

Rotomotion SR100 VTOL UAV Spec Sheet

Length	1470 mm, 58"
Width	510 mm, 20"
Height	685 mm, 27"
Main Rotor (M/R) Diameter	2010 mm, 79"
Tail Rotor (M/R) Diameter	360 mm, 14"
Dry Weight	16 kg, 35 lbs.
Fuel Capacity	1 liter, 34 oz., (alcohol or JP-8) up to 4 liter, 135 oz. Tanks available
Engine	23cc Methanol, 23cc Diesel, or 3.4kW Electric
Generator (optional)	150W, 12V power bus with battery backup
Climb Rate	122 mpm, 400 fpm (AFCS regulated)
Maximum Speed	50 kph, 31 mph (AFCS regulated)
Endurance:	45 min. Electric / up to 1-1/3 hours fuel (depending on fuel tank configuration)
Maximum Payload	8 kg, 18 lbs. (depending on options, altitude, fuel load)
Telemetry	802.11-based, 800m, 87yards, LOS range (other systems available)
Safety Controller	72Mhz, 730m, 800yards, LOS range



Fully Autonomous VTOL Flight

The Series 100 UAV is capable of fully autonomous flight with a safety operator to perform takeoff and landing and to engage and disengage the autonomous flight control system (AFCS). The AFCS utilizes an advanced stable-hover (Patent Pending) control system. The helicopter has several modes of operation:

- **velocity command mode (VC-Mode):** the helicopter position is commanded by the safety operator using proportional velocity commands. For example, the cyclic control stick becomes the velocity control stick in velocity command mode. The stick commands the helicopter to move in the commanded direction at a speed proportional to the amount of stick movement on the transmitter.
- **way point route plan mode (WAY-Mode):** helicopter flies a preprogrammed series of way points (coordinates, heading, altitude, speed and other way point attributes)
- **command mode (CMD-Mode):** the helicopter is commanded in an ad-hoc fashion by sending it guidance commands from another computer. These commands can be given by a human operator or by another computer system.

The AFCS is easily interfaced using a C/C++ library. This library provides full-bandwidth telemetry data and services to command and control the UAV.

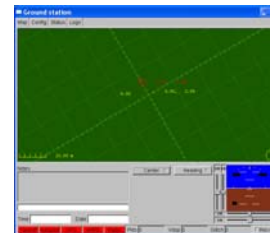


Illustration 1: Moving map and AI display on the ground control station



Illustration 2: Video and operating control display.



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