

DayCor® aviROM



A FLYING CORONA UAS DETECTION SYSTEM



aviROM is an aerial inspection system mounted on UAV - Unmanned Aerial Vehicle. Comprised of a UAV, a UV Camera & Remote controls. **aviROM** implements the latest technological developments of aviation and proven high corona detection capabilities. The system provides a desirable cost-effective inspection solution. **aviROM** can fly autonomously along predetermined routes. A special "Follow Mode" feature enables continuous inspection of a selected target even when flight directions change. Ofil's **aviROM** can lift heavy payloads, fly long allowed distances and is optimized for easy and effective flight planning. The UAV is foldable, fits into a car trunk, easy to carry, assemble and operate. The aircraft can fly continuously 30 minutes to a distance of 1.5km and reach altitudes of 150m above ground. **aviROM** has auto takeoff & landing, excellent maneuverability and outstanding safety features.

- >> Outstanding sensitivity to corona
- >> Fast deployment and operation
- >> Powerful heavy lifter – up to 10 Kg payload
- >> Safe – automatic parachute
- >> Redundant autopilot – double autopilots

- >> High quality video recording and storage
- >> Auto takeoff and landing
- >> GIS and auto tracking
- >> Optimized flight planning tools
- >> Gimbal – maximum stability and vibration free

HIGH SPEED UV INSPECTION

High sensitivity to UV enables detection and capture of distant corona discharge during high speed flights of 10m/sec without smearing the output image and without missing corona events. A "Follow-Mode" feature guarantees inspecting the designed objects while changing flying directions.

AUTONOMOUS FLIGHT

Autopilot with internal movement unit, GPS positioning, barometer and digital datalink, waypoints programmed route optimized for georeferenced photogrammetry.

COMPACT AND LIGHT WEIGHT

8 high performance brushes engines and high efficiency carbon propellers. Foldable carbon fiber frame for easy transportation.

FULLY ROTATING GIMBAL

Based on brushless encoded motors technology, Avional 7075 frame and rotating electrical "slip" links. Automatic positioning Vertical and Zero front view. 360° movement on pan/tilt.

VIDEO RECORDING & STORING

Recorded video clips have radiometric data of: corona, hot spots, geographic positioning, date & time and text and/or voice annotations.

DAYCOR® TECHNOLOGY INSIDE

Implementing DayCor® technology, aviROM's UV camera performs as a fully solar blind camera allowing operation in daylight conditions

SAFETY MEASUREMENTS

Automatic parachutes and double autopilots that ensure Return to Home (RTH) and auto landing. Includes an internal movement unit, a GPS positions system, a barometer and a digital datlink.

REMOTE CONTROL

Easy to use Remote Radio Control system, manual or assisted mode. Images and preview of the flight and of the sensors' output are displayed on the LCD. High gain optimized antenna supports long distance communications and optimized video transmission and recording.

TECHNICAL SPECIFICATIONS

UAV

Engine Type	Brushless, 8 engines
Propellers	8, Carbon
Dimensions	1400 x1400 x 700 mm
Max Flight Weight	16 Kg
Operating temperature	5° C- 40°C
Operating humidity	0% - 100%
Wind resistance	12m/s
Continuous flight range/autonomy	30' (depending on payload weight and battery configuration)
Maximum height of flight:	150 m (electronically limited)
Max range:	1.5km (LOS)
Max speed	10m/s
Vertical speed	5 m/s (electronically limited)
Communication	Digital 2.4 GHz with frequency hopping (EU & USA compatible)

UV - VISIBLE BI-SPECTRAL CAMERA

Minimum Discharge Detection	1pC @ 15 meters
Minimum RIV Detection	3.6dBµV (RIV) @1MHz
Minimum UV Sensitivity	1.9x10 ⁻¹⁸ watt/cm ²
Field of View H x V	8° x 6°
Detector Life Span	No degradation
Focus	Autofocus, 3m to infinity
UV/Visible Overlay Accuracy	Better than 1 mRad
Zoom	10 optical x 12 digital, attained within 1 second
Weight	1.2Kg

GIMBAL

Size	350x230x380 mm
Technology	Brushless encoded motors technology. Avional 7075 frame and rotating electrical "slip" links
Second Pilot	Available
Automatic Function	Automatic functions: Zenith (vertical) Automatic positioning and "Zero" position Front view
Special Feature	"Follow mode" follow automatically every change of direction
Focus	Manual & autofocus
Movement on pan/tilt	360° C , 3 axes

REMOTE CONTROL

Mode	Manual or assisted pre-programmed mode
Display	LCD
Antenna	High gain optimized
Control	Separate units for the UAV and for the UV camera
Case (Optional)	Rugged pocket control station with IP67 Suitcase (optional)

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