

# OSIRIS RANGER

HIGH PERFORMANCE PAN AND TILT UNIT  
 HD LOW LIGHT VISIBLE ZOOM LENS SENSORS  
 SD LWIR UNCOOLED THERMAL ZOOM LENS SENSORS



Powered by  
**NexOS**

The OSIRIS RANGER EVO2 is an accurate, multi sensor platform which utilises long range uncooled LWIR thermal sensors with a range of zoom lens options up to 25-225mm, alongside the latest low light HD visible sensors with zoom lens options up to 20-2400mm.

The **NexOS** EVO2 range employs the latest 12µm thermal sensor technology and has **NexOS** intelligent capabilities as standard.

Combining advanced motor control technology along with harmonic drive gears, all Osiris camera platforms are able to position our long-range sensors accurately and quickly. This is complimented with advanced **NexOS** features\* such as video tracking, target classification and dynamic bore-sighting.

## KEY FEATURES

- Thermal camera detection ranges up to 6.98km (human) \*\*
- 640x512 12µm thermal sensors with zoom lens options up to 225mm
- HD visible sensors with zoom lens options up to 2400mm
- NexOS** intelligence allows advanced image processing and motor control
- NexOS** Advanced Macros and Pelco Query Builder allow complex configurations
- Push, continuous and ROI autofocus, electronic image stabilisation and digital zoom (20x) as standard
- 360° Continuous rotation with pan and tilt speeds between 0.001° and 100° per second
- High level of camera positioning accuracy: 0.0001° / 0.0017 mRad
- Unique cable managed, rapid release mechanism and bore sighting allows a quick installation in the field
- System configuration and sensors can be chosen to suit the specific requirements
- Ideally suited for single mast deployments such as mobile, border and maritime applications

\* Requires the NexOS performance pack option.

\*\* Johnsons Criteria, (Human at 1.8m x 0.5m, Detection at 2 pixels, Recognition at 8 pixels and Identification at 13 pixels. 50% probability subject to environmental conditions). Based on the JPTX-EVO2-300-W.



Above: Typical Osiris Ranger (models will vary)

## TECHNICAL SPECIFICATION

THERMAL SENSORS	OPTX-EVO2-100-W	OPTX-EVO2-105-W	OPTX-EVO2-150-W	OPTX-EVO2-180-W	OPTX-EVO2-225-W
Focal Length	20mm to 100mm	26mm to 105mm	30mm to 150mm	30mm to 180mm	25mm to 225mm
Horizontal FOV	22° (W) to 4.4° (T)	16.9° (W) to 4.2° (T)	14.7° (W) to 2.9° (T)	14.7° (W) to 2.4° (T)	17.6° (W) to 2.0° (T)
F Number	F1.1	F1.6	F1.2	F1.2	F1.5
Optical Zoom (Continuous)	5x, Motorised	4x, Motorised	5x, Motorised	6x, Motorised	9x, Motorised
Digital Zoom	20x				
Focus	Push autofocus, continuous autofocus, continuous autofocus with automatic ROI, manual				
Detector Type	Uncooled VOx microbolometer, <math>\leq 50\text{mK}</math> (at 25°C, F1.0), 50Hz, 12µm, 640 x 512				
Spectral Band	7.5 to 14µm (LWIR / 8 to 14µm)				
Image Processing	Correction (NUC), noise filtering, polarity control, Digital Detail Enhancement (DDE), polarity: white hot / black hot, 18x colour palettes				
Housing Weight (Typical)	18.3kg / 40.3lb				
Housing Size (Typical)	L740 x W298 x H249mm				

HD VISIBLE SENSORS		
Focal Length	4.3mm to 129mm	15.2mm to 500mm
Horizontal FOV	63.7° (W) to 2.32° (T)	23.42° (W) to 0.78° (T)
F Number	F1.6 to F4.7	F3.0 to F32
Optical Zoom (Continuous)	30x, Motorised	33x, Motorised
Digital Zoom	20x	
Focus	Push autofocus, continuous autofocus, continuous autofocus with automatic ROI, manual	
Image Sensor	1/2.8" CMOS Exmor (2.13MP), full HD 1080p (1920 x 1080)	1/1.9" CMOS Sensor (2.38 MP), full HD 1080p (1920 x 1080)
Min. Sensitivity	Colour 0.01 lux Mono 0.0008 lux (high sensitivity mode)	Colour 0.05 lux F1.2 gain of up to 60dB / 0.005 lux F1.2 / AGC @ 42dB Mono 0.002 lux F1.2 gain of up to 60dB / 0.0002 lux F1.2 / AGC @ 42dB (accumulation 25 times)
Image Processing	Digital noise reduction	
Housing Weight (Typical)	17kg / 37.5lb	17.5kg / 38.6lb
Housing Size (Typical)	L740 x W298 x H249mm	

NexOS*	
NexOS Core (Standard)	NexOS Core includes: Push autofocus, continuous autofocus, continuous autofocus with automatic ROI, digital zoom, image contrast enhancements, CLAHE, de-fog, electronic image stabilisation (2D), static overlays, remote upgrades, remote diagnostics
NexOS Performance Pack (Cost Option)	In addition to NexOS Core, includes: Electronic image stabilisation (3D), target tracking, target classification, event detection, dynamic overlays, dynamic boresight, dynamic absolute positioning, edge recording

OSIRIS PAN AND TILT UNIT (PTU)*	ELECTRICAL AND MECHANICAL		
Pan Range / Velocity	360° Continuous; 0.001° - 100° per second**	Video Output	RTSP, ONVIF from PTU (H.264, H.265 and MJPEG)
Tilt Range / Velocity	-90° to +90°; 0.001° - 100° per second**	Ethernet	Command and control of all functions including streaming of H.264, H.265 and MJPEG video
Accuracy	0.0001° / 0.0017 mRad	RS485	Pelco D command and control with custom procedural extensions
Repeatability	0.0001° / 0.0017 mRad	Boresight with Rapid Release Mechanism	Anodised aluminium, quick release bracket with micro adjustment boresight mechanism
Actuation	Custom stepper motors	Input Voltage	48VDC
Speed Control	Zoom dependent speed control (subject to payload)	Housing Material and Finish	Anodised aluminum, thermal and visible sensors (only) are nitrogen purged, hydrophobic coating on visible sensor window, white powder marine grade paint finish (other colours are available upon request)
Presets Types	Procedural, Positional	IP Rating	IP67
Number of Presets	255	Temperature Range	-32°C (-25°F) up to 65°C (149°F) (-40°C/°F with optional Cold Weather Pack)
Protocols	Pelco D, ONVIF Profile-S (custom available on request)		
Interface	RS485, ONVIF Profile-S, Serial <-> IP		
Positioning	Absolute positioning feedback		
Through Shaft	No		
PTU Weight (Typical)	18.3kg / 40.4lb (excluding mounts, brackets and payloads)		
PTU Size (Typical)	H450 x W238x D238mm (excluding mounts, brackets and payloads)		

OPTIONALLY AVAILABLE	
HD Low Light Visible Sensor	16.7mm to 2000mm (21.2° W to 0.23° T) (with x2 extender on) 1/1.9" CMOS Sensor (2.38MP), full HD (1920 x 1080), colour 0.005 lux at F1.2 / 42dB mono 0.0002 lux at F1.2 / 42dB
HD Ultra Low Light Visible Sensor	15.2mm to 500mm (32.39° W to 1.0° T) or 20mm to 2400mm (24.87° W to 0.23° T) (with x2 extender on) 2/3" CMOS Sensor (2.2MP), full HD (1920 x 1080), colour 0.005 lux at F1.4 / 50IRE, mono 0.00000001 lux at F1.4 / 50IRE
4K Visible Sensor	4.4mm to 88.4mm (70.2° W to 4.1° T) 1/2.5" CMOS Sensor (8.51MP), 4K/QFHD (3840 x 2160), colour 0.4 lux (colour 0.06 lux with slow shutter on)
Technologies	Long range white light (up to 3.5km) or infra-red illuminators (up to 2.5km), laser illuminators, SWIR sensors, wiper for visible sensors

\* Subject to payload types.

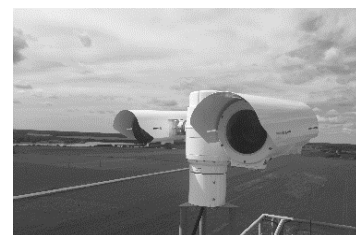
\*\* Maximum pan and tilts speeds may be restricted depending on the payload types.



**IP67**  
 Ruggedised and well suited to maritime applications



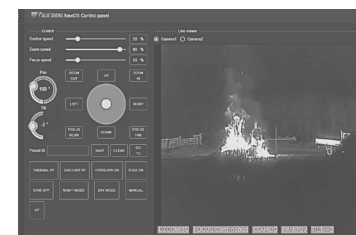
**HIGH ACCURACY**  
 Designed for long range surveillance applications



**MODULAR DESIGN**  
 Enables cost effective, accurate long range surveillance



**RAPID RELEASE MECHANISM**  
 Allows quick changing and bore-sighting of payloads



**NEXT GENERATION**  
 Unrivalled intelligence and hardware control from NexOS