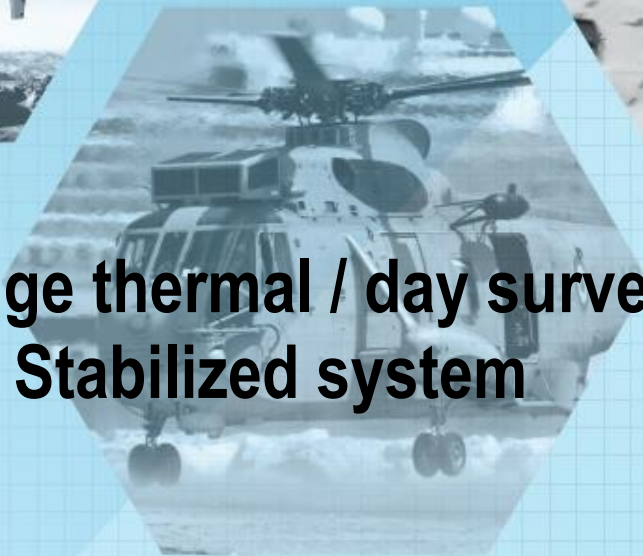


LANTIS



**Long range thermal / day surveillance N'
Tracking Stabilized system**



LANTIS Long range thermal / day surveillance N' Tracking Stabilized system

The RP Optical Lab unique LANTIS system

A high accuracy (optionally stabilized) 2 axes PT, carrying an EO payload for long range surveillance & tracking ready for harsh environments.

The LANTIS integrates easily with main systems to accurately:

- Acquire and track inbound targets
- Predict target's future position
- Slew the EO payload to the correct position

The EO payload combines thermal cameras, day modules, Optional SWIR camera and optionally LRF module all providing exceptional performance designed to meet the user's needs.

LANTIS CONFIGURATION

The standard system contains an EO unit comprises of:

- Electro-Optical Payload Including Cooled Thermal HD/SD, Visual HD and SWIR SD/HD
 - 2 Axis pedestal
 - System main electronic control unit (ECU)
- Optionally the EO payload can added with:
- Stabilized PT unit
 - Embedded Video tracker
 - Eye Saft LRF optional



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Long range thermal / day surveillance N' Tracking Stabilized system

LANTIS SPECIFICATION

EO UNIT

RP LRC3Z-Series: SD Cooled Zoom Thermal Camera

THERMAL ZOOM MODULE SPECIFICATIONS		
PARAMETER	VALUE	NOTES
SYSTEM		
Video Format	NTSC, PAL	
Communication Protocol	RS-232/RS-422 Full Duplex	Baud rate 115,200
Power Requirements	14 - 32VDC, 35W	Average nominal power
Controls	Fully Remote controlled	
Electronic Zoom	X2 / X4	
Focus control	Manual / Automatic	
Total Weight	C825: ~8.5Kg / C1000: ~9.4Kg / C1400: ~9Kg	
External Dimensions (Ø x L)	C825: ø228x415 mm / C1000: ø284.5x449mm / C1400: ø310.5x444mm	
Mount / Mechanical Interface	Please refer to Mechanical ICD	Customized interfacing - available
Operating / Storage Temp	-32°C to +65°C / -40°C to +71°C	
Shock and Vibrations	Per applicable standard	
Sealing	As per IP65	IP66/IP67 available on request
SENSOR		
Detector FPA	InSb, 640x512 pixels, 15 um pitch	See ordering information below
Sensitivity	< 25mK	< 20mK available on request
OPTICAL		
F#	F/4 or F/5.5	
Spectral Range	3 – 5 µm	
Focus / Zoom mechanism	Motorized, remotely controlled	
CAMERA CONFIGURATIONS FOR DIFFERENCE FOV'S		
40 – 825mm lens (C825)	Wide FOV: 13.7°(H) x 11° (V) Narrow FOV: 0.67° (H) x 0.53° (V)	
40 – 1000mm lens (C1000)	Wide FOV: 13.7°(H) x 11° (V) Narrow FOV: 0.55° (H) x 0.44° (V)	
70 - 1400mm lens (D1400)	Wide FOV: 7.85°(H) x 6.28° (V) Narrow FOV: 0.39° (H) x 0.31° (V)	



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LANTIS SPECIFICATION

RP LRC3Z-HD-Series: HD Cooled Zoom Thermal Camera

THERMAL ZOOM MODULE SPECIFICATIONS		
PARAMETER	VALUE	NOTES
⚙️ SYSTEM		
Video Format	720P / 1080i	HD digital camera link / SDI output
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	
Electronic Zoom	X4	
Focus control	Manual / Automatic	
Total Weight	A800: ~12.5Kg / A1000: ~15.6Kg / C1200: ~19.5Kg (w/ sealed enclosure)	
External Dimensions (∅ x L)	C800: ∅218x430mm / C1000: ∅284.5x449mm / C1200: ∅335x658mm (w/ sealed enclosure)	
Mount / Mechanical Interface	Please refer to Mechanical ICD	Customized interfacing - available
Operating / Storage Temp	-32°C to +65°C / -40°C to +71°C	
Shock and Vibrations	Per applicable standard	
Sealing	As per IP65	IP66/IP67 available on request
📡 SENSOR		
Detector FPA	1280x1024 pixels, 10μ pitch	See ordering information below. Different detectors available – pls consult RP
Sensitivity	Typical 25mK	Please consult for better sensitivity
👁️ OPTICAL		
F#	F/3 or F/4	
Spectral Range	3 – 5 μm	
Focus / Zoom mechanism	Motorized, remotely controlled	
🔍 CAMERA CONFIGURATIONS FOR DIFFERENCE FOV’S		
40–800mm lens (A800)	Wide FOV: 18.18°(H) x 14.59° (V) Narrow FOV: 0.92° (H) x 0.73° (V)	
40–1000mm lens (A1000)	Wide FOV: 18.18°(H) x 14.59° (V) Narrow FOV: 0.73° (H) x 0.59° (V)	
70–1200mm lens (A1200)	Wide FOV: 10.45°(H) x 8.37° (V) Narrow FOV: 0.61° (H) x 0.49° (V)	



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LANTIS SPECIFICATION

HD Zoom Day module

DAY ZOOM CCD CAMERA MODULE SPECIFICATIONS		
PARAMETER	VALUE	NOTES
SYSTEM		
Video Format	High Definition (HD)	
Communication Protocol	RS-232/RS-422 Full Duplex	Baud rate 115,200
Power Requirements	14 – 32VDC, 15W	Average nominal power
Controls	Fully Remote controlled	
Electronic Zoom	Available for some models, please consult RP.	
Focus control	Manual / Automatic	
Total Weight	Depends on model selected, please consult RP	
External Dimensions (Ø x L)	Depends on model selected, please consult RP	
Mount / Mechanical Interface	Please refer to Mechanical ICD	Customized interfacing - available
Operating / Storage Temp	-20°C to +55°C / -40°C to +61°C	
Shock and Vibrations	Per applicable standard	
Sealing	As per IP65	IP66/IP67 available on request
SENSOR		
Image Device	CMOS 1/2.8" / CMOS ½"	For Sony Block / For all other
White Balance	Auto / ATW / Manual	
Gain	Auto / Manual	
S/N Ratio	More than 50 dB	
Exposure Control	Auto / Manual	
Minimum Illumination	1.4 lux	Lower values for B/W available
OPTICAL		
Spectral Range	400 – 700nm	400 – 1,000 nm available on some models: please consult RP
Focus / Zoom mechanism	Motorized, remotely controlled	
CAMERA CONFIGURATIONS FOR DIFFERENCE FOV'S		
4.3 – 129mm (VSB)	Horizontal FOV 23.1° (wide end) to Horizontal FOV 0.74° (tele end)	
15-500mm (V500)	Horizontal FOV 24 ° (wide end) to Horizontal FOV 0.76° (tele end)	
16-720mm (V720)	Horizontal FOV 23° (wide end) to Horizontal FOV 0.53° (tele end)	
16-880mm (V880)	Horizontal FOV 23° (wide end) to Horizontal FOV 0.43° (tele end)	
16-1030mm (V1030)	Horizontal FOV 23° (wide end) to Horizontal FOV 0.37° (tele end)	

Note: the above are typical parameters. Detailed final parameters shall be provided upon specific selection of alternative.



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Long range thermal / day surveillance N' Tracking Stabilized system

LANTIS SPECIFICATION

OPTIONAL: SD / HD SWIR camera module

SYSTEM SPECIFICATIONS							
PARAMETER		VALUE			NOTES		
 SYSTEM							
Video Format		NTSC, PAL or High Definition (HD)			Camera link output / SDI available on request		
Communication Protocol		RS-422 Full Duplex			Baud rate 19,200 (other rates available)		
Power Requirements		12 - 32VDC, 1.0A			Average nominal power		
ENVIRONMENTAL							
Operating / Storage Temp		-30°C to +55°C / -40°C to +70°C					
Shock and Vibrations		Per applicable standard					
Sealing		As per IP65			IP66/IP67 available on request		
Controls		Fully Remote controlled					
Focus control		Manual / Automatic			Lens dependent		
 SWIR SENSOR @ core module							
Detector FPA		640x512 pixels, 1280x1024 pixels			See ordering information below		
Noise RMS		< 195 electron Low gain					
Quantum Efficiency		> 85% @ 1.064um, 78% @ 1.55um					
Pixel well depth		700Ke Low gain / 15Ke high gain					
Pixel operability		> 99.5%					
Dynamic range		14 bits					
Exposure time		1 uS to 1 frame time					
Shutter mode		Global shutter					
Image correction		3 Point NUC + pixel correction					
Image control		Exposure, AGC, NUC, Gamms, TEX and ROI					
 OPTICAL							
Focal Length, F#		300mm Monofocal (SM300)	500mm Monofocal (SM500)	CORAL Cont. zoom (SC300)	CROCUS Cont. zoom (SC500)	CROCUS 1000 Cont. zoom (SC1000)	AMARYLLIS Cont. zoom (SA2500)
FOV	640x512 x15μ N	1.83°x1.47°	1.10 °x 0.88°	1.83°x1.47°	1.1°x 0.88°	5.5°x 4.4°	1.1° x 0.88°
	640x512 x15μ W	N/A	N/A	18.2°x14.6°	11°x 8.8°	0.55° x 0.44°	0.22° x 0.18°
	1,280 x 1,024 x 10u N	2.44°x1.95°	1.47°x1.17°	HD not supported	1.46°x1.17°	7.3°x 5.9°	1.47° x 1.17°
	1,280 x 1,024 x 10u W	N/A	N/A		14.6°x1.7°	0.73° x 0.59°	0.29° x 0.23°
F#		4.5	8	2.85 – 4.5	5.0	10.0	4-16
Spectral range (μm)		0.9 – 1.7	0.9 – 1.7	0.9 – 1.7	0.9 – 1.7	0.9 – 1.7	0.9 – 1.7
Focus / Zoom mechanism		Motorized Focus			Motorized zoom & Focus		
Minimum Focus Distance		35m- ∞ infinity	150m- ∞	10m/100m - ∞		20m/200m - ∞	WFOV: 50m - ∞
External Dimensions		Please consult RP					
		Excluding mechanical brackets					
Mechanical Interface		Please refer to MICD (Customized interfacing, available on request)					



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LANTIS SPECIFICATION

2 Axes Pedestal

2 AXES STABILISED PEDESTAL SPECIFICATIONS		
PARAMETER	VALUE	NOTES
SYSTEM		
Type	2 Axes stabilized pedestal	
Communication Protocol	RS-422 Full Duplex	Baud rate 115,200
Power Requirements	24 VDC, 1000W	Average nominal power
Controls	Fully Remote controlled	
Total pedestal Weight	Approx. 15Kg	
External Dimensions (Ø x L)	Rotating diameter 506mm x 690mm Height	
Payload maximum weight	100Kg (balanced)	
Mount / Mechanical Interface	Please refer to Mechanical ICD	
Operating / Storage Temp	-20°C to +65°C / -40°C to +71°C	
Shock and Vibrations	Per applicable standard	
Sealing	As per IP65	IP66/IP67 available on request
DYNAMICS		
Azimuth range	N x 360°	Via Slipping
Elevation range	-80° to +90°	In case of stabilized model: Stabilization is limited to +80°
Azimuth / Elevation angular rate	60°/Sec	Faster versions available
Az./ El. angular Acceleration	60°/Sec ²	Faster versions available
Overall system pointing accuracy	Better than 300µRad	
STABILIZATION PERFORMANCE (OPTIONAL) – PLEASE CONSULT RP		

Additional Modules and accessories

RP pedestal and electronics is designed to carry and operate additional optional modules:

- Video tracker
- Laser Range finder (eye safe up to 15Km)
- GPS module & North Finding

Please consult RP for more details.

ORDERING INFORMATION

LANTIS T – UUU –VV –WWW – X – Y – Z

T -PT Type	U-Thermal module	V-VIS module	W-SWIR module	X-Video Tracker	Y-LRF	Z-GPS
Regular	R SD-C825 C8	VSB SB	SM300 SM3	Yes T	Yes L	Yes G
Stabilized	S SD-C1000 C10	V500 V5	SM500 SM5	No -	No -	No -
	SD-D1400 D14	V720 V7	SC300 SC3			
	HD-A800 A8	V880 V8	SC500 SC5			
	HD-A1000 A10	V1030 V10	SC1000 SC10			
	HD-A1200 A12		SA2500 SA25			



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