

Mistral Falcon RAAD

Rapid Action Armed Drones with Advanced Payload Systems and Superior Combat Capability

OVERVIEW

The Mistral Falcon RAAD is a Rapid Action Armed Drone designed to execute time-sensitive missions with unmatched efficiency, superior performance, and accuracy while minimizing risks to human life, making it an ideal solution for military and tactical operations. Developed in partnership with Zeus Numerix, a global leader in drone weaponization, it provides superior battlefield intelligence, extends engagement range, and ensures air dominance in combat zones. As a force multiplier, the Falcon RAAD enhances tactical effectiveness while safeguarding personnel from harm.

The UAV Weaponization Kit (UVW) from Zeus Numerix is a modular system designed for safety, scalability, and lethality. The UVW includes an ejector rack unit (ERU) and UAV-dropped munitions (UDMs). Dual redundancy in ERU - one mechanical and one electrical - ensures compliance with MIL-STD safety, preventing accidental drops. Triple redundancy in UDM ensures safe handling/transportation and reliable operation.

The UDMs are highly lethal, with warhead weights accounting for 40-45% of the total weight, compared to only 12-15% in traditional launched munitions. The system supports a wide range of munitions, including anti-roof, anti-vehicle, and anti-tank types, across various weight classes. The kit provides an aerial alternative to traditional mortars, RPGs, and tank/artillery shells, enhancing tactical versatility in diverse combat scenarios.



HIGHLIGHTS



Easily transportable in SUVs or trucks



Rapid deployment in minutes



Operates effectively in harsh terrain and conflict zones



Elevation advantage for superior tactical positioning



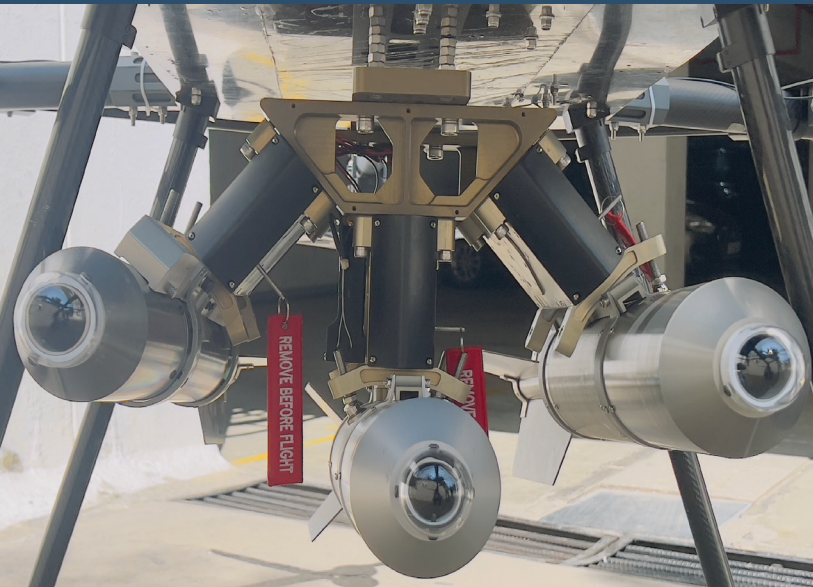
Minimizes risk to soldiers while maximizing operational impact



Designed for precision strikes in demanding combat scenarios

SUPERIOR OPERATIONAL CAPABILITIES

The Falcon RAAD features multi-layer safety for fully autonomous missions, requiring user consent for weapon deployment. It integrates real-time video streaming with a pilot camera for situational awareness and a barrel camera for precision targeting. Night vision sensors enable seamless operation in low-light conditions, ensuring effectiveness around the clock.



TECHNICAL FEATURES

- ▶ Payload Capacity: Up to 50 kg
- ▶ Operational Range: 20 km
- ▶ Maximum Take-off Weight: 170 kg
- ▶ Endurance: 45 minutes per charge
- ▶ Max Altitude: 20,000 feet AMSL
- ▶ Operational Modes: Autonomous and manual; Day/Night
- ▶ Speed: Cruise speed of 50–60 km/h
- ▶ UDMs: 2, 5, 7.5, 10, 15, 25 Kg weight class
- ▶ Weaponization:
 - Modular weaponization kit for various classes of payloads
 - Single/multi-rack ejector with configurable drop sequences
 - Fire/release only on operator command
 - Dual-mode payload release (hover or cruise mode)
 - Constant health monitoring of munition in flight
 - Time delay in detonation after release to protect drone
 - Day and night operational modes for weapon deployment
- ▶ Safety Features:
 - Auto Return Home on link-loss or critical battery level
 - Multi-layer safety mechanism for weapon arming and deployment
- ▶ Durability: IP67 compliant, operational temperature range of -20°C to 45°C
- ▶ Video & Data: Real-time telemetry and video streaming
- ▶ Quick Swap: Payload or battery change in 1–2 minutes
- ▶ Dimensions: Width: 250 cm; Height: 90 cm

GROUND CONTROL STATION

Ground Control Station (GCS) of Falcon RAAD is a heavy-duty computer integrated into a rugged flight case, running GCS software and all necessary video and telemetry data links. GCS is available in large single or dual displays and can either be placed on the ground, on a portable table, or with integrated foldable legs. Portable GCS units in HOTAS (Hands on Throttle and Stick) layout is also offered on request.



ABOUT MISTRAL

Mistral is a technology design and systems engineering company providing comprehensive Chip-to-Product solutions for Aerospace & Defense and Deep-Tech Applications. With 28 years of experience, Mistral is one of India's leading embedded systems services providers, delivering value across the entire product engineering lifecycle. Mistral offers an end-to-end portfolio of solutions to address the growing demand for reliable and intelligent devices, fostering innovation and driving business transformation. Leveraging its multidisciplinary expertise across industries, Mistral delivers advanced system design services, enabling the development of some of the most complex embedded computing solutions.

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