



- *Costal line surveillance;*
- *Criminal investigation of Public security;*
- *Hunting;*
- *Forensic and Inspection;*
- *Border defense and surveillance;*



Gaias Intelligent Dual Sensor Thermal Imaging Camera

Model: GSM1654G

| Model | GSM1654G | | GSM1656G |
|---------------------------|---|--|---------------------|
| Detection | Vehicle: 13000m | | |
| | Human: 4800m | | |
| Fire-Point | 6000m (@2 x 2m) | | |
| Identification | Vehicle: 3400m | | |
| | Human: 1300m | | |
| Thermal Camera | | | |
| Sensor | 5th generation FPA VOx Detector | | |
| Resolution | 384 × 288 pixel | | 640 × 512 pixel |
| Spectral range | 7.5~14μm | | |
| NETD | 50mK (@25°C F1.0) | | |
| Focal length | 31 - 155mm | | |
| Field of view(horizontal) | 12.4° × 9.3° - 2.5° × 1.8° | | 20° × 15° - 4° × 3° |
| Lens Control | 1. Zooming: Electrical Zoom. 2. Focusing: Manual/Auto Focus (3A adaptive active focusing algorithm, supports multiple trigger modes with high precision and speed). 3. Optical machine: 3CAM mode and AS+DOE optical structure, high infrared over transmission, zoom process without virtual focus, smaller axis. | | |
| Image Processing | 1. Image enhancement: SDE digital image processing. 2. Pseudo colour polarity: 16 pseudo color and BW, BW conversion. 3. Image parameter: AGC automatic gain control, brightness and contrast. 4. Digital zoom: 2X, 4X digital amplification. 5. NUC Correction: Auto/Manual correction, background correction. | | |

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| Thermal Point Detection & Alert | <ol style="list-style-type: none"> 1. Alarm threshold: 255 level can be set. 2. Target size: target range can be set to identify targets of different sizes automatically. 3. Number of alert targets: 1-16 can be set, automatically select the most prominent target display. 4. Alarm mode: Video overlay alarm frame + switch volume (or data return) multiple alarm mode, intuitive and easy to read. 5. Front-end algorithm: Optimized fast front-end processing algorithm, based on the analysis of the original heat map data per frame, alarm response 0.1S, no delay, no information loss. 6. Remote Parameter Adjustment: All alarm parameters and instructions can be set remotely through the video OSD menu, with strong versatility. 7. Secondary development: providing free SDK, easy to use or convenient for secondary development. 8. Dedicated platform: (<i>Select of dedicated fire prevention pre-warning platform, with automatic scanning, warning, GIS positioning, fire dynamic evolution, fire rescue strategy and other functions, to form a professional system</i>) |
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Visible Camera

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| Camera | <ol style="list-style-type: none"> 1. Surface: 1/1.8" Star Level CMOS, Integrated ICR Dual Filter D/N Switch; 2. Resolution: 5 million pixels, 1920 x 1080 3. Illumination: 0.001Lux high sensitive colour, 0.0001Lux black and white; 4. Encoding: H.265/H.264 video format, supporting multi-stream; 5. Video Bit Rate: 32Kbps-16Mbps, 60Hz 30 frames/second 6. Support SD card local storage, support regional invasion, cross-border invasion, face detection, audio anomaly detection, alarm linkage; 7. Supports AFR fog penetration, electronic anti-shake, strong light suppression, 3D digital noise reduction, anti-infrared overexposure, ABF automatic rear focus adjustment function |
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| Lens | <ol style="list-style-type: none"> 1. Focal Length: 22 - 750mm, 200 mil electrical focus; 2. HD infrared correction: Optical IR correction design, diurnal focus; 3. Auto aperture: support; 4. Night-day wide spectrum: 0.4-0.75um visible broad spectrum window and 0.8-0.95um NIR narrow spectrum window with day-night independent double-pass window to improve the signal-to-noise ratio of imaging light and stray light. 5. Preset position: precision potentiometer, DC5V, zoom focusing feedback. |
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Laser Illumination (Optional)

- 1. Power: 15W.**
- 2. Wavelength: 810nm Military graded infrared laser.**
- 3. Illumination Angle: 0.7° ~20°, DSS Digital Step Illumination Angle Control Technology.**
- 4. Homogenization: GHT-II HD lens group super homogenization patented technology, full focus spot brightness equilibrium > 92%.**
- 5. Laser Safety: ZQB safety laser beam processing patented technology, in line with the international IEC60825 safety standard.**

Housing

- 1. Material: aluminum alloy housing, waterproof;**
- 2. Structure: Integral Dual windows design;**
- 3. 4mm microcrystalline infrared high-effective anti-reflection HLIN optical glass, transmittance >98%;**
- 4. Surface: PTA coating, anti sea water corrosion;**

5. Sealing rate: IP66 (IP67 Optional)

6. Temperature control: whole system adopt with thermal balance design + wide temperature electronic and optoelectronic devices, with built-in heating and heat dissipation isothermal control elements, which can work in low and high temperature environment;

7. Interface: aviation waterproof connector

PTZ

1. Duty: 50kg CNC PT

2. Rotation: pan: 0~360°, tilt: -45°~+45°

3. Rotation speed: Pan: 0.01° ~ 30°/S, tilt: 0.01°/S ~ 15°/S, support lens focusing speed adaptive.

4. 255 presets, support lens zooming and focusing preset.

5. Accuracy: ±0.1°

6. Support 6 cruising line, 1 apple-skin scanning, 1 line-cruising.

7. Keep Watching: Preset/Auto-Patrol/Auto-Scanning.

8. Power Off Memory: Support(Can restore the position before power off, patrol status, line-scanning status)

9. Null-point Correction: support north null-point remote correction function.

10. Power consumption: about 120W

11. Weight: 23kg.

Interface

1. Network interface: 1-channel RJ45.10, 10/100 Base-T adaptive (integrated video output RS422/485 communication control);

2. Network Protocol: TCP/IP, UDP, IPv4/v6; support HTTP, RTP, RTSP, NFS, DHCP, NTP, SMTP, SNMPv1/v2c/v3, UPNP, PPPoE, DNS, FTP; support PSIA, ONVIF2.0, GB28181 and other network protocol.

3. Power supply: AC/DC24V, anti-reverse connection protection;

4. Physical interface: water-proof aviation connector

Enhancement

1. Strong Light Protection: Support anti sunburn function.

2. Temperature correction: no thermal imagery design, thermal imaging clarity is not affected by temperature.

3. Scene mode: support multi-configuration scenarios, adapt to different environment applications.

4. Day and night cruise: D/N group-cruising for different preset groups, day cruise 1-40 preset, night cruise 41-80 preset, according to the light-sensitive state automatically switch to day or night mode, adapt to different space-time scenarios.

5. Lens Servo: Support the functions of lens preset, focal length return and focal length location.

6. Azimuth Information: support angle query/real-time return and positioning, support azimuth video overlay real-time display.

7. Remote Maintenance: Support remote upgrade of embedded programs, convenient for after-sales maintenance.

8. Parameter Settings: OSD Menu Remote Call Operations.

Environment Parameter

1. Operating temperature: -25° ~+60°;

2. Storage temperature: -35°~70°;

3. Humidity: <90%

4. Seismic resistance: 0.2g (in accordance with GB/T15211-2013's 5.4 Harsh grade 2);

5. Impact resistance: 15g (in accordance with GB/T15211-2013's 5.3 Harsh grade 3);

6. Lightning protection: interface circuit with built-in surge protection, 4000V power supply, 2000V signal;

7. Salt spray proof: continuous spray for 96 hours at pH 6.5 to 7.2, no change in surface.

8. Protection Level: IP66

Add-On Function

- 1. *Wiper: (or build-in wiper);*
- 2. *Window Cleaner: (small external sprinkle, self-storage water, freezing with no harm, will not affect function of the host);*
- 3. *Extension module: (Beidou/GPS, laser rangefinder and other functions can be selected);*
- Optical network: (built-in fiber module, single mode fiber output, improve anti-jamming).*

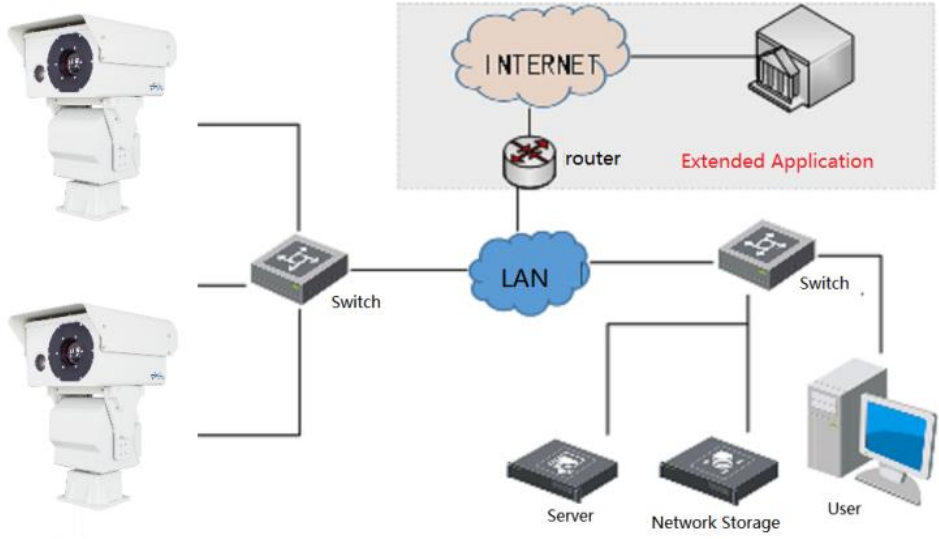
Intelligence Functions (Optional Add-On)

- 1. Auto-tracking system;
 - 2. Anti-drone tracking system;
 - 3. Panoramic stitching;
 - 4. Radar linkage;
 - 5. Hot-point alert;
 - 6. Patrol detection;
 - 7. 3D zooming/positioning selection;
 - 8. Analysis: Invasion, leaving, straggling, retention, lingering, target trajectory.
- (The above functions need to be implemented in conjunction with general software and network modules)

Other Specifications

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|--------------------------|---------------------|
| Total Consumption | 180W |
| Weight | ≤45kg (include PTZ) |

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Networked Intelligent Application

