

ZephIR™ 1.7

INFRARED CAMERA



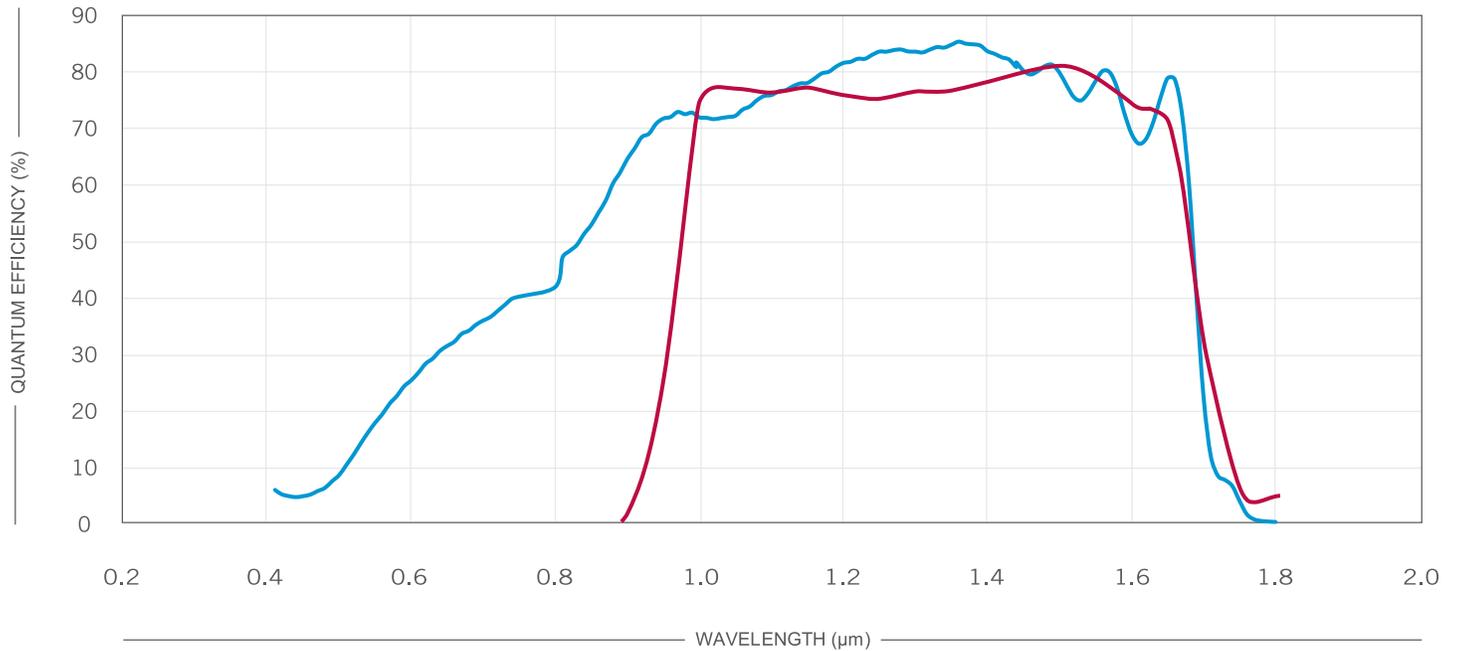
The ZephIR 1.7 is a high-end, scientific grade, 640 x 512 pixels resolution, InGaAs camera that marries performance with reliability. It has extremely low noise levels, high efficiency, and a rapid frame rate compatible with an external trigger. This is made possible by a combination of state-of-the-art 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.

MAIN ADVANTAGES OF TE COOLED AIR SYSTEM:

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

TECHNICAL SPECIFICATIONS						
	ZephIR 1.7v			ZephIR 1.7s		
Focal plane array (FPA)	InGaAs			InGaAs		
FPA size (px)	640 x 512			640 x 512		
Pixel size (µm)	15			15		
Spectral range (QE > 10%)	0.51 - 1.71 µm at 25 °C 0.44 - 1.64 µm at -80 °C			0.95 - 1.70 µm at 25 °C 0.90 - 1.61 µm at -80 °C		
FPA operating temperature	-80 °C			-80 °C		
Dark current (sensor at -80 °C)	Target at 21 °C: < 300 (Typ. ~250) e ⁻ /px/s No thermal emission from target: < 150 (Typ. ~125) e ⁻ /px/s			Target at 21 °C: < 300 (Typ. ~250) e ⁻ /px/s No thermal emission from target: < 150 (Typ. ~125) e ⁻ /px/s		
	High	Med	Low	High	Med	Low
Gain setting (e ⁻ /ADU)	2.8	28	130	2.2	7.4	89
Typical readout noise (e ⁻)	50	150	800	35	75	350
Full well capacity (ke ⁻)	12	800	3500	27	110	1400
Readout modes	CDS	ITR	ITR	ITR, IWR, CDS		
Digitization (bits)	13	15	15	14		
Frame rate in CameraLink™ (fps)	90	190	190	Up to 240 full frame 1900 for a 128x128 px ROI		
Frame rate USB 3.0 (fps)	85	180	180	Up to 250 full frame 1900 for a 128x128 px ROI		
Peak responsivity	1.1 A/W at 1660 nm			1.0 A/W at 1550 nm		
Quantum efficiency	> 70% 0.95 - 1.67 µm at 25 °C > 70% 0.87 - 1.60 µm at -80 °C			> 70% 1.00 - 1.65 µm at 25 °C > 70% 0.95 - 1.56 µm at -80 °C		
Operability (typical)	> 99%			> 99.5%		
Integration time range	1 µs to 19 minutes (low gain)			1 µs to 19 minutes (low gain)		
Cooling	TEC 4 stages, forced air			TEC 4 stages, forced air		
Cooldown time	< 10 minutes			< 10 minutes		
Ambient temperature range	10 °C to 35 °C			10 °C to 35 °C		
Cold shield	f#/1.4			f#/1.4		
Software	PC (Windows10 - 64-bits) with PHYSpec™ control and analysis software (computer not included)					
Computer interface	CameraLink™ or USB 3.0			CameraLink™ or USB 3.0		
External control	Upon request			Upon request		
Power consumption on 12V DC (W)	39 (typ. 23)			33 (typ. 20)		
Dimensions	169 mm x 130 mm x 97.25 mm			169 mm x 130 mm x 97.25 mm		
Weight	2.6 kg			2.6 kg		
Certification	CE			CE		

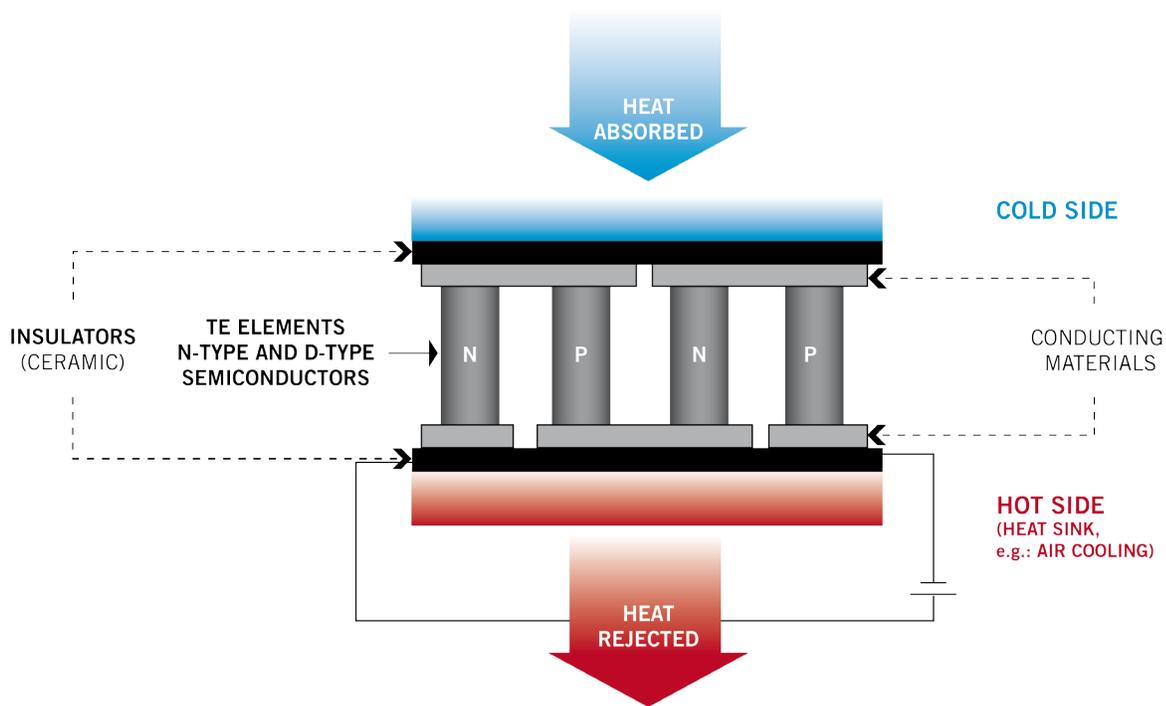


○ ZephIR 1.7v

○ 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.