

Apus 100

Tethered aerial overwatch for persistent site monitoring

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OVERVIEW

The Apus 100 is a tethered aerial system that holds a fixed vantage point over a site for the length of a shift. Power and data run up a single line from an automated ground station, so the aircraft does not land to change batteries and no pilot has to remain on station.

The system ships as a complete package — aircraft, tether, ground station, and control software — and is operated from a tablet or laptop, on site or remotely.

WHY THE TETHER MATTERS

A free-flying multirotor gives roughly twenty minutes of coverage, then lands to charge. The gap in coverage is not incidental; it is the period an intruder would choose. The Apus 100 trades the battery for a line and holds the picture continuously.

The data path is fiber optic, which has three consequences a radio downlink cannot offer:

- There is no RF link between aircraft and ground to jam or intercept.
- No spectrum coordination is required on RF-congested sites.
- The data path is non-conductive, so there is no electrical path between an airborne asset and ground equipment — relevant at substations and switchyards.

FLIGHT PERFORMANCE

Continuous hover	8 hours
Operating altitude	100 ft AGL
Tether length	120 ft
Sustained wind	22–27 kt (Beaufort 6)
Position hold	± 1 m of commanded GPS coordinate
Service ceiling	5,000+ ft MSL
Weather	Light rain; designed to IP55 / IP56 †
Aircraft weight	1.9 kg (4.2 lb)
Payload capacity	2.0 kg (4.4 lb)
Airframe	Carbon fiber, modular

TETHER AND GROUND STATION

Tether function	Continuous power up, fiber optic data down
RF air link	None — fiber only
Electrical isolation	Data path non-conductive
Tether management	Automated reeling and tension control
Housing unit	Automated, weather-resistant drone-in-a-box
Docking	Automated, one-touch
Transport	Complete system in a single portable case

IMAGING AND DATA

Camera	4K, 6× zoom
Camera control	Continuous 360°
Backhaul	Fiber optic, over tether
Live streaming	Real time to tablet and smartphone
Video output	Sentinel Pack, native
Thermal / IR	In development — not currently available

CONTROL AND SAFETY

Control interface	Tablet (iPad) or laptop, secured
Remote operation	Full off-site command and control
Crew required	1 operator
Tether severance	Automated self-land or return-to-home
Deployment	Local or off-site remote

SENTINEL PACK

The control layer that makes the Apus 100 operable by a security team rather than a flight crew. Deploy the aircraft, watch with it, and stow it from a tablet without handling it.

- One-touch deploy and stow
- Full 360° camera control
- AI object detection
- Remote operation, on site or off
- Live 4K to authorized devices

DEPLOYED FOR

Critical infrastructure	Substations, ports, data centers, storage yards
Security and perimeter	Campuses, yards, and fence lines
Events and broadcast	Elevated coverage for the full run of show
Public safety	Elevated command view for police, fire, and SAR
Telecom	Airborne node for temporary network coverage
Industrial sites	A standing eye over large, active work sites

COMPLIANCE AND SOURCING

Flight electronics are designed and manufactured in-house in the United States. NDAA compliant.

NOTES

† Designed to achieve this rating. Certification testing is not yet complete.

The Apus 100 is in active development. Figures shown are committed design targets for the field-deployment program, and some marketing imagery includes visualizations of the production system.

Final performance may vary by configuration and operating environment. Remote deployment requires a stable network connection at the ground station location.

Thermal / IR payload is in development and is not part of the current configuration.

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