capacity		from 1 µs to full well capacity		
Digitization	13 bits		14 bits		
Image Format	16 bits HDF5, FITS and TIFF		16 bits HDF5, FITS and TIFF		
Software	PHySpec™ control and analysis software, SDK (C++, Python)		PHySpec™ control and analysis software, SDK (C++, Python)		
Computer interface	USB 3.0 and CameraLink™		USB 3.0 and CameraLink™		
External control	Trigger IN / OUT		Trigger IN / OUT		
Ambient temperature range	10 °C to 35 °C		10 °C to 35 °C		
Power Supply	12V DC		12V DC		
Dimensions	169 mm x 130 mm x 97 mm		169 mm x 130 mm x 97 mm		
Weight	2.9 kg		2.9 kg		
Certification					
	*using cold target				

### MAIN ADVANTAGES OF TEC + AIR SYSTEM

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

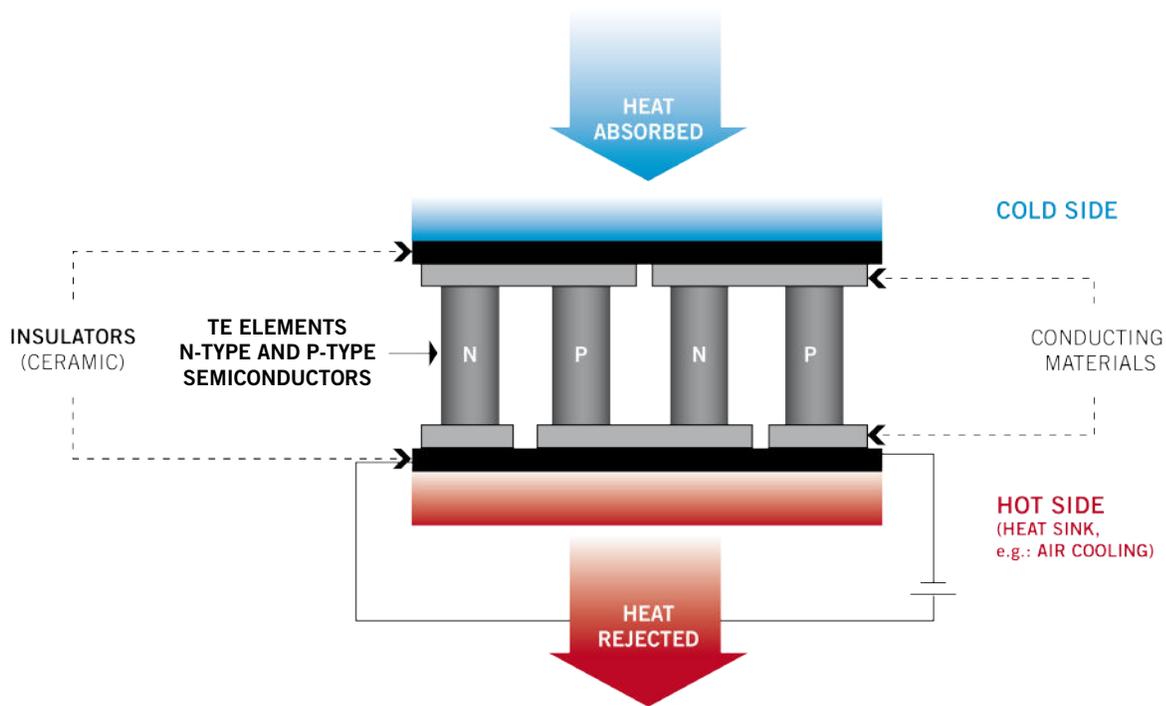


**○ ZephIR 1.7x**

**○ ZephIR 1.7s**

Quantum efficiency presented at 25 °C.

The cut-off wavelength shifts towards the blue by ~ 7nm for every 10 °C of cooling.



Schematic of a thermoelectric device where the Peltier effect is used to generate heat flow between two materials.