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USTAR-Y



# USTAR-Y

USTAR-Y is a hexa-rotor vertical take-off and landing (VTOL) unmanned aerial vehicle (UAV), suitable for both urban and open terrain applications. It is designed with an enclosed body, modular subsystems and detachable rotor arms for portability, versatility and ease of maintenance. Its tool-less assembly design ensures quick system set-up and minimum logistical footprint for the discerning users.

## FEATURES

The USTAR-Y aims to provide users with a seamless operating experience.

### 1. Versatile Connectivity

The basic USTAR-Y is equipped with versatile IP based protocol (using a datalink system within commonly acceptable frequency ranges).. For more demanding applications, users can opt for the the non-line-of-sight (NLOS) video link capability to enable real-time transmission of images. This provides the user a high level of situational awareness even in urban environments, where vision obstruction is common.

### 2. Fault tolerant design

USTAR-Y is equipped with coaxial-motor rotor arms, designed with redundancy in mind. Its auto recovery algorithm is activated during certain failure conditions, maintaining flight stability and averting aircraft loss.

### 3. Portability

The USTAR-Y can fit into a standard backpack so that users can remain highly mobile even during deployment.

### 4. High payload to weight ratio

Compared to traditional hexa-axis UAVs, USTAR-Y's coaxial-motor design allows for a smaller footprint and a higher-payload-to-structural-weight- ratio.

### 5. Urban Operations Safety

Equipped with a sense-and-avoid capability, USTAR-Y is able to avoid obstacles autonomously, improving safety in urban operations.

USTAR-Y's 'perch and stare' capability allows it to be perched on rooftops while maintaining a high vantage point, ensuring close surveillance.

Users can also opt for the add-on parachute module to increase the likelihood of a safe recovery of the aircraft, especially in the harsh urban environment.

### 6. Ease of operation

USTAR-Y's autonomous functions include automatic take-off, height-hold, and other mission and landing features.

This system allows operators to fly USTAR-Y with pre-planned flight routes or to make changes of flight routes in realtime, hence increasing operational efficiency.

### 7. Intuitive control interface

USTAR-Y incorporates an intuitive graphical user interface designed for multi-touch tablets.

This translates into a shorter learning curve for the operator, increasing user friendliness.

### 8. Modularity and Versatility

USTAR-Y's modular design makes maintenance and replacement of faulty components quick and effortless, thus increasing mission availability.

The system can also be easily adaptable to a wide range of applications.

### 9. Product Innovation

USTAR-Y's innovation roadmap includes an exciting range of options and new features that users can look forward to in the USTAR-Y product range.

USTAR-Y is a VTOL UAV designed for urban applications with maximum versatility and mobility.



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### Specifications

Take-off weight	5 kg
Hover endurance	< 25 mins
(Typical) Operating altitude	306 m (1,000 ft)
Maximum altitude	900 m (3,000 ft)
Maximum operational wind speed	15 kts
Range	100m (300 ft) – WiFi Datalink 900 m (3,000 ft) – NLOS Datalink
Payload capacity	1 kg
Default payload:	Gimbal stabilised electro-optics / infra-red OR HD IP-capable camera
Payload resolution:	640 x 480 (Real-time) / HD recording
Footprint (Diameter)	0.56 m (1,84 ft)



### APPLICATIONS

Aerial photography and video recording  
Disaster site monitoring  
Geographical survey  
Industrial site / rig inspections  
Crowd monitoring  
Events / sports reporting  
Power line inspection  
Traffic monitoring  
Runway survey  
Search and rescue  
Tactical surveillance

