

NOPTIC™

NOPTIC Thermal Imager Summary

Quick and easy panning ability (Patented Design)

Phone: 888-NOPTIC-1
Web: www.noptic.com



Made in USA of U.S. and Imported parts

Autoliv

Technical

The NOPTIC Spotlight System utilizes passive infrared uncooled micro bolometer sensor technology. The following is a technical summary of the camera.

NOPTIC System Configurations

7.5 Hz	30 Hz
P/N: 628497501 – with Halogen Bulb	P/N: 628497500 –with Halogen Bulb
P/N: 628497511 – with LED Bulb	P/N: 628497510 - with LED Bulb

Nominal NOPTIC System Power Consumption

Component	Current Consumption
NOPTIC System (Heater Off)	300mA @12V (excludes Lamp)*
NOPTIC System (Heater On)	700mA @12V (excludes Lamp)*

*System current consumption excludes lamp current consumption, reference lamp manufacture for further details.

7.5Hz and 30Hz Features & Specifications for NOPTIC Camera

Features	Specifications
IR sensor type	Passive Infrared Uncooled micro bolometer
IR spectral range	8 - 14 micrometer
IR sensitivity NEdT	<100 mK
Sensor array size	320 x 240 pixels
Horizontal Field of View (FOV)	24 degrees
Focus	Fixed to infinity
Video output	Composite (monochrome) video, NTSC compatible
Image polarity	White = Hot
Video Process	Video Conversion Box mounted inside the vehicle converts the camera signal into NTSC.
Supply Voltage	9 - 16V; Operating No function during cranking Protected against Over voltage, Jump start, Reverse battery
Operating temperature	-40°F to +176°F
Mounting provisions	"A" pillar spotlight
Humidity	95% Relative Humidity @ +150°F to +14°F
Altitude	Functional up to 3700 m @ +185°F Storage up to 12000 m @ -70°F
Enclosure resistance	High pressure cleaning Salt spray Solar radiation

Performance

The NOPTIC Spotlight Camera meets Automotive OEM manufacturer specifications that are designed to simulate 10 years of harsh environmental exposure.

Validation Test Summary for NOPTIC Camera

Test Description	Specifications
Temperature Cycle	<ul style="list-style-type: none"> • -40°F to +176°F 35 cycles at 8 hours each cycle.
Low Temp Durability	<ul style="list-style-type: none"> • -70°F for 72 hours.
Thermal Shock	<ul style="list-style-type: none"> • -40°F to +176°F for 100 cycles • 30-second transition time • 60 minute dwell at each temperature.
Mechanical Shock	<ul style="list-style-type: none"> • Half-sine pulse with 30g peak acceleration in x, y, and z direction • 5 shocks /direction.
Random Vibration &Temp Cycle	<ul style="list-style-type: none"> • 8 hour/direction x, y & z direction • Temperature from -40°F to +176°F.
Thermal Shock with Splash Water	<ul style="list-style-type: none"> • 100 cycles. Camera at +176°F splashed • +32°F water for 3 seconds each cycle.
Drop Test	<ul style="list-style-type: none"> • 3 units dropped from 1 meter onto concrete floor. • Two different directions/unit.
Hot Water Jet Test	<ul style="list-style-type: none"> • +194°F water @ 1450 PSI. 4.5 gal/min • 30 cycles per accessible direction.
Salt Spray	<ul style="list-style-type: none"> • 168 hours exposure to salt spray mixture
Immersion test	<ul style="list-style-type: none"> • Camera @ +176°F is submerged in water @32°F for 5 minutes. 20 cycles
Humidity Heat cycle	<ul style="list-style-type: none"> • Low temp is 14°F • High temp is +150°F • Relative humidity is 95% • 6 cycles for Duration of 10 days.
Contamination	<ul style="list-style-type: none"> • Expose unit to diesel fuel, engine oil, hydraulic oil, coolant, car wax, paint sealer, ammonia based glass cleaner, insect remover, tar remover, gasoline, and ethanol.

Operational Details

The operation of the NOPTIC Spotlight System is straightforward and intuitive. The camera is mounted on the vehicle's A-pillar spotlight to provide essential panning ability.

Primary benefits of the NOPTIC camera when compared to other thermal imagers:

1. The ability to monitor numerous square miles of territory per hour from the comfort, security and tactical position of the patrol vehicle with both hands on the wheel.
2. Provides night time surveillance with "panning and tilting" capabilities that significantly enhances an officer's ability to conduct stealth surveillance from stationary positions (also in very cold or inclement weather conditions). The NOPTIC camera is unique to the market in that it is externally mounted on the vehicle spotlight, and hand controlled from inside the vehicle. The design of the device allows it to be quickly and quietly panned across a given scene without moving the vehicle or exposing the officer to rain, snow, frigid temperatures, etc. The spotlight can be oriented quickly and easily in the preferred direction by the officer. No slow moving motors are used to position the camera.
3. Enabling officers to timely and tactically use the vehicle spotlight. The device is always 100% aligned with the vehicle spotlight. Traditional nighttime surveillance with the spotlight has required an officer to turn on the vehicle spotlight while patrolling parks, construction sites or when investigating disturbances. This method unfortunately "gives away" the officer's position. Those wishing to elude detection are given an opportunity to run or hide from the approaching light. The NOPTIC camera on the other hand allows an officer to identify a potential suspect in stealth. Since the device is aligned with the spotlight, an officer has the ability to surprise a suspect with direct illumination from the spotlight, increasing the potential for a successful apprehension.
4. Significantly improving an officer's range of visibility during nighttime driving. An officer can position the device toward the direction of travel. Since the device has a range approximately 3 to 5 times farther than that of high beam headlights, an officer is made aware of potential dangers (deer, antelope, and obstructions) much earlier. Having this advanced visual information, an officer can now engage in a response with greater confidence and safety.

Training & Installation Support

1. **Technical and Installation Support:** A detailed installation procedure is supplied with each shipment. Technical support is available. Please dial our toll free phone number at 888-NOPTIC-1 or (888-667-8421). Estimated installation time is less than one hour.