

FOLDIR 25-275mm f/5.5

Folded Optics Low-SWaP Cont. Zoom Lens

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

COMING SOON

 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 15µm VGA MWIR detectors.

With a total volume size 107mm x 101.5mm x 96mm (including detector) and weighing only 300 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 15µm pitch VGA FPA detectors in **5" gimbals**, the FoldIR 25-275mm f/5.5 lens offers exceptional performance and versatility for thermal imaging applications.

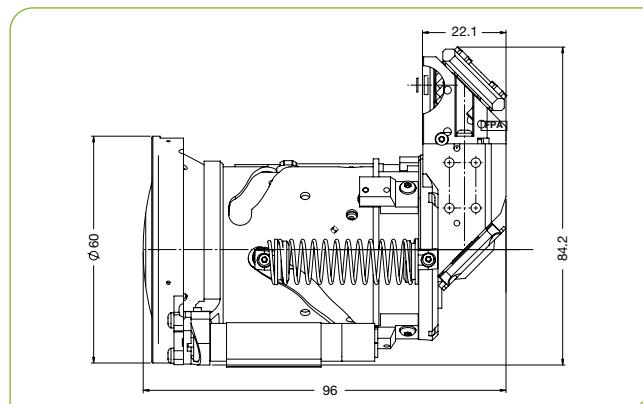


KEY PRODUCT FEATURES

- Weighs 300gr
- Efficient folded optics design for minimum volume use with total volume size of 107mm x 101.5mm x 96mm including detector
- Designed for MWIR 15µm 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
15 μ	23.4°

NFOV (275mm)

HFOV	640x480
15 μ	2.0°

Property	Value
Optical	
Focal Length	WFOV 25mm NFOV 275mm
F#	5.5
Average transmission (3.4-4.2 μ m)	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 ∞)	\leq 8sec
Zoom mechanism	Motorized
Zoom Time (NFOV to WFOV)	<5sec
Max. Dimensions	Ø60x96x84.2mm
Weight	300g
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

