



- Seaport & Airport safety and security monitoring;
- River & lake monitoring;
- Key material monitoring,
- Military base security monitoring;
- Oilfield and oil depot security;

## Titanious Intelligent Multi Spectrum Thermal Imaging Camera

Model: GSM0734T

| Model                     |   | GSM0734T        |
|---------------------------|---|-----------------|
| Detection                 |   | Vehicle: 6500m  |
|                           |   | Human: 2500m    |
| Fire-Point                |   | 3000m (@2 x 2m) |
| Identification            |   | Vehicle: 1800m  |
|                           |   | Human: 700m     |
| Thermal Camera            |   |                 |
| Sensor                    | 5th generation FPA VOx Detector   |                 |
| Resolution                | 384 × 288 pixel   |                 |
| Spectral range            | 7.5~14μm  |                 |
| NETD                      | 50mK (@25°C F1.0)   |                 |
| Focal length              | 25 - 75mm   |                 |
| Field of view(horizontal) | 14.8° × 11° - 4.9° × 3.7°   |                 |
| Lens Control              | 1. Zooming: Electrical Zoom.<br>2. Focusing: Manual/Auto Focus (3A adaptive active focusing algorithm, supports multiple trigger modes with high precision and speed).<br>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.<br>2. Pseudo colour polarity: 16 pseudo color and B/W, B/W conversion.<br>3. Image parameter: AGC automatic gain control, brightness and contrast.<br>4. Digital zoom: 2X, 4X digital amplification.<br>5. NUC Correction: Auto/Manual correction, background correction. |                 |

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| <b>Thermal Point Detection &amp; Alert</b> | <ol style="list-style-type: none"> <li>1. Alarm threshold: 255 level can be set.</li> <li>2. Target size: target range can be set to identify targets of different sizes automatically.</li> <li>3. Number of alert targets: 1-16 can be set, automatically select the most prominent target display.</li> <li>4. Alarm mode: Video overlay alarm frame + switch volume (or data return) multiple alarm mode, intuitive and easy to read.</li> <li>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.</li> <li>6. Remote Parameter Adjustment: All alarm parameters and instructions can be set remotely through the video OSD menu, with strong versatility.</li> <li>7. Secondary development: providing free SDK, easy to use or convenient for secondary development.</li> <li>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></li> </ol> |
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| <b>Visible Camera</b> |  |
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| <b>Detection</b>      | 2000m - 5000m   |
| <b>Identification</b> | 500m - 1500m  |
| <b>Camera</b>         | <ol style="list-style-type: none"> <li>1. Surface: 1/2.8" Star Level CMOS, Integrated ICR Dual Filter D/N Switch;</li> <li>2. Resolution: 2 Mega pixels, 1920 x 1080</li> <li>3. Illumination: 0.05Lux high sensitive colour, 0.01Lux black and white;</li> <li>4. Encoding: H.265/H.264 video format, supporting multi-stream;</li> <li>5. Video Bit Rate: 32Kbps-16Mbps, 60Hz 30 frames/second</li> <li>6. Support SD card local storage, support regional invasion, cross-border invasion, face detection, audio anomaly detection, alarm linkage;</li> </ol> <p>Supports AFR fog penetration, electronic anti-shake, strong light suppression, 3D digital noise reduction, anti-infrared overexposure, ABF automatic rear focus adjustment function</p> |
| <b>Lens</b>           | <ol style="list-style-type: none"> <li>1. Focal Length: <b>8 - 320mm</b>, 210 mil electrical focus;</li> <li>2. HD infrared correction: Optical IR correction design, diurnal focus;</li> <li>3. Auto aperture: support;</li> <li>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.</li> </ol> <p>Preset position: precision potentiometer, DC5V, zoom focusing feedback.</p>   |

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| <b>Laser Illumination</b> |  |
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| <b>Identification</b>     | 500m - 1000m   |
| <b>Laser Light Source</b> | <ol style="list-style-type: none"> <li>1. Consumption: 10W;</li> <li>2. Wavelength: 810nm;</li> <li>3. Laser angle: 1°~20°;</li> <li>4. Encapsulation: the illuminator is sealed with inert gas to prevent oxidation;</li> </ol> <p>Using distributed laser design, laser emitter and high-temperature components are directly affixed to the shell's cooling fins, that have stronger heat dissipation capability if compared with the modular laser.</p> |
| <b>Laser Len</b>          | <ol style="list-style-type: none"> <li>1. Lens form: 25X f0.8 - 20mm ultra-short focal zoom patented technology, laser 400 micron cross-section imaging lens;</li> </ol>   |

|                                    |   |
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|                                    | <p>2. Transmittance: multi-layer NIR Anti-reflective coating, high efficiency laser coupling;</p> <p>3. Homogenization: GHT-II super homogenization HD illumination patented technology, full focus spot brightness equilibrium is &gt; 92%;</p> <p>4. Laser Safety: Using ZQB safety laser beam processing patented technology, which complying with International IEC60825 Safety Standard;</p> <p>5. Focus Angle Positioning: Precision digital drive positioning.</p> <p><i>Spot form: (Optional: elliptical spot illuminator - the spot always keeps elliptic in the process of change, better matching with 16:9 HD camera picture, where the laser utilization rate increased by 30%)</i></p>  |
| <b>Angle and distance matching</b> | <p>1. Matching method: Automatic tracking or manually fine-tuning intelligent matching method;</p> <p>2. Synchronization control: DSS digital stepping illumination angle control technology, 0.1 degree precise servo control;</p> <p>3. Response time: Z-super laser angle and imaging ratio matching algorithm, tracking response time less than 500 ms;</p> <p>4. Synchronization effect: Laser synchronization effect adjusts the modes of cut-in, cut-out and full-screen coverage, which can be set arbitrarily according to the scene remotely.</p> <p>Optical axis alignment: SLM double optical axis self-locking alignment device, the accuracy can reach 0.01 degrees, reserve external alignment window, without cover removal maintenance</p> |
| <b>Laser Switch</b>                | <p>1. Control mode: Mandatory opening, mandatory closing and photosensitive automatic control, can be set remotely.</p> <p>2. Photosensitive synchronous control: independent photosensitive control circuit, precise synchronous switching of laser switch and camera into day-night mode.</p> <p>3. Data Processing: Built-in Intelligent Anti-Strong Light Jamming Algorithms, Shielding the False Switches Caused by Strong Light at Night</p>  |

### 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);
4. Optical network: (built-in fiber module, single mode fiber output, improve anti-jamming).

### Intelligence Functions (Optional Add-On Function)

1. Auto-tracking system;
2. Anti-drone tracking system;
3. Panoramic stitching;
4. Radar linkage;
5. Hot-point alert;
6. Patrol detection;

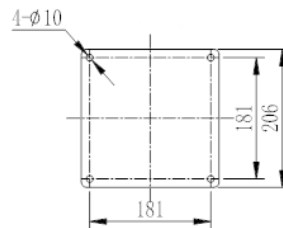
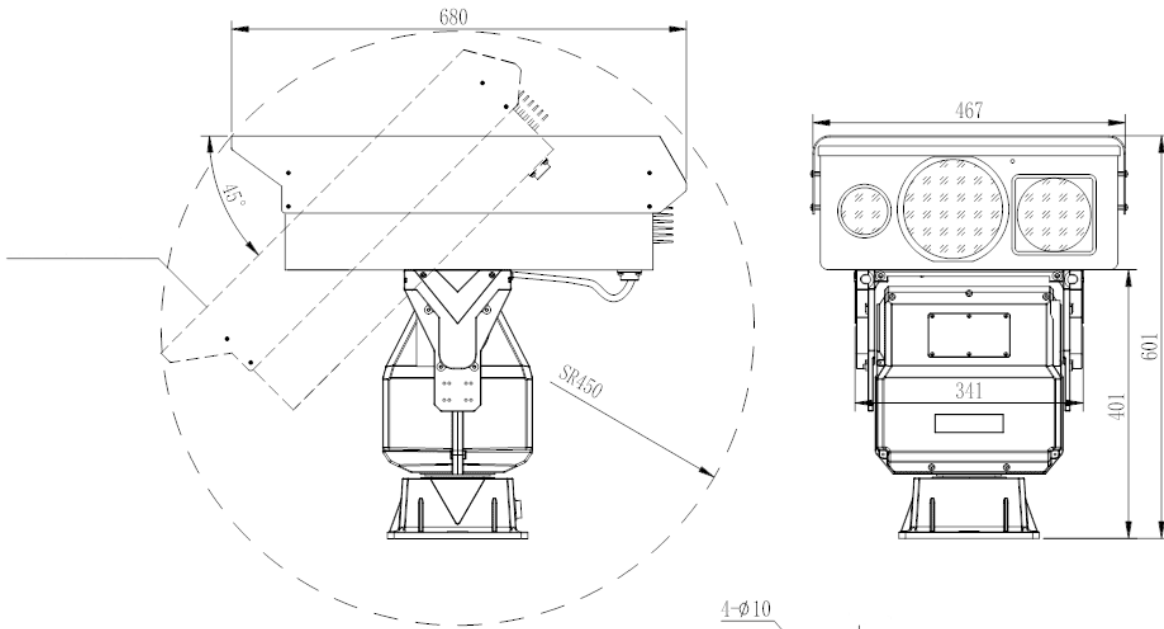
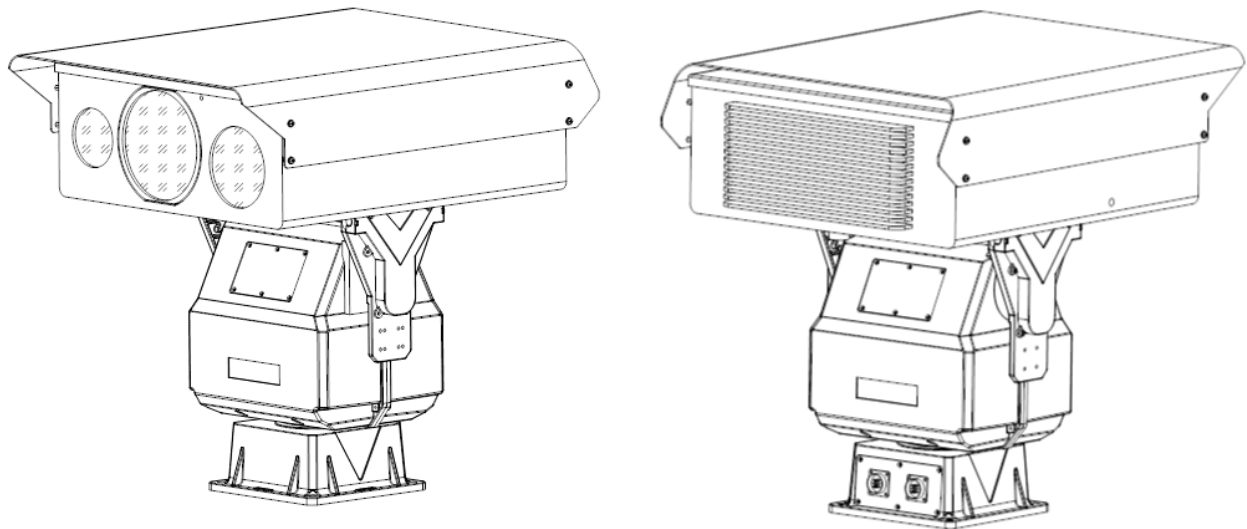
- 7. 3D zooming/positioning selection;
  - 8. Analysis: Invasion, leaving, straggling, retention, lingering, target trajectory.
- (The above functions need to be implemented in conjunction with general software and network modules)

**Other Specifications**

|                          |                     |
|--------------------------|---------------------|
| <b>Total Consumption</b> | 180W                |
| <b>Weight</b>            | ≤50kg (include PTZ) |

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Mechanical Diagram (Unit: inch (mm))



Unit: mm