



HIGH PERFORMANCE OPTICS FOR UAV PAYLOADS & DRONES

SWaP Optimized for airborne needs

High Performance

Light Weight

Compact

Available for MWIR and LWIR Cameras

Whatever your needs, we've got the lens

With decades of knowledge and experience for both Long Wave Infrared & Mid Wave Infrared lenses for the UAV industry, Ophir has earned its reputation as a world-leading designer and manufacturer in this field.

Ophir develops and delivers a wide range of IR complex lens assemblies with fixed, motorized focus and zoom lenses, which supports UAV MWIR & LWIR imaging.

Ophir provides a global solution for infrared imaging for UAV payloads, for military, security and emerging UAV applications.

Our in-house R&D team works in collaboration with defense and commercial customers to develop and design guidelines that optimize the specific size, weight and power (SWAP) constraints of the UAV payload platform, with the unparalleled optical performance for which we are known worldwide.

Key features

- Small Form Factor lenses to fit miniature gimbals
- Ultra-light weight continuous zoom and fixed focus lenses
- High optical performance
- Low power consumption
- Designed for UAV payloads, drones and hand-held device applications
- High durability (HD) or low reflection hard carbon (LRHC) AR coating
- Fast FOV change
- Continuous zoom, with fixed F# maintained through the full zoom range
- Accurate thru-zoom bore sight
- Folded optics technology when required
- Available for major MWIR & LWIR detectors
- Diffraction-limited optical design
- Athermal compensation
- Maintains focus through the zoom
- Pre-set, discrete optical zoom position
- CPU controlled via RS 485 or RS 232

SupIR 16-180 f/3.6, Motorized Continuous Zoom 680389-001

Cooled
MWIR



WFOV(16mm)

HFOV[deg]	640x480
10μ	22.6°

NFOV(180mm)

HFOV[deg]	640x480
10μ	2°

Property	Value	
Optical	WFOV	NFOV
Focal length	16mm	180mm
F/#	3.6	
Back focal length	23.08mm in air	
Cold stop to FPA distance	12mm	
Minimum focusing range	5m	50m
Mechanical		
Max. Dimensions	Length 121mm; Width 70mm; height 102mm	
Weight	450gr	
Electrical		
Drive voltage	6-12VDC	
Current consumption	< 0.5A average, 1.0A peak	
Communication interface	RS422	

SupIR 19-200mm f/4.0, Motorized Continuous Zoom 680209*

Cooled
MWIR



WFOV(19mm)

HFOV[deg]	320x240	480x384	640x512
30μ	29.7°		
20μ	19.6°	29.7°	
15μ	14.6°	22.1°	29.7°

NFOV(200mm)

HFOV[deg]	320x240	480x384	640x512
30μ	2.8°		
20μ	1.9°	2.8°	
15μ	1.4°	2.1°	2.8°

Property	Value	
Optical	WFOV	NFOV
Focal length	19mm	200mm
F/#	4.0	
Back focal length	25.1mm in air	
Cold stop to FPA distance	19.4mm	
Minimum focusing range	5m	50m
Mechanical		
Max. Dimensions	Ø65mm X 74.3mm	
Weight	400gr	
Electrical		
Drive voltage	6-12VDC	
Current consumption	< 0.5A average, 1.0A peak	
Communication interface	RS422	

* Requires export license

SupIR 19-275mm f/5.5, Motorized Continuous Zoom 65196*

Cooled
MWIR



WFOV(19mm)

HFOV[deg]	320x240	480x384	640x512
30μ	29.8°		
20μ	19.6°	29.8°	
15μ	14.6°	22.1°	28.3°

NFOV(275mm)

HFOV[deg]	320x240	480x384	640x512
30μ	2.0°		
20μ	1.3°	2.0°	
15μ	1.0°	1.5°	2.0°

Property	Value
Optical	WFOV
Focal length	19mm
F/#	5.5
Back focal length	24.7mm in air
Cold stop to FPA distance	19.1mm / 19.7mm
Minimum focusing range	5m
Mechanical	
Max. Dimensions	Ø63.5mm X 74.3mm
Weight	445gr
Electrical	
Drive voltage	12VDC
Current consumption	0.2A average, 1.0A peak
Communication interface	RS422

* Requires export license

LightIR 20-275mm f/5.5, Motorized Continuous Zoom 680314

Cooled
MWIR



WFOV(20mm)

HFOV[deg]	320x240	480x384	640x512
20μ	19.4°	28.0°	
15μ	14.5°	20.9°	28.0°

NFOV(275mm)

HFOV[deg]	320x240	480x384	640x512
20μ	1.3°	1.9°	
15μ	1.0°	1.5°	1.9°

Property	Value
Optical	WFOV
Focal length	20mm
F/#	5.5
Back focal length	23.52mm in air
Cold stop to FPA distance	19.7mm
Minimum focusing range	5m
Mechanical	
Max. Dimensions	Ø58mm X 67.1mm
Weight	264gr
Electrical	
Drive voltage	12VDC
Current consumption	0.2A average, 1.0A peak
Communication interface	RS485, RS422

SupIR 28-850mm f/5.5, Motorized Continuous Zoom 680072*

Cooled
MWIR



HD
FORMAT

WFOV(28mm)

HFOV[deg]	320x240	480x384	640x512	1280x1024
30μ	19.8°	29.7°	39.8°	
20μ	13.2°	19.8°	26.4°	
15μ	9.9°	14.8°	19.8°	39.8°

NFOV(850mm)

HFOV[deg]	320x240	480x384	640x512	1280x1024
30μ	0.6°	1.0°	1.3°	
20μ	0.4°	0.6°	0.9°	
15μ	0.3°	0.5°	0.6°	1.3°

Property	Value
Optical	WFOV
Focal length	28mm
F/#	5.5
Back focal length	≥37.6mm in air
Cold stop to FPA distance	28mm
Minimum focusing range	3m
Mechanical	
Max. Dimensions	Length 256mm; Width 176mm; Height 257.5mm
Weight	4.6kg
Electrical	
Drive voltage	28VDC
Current consumption	1.25A average, 2.5A peak
Communication interface	RS422

* Requires export license

SupIR 15-60mm f/1.4, Motorized Continuous Zoom 680164

Uncooled
LWIR



WFOV(15mm)

HFOV[deg]	160x120	320x240	384x288	640x480	1024x768
25μ	15.4°	31.5°	38.4°		
17μ	10.4°	21.1°		44.2°	
12μ		14.8°		30.2°	

NFOV(60mm)

HFOV[deg]	160x120	320x240	480x384	640x512	1280x1024
25μ	3.8°	7.6°	9.2°		
17μ	2.6°	5.2°		10.4°	
12μ		3.7°		7.3°	

Property	Value
Optical	WFOV
Focal length	15mm
F/#	1.4
Back focal length	≥ 25mm in air
Cold stop to FPA distance	???
Minimum focusing range	1m
Mechanical	
Max. Dimensions	Ø58mm X 67.1mm
Weight	264gr
Electrical	
Drive voltage	6-12VDC
Current consumption	0.2A average, 0.5A peak
Communication interface	RS422

LightIR 15-75mm f/1.2, Motorized Continuous Zoom 680386

Uncooled
LWIR



WFOV(15mm)					
HFOV[deg]	320x256	480x384	640x512	1280x1024	
25μ	24.8°	37.9°			
17μ	16.7°	25.3°	43.4°		
12μ	14.7°	17.7°	29.9°		
10μ	12.3°	14.7°	24.8°	52°	
NFOV(75mm)					
HFOV[deg]	320x256	480x384	640x512	1280x1024	
25μ	4.9°	7.3°			
17μ	3.3°	5°	8.2°		
12μ	2.9°	3.5°	5.8°		
10μ	2.4°	2.9°	4.9°	9.6°	

Property	Value	
Optical	WFOV	NFOV
Focal length	15mm	75mm
F/#	1.2	
Back focal length	20.76mm in air	24.28mm in air
Minimum focusing range	7m	18m
Mechanical		
Max. Dimensions	Ø76mm x 88mm	
Weight	320gr	
Electrical		
Drive voltage	6-12VDC	
Current consumption	<0.15A average, 0.3A peak	
Communication interface	RS485, RS422, RS232	

*Adapters for different cameras are available upon request

SupIR 7.5mm f/1.2, Fixed Focus 680331

Uncooled
LWIR



HFOV[deg]	160x120	320x240	384x288	640x480	1024x768
25μ	30.9°	63.87°	78.3°		
17μ	20.9°	42.4°	51.3°	90.9°	
12μ	14.7°	29.7°	35.7°	61°	

SupIR 13.6mm f/1.0, Fixed Athermalized 680412

Uncooled
LWIR



HFOV[deg]	160x120	320x240	384x288	640x480	1024x768
25μ	16.8°	33.3°	40.0°		
17μ	11.5°	22.8°	27.3°		
12μ	8.1°	16.2°	19.3°	32°	
10μ	6.8°	13.5°	16.2°	29.8°	

SupIR 19mm f/1.1, Fixed Athermalized 65221

Uncooled
LWIR



HFOV[deg]	160x120	320x240	384x288	640x480	1024x768
25μ	11.9°	23.6°	28.3°		
17μ	8.1°	16.1°	19.3°	32.1°	
12μ	5.7°	11.4°	13.7°	22.7°	36.3°

SupIR 25mm f/1.2, Fixed Athermalized 680108

Uncooled
LWIR



HFOV[deg]	160x120	320x240	384x288	640x480	1024x768
25μ	9.1°	18.2°	21.8°	36.4°	
17μ	6.2°	12.4°	14.9°	24.8°	
12μ	4.4°	8.7°	10.5°	17.57°	27.9°

SupIR 35mm f/1.2, Athermalized Manual Focus 680111

Uncooled
LWIR



HFOV[deg]	160x120	320x240	384x288	640x480	1024x768
25μ	6.5°	13.03°	15.5°		
17μ	4.4°	8.9°	10.6°	17.6°	
12μ	3.1°	6.3°	7.5°	12.5°	19.7°



About Ophir IR Optics

With decades worth of knowledge and experience, Ophir Optronics Solutions LTD., Infrared Optics, an MKS Company (NASDAQ: MKSI), is a world-leading designer and manufacturer of high performance IR thermal lenses and optical elements for SWIR, MWIR & LWIR imaging. Using advanced technologies, innovative engineering, and design configurations, Ophir provides a global solution for homeland security, surveillance, automotive and commercial applications: IR Components and complex lens assemblies with fixed or motorized focus and zoom lenses.

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