

--- SWIR Continuous zoom

# MANGOLIA

SWIR (Short Wave IR) Continuous zoom camera module

## Technical Specification

MANGOLIA is a series of continuous zoom, high performance SWIR camera designed for up to long range surveillance and tracking in mobile systems or field installations, delivered in a ruggedized package and it is equipped with a high resolution, InGaAs 640 x 512 pixels, 15µm pitch focal plane array operating in the 0.9 – 1.7 microns waveband.

RP proposes the MANGOLIA camera with a variety of COTs SWIR lenses designed and produced by RP.

The rugged enclosure is backfilled with dry nitrogen and environmentally sealed, eliminating the need for additional enclosures.

The RS-232/422 remote control capability permits ease of integration into any client-based security system.

**RP Optical Lab provides leading-edge IR equipment to the security and surveillance sector. RP's proprietary optical designs, state-of-the-art laboratories, ensure maximum performance and dependability.**

## SYSTEM MAIN FEATUTES:

- Motorized focus/zoom
- Continuous zoom
- Focus maintained while zooming
- Unique zoom module with zero optical artifacts
- Image enhancement including NUC correction, Gamma etc.
- Remote control Capability
- Dry Nitrogen Backfilled
- Ruggedized construction
- Digital output option – Camera link



## SYSTEM SPECIFICATIONS

PARAMETER	VALUE	NOTES
<b>⚙️ SYSTEM</b>		
Video Format	NTSC or PAL	Camera Link output available on request
Communication Protocol	RS-232/RS-422 Full Duplex	Baud rate 115,200 (other rates available)
Power Requirements	14 – 32VDC, 35W	Average nominal power
Controls	Fully Remote controlled	
Focus / Zoom control	Remotely controlled	
Total Weight	MANGOLIA/300: TBD Kg	MANGOLIA/500: TBD Kg
External Dimensions	MANGOLIA/300 460mm (L) x 140mm (W) x 140mm (H) exc. Connectors MANGOLIA/500 600mm (L) x 215mm (W) x 215mm (H) exc. Connectors	
Mount / Mechanical Interface	Please refer to Mechanical ICD	Customized interfacing – available
Operating / Storage Temp	-20°C to +55°C / -30°C to +60°C	
Shock and Vibrations	Per MIL-STD-810E	
Sealing	As per IP66/67	
<b>SWIR Core Module</b>		
Dynamic Range	14 bit	
Exposure time	1µS to 1 frame time	
Shutter mode	Global shutter	
TE cooling	Available ON / OFF controlled	
Image correction	3 point NUC + pixel correction	
Image control	Exposure, AGC, NUC, Gamma, TEC & ROI	
<b>SWIR SENSOR</b>		
Detector FPA	InGaAs, 640x512 pixels, 15 µm pitch	
Noise RMS	< 195 electrons Low Gain / < 50 electrons High Gain	
Quantum Efficiency	> 73% @ 1.064µm, 78% @ 1.55µm	
Pixel well depth	700Ke Low Gain /15Ke High gain	
Pixel Operability	> 99.5%	
<b>SWIR OPTICAL Lens</b>		
	<b>CORAL: 30 – 300mm Lens</b>	<b>CROCUS: 50 – 500mm Lens</b>
Focal length / F#	30 – 300mm F/2.85 – 4.5	
FOV	Narrow: 1.83°(H) x 1.47° (V) Wide: 18.2°(H) x 14.6° (V)	Narrow: 1.1°(H) x 0.88° (V) Wide: 11°(H) x 8.8° (V)
Spectral Range	0.9 – 1.7 µm	
Thru zoom boresight (from NFOV to WFOV and from WFOV to NFOV)	Up to 10 pixels radius on detector	
Boresight Retention accuracy	Up to 3 pixels radius on detector	
Focus / Zoom mechanism	Motorized, remotely controlled	
Optical Transmission:	Average > 83%	Average > 80%
<b>ORDERING INFORMATION</b>		
MANGOILA/300-P	MANGOLIA with 30-300 mm Lens PAL output	
MANGOILA/300-N	MANGOLIA with 30-300 mm Lens NTSC output	
MANGOILA/500-P	MANGOLIA with 50-500 mm Lens PAL output	
MANGOILA/500-N	MANGOLIA with 50-500 mm Lens NTSC output	

