

Alizé 1.7™ INFRARED CAMERA



The Alizé 1.7 is a high-end, scientific grade, 640 x 512 pixels resolution, InGaAs camera that marries performance with reliability. It has 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 -50 °C. The TEC, in turn, uses forced air cooling which requires none of the maintenance of a water or liquid nitrogen cooled unit.

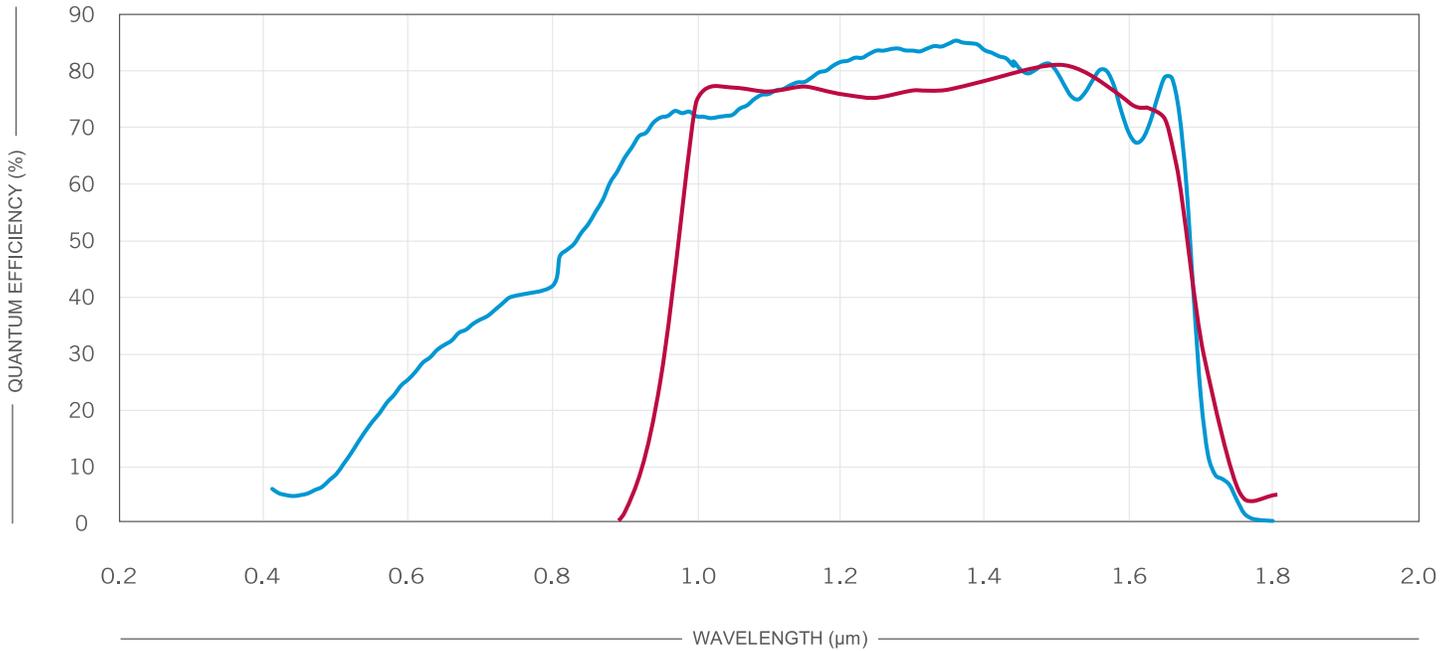
The Alizé 1.7 is amongst the most cost-effective high-end InGaAs cameras on the market.

TECHNICAL SPECIFICATIONS

| | Alizé 1.7x | | Alizé 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%) | 0.45 - 1.70 µm at 25 °C | | 0.95 - 1.70 µm at 25 °C 0.91 - 1.64 µm at -50 °C | | |
| FPA operating temperature | -50 °C | | -50 °C | | |
| Dark current (e ⁻ /px/s) target at 21°C, sensor at -50°C | < 450 (Typ. ~300) | | < 600 (Typ. ~425) | | |
| | 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 | 35 | 75 | 350 |
| Typical full well capacity (ke ⁻) | 8.5 | 230 | 27 | 110 | 1400 |
| Readout modes | CDS | ITR | CDS, IMRO, ITR, IWR | | |
| Frame rate in CameraLink™ (fps) | 105 | 210 | Up to 240 full frame 1900 for a 64x64 px ROI | | |
| Frame rate in USB 3.0 (fps) | 110 | 220 | Up to 250 full frame 1900 for a 128x128 px ROI | | |
| Integration time range | 1 µs ~ 16 s | 100 µs ~ 14 min | 1 µs to 19 minutes (low gain) | | |
| Digitization (bits) | 13 | | 14 | | |
| 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% 0.89 - 1.62 µm at -50 °C | | > 70% 1.00 - 1.65 µm at 25 °C > 70% 0.96 - 1.59 µm at -50 °C | | |
| Typical operability | 99.9% | | > 99% | | |
| 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 30 °C | | |
| Cold shield | f#/1.4 | | f#/1.4 | | |
| Software | PC (Windows10 - 64-bits) with PhySpec™ control and analysis software | | | | |
| Computer interface | CameraLink™ or USB 3.0 | | CameraLink™ or USB 3.0 | | |
| External control | Trigger IN / OUT | | Trigger IN / OUT | | |
| Power consumption on 12V DC (W) | 39 (typ. 23) | | 33 (typ. 20) | | |
| Dimensions | 169 mm x 130 mm x 97 mm | | 169 mm x 130 mm x 97 mm | | |
| Weight | 2.6 kg | | 2.6 kg | | |
| Certification |  | |  | | |

MAIN ADVANTAGES OF TE COOLED AIR SYSTEM:

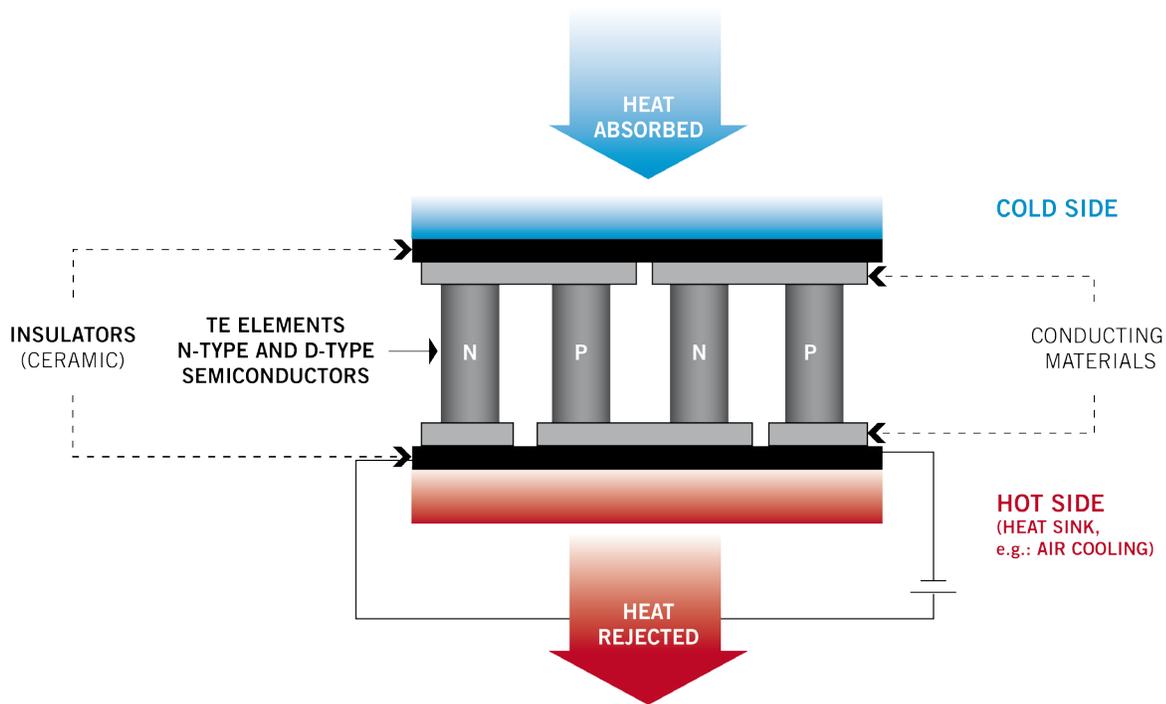
- » Compact
- » No maintenance
- » Highly reliable
- » Low dark current
- » Long lifetime
- » Low readout noise



○ Alizé 1.7z

○ Alizé 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.