AGRICULTURAL SPRAYING DRONE
MODEL-AGRIDRONE100

This Drone trainer has been designed with a view to provide practical and experimental knowledge of for Drone for agricultural spraying, with integrated sensor and flight controller.

SPECIFICATIONS

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1. Following Parts and Modules are used in Agricultural Spraying Drone

1. Flight Controller

1. Whole UAV Weight (Without Battery) : 10.1Kg
2. Max Takeoff Weight - Payload : 25Kg
3. Hovering Accuracy Level : ±0.5m Vertical:0.4m
4. Full Load Hovering Time : 14min
5. No-load Hovering Time : 25min
6. Max Flight Speed : 11m/s
7. Recommended Flight Temperature : 0-55°C
8. Efficiency : 8-12 acres/h

2. RC (Remote Controller)

1. A RF Sensing System that provides reliability during flight
2. Work Frequency : 2.400-2.483GHz
3. Effective Distance (Without Obstacles) : 4-8 Km
4. Rated Voltage : 3.7V
5. Battery Capacity : 4500mAh
6. Weight : 610 gram

3. Battery Charger

1. Input : 100-240V 50/60HZ
2. Output Power : 522W x 2
3. Channel Number : Two – channel
4. Size : 241×139.5×63.5mm
5. Weight : 4.88 Kg

4. Battery

1. Voltage : 50V (standard)
2. Capacity : 16000mAh
3. Size : 180x75x70mm
4. Weight : 2.1 Kg

5. Foldable Propeller

1.	Material	: Polymer + Carbon Fiber
2.	Diameter	: 30 inches
3.	Screw Pitch	: 9 inches

6. Aircraft Frame

1.	Motor Quantity	: 4 Nos
2.	Symmetrical Motor Wheelbase	: 1320 mm
3.	Spread Size (Without Propeller)	: 1030 x 1030 x 530 mm
4.	Folded size	: 580 x 580 x 530mm

7. Motor

1.	KV	: 100 KV
2.	Max Pulling Force	: 15.9 Kg
3.	Max Power	: 3000 W

8. Electrical Control

1.	Max Current	: 85A
2.	Voltage	: 50V (Standard)
3.	Pulse Width	: 1100 us -1940 us

9. Spray System and Flow Sensors

1.	Tank Volume	: 10 L
2.	Nozzle Model	: XR110015VS
3.	Nozzle Quantity	: 4 Nos.
4.	Spray Flow Rate	: 3.9 L/min
5.	Spray Width (Depending On Height) : 4 – 7 Metre
6.	Atomized Particle	: 130 – 250 um

10. Software

1.   Intelligent Operation Planning System

2.   Agriculture Management Platform

3.   User can plan operations

4.   Can Manage flights in real-time

5.   Can closely Monitor Aircraft Operating Status

2. Accessories

1.   Pen Derive with Software, Library, Driver,
     Codes, Soft Copy of Manual and Mobile App   : 16 GB

2.   Printed Practical Manual   : 1 No.

3.   E-Books for IOT Subject   : 10 Nos. in PDF Format

4.   Mp4 Video Class for Drone   : 40 Nos

EXPERIMENTS

A. Theory Experiments

1. To understand theory and working of Drones
2. To understand theory and working of Block Diagram of Drone System
3. To understand theory and working of Flight Controller
4. To understand theory and working of RC (Remote Controller)
5. To understand theory and working of Battery Charger
6. To understand theory and working of Battery used in Drone System
7. To understand theory and working of Foldable Propeller
8. To understand theory and working of Aircraft Frame
9. To understand theory and working of Motors used in Drone system
10. To understand theory and working of Spray System and Flow Sensors used in Drone
11. To understand Software used for Drone System

B. Practical Experiments

12. To use this Agriculture spraying Drone for agricultural spraying, with integrated sensor and flight controller
13. To design Intelligent Operation Planning System
14. To design Agriculture Management Platform
15. To plan spraying operations
16. To Manage flights in real-time
17. To monitor Aircraft Operating Status closely

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