

油电混合动力 多旋翼无人机

Hybird VTOL UAS







混合动力无人机

飞行视频

hayoou.com/v474

Product Introduction

- 2015 Hybrid VTOL UAS is composed of 2 parts, aircraft platform and control aircraft flight computer system(also known as flight control).Electromechanical integration platform and flight control system are a community.If the plane platform is a body, flight control is the soul of the aircraft platform.Like computer, all equipped have OS operating system.
- 1.Payload increased .
- 2.Low cost.
- Agricultural Unmanned Helicopter is sold by manufacturer, so its price is competitive.
- 3.Easy Operation.
- Agricultural unmanned helicopter can take off vertically which effectively lowers the operation difficulty and the risks. Flying at low altitude of several meters, the spraying effect can be controlled in the active area. It is suitable for all kinds of complex terrain farmlands and the crops and woods of different heights. The spraying operation skills of agriculture unmanned helicopter can be mastered via simple training.

Product Introduction

- 4. Environment-friendly
- The dosage of pesticide is reduced, so it can minimize the pollution of pesticide to the environment and crops. It is not harmful to the operator in the distances when dusting, and the labor intensity is reduced dramatically.
- 5. Excellent Crop Spraying(Agriculture)
- While it utilizes the strong downward rotating airflow to flip and shake the crops when spraying, it comes into being a turbulent area above the crops underneath. The crop spraying is very uniform and partial pesticide is dusted on the back of stem and leaf, the quality of crop spraying of which the manpower and other spraying equipments can not achieve. As the cyclone under the helicopter is concentrated and powerful, it is easier to form a layer of membrane through the fluff surface of the plants to kill the pests uniformly and effectively by utilizing the ultra-fine pulverization dusting.

Main Parameter

- Specification Model:HY-20-2
- Size(L*W*H) 1250*1250*1460mm
- Aircraft folding size 435*435*500mm
- Aircraft weight 16kg
- Maximum takeoff weight 40kg
- Aircraft pesticide load 25kg
- Propeller 15 inch carbon fiber plant protection special propeller
- Spraying task system 1 sets of kit, dispersion spray system, booster pump
- Remote control 2.4G Nine channel
- Power battery High performance lithium polymer lithium battery
- (22.2V/16000mA)
- charger High power lithium battery balance charging equipment
- (can charge 2 pcs at the same time, half an hour full)

Main Parameter

- Hover Arbitrary position direction air hover
- Flight attitude Flying in any direction, can be reversed to fly, emergency brake
- Takeoff / landing time ≤ 1 minute
- Body material Carbon fiber
- Temperature range $-15^{\circ}\text{C} \sim 40^{\circ}\text{C}$
- Battery power performance charge-discharge 300-500 times
- Rack life ≥ 5 years
- Maximum efficiency 200-300 acre/day

Main Parameter

- UAV self stabilization system yes
- Spraying system Diffuse atomization nozzle (a group of *6)
- Motor speed 1200rpm/min
- Engin speed 6200rpm/min Auto speed limit and throttle mix
- Aircraft endurance time 40~55min
- Spraying height Field operation 0-2000 M
- Agriculture:
 - Spraying area 4 meters
 - Control efficiency 1~3 acre/min
 - Spray flow 0.25-0.75L/min(multi nozzle) adjustable
 - Flying speed 0 -8meter/second(can be adjusted according to needed speed)
 - Flying height 0~200meter



可折叠收放



特点：

解决了电力多旋翼无人机的续航和载重问题

油门融合算法 发动机升力动态补偿 飞行控制更稳定：

- 1、植保作业中，在不断减轻的整机载重条件下 可避免手动调整发动机油门而坠机 可自动均匀降低发动机转速
- 2、保持电机油门在 20-40% 以节约电能
- 3、发动机转速自动比例稳定 动态补偿
- 4、可通过遥控快速反应 可引入定高测量数据以自动定高
- 比汽油直升机结构更精简 无复杂运动面 零部件寿命更长 所有零部件可在国内采购
- 成熟的开源平台（ Ardupilot ） 可对接多种平台
- 可接入移动数据网络 远程数据链路
- 整体造价成本低 可大批量应用

特点：

- 油电混合动力
- 自动油门适应算法 发动机转速稳定精度控制在96%以上
电子限速 保障发动机稳定工作
- 可选购德国航空专用汽油发动机
- 超长飞行距离 时速80公里 续航1小时
- 超大载重 可挂载20-30公斤
- 超远无线视频传输 覆盖范围25公里
- 可配备高清红外摄像头 可夜间作业
- 多旋翼操纵易学 智能控制
- 模块化组装 可拆卸 安装方便 配置可变更 所有飞行参数
可调
- 可执行航线 航点飞行

混合动力与纯电力无人机的区别

	续航时间	工作稳定性	抗风性能	维护时间	震动	价格	危险系数	噪音
油电混合	很长 是同比纯电动的两倍以上 航拍可飞行 40-60 分钟	稳定	强 自重大力大	每飞行小时一次 25 检查	较大， 可以减震	高	较高 适合野外作业	很大 60-80db
纯电动	短	比较稳定 但容易受电池影响	弱	几乎不需要维护	很小	适中	较低	小 20-40db

指标：

- 控制方式：全自动/半自动
- 控制半径：10Km（需增加发射放大）
- 最大速度：80km/h
- 续航时间：40-60分钟
- 升限：2000m
- 几何尺寸 1260x1260x1460
- 图传半径：25公里
- 飞机净重15公斤
- 起飞重量：32公斤
- 抗风能力 5级

应用范围

- 物流 快递 送外卖；
- 农业 植保 虫害、水分监控 牧羊；
- 安防 红外夜视 日夜巡逻 野外救援；
- 派传单 宣传横幅；
- 航拍 现场报道 电影 电视拍摄；
- VR 虚拟现实 游戏竞速；
- 野外救援 灭火 森林搜救 器官、急救药品运输；

- 军事侦察 运输;
- 编队飞行 空中对抗 表演 天空广告 示爱文字 求婚 大型模型秀 扔水弹 游戏;
- 人工降雨 清除雾霾 ;
- 通讯中继 无线网络覆盖 ;
- 快速海洋编队搜救 污染监控;
- 飞行机器人 自动代购

PC ground station software



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