

THERMAL SENTINEL™

Long Range Mobile Thermal Imaging System Gen III

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.



- Best-In-Class Thermal Imaging Technology
- Corrosion and Weather Protected Enclosure and Connectors
- Automatic and Manual Camera Control
- Accurate Variable Speed Pan-Tilt Unit
- Remote Pan-Tilt and Camera Control Joystick (for gunner)
- Dual High Resolution 8 Inch LCD Displays with Remote Control
- Single System Cable Interface Between Camera and Control Units
- Fused Component Protection with Blown Fuse Indicators
- Simple User Friendly Point-and-View Operation



Thermal Sentinel Mobile Thermal Imaging Systems

System Equipment Includes:

- Weatherproof Thermal Sentinel Camera with choice of field of view
- Weatherproof Pan-Tilt Unit
- Pan-Tilt Control Box
- 8 Inch Flat Panel LCD Display
- 20 ft Weather Sealed System Cable (custom lengths available)
- Magnetic Mount
- Instruction Manual



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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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°)
- Tilt Rotation:** 1° - 23° +/- 1° per sec (variable speed)
- Tilt Rotation:** +/- 90° in vertical plane
- Tilt Rotation:** 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 (Ship) Detect (3 Pixels) (30m Tall)	Object (Ship) Categorize (9 Pixels) (30m Tall)
ATE/TS4550	~ 50 x 37.5 deg	~775ft (236m)	~258ft (79m)	~1291ft (3937m)	~4300ft (1311m)
ATE/TS4525	~ 25 x 19 deg	~1465ft (447m)	~488ft (150m)	~2441ft (7442m)	~8133ft (2479m)
ATE/TS4512	~ 12 x 9 deg	~3330ft (1015m)	~1110ft (338m)	~5550ft (16916m)	~18500ft (5639m)

