

A Rugged Thermal & Visible/NIR PTZ System



The Sentry is a revolutionary multi sensor PTZ camera boasting a HD visible day/night camera, thermal infrared zoom and ZLID NIR illumination with LRF. This multi-sensor payload enables the Sentry to provide high resolution imaging in virtually any environment from heavy fog to complete darkness. Not only does this camera have industry-leading optics, the system is also gyro stabilized, with a rugged construction and IP66 rating. It is designed for mobile military and marine applications making it the ultimate long range camera system for detection, recognition and identification of targets.

Key Features:

- › Turn-key long-range multi-sensor electro-optic surveillance system
- › Tri-Sensor payload: HD visible, ZLID illumination & thermal
- › Day/Night 1080p HD progressive scan CMOS sensor; 55dB SNR
- › 8-315mm 39X HD continuous zoom lens (37°-1° FOV)
- › 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 1 km of illumination that syncs with zoom
- › 640x480 Gen II 17µm, 9 or 30Hz VOx thermal imager
- › 26-105mm 4X continuous zoom germanium lens (5.8°-25° FOV)
- › 3.4km of human detection; 9km of vehicle detection*
- › Uncooled thermal sensor self-heals from sun & solar damage
- › DICE: Dynamic Image Contrast Enhancement
- › Rugged -40°-+60°C and IP66 sealed with anti-corrosion finish
- › Mobile worm drive micro-step pan tilt head for accurate pan/tilt
- › Endless 360° continuous rotation: 0.01-20°/s pan, 0.01-10°/s tilt
- › 2-axis gyro stabilization (-GS) & EIS DSP image stabilization
- › HD ONVIF Profile S 2.3 IP & analog outputs with Pelco D

1080p
FULL HD

2MP Sensor

39X
ZOOM

8-315mm
Zoom Lens

ZLID

Zoom Laser
IR Diode

VOx
THERMAL
SENSOR

Uncooled
Thermal

4X
Ge ZOOM

26-105mm
Thermal Zoom

PTZ

PTZ Controls

ITAR

No ITAR
Restrictions

THE SENTRY'S HD Optical Camera with ZLID



Visible Optical HD Camera

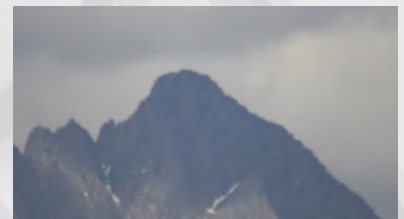
The Sentry's visible camera was designed and optimized for long range surveillance. It uses a 1/2.8" progressive scan CMOS sensor with an HD resolution of 1920x1080 and a fantastic signal to noise ratio of 55dB. The 1/2.8" sensor has excellent spectral sensitivity for both visible and NIR wavelengths and features an automatic IR cut filter, making it a true day/night camera providing clear colour 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 Sentry 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 39X Zoom Lens

The Sentry comes equipped with a precision engineered 8-315mm telephoto IR-corrected zoom lens offering continuous zoom from a wide 37° angle through to a narrow 1° field of view. The 1/2.8" sensor paired with the 315mm lens renders a field-of-view equivalent to a full-frame (35mm) DSLR camera with a 2,000mm 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.

Active IR ZLID Laser Illumination

Many laser illuminators overexpose the center of the screen and leave the edges dark. Our 6W laser has an adjustable 1° 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 the 40m NOHD (eye safe distance).



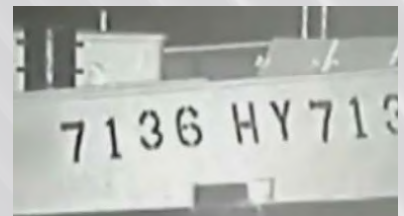
no Fog Filter



with Fog Filter

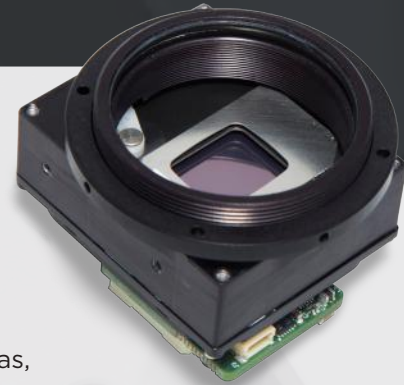


See through windows with ZLID



Ship at night with ZLID

THE SENTRY'S 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 Sentry contains a GEN II VOx 17 μ m uncooled sensor with a resolution of either 320 \times 240 or 640 \times 480 and a sensitivity able to detect differences in temperature as small as $\pm 0.05^{\circ}\text{C}$. The sensor's no-maintenance VOx design, unlike ASI and other thermal cores, is self healing and resistant to solar damage.

Germanium Zoom Lens

We pair the uncooled VOx core with a precision-engineered germanium lens that offers continuous zoom from 25 to 105mm. Our germanium optics boast an industry-leading f1.0 aperture, compared to others at f1.6. This means they allow more thermal energy to reach the sensor, further increasing its range and performance.

Extreme Long Range Detection

The Sentry 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 9.5km away or humans at distances up to 3.6km.* 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:

3.6km
Human Detection*

9.5km
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.

THE SENTRY'S Other Features

Mobile Pan-Tilt Resolver

The heavy-duty PTZ driver is designed for mobile applications and is able to withstand shock and vibration for use on vehicles and marine vessels (input specs here of vibration and shock). The pan tilt implements a worm gear drive for high torque to handle large payloads, and micro step for precise (0.01°) pan and tilt positioning for smooth manual control or automatic slew to cue tracking when used with Video analytics, VTMS systems, Radar or AIS. The optional GS (Gyro Stabilized) version has integrated multi-axis gyro stabilization that uses a high rate mems gyro with the pan tilt to mechanically stabilize the payload, reducing the effects of vibration, oscillation, pitch and roll for mast or marine applications.

Intuitive And User Friendly

While the Sentry 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 Sentry to be operated by any individual with little or no training and ensures compatibility with new and existing equipment.

Rugged And Robust

The Sentry is comprised of military grade, precision engineered components and manufactured using unique processes to offer absolute performance. It uses a military style connector to supply power, video, and communication over a single cable and does not require a junction box or external electronics of any kind, increasing reliability and the amount of time required to install the system. The entire system is designed for mobile applications and is sealed to a minimum of IP66 making it water and dust proof. 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 (Optional)

The Sentry can be both an analog and IP system that allows you to instantly and remotely, and control them 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.



Gyro Stabilized



Waterproof



Mobile



Military Connectors



Remote Access

OPTIONAL ACCESSORIES:

PTZ Controller



Wireless IP Radio



Mobile GPS DVR/NVR



Rapid Deployment Kit

THE SENTRY'S Specifications



Optical Assembly	SNT-1000M-315-HD-105-TIZ
Image Sensor	1/2.8" Exmor Progressive Scan CMOS
Effective Pixels	1944×1092 (2,122,848 pixels)
Lens	8mm-315mm HD Zoom Lens, f/1.6 - f/6.1
Angle of View	37° - 1° Horizontal FOV
Filter	Mechanical IR Cut Filter (no color bleed)
Fog Filter	Fog Filter
Backlight Compensation	BLC/HLC/DWDR (Digital WDR)
IP Protocol	ONVIF
IR Illuminator	
ZLID	6W Zoom Laser Infrared Diode
Distance	1km (at max power), 40m NOHD
Angle	1° - 19.5°
Wavelength	808nm (940nm Stealth optional)
LRF (optional)	Turns off laser if object is detected within NOHD distance
Thermal Imager	
Lens (Motorized Focus)	25-105mm Continuous Zoom, f/1.0
Image Sensor	Uncooled VOx Microbolometer
Array Format	640×480
Pixel Pitch	17µm
Thermal Sensitivity (Room Temp. @ f/1.0)	< 50 mk
Digital Zoom & Pan	Region of Interest; E-zoom from 1X - 4X
Image Enhancement	Dynamic Image Contrast Enhancement (DICE)
Image Display Modes	Polarity: White Hot, Black Hot; Orientation: Invert, Revert
Pan/Tilt Mechanical	
Drive Unit	Worm gear driven
Pan Angle & Speed	360° Continuous Pan, 0.01°-20°/s,
Tilt Angle & Speed	+20° to -60°, 0.01°-10°/s
Preset Accuracy	±0.1°
Physical	
Construction	High Strength Aluminum Alloy
Weight	32kg
Dimensions	Dependent on configuration
Environmental	
Operational Temperature	-45°C-+60°C (with heater, -20°C without heater), Humidity: 90%±3% RH
Environmental	IP66
Electrical	
Input Voltage	24V DC/AC
Power Consumption	< 220W

*Specifications subject to change.

Optional Features: Vibration Mount for vehicle mounting
 2-axis Active Gyro Stabilization
 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