



INVENTRA
SURVEILLANCE SYSTEMS

SEG14 – Multi Channel (EO-LWIR-LRF) Stabilized Gimbal System

Thermal Imager with Optical Zoom and Long Range LRF

Designed for Precision Targeting, Surveillance, and Intelligence Gathering



Main Features

- ❖ SEG14 is a cutting-edge multi-channel gimbal system that combines 1080p 30x optical zoom EO Camera, 640x512 LWIR thermal imager and long range laser range finder
- ❖ It delivers precise, stable imaging and tracking, supported by advanced motor control technology for military applications.
- ❖ Integrated with brushless motors and advanced servo drive technology, it delivers precision control at $\pm 0.01^\circ$ while providing clear imaging through 30x optical zoom and thermal sensors.

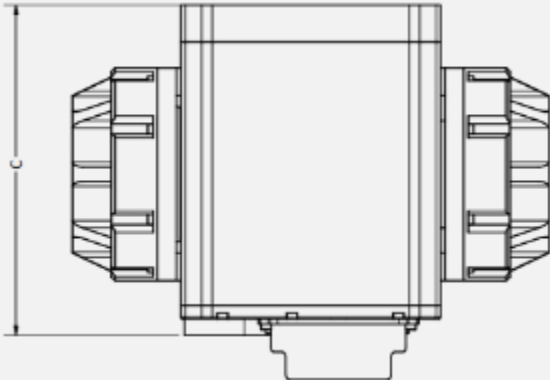
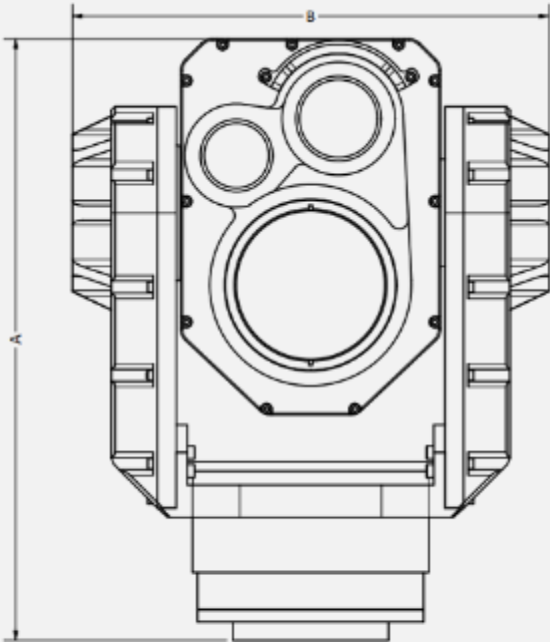
Distinctive Features

- ❖ Triple Channel Acquisition: Real-time data from EO, LWIR, and LRF channels for comprehensive surveillance.
- ❖ True Servo Drive Control: Achieves exceptional control precision using brushless motors and high-resolution encoders.
- ❖ Digital Image Blending: Seamlessly combines thermal and EO data into a single video feed for enhanced situational awareness.
- ❖ Long-Range Laser Range Finder: Effective up to 12,000 m for precise targeting and distance measurements.

Configuration Breakdown	Sensors – Electromechanical – Gimbal – 14 (Product Class) – Thermal Imager (LWIR-640-12μ) – EO Camera (1080p – 30X) – Laser Range Finder – Customization Codes
Part Number	SEG14-L0612-E30-L12
Available Customizations	Laser Range Finder, Communication Protocol, Output Speed, FOV, Video Output Format, Mechanical Interfaces
Combinable Sub-Platforms	MES01 – Ultra Compact Electromechanical Mast MES10 – Locked Electromechanical Mast



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Parameters / Configurations			SEG14-L0612-E30-L12
PERFORMANCE PARAMETERS	Pan/Tilt Axis Speed	°/s	180°/s
	Pan/Tilt Axis Range	°	Pan: 360° Continuous / Tilt: ±45°
	Communication Options	-	RS422/RS485/Ethernet
	Operating Voltage	V	20-32
	Power Consumption (Max)	W	150
	Weight	kg	<8.0 kg
	Video Output Options	-	HD-SDI/Ethernet
	Dimensions	mm	325 x 257 x 178
LRF	LRF Ranging Scope	m	Up to 32.000 m
	LRF Wavelength	nm	1500 nm
	Laser Pointer	nm	635 nm, Class 1, Eye Safe
THERMAL IMAGER	Wave Length	µm	Long Wave
	Resolution Options	-	640 × 512 (1280 × 1024 optional)
	Pixel Size	µm	12µm
	NETD	mK	≤30mK @25°C
	Optical Zoom Options	-	28 – 90 mm (3.2X) or 15 – 75 mm (5X)
	DFOV	°	19.92° @28mm ~ 6.26° @90mm
	Calibration	-	Shutter Calibration / Scene Calibration
TRACKER	Stabilization	-	Two Axis IMU and Encoder Based Dual Loop Stabilization
	Output Lag	ms	<100 ms
	Target Size	pixels	16x16 ~ 128*128
EO CAMERA	Resolution	-	1920 X 1080
	Lens	-	30x Optical Zoom f = 4.3mm (Wide) - 129.0mm (Tele) f1.6 - f4.7"
	Digital Zoom	-	12x (360x With Optical Zoom)
	Focusing System	-	Automatic
	Horizontal Viewing Angle (H-FOV)	°	63.7° (Wide) - 2.3° (Tele)
QUALIFICATIONS	Temperature	°C	MIL-STD-810G, Method 502.5 Procedure II – Operational, -32°C
			MIL-STD-810G, Method 501.5 Procedure II – Operational, +60°C
			MIL-STD-810G, Method 501.5 Procedure I – Storage; +70°C
			MIL-STD-810G, Method 502.5 Procedure I – Storage; -40°C
	Vibration	-	MIL-STD-810G, Method 514.6 Procedure I Category 20, Figure 514.6C-3
	Shock	-	MIL-STD-810G, Method 516.6 Procedure I Functional Shock, 20g 11ms
	Rain	-	MIL-STD-810G, Method 506.5 Procedure I – Rain



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