

TECHNICAL DATA SHEET

# GASIR<sup>®</sup> Infrared Lens 50 mm f/1.0

Umicore's GASIR<sup>®</sup> infrared lenses have been developed for an easy fit with a wide range of camera cores. Our catalog lenses provide a cost-effective solution for high-resolution thermal imaging and sensing applications.

This lens comes with several available coating options and mechanical variants. The **manual focus lens** offers superior performance from 4 m out to infinity. Its **lightweight and intuitive design** makes it a prime choice for your application.

This lens is compatible with **12 μm XGA** detectors and smaller.



## OPTICAL SPECIFICATIONS



Effective focal length	50 mm
Radiometric f-number	f/1.0
Waveband	8 – 12 μm
Maximum field of view	13.9° × 10.4°
Image circle	15.4 mm

## Fields of view (HFOV × VFOV)

Detector pixel pitch	Detector format		
	320 × 240	640 × 480	1024 × 768
12 μm	4.4° × 3.3°	8.7° × 6.6°	13.9° × 10.4°
17 μm	6.2° × 4.7°	12.3° × 9.3°	—

Other detectors may be possible. Please contact us for more information.

## LENS VARIANTS

Mechanical variant	Fixed Focus 		Manual Focus 	
Mechanical interface	Standard M34		Standard M34	
Coating option	HEAR	iDLC <sup>™</sup>	HEAR	iDLC <sup>™</sup>
Part number	16099_110	16058_110	16020_120	16021_120

## COATING OPTIONS

	Transmission*	Lens coatings	Comments
HEAR	> 94%	HEAR on all surfaces	Maximum transmission performance.
iDLC <sup>™</sup>	> 87%	iDLC <sup>™</sup> on front surface HEAR on all other surfaces	Durable coating for unprotected exterior use. Salt fog rated.

HEAR: High Efficiency Anti-Reflection; DLC: Diamond-Like Carbon

Additional specifications are provided in the coatings Technical Data Sheets available on our website.

\*average transmission over waveband

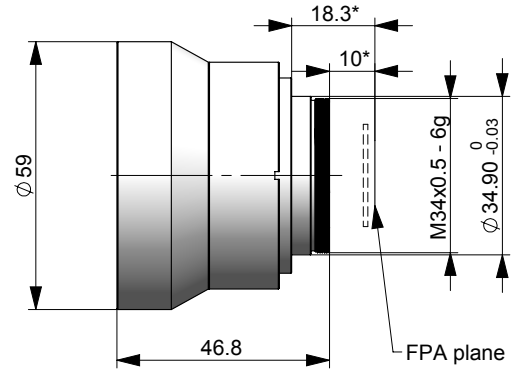


# GASIR® Infrared Lens – 50 mm f/1.0

## Fixed Focus

Part Number **HEAR 16099\_110** **iDLC™ 16058\_110**

Focus range	3.2 m to ∞ with 0.75 mm refocus
Operating temperature	-40 °C to +80 °C
Storage temperature	-57 °C to +105 °C
Solar radiation	MIL STD 810H Method 505.7 Procedure I-A1
Vibration	MIL STD 810H Method 514.8 / Procedure-I Cat. 20
Mechanical shock	MIL-E-5400T
Sealing	IP67
Weight	134 g
Housing material	Black anodized aluminium

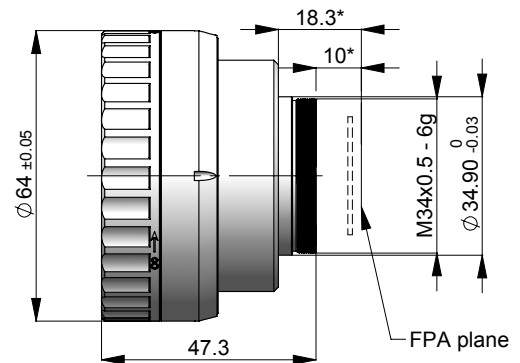


\*dimensions valid with 1.0 mm Ge detector window

## Manual Focus

Part Number **HEAR 16020\_120** **iDLC™ 16021\_120**

Manual focus range	4 m to ∞ with 258° ring rotation
Lateral magnification	1:80 at 4 m
Operating temperature	-40 °C to +80 °C
Storage temperature	-57 °C to +105 °C
Solar radiation	MIL-STD-810G Method 505.5
Vibration	MIL STD 810H Method 514.8 / Procedure-I Cat. 20
Mechanical shock	MIL-E-5400T
Sealing	IP67
Weight	178 g
Housing material	Black anodized aluminium



\*dimensions valid with 1.0 mm Ge detector window

Electro-Optic Materials is ISO certified: ISO 9001 & ISO 14001

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