TECHNICAL DATA SHEET

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Electro-Optic Materials

GASIR® Infrared Lens 50 mm f/1.0

Umicore's GASIR® 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™	HEAR	iDLC™
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™	> 87%	iDLC™ 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

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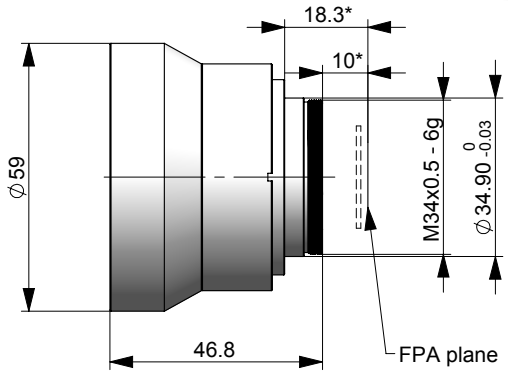
Fixed Focus

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-810G Method 505.5
Vibration	MIL-STD-810G Method 514.6C-II / Cat. 4
Mechanical shock	MIL-E-5400T
Sealing	IP67
Weight	134 g
Housing material	Black anodized aluminium

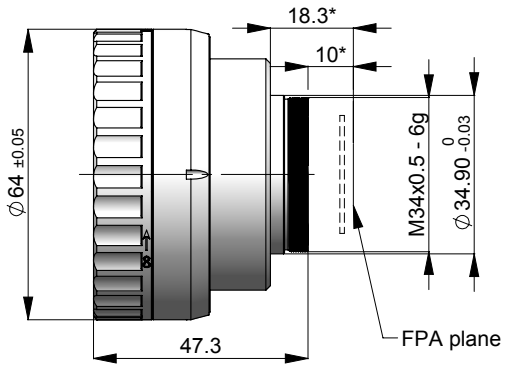


*dimensions valid with 1.0 mm Ge detector window

Manual Focus

Part Number	HEAR 16020_120	iDLC™ 16021_120

Manual focus range	4 m to ∞ with 258° ring rotation
Lateral magnification	1:120 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-810G Method 514.6C-II / Cat. 4
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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