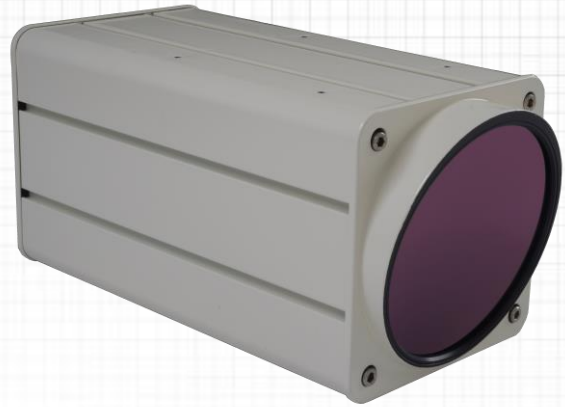


LWIR Continuous Zoom Camera

ORCHID

LWIR 15-100 / 25-145 / 25-225mm Ruggedized
Continuous zoom Uncooled Thermal system



Technical Specification

ORCHID is a continuous zoom long wave uncooled thermal imager offering superb surveillance solutions delivered in a ruggedized package and it is equipped with a high resolution, VOx microbolometer, 640x480 pixels, 17 μm pitch focal plane array.

Operating in the 8-14 μm spectral region, ORCHID provides superior thermal images through smoke, aerosols, and other atmospheric obscurants at long distances.

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 FEATURES:

- Motorized focus/zoom
- Continuous zoom lens: 15-100mm F/1.4 or 25-145 mm F/1.4 or 25-225 mm F/1.5
- Auto & Manual focus
- Internal shutter or Optical NUC
- Remote control Capability
- Digital output – Camera link
- Dry Nitrogen Backfilled
- Ruggedized construction
- Image enhancement and image sharpening



SYSTEM SPECIFICATIONS

PARAMETER	VALUE	NOTES
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SYSTEM

Video Format	NTSC or PAL	
Communication Protocol	RS-422 Full Duplex	Baud rate 19,200 (other rates available)
Power Requirements	14 – 32VDC 1.0A	Average nominal power
ENVIRONMENTAL		
Operating / Storage Temp	-32°C to +60°C / -40°C to +70°C	
Shock and Vibrations	Per MIL-STD-810E	
Sealing	As per IP65	IP66/IP67 available on request
Controls	Fully Remote controlled	
Electronic Zoom	X2 / X4	
Focus control	Manual / Automatic	

SENSOR

Detector FPA	640 x 480 pixels, 17 µm pitch	384 x 288 pixels, 25 µm pitch is available
Sensitivity	< 50mK	Please consult for better sensitivity

OPTICAL

Focal Length, F#		15 – 100 F/1.4	25 – 145 F/1.4	25– 225 F/1.5
FOV (Degrees)	640 x 480 x 17µm	40°(H) x 30°(V) 6.2° (H) x 4.7°(V)	25°(H) x 19°(V) 4.3° (H) x 3.2°(V)	25°(H) x 19°(V) 2.7°(H) x 2°(V)
	384 x 288 x 25µm	35°(H) x 27°(V) 5.5°(H) x 4.1°(V)	22.0°(H) x 16.4°(V) 3.8°(H) x 2.8°(V)	22.0°(H) x 16.4°(V) 2.4°(H) x 1.8°(V)
Spectral range		8 - 14 µm		
Focus / Zoom mechanism		Motorized, remotely controlled		
NUC		Available – by internal shutter remotely controlled		
Focus Range		10 m – infinity		20 m – infinity
Total Weight		<6 Kg (Nominal)		<9 Kg (Nominal)
External Dimensions (max)		Diameter 208mm x 265mm L		250 W x 250 H x 350 L
		Excluding mechanical brackets		
Mount / Mechanical Interface		Please refer to MICD (Customized interfacing, available on request)		

ORDERING INFORMATION

ORCHID XXX – Y – Z

XXX – Camera Type		Y – Video Format		Z – Lens Focal Length / F#		
640	640 x 480 x 17µm	P	PAL	C100	C145	C225
384	384 x 288 x 25µm	N	NTSC	15-100 F/1.4	25-145 F/1.4	25-225 F/1.5

RANGE PERFORMANCE

Lens Model	Uncooled 384x288, 25µm pitch						Uncooled 640x480, 17µm pitch					
	15 – 100mm		25 – 145mm		25 – 225mm		15 – 100mm		25– 145mm		25 – 225 mm	
	Range (Km)		Range (Km)		Range (Km)		Range (Km)		Range (Km)		Range (Km)	
Target	Human	NATO	Human	NATO	Human	NATO	Human	NATO	Human	NATO	Human	NATO
Detection	1.5	3.7	2.1	5.2	3.4	8.4	2.3	5.0	3.3	7.4	5.0	11.8
Recognition	0.7	1.7	1.0	2.5	1.6	3.9	1.0	2.2	1.5	3.4	2.1	5.3
Identification	0.3	0.9	0.5	1.3	0.8	2.0	0.4	1.1	0.6	1.8	1.1	2.8

Target size: Human 1.8m x 0.5m and NATO 2.3m x 2.3m / Range performance are approximately calculated for reference only.

