

MWIR 20-420mm (X21) F/5.5 Continuous Zoom Lens

MirZ Series, Suitable for 3-5 μ m Cooled Detectors (MWIR)



Key Features:

- Relatively compact size and recognition of small targets at ranges up to 10km makes this lens ideal for long range IR applications
- Motorized continuous zoom allows you to zoom while keeping imagery sharp
- The lens controller auto-compensates thermal deviations and keeps the imagery crisp within a wide temperature range
- Athena™ programmable DSP controller gives you the freedom to set targets and to calibrate the lens for different field conditions
- Operate and calibrate the lens with our simple and friendly GUI, or through common communication protocols

MirZ 2021 Specifications:

| Optical Specifications (nominal values) | WFOV | NFOV |
|--|--|------------|
| Focal Length | 20mm | 420mm |
| F/# | f/5.5 | |
| Spectral Range | 3.4 - 5.1 microns | |
| Image Format | 640 x 512 pixels, 15 micron pixel size | |
| Image Diagonal | 12.3mm | |
| Back Focal Length | 24.0mm (+/-3mm) | |
| Cold Stop to FPA Distance | 19.7mm | |
| Average Transmission (all elements AR coated) | > 78% | |
| Horizontal FOV | 25.64° | 1.31° |
| Distortion | < 2% | < 1% |
| On-Axis MTF | > 25% at 25 lp/mm | |
| MOD | 15 meters | 100 meters |

Mechanical Specifications

| | |
|---------------------------------|---------------------------------------|
| Max Dimensions | Length = 128mm, Front OD = 96mm |
| Focus / Zoom Mechanisms | Continuous - Motorized & Synchronized |
| Zoom Time (WFOV to NFOV) | < 4.5 sec. @ 25°C |
| Through-Zoom Boresight | < 5 pixel deviation |
| Weight | ~ 500 grams |
| Mount | Customized to Specification |
| Operating Temperature | -30°C to +65°C |
| Storage Temperature | -40°C to +80°C |

Electronic and Communications

| | |
|--|---|
| Lens Control | Athena™ Programmable DSP Controller |
| Drive Voltage & Current Consumption | 12VDC, 1.5A Peak / 0.3A Average / 0.1A Idle |
| Communication Interface | RS422/232 |
| Communication Protocol | Athena™ GUI & Protocol |

MirZ 2021 Field of View Data:

| WFOV (20mm) | | | | NFOV (420mm) | | | |
|-------------------|---------|---------|---------|-------------------|---------|---------|---------|
| HFOV | 320x240 | 480x384 | 640x512 | HFOV | 320x240 | 480x384 | 640x512 |
| 30 microns | 25.64 | | | 30 microns | 1.31 | | |
| 25 microns | 21.80 | 30.96 | 38.66 | 25 microns | 1.09 | 1.64 | 2.18 |
| 15 microns | 13.50 | 19.80 | 25.64 | 15 microns | 0.65 | 0.98 | 1.31 |