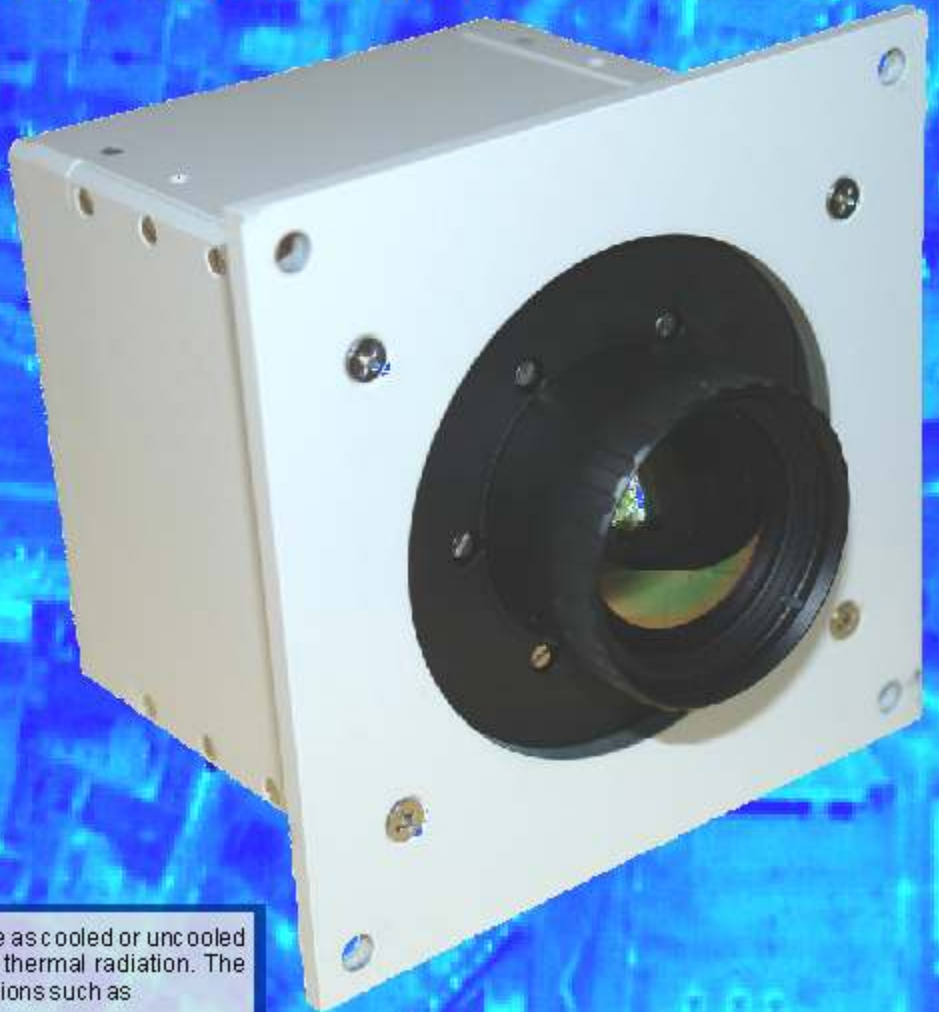


AeroTherm

Thermal IR Camera



AeroTherm is a thermal infrared Camera, available as cooled or uncooled sensor. It enables monitoring of objects that emit thermal radiation. The Airborne Thermography is useful for many applications such as

- border security
- industrial plant security
- inspections of pipelines
- water quality monitoring
- thermal insulation of objects
- inspections of chemical plants
- vehicle, boat and person detection
- management of forest fires and hot spots by improving visibility through smoke and darkness
- management and measurement of coal fires and hot spots, enabling survey without people moving around the risk locations
- inspections of high voltage power lines and isolators
- surveys of underground steam system
- detection of illegal discharge of liquids
- location of lost persons in forested and dark environments
- change detection
- animal detection and survey during dusk and night

AeroTherm can be fully integrated with AeroTopoL Flight Management System (FMS) and the AeroStab stabilizer family. The camera is managed by the AeroTherm Control Software via Firewire. Real-time control of the actual data is possible. Larger areas can be captured using two or three linked cameras to widen the view. In addition, other sensors can be used in combination with AeroTherm including LiDAR scanning with AeroScan, or true colour imagery with AeroCam.

Details: AeroTherm

AeroTherm UC

| | |
|------------------------------------|--|
| Detector type: | Uncooled microbolometer (Focal Plane Array) |
| Image format: | 640 × 480 pixel |
| Spectral range: | 7.5 μm ... 14 μm |
| Pixel size: | 25 μm |
| Temperature resolution: | NETD < 70mK / with filtering: NETD < 30mK |
| Measurement range: | 2-40°C ... +300°C |
| Measurement accuracy: | 3 ± 1.5 K (0°C-100°C) otherwise ± 2K, ± 2% |
| Dynamic range: | 16 bit |
| Image rate: | 50 Hz (PAL) or 60 Hz (NTSC) |
| Interfaces: | IEEE-1394 (FireWire), RS232 |
| Power supply: | 9 VDC - 24 VDC |
| Brightness and Contrast control: | Auto / Manual |
| NUC control: | Auto / Triggered |
| Focus: | Auto / Manual |
| Operating temperature: | -15°C ... +45°C |
| Storing temperature: | -40°C ... +70°C |
| Humidity Relative humidity: | 10% ... 95%, non-condensing |
| Shock Operational: | 25G, IEC 68-2-29 |
| Vibration Operational: | 2G, IEC 68-2-6 |
| Internal protection: | IP54, IEC 529 |
| Dimensions (without lens): | 109 mm × 100 mm × 100 mm |
| Weight (without lens): | 675 g |
| Options + Radiometric calibration: | -40°C ... +300°C |
| Lenses: | - Normal lens: 30 mm (FOV 30°×23°) - Tele lens: 50 mm (FOV 18°×14°) - Tele lens: 100 mm (FOV 9.5°×7.3°) - Other lenses on request |



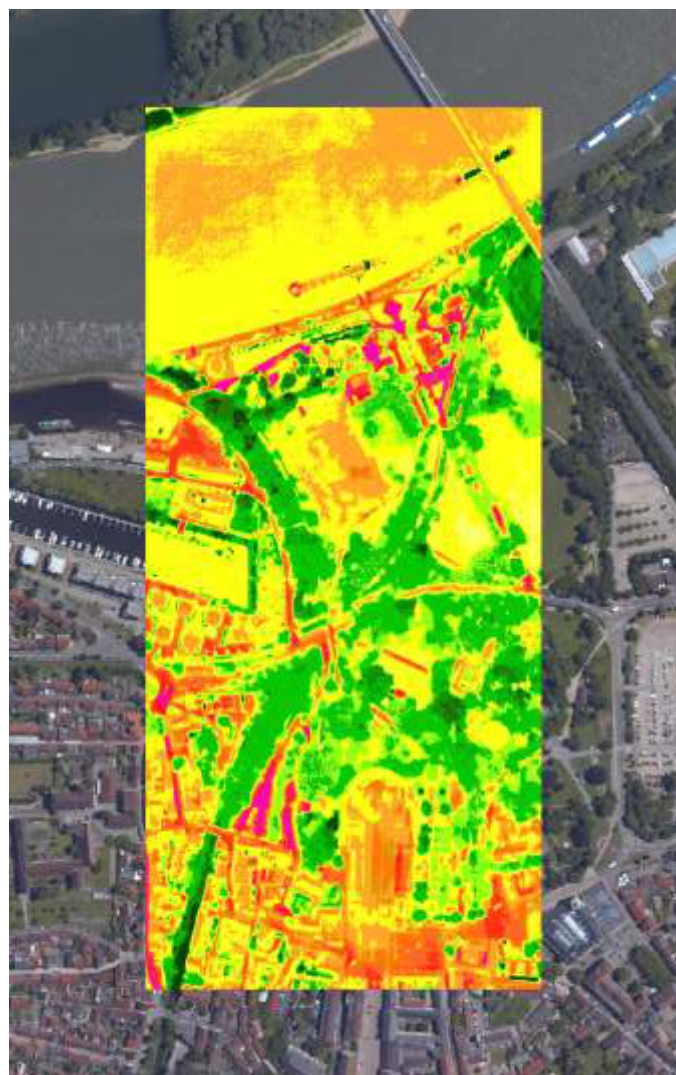
AeroTherm UC mounted on AeroStab-3 stabilizer



The AeroTherm SC

AeroTherm SC

| | |
|----------------------------------|---|
| Detector type: | InSb array, Stirling cooled |
| Image format: | 640 × 512 pixel |
| Spectral range: | 2μm ... 5μm |
| Pixel size: | 15μm |
| Temperature resolution: | < 20 mK (@ 30°C object temperature) |
| Measurement range: | -40°C ... +1200°C |
| Measurement accuracy: | ± 2K or ± 2% |
| Dynamic range: | 16 bit |
| Image rate: | 50 Hz (PAL) / 60 Hz (NTSC) |
| Interfaces: | IEEE-1394 (FireWire), Rs232 |
| Power supply: | 9 VDC ... 24 VDC |
| Spectral filtering: | Integrated wheel for up to 4 different filters |
| Brightness and Contrast control: | Auto / Manual |
| NUC control: | Auto / Triggered |
| Focus: | Manual |
| Operating temperature: | -15°C ... +50°C |
| Storing temperature: | -40°C ... +70°C |
| Humidity Relative humidity: | 10% ... 95%, non-condensing |
| Shock Operational: | 25G, IEC 68-2-29 |
| Vibration Operational: | 2G, IEC 68-2-6 |
| Internal protection: | IP54, IEC 529 |
| Dimensions (without lens): | 102 mm × 100 mm × 181.5 mm |
| Weight (without lens): | approx. 3 kg |
| Lenses: | - Wide lens: 12.5 mm (FOV 42° × 30.5°) - Normal lens: 25 mm (FOV 22° × 16°) - Tele lens: 50 mm (FOV 11° × 8°) - Tele lens: 100 mm (FOV 5.5° × 4°) - Other lenses on request |



Thermal IR Orthophotomosaic overlaid on a RGB Orthophotomap

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