

ORCA 220

Non-ITAR, high performance gyro stabilized payload for Intelligence, Surveillance and Reconnaissance missions.

THREOD
SYSTEMS

Key features:

- Stable Full HD picture feed for all military and civilian ISR operations.
- Perfect for long distance identification and surveillance of vehicles and people.
- Wide range of sensor configurations (EO, LWIR, MWIR etc.) and accessories.
- Built-in image enhancements, embedded STANAG-compliant meta-data.
- Seamless integration with various platforms and systems.
- Non-ITAR.

On-board
recording

MWIR sensor

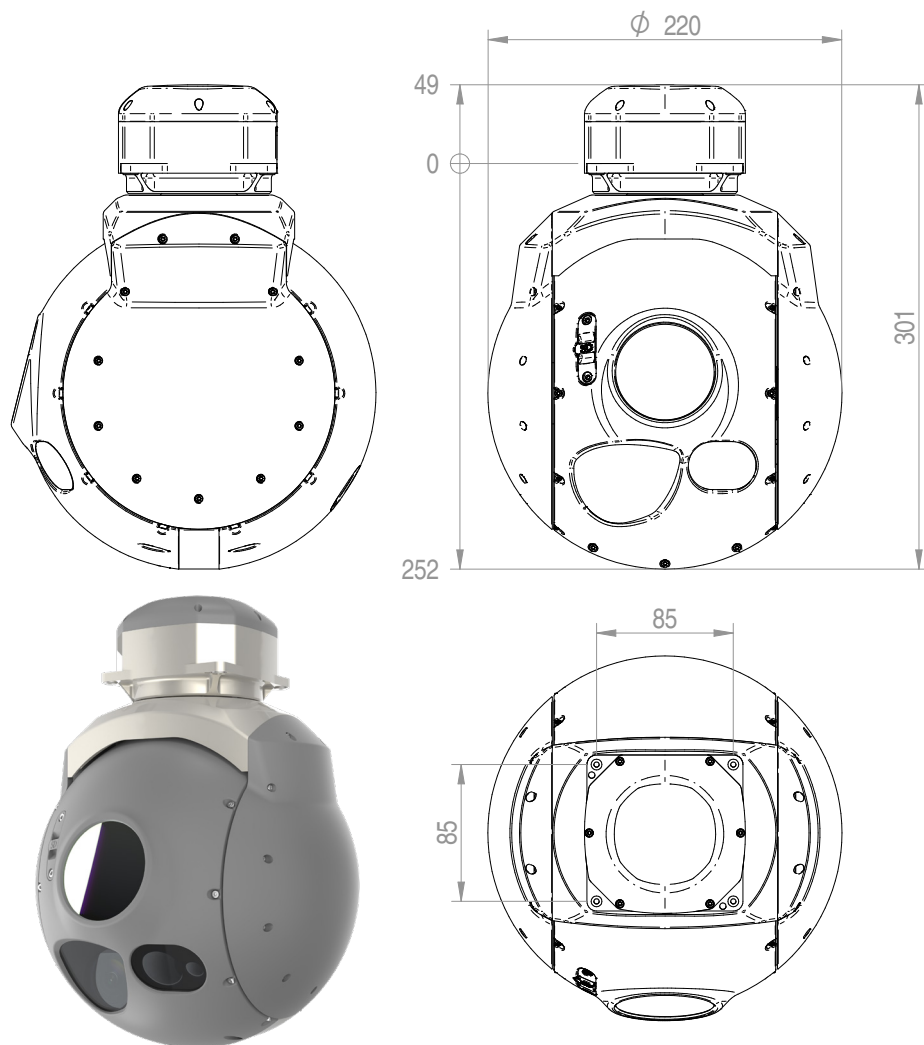
Laser rangefinder
NVG compatible IR
spotter

FullHD EO sensor



Orca 220 Specifications

Standard MWIR configuration



MWIR Continuous Zoom Thermal Camera	
Type	Cooled mid-wave infrared sensor (MWIR)
Sensor	IDC InSb
Resolution	640 x 512 pixels
Pixel Pitch	15 μ m
Wavelength	3 to 5 μ m
Lens Aperture	F5.5
Focal Length	19 - 275 mm
Field of View	HFOV 28.4° - 2.0°
Zoom Factor	1-14X (continuous optical)
Digital Zoom	1-3X (continuous digital)
Frame Rate	30 Hz
NETD	<25mK
DRI	Vehicle: 16km/7km/5km, Human: 9km/2km/1.2km
HDTV Continuous Zoom Color Camera	
Sensor	1/2.8 CMOS
Resolution	1920 x 1080 pixels
Wavelength	Visible + NIR
Lens Aperture	F1.6-4.7
Focal Length	4.3 mm - 129 mm
Field of View	HFOV 63.7° - 2.3°
Zoom Factor	1-30X (continuous optical)
Digital Zoom	1-3X (continuous digital)
Frame Rate	30 Hz
Sensitivity (colour)	0.01 lx @ 30 Hz, 0.0013 lx @ 4Hz
Sensitivity (NIR)	0.0015 lx @ 30Hz, 0.0008 lx @ 4Hz
Laser Range Finder	
Wavelength	1550 nm
Divergence	0.45 mrad
Safety	Laser Class 1 per IEC 60825-1
Typical Accuracy	\pm 1 m
Range	9700 m beam filling 5200 m NATO target
Laser Pointer	
Wavelength	830 nm (NVG compatible)
Beam Power	16.5 mW
Safety	Laser Class 3B per IEC 60825-1
Dimensions	
Weight	4.1kg
Dimensions	301 x 220 x 227mm (H x W x L)
Electrical	
Supply Voltage	18-30 VDC
Power Consumption	60W peak, 45W nominal
Interfaces	
Control and Video Output	Ethernet
Optional Control	Serial TTL (RS232, RS422 optional) - autopilot and INS integration and/or secondary control interface
Optional External INS	RS232 and power output
Video Format	MPEG-TS H.264 (1080p/720p/SD) + embedded KLV metadata, 30Hz
Environmental	
Operating Temperature	-20 °C to +50 °C
Humidity	Desiccator and indicator
Altitude	5000 m / 16000 ft AMSL
Airspeed tolerance	150 km/h / 80 KTS
Standards	
Environmental	MIL-STD-810G
Video and Metadata	NATO STANAG 4609 (FMV, KLV)

Features	
Picture-in-Picture	
Moving Target Indicator	
Image Enhancements (contrast, color, gain, histogram equalization, sharpness, denoise, defog)	
Symbolology (on screen display)	
Automatic Video Tracker (moving and stationary targets)	
Scene Steer	
Geolocation and Geo-pointing	
On-board Recording	
Electronic Stabilization	
Gyro Stabilization	
Field of View Slaving	
Fully Featured Mission Software (moving map, video recording and DVR features, reporting tool, fire support tool, POI-s, click-to-point on map, video clip extraction, video footprint, video over map)	
MWIR	Pseudo color, NUC tables, FFC, AGC adjustments, AGC ROI, auto/manual focus, brightness and contrast adjustment, denoise
HDTV	ICR cutoff (NIR mode), colour gain adjustment, colour hue adjustment, auto/manual focus, auto/manual aperture, iris and gain control, auto/manual white balance, denoise, defog
Handgrip Controller	
Interface	USB, Ethernet, Ethernet PoE (connects to Mission Software PC)
Variants	Contact Thread for options
Options	
Vibration dampener	Custom design available per platform
Gimbal retract	Custom design with built-in dampening available



Example of Orca 220 set

Note! Orca 220 has multiple sensor configurations such as EO, LWIR, MWIR, SWIR, EO Spotter, Laser Designator and various other speciality sensors are available. Contact Thread Systems for available options and quotations.