

EFCS-T SENSOR UNIT



EFCS-T SENSOR UNIT



Sensor Unit Features and Functionality

Day Electronic Imaging System uses a nominal x30 zoom lens to produce an image of the target scene on the day charge coupled device sensor. EOS optics incorporate the f/1.8 lens with a zoom capability across the range from <math><1.2^\circ</math> to $>34^\circ$ horizontal field of view (HFOV). Alphanumeric and graphic target data is overlaid on the camera image on the LCD, providing full surveillance and target engagement.

Thermal Imager uses a cooled InSb 640x256 focal plane array (FPA) with an f/4 x11 continuous zoom lens, with a zoom capability across the range from <math><2.73^\circ</math> to $>28.5^\circ$ HFOV. Alphanumeric and graphic target data is overlaid on the thermal image on the LCD providing full surveillance and target engagement.

Eye-safe Laser Rangefinder designed to provide accurate range measurement ($\pm 2.5\text{m}$) for engagement of vehicle size targets at ranges up to 10000 m.

Cant and Elevation Sensors measure the elevation of the line of sight from the horizontal and the cant of the weapon for the horizontal and includes this information in the ballistic computation for the target engagement.

Temperature and Atmospheric Pressure Sensors determine external temperature and reference pressure for use in the ballistic calculation.

Multiplexer provides the communications and video multiplexing between the modules within the Sensor Unit and Electronics Modular Unit.



SENSOR GROUP SPECIFICATIONS (OPTIMAL CONFIGURATION)

Overall Dimensions	<ul style="list-style-type: none"> Length Width Height Weight 	<ul style="list-style-type: none"> 356 mm/14 inches 235 mm/9 inches 182 mm/7 inches 14 kg, 31lbs
Day Camera (Color)	<ul style="list-style-type: none"> Field of View Zoom Magnification Zoom Focal Length 	<ul style="list-style-type: none"> Scalable from <math><1.2^\circ</math> to <math>>34^\circ</math> X34 Continuous Optical Zoom 187 to 5.5 mm (Nominal)
Night (Thermal) Camera	<ul style="list-style-type: none"> Fields of View (Digital/Optical) ($\pm 5^\circ$) Magnification Zoom Effective Focal Length Pixels Available 	<ul style="list-style-type: none"> 2.7° to 30.0° (Optical), 1.4° (Digital) 10X Continuous Zoom + 2X Digital Zoom 30-300 mm (Nominal) 640 (H) x 512 (V)
Laser Rangefinder	<ul style="list-style-type: none"> Eye-safe Range (2.3 x 2.3 m target) Range Accuracy/Resolution Lase Rate Wavelength 	<ul style="list-style-type: none"> Class 1 (AS 2211:1996/97), 154 μm Up to 10,000 m $\pm 2.5\text{ m}$ and +2.5 m 6 pulses per minute [1 Hz optional] 1.54 μm

SENSOR UNIT	DAY CAMERA	THERMAL IMAGER
Detection range	> 12,000 m	> 13,700 m
Recognition range	> 5,600 m	> 5,100 m
Identification range	> 4,700 m	> 4,000 m