



Orion HD45

High-performance 5-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



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

Orion HD45



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: 1200g - 1350g
- Machined magnesium housing
- Glass and Germanium windows
- Direct drive brushless motors
- 0.02° encoder resolution
- 60Hz closed loop stabilization bandwidth
- 50μRAD - 150μRAD RMS jitter



HD45-LV-CZ

CAMERA CONFIGURATIONS

CONFIGURATION	WEIGHT	CAMERAS	VISIBLE FOV	THERMAL FOV
HD45-LV	1200g	720p Global Shutter Visible Camera FLIR Boson 640 with 36mm lens	60°–2.1° Digital to 1.0°	12.2° Digital to 3.1°
HD45-LV-CZ	1200g	720p Rolling Shutter Visible Camera FLIR Boson 640 with 15-75mm lens	17.4°–5.1° Digital to 1.8°	29°–5.9° Digital to 3.0°
HD45-LV-CZ-GS	1350g	720p Global Shutter Visible Camera FLIR Boson 640 with 15-75mm lens	54°–4.9° Digital to 2.5°	29°–5.9° Digital to 3.0°