

Lenses for Long-Wave Infrared (LWIR) Cameras for 8 - 14 μm

LWIR Zoom Lens Assemblies



Teledyne FLIR custom and off-the-shelf long-wave infrared (LWIR) continuous zoom (CZ) optical assemblies and lenses are for integrators and operators who do not compromise on quality. All lens assemblies have near diffraction limited performance and include advanced features that ensure continuous focus through the zoom. Formerly New England Optical Systems (NEOS) and now part of Teledyne FLIR, the world-class technical services team provides product support and can also develop new or customize existing lens assemblies for a camera, application, and mission. Designed to maximize infrared-camera performance, the LWIR CZ lens assemblies provide the competitive advantages required in the field and marketplace for a wide range of defense, security, and commercial applications.

UNCOMPROMISED PERFORMANCE AND RELIABILITY

Designs have near diffraction limited performance through zoom enabling users to Detect, Recognize, and Identify (DRI) threats in real time.

- Optimized for smaller pixel, larger-format focal plane arrays (FPA)
- Elimination of expanders minimizes lens count, maximizes transmission, reduces size & weight, and improves MTF
- Proprietary alignment method improves performance, boresight retention, and reliability through zoom

SMART OPTICS ENSURE CONTINUOUS FOCUS

Control electronics and additional features go beyond simple focus and zoom to provide focus when and where you need it.

- Compensate for range and thermal gradient
- Includes built-in-test (BIT), data logging module, ID module and other features
- High speed communication at 1 kHz

CUSTOM DESIGNS AND SUPPORT FOR THE MISSION

Teledyne FLIR technical services team can develop new or customize existing zoom lens assemblies for a camera, application, and mission.

- Provide the ideal interface to your camera to match cold shield height
- Accommodate operational environment or custom enclosure
- Collaborate and support to make the mission a success

APPLICATIONS



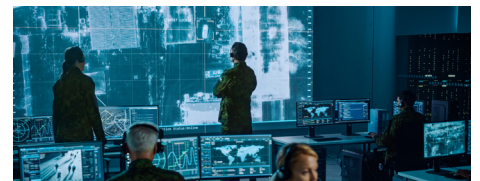
DEFENSE

- AIRBORNE & GROUND ISR
- REMOTE WEAPON STATION
- TARGETING
- COUNTER-UAS



SECURITY

- BORDER SURVEILLANCE
- PERIMETER SECURITY
- NAVIGATION
- SEARCH & RESCUE
- UAV SYSTEMS



COMMERCIAL

- OEM CAMERA LENSES
- THERMOGRAPHY

For more information visit:
www.teledyneflir.com

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SPECIFICATIONS

Optical	LWIR CZ 14-75	LWIR 40-100 DFOV
Waveband	7.5- 14.0 μm	7.5- 13.5 μm
Focal Length Range	14 - 75 mm	40/100 mm
f#	1.2	1.6
Transmission	> 86% (8.0 - 12.0 μm with HEAR)	> 86% (8.0 - 12.0 μm with HEAR)
Distortion	WFOV < 5%; NFOV < 1%	WFOV < 3.1%; NFOV < 2.4%
Cold Shield Height	1.98 mm (camera seats in lens body)	6.35 mm
Focal Plane Dimension	7.68 x 6.14 mm (9.83mm circular)	7.68 x 6.14 mm (9.83 mm circular)
Minimum Object Distance (meters)	5 m (WFOV)/50 m (NFOV)	5 m (WFOV)/50 m (NFOV)
Mechanical		
Focus/Zoom Mechanism	Motorized adjustable	Motorized adjustable
Focus Time	< 1 sec (infinity to close focus in NFOV)	< 1 sec (infinity to close focus in NFOV)
Zoom Time (end to end)	NFOV to WFOV \leq 2.5 sec	NFOV to WFOV \leq 1 sec
Through Zoom Boresight	\leq 0.10 mm	\leq 0.10 mm
Weight	< 326 grams	< 315 grams
Dimensions	87.7 x 74.9 mm	87.7 x 74.9mm
Environment		
Control Features	Thermal Gradient Compensation Object Range Compensation ID Module Built-In Test (BIT) Data Logging Module (optional) High Speed Communication - SPI (optional) User Defined Command Aliases Easily Upgradable and Expandable	
Drive Voltage	12 VDC	
Current Consumption	Standby < 0.2 A (20°C) Power UP < 0.7 A (20°C) Typical Move < 0.4 A (20°C)	
Communication Protocol	RS422, 115200 baud (default) Option: RS232 and programmable baud rate	
Environmental		
Operating Temperature	-32°C to +80°C	
Storage Temperature	-54°C to +85°C	
Shock	30 G	
Vibration	Random vibration, from 10 Hz to 500 Hz	
Front Optic Sealing	IP67	

Specifications are subject to change without notice.
 For the most up-to-date specs, go to www.teledynelfir.com

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