◦ *Seaport & airport security and safety monitoring;*
◦ *Lake, river & water system monitoring;*
◦ *Key material monitoring;*
◦ *Railway system monitoring;*
◦ *Oilfield security.*

Light-Duty Long Range HD Infrared Laser Imaging Camera (Vehicle Mounted)

Model: GSM3002U

Model	GSM3002U
Detection	
Day: 500 ~ 750m;	
Night: 300 ~ 500m	
Laser	
Laser Light Source	1. Consumption: 5W; 2. Wavelength: 810nm; 3. Laser angle: 1°～20°; 4. Encapsulation: the illuminator is sealed with inert gas to prevent oxidation; 5. 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.
Laser Len	1. Lens form: 25X f0.8 - 20mm ultra-short focal zoom patented technology, laser 400 micron cross-section imaging lens; 2. Transmittance: multi-layer NIR Anti-reflective coating, high efficiency laser coupling; 3. Homogenization: GHT-II super homogenization HD illumination patented technology, full focus spot brightness equilibrium is > 92%; 4. Laser Safety: Using ZQB safety laser beam processing patented technology, which complying with International IEC60825 Safety Standard; 5. Focus Angle Positioning: Precision digital drive positioning. *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%)*

Angle and distance matching	1. Matching method: Automatic tracking or manually fine-tuning intelligent matching method;
	2. Synchronization control: DSS digital stepping illumination angle control technology, 0.1 degree precise servo control;
	3. Response time: Z-super laser angle and imaging ratio matching algorithm, tracking response time less than 500 ms;
	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.
	5. 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
Laser Switch	1. Control mode: Mandatory opening, mandatory closing and photosensitive automatic control, can be set remotely.
	2. Photosensitive synchronous control: independent photosensitive control circuit, precise synchronous switching of laser switch and camera into day-night mode.
	3. Data Processing: Built-in Intelligent Anti-Strong Light Jamming Algorithms, Shielding the False Switches Caused by Strong Light at Night

Visible Camera

✓ Sensor type: 1 / 2.8 "progressive scan CMOS

✓ Scanning system: progressive scanning

✓ Signal system: PAL / NSTC

✓ Video output: network coding output

✓ Resolving power: 50HZ:25fps(1920X1080) 60HZ:30fps(1920 X1080) 50HZ:25fps(1280X960) 60HZ:30fps(1280X960) 50HZ:25fps(1280X720) 60HZ:30fps(1280X720)

Minimum illumination
Color: 0.05Lux @ (f1.6, AGC on) black and white: 0.01LUX @ (f1.6, AGC on)
SNR $>$ 52dB

✓ **Camera lens**

✓ Focal length: 4.3-129mm, 30 times

✓ Optical zoom aperture value: F1.6-F4.4

✓ Horizontal field angle: 65.1-2.34 degrees (wide-angle-telescope),

✓ Close range: 10-1500mm (wide-angle-telescope),

✓ Zoom speed: about 3 seconds (optical, wide-angle-telescope),

✓ Day night conversion mode: ICR filter plate parameter setting

✓ Video compression: h.265/h.264

- ✓ Compressed output code rate: 32kbps-12mbps

- ✓ Audio compression: G.722.1, g.711-a law, g.711-u law, mp2l2, G.726, AAC, PCM

- ✓ Focus mode: auto / manual / primary focus

- ✓ Exposure mode: auto exposure / aperture priority / shutter priority / manual exposure

- ✓ Day and night mode: auto / color / black and white / timing / alarm input trigger

- ✓ Electronic shutter: 1 / 1 second to 1 / 30000 second

- ✓ White Balance: Auto 1 / Auto 2 / indoor / outdoor / manual / sodium lamp / fluorescent lamp

- ✓ Backlight compensation: off / up / down / left / right / Center / Auto

- ✓ Gain: 16 level adjustable

- ✓ Bad point compensation: support

- ✓ Wide dynamic: off / on

- ✓ Digital noise reduction: 3D lens initialization built-in image quality adjustment brightness, contrast, sharpness, saturation adjustable digital zoom 12

Network function

- ✓ The storage function: supports micro SD storage

- ✓ Image setting: movement function can be adjusted through client or IE browser

- ✓ Intelligent alarm: mobile detection, blocking alarm, memory full, memory error, audio anomaly detection, cross boundary detection, area intrusion detection

- ✓ Support agreement: TCP / IP, HTTP, DHCP, DNS, DDNS, RTP, RTSP, PPPoE, SMTP, NTP, UPnP, SNMP, FTP, 802.1x, QoS, HTTPS, IPv6 (SIP, SRTP, optional), gb28181, e-home interface protocol onvif, psia, CGI, ISAPI

- ✓ Dual stream: support

- ✓ Heartbeat function: support

- ✓ Dimension: 50.0 x 60.0 x 90.0mm

Weight: ±250g

Fog Penetration (Optional)	Optical filtering and AFR optoelectronic enhanced image processing technology, color penetrate fog
LPR (Optional)	Avoid strong light, license plate recognition

Housing
1. Material: Integral aluminum alloy housing;
2. Structure: integrated double side-load design;
3. Window glass: 4mm microcrystalline infrared high-efficiency transparent HLIN optical glass, transmittance > 98%;
4. Wiper: build-in wiper, continuously wiping/stop automatically;

5. Heater/defrost: support;

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

PT

1. Pan: 0 - 360° continuously, Tilt: +90°～- 90°

2. Rotation speed：Pan: 0.01～100°/S, Tilt: 0.01～60°/S, support with lens focus speed adaptive function；

3. Preset: 128 preset, support lens zooming and focus preset;

4. Accuracy: ±0.1°;

5. Cruise Line-Scan: support 6 cruise line, 1 line scan;

6. Watching: Pre-positioning/Automatic Cruise Route/Automatic Scanning Route

7. Azimuth Information: Support angle query, return and positioning;

8. Zero correction: support for north-to-zero remote correction function.

9. Suspension: vehicle-mounted shock absorbing base.

Enhancements (Optional)

1. Day and night cruise: D/N cruise with different preset groups, day cruise 1 - 40 preset, night cruise 41 - 80 preset, according to the photosensitive status will automatically D/N switching, adapt to different space-time scenarios;

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

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

Intelligence Function (Optional)

1. Regional intrusion detection support;
2. Border-Crossing intrusion detection support;
3. Panoramic stitching;
4. Radar linkage;
5. Auto-tracking support;
6. Multi-scene group cruising support;
7. 3D zooming/positioning selection;
(The above functions need to be implemented in conjunction with general software and network modules）

Interface

1.Network interface: RJ45. 10/100 Base-T adaptive (integrated video output and RS485 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 protocol.

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

4.Interface：aviation waterproof connector.

Environment Parameter
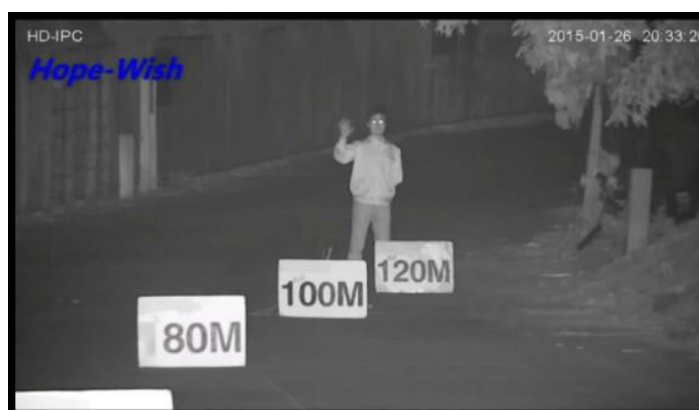
1. Operating temperature: -25 ~ +60;

2. Storage temperature: -45°～ +70°;

3. Humidity: <90%;

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

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

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

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

8. Salt spray proof: continuous spray for 96 hours at pH 6.5 to 7.2, no change in surface.
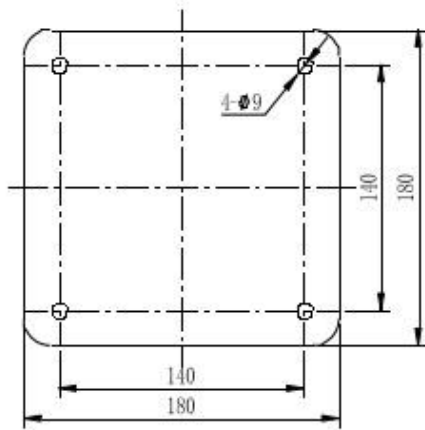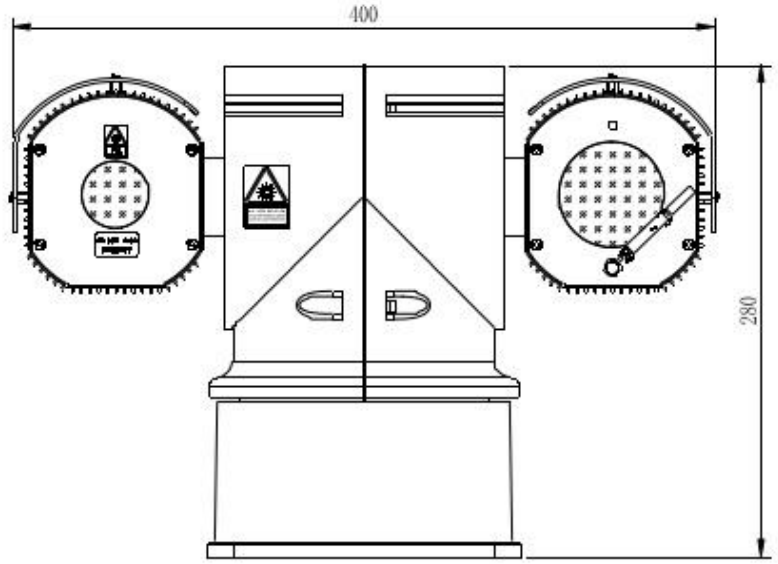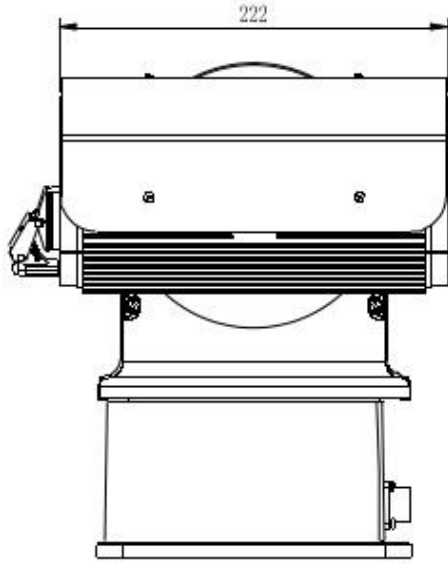
9. Protection Level: IP66

Other Specification

1. Weight: 8.5kg

2. Power consumption: 50W

222

400

280

4-Φ9

140
180

140
180

Unit: mm