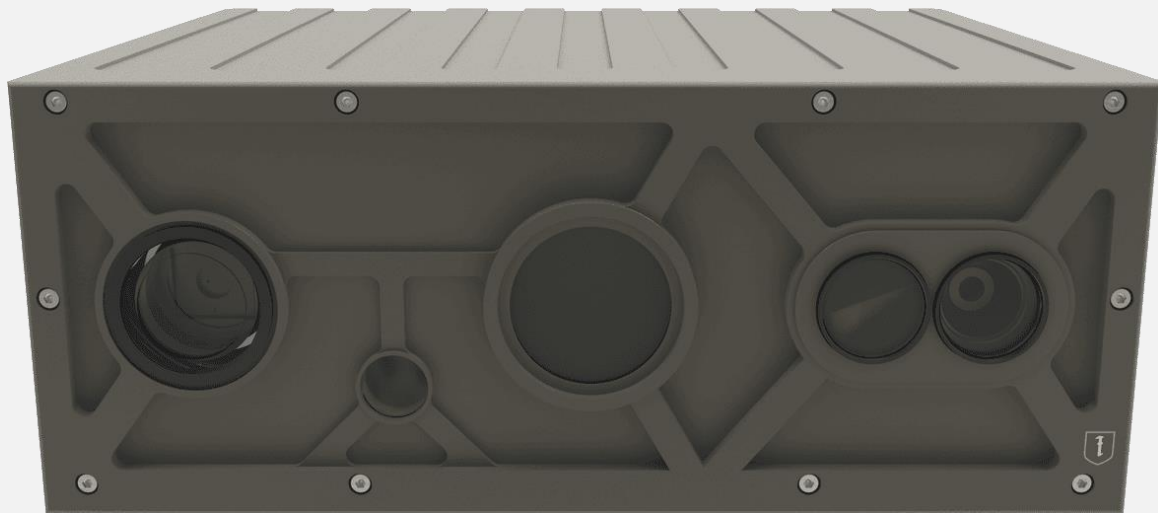




INVENTRA
SURVEILLANCE SYSTEMS

SEB20 – Multi Channel (EO-MWIR-LRF-LD) Thermal Imager

A State-of-The-Art Thermal Imager with a Laser Designator for,
Weapon Systems, Main Battle Tanks and Long Range Surveillance



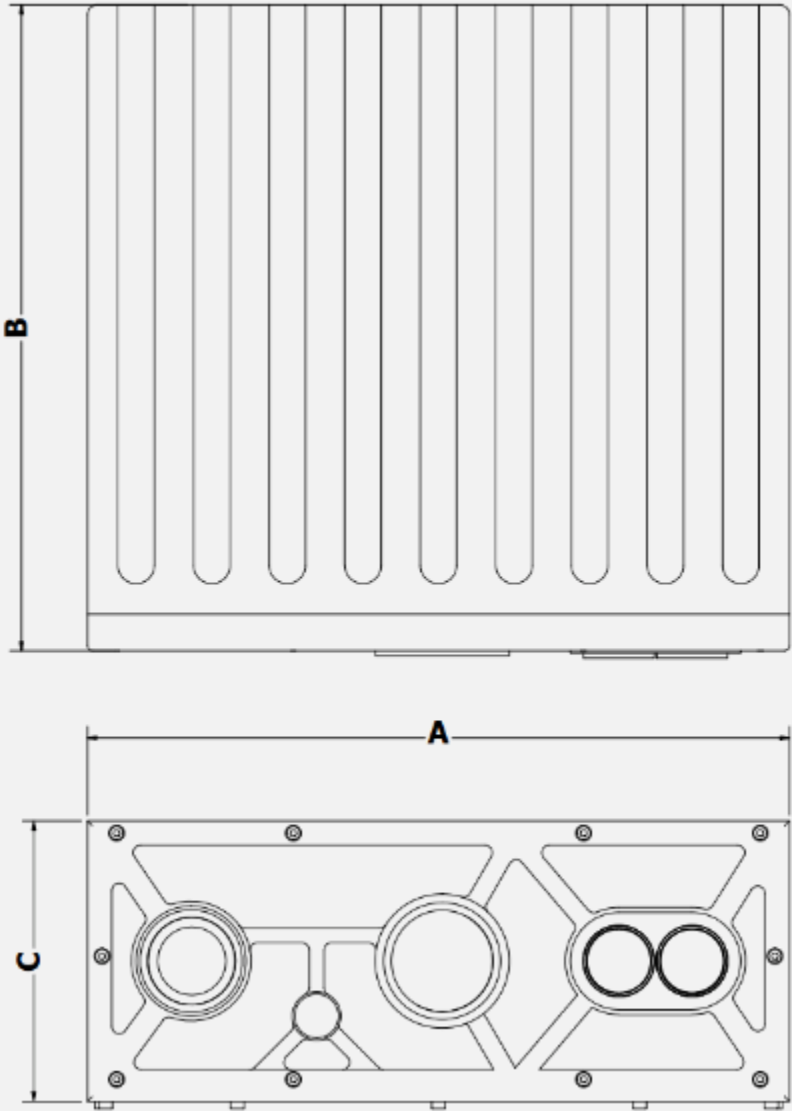
Distinctive Features

- ❖ **Precision Targeting and Missile Guidance:** The thermal imager's state-of-the-art technology enables precise targeting and tracking, making it an invaluable tool for designating targets and guiding missiles with exceptional accuracy and precision.
- ❖ **Extreme Durability:** Engineered to endure the most challenging environments, the thermal imager is built to withstand harsh conditions. Its rugged construction ensures reliability, making it an essential component for any weapon system.
- ❖ **Quad-Channel Functionality:** With quad-channel capabilities encompassing EO (electro-optical), MWIR (mid-wave infrared), LRF (laser rangefinder), and Laser Designator, the thermal imager facilitates simultaneous data acquisition and command.
- ❖ Our thermal imager is engineered to withstand even the harshest conditions, ensuring that it is a reliable and essential tool for any weapon system.

Main Features

- ❖ With the ability to guide a missile to hit it with pinpoint accuracy, our thermal imager is the ultimate tool for any combat situation.
- ❖ Simultaneous data acquisition and command through quad channel (EO, MWIR, LRF, Laser Designator)
- ❖ Sharp and clear image with 1080p full HD EO - 90x optical zoom and 1280x1024 MWIR thermal sensors

Configuration Breakdown	Sensors – Electromechanical – Box Type – 20 (Product Class) – Thermal Imager – EO Camera – Laser Range Finder – Laser Designator - Customization Codes
Part Number	SEB20-XXXX-XXX-L32-LD050 (Check Available Options Below)
Available Customizations	Laser Designator Output Energy and Beam Divergence, LRF Distance, Optical Zoom, Communication Protocol, Output Speed, FOV, Video Output Format, Mechanical Interfaces
Combinable Sub-Platforms	PED10 – Ultra Precision Electromechanical Pan-Tilt



Example Configuration Breakdown:**SEB20 – Thermal Imager – EO Camera – LRF – LD – Customization Codes**

SEB20-M1212-E50UL-L32-LD050-PA02

SEB20 – Midwave Thermal Imager (1280x1024 / 12µm) + Electro-Optic Camera (1080p / 50X Optical Zoom / Ultra Low Light Sensor) + Laser Range Finder (32km Range) + Laser Designator (50mJ Output Energy) – Color Finish (Powder Coat Desert Tan)

THERMAL IMAGER OPTIONS	Parameters	L0612	L1212	M0615	M1212
	Resolution	640×512	1280×1024	640×512	1280×1024
	Spectral Range	LWIR (8~14µm)		MWIR (3.7µm±0.2µm - 4.8µm±0.2µm)	
	Pixel Size	12µm	12µm	15µm	12µm
	NETD	≤30mK	≤50mK	≤15mK	≤20mK
	Lens	30-150mm	30-180mm	15-300mm	37.5-750mm
	Optical Zoom	5X	6X	20X	20X
	FOV (Narrow End)	2.93° x 2.35°	4.89° x 3.91°	1.83° x 1.47°	1.17° x 0.94°
EO CAMERA OPTIONS	Parameters	E90	E68L	E50UL	E30
	Resolution	1920x1080	1920x1080	1920x1080	1920x1080
	Lens	6-540mm	6-408mm	6-300mm	4.3-129mm
	Optical Zoom	90X	68X	50X	30X
	FOV	65.2°-0.8°	66.0°-1.0°	61.9°-1.3°	63.7°-2.3°
	Min. Illumination	Standard 0.01 Lux	Low Light 0.005 Lux	Ultra Low Light 0.001 Lux	Standard 0.1 Lux
LRF	Parameters	L32			
	LRF Ranging Scope	5-32000 m			
	LRF Wavelength	1.5 µm			
DESIGNATOR	Parameters	LD050			
	LD Pulse Codes	STANAG 3733 I&II			
	LD Pulse Width	10-25 ns			
	LD Wavelength	1064 nm			
	LD Output Energy	>50 mJ			

Parameters		SEB20-XXXX-XXX-L32-LD050	
GENERAL PARAMETERS	Positioning Accuracy (with Positioner)	μrad	$<50 \mu\text{rad} (\approx 0.003^\circ)$
		μrad	$<100 \mu\text{rad} (\approx 0.006^\circ)$
	Operating Voltage	V	20-32V
	Video Output	-	HD-SDI, Ethernet
	Communication to the Unit	-	RS-422
	Width (A)	mm	325
	Depth (B)	mm	360
	Height (C)	mm	155
	Weight W/O Positioner	kg	18.4
TRACKER	Data Refresh Rate	Hz	25 Hz
	Output Lag	ms	$<100 \text{ ms}$
	Stabilization	-	Fiber Gyro and Encoder Based Dual Loop Stabilization
	Target Size	pixels	$16 \times 16 \sim 128 \times 128$
ENVIRONMENTAL QUALIFICATIONS	IP Rating	-	IP65
	Temperature	$^\circ\text{C}$	MIL-STD-810G, Method 502.5 Procedure II – Operational, -32°C
			MIL-STD-810G, Method 501.5 Procedure II – Operational, $+60^\circ\text{C}$
			MIL-STD-810G, Method 501.5 Procedure I – Storage; $+70^\circ\text{C}$
			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, 40g 11ms
	Humidity	-	MIL-STD-810G, Method 507.5 Procedure I; 90% Noncondensing
	Rain	-	MIL-STD-810G, Method 506.5 Procedure I – Rain
	Salt Fog	-	MIL-STD-810G, Method 509.5, 2 Cycles of 24 Hours Salt Fog and 24 Hours Desiccation

*Dimensions and weight may change due to different sensor options.



SEB20 – Multi Channel Thermal Imager
PED12 – Ultra Precision Pan-Tilt Unit
TMH10 – Heavy Duty Tripod