

# SupIR 10-135mm f/1.8

MWIR cont. zoom lens for next-gen cooled MWIR  
5 $\mu$ m SXGA detectors (PN 680540)

NEW

mks | ophir

The SupIR 10-135mm f/1.8 is the first zoom lens designed specifically for next-generation cooled MWIR detectors with a 5 $\mu$ m pixel pitch, delivering unparalleled image clarity, detection range, and integration flexibility.

As cooled infrared technology advances, systems require optics that can fully harness higher-resolution sensors while maintaining a compact footprint. This lens bridges the gap between performance and portability, bringing a high-performance, long-range zoom capability previously unavailable for cooled infrared systems.

Optimized for 1280x1024 SXGA cooled detectors, the SupIR 10-135mm f/1.8 lens enables precise target acquisition, extended-range surveillance, and superior thermal imaging across defense, security, industrial, and aerospace applications. Its combination of extended focal range, high modulation transfer function (MTF),

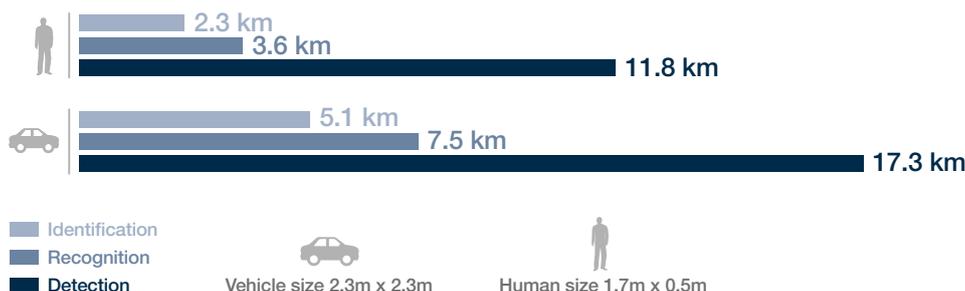
and environmental durability ensures mission-critical performance even in extreme operating conditions. Designed for UAVs, UCV, RCWS and mobile surveillance platforms, it provides unmatched flexibility for tactical and autonomous thermal imaging systems.

By setting a new benchmark for cooled MWIR zoom optics, the SupIR 10-135mm f/1.8 lens delivers enhanced situational awareness, increased detection capabilities, and a compact integration footprint, making it the preferred choice for OEMs, electro-optics and camera integrators, as well as system developers seeking a next-generation infrared imaging solution.



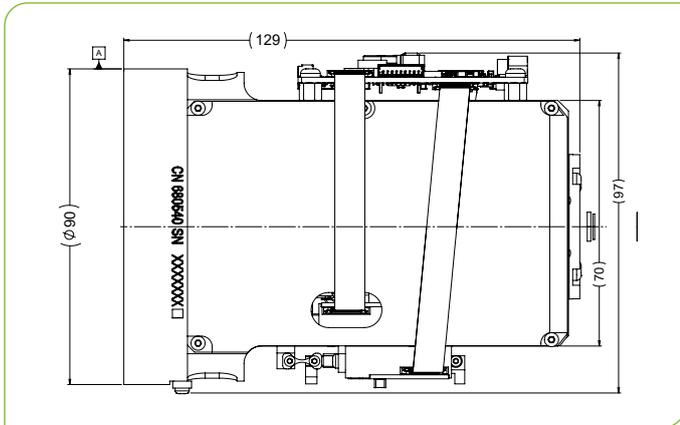
## KEY PRODUCT FEATURES

- Optimized for 1280x1024 resolution, 5 $\mu$ m pixel pitch MWIR cooled detectors
- Detection range exceeding 17km, NATO vehicle detection
- Continuous zoom lens with 14x zoom ratio
- High Modulation Transfer Function (MTF) maximizing image clarity for long-range target detection and thermal contrast enhancement.
- High-durability coatings for abrasion, humidity, and thermal stability in extreme environments
- Athermalized optical design maintaining consistent focus and image stability across wide temperature ranges.



\*Note: Assumptions: Calculations are based on Johnson Criteria | real world performance may vary depending on weather conditions | FLIR92 model | detector MWIR cooled 5 $\mu$ m pixel pitch | 49mK NETD at f/1.8 | 30Hz frame rate | 0.2km<sup>-1</sup> atmospheric attenuation coefficient | 50% detection probability | Johnson Criteria for DRI: Detection - 1 spatial cycle on target; Recognition - 4 spatial cycles on target; Identification - 6.4 spatial cycles on target | 5°C human size and  $\Delta$ T; 2°C vehicle size and  $\Delta$ T

TYPICAL ICD



**WFOV (10mm)**

<b>HFOV</b>	<b>1280x1024</b>
5 $\mu$	37.7°

**NFOV (135mm)**

<b>HFOV</b>	<b>1280x1024</b>
5 $\mu$	2.67°

Property	Value	
<b>Optical</b>	<b>WFOV</b>	<b>NFOV</b>
Focal Length	10mm	135mm
F#	1.8	
Average transmission (3.6-4.9 $\mu$ m)	>82% (HD) / $\geq$ 80% (HC)	
Cold Stop to FPA Distance	12mm	
Back Focal Length	21mm in air	
Minimum Focusing Range	5m	50m
NUC (by defocus)	Yes	
<b>Mechanical</b>		
Focus Mechanism	Motorized. Adjustable	
Focus Time (minimum range to $\infty$ )	$\leq$ 1sec.	
Zoom Mechanism	Motorized	
Zoom Time (NFOV to WFOV)	$\leq$ 5 sec.	
Max. Dimensions	$\varnothing$ 90mm x 129mm	
Weight	780gr	
<b>Electrical</b>		
Lens Control	Designated lens controller	
Drive voltage	12VDC	
Communication Protocol	RS485; RS232	
<b>Environmental</b>		
Operation Temperature	-32°C to +70°C	
Storage Temperature	-40°C to +80°C	
Sealing	IP67 front element only	
<b>Configurations</b>		
680540-001	High Durability	
680540-002	Hard Carbon	

