

EOSS 1000/1000-S

Ultra Long Range Thermal Imaging System



The Axsys EOSS 1000 EO/IR is an extreme long-range infrared camera system capable of resolving man-sized targets at over 20 kilometers.

The EOSS 1000 is ideal for mobile and stationary surveillance, reconnaissance, and targeting in ground- and marine-based defense and homeland security applications where maximum detection distance is required. This powerful infrared camera is deployed around the world protecting our forces on the ground and those who serve at sea, ensuring the safety of our borders, and combating the illegal trafficking of drugs.

The EOSS 1000 operates in the 3-5 μ m spectral range and incorporates cooled photodetector technology in 320 x 246 30 μ m pitch focal plane array or 640 x 512 15 μ m pitch focal plane array (EOSS 1000-S).

www.axsys.com

FEATURES

- 1000mm tri-field-of-view or optional quad-field-of-view extreme long range thermal imaging system
- 320 x 246 30 μ m pitch focal plane array or 640 x 512 15 μ m pitch focal plane array (EOSS 1000-S)
- Three or four fields of view:
Tri-field: 0.55 $^{\circ}$, 1.1 $^{\circ}$, 2.2 $^{\circ}$
(1000/500/250)
Quad-field: 0.55 $^{\circ}$, 1.1 $^{\circ}$, 2.2 $^{\circ}$, 5.8 $^{\circ}$
(1000/500/250/95)
- Integrated pan and tilt precision positioning system
- Integrated visible camera with long range 60x optical zoom
- Optional laser range finder
- Auto and manual focus
- Cooled 3-5 μ m infrared detector technology

FEATURES

- Highly reliable system capable of operating in harshest environments
- Superior imaging capabilities at extreme distances
- Plug and play integration with perimeter surveillance systems
- Maximum threat detection solution with lowest cost of ownership

EOSS 1000/1000-S

System Specifications

Video Format	NTSC / PAL / Differential
Serial Interface	RS-422
Power Requirements	18-28VDC (direct to P/T), 100-240VAC or 12VDC (with DCU)
Environmental	Unit sealed and dry nitrogen backfilled Front Element Defroster Operating Temperature Range: -32°C to +60°C Non-Operating Temperature Range: -33°C to +71°C
Controls	Controls available on a hand held joystick, or through a PC via an RS-232/422 link Proportional Pan and Tilt speed controls Field of View and Focus Slaving: Visual/Thermal Field of View Switch Focus (Auto/Manual) Auto Scan with 10 tables of 10 userdefined presets, variable speed, dwell, and camera selection
Weight	170 lbs (77kg) (Pan/tilt head & sensors)

Visible Camera Characteristics

Sensor	1/3" IT CCD Approx. 380k Pixels (NTSC) Approx. 440k Pixels (PAL)
FOV (cont. optical zoom)	11.0° to 0.18°
Optical Zoom	60X
Digital Zoom	10X
Resolution (TV lines)	560 color, 700 B/W
Min. Illumination	<0.2lux, f/1.2 color <0.01lux, f/1.2 B/W
Signal to Noise	>50dB

Thermal Camera Characteristics

EOSS 1000 Detector	320 x 256 InSb, FPA 30µm pitch
EOSS 1000-S Detector	640 x 512 InSb, FPA 15µm pitch (add "Z" suffix to part number)
Spectral Band	3-5µm
Type	Motorized Remote Focus & TFOV or QFOV Optical System
f/#	4
Field of View	5.8° x 4.3° (Extra Wide-optional Quad Field), 2.2° x 1.7° (Wide), 1.1° x 0.83° (Mid), 0.55° x 0.41° (Narrow)
Controls/Features	Multiple Color Palettes, Inverse Polarity

Pan/Tilt Head

Pan	360° Continuous
Tilt	±60°
Accuracy	±0.05°
Repeatability	±0.01°
Position Rate	Pan <0.01° to >120°/second Tilt <0.01° to >120°/second

Optional Laser Rangefinder

Laser Type	Erbium Glass
Laser Classification	Class 1, Eye Safe per ANSI/IEC
Wave Length	1.54µm
Energy/Pulse	~8 millijoules typ
Range Accuracy	5 meters
Maximum Range	20,000 or 30,000 meters

