

FOLDIR 25-275mm f/5.5 Folded Optics Low-SWaP Cont. Zoom Lens

Designed for 15 μ m VGA FPA detectors, fitted for 5" (127mm)
gimbal size (PN 680520)

NEW

mks | ophir

Introducing the FoldIR 25-275mm MWIR f/5.5 continuous zoom lens, the latest addition to our FoldIR family of lightweight lenses designed specifically for drones and UAV's, offering a cutting-edge solution for the newly released low-SWaP 15 μ m VGA MWIR detectors.

With a total volume size 107mm x 101.5mm x 96mm (including detector) and weighing only 302 gr. net (360gr including detector), this lens is one of the most compact and lightweight options in the market today. Its innovative folded optics design significantly reduces length, overall size, and weight, making it ideal for SWaP-constrained small gimbal thermal imaging on drones and UAVs.

The FoldIR 25-275mm f/5.5 folded zoom lens delivers unparalleled functionality and standoff range relative to its SWaP attributes, featuring a combination of

detection range over 14.5km, cost-effective pricing, and low-SWaP capabilities.

Its mechanical and electrical interface ensures seamless integration into camera systems, providing easy setup and compatibility.

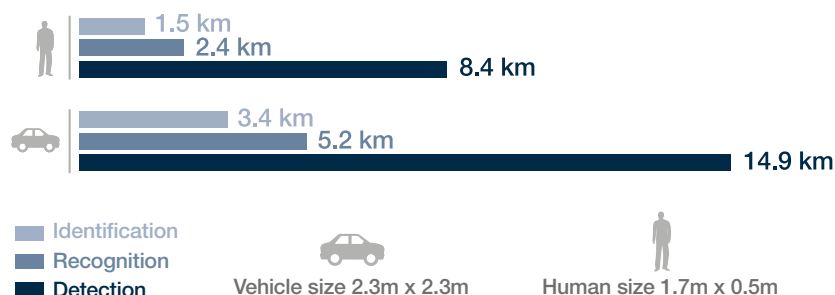
This innovative design, maintains sharp focus over the entire zoom range and achieves near diffraction-limit performance, addressing challenges such as line-of-sight (LOS) stabilization and athermalization.

Optimized for use with low-SWaP 15 μ m pitch VGA FPA detectors in **5" gimbals**, the FoldIR 25-275mm f/5.5 lens offers exceptional performance and versatility for thermal imaging applications.



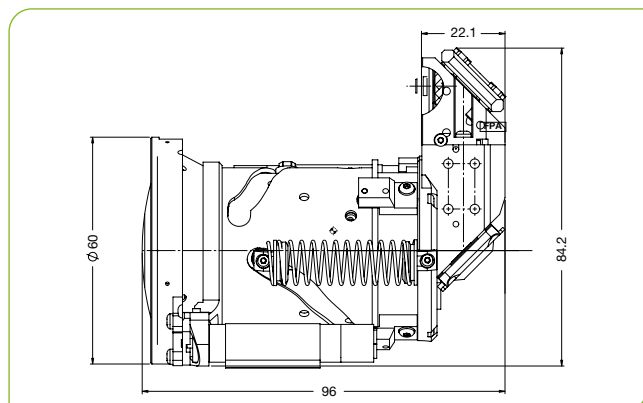
KEY PRODUCT FEATURES

- Weighs 302gr
- Efficient folded optics design for minimum volume use with total volume size of 107mm x 101.5mm x 96mm including detector
- Designed for MWIR 15 μ m VGA detectors
- Detection range exceeds 14.5km*
- Ideal for 5" (127mm) small size aerial gimbals



* Note: Calculations used are based on "Johnson Criteria" | Real world performance may vary depending on the weather conditions.
Assumptions: 23mK NETD (f/5.5) for MWIR cooled detectors | 30Hz frame rate | 50% detection probability | 0.2km⁻¹ atmospheric attenuation coefficient | human $\Delta T = 5^{\circ}\text{C}$ | vehicle $\Delta T = 2^{\circ}\text{C}$

TYPICAL ICD



WFOV (25mm)

HFOV	640x480
15μ	23.4°

NFOV (275mm)

HFOV	640x480
15μ	2.0°

Property	Value	
Optical	WFOV	NFOV
Focal Length	25mm	275mm
F#	5.5	
Average transmission (3.4-4.2μm)	85% (HD)	
Cold stop to FPA Distance	19.4mm	
Cold Stop CA	Ø3.6mm	
Back focal length	23.37mm in air	
Minimum Focusing Range	50m	5m
Nuc (by defocus)	Yes	
Mechanical		
Focus Mechanism	Motorized	
Focus Time (minimum range to ∞)	≤8sec	
Zoom mechanism	Motorized	
Zoom Time (NFOV to WFOV)	<5sec	
Max. Dimensions	Ø60x96x84.2mm	
Weight	302g	
Electrical		
Lens Control	Designated lens controller	
Supply Voltage	12V	
Current Consumption	<0.5A average, 1.0A peak	
Communication Protocol	RS485, RS422	
Environmental		
Operation Temperature	-32°C to +71°C	
Storage Temperature	-40°C to +80°C	
Sealing	IP67 front element only	
Configurations		
680520-001	HD	

