

M5-v4 MULTI SENSOR ISR DAY/NIGHT PTZ EO/IR IMAGING SYSTEM

The M5-v4 series camera is designed for day / night Intelligence, Reconnaissance & Surveillance applications. Based on the latest 7th Gen LWIR infrared thermal technology, The system packs a thermal imaging channel, an HD BSI Low Light EO channel, Rangefinder, image stabilization, LED lights, Tracking AI, Total darkness Zaxon IR Laser, Titanium PTZ precision gimbal in a rugged all weather platform. The systems built-in intelligent algorithms and AI learning system can alert the user in real time of threats and intrusion into protected areas. The system is a robust solution for a wide variety of security and surveillance applications



The hand picked Ultra sensitive IR thermal imaging FLIR camera is available in 640x512 resolution uncooled LWIR sensors with F1 hardened coated Germanium lenses, advanced digital circuitry and image processing algorithms can detect targets at long ranges; The laser night vision system works in tandem with A full HD color and mono multi-mode low illumination BSI CMOS sensor, smart HD day/night optics and high-efficiency solid state Zaxon IR illuminator assure day-like imagery 24/7. The robust all weather rugged weapons grade PTZ gimbal offers full 360 rotation, The M5-v4 Series of long range motion control PTZ imaging systems are embedded with AI intelligent video analysis that adopts advanced intelligent image processing algorithms for true detection, recognition and identification of targets in harsh environments. An integrated advanced intelligent tracking module can continuously detect and track moving or stationary objects.

The camera's housing is made of high grade anti rust/corrosion aluminum alloy with rugged full IP67 protection. The system is triple protection coated, and is wind & dust resistant. The system can be used for stationary, mobile, marine mounted applications in arctic cold or desert hot environments.

Ideal for Ground, Marine, mast and fixed Security & Surveillance applications

MULTI-SENSOR ALL IN ONE FEATURES

- **All weather stabilized rugged PTZ IP67 Multi Sensor titanium gimbal**
- **Ultra High resolution, Ultra sensitive 640 LWIR Thermal Imaging channel**
- **Long range HD 750x zoom Broadband BSI CMOS EO channel**
- **Rangefinder**
- **Zaxon IR Illuminator for seeing in total darkness and through glass**
- **Built in loudspeaker / LED Dazzling lights**
- **Real time AI Tracking, alerting, detecting capabilities**

Ideal for detecting, humans, animals, vehicles, drones, UAV, hotspots, and fires. The system has Anti Fog, clutter and smoke capabilities. Turbulence mitigation, intelligent classification and identification supports target tracking, screening and filtering. Built in Loud Speaker and bright dazzling lights for deterrence.

Pitch: $\pm 90^\circ$, horizontal 360° continuous rotation, full coverage of 720° three-dimensional space.

Horizontal: $0.01^\circ/s$ to $100^\circ/s$; pitch: $0.01^\circ/s$ to $80^\circ/s$, high speed start/stop, focal speed adaptive, accurate target positioning.

Self-diagnosis and self-recovery: supports full life management, fault self-test, front-end storage, network disconnection renewal, power failure memory, remote restart/upgrade, significantly improving the use experience and reducing the use cost.

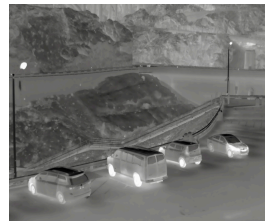
Light weight design: weight $\leq 9.5\text{kg}$, easy to install, operate. Fully solid state system - No maintenance.

The rugged IP67 all weather system can withstand harsh hot / cold / arctic environments .





OPTIONAL: SBE795 EO/IR PTZ KEYBOARD, CONTROLLER, MONITOR C2 SUITE



Technical specifications

Model	M5-v4/35	M5-v4/65	M5-v4/102	M5-v4/137		
Detection	vehicle:2KM human:800M	vehicle:4.2KM human:1.85KM	vehicle:6.8KM; human: 2.8KM;	vehicle:9KM; human: 3.5KM		
Pricing	\$12,973.00	\$15,955.00	\$17,882.00	\$19,860.00		
Thermal imaging Camera system	<ol style="list-style-type: none"> Detector: Hand Picked 640x512 Uncooled Ultra sensitive LWIR Focal Plane Array Wavelength: 7-14µm NETD: 30mK Image enhancement: SDX digital image enhancement technology, MDIS Image Enhancement Color Palettes: 16 types of color, mono hot black/hot white Image parameters: AGC automatic gain control, brightness, contrast, manual, IIC Zoom: 1.0-8.0× Econtinuous zoom Ranging: Distance measurement of human and vehicular targets Optics: F1 Hardened / Coated / anti glare Germanium Image correction: support manual correction, background correction, automatic correction time interval, adjustable Gamma correction parameters Strong light sources: Anti-sun Laser damage Non-uniformity correction: automatic/Manual 					
IR LENS	Effective 35mm	Effective 65mm	Effective 102 mm	Effective 137mm		
	640 x 512 Resolution					
	1.0-8.0× zoom					
EO Visible Camera	<ol style="list-style-type: none"> Sensor type: Ultra-Low Light Broadband ULLL BSI HD starlight CMOS Minimum illumination: color: 0.0006Lux / black and white: 0.0001Lux <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Effective 5mm-375mm with Ezoom Total 750X magnification</td> <td style="width:50%;">Effective 5mm-375mm with Ezoom Total 750X magnification</td> </tr> </table> Image processing: white balance, electronic shutter, frame accumulation, backlight compensation, glare suppression, 2D/3D digital noise reduction, Image Stabilization, wide dynamic range Day and night imaging: 400-1100 nm VIS/NIR Imager with Fused Silica Hardened, coated anti glare, anti shock protective window Cuts through Haze, smoke, atmospheric clutter, Penetrates fog, Turbulence/humidity mitigation Image Stabilization 				Effective 5mm-375mm with Ezoom Total 750X magnification	Effective 5mm-375mm with Ezoom Total 750X magnification
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Zenon Laser Night Vision	<ol style="list-style-type: none"> Zenon IR Laser : 940 NM Infrared MHT-III HD flood invisible light source, Ultra clean precision beam Zenon Laser angle:3°-65 degree FOV switchable Zenon Laser distance: 325M For glass Penetration and viewing in total pitch darkness 					

Video / Audio	<ol style="list-style-type: none"> 1. Thermal camera resolution: supports 1920×1080; 1280×1024; 1280×960; 1024×768; 1280×720; 704×576; 640×512; 640×480; 400×300; 384×288; 352×288; 352×240 2. Visible camera resolution: 2592×1520; 2560×1440; 1920×1080; 1280×1024; 1280×960; 1024×768; 1280×720; 704×576; 640×512; 640×480; 400×300; 384×288; 352×288; 352×240 3. Video encoding: H.265/H.264/MJPEG, Supports multi-stream 4. Video code rate: 32Kbps-16Mbps 5. Audio encoding: G.711A/ G.711U/G726 6. Image flip: left and right / up and down / diagonal 7. OSD settings: Support OSD display settings for channel name, time, gimbal orientation, field of view, focal length, and preset bit name settings
Intelligent functions	<ol style="list-style-type: none"> 1. Object detection alarm: threshold 255 levels, target size, number of targets (1-16), automatically selects the most prominent target display, hot spot tracking 2. Intelligent analysis: supports intrusion detection, boundary crossing detection, entry/exit area detection, motion detection, loitering detection, people gathering, fast moving, target tracking, items left behind, items removed; people/vehicle target detection, face detection; supports 16 area settings; supports intrusion detection of humans, vehicle filtering function; supports target temperature filtering function 3. Automatic tracking: supports single scene tracking/supports multi-scene tracking/support panoramic tracking/supports alarm linkage tracking 4. Intelligent information fusion: supports 512 AR intelligent information fusion, supports fire point, intelligent analysis information fusion, supports orientation angle, field of view angle, focal length, multiplier information fusion 5. Image fusion: supports 18 types of dual light fusion mode, supports picture-in-picture PIP 6. Alarm management: support for alarm capture and upload
Enhanced Features	<p style="text-align: center; font-size: 2em; color: #808080; font-weight: bold;">SPI WWW.X20.ORG</p> <ol style="list-style-type: none"> 1. Rangefinder: Yes, integrated distance measurement 2. Supports sound and light alarming: internal integrated tweeter + LED flashing light, supports alarm alert customization. 3. Supports alarm linkage fire fighting device. 4. Camera diagnostic functions: supports disconnection alarm, supports IP conflict alarm, supports illegal access alarm (illegal access times, lock times can be set), supports SD card abnormal alarm (SD space insufficient, SD card error, no SD card), video masking alarm, anti-sun damage (supports threshold, masking time set). 5. Life management: health index record function, supports working time, shutter count, working temperature, limit temperature. 6. Supports disconnection renewal. 7. Power failure memory: system can restore the position before power failure, preset point state, cruise state, line sweep state. 8. Remote maintenance: Fault query, self-test, remote restart function; online upgrade, remote upgrade. 9. Key frame setting: supports key frame interval 100 adjustable levels. 10. Configuration file: supports configuration file import and export function. 11. Web access: supports WEB full function configuration, remote online upgrade.



<p>PAN TILT GIMBAL</p>	<ol style="list-style-type: none"> 1. Rotation speed: Horizontal: 0.01°/s-100°/s; Pitch: 0.01°/s-80°/s, supports focal speed adaption. 2. Rotation angle: horizontal: 360°continuous rotation; pitch: -90°-+90° 3. Structure: Titanium, integrated 5 sealed -window multi-channel, high strength aluminium alloy. 4. Window glass: Fused Silica 99% Transparency coated/hardened/anti glare window 5. Surface coating: PTA triple anti-corrosion coating 6. Wiper: Intelligent automatic wiper 7. Defrost: Yes, internal 8. Preset position cruise: 3000 preset positions, 16 cruise routes, each can support 256 preset positions 9. Watch function: preset bit / pattern scan / cruise scan / vertical scan / frame scan / panorama scan /horizontal line scan 10. 3D frame selection zoom 11. Orientation information: Angle query/real-time return positioning; supports lens field of view return positioning 12. Zero point correction: supports northward zero point remote correction function
<p>Electrical interface</p>	<ol style="list-style-type: none"> 1. Communication and control: 1 *RJ45 Ethernet port; 2* alarm inputs, 1 *alarm output; 1 *audio input input, 1 *RS485 interface. 2. Protocol: Support HTTP, HTTPS, FTP, SMTP, DNS, NTP, RTSP, RTCP, RTP, TCP, UDP, ICMP, DHCP network protocols; ONVIF and GB28181 protocols. 3. Development interface: HP-SDK secondary development
<p>Enhanced Functions</p>	<ol style="list-style-type: none"> 1. Glare protection: Anti-sun / Intense source burn function 2. Temperature correction: Thermal imaging unaffected by extreme hot or cold environments. 3. Scene mode: Multiple configuration scenarios, adapts to environment 4. Auto focus tuning: Remote auto focus parameter adjustment 5. Day and night cruise: day and night group cruise preset groups, day cruise:1-40 preset position, night cruise:41-80 preset position, automatic detecting. 6. Lens servo: Lens preset position, focal length return, focus positioning. 7. Parameter setting: OSD menu remote call operation 8. Remote maintenance: Embedded remote in field upgrade
<p>Safety control</p>	<ol style="list-style-type: none"> 1. Supports illegal access alarm: number of illegal access, lock time setting. 2. Supports three levels of users management, administrator, operator and normal user. 3. Security mode: authorized user name and password, supports IP whitelist and blacklist, MAC whitelist and blacklist, User incorrect login lockout
<p>Power supply</p>	<ol style="list-style-type: none"> 1. Working voltage: DC 9-36V, external AC110V/AC220V or battery power adapter 2. Rated power consumption: ≤40W
<p>Environmental</p>	<ol style="list-style-type: none"> 1. Working temperature: -40°C-65°C 2. Working humidity: ≤95% 3. Protection grade: IP67 4. External: Anti Corrosion, Anti Rust 5. Electromagnetic compatibility: anti-surge 6KV, anti-static 8KV contact / 15KV air
<p>Weight and Dimensions</p>	<ol style="list-style-type: none"> 1. Weight: 9.5KG; Size: 312mm×200mm×296mm (L×W×H) 2. Mounting: Front / side / wall / pole / Telescopic Mast / vehicle / marine / tripod pro-rack