C LightPath

MANTIS[®] Multispectral Thermal Imaging Camera

KEY FEATURES

Lightpath Technologies Mantis™ and EdgelR[™] capable broadband thermal cameras, purpose-built for space, scientific, industrial, and security applications. Cutting-edge devices represent significant leaps in technological advancement, outperforming current technology by several generations and positioning integrators at the forefront of Smart infrared imaging. Harness LightPath's extremeperformance BD6 infrared optical material and integrating a 26 TOPS (Tera Operations Per Second) AI accelerator through EdgeIR™ technology Users can directly upload and run their preferred trained AI models at the camera level for ultralow-latency efficient edge processing over wired or wireless networks.

Features a High-Definition uncooled microbolometer detector array, offering lowest in class SWaP (Size, Weight, and Power) design for Broadband infrared imaging. Covering both MWIR and LWIR (2um - 12um) and capture multiple modalities in one device. Additionally supporting Unicast, Multicast, and Broadcast in UDP, RTP, and RTSP, and provides video and audio capture, encoding, decoding, transcoding, and display, as well as video raw-data pre-processing and ONVIF support including PTZ control over RS485 ClightPath MANTIS



Nominal Design Summary

Parameter	Notes	Design Value	Unit
Waveband	Multispectural (MWIR-LWIR)	2-12	μm
EFL	Magnification-based	19	mm
F/#	Aperture-based	1.1	
Detector Resolution	Horizontal x Vertical / Pitch	640x480 / 17μm	Pixels
Field of View	Vertical	24.3	Deg
	Horizontal	32	Deg
	Diagonal (corner)	39.3	Deg
Lens MTF -Avg Sag/Tan at Nyquist (29.4 lp/mm) (2-12µm waveband)	Diffraction Limited MTF (Ref. Only)	68	%
	MTF at On-Axis Field	65	%
	MTF at VFOV	49	%
	MTF at HFOV	42	%
	MTF at DFOV	50	%
Lens Distortion	Max over Full Field (corner)	2	%
Relative Illumination	At HFOV	83	%
	At Corner Field	77	%
Size	Camera (l x w x h)	~49 x 64 x 52	mm







Specifications

Imaging Core				
Detector	Broadband Uncooled Microbolometer (2-12µm)			
Format	640x480 / 17μm			
NEDT	<35mk			
Lenses				
EFL	19mm, 75mm, **Custom			

System

	MANTIS	MANTIS-Digi	MANTIS-Ai
Frame Rate	9 fps*, 30 fps, 60 fps		
SOC	N/A	NXP i.MX 8M Plus	
Memory	N/A	6GB LPDD4 RAM 32GB EMMC Flash	
Ai Accelerator	N/A	N/A	Hallo-8
Webserver	N/A	Yes	Yes
Digital Video Interace	CameraLink	GigE (**Optional CameraLink, USB3, HDMI)	
Network Interface	N/A	GigE	
Compression	N/A	H.264 H.265	
Serial Interface	N/A	*RS232 *RS485	
Analog Video Interface	NTSC/PAL	N/A	
Audio Input	N/A	**Optional 3.5mm	
Onboard Storage	N/A	**Optional Micro-SD up to 1TB	
Controls	USB Communication, GUI Software		
Power	1.1 Watt, 5-18 V DC	< 7 Watt, 5-18 V DC	

*9hz versions for available for export **Contact factory

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