SIG-2050-AF-FF-128-275-TIZ-640

THE SIGMA

INFINITI

Military Grade PTZ Camera System

The Sigma is a heavy-duty multi-sensor PTZ camera boasting a long-range 128X visible day/night camera, dual FOV thermal infrared camera, and optional ZLID NIR illumination with LRF. This multi-sensor payload enables the Sigma to provide high resolution imaging in virtually any environment from heavy fog to complete darkness. This is a high-performance long-range camera system for 24/7 situational awareness and long-range recognition and identification of targets.

Key Features:

- Turn-key long-range military grade multi-sensor surveillance system
- Tri-Sensor payload: HD visible, ZLID illumination & thermal
- Day/Night 1080p HD IP ONVIF 1/2.8" or 1/1.8" CMOS sensor
- 16-2050mm Zoom Lens (with motorized 2x doubler)
- 128X zoom range for an incredible 19°–0.15° field of view
- Auto focus & motorized fog/parasitic light filter
- Image enhancements: DWDR, HLC, ROI, EIS, 3DNR, Fog/Haze
- Color: 0.06 Lux; B&W: 0.005 Lux (0 Lux with IR ZLID)
- ZLID IR Laser for 3 km of illumination that syncs with zoom
- 640×480 Gen II 17µm, 9 or 30Hz VOx thermal imager
- Dual-FOV 95mm/275mm auto-focus germanium thermal lens
- Uncooled thermal sensor self-heals from sun & solar damage
- Over 7km of human detection and 18km of vehicle detection with DICE
- Rugged -40°–+60°C and IP66 weather sealed
- Worm drive gear micro-step pan tilt for high torque positioning
- Endless 360° rotation with speeds from 0.01°/s to 30°/s

1080p FULL HD
2MP Sensor

128X ZOOM
16–2050mm Zoom Lens

ZLID
3km Zoom Laser IR Diode

THERMAL VOx SENSOR
Uncooled Thermal

2.9X Dual FOV
Dual FOV Thermal Lens

PTZ
PTZ Controls

ITAR
No ITAR Restrictions

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HD Optical Camera with ZLID

Visible Optical HD Camera

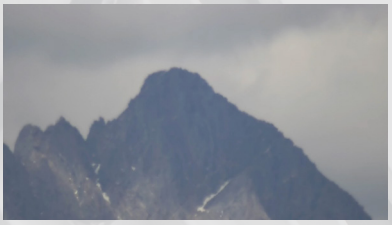
The Sigma's visible camera was designed and optimized for long range surveillance. It uses a 1/2.8" progressive scan CMOS sensor with an HD resolution of 1920×1080 and a fantastic signal to noise ratio of 55dB. The 1/2.8" sensor has excellent spectral sensitivity for both visible and NIR wavelengths and features an automatic IR cut filter, making it a true day/night camera providing clear color images by day and black and white images at night. The 1/2.8" sensor provides the best balance between light sensitivity and maximum zoom, making it particularly suited for long range surveillance.
The Sigma also integrates the latest technology in real-time image processing such as BLC, HLC, DWDR, EIS, ROI, 3D DNR, ABF, Defog/ Haze etc. Each of these image enhancements can be automatic or user-defined and calibrated based on the application requirements. Since the camera is native IP, all of these settings can be changed and configured remotely, along with remote PTZ and zoom control.

Long Range 128X Zoom Lens

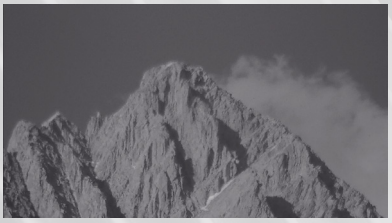
The Sigma comes equipped with a precision engineered 16–1025mm IR-corrected continuous zoom lens with motorized HD doubler, offering an incredible 128X zoom range from 19° through to a very narrow 0.15° FOV when paired with the 1/2.8" sensor. That's equivalent to a "full-frame" DSLR camera using a 13,500mm lens! Infiniti's zoom optics are built with the highest quality Japanese fluorite ELD low dispersion glass, and the integrated rapid auto focus allows long range recognition and identification of targets without operator intervention. The lens also incorporates a motorized fog filter that is used with the camera's monochrome mode and de-haze image processing to see through fog, smoke, smog and haze that render standard optical cameras unusable. Infiniti's HD Zoom camera is a perfect synergy between precision craftsmanship, state of the art sensor hardware and the latest image processing for unparalleled range and performance.

3km IR ZLID Laser Illumination

Many laser illuminators overexpose the center of the screen and leave the edges dark. Our laser has an adjustable 0.5° to 19.5° angle of view, and Infiniti's ZLID (Zoom Laser IR Diode) technology synchronizes IR intensity and area illumination with the zoom lens for outstanding active IR performance, eliminating over-exposure, washout, and hot-spots for clear images in complete darkness. An optional LRF is also available that can automatically turn off the laser if an object is detected within 95m of the active ZLID.

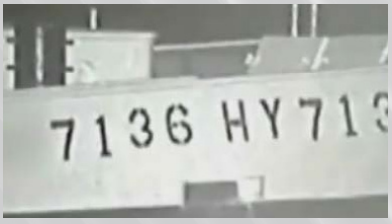


no Fog Filter



with Fog Filter

See through windows with ZLID



Ship at night with ZLID

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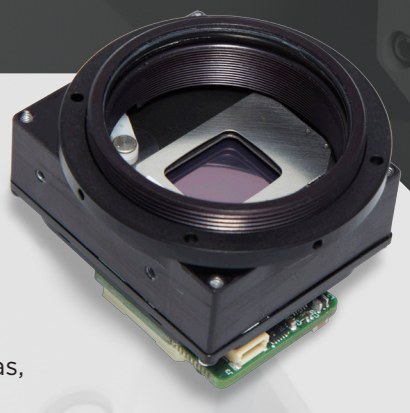
Thermal Imager



See It All

Infiniti's thermal cameras let you see further than any other night vision technology. Thermal cameras, unlike traditional visible cameras, use heat rather than light to see an object. Humans, animals, and vehicles are very hot in contrast to most backgrounds making trespassers hiding in shadows or bushes easy to spot. Thermal images are also unaffected by bright light and have the ability to see through atmospheric obstructions such as smoke, dust, and light fog. This makes it an ideal technology for a number of applications, including but not limited to surveillance and security, search and rescue, fire, marine and land navigation, and wide area situational assessment.

Thermal Imager

The Sigma contains a GEN II VOx 17µm uncooled sensor with a resolution of either 320×240 or 640×480 and a sensitivity able to detect differences in temperature as small as ±0.05°C. The sensor's no-maintenance VOx design, unlike ASI and other thermal cores, is self healing and resistant to solar damage.

Dual-FOV Germanium Lens

We pair the uncooled VOx core with a precision-engineered germanium lens with a dual-FOV design allowing you to view targets at either 95mm or 275mm. This allows for long-range detection of thermal targets by switching between a 6.5° and 2.3° field of view. These lenses also feature auto focus capabilities, delivering crisp, clear images even when changing inbetween FOVs, ensuring optimal performance and situational awareness in the wide field of view and crisp details in the narrow field of view.

Extreme Long Range Detection

The Sigma is a Long-Wave Infrared (LWIR) camera which means it operates on 7,000nm–14,000nm wavelengths where terrestrial temperature targets emit most of their infrared energy. Using the built-in Dynamic Image Contrast Enhancement (DICE) for increased contrast and image clarity, this system is capable of detecting vehicles up to 16km away.* While thermal is a significant investment, its superior range and performance allows it to replace and outperform other solutions, making it a viable option for many applications.

DRI Ranges:

7km
Human Detection*

18km
Vehicle Detection*

*DRI detection ratings are based on industry-wide standards (Johnson's Criteria) that should be fully understood for proper expectations. For more information, please see our whitepaper about understanding DRI measurements.

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Other Features

Heavy Duty Pan/Tilt Postitoner

The Sigma uses a heavy-duty positioner designed for military applications and is able to withstand shock and vibration in a wide variety of scenarios. The pan tilt implements a worm gear drive for high torque to handle large payloads, and micro step for precise pan and tilt positioning for smooth manual control.

Intuitive And User Friendly

While the Sigma is an extremely sophisticated multi-sensor system it is also a user friendly plug-and-play solution controllable by touch screen, mouse, VMS systems, DVR/NVR or 3-axis joystick. This allows the Sigma to be operated by any individual with little or no training and ensures compatibility with new and existing equipment.

Rugged And Robust

The entire system is designed for the most mission critical applications. It is IP66 sealed, ensuring zero water and dust ingression, even from strong water jets on all sides. Its internal heater/blower allows it operate in conditions from –40°C to +60°C and both the pan/tilt and enclosure use a tough anti-corrosion finish for continued operation in the most brutal and harsh climatic conditions.

Remote Connectivity

The Sigma is an IP system that allows you to instantly and remotely connect, and control it through the internet in real-time from anywhere in the world using Ascendent Remote Management Software (ARMS) on your laptop, iPhone, or Android device. For remote or mobile applications Internet bandwidth is often limited, which why our DVRs, NVRs and IP cameras can record at one resolution and stream at another. Our web client also allows you to change your settings, update firmware and activate image enhancements in real time even including backfocus lens adjustment.

IP66
Weather Resistant

Military Connectors

OPTIONAL ACCESSORIES:

PTZ Controller

LRF (up to 20km range)

Rapid Deployment Kit

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Specifications

INFINITI ELECTRO-OPTICS

Optical Assembly	16–2050mm Lens	Optional 30–1000mm Lens
Image Sensor	1/2.8" Progressive Scan CMOS	
Max Resolution	1920×1080 pixels	
Lens (12-bit Rapid Auto Focus)	16–1025mm (2050mm w/doubler) HD	30–1000mm HD Zoom Lens
Angle of View	19.3° – 0.15° Horizontal FOV	10° – 0.3° Horizontal FOV
Minimum Illumination @ f/1.2	0.02 Lux (Color), 0.005 Lux (B&W)	
Fog/Haze Filter	Motorized	
Backlight Compensation	BLC/HLC/DWDR (Digital WDR)	
IP Protocol	ONVIF, PSIA/GCI, HTTP, etc.	
IR Illuminator		
ZLID	Zoom Laser Infrared Diode	
Distance	3km (at max power), 95m NOHD	
Angle	0.5° ~ 19.5°	
Wavelength	808nm (940nm Stealth optional)	
LRF (optional)	Turns off laser if object is detected within NOHD distance	
Thermal Imager	**95/275mm Ge Lens**	**Optional 150/750mm Cooled Thermal**
Lens (Motorized Focus)	95mm & 275mm Auto Focus	150mm & 750mm Auto Focus
Image Sensor	Uncooled VOx Microbolometer	High Sensitivity Cooled InSb (ITAR)
Array Format	640×480	
Pixel Pitch	17µm	15µm
Thermal Sensitivity (Room Temp. @ f/1.0)	< 50 mk	< 25 mk
Dual FOV (5X wide to narrow)	6.5°×4.9° / 2.3°×1.7°	3.6°×2.6° / 0.7°×0.5°
Digital Zoom & Pan	Region of Interest; E-zoom from 1X - 4X	2X and 4X Digital E-zoom
DRI Detection Rating**	7+km for human, 18+km for vehicle	20+km for human, 40+km for vehicle
Image Enhancement	Dynamic Image Contrast Enhancement	Digital Detail Enhancement (DDE)
Image Display Modes	Polarity: White Hot, Black Hot; Orientation: Invert, Revert	
Pan/Tilt Mechanical		
Drive Unit	Worm Drive Gear	
Pan Angle & Speed	360° Continuous Pan, 0.01°/s to 30°/s,	
Tilt Angle & Speed	+45° to -45°, 0.01°/s to 15°/s	
Resolution	0.1°	
Presets	80 presets, 8 auto-scan	
Environmental		
Operational Temperature	-40°C~+60°C (with heater, -20°C without heater), Humidity: 90%±3% RH	
Environmental Certifications	IP66	
Electrical		
Input Voltage	AC 24V ±25% / DC 24V ±20%, self-adaptive	
Power Consumption	< 85W (heating system off)	

*Specifications subject to change. **Approximate maximum detection rating under ideal conditions based on Johnson's Criteria (2 pixels of detection).

Optional Features: Wireless IP Radio (1–50km line of sight), IP Server for thermal, Joystick (Pelco-D or IP 3-axis joysticks), Mobile DVR/NVR with optional GPS and/or Cellular 3G, GPS, Radar Integration, RDK, Quick Connectors