









# Orion HD80

High-performance 8-inch stabilized EO/IR camera system for small unmanned vehicles

-  **MISSION PROVEN**  
TRL 9 for military and commercial applications
-  **DIRECT DRIVE ARCHITECTURE**  
Best-in-class robustness and stability
-  **EMBEDDED VIDEO PROCESSING**  
Electronic stabilization and scene tracking
-  **ONBOARD GPS/INS**  
Accurate real-time vehicle and target location
-  **VISIBLE AND THERMAL CAMERAS**  
Day and night operations with a single payload
-  **ITAR FREE**  
Non-controlled configurations available
-  **720P HD DIGITAL VIDEO**  
Fully digital, h.264-compliant video pipeline
-  **ENVIRONMENTALLY SEALED**  
Highly resistant to dust and water
-  **NVG-COMPATIBLE LASER POINTER**  
850nm laser for precise and discreet pointing
-  **ETHERNET INTERFACE**  
Video and gimbal control over ethernet or RS-232
-  **METADATA**  
Target location, gimbal health, and more

## SOFTWARE

### FEATURES

- Onboard h.264 compression with adjustable bitrate
- Dynamic or static IP addressing
- Field upgradable software
- Onboard electronic stabilization
- Onboard scene tracking
- MISB-compliant output including embedded KLV metadata
- Optional target tracking

### GPS/INS

- IMU co-located with cameras
- 0.5° (typical) total system accuracy
- Real time geointing and geolocation
- Attitude, velocity and position computed at 200Hz
- Onboard GPS receiver
- GPS and heading accepted over serial or Ethernet
- Dual GPS heading support

## ELECTRICAL

- Control over Ethernet or serial
- Ethernet and analog video
- 20W average, 100W peak power consumption
- 10V to 30V input voltage

- Interface connector: 51 pin micro-D connector conforming to MIL-DTL-83513
- GPS connector: SMA
- Analog video connector: SMA
- GPS antenna: 3.3V active, L1 band

## MECHANICAL

- Weight: 3.75kg - 4.25kg
- Glass and Germanium windows
- Direct drive brushless motors
- 0.02° encoder resolution
- 60Hz closed loop stabilization bandwidth
- 50μRAD - 150μRAD RMS jitter



HD80-MV

## CAMERA CONFIGURATIONS

CONFIGURATION	WEIGHT	CAMERAS	VISIBLE FOV	THERMAL FOV
HD80-VV-510	4.2kg	720p Global Shutter Visible Camera 720p Global Shutter Spotter Camera	60°-0.5° Digital to 0.25°	—
HD80-LV-CZ	3.75kg	720p Global Shutter Visible Camera FLIR Boson 640 with 15-75mm lens	60°-2.1° Digital to 1.0°	29°-5.9° Digital to 3.0°
HD80-MV	4.25kg	720p Global Shutter Visible Camera Cooled MWIR with 25-375mm lens	48°-1.3° Digital to 0.65°	21.7°-1.5° Digital to 0.75°