

# MWIR f/4.0 Zoom Lenses for Long Range Applications

Based on the legacy of the 15-300mm f/4.0 MWIR, with a variety of extenders.



SupIR 15-300mm f/4.0,  
Motorized Continuous  
Zoom 680084 & 680204



SupIR 21-420mm f/4.0,  
Motorized Continuous  
Zoom 680160



SupIR 30-600mm f/4.0,  
Motorized Continuous  
Zoom 680384 & 680385

NEW



SupIR 35-690mm f/4.0,  
Motorized Continuous  
Zoom 680295 & 680294



SupIR 45-900mm f/4.0,  
Motorized Continuous Zoom  
680425 & 680426

NEW

## See the unseen, further than ever before.

Answer your growing DRI range needs with our new, non-ITAR lens family. Our existing 15-300mm MWIR f/4.0 high performance zoom lens is now offered with a series of extenders, for superior DRI ranges, ideal for long range observations and surveillance systems.

The new 45-900mm f/4.0 zoom lens provides the highest focal length, with a detection range of up to 24.7km (see full DRI performance).

## Three times the performance, with one simple change.

Select one of our new lenses to optimize the NFOV/maximum focal length of your camera system, improving it from 300mm up to an impressive 900mm, for enhanced FOVs and unbeatable DRI ranges.

The 15-300mm f/4.0 is now offered with a series of extenders, all using the same base system, meaning no need for hardware or software modifications.

Our new, long range zoom lenses use the same base system as the existing 15-300mm f/4.0 zoom lens, so it's simple to upgrade. Complete with our high-end optics, your thermal camera will benefit from maximum performance, with **no compromise on image quality.**

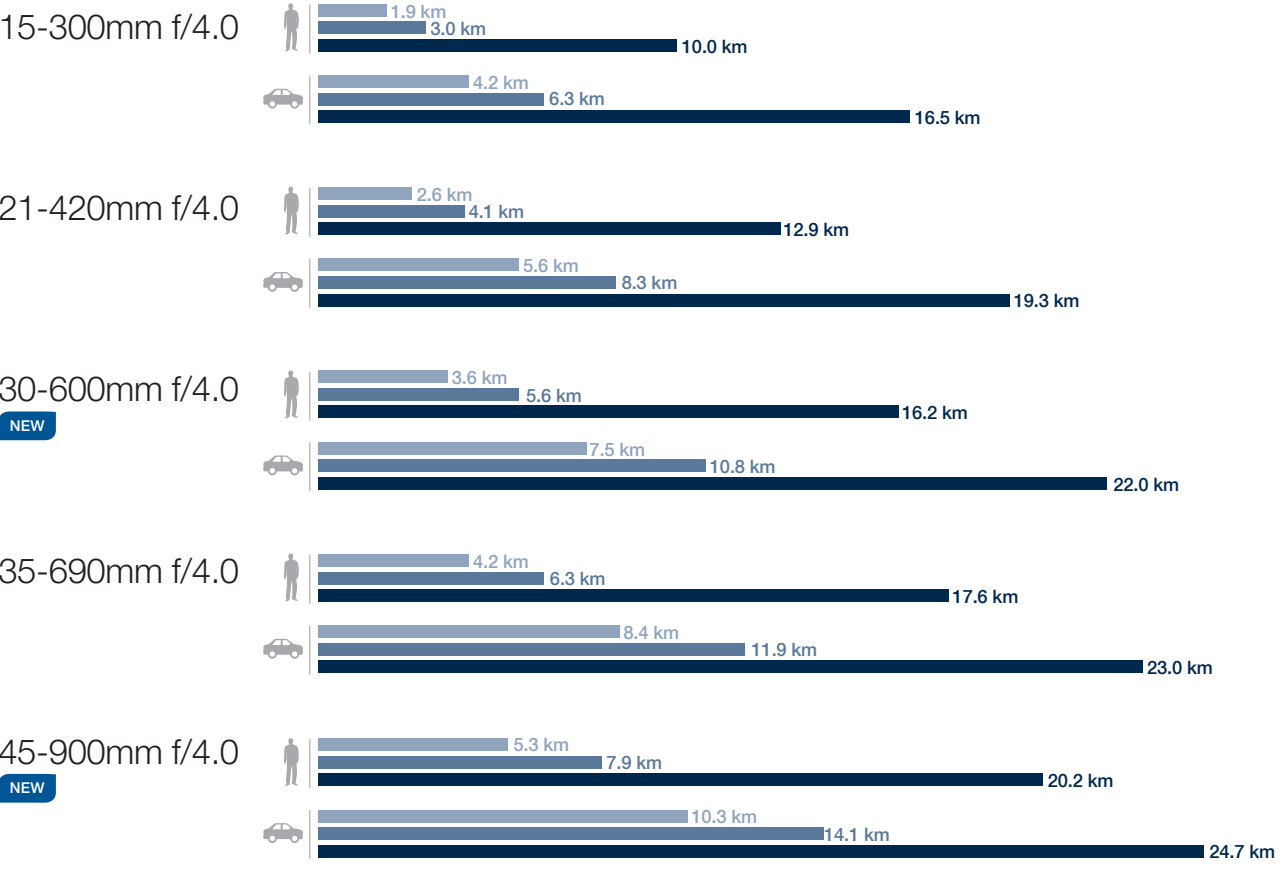
### Key features

- Same communication protocol and interface for all zoom lenses
- Designed for long range observation systems
- Easy integration with existing systems
- Narrow FOV up to 0.6° (900mm FL) with optical zoom
- High optical performance
- Compatible with HD 1280X1024 10µm detectors
- Compatible with leading detector manufacturing
- Cost effective design
- Focus and f# maintained through the entire zoom range

**All lenses are available with HD, HC or LRHC coatings.**

# Detection, Recognition & Identification (DRI) performance

## Cooled MWIR, 15µm pixel size detector\*



Identification  
 Recognition  
 Detection

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

Note:

1. Calculated values real world performance may vary depending on the weather conditions.
2. Assumptions: 23mK NETD f/4 | 30Hz frame rate | 50% detection probability | based of FLIR 92 simulation.

# SupIR 15-300mm f/4.0, Motorized Continuous Zoom 680084 & 680204

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MWIR



## WFOV(15mm)

HFOV[deg]	320x240	480x384	640x512
30μ	35.1		
20μ	24.0	35.1	48.0
15μ	18.2	26.8	35.1

## NFOV(300mm)

HFOV[deg]	320x240	480x384	640x512
30μ	1.8		
20μ	1.2	1.8	2.4
15μ	0.9	1.4	1.8

Property	Value	
Optical	WFOV	NFOV
Focal length	15mm	300mm
F/#	4.0	
Back focal length	24.4mm in air (through 1.5mm Ge window & filter)	
Cold stop to FPA distance 680084	19.4mm	
Cold stop to FPA distance 680204	20.47mm	
Minimum focusing range	5m	50m
Mechanical		
Max. Dimensions	Ø96 X 130mm	
Weight	965gr	
Electrical		
Drive voltage	12VDC	
Current consumption	0.5A average, 1.0A peak	
Communication interface	RS422	

# SupIR 21-420mm f/4.0, Motorized Continuous Zoom 680160

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MWIR



## WFOV(21mm)

HFOV[deg]	320x240	480x384	640x512
30μ	25.1		
20μ	17.1	25.1	32.0
15μ	13.0	19.1	25.1

## NFOV(420mm)

HFOV[deg]	320x240	480x384	640x512
30μ	1.3		
20μ	1.2	1.3	1.7
15μ	0.64	1.0	1.3

Property	Value	
Optical	WFOV	NFOV
Focal length	21mm	420mm
F/#	4.0	
Back focal length	≥ 24.4mm in air (through 1.5mm Ge Window & Filter)	
Cold stop to FPA distance	19.4mm / 20.47mm*	
Minimum focusing range	10m	100m
Mechanical		
Max. Dimensions	Ø132mm X 200.5mm	
Weight	1.6Kg	
Electrical		
Drive voltage	12VDC	
Current consumption	0.5A average, 1.0A peak	
Communication interface	RS422	

# SuplR 30-600mm f/4.0, Motorized Continuous Zoom 680384 & 680385

Cooled MWIR

**NEW**



## WFOV(30mm)

HFOV[deg]	320x240	480x384	640x512
30μ	17.2	23.6	
20μ	11.9	17.2	21.7
15μ	9.0	13.3	17.2

## NFOV(600mm)

HFOV[deg]	320x240	480x384	640x512
30μ	0.9	1.3	
20μ	0.6	0.9	1.2
15μ	0.5	0.7	0.9

Property	Value		
Optical	WFOV	NFOV	
Focal length	30mm	600mm	
F/#	4.0		
Back focal length 680384	25.1mm in air		
Back focal length 680385	27.12mm in air		
Cold stop to FPA distance 680384	19.4mm		
Cold stop to FPA distance 680385	20.47mm		
Minimum focus range	5m	200m	
Mechanical			
Max. Dimensions	Ø173mm X 251.9mm		
Weight	~3.1kg		
Electrical			
Drive voltage	6-12VDC		
Current consumption	<0.5A average, 1.0A peak		
Communication interface	RS422		

# SuplR 35-690mm f/4.0, Motorized Continuous Zoom 680294 & 680295

Cooled MWIR



## WFOV(35mm)

HFOV[deg]	320x240	480x384	640x512
30μ	15.2		
20μ	10.4	15.2	19.4
15μ	7.9	11.6	15.2

## NFOV(690mm)

HFOV[deg]	320x240	480x384	640x512
30μ	0.8		
20μ	0.5	0.8	1.0
15μ	0.4	0.6	0.8

Property	Value		
Optical	WFOV	NFOV	Remarks
Focal length	35mm	690mm	Continuous zoom
F/#	4.0		
Back focal length 680249	25.1mm in air		
Back focal length 680295	27.12mm in air		
Cold stop to FPA distance 680249	19.4mm		
Cold stop to FPA distance 680295	20.47mm		
Minimum focus range	5m	200m	
Mechanical			
Max. Dimensions	Ø186mm X 264mm		
Weight	~4.3kg		
Electrical			
Drive voltage	6-12VDC		
Current consumption	<0.5A average, 1.0A peak		
Communication interface	RS422		

# SupIR 45-900mm f/4.0, Motorized Continuous Zoom 680425 & 680426

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MWIR

NEW

HD  
FORMAT



## WFOV(45mm)

for configuration 680425-001/2 & 680426-001/2

HFOV[deg]	320x240	480x384	640x512
30μ	11.4		
20μ	7.9	11.4	
15μ	6.0	8.8	11.4

## WFOV(72mm)

for configuration 680425-003/4 & 680426-003/4

HFOV[deg]	320x240	480x384	640x512	1280x1024
20μ			9.3	
15μ				9.3

## NFOV(900mm)

all configurations

HFOV[deg]	320x240	480x384	640x512	1280x1024
30μ	0.6	0.89		
20μ	0.41	0.61	0.8	
15μ	0.31	0.46	0.61	
10μ				0.8

Property	Value	
Optical	WFOV	NFOV
Focal length	45mm/*72mm	900mm
F/#	4.0	
Back focal length 680425	25.1mm in air	
Back focal length 680426	27.12mm in air	
Cold stop to FPA distance 680425	19.4mm	
Cold stop to FPA distance 680426	20.47mm	
Minimum focus range	5m	200m
Mechanical		
Max. Dimensions	Ø286mm X 343.mm	
Weight	~8kg	
Electrical		
Drive voltage	6-12VDC	
Current consumption	<0.5A average, 1.0A peak	
Communication interface	RS422	

\* Per configuration



## About Ophir IR Optics

With decades worth of knowledge and experience, Ophir Optronics Solutions LTD., Infrared Optics, an MKS Company (NASDAQ: MKSI), is a world-leading designer and manufacturer of high performance IR thermal lenses and optical elements for SWIR, MWIR & LWIR imaging. Using advanced technologies, innovative engineering, and design configurations, Ophir provides a global solution for homeland security, surveillance, automotive and commercial applications: IR Components and complex lens assemblies with fixed or motorized focus and zoom lenses.

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