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HELIOS-50

Fixed-wing interceptor UAV



Key Features

- High-speed fixed-wing interceptor optimized to overtake hostile UAVs
- Autonomous / assisted EO-based target acquisition and lock-on
- Kinetic/proximity warhead engagement capability
- Frequency-agile datalink with FPV/manual override options
- Launch from mobile, runway-independent platforms
- Low-cost, mass-deployable (attritable design)

Key Performance Highlights

Max Flight Range	50 km
Max Altitude	up to 5000 m
Wingspan	1470 mm
Take-off weight	6,7 kg
Fuselage length	768 mm
Max Speed	290 km/h
Cruising Speed	90 km/h

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The Helios-50 is a Ukrainian-developed fixed-wing interceptor UAV designed for cost-effective counter-UAS operations against Group 2/3 threats, including loitering munitions. Optimized for speed, range, and attritable deployment, the system provides a rapid-response aerial intercept capability within a layered air defense architecture.

System Overview

Helios-50 employs a streamlined, tubular fuselage with mid-mounted wings and rear propulsion, optimized for aerodynamic efficiency, rapid acceleration, and stable terminal guidance. The design prioritizes low radar/visual signature, simplicity of manufacture, and field serviceability, consistent with Ukrainian frontline production methodologies leveraging composite and semi-modular construction.

The aircraft is typically rail- or assisted-launch capable, enabling rapid dispersal from mobile teams and forward positions without reliance on conventional runways.



Design Philosophy

The Helios-50 embodies key Ukrainian interceptor design principles:

1. Attritable Economics

Interceptors are designed to be expendable yet effective, allowing deployment in large volumes to counter mass drone attacks.

2. High-Speed Interception

Fixed-wing architecture provides greater range and endurance vs quadcopters, while maintaining sufficient speed to engage fast-moving UAV threats.

3. Distributed Deployment

Systems can be fielded by small mobile teams, supporting decentralized air defense networks.

4. Rapid Production & Adaptability

Modular construction enables:

- » Quick iteration cycles
- » Field upgrades (sensors, warheads, comms)
- » Integration into broader C2 networks



Assessment

Helios-50 represents a mid-tier interceptor solution bridging FPV systems and more advanced autonomous interceptors. Its fixed-wing configuration provides:

- Improved engagement envelope
- Higher intercept probability at range
- Better endurance for search and intercept missions



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