JAEGAR RANGER LR

LR UNCOOLED LWIR THERMAL ZOOM LENS OPTIONS:

25mm to 150mm 25mm to 225mm 40mm to 300mm



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

The Jaegar Ranger LR is a high performance, multi sensor platform which utilises advanced LR uncooled thermal sensors with zoom lenses up to 40-300mm alongside a HD visible sensor with a 15.2-500mm lens. The LR range is designed to bridge the gap between cooled and uncooled thermal sensor performance. With high sensitivity and enhanced contrast levels, the LR range features image stabilisation, autofocus and CLAHE video processing as standard.

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 11.9km (human) and 18.8km (vehicle)
- \blacksquare LR advanced uncooled LWIR 12µm, 640 x 480 thermal sensors with zoom lens options up to 40-300mm
- 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



 $12 \mu m \; \text{SENSOR}$ Longer range performance from an uncooled thermal

Specifications may be subject to change without notice









^{*} Ranges are based upon 50% probability on a MODTRAN standard atmosphere.

Detailed NVIPM calculation notes available upon request. Based on the RANGER-LR-300.

JAEGAR RANGER LR

LR UNCOOLED LWIR THERMAL ZOOM LENS CAMERAS

THERMAL SENSOR - 640 x 480, 12μm PIXEL PITCH				
Part Code	RANGER-LR-150	RANGER-LR-225	RANGER-LR-300	
Focal Length	25 to 150mm	25 to 225mm	40 to 300mm	
Field of View	17.5° (W) to 3.0° (T)	17.5° (W) to 2.0° (T)	11.0° (W) to 1.5° (T)	
Optical Zoom	6x, motorised	9x, motorised	7.5x, Motorised	
F Number	F1.4	F1.5	F1.5	
Sensitivity	<30 mK (NETd) f/1.0 at room temperature*			
Detector Type	Uncooled VOx microbolometer			
Resolution	12μm, 640 x 480			
Spectral Band	7.5 to 13µm (LWIR)			
Frequency	25Hz (9Hz option)			
Focus	Push autofocus, manual			
Digital Zoom	4x			
Image Stabilisation	Yes, electronic			
Image Processing	CLAHE / LAP Alpha blending			
Image Control	Polarity: White hot / black hot, various user palettes. Orientation: Invert / revert. Shutter and scene based NUC. Spatial / temporal de-noise. Automatic gain control.			
Housing Weight (Typical)	12Kg /	26.4lb	18.3Kg / 40.4lb	
Housing Size (Typical)	L572 x W258	3 x H226mm	L580 x W282 x H257mm	

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 (accumulatio 25 times)	
Other Features	Defog, digital noise reduction	
Housing Weight (Typical)	14Kg / 30.9lb	
Housing Size (Typical)	L572x W258x H231mm	
LACCED DANI AND THE LINE (DELL)		

nousing size (Typical)	L372X W236X FIZ31IIIII	
JAEGER 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 (Typical)	28kg / 61.8lb (excl. mounts, through shaft and payloads) (payload capacity 50kg)	
PTU Size (Typical)	H434 x W343x D343mm (excluding mounts, through shaft and payloads)	



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

Video Output	IP, ONVIF, RTSP, 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		
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IMAGE PRESENTATION

Input Voltage Power Consumption

Housing Material	paint finish (other colours are available upon request)
ENVIRONMENTA	L
IP Rating	IP67
Temperature Pange	-30°C (-22°E) up to 65°C (140°E) (-40°C with optional heater)

Typical: 60W, Peak: 170W (including thermal and visible sensor payloads) Anodised aluminum (sunshields are iridited aluminum), white powder marine grade

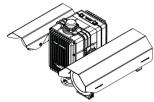
OPTIONS	
Automatic Tracking	Hardware based target acquisition and tracking capability
Ultra Low Light HD Sensor	2/3" CMOS sensor (2.2MP) Colour 0.005 lux at F1.4, mono 0.00000001 lux at F1.4
4K Visible Sensor	4K colour sensor, 4.4-88.4mm Lens Colour 0.4 lux (colour 0.06 lux with slow shutter on)
Visible Lens	Up to 2400mm lens
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

PART CODES

JPT-H-RANGER-LR-150-W	Jaegar Ranger LR 150 – High powered PT, with a 640x480, 12μm, 25Hz, 25-150mm, F1.4 thermal camera and a HD, 15.2-500mm (33x optical zoom lens) video camera, white colour
JPT-H-RANGER-LR-225-W	Jaegar Ranger LR 225 – High powered PT, with a 640x480, 12 µm, 25Hz, 25-225mm, F1.5 thermal camera and a HD, 15.2-500mm (33x optical zoom lens) video camera, white colour
JPT-H-RANGER-LR-300-W	Jaegar Ranger LR 300 – High powered PT, with a 640x480, 12µm, 25Hz, 40-300mm, F1.5 thermal camera and a HD, 15.2-500mm (33x optical zoom lens) video camera, white colour
Ontions	All cable, ancillary and optional part numbers are available upon request

TYPICAL JAEGAR CAMERA PLATFORM**

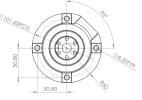


*As measured after image post-process techniques were applied
** Illustrations are indicative and subject to the final configuration/model.









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