Phase One iXM Series Cameras for geo-intelligence



PHASEONE

Wide area high resolution cameras for geo-intelligence and persistent surveillance

Phase One iXM cameras are designed and built for demanding security applications requiring high resolution and wide depth of field

Delivers high-sensitivity, low electronic noise, short minimal-integration time, and Region of interest features in a compact and lightweight package

- Provides wide, clean, and sharp images without the need for platform stabilization, making it ideal for aerial imaging.
- Delivers large amount of image data in every frame, and exceptional high frame rate, to support motion detection, and identification of vehicles and individuals.
- Close to maintenance-free, for continual service, and long lifespan, providing strategic positioning on low-accessed stationary platforms like towers, fence systems, and infrastructure facilities.

Key Features

Wide area imaging

iXM cameras provide outstanding resolutions, deliver larger FOVs for more data in every frame, shorten mission times and reduce data processing complexity.

With a pixel size as low as 3.45µm it reveals the finest details and provides a high-resolution image 12 to 18 times larger than a 4K image and is continuously provided with an update rate of up to 8Hz.

Superior image quality

The combination of low read noise with high full well capacity enables the collection of imagery from deep shaded and highly illuminated areas simultaneously, which increases detection, recognition, and identification capabilities.

Region of interest (ROI)

Region of interest (ROI) real time definition for continuous tracking of moving vehicles and individuals.

Image compression

Sophisticated on-the-fly image compression enables up to 4 times RAW imagery transfer speed to support fast data processing for surveillance applications.

Software Development Kit

iXM cameras are fully configurable via camera SDK over Ethernet 10G or USB3 communication. Image processing SDK is provided with sophisticated tools to reveal every last detail at 14 bit or 12 bit pixel depth.

Compact size and weight

With dimensions of 100x100x67mm and a weight of 630g, the iXM cameras easily integrate with compact and low weight gimbal systems.

Low power

iXM cameras have low power consumption and optimized heat dissipation, which enables long duration and remote mission execution, even with smaller UAS platforms.

Optional components

On board controller for multiple cameras and mass storage; Integration of GNSS receivers and inertial measurement units (IMU); and Stabilized aerial mounts.

Applications

- Geospatial Intelligence (GEOINT)
- Wide Area Motion Imagery (WAMI)
- Wide Area Persistent Surveillance (WAPS)
- Search and Rescue
- Counter UAV





Field of View: 360m x 270m Distance: 350m AGL





Specifications

	iXM-RS150F	iXM-GS120	iXM-100		
Sensor type	BSI CMOS Global Reset	CMOS Global Shutter	BSI CMOS Global Reset		
Spectral range	350nm - 1000nm				
Dynamic range (dB)	83	80	83		
Pixel size (μm)	3.76	3.45	3.76		
SNR ratio	220:1	105:1	220:1		
Sensitivity (ISO)	50	200	50		
Global Shutter speed (sec)		1/16000			
Global shutter efficiency (dB)		92			
Color options	Color or Monochrome				
Filter options	IR-Cut or clear glass				
Resolution	14204 x 10652	12768 x 9564	11664 x 8750		
Max. field of view (°)	78	63	63		
Continuous frame rate (Hz)	2	7	3		
Burst frame rate (Hz)	N/A	12	N/A		
Raw file compression 14bit (MB)	150	120	100		
Raw file compression 12bit (MB)	120	95	80		

2K Live video

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15			
20	21	20	

Interface

Image data	Ethernet 10G (Fiber/Copper), USB3				
API	Phase One SDK, Mavlink				
H/W signals	Inputs: Trigger, dark calibration				
	Outputs: Camera ready, MEP				
Internal storage	CF Express, up to 1TB**				

Power

Input (VDC)	12-30				
Max. power consumption (W)	16	20	16		

Mechanical

Dimensions - excluding lens (mm)	90x90x67
Weight - excluding lens (g)	630
Interface	8x M4 threads
Weight with RS lens adaptor (g)	1000

Operating conditions

15 - 95 (non-condensing)
IP53
-10 to +40
-55 to +85
EN61000, EN55024, EN55032
Part 15, class A, subpart B

RSM Lenses technical specifications

	35mm	80mm	80mm AF	150mm AF	300mm AF	
Lens composition	12 elements in 8 groups	8 elements in 5 groups		8 elements in 7 groups	11 elements in 9 groups	
Minimum focusing range	infinity 3m to infinity		10m to infinity			
Shutter speed max (sec)		1/25	500		1/2000	
Exposure control	1/3 f - stop increments					
Aperture range	f/5.6 - f/22 f/8					
Filter diameter (mm)		86				
Angle of view - Long side (°)	63 30).4	17.1	8.4	
Angle of view - Short side (°)	49.4		3	12.9	6.3	
Entrance pupil to image plane (mm)	72	8	5	107	85.5	

RS Lenses technical specifications

	32mm	40mm	50mm	70mm	90mm	110mm	150mm MK II	180mm
Lens	14 elements	10 elei in 7 a	10 elements		9 elements	6 elements	8 elements	7 elements
Minimum focusing range	infinity							
Shutter speed max (sec)	up to 1/2500				up to 1/2000	up to 1/2500 up to 1/2000		up to 1/2000
Exposure control	1/3 f - stop increments							
Aperture range	f/4 - f/22 f/5.6			- f/22	f/4 - f/22	f/5.6 - f/22	f/6.3 - f/22	
Filter diameter (mm)	86	67		58	72	58	86	67
Angle of view - Long side (°)	77.8	65	54.6	41.8	33	27.6	20.2	12.7
Angle of view - Short side (°)	62.3	51	42.3	31.9	25.1	20.9	15.2	16.9
Entrance pupil to image plane (mm)	105.7	94.1	99.3	91.1	130.8	76.1	65.8	141.5



About Phase One

Phase One A/S is a leading researcher, developer and manufacturer of medium format and large format digital cameras, software, and imaging solutions.

Founded in 1993, Phase One is a pioneer of digital photography and has developed core imaging technologies and a range of digital cameras and imaging modules. Phase One provides the world's highest image quality in terms of resolution, dynamic range, color fidelity and geometric accuracy. As such, the company has grown to become the leading provider of high-end imaging technology across many business segments. This includes both hardware and software for aerial mapping, industrial inspection, and cultural heritage digitization, as well as serving the world's most demanding photographers.

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