

# JAEGAR RANGER

## UNCOOLED LWIR THERMAL ZOOM LENS OPTIONS:

- 26mm to 105mm
- 25mm to 150mm
- 25mm to 225mm



Above: Jaegar Ranger 25-225mm.  
Other models will vary.

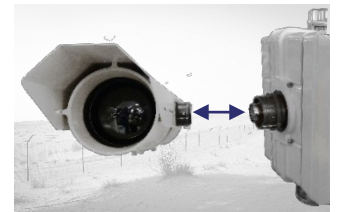
The Jaegar Ranger is a high performance, multi sensor platform which utilises long range uncooled LWIR thermal sensors with a range of zoom lenses up to 25-225mm alongside a HD visible sensor with a 15.2-500mm lens.

Combining advanced motor drive technology along with harmonic drive gears, all Jaegar camera platforms are able to position our longest range sensors accurately and quickly. The Jaegar benefits from a fixed through shaft, which can enable payloads such as a RADAR to be mounted directly above the PT director.

With an IP67 level of environmental protection and hard anodised housings, the Jaegar is suitable for the most harsh and challenging applications.

## KEY FEATURES

- Thermal camera detection\* ranges up to 4.9km (human) and 15.2km (vehicle)
- Uncooled LWIR thermal sensors with zoom lens options up to 25-225mm
- HD visible sensor with a 15.2 to 500mm (33x) zoom lens
- Through shaft enabling fixed payloads to be mounted above the PT director
- 360° continuous rotation with pan and tilt speeds between 0.002° and 100° per second
- High level of camera positioning accuracy: 0.0002°
- Absolute feedback, virtually zero backlash with automatic self position correction
- Unique cable managed, rapid release mechanism and bore sighting allows cameras to be quickly installed and changed in the field
- Ruggedised for extreme and challenging environments
- IP67 rating
- Ideally suited for single mast deployments such as mobile, border and maritime applications



**RAPID RELEASE MECHANISM**  
Allows quick changing of payloads



**THROUGH SHAFT**  
Enables fixed payloads to be mounted above the PT Director



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

\* Johnsons Criteria,  
(Human at 1.8m x 0.5m, vehicle at 2.3m<sup>2</sup>, Detection at 2 pixels, Recognition at 8 pixels and Identification at 13 pixels. 50% probability subject to environmental conditions). Based on the RANGER -225.



# JAEGAR RANGER

## UNCOOLED LWIR THERMAL ZOOM LENS CAMERAS



Above: Jaegar Ranger 25-225mm.  
Other models will vary.

### THERMAL SENSOR - 640 x 480, 17µM PIXEL PITCH

Part Code	RANGER-105	RANGER-150	RANGER-225
Focal Length	26 to 105mm	25 to 150mm	25 to 225mm
Field of View	25.3° (W) - 5.9° (T)	25.3° (W) - 4.1° (T)	22.3° (W) - 2.8° (T)
Optical Zoom	4x, motorised	6x, motorised	9x, motorised
F Number	F1.6	F1.4	F1.5
Sensitivity	<50 mK (NETd) at room temperature		
Detector Type	Uncooled VOx microbolometer		
Resolution	17µm, 640 x 480 (lower resolution 320 x 240 sensors are available on request)		
Spectral Band	8 to 14 µm (LWIR)		
Frequency	25Hz (9Hz, 30Hz options)		
Focus	Manual (push autofocus cost option)		
Digital Zoom	4x		
Image Stabilisation	Yes, electronic (cost option)		
Image Processing	Polarity control, tune-able contrast enhancement		
Image Control	Polarity: White hot / black hot. Orientation: Invert / revert		
Housing Weight	Typically 4Kg / 8.8lb	Typically 12Kg / 26.4lb	
Housing Size (mm)	L460 x W184 x H156	L572x W258x H226	

### HD VISIBLE SENSOR

Focal Length	15.2mm to 500mm	
Image Sensor	1/1.9" CMOS Sensor (2.38 MP), full HD 1080p (1920 x 1080)	
F-Number	F3.0 to F32	
Horizontal FOV	23.42° (W) to 0.78° (T)	
Optical Zoom	33x, Motorised	
Digital Zoom	-	
Focus	Push autofocus, manual	
Image Stabilisation	Yes (cost option) [electronic image stabilisation]	
Min. Sensitivity	Colour 0.05 lux F1.2 gain of up to 60dB / 0.005 lux F1.2 / AGC @ 42dB (accumulation 25 times) Mono 0.002 lux F1.2 gain of up to 60dB / 0.0002 lux F1.2 / AGC @ 42dB (accumulation 25 times)	
Other Features	Defog, digital noise reduction	
Housing Weight	Typically 14Kg / 30.9lb	
Housing Size (mm)	L572x W258x H231	

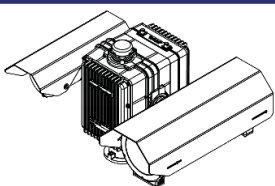
### JAEGAR PAN AND TILT UNIT (PTU)

Pan Range / Velocity	360° continuous / 0.002° to 100.0° per second
Tilt Range / Velocity	-90° to +90° / 0.002° to 100.0° per second
Accuracy	0.0002° / 0.0035 mRad
Repeatability	0.0002° / 0.0035 mRad
Actuation	Custom stepper motors
Speed Control	Zoom dependent speed control
PTU Weight	22kg / 48.5lb (excl. mounts, through shaft and payloads) (payload capacity 50kg)
PTU Size (mm)	H434 x W343x D343 (excluding mounts, through shaft and payloads)

### PART CODES

JPT-H-RANGER-105-W	Jaegar Ranger 105 – High powered PT, with a 640x480, 17µm, 25Hz, 26-105mm, F1.6 thermal camera and a HD, 15.2-500mm (33x optical zoom lens) video camera, white colour
JPT-H-RANGER-150-W	Jaegar Ranger 150 – High powered PT, with a 640x480, 17µm, 25Hz, 25-150mm, F1.4 thermal camera and a HD, 15.2-500mm (33x optical zoom lens) video camera, white colour
JPT-H-RANGER-225-W	Jaegar Ranger 225 – High powered PT, with a 640x480, 17µm, 25Hz, 25-225mm, F1.5 thermal camera and a HD, 15.2-500mm (33x optical zoom lens) video camera, white colour
Options	All cable, ancillary and optional part numbers are available upon request

### TYPICAL JAEGAR CAMERA PLATFORM\*



\* Illustrations are indicative and subject to the final configuration/model.

### IMAGE PRESENTATION

Video Output	IP, ONVIF, RTSP and Composite (PAL / NTSC)
Video over IP	Integrated IP encoders provide simultaneous H.264 RSTP (H.265 optional) and ONVIF Profile-S

### TELEMETRY

Presets	127x Preset positions, 16x preset tours
Protocols	Pelco D, Pelco D Extended, ONVIF Profile S
Interface	RS485, ONVIF Profile-S, Serial <-> IP
Positioning	Absolute positioning feedback

### INTERFACES

Ethernet	Command and control of all functions incl. streaming of H.264 Video (ONVIF)
RS485	Command and control of all functions and firmware upgrade

### ELECTRICAL AND MECHANICAL

Input Voltage	Nominal 48VDC (36-72VDC)		
Power Consumption	Typical: 60W, Peak: 170W (including thermal and visible sensor payloads)		
Housing Material	Anodised aluminum (sunshields are iridized aluminum), white powder marine grade paint finish (other colours are available upon request)		
System Weight	40kg / 83lbs incl. payloads	48kg / 106lbs incl. payloads	48kg / 106lbs incl. payloads

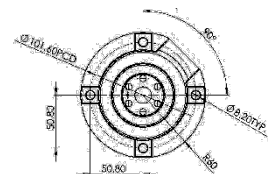
### ENVIRONMENTAL

IP Rating	IP67
Temperature Range	-30°C (-22°F) up to 65°C (149°F) (-40°C with optional heater)

### OPTIONS

Automatic Tracking	Hardware based target acquisition and tracking capability
Ultra Low Light HD Sensor	2/3" CMOS sensor (2.2MP) Colour 0.005 lux at F1.4, mono 0.000000001 lux at F1.4
4K Visible Sensor	4K colour sensor, 4.4-88.4mm Lens Colour 0.4 lux (colour 0.06 lux with slow shutter on)
Lens	16.7 to 1000mm lens option for the HD visible sensor/s
Laser Range Finders	Up to 20km
Illuminators (White / IR)	Up to 3.5km
Long Range Acoustic Hailer	Up to 2km
Digital Magnetic Compass	Optionally available
GPS	Optionally available
Laser Dazzlers	1W and 5W Laser dazzler module
Aux Connectors (4 slots)	Optionally available for a selection of the following: Power outputs - 12vDC, 6A / 24vDC, 15A / 48vDC, 10A Network output - Cat5e, 10/100 Base T Antenna connections - Cellular, GPS, WiFi, IP Radio, GPS Compass
Top Mount	Top mount extension / plate (for RADAR or top mount payload)
Storage	Up to 64GB in total via SD/MMC (32GB available per channel if using thermal and video / 2x cameras)

Jaegar PT Platform Mounting



WWW.SILENTSENTINEL.COM  
+44 (0) 1920 871 734



UK Manufacturer

Specifications may be subject to change without notice  
11/06/21 V4.0

**SILENT SENTINEL**  
VISION & MOTION CONTROL