

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 300 gr. net (660gr 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.

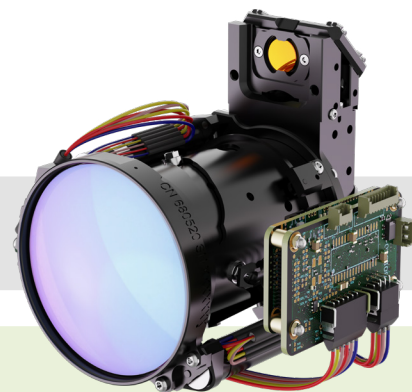
The FoldIR 25-275mm f/5.5 folded zoom lens delivers unparalleled functionality and standoff range relative to its SWaP attributes, featuring a combination of

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.

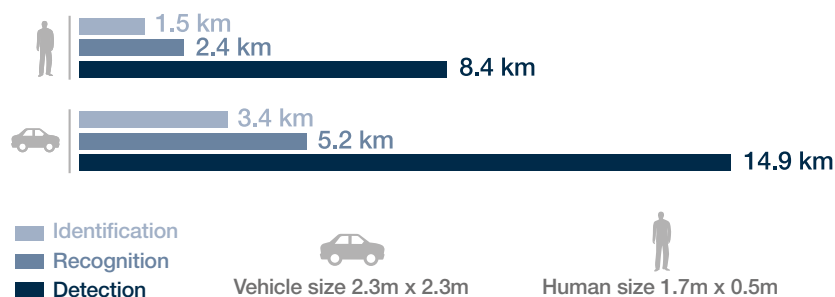
This innovative design, maintains sharp focus over the entire zoom range and achieves near diffraction-limit performance, addressing challenges such as line-of-sight (LOS) stabilization and athermalization.

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.



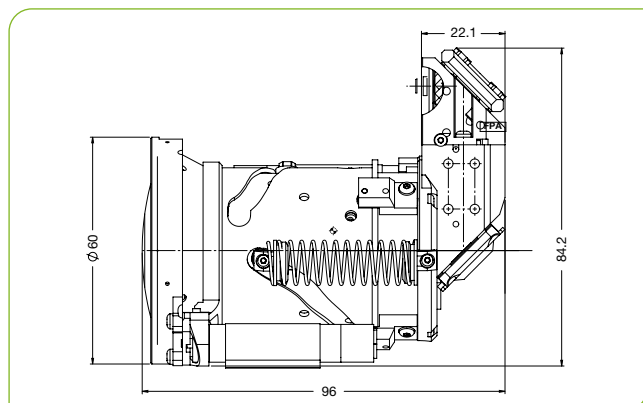
KEY PRODUCT FEATURES

- 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 | |

