



LEADIR

MULTI-SPECTRAL IR CAMERA CATALOG

SWIR / MWIR / LWIR



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SWIR CAMERA

The SWIR camera portfolio comprises both TEC-cooled and Stirling-cooled series, featuring a full range of cores and integrated cameras such as high frame rate, large format, continuous zoom, and dedicated models for satellite laser communication; equipped with high-sensitivity InGaAs/MCT detectors, these cameras cover operating spectral bands of 0.9-1.7μm and 1-2.5μm, and are suitable for laser detection, fog-penetrating surveillance, industrial inspection, satellite communications, border and coastal defense applications.



Features

Efficient Cooling

Fast TEC cooling and deep Stirling cooling enable low noise, high sensitivity and precise temperature control.

Outstanding Imaging

Optional high frame rate / large format, enhanced with intelligent algorithms, delivering clear and stable image quality.

Precision Optics

Stable optical axis, large aperture / continuous zoom, balancing long-distance and high-resolution observation.

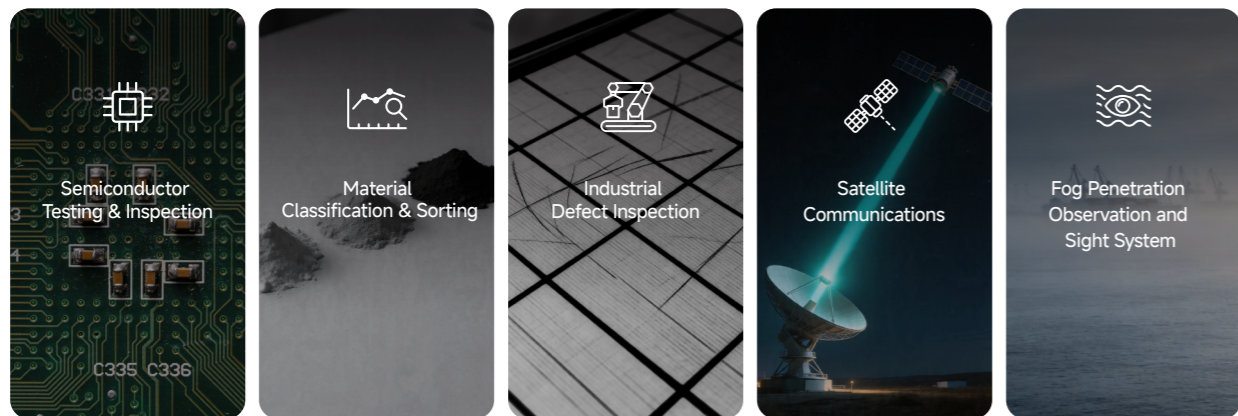
Easy Integration

Modular and compact design with rich interfaces and strong adaptability.

Robust Environment Reliability

Withstands wide temperature ranges and provides reliable protection, suitable for harsh operating conditions.

Applications



APPLICATION SCENARIOS

Haze Penetration Observation



Industrial Flaw Inspection



Material Sorting



Laser Detection



TEC-cooled SWIR Camera

The Short-Wave Infrared (SWIR) core utilizes an InGaAs focal plane detector with TEC cooling. It features a 640x512 resolution with a 15µm pixel pitch and a spectral response range of 0.9µm to 1.7µm. The integrated TEC cooling ensures the detector operates within an optimal temperature range, further reducing readout noise. Designed with an integrated and modular approach, the unit is characterized by high sensitivity, compact size, lightweight, and low power consumption. It supports SDI and PAL video output interfaces, making it easy for customers to integrate and use.



Parameter	SWIR-MOD-0321-CL50	SWIR-MOD-0321-SDI25	SWIR-MOD-0321-SDI50	SWIR-MOD-0321-CL200	SWIR-MOD-0321-CL500
Resolution	640x512	640x512	640x512	640x512	640x512
Pixel Pitch	15 µm	15 µm	15 µm	15 µm	15 µm
Spectral range	0.9 µm-1.7 µm	0.9 µm-1.7 µm	0.9 µm-1.7 µm	0.9 µm-1.7 µm	0.9 µm-1.7 µm
Sensor material	InGaAs	InGaAs	InGaAs	InGaAs	InGaAs
Cooling method	TEC	TEC	TEC	TEC	TEC
Dynamic range	65dB(LG), 55dB(MG)	65dB(LG), 55dB(MG)	65dB(LG), 55dB(MG)	65dB(LG), 55dB(MG)	65dB(LG), 55dB(MG)
Readout noise	500e(LG), 60e(MG)	500e(LG), 60e(MG)	500e(LG), 60e(MG)	500e(LG), 60e(MG)	500e(LG), 60e(MG)
Full Well Capacity	2.2Me(LG), 90Ke(MG)	2.2Me(LG), 90Ke(MG)	2.2Me(LG), 90Ke(MG)	2.2Me(LG), 90Ke(MG)	2.2Me(LG), 90Ke(MG)
Dark current	30fA @ 0.1V&18°C	30fA @ 0.1V&18°C	30fA @ 0.1V&18°C	30fA @ 0.1V&18°C	30fA @ 0.1V&18°C
Video output	CameraLink/PAL	HD-SDI/PAL	HD-SDI/PAL	CameraLink	CameraLink
Frame rate	CameraLink: 50Hz/25Hz(@640x512) PAL: 25Hz(@720x576)	SDI:25Hz(@1920x1080) PAL:25Hz(@720x576)	SDI:50Hz(@1920x1080) PAL:25Hz(@720x576)	200Hz/100Hz/50Hz	500Hz/400Hz
Communication	RS422	RS422	RS422	RS422	RS422
External Sync	/	/	/	RS422	RS422
Integration time	Adjustable(auto/manual)	Adjustable(auto/manual)	Adjustable(auto/manual)	Adjustable(auto/manual)	Adjustable(auto/manual)
Digital zoom	/	/	/	x2 / x4	x2 / x4
Power supply	DC12V ± 1V, 2A	DC12V ± 1V, 2A	DC12V ± 1V, 2A	DC24V ± 1V, 2A	DC24V ± 1V, 2A
Power consumption	≤6W@25°C(Steady State)	≤6W@25°C(Steady State)	≤6W@25°C (Steady State)	≤20W@25°C (Steady State)	≤20W@25°C (Steady State)
Operating Temperature	-40°C~+60°C	-40°C~+60°C	-40°C~+60°C	-40°C~+60°C	-40°C~+60°C
Dimensions (L×W×H)	≤56×56×60mm(with C-mount, excl. connectors)	≤56×56×59mm(with C-mount, excl. connectors)	≤56×56×59mm(with C-mount, excl. connectors)	≤104×80×68mm(with C-mount, excl. connectors)	≤104×80×68mm(with C-mount, excl. connectors)
Weight	≤300g(with C-mount)	≤300g(with C-mount)	≤300g(with C-mount)	≤0.6kg	≤0.6kg

SWIR Continuous Zoom Camera

This SWIR camera features a cooled InGaAs focal plane array with 640x512 resolution and a 15µm pixel pitch, operating in the 0.9µm to 1.7µm spectral range. The integrated TEC (Thermoelectric Cooling) significantly reduces readout noise for clearer imaging. Built with a modular, all-in-one design, the system includes a 40-320mm continuous zoom lens and supports SDI video output.



Parameter	SWIR-CAM-0321-F40~320-SDI50	SWIR-CAM-0321-F88~1200-SDI50
Resolution	640×512	
Pixel Pitch	15 µm	
Spectral range	0.9 µm~1.7 µm	
Sensor material	InGaAs	
Cooling method	TEC	
Dynamic range	65dB(LG), 55dB(MG)	
Readout noise	500e(LG), 60e(MG)	
Full Well Capacity	2.2Me(LG), 90Ke(MG)	
Dark current	30fA @ 0.1V&18°C	
FL	40(±5%)mm~320(±5%)mm	88(±5%)mm~1200(±5%) mm
F No.	F2.2	F5.9~10
FOV	1.72°×1.38°~13.69°×10.97°(±5%)	6.24°×4.99°(±5%) at 88mm/0.45°×0.36° (±5%)at 1200mm
Optical Axis Consistency	≤2 pixels	
Video output	HD-SDI	HD-SDI/PAL
Frame rate	50Hz(@: 1280×720)	SDI:50Hz(@1280×720) ; PAL:25Hz(@720×576)
Communication	RS422	
Integration time	Manual	Adjustable(auto/manual)
E-zoom	×2/×4	
Power supply	DC12V ± 1V	DC24V ± 1V, 2A
Power consumption	≤25W@25°C	≤12W@25°C
IP rating	-20°C~+60°C	
Operating Temperature	IP66	
Dimensions (L×W×H)	≤530mm×242mm×230mm	≤586mm×245mm×248mm
Weight	≤25kg	≤25kg

SWIR cameras leverage unique penetration and imaging capabilities in the 0.9-1.7 µm band, enabling haze/smoke penetration, low-light imaging, laser spot detection, camouflage target recognition, and penetration through ordinary glass and silicon wafers.

Widely used in coastal and border defense, laser detection, astronomy, security surveillance, industrial inspection, scientific research, and distant dim-small target detection.



Parameter	SWIR-CAM-0321-F15~300-SDI50	SWIR-CAM-0321-F20~260-SDI50	SWIR-CAM-0321-F30~390-SDI50
Detector Resolution	640×512		
Pixel Pitch	15 µm		
Operating Wavelength Band	0.9 µm~1.7 µm		
Detector Material	InGaAs		
Cooling Method	TEC		
Dynamic Range	65dB(LG), 55dB(MG)		
Readout Noise	500e(LG), 60e(MG)		
Full Well Charge	2.2Me(LG), 90Ke(MG)		
Dark Current	30fA @ 0.1V&18°C		
Focal Length	15 (±5%)mm~300 (±5%)mm	20 (±5%)mm~260 (±5%)mm	30 (±5%)mm~390 (±5%)mm
Aperture	F4	F3-F5	F5-F7
Field of View (FOV)	1.84°×1.37°~35.5°×27°(±5%)	2.1°×1.69°~27°×21.7°(±5%)	1.4°×1.13°~18.2°×14.6°(±5%)
Transmission	≤85%@1064nm; 75%@1550nm	≤80%@1064nm; 70%@1550nm	≤80%@1064nm; 70%@1550nm
Video Output	HD-SDI		
Frame Rate	50Hz (@1280×720)		
Communication Interface	RS422		
Integration Time	Manual		
Digital Zoom	×2/×4		
Power Supply	DC12V ± 1V		
Steady Power Consumption	≤25W@25°C		
Operating Temperature	-20°C~+60°C		
Dimensions (L×W×H)	≤410mm×184mm×172mm	≤337mm×138mm×119mm	≤260mm×110mm×100mm
Weight	≤7.5kg	≤2.8kg	≤2.9kg

MWIR CAMERA

MWIR thermal imagers cover a full series of cooled products with 640/1024/1280 resolution detectors, large-aperture refractive zoom lenses, high magnification continuous zoom, multi-step reset, wide-angle athermalization, radiometric measurement and UAV detection, operating at 3.7-4.8 μm with resolutions from 640×512 to 1280×1024, which meet the requirements of long-distance detection, target tracking, radiometric measurement and panoramic search for border and coastal defense, range measurement, astronomical observation, low-altitude reconnaissance, counter-UAV and perimeter protection.



Features

Cooled High-Sensitivity

Stirling cooled, high sensitivity, low noise, suitable for extreme environments.

Excellent Optics

Stable optical axis during continuous zoom with ultra-long detection range.

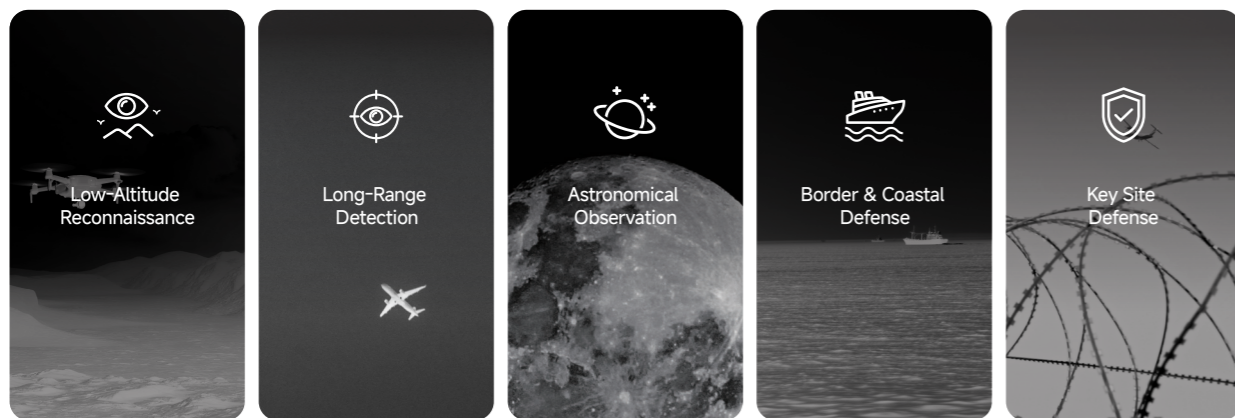
Intelligent Imaging

Intelligent image processing, clear image quality, and wide dynamic range.

Widely adaptable

It has complete interface configurations, is compatible with multiple scenarios, and features excellent integration performance.

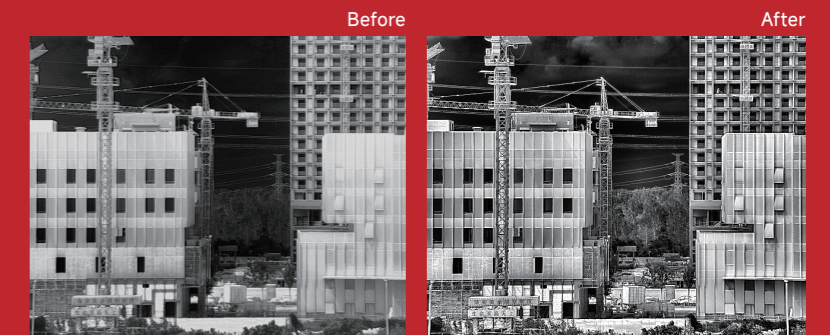
Applications



CORE TECHNICAL CAPABILITY

Wide Dynamic Range AGC Auto-Gain Control

Stronger scene adaptability with enhanced image contrast and better layering.



Digital Detail Enhancement

Delivers sharper and clearer image details.



3D Image Denoising

Effectively suppresses image noise for finer and smoother image quality.

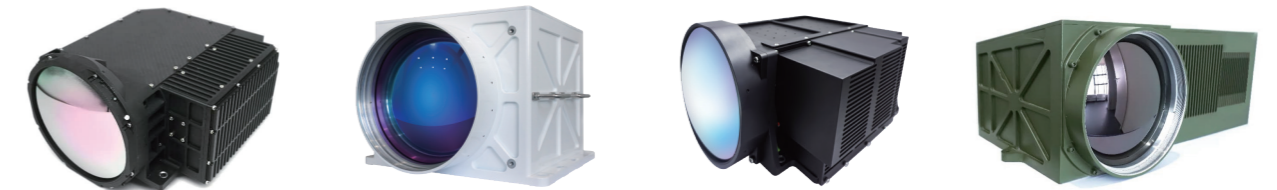


MWIR 640 Continuous Zoom Camera

The compact high-magnification cooled MWIR continuous zoom thermal imager consists of a high-magnification ratio continuous zoom lens and a 640×512@15μm high-sensitivity Stirling-cooled MWIR detector. Integrated with intelligent image processing algorithms such as adaptive non-uniformity correction, image noise filtering, adaptive high dynamic imaging and image enhancement, the whole device effectively improves imaging quality.

It is easy to integrate into various optoelectronic systems and applied in aerial reconnaissance, micro-UAV detection, key area defense, industrial security, forest fire prevention and other fields.

Parameter	MWIR-CAM-03S5-F23.2~640-4.0CL	MWIR-CAM-03S5-F50~900-4.0CL	MWIR-CAM-03L5-F18~275-5.5CL
Detector Resolution	640×512		
Pixel Size	15 μm		
Operating Wavelength Band	3.7±0.2μm~4.8±0.2μm		
Detector Material	HgCdTe		
Cooling Method	Stirling		
Start-Up Time	≤8min@25°C		
FL	23.2mm~640mm	50mm~900mm	18mm~275mm
Optical Zoom	27.6X	18X	15X
F-Number	4.0	4.0	5.5
FOV	23.38°×18.80°~0.86°×0.69°	10.97°×8.78°~0.61°×0.49°	29.86°×24.08°~2.0°×1.6°
Optical Axis Consistency	≤2pixels	≤2pixels	≤3pixels
Optical Axis Repeatability	≤1pixels	≤1pixels	≤2pixels
MRTD	≤350mK(@21cyc/mrad)	≤350mK(@25cyc/mrad)	≤400mK(@6cyc/mrad)
Integration Gears	Manual / Auto adjustable		
IMirroring	Horizontal, Vertical, Diagonal		
Algorithm	Adaptive NUC, 3D Image Filtering, Image Enhancement, Adaptive HDR Dimming		
Brightness/contrast	Manual / Auto adjustment		
Sync	Internal / External sync switching		
Zoom	Motorized		
Focus	Motorized focus, One-key auto focus		
NETD	≤ 20mK @ 25°C (under typical integration time)		
Firmware Upgrade	Serial port upgrade		
Operating Temperature	-40°C~+60°C		
Dimensions (L×W×H)	≤332mm×252mm×176mm	≤360mm×280mm×240mm	≤200mm×120mm×96mm
Weight	≤9.2Kg	≤15Kg	≤2Kg
Input Voltage	DC 28V±4V		
Power Consumption	Peak: ≤ 50W; Steady State: ≤ 30W (@ 25°C)		
Analog Video	PAL (optional)		
SDI Video	1080P @ 25Hz (1280 × 1024 effective pixels, black borders)		
CameraLink Video	640*512@50Hz, Base mode		
Communication Interface	RS422		



Parameter	MWIR-CAM-03S5-F60~600-2.0CL	MWIR-CAM-03S5(2)-F100~400-2.0CL
Detector Resolution	640×512	
Pixel Size	15 μm	25μm
F-Number	2.0	
Operating Band	3.7±0.2μm~4.8±0.2μm	
NETD	≤20mK, @25°C(under typical integration time)	≤15mK, @25°C(under typical integration time)
Detector Material	HgCdTe	
Cooling Type	Stirling	
Start Time	≤8min@25°C	
Focal Length	60mm~600mm@25°C	100mm~400mm
Optical Zoom	10X	4X
FOV	9.14°×7.32°~0.92°×0.73°	2.29°×1.83°~9.1°×7.3°
Optical Axis Consistency	≤2pixels	
Optical Axis Repeatability	≤1pixels	
MRTD	≤200mK(@20cyc/mrad)	≤200mK(@8cyc/mrad)
Integration Modes	Manual / Auto adjustable	
Mirror	Horizontal, Vertical, Diagonal	
Image Algorithm	Adaptive NUC, 3D Image Filtering, Image Enhancement, Adaptive HDR Dimming	
Brightness/Contrast	Manual / Auto adjustment	
Sync	Internal / External sync switching	
Zoom	Motorized	
Focus	Motorized focus, One-key auto focus	
Firmware Upgrade	Serial port upgrade	
Operating Temp.	-40°C~+60°C	
Sealing Class	Not less than IP66	
Dimensions	≤588mm×492mm×367mm	≤650mm×340mm×235mm
Weight	≤55Kg	≤35Kg
Input Voltage	DC +24V±1V, 3A	DC 28V±4V
Power Consumption	≤30W@25°C	Peak: ≤ 50W; Steady State: ≤ 30W (@ 25°C)
Analog Video	PAL	PAL (Optional)
SDI Video	1080P @ 25Hz (1280 × 1024 effective pixels, black borders)	
CameraLink	640×512@25Hz	640×512@50Hz, Base
Communication Interface	RS422	

MWIR Thermal Imaging Camera

The Mid-Wave Cooled thermal imaging Camera features a Stirling-cooled MWIR detector with 640×512 resolution and 15µm pixel pitch, paired with a 40mm–200mm continuous zoom lens. It incorporates intelligent image processing algorithms—including thermal drift suppression, adaptive non-uniformity correction (NUC), 3D image filtering, and image enhancement—to effectively improve measurement stability and imaging quality.



	Parameter	MWIR-CAM-03S5-F40~200-2.0CL
Sensor	Resolution	640×512
	Pixel Size	15 µm
	F-Number	2.0
	Operating Band	3.7±0.2 µm ~ 4.8±0.2 µm
	NETD	≤20 mK @25°C, under typical integration time
	Cooling Type	Stirling Cooling
	Start Time	≤8 min @25°C
	Focal Length Range	40 mm ~ 200 mm, continuous zoom
	Optical Zoom	5×
	FOV Range	13.69°×10.97° ~ 2.75°×2.20°, continuous zoom
	Boresight Consistency	≤2 pixels
	Boresight Repeatability	≤1 pixel
	MRTD	≤200 mK @6 cyc/mrad
	Stability	Better than 1% @room temperature
Repeatability	Better than 1%	
Optic	Linearity	Linearity better than 1% in 2500~13500 gray scale
	Integration Modes	Manual/Auto adjustable
	Mirror	Horizontal, Vertical, Diagonal
	Image Algorithm	Drift suppression, adaptive NUC, 3D filtering, image enhancement, adaptive HDR
	Brightness/Contrast	Manual/Auto adjustment
	Sync	Internal/External sync switch
	Lens Cap	Motorized lens cap
	Zoom Mode	Motorized
	Focus Mode	Motorized focus, one-shot focus
	Firmware Upgrade	Serial port firmware upgrade
Environmenta	Operating Temp.	-40°C ~ +60°C
Physics	Dimensions(L×W×H)	≤400 mm×220 mm×215 mm (excl. connectors & cables)
	Weight	≤9 Kg
Interface	Input Voltage	DC 28V±4V
	Power Consumption	Peak ≤50W, Steady State ≤30W @25°C
	Analog Video	PAL (Optional)
	SDI Video	1080P@25Hz, effective 1280×1024, border blacked out
	CameraLink	640×512@50Hz, Base mode
	Communication Interface	RS422

MWIR Thermal Imaging Camera

The MWIR cooled thermal imaging camera is primarily composed of a 60mm–360mm panoramic continuous zoom lens, a high-performance scanning mirror, and a high-sensitivity 640×512 @ 15µm imaging detector assembly. The system features embedded image processing algorithms—including adaptive non-uniformity correction (NUC), 3D noise filtering, adaptive high-dynamic-range (HDR) imaging, and image enhancement—to effectively optimize overall image quality.



	Parameter	MWIR-CAM-03S5-F60~360-4.0CL
Sensor	Resolution	640×512
	Pixel Size	15µm
	F-Number	4.0
	Operating Band	3.7±0.2~4.8±0.2µm
	NETD	≤20mK @25°C, typical integration
	Cooling Type	Stirling Cooling
	Start Time	≤8min @25°C
	Focal Length Range	60mm~360mm, continuous zoom
	Optical Zoom	6×
	FOV Range	9.15°×7.32°~1.53°×1.22°, continuous zoom
	Boresight Consistency	≤2 pixels
	Boresight Repeatability	≤1 pixel
	Scan Mirror Nonlinearity	≤2‰
	Scan Mirror Linear Duty Cycle	≥90%
Optic	MRTD	≤400mK @12cyc/mrad, stare mode
	Resolution	640×512
	Integration Modes	Manual/Auto adjustable
	Image Algorithm	Adaptive NUC, 3D filter, image enhance, HDR
	Brightness/Contrast	Manual/Auto adjustable
	Sync	Internal Sync
	Zoom Mode	Motorized
	Scanning FOV	3 FOV scan: L/M/S
	Focus Mode	Motorized focus, one-shot focus
	Firmware Upgrade	UART firmware upgrade
Environmenta	Operating Temp.	-40~+60°C
Physics	Dimensions(L×W×H)	≤382×230×160mm (excl. connectors & cables)
	Weight	≤6Kg
Interface	Input Voltage	DC24V±2V
	Power Consumption	Peak ≤125W, Steady State ≤50W @25°C
	SDI Video	1080P@25Hz, 1280×1024 effective, black border
	CameraLink	640×512@50Hz, Base mode
	Communication Interface	RS422

MWIR 1280 Continuous Zoom Camera

MW cooled continuous zoom thermal imager, consisting of continuous zoom lens and 1280×1024@7.5μm high-sensitivity small-pixel Stirling MW cooled detector. Equipped with adaptive NUC, 3D filtering, adaptive HDR, image enhancement algorithms to effectively improve imaging quality.

Easy integration into various electro-optical systems, applied in aerial reconnaissance, key area defense, industrial security, forest fire prevention, etc.

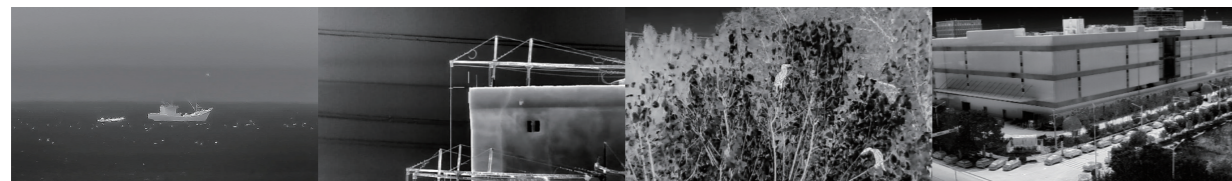


Parameter	MWIR-CAM-13S0-F22~720-4.OCL	MWIR-CAM-13S2-F22~720-4.OCL	MWIR-CAM-13S7-F25~150-2.OCL
Resolution	1280×1024		
Pixel Size	10μm	12μm	7.5μm
F/#	4.0		
Band	3.4±0.2μm~5.0±0.2μm	3.7±0.2μm~4.8±0.2μm	3.4±0.2μm~5.0±0.2μm
Cooling	Stirling		
NETD	≤25mK, @25°C(under typical integration time)		≤30mK, @25°C(under typical integration time)
Start Time	≤8.5min@25°C		
Focal Range	22mm~720mm		25mm~150mm
Zoom	33X		6X
MRTD	≤350mK(@24cyc/mrad)		≤350mK(@5cyc/mrad)
FOV Range	32.44°×26.20°~1.02°×0.82°	38.49°×31.21°~1.22°×0.98°	21.74°×17.47°~3.67°×2.93°
Boresight Consistency	≤3pixels	≤2pixels	≤3pixels
Boresight Repeatability	≤1pixels		
Integration level	Manual / Auto adjustable		
Mirror	Horizontal, Vertical, Diagonal		
Algorithm	Adaptive NUC, 3D Image Filtering, Image Enhancement, Adaptive HDR Dimming		
Bright/Contrast	Manual / Auto adjustment		
Sync	Internal / External sync switching		
Zoom Mode	Motorized		
Focus Mode	Motorized focus, One-key auto focus		
Upgrade	Serial port upgrade		
Temp.	-40°C~+60°C		
Dim.	≤345mm×268mm×192mm		≤406mm×150mm×150mm
Weight	≤12Kg		≤4Kg
Voltage	DC 28V±4V		
Power@25°C	Peak: ≤60W; Steady State: ≤35W (@25°C)		Peak: ≤55W; Steady State: ≤35W
SDI	080P @ 25Hz (1280 × 1024 effective pixels, black borders)		
CameraLink	1280×1024@30Hz, Base mode		
Com I/F	RS422		

Parameter	MWIR-CAM-13S0-F50~900-4.OCL	MWIR-CAM-13S2-F50~900-4.OCL	MWIR-CAM-13S5-F50~900-4.OCL
Resolution	1280×1024		
Pixel Size	10μm	12μm	15μm
F/#	4.0		
Spectral Band	3.4±0.2μm~5.0±0.2μm	3.7±0.2μm~4.8±0.2μm	
Cooling Type	≤25mK, @25°C(under typical integration time)		
NETD	Stirling		
Start-up Time	≤8.5min@25°C		
Focal Range	50mm~900mm		
Optical Zoom	18X		
MRTD	14.59°×11.69°~0.81°×0.65°	17.47°×14.01°~0.98°×0.78°	21.74°×17.47°~1.22°×0.98°
FOV Range	≤3pixels		≤2pixels
Boresight Consistency	≤1pixels		
Boresight Repeatability	Manual / Auto adjustable		
Integration Steps	Horizontal, Vertical, Diagonal		
Mirror	Adaptive NUC, 3D Filter, Image Enhance, HDR		
Image Algorithm	Manual/Auto Adjust		
Brightness/Contrast	Internal/External Sync		
Sync	Motorized		
Zoom Control	Motorized Focus, One-Shot Focus		
Focus Control	≤350mK @25cyc/mrad		
Firmware Update	Serial FW Upgrade		
Operating Temp.	-40~+60°C		
Dimensions	≤360×280×240mm (excl. connectors & cables)		
Weight	≤15Kg		
Input Voltage	DC28V±4V		
Power@25°C	Peak ≤65W, Steady State ≤35W		
SDI	1080P@25Hz, 1280×1024 effective, black border		
CameraLink	1280×1024@30Hz, Base mode		
Interface	RS422		

LWIR CAMERA

LWIR thermal imager series includes **cooled & uncooled** versions, operating at 7.7-9.3μm, 8-14μm. Adopts high-sensitivity detectors: MCT, Type-II Superlattice, VOx. Equipped with adaptive NUC, noise reduction, image enhancement, auto iris & focus. Features high-definition, high sensitivity, stability. Modular, compact, rich interfaces, easy integration, all-weather operation. Suitable for professional IR imaging, accurate temperature measurement and long-distance detection.



Features

HD & High Sensitivity

6640×512, cooled/uncooled low-noise, clear imaging

Intelligent Imaging

Adaptive NUC, denoising, auto focus/iris

Ultra Stable

Boresight stable during zoom, ≤2 pixels

Easy Integration

Modular & compact, rich interfaces, multi-platform compatible

High Durability

Stable at -40~+60°C, shock & vibration resistant

Applications



LWIR Cooled Camera

LWIR cooled continuous zoom thermal imager, adopts 640×512@15μm Stirling cooled LWIR detector module. With adaptive NUC, 3D noise filtering, adaptive HDR, image enhancement algorithms, effectively improves imaging quality.



Parameter	LWIR-CAM-03S5-F40~200-2.OCL	LWIR-CAM-03S5-F50~340-2.OCL
Resolution	640×512	
Pixel Size	15μm	
F/#	2.0	
Spectral Band	7.7±0.2μm~9.3±0.2μm	
NETD	≤25mK, @25°C (under typical integration time)	
Cooling Type	Stirling	
Start-up Time	≤8min@25°C	
Focal Range	40mm~200mm	50mm~340mm
Optical Zoom	5X	6.8X
FOV Range	13.69°×10.97°~2.75°×2.20°	11.00°×8.78°~1.62°×1.29°
Boresight Consistency	≤2 pixels	
Boresight Repeatability	≤1 pixels	
MRTD	≤200mK(@6cyc/mrad)	≤200mK(@10cyc/mrad)
Integration Steps	Manual / Auto adjustable	
Mirror	Horizontal, Vertical, Diagonal	
Image Algorithm	Thermal Drift Suppression, Adaptive NUC, 3D Image Filtering, Image Enhancement, Adaptive HDR Dimming	
Brightness/Contrast	Manual / Auto adjustment	
Sync	Internal / External sync switching	
Lens Cover	Motorized Lens Cover	
Zoom Control	Motorized	
Focus Control	Motorized Focus, One-Shot Focus	Serial FW Upgrade
Firmware Update	Serial FW Upgrade	Manual/Auto Adjustable
Environmental	Operating Temp. -40°C~+60°C	
Physics	Dimensions	≤385mm×220mm×215mm
	Weight	≤9Kg
	Input Voltage	DC 28V±4V
	Power Consumption	Peak: ≤ 50W; Steady State: ≤ 30W (@ 25°C)
Interface	Analog Video	PAL(optional)
	SDI Video	1080P @ 25Hz (1280 × 1024 effective pixels, black borders)
	CameraLink Video	640*512@50Hz, Base mode
	Communication Interface	RS422

Product Series	Product Name	Product Code	Spectral Range	Focal Length	FOV	F/#	Detector Type	Focus Mode	
SWIR	360mm Fixed Lens	LPO-SWIR-FAF0360-0101	0.9-1.7μm	360mm	1.52°×1.22°	6	640×512@15μm	Motorized	
	275/80mm Zoom Lens	LPO-SWIR-ZAF8003-0201	1-2.4μm	275/80mm	2°×1.6°/6.87°×5.5°	4/3.25	640×512@15μm	Motorized	
	16-80mm Zoom Lens	LPO-SWIR-MA1605-0301	0.9-1.7μm	16-80mm	33.4°×27°~6.87°×5.5°	2	640×512@15μm	Motorized	
	40-320mm Zoom Lens	LPO-SWIR-MAF4008-0401	0.9-1.7μm	40-320mm	13.7°×10.97°~1.72°×1.38°	2.2	640×512@15μm	Motorized	
	88-1200mm Zoom Lens	LPO-SWIR-MAF8814-0501	0.9-1.7μm	88-1200mm	6.24°×4.5°~0.46°×0.37°	5.7-10	640×512@15μm	Motorized	
MWIR	30mm Fixed Lens	LPO-MWIR-FAF0030-0101	3.7-4.8μm	30mm	18.2°×14.6°	2	640×512@15μm	Motorized	
	30mm Fixed Lens	LPO-MWIR-FAF0030-0201	3.7-4.8μm	30mm	28.72°×23.15°	2	1280×1024@12μm	Manual Focus	
	150mm Fixed Lens	LPO-MWIR-FMF0150-0301	3.7-4.8μm	150mm	7.32°×5.86°	4	1280×1024@15μm	Motorized	
	180mm Fixed Lens	LPO-MWIR-FAF0180-0401	3.7-4.8μm	180mm	3.05°×2.44°	2	640×512@15μm	Manual Focus	
	50mm Fixed Lens	LPO-MWIR-FMF0050-0501	3.7-4.8μm	50mm	10.96°×8.78°	2	640×512@15μm	Athermalized	
	10mm Athermalized Lens	LPO-MWIR-FAT0010-0601	3.7-4.8μm	10mm	65.24°×54.22°	2	1280×1024@10μm	Athermalized	
	11mm Athermalized Lens	LPO-MWIR-FAT0011-0701	3.7-4.8μm	11mm	69.8°×58.4°	2	1280×1024@12μm	Athermalized	
	14mm Athermalized Lens	LPO-MWIR-FAT0014-0801	3.7-4.8μm	14mm	40.17°×30.67°	2	1024×768@10μm	Athermalized	
	13.4mm Athermalized Lens	LPO-MWIR-FAT0013-0901	3.7-4.8μm	13.4mm	40.4°×32.49°	2	640×512@15μm	Athermalized	
	14mm Athermalized Lens	LPO-MWIR-FAT0014-1001	3.7-4.8μm	14mm	40.17°×30.67°	2	1024×768@10μm	Athermalized	
	16-80mm Cooled Lens	LPO-MWIR-MAF1605-0A01	3.7-4.8μm	16-80mm	33.40°×27.0°~6.87°×5.50°	2	640×512@15μm	Motorized	
	40-200mm Cooled Lens	LPO-MWIR-MAF4005-0B01	3.7-4.8μm	40-200mm	13.68°×10.96°~2.75°×2.2°	2	640×512@15μm	Motorized	
	22-680mm Cooled Lens	LPO-MWIR-MAF2231-0C01	3.7-4.8μm	22-680mm	24.61°×19.8°~0.809°×0.647°	4	640×512@15μm	Motorized	
	20-700mm Cooled Lens	LPO-MWIR-MAF2035-0D01	3.7-4.8μm	20-700mm	27°×21.74°~0.785°×0.628°	4	640×512@15μm	Motorized	
	60-400mm Cooled Lens	LPO-MWIR-MAF6007-0E01	3.7-4.8μm	60-400mm	9.14°×7.32°~1.37°×1.1°	4	640×512@15μm	Motorized	
	60-400mm Cooled Lens	LPO-MWIR-MAF6007-0F01	3.7-4.8μm	60-400mm	9.14°×7.32°~0.92°×0.73°	2	640×512@15μm	Motorized	
	100-400mm Cooled Lens	LPO-MWIR-MAF9904-0G01	3.7-4.8μm	100-400mm	9.14°×7.32°~2.29°×1.83°	2	640×512@15μm	Motorized	
	50-560mm Cooled Lens	LPO-MWIR-MAF5011-0H01	3.7-4.8μm	50-560mm	10.96°×8.78°~0.982°×0.7858°	4	640×512@15μm	Motorized	
	14-60mm Cooled Lens	LPO-MWIR-MAF1404-0I01	3.7-4.8μm	14-60mm	40.18°×30.68°~9.75°×7.32°	2	1024×768@10μm	Motorized	
	17-73mm Cooled Lens	LPO-MWIR-MAF1704-0J01	3.7-4.8μm	17-73mm	41.25°×33.25°~-10.02°×8.02°	2	1024×768@10μm	Motorized	
	25-150mm Cooled Lens	LPO-MWIR-MAF2506-0K01	3.5-5.0μm	25-150mm	21.74°×17.47°~3.67°×2.93°	2	1280×1024@7.5μm	Motorized	
	45-900mm Cooled Lens	LPO-MWIR-MAF4520-0L01	3.7-4.8μm	45-900mm	24.08°×19.37°~1.22°×0.977°	4	1280×1024@15μm/12μm	Motorized	
	20-720mm Cooled Lens	LPO-MWIR-MAF2036-0M01	3.7-4.8μm	20-720mm	42°×34°~1.22°×0.97°	4	1280×1024@12μm(Compatible with 10 μm)	Motorized	
	20-360mm Cooled Lens	LPO-MWIR-MAF2018-0N01	3.7-4.8μm	20-360mm	28.72°×21.73°~1.63°×1.22°	4	1024×768@10μm	Motorized	
	20-370mm Cooled Lens	LPO-MWIR-MAF2018-0O01	3.7-4.8μm	20-370mm	28.72°×21.73°~1.58°×1.19°	4	1024×768@10μm	Motorized	
	25-200mm Cooled Lens	LPO-MWIR-MAF2508-0P01	3.7-4.8μm	25-200mm	28.72°×23.15°~3.66°×2.93°	4	1280×1024@10μm	Motorized	
	18-275mm Cooled Lens	LPO-MWIR-MAF1815-0S01	3.7-4.8μm	18-275mm	29.86°×24.08°~2.0°×1.6°	5.5	640×512@15μm	Motorized	
	40-360mm Panoramic Lens	LPO-MWIR-SAF4009-0Q01	3.7-4.8μm	40-360mm	13.68°×10.96°~1.53°×1.22°	4	640×512@15μm	Motorized	
	40-500mm Panoramic Lens	LPO-MWIR-SAF4012-0R01	3.7-4.8μm	40-500mm	22.62°×18.18°~1.83°×1.46°	2	640×512@25μm	Motorized	
	LWIR	80mm Athermalized Lens	LPO-LWIR-FAT0080-0101	8-12μm	80mm	10.97°×8.78°	1	1280×1024@12μm	Athermalized
		35mm Athermalized Lens	LPO-LWIR-FAT0035-0201	8-12 μm	35mm	12.52°×10.03°	1.2	640×512@12μm	Athermalized
		48mm Athermalized Lens	LPO-LWIR-FAT0048-0301	8-12μm	48mm	18.2°×14.6°	1	1280×1024@12μm	Athermalized
20mm Cooled Lens		LPO-LWIR-FMF0020-0401	7.7-9.3μm	20mm	27°×21.7°	2	640×512@15μm	Focus	
110mm Cooled Lens		LPO-LWIR-FAF0110-0501	7.7-9.3μm	110mm	5.00°×4.00°	2	640×512@15μm	Motorized	
120mm Cooled Lens		LPO-LWIR-FMF0120-0601	7.7-9.3μm	120mm	4.58°×3.66°	2	640×512@15μm	Focus	
180mm Cooled Lens		LPO-LWIR-FMF0180-0701	7.7-9.3μm	180mm	2.9°×2.3°	2	640×512@15μm	Focus	
25-240mm Cooled Lens		LPO-LWIR-MAF2510-0801	7.7-9.5μm	25-240mm	21.7°×17.4°~2.29°×1.83°	2	640×512@15μm	Motorized	
40-200mm Cooled Lens		LPO-LWIR-MAF4008-0901	7.7-9.3μm	40-200mm	13.68°×10.96°~2.75°×2.2°	2	640×512@15μm	Motorized	

COMPANY INTRODUCTION

Xi'an Zhongke Lead IR-Tech Co.,Ltd.

Founded in 2015, Xi'an Zhongke Lead IR-Tech Co., Ltd. specializes in the R&D and manufacturing of intelligent integrated optoelectronic systems.

With more than 400 employees, over 120 patents, a total area of over 60,000 square meters and 600 sets of advanced equipment, the company has developed three core product lines:

- Intelligent optoelectronic equipment, including thermal imaging cameras, optoelectronic systems and related optical components;
- Satellite core components and payloads, such as laser communication payloads, SADA drive units and QV antenna drive mechanisms;
- Precision opto-mechatronic manufacturing, covering precision optical processing, precision mechanical manufacturing and precision opto-mechatronic assembly.



Group Headquarters/ 54,000 m²



Optoelectronic R&D Center/5,000 m²



Subsidiary (Mechanical & Optical Processing Workshop) /6,026m²

60,000 sqm
of office & production space

600+
advanced production facilities

120+ items
of independent IP rights

400+
employees

