CRYO-640-900Z

640×512 Cooled MWIR Camera · 45–900 mm Zoom

Overview

The CRYO-640-900Z is a complete cooled MWIR imaging unit — not a bare core: a 640×512 / 15 µm MCT focal plane with an integrated Stirling cooler sits behind 45–900 mm F/4.0 continuous-zoom optics covering 12.2° × 9.8° → 0.61° × 0.49°. Cooling buys what no uncooled core can: NETD ≤20 mK and full-frame video over CameraLink Base (100 Hz). The camera carries the field-proven function set — auto and manual focus with per-step focus memory, movable crosshair with position memory, white/black hot polarity, 8 palettes, ×2/×4 e-zoom, defocus and background NUC, image enhancement and power-on / periodic BIT — controlled over RS-422 (38400 bps) from a 28 VDC platform rail. Operating range -40℃ ~ +60℃.



640×512	45–900 mm	≤20 mK	Stirling
RESOLUTION	CONTINUOUS ZOOM	NETD	COOLED MCT

Key Features

Cooled MCT Sensitivity

- Cooled MCT (HgCdTe) 640×512 @ 15 µm FPA with integrated Stirling cooler (IDDCA)
- NETD ≤20 mK — sees temperature detail uncooled LWIR cannot reach
- MWIR 3.7–4.8 µm band: strong through haze, glare and hot backgrounds
- Ready to image in ≤8 min (@25℃)

45–900 mm Continuous Zoom

- Continuous optical zoom, field of view 12.2° × 9.8° → 0.61° × 0.49°
- 20 equally-spaced FOV steps with per-step focus memory
- Auto focus and manual focus with on-screen progress indicator
- Full zoom travel in ≤8 s (room temp) / ≤10 s (full range)

Field-Proven Function Set

- Movable crosshair with position memory, white/black hot polarity, 8 palettes
- ×2 / ×4 electronic zoom, image freeze, mirror / flip
- Defocus NUC at power-on, background correction on command, image enhancement
- Power-on / start-up / periodic BIT with fault isolation and status feedback

Typical Applications



Border & Coastal Surveillance



Airborne & UAV Payloads



Maritime & Shipboard



Critical Infrastructure

Technical Specifications

Thermal Imaging

Detector	Cooled MCT (HgCdTe) MWIR FPA, 640×512 @ 15 µm, integrated Stirling cooler (IDDCA)
Resolution	640×512
Pixel Pitch	15 µm
Spectral Band	3.7–4.8 µm
NETD	≤20 mK
Frame Rate	50 Hz
Start-up / Cool-down	≤8 min (@25℃)

Optics

Lens	45–900 mm continuous zoom, F/4.0
Field of View	12.2° × 9.8° → 0.61° × 0.49°
Zoom Travel Time	≤8 s (room temp) / ≤10 s (full range)

Optical Performance

Boresight stability over zoom	≤10 px
Frame rate	50 Hz

Imaging Functions

Crosshair	Load / hide, movable, position memory
Polarity	White hot / black hot
Palettes	8 pseudo-color palettes
E-zoom	×2 / ×4
Image Control	Brightness / contrast auto & manual, freeze, mirror / flip
Correction	Defocus NUC at power-on; background NUC on command
Image Enhancement	Supported
BIT	Power-on / start-up / periodic self-test with status feedback

Interfaces

Video Output	CameraLink Base (100 Hz)
Control Interface	RS-422 (38400 bps)

Power, Physical & Environmental

Supply	28 VDC, average ≤20 W / peak ≤25 W (-40℃ ~ +60℃)
Dimensions	To be released
Weight	To be released
Operating Temperature	-40℃ ~ +60℃

Specifications subject to change without notice.

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