PHX-39X-TI

# THE PHOENIX

**INFINITI**

# Mobile, Rugged Dual-sensor PTZ Camera

The PHX-39X-TI is an integrated dual-sensor Network ONVIF IP PTZ system that boasts a 39X Full-HD resolution CMOS sensor and a highly tuned thermal imager for true 24/7 performance. Integrating these two sensors provides unparalleled performance resulting in accurate detection, recognition, and identification of intruders. All of this is integrated into a rugged IP 66 housing constructed of strengthened aluminum with alloy treated anti-corrosive coating. Paired with the internal heater/blower, this allows the Phoenix to withstand the harshest climates and the most brutal assaults, making it ideal for mobile deployment, perimeter security, homeland defense, and coastal protection.

## Key Features:

› Dual sensor optical and thermal integrated ONVIF IP PTZ system
› 1920×1080 progessive scan CMOS day/night network camera
› 39X Optical 8–315mm HD IR-corrected continuous zoom lens
› Optical field of view from 39° to 1°
› User defined WDR, HLC, BLC, AWB, Dehaze/Defog via web client
› 640×480 or 320×240 Gen II 17µm VOx uncooled thermal imager
› 26mm–75mm f1.0 continuous zoom motorized germanium lens
› Dynamic Image Contrast Enhancement (DICE) for a clear thermal image
› Up to 2.4km human detection and 7.3km vehicle detection with thermal
› Extreme heater/blower for operation in -45°C to 60°C
› Optically pure flat viewing window
› Integrated mechanical infrared cut filter for absolute clarity
› Micro-step technology for quick, accurate pan/tilt better than 0.1°
› Rugged IP66 military grade design with secure military cable connectors
› Military connector supplies video, power and telemetry over 1 cable
› Designed for fixed, marine and mobile applications

**IP66**
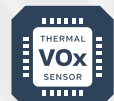Waterproof

**39X**
ZOOM
8–315mm
Zoom Lens

**PTZ**
PTZ Controls

**3X**
Ge ZOOM
26–75mm
Thermal Zoom

**THERMAL VOx SENSOR**
Uncooled Thermal

Military Connectors

**ITAR**
No ITAR Restrictions

## THE PHOENIX'S
# Optical HD Camera

## Visible Optical Camera

The optical 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 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 Phoenix 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.

### Full HD Images

Using a 1920×1080 sensor, the Phoenix outputs amazingly clear and detail-rich images with accurate color reproduction. Paired with our sharp and powerful 39X 8mm–315mm motorized zoom lens, you get an image so impressive you have to see it to believe it.

## Long Range 39X Zoom Lens

The 39X Phoenix 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. Infiniti's HD Zoom camera is a perfect synergy between precision craftsmanship, state of the art sensor hardware and the latest image processing for unparallelled range and performance.

*Approximate FOV at 1km*

Based on an average SUV length of 5.25m, at maximum zoom it would occupy the following percentage of the screen width at these specified distances.
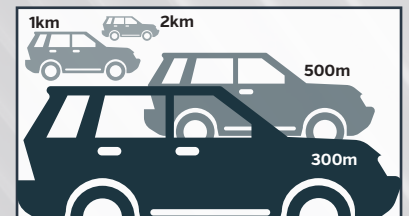
**15% of screen width at 2km**

**30% of screen width at 1km**

**60% of screen width at 500m**

**100% of screen width at 300m**

# THE PHOENIX'S
# Thermal Camera

## 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.
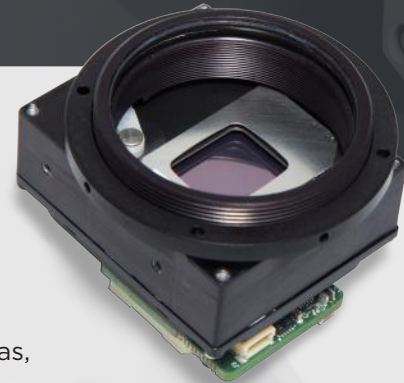
## Thermal Imager

The Phoenix 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.
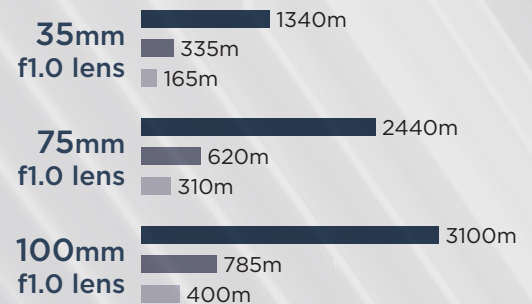
## Germanium Zoom Lens

We pair the uncooled VOx core with our precision-engineered 26–75mm germanium zoom lens. Our germanium optics boast an industry-leading f1.0 aperture, compared to most others at f1.6. This means they allow more thermal energy to reach the sensor, further increasing its range and performance.
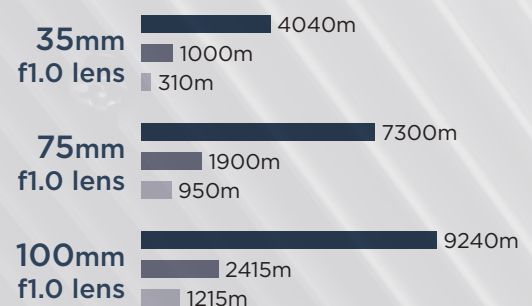
## Extreme Long Range Detection

The Phoenix 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 our 100mm f1.0 lens and the built-in Dynamic Image Contrast Enhancement (DICE) for increased contrast and image clarity, this system is capable of detecting vehicles up to 9km away or humans at distances up to 3km.* 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.

### Human DRI:

**35mm f1.0 lens**
- 1340m
- 335m
- 165m

**75mm f1.0 lens**
- 2440m
- 620m
- 310m

**100mm f1.0 lens**
- 3100m
- 785m
- 400m

### Vehicle DRI:

**35mm f1.0 lens**
- 4040m
- 1000m
- 310m

**75mm f1.0 lens**
- 7300m
- 1900m
- 950m

**100mm f1.0 lens**
- 9240m
- 2415m
- 1215m

- DETECTION*
- RECOGNITION*
- IDENTIFICATION*

*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.

## Pan-Tilt Resolver

The heavy-duty PTZ driver is designed for extreme performance in the most demanding applications. It implements brushless motor resolvers with slip rings for endless 360° panning and Micro-Step technology for precise (0.10°) pan and tilt positioning. Advanced features, such as preset and auto-cruise, will complement almost any existing equipment by means of Pelco-D and Pelco-P protocols with optional absolute positioning.

## ONVIF IP PTZ Solution

Although the Phoenix is an extremely sophisticated piece of equipment, it is operated by an intuitive, user friendly interface with multiple control options such as touch screen and mouse. It can also be controlled by a 3-axis joystick via Pelco-D or web client and is simple to operate without prior training.

The Phoenix is a IP network video camera system that utilizes the latest ONVIF Profile S protocol, allowing the video to be distributed over wired, wireless and cellular networks. ONVIF ensures integration with the widest range of NVRs, VMSs and video storage and devices. IP allows for real time control and configuration of the cameras allowing you to optimize the camera from anywhere in the world.

View all of your cameras 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. Internet is often limited to low bandwidth satellites which is why we allow for dual steaming so you record at one resolution, stream at another, and have integrated VBR and CBR to manage the amount of data and bandwidth used by camera so that optixe the camera for the limitations of the network.

## Custom Tailored Solution

The Phoenix is not just a product but a designed-to-fit solution. Infinti offers many customizations in order to meet the demands and requirements of a project. These customizations can be anything from changing the paint color or equipping the Phoenix with Analog and RS485 Pelco-D serial control to allow it to work with just about any third party devices. The Phoenix can also be built into a Rapid Deployment Kit (RDK) that includes, power, wireless networking, recording, display and tripod to create a complete integrated rapid deployment solution.

### OPTIONAL ACCESSORIES:

PTZ Controller

Mobile NVR with GPS

Rapid Deployment Kit

Anti-Vibration Tripod

# PHX-39X-TI
# Specifications

**INFINITI** ELECTRO-OPTICS

| Optical Camera Assembly | 39X 1080p IP | 30X 1080p IP |
|---|---|---|
| Image Sensor | 1/2.8" Exmor Progressive Scan CMOS | 1/3" Progressive Scan CMOS |
| Resolution | 1920×1080 Full HD | |
| Frame Rate | 30fps | |
| Minimum Illumination | Color: 0.05 Lux / B&W: 0.0008 Lux (Sens-Up) | Color: 0.05 Lux / B&W: 0.005 Lux |
| Shutter Speed | Auto: 1/50 – 1/10,000 Sec | |
| Lens | 8–315mm HD Continuous Zoom Lens | 4.3–129.5mm IR-corrected Continuous Zoom Lens |
| Field of View | 37°–1° Horizontal FOV | 58°–2.2° Horizontal FOV |
| Zoom | 39X Optical, 16X Digital, 624X Total | 30X Optical, 16X Digital, 480X Total |
| Auto-Focus | Yes | |

| Thermal Camera Assembly | 320×240 Imager | 640×480 Imager |
|---|---|---|
| Image Sensor | Uncooled Vanadium Oxide Microbolometer, 9Hz or 30Hz | |
| Picture Elements | 320×240 pixels | 640×480 pixels |
| Scene Temperature | -40°C to +160°C (High and Low Gain) | |
| Pixel Pitch | 17μm (32% sharper image over 25μm sensors) | |
| Lens | 26mm–75mm motorized germanium zoom lens (35mm, 50mm & 100mm fixed lens options available) | |
| Field of View | 23.6°–8.4° Horizontal FOV | 11.8°–4.2° Horizontal FOV |
| Image Optimizations | DICE, BPR, NUC, & AGC'd user configurability via SDK, GUI | |
| Digital Zoom | 2X & 4X dynamic zoom/pan with range switching | 8X dynamic zoom/pan with range switching |
| Spectral Range | 7,000–14,000nm | |
| Thermal Sensitivity | 50mK | |
| Image Display Modes | White Hot, other color palettes available upon request | |

*IP server for thermal camera with IP optical camera model.

## Communication & Presets

| | |
|---|---|
| Presets | Up to 128 presets, 4 preset tours |
| Home Position | Yes (preset 1 or tour) |
| Serial Control | RS485 / RS422 (optical), Pelco-P/D Standard |
| Ethernet | ONVIF Profile -S (others available) |

## Mechanical

| | |
|---|---|
| Drive Unit | Integrated micro-step resolver |
| Pan/Tilt | 360° Continuous Pan up to 40°/sec / 40° Tilt up to 30°/sec |
| Preset Accuracy | 0.01° (Micro-Step) with closed loop control |
| Proportional P/T to Zoom Position | Yes (Automatic adjust speed with zoom for accurate pan-tilt) |

## Physical

| | |
|---|---|
| Construction | High Strength Aluminum Alloy (salt spray PH 6.5–7.2) |
| Standard Colors | White (black optional) |
| Weight | ~7.5kg (DOC) |
| Viewing Window | Flat Glass (visible camera) & Germanium (thermal camera), optional bullet proof |

## Environmental

| | |
|---|---|
| Operational Temperature | -40°C to +60°C |
| Environmental | IP 66, NEMA 4X Outdoor Weather Ring, Viewing Window Wiper on 30X version |

## Electrical

| | |
|---|---|
| Input Voltage | 24VAC or 24VDC (optional) (CE, ROHS, FCC) |
| Power Consumption | Max 80W (heater on), 40W (without heater) |

*Specifications subject to change.

**Optional Features:** Reflective Paint or Customized Paint Finish, ISM (Image Stabilizer Module) for analog video, Vibration Mount for vehicle mounting, 1 or 2 Channel IP Server (1 for thermal, 1 for 37x analog; 30x HD camera does not need one), Gyro Stabilization, RDK (Rapid Deployment Kit), Joystick (Pelco-D or IP 3-axis joysticks), Solar Power, Wireless Analog or IP Radios P2P or mesh