



Kisan Crop Duster

OM UAV Systems



Krishak - Kisan Crop Duster is a FULLY AUTONOMOUS Mini Unmanned Multicopter aircraft designed for spraying pesticides and insecticides over the crop fields. It is capable of carrying 10 Liters of Liquid and is fitted with a 90 psi liquid dispenser pump with Four number of spray nozzles. The aircraft is electrically powered and has a very low dB level. The aircraft is fully autonomous right from takeoff to landing. The aircraft is made of aircraft grade titanium alloy and carbon fiber composites.

Physical Specifications:

1. Size: 1300mm (motor to motor)
2. Height: 500mm
3. Flying Weight: 20Kgs
4. Payload: 10 Kgs
5. Motors: 4 Nos, 3000 Watt BLDC Motors @ 44.4V
6. Propellers: 30x8.0 carbon fiber x4
7. Flying Battery: Lithium-Ion 44.4 Volt, 10,000mAh.
8. Folded Dimensions: 570x570x500mm

Flying Characteristics:

1. Range: 1.0 Km
2. Endurance: 20 Mins + 2 Min reserve for failsafe
3. Accuracy: Within 2 meters of programmed ground waypoint
4. Cruise Speed: 20Km/Hr
5. Max Wind Resistance: 30Km/Hr
6. Optimum Spray Altitude: 2 Meters AGL
7. Max Altitude (AGL): 100Meters
8. Max Takeoff Altitude: 3000Meters
9. Spray Lane Width: 1800mm
10. Spray Swath: 3000 to 4000mm (when flown at 2meters AGL)

Standard Package:

1. Kisan Sprayer Aircraft 1No.
2. GCS consisting of windows based palmtop computer.
3. Data Link.
4. Microprocessor based battery Charger.
5. Radio Control Transmitter.
6. Mini ToolKit.
7. Aluminum Finish Carry Case
8. GCS Carry



Capabilities:

1. Fully Autonomous from Takeoff to Landing.
2. Programmable for 500 Grid points.
3. Can Loiter over the field at any waypoint.
4. Has Manual over ride at any stage.
5. Can be 'Guided' to specific location during flight by clicking overmap.
6. Auto pump activation on reaching the gridpoint.
7. Failsafe built in. Will 'RTL' if link is lost.
Will 'Land' if battery is low.
8. GCS switchable navigation lights, capable of night flying.

Autopilot:

1. Based on ARM Cortex M4 32 bit Processor @ 168 Mhz, 252 MIPS, NuTTx
2. ST Micro L3GD20, 3-Axis Gyro
3. MPU6000, InvenSense 3-Axis Gyro+Accelerometer
4. GPS with positioning from GPSS, GLONSS, Galelio, Biedu
5. Secondary GPS for backup
6. HMC5883L 3-Axis Dual Magnetometer (Dual)
7. MS5611 High Resolution Barometer
8. Onboard Micro SD card for Flight Data Logging
9. Dual-GPS support for redundancy of GPS failure
10. Lidar Based Altimeter.

Radio Control Link:

1. Encoding: PPM
2. Modulation: FHSS
3. Freq Band: 2.4Ghz
4. Rf Power: 100mW
5. Channels: 8
6. Range: 1.0 Km (when airborne)
7. Display: Back-Lit LCD panel on Tx
8. Battery: Li-Poly 7.4V, 2500 mAh (12 Hrs continuous operations)



Pay Load (Spray Pump):

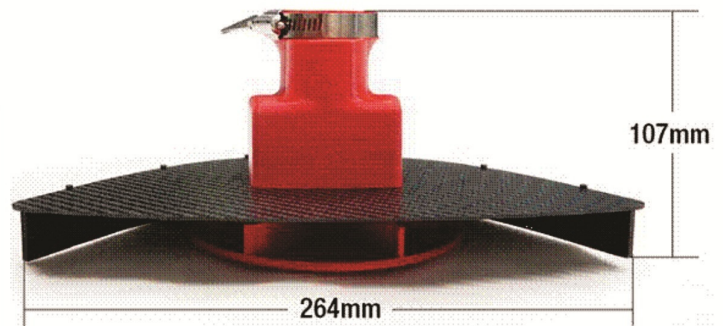
1. Type: Diaphragm Pump
2. Pressure: 90psi
3. Voltage: 12V, (draws power from main batteries)
4. Power Consumption: 1500mA @ 12.0V
5. Switching: Controllable from Radio Control, CH8 & GCS
6. Weight: 300Grams
7. Tank Capacity: 10Ltrs
8. High Quality Brass Spray Nozzels, 4Nos

Datalink:

1. Rf Power: 100mW
2. Modulation Type: Wi-Fi based
3. Freq Band: 2.4Mhz
4. Range: 500Meters

Optional Seed Spreader:

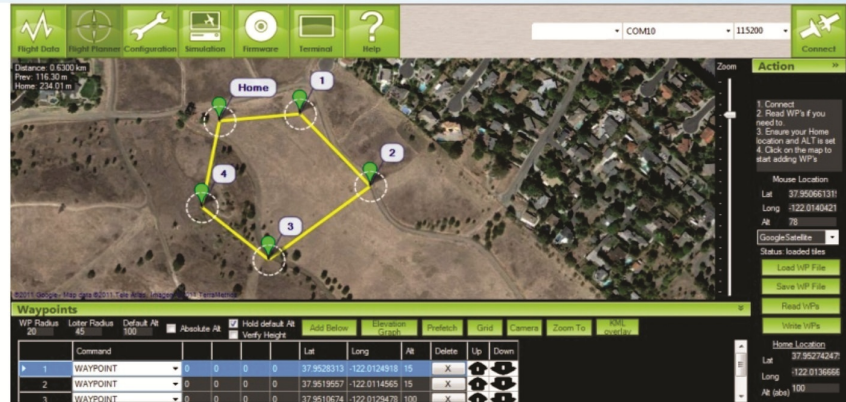
1. Type: Dry Seed Spreader
2. Operating voltage: 12-17V
3. Power consumption: 20 W
4. Scattering Width: 2-5M
5. Max Spreading Speed: 2 Kg / Min.
6. Weight: 450 grams
7. Material: Carbon Fiber / TPU



The seed spreader can be clamped onto the existing liquid pesticide tank. Since the inner diameter of the collar of the spreader is 42mm, it can be installed on outer collar of pesticide tank which has a diameter of 40mm.



Kisan Crop Duster



Our other products...



Curiosity Quadcopter UAV



Guardian Civilian UAV



Baaz Mini UAV



Curiosity Plus Quadcopter UAV



Guardian- Trainer



Solo Multicopter



Surveyor-I



Pushpak Hexacopter



Kasper Autonomous 4WD Rover

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