

TECHNICAL DATA SHEET

GASIR[®] Infrared Lens

42 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 may be offered with other coating variants upon request. Its **lightweight and cost-effective design** makes it a prime choice for your application.

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



OPTICAL SPECIFICATIONS


| | |
|------------------------|--------------|
| Effective focal length | 42 mm |
| Radiometric f-number | f/1.0 |
| Waveband | 8 – 12 μm |
| Maximum field of view | 10.8° × 8.1° |
| Image circle | 10.0 mm |

Fields of view (HFOV × VFOV)

| Detector pixel pitch | Detector format | | |
|----------------------|-----------------|-------------|--------------|
| | 160 × 120 | 320 × 240 | 640 × 480 |
| 12 μm | 2.6° × 2.0° | 5.2° × 3.9° | 10.4° × 7.8° |
| 17 μm | 3.7° × 2.8° | 7.4° × 5.6° | — |

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

LENS VARIANTS

| | | |
|----------------------|--|-----------|
| Mechanical variant | Fixed Focus  | |
| Mechanical interface | 12 μm mount M34 | |
| Coating option | iDLC [™] | HEAR |
| Part number | 18027_100 | 22045_100 |

COATING OPTIONS

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

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

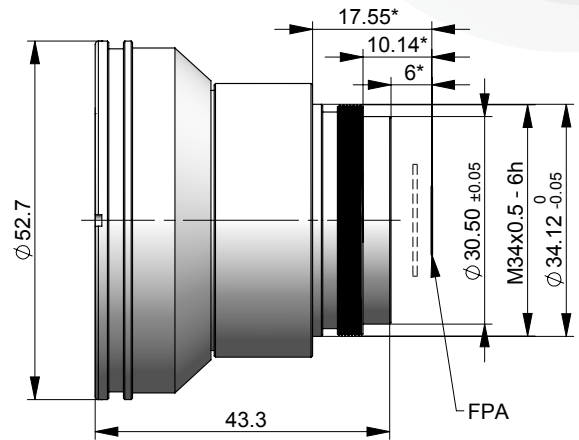


GASIR® Infrared Lens – 42 mm f/1.0

Fixed Focus

Part Number iDLC™ 18027_100 HEAR 22045_100

| | |
|-----------------------|--|
| Focus range | 5 m to ∞ with 0.33 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 |
| Sealing | IP67 |
| Weight | 91 g |
| Housing material | Black anodized aluminium |



*dimensions valid with 0.63 mm Si detector window

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

Umicore IR Glass
Z.A. du Boulais
35690 Acigné
FRANCE

Tel: +33 2 99 04 32 26
Fax: +33 2 99 04 32 29
optics@umicore.com

Umicore Marketing Services
No. 1800 west Zhongshan Rd
200000 Shanghai
China

Tel: +86 21 2411 6972
Fax: +86 21 2411 6988
optics.cn@umicore.com

Umicore Optical Materials Inc.
PO Box 737
Quapaw, OK 74363
USA

Tel: +1 918-673-1650
Fax: +1 918-673-2121
optics.na@umicore.com