













Orion HD40

High-performance 4-inch stabilized EO/IR camera system for small unmanned vehicles

-  **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
-  **DIGITAL RANGEFINDER**
Range to target using onboard elevation data
-  **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
- 1.5° (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
- 10W average, 75W peak power consumption
- 24VDC regulated input, external regulation accepting 10V to 30V available

- Interface connector: 37 pin Nano Bi-Lobe connector conforming to MIL-DTL-32139
- GPS connector: MMCX
- Analog video connector: MMCX
- GPS antenna: 3.3V active, L1 band

MECHANICAL

- Weight: 600g - 800g
- Machined magnesium housing
- Glass and Germanium windows
- Direct drive brushless motors
- 0.02° encoder resolution
- 60Hz closed loop stabilization bandwidth
- 50µRAD - 150µRAD RMS jitter



CAMERA CONFIGURATIONS

CONFIGURATION	WEIGHT	CAMERAS	VISIBLE FOV	THERMAL FOV
HD40-XV	800g	720p Global Shutter Visible Camera	60°-2.1° Digital to 1.0°	—
HD40-LV	600g	720p Global Shutter Visible Camera FLIR Boson 640 with 24mm lens	54°-4.9° Digital to 2.5°	18.2° Digital to 4.6°