

Sentinel Sentry Multirotor

Sentinel Sentry Multirotor

The Sentinel Sentry multirotor UAS is a compact airborne sensor platform designed for flexible, close-range surveillance and tracking. Equipped with onboard radar, it provides reliable target detection and continuous tracking without carrying interceptor systems. Its multirotor design enables vertical takeoff and landing, rapid deployment, and precise positioning, making it well-suited for operations in confined or complex environments.



Performance Specifications

PARAMETER	SPECIFICATION
Type	Multirotor
Maximum Takeoff Weight	12 kg
Flight Time	70 minutes with payload
Maximum Speed	20 m/s
Wind Resistance	11 m/s continuous
Operating Range	Minimum 10 km; extendable to 30km with antenna config
Operating Temperature	-20°C to +55°C
Flight Control	Pixhawk v6+ compatible autopilot
Companion Computer	NVIDIA Jetson Orin NX (100+ TOPS AI, 16GB RAM)
Radar Payload	Alpine Eagle K-band radar
Communications	Silvus StreamCaster 5200 (S, S+L, or S+C band)
Navigation	Dual-redundant GPS with Day VINS (Visual Inertial Navigation System) option
Altitude Sensor	1D LiDAR

Key Capabilities

UAS Detection and Tracking

- ▶ **Radar Payload:** K-band (24.45-24.65 GHz) with 1.5kg weight, compatible with Sentinel Sentry and Sentinel
- ▶ **Detection Performance:** up to 2.5km direct; extended networked range.
- ▶ **Field Coverage:** 120° azimuth × 80° elevation with software defined beam steering; tunable for mission requirements
- ▶ **Clutter Optimization:** proprietary ground clutter and noise filtering on edge
- ▶ **Multi-target tracking:** Simultaneous tracking of multiple platforms within the FOV with discrimination from ground clutter

Contested Environment Resilience

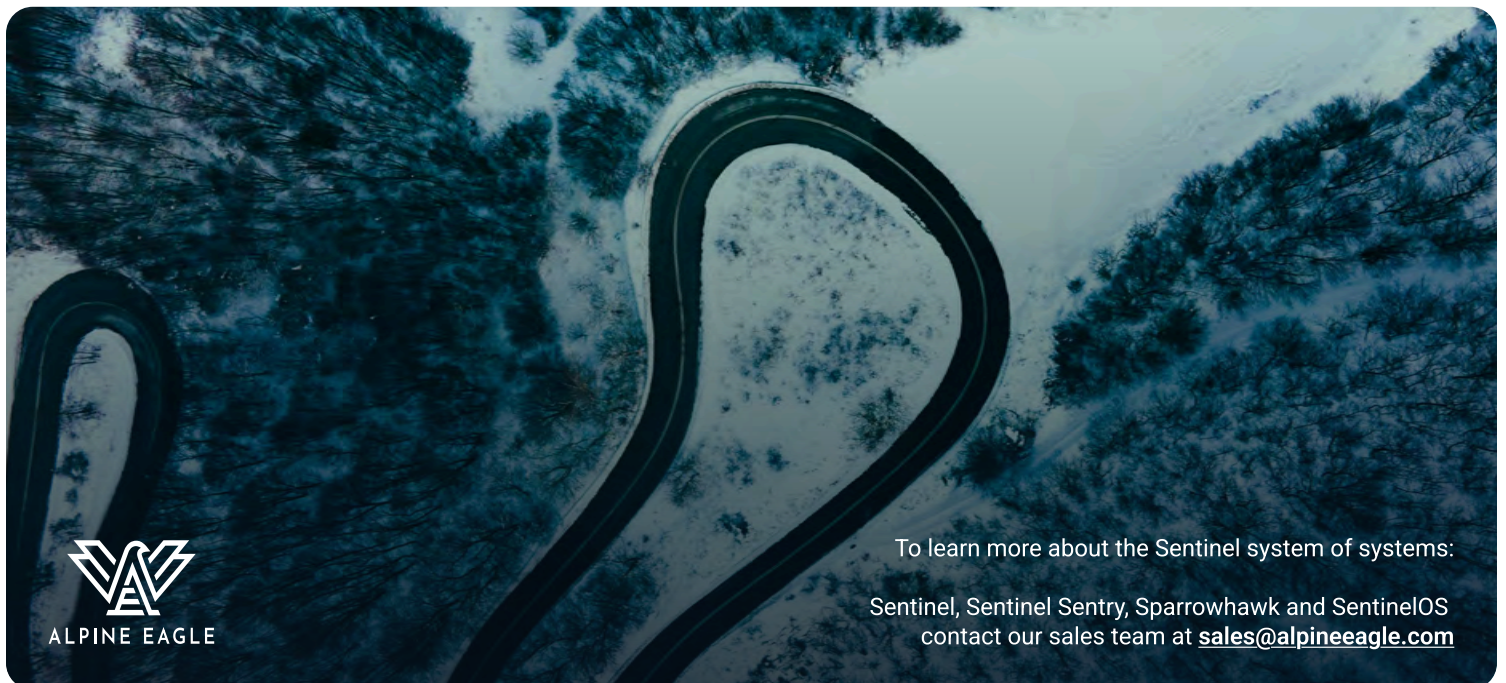
- ▶ **GPS-Denied Navigation:** VNSS (Visual Navigation Satellite System) providing optical-based geo-localization; inertial navigation + LoRa ranging as fallback + Electro-Optical Odometry
- ▶ **Electronic Warfare Resilience:** Self-healing mesh network with dynamic frequency hopping; encrypted communications; anti-jamming capability (expandable via Silvus licenses)
- ▶ **Platform Redundancy:** Swarm design ensures coverage continuation if individual platforms are lost

Sentinel-OS GCS

- ▶ Laptop GCS and Body-Worn GCS variants
- ▶ Windows 10/11 or Linux compatible
- ▶ 5+ hour battery life on ruggedized military laptops
- ▶ Compatible with ATAK, Nett Warrior, and other NATO BMS platforms
- ▶ SAPIENT compliance for automated data exchange

Communications Architecture

S-band (2200-2500 MHz), S-band (2200-2500 MHz) + L-band (1350-1440 MHz) or S-band (2200-2500 MHz)
+ C-band (3700-4200 MHz)



ALPINE EAGLE

To learn more about the Sentinel system of systems:

Sentinel, Sentinel Sentry, Sparrowhawk and SentinelOS
contact our sales team at sales@alpineeagle.com