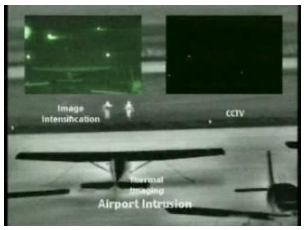
THERMAL SENTINEL™

Thermal Imaging Cameras for Airport Surveillance

See the unseen! **Aspect Technology's Gen III Thermal Sentinel is the ultimate thermal vision advantage for demanding applications. Thermal Sentinel is an uncooled 7-14um camera with 320 x 240 pixel resolution. Thermal Sentinel uses proven Amorphous Silicon Microbolometer detectors with state-of-the-art thermal sensitivity and dynamic range imaging technology. Rated as the Best-In-Class Image Quality due to Advanced Histogram-Based Image Processing producing 640 x 480 quality thermal imaging video output. The Thermal Sentinel System is designed for rough and demanding operation. It delivers high performance digitally processed imagery in a lightweight rugged weather and corrosion protective enclosure, guaranteeing the best target detection and clearest image of objects in total darkness and in all types of weather conditions. Whether the application is military, security, surveillance, oil spill detection, mining or search and rescue, Thermal Sentinel offers a distinct advantage that no other type camera can provide. Its metal housing offers reliable weather protection and corrosion resistance and its bright 8.0 inch LCD display with remote control offers 307,200 pixel resolution. Thermal Sentinel combines impressive performance with Aspect Technology's reliability and ease of use, making it one of the most effective thermal imaging cameras currently available. Its time proven uncooled detector technology offers thousands of hours of maintenance free operation.**

INTRUDER DETECTION

Thermal Sentinel provides the airport industry the capability to see people and other intruders in total darkness and in all obscurant weather conditions. Wildlife detection and other intruder detection becomes an easier task with the Thermal Sentinel's detection capability. The Thermal Sentinel is enclosed in a NEMA 4X enclosure to withstand even the harshest environments such as marine and oil production environments.



Monitor intrusions onto airport property 24/7 in all types of weather. Image Intensification and Low Light CCTV cameras are not as effective in seeing intruders in demanding applications such as total darkness, bad weather and in underbrush. The heat sensing viewing capability of the Thermal Sentinel is far superior to other visual surveillance technologies. Its corrosion resistant motors provide many years of reliable service in harsh environment.

WILD LIFE DETECTION

Lights up the darkest nights and provides a sight tool unlike any other. The Thermal Sentinel dramatically enhances the success rate of detection wild life and preventing runway accidents. Mobile and stationary models can provide detection of a target greater than a mile.

SECURITY AND SURVEILLANCE

Monitor the perimeter of restricted areas. Deny entry to unauthorized intruders. Secure offshore platforms, even in complete darkness. Monitor important areas where lighting is inadequate or not available. Reduce operational costs associated with lighting. Provide security personnel with the right tool to increase efficiency and effectiveness in responding to perimeter breaches.

ASPECT TECHNOLOGY & EQUIPMENT, INC

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THERMAL-EYE

SPECIFICATIONS

Subject to change without notice

CAMERA

Physical

o Dimensions: 10.5" L x 5.25" W x 7.0" H
o Weight: 6.25 lbs (with 50mm lens)
o Mounting Provisions: Standard Camera Mount and Tripod Mount
o Enclosure: Weather Sealed With Baked and Chemically Cured Coating That Provides Maximum Resistance To Severe Corrosive Environments Such as Acids, Alkalis and Salt Spray. Resistant To Marring, Chipping, Weathering and Solar Exposure
o Hard Carbon Coated IR Lens/Window Resistant to Corrosive Alkalitic, Acidic and Salty Environments

Environmental

o Operating Temperature: -20°C to 85°C
o Storage Temperature: -40°C to 105°C
o Operating Humidity: 0-95 Percent Non-Condensing
o Environmental Enclosure (NEMA 4X)

Electrical

o Input Power: 8 – 32 VDC
o Power Consumption: ~2.0 watts (typical)
o Reverse Polarity Protection

Interfaces

o Mil-Spec Connectors for Video and Power to Camera and Video Display
o Electronic Power/Video/Pan/Tilt Control Box
o Optional Camera Control Box (provides polarity and digital zoom control)

Performance

o Detector Type: Uncooled Amorphous Silicon Microbolometer (320 x 240 Pixels)
o Pitch: 30.0 µm
o Spectral Response: 7 to 14 Microns
o Start-up Time: 2.4 Sec +/- 10% @25° C
o Thermal Sensitivity: <50mK
o Refresh Rate: Real-time 30Hz
o Contrast/Brightness: Automatic
o Operation Modes: White Hot/Black Hot (Optional Tri-Color Scene Colorization to Factory Set Absolute Temperatures
o Optional Temperature Bar
o Optional Crosshair & Temperature Measurement Display
o Saturation Temperature: 1100° F/600° C +/-10%
o Optional Digital Zoom (1X to 11X)
o Output Resolution: 640 x 480 pixels for higher clarity thermal images

PAN-TILT

Mechanical: Cast and plate aluminum with all internal parts corrosion protected. Tilt shaft constructed of Type 304 stainless steel
Electrical: 12VDC 0.7 Amp (from control box)
Environment: Meets weather and dust-proof requirements for installation in salt-air environments. Meets NEMA 3R rating
Pan Rotation: 435° (+/- 217.5°)
1° - 23° +/- 1° per sec (variable speed)
Tilt Rotation: +/- 90° in vertical plane
1° - 3° +/- .5° per sec (variable speed)
Dimensions: 9.12"(H) x 9.37"(W) x 5.24"(D)
23.2 cm (H) x 23.8cm (W) x 13.3 cm (D)
Weight: 13.1 lbs (5.94 kg)

CONTROLLER

Pan/tilt Control: Desktop or rack mount w/ remote joystick control
Scan: Variable speed
Electrical
Input: 12VDC
Output: 12 VDC
Dimensions: 8.25"(W) x 12"(D) x 3.5"(H)
20.9 cm (W) x 30.48 cm (D) x 8.9 cm (H)
Weight: 5.5 lbs (2.49 kg)

DISPLAY

Display Type: TFT Flat panel LCD
Resolution: 640 x 480
Screen Size: 8.0" diag
Dot Pitch: 0.136 (W) x 0.416 (H)
Dimensions: 6 7/8" x 8 5/8" x 1 7/16"
Power Source: 12 VDC Nominal

CAMERA SYSTEM (Field of View)	SYSTEM NUMBER
Thermal Sentinel System 1 (12deg)	ATE/TS4512 – SYS
Thermal Sentinel System 2 (25deg)	ATE/TS4525 – SYS
Thermal Sentinel System 3 (50deg)	ATE/TS4550 – SYS

EACH SYSTEM INCLUDES:

Thermal Sentinel Camera
Flat Panel LCD (8 inch Diag)
Pan-Tilt Unit
Pan-Tilt Control Box
20 ft Camera/Pan-Tilt System Cable

OPTIONAL EQUIPMENT	
Camera Control Box Kit: Control Box & Interface Camera Cable	ATE/TSCAMCTLBXK
Magnetic Mount	ATE/MAGMNT

Approximate Range Information (various factors affect actual range)

Model	FOV (H x V)	Person Detect (3 Pixels) (1.8m Tall)	Person Categorize (9 Pixels) (1.8m Tall)	Object (Airplane) Detect (3 Pixels) (10m Tall)	Object (Airplane) Categorize (9 Pixels) (10m Tall)
ATE/TS4550	~ 50 x 37.5 deg	~775ft (236m)	~258ft (79m)	~4306ft (1312m)	~1433ft (437m)
ATE/TS4525	~ 25 x 19 deg	~1465ft (447m)	~488ft (150m)	~8139ft (2481m)	~2711ft (826m)
ATE/TS4512	~ 12 x 9 deg	~3330ft (1015m)	~1110ft (338m)	~18500ft (5639m)	~6167ft (1880m)

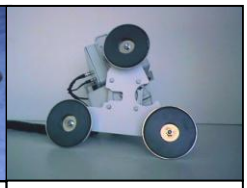

Thermal Sentinel with Pan-Tilt Unit


Pan-Tilt Control with Remote Joy Stick


8 Inch LCD Display with Remote Control


Camera Control Box


System Cable Assembly


Magnetic Mount

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