



Orion HD25

High-performance 2.5-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



trillium

Orion HD25

Software

Features

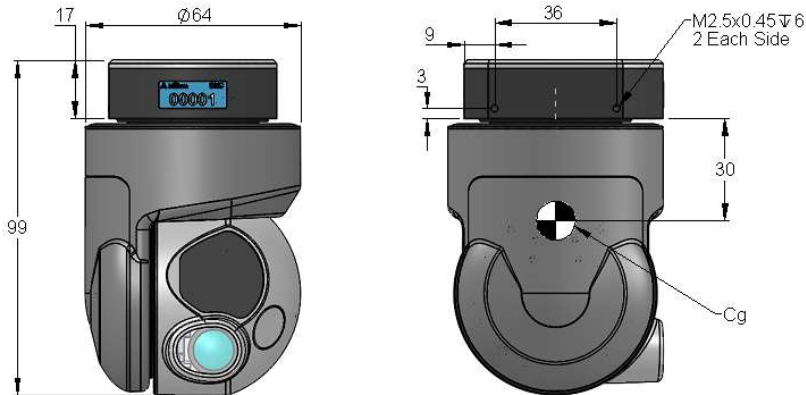
- Onboard h.264 compression with adjustable data rate, 1-5Mbps typical
- Dynamic or static IP addressing
- Field upgradable software
- Onboard electronic stabilization
- Onboard scene tracking
- MISB compliant output including embedded KLV meta data
- Optional target tracking

GPS/INS

- Real time geointing and geolocation
- GPS corrected attitude solution using a 13 state Kalman filter
- Attitude, velocity and position computed at 200Hz
- Onboard GPS receiver
- External heading observations accepted
- NovAtel GPS align support
- Optional IMU upgrade with 1.5° total system accuracy

Mechanical

- Weight: 325g (0.72lbs)
- Direct drive, 3 phase brushless motors
- Optical encoders with 0.14° resolution
- 60Hz closed loop stabilization bandwidth
- 200µRAD RMS jitter



Electrical

- Control over Ethernet, RS-232, or TTL
- Video over Ethernet or NTSC analog
- 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

Camera Configurations

Configuration	P/N	Camera	Visible FOV	Thermal FOV
Orion HD25-XV	90-0331	Trillium 720x1280 HD Visible Camera	17.5° – 5.1° Digital to 1.7°	-
Orion HD25-LV-S	90-0332	Trillium 720x1280 HD Visible Camera FLIR 9Hz 640 Quark with 59mm lens	17.5° – 5.1° Digital to 1.7°	17.7° Digital to 4.5°
Orion HD25-LV	90-0333	Trillium 720x1280 HD Visible Camera FLIR 30Hz 640 Quark with 59mm lens	17.5° – 5.1° Digital to 1.7°	17.7° Digital to 4.5°



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