

LightIR 18-225mm f/3.6

Designed for Reduced SWaP MWIR 10 μ m VGA Detectors

PN 680442



The Ophir LightIR 18-225mm MWIR f/3.6 continuous zoom lens is a compact thermal imaging lens, optimized for 10 μ m pitch VGA FPA (focal plane array) detectors. It weighs only 300gr, which makes it 25% lighter than existing similar lenses.

It features a compact optics design, with reduced optical elements that significantly decrease the length and weight of the lens, and therefore, the overall size and weight of the optical system in which it is incorporated.

With its disruptive combination of SWaP capabilities, detection range exceeding 15km, rugged design, and cost-effective pricing, the LightIR 18-225mm f/3.6 continuous zoom lens is an enabler for advanced drone, tactical UAV IR cameras, and micro-/mini-tactical payloads in the commercial, homeland security, and defense markets.

KEY PRODUCT FEATURES

- Meets low SWaP demand with long EFL
- Efficient compact optics design for max. volume use
- Designed for MWIR 10 μ m pitch VGA sensors
- Ideal for mini/micro tactical payloads
- Detection range exceeds 15km

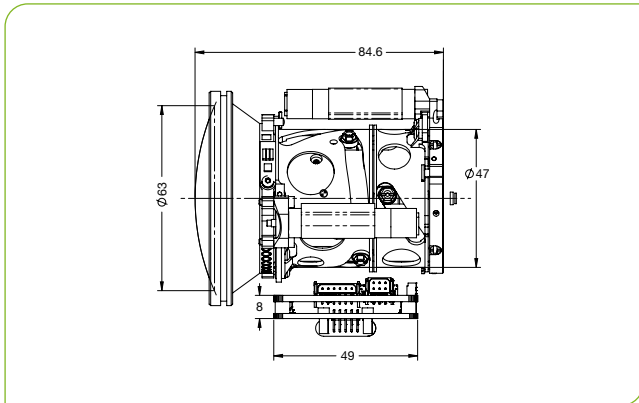


■ Identification
■ Recognition
■ Detection

Vehicle size 2.3m x 2.3m Human size 1.7m X 0.5m

Assumptions: 30Hz frame rate | 0.2km⁻¹ atmospheric attenuation coefficient | 50% detection probability | 1.74x0.46m human size | 2.3x2.3m vehicle size

TYPICAL ICD



WFOV (18mm)

HFOV	640x512
10μ	20°

NFOV (225mm)

HFOV	640x512
10μ	1.6°

Property	Value	
Optical	WFOV	NFOV
Focal Length	18mm	225mm
F#	3.6	
Average transmission (3.4-4.2μm)	>87% (HD) / ≥80% (LRHC)	
Cold stop to FPA Distance	12mm	
Cold Stop CA	Ø3.34mm	
Back Focal Length	18.5mm in air	
Distortion in diagonal	<1.9%	<4%
Minimum Focusing Range	5m	50m
Nuc (by defocus)	Yes	
Mechanical		
Focus Mechanism	Motorized. Adjustable	
Focus Time (minimum range to ∞)	<2 sec.	
Zoom Time (NFOV to WFOV)	<5 sec.	
Max. Dimensions	Ø63mm x 84.6mm	
Weight	<300gr	
Electrical		
Lens Control	Designated lens controller	
Drive Voltage	6-12VDC	
Current Consumption	< 0.5A average, 1.0A peak	
Communication Protocol	RS422	
Environmental		
Operation Temperature	-32°C to +80°C	
Storage Temperature	-54°C to +80°C	
Sealing	IP67 front lens only	
Configurations		
680442-001	High Durability	
680442-002	Low Reflection Hard Carbon	

