



# ALTiMAPPER AV-01

## High Precision Aerial Imaging - the key for effective mapping

We are proud to introduce the ALTiMapper AV-01 remotely piloted aircraft, a tried and tested RPA for all your mapping needs. We have spent hundreds of hours testing, modifying and designing this aircraft to produce a professional, easy to use, robust and affordable RPA.

The ALTiMapper AV-01 enables surveying of rugged, hazardous or hard-to-reach areas and is the perfect platform for agricultural remote sensing and aerial geo-mapping. Simple and quick assembly makes data collection easier and faster with the ability to plan and execute a flight in minutes.

## Easy, Affordable & Accurate

The ALTiMapper AV-01 has been designed with safety and durability in mind and fulfills all the requirements of the SACAA regulations. It's built to withstand even the toughest of African conditions and in the event of an accident, can be easily and economically repaired.

With 90 minutes flying time, the ALTiMapper AV-01 is an extremely cost effective solution that is practical for a wide range of uses.

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*“Agile, rugged, efficient and reliant – just a few words to describe the ALTiMapper UAV from Aerovision. A must have in your arsenal of precision agriculture tools.”*

*- Jaco Engelbrecht, Viticulturist,  
Stellenbosch*

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In the field with the ALTiMapper AV-01

- Remote Sensing
- Aerial Surveying
- Elevation Modeling
- Water Flow Analysis
- Contour Mapping
- Crop Analysis



Sleek and aerodynamically efficient design

## Superior Design

ALTiMapper AV-01 is a tried and tested airframe that has been custom designed and rigorously tested in the field to bring you an easy to launch, easy to fly plane, that has very forgiving flight characteristics with maximum robustness.

## Built to Perform

The ALTiMapper AV-01 is designed with your needs in mind. It can be setup in minutes and on its mission in no time. At AeroVision we know the terrain can be a little rough which is why the aircraft is designed to be robust and durable with a protective landing skid for even the hardest of landings. The camera and flight controller are well positioned for protection as well as providing balance to the aircraft.

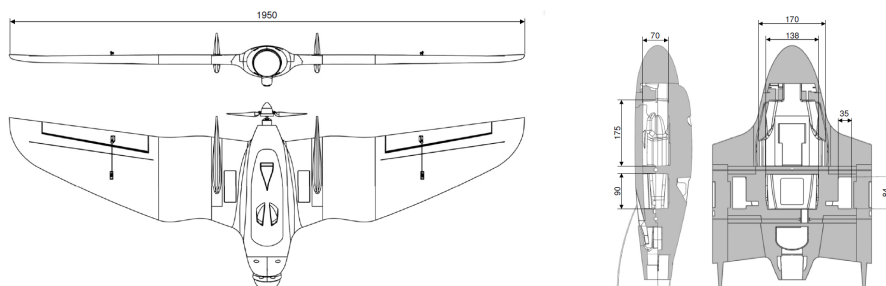
## ALTiMapper AV-01 Features

- Tough EPO fuselage and wings reinforced with carbon fiber
- 90 minutes+ flight time (sea level)
- Approx. 3kg with payload
- Auto-calculate survey grids
- Simple mission planning
- Bungee and hand launching
- 7km radio range (extendable)
- 24 megapixel aps-c sensor
- Integrated camera with auto trigger
- Geo-referenced images

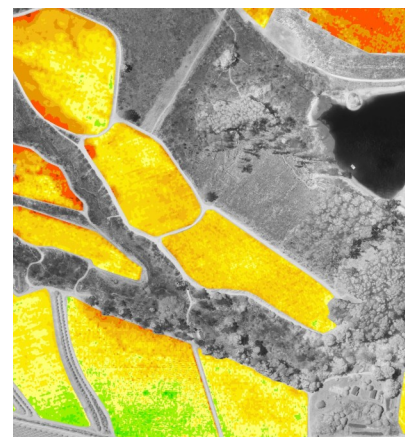
## Precision Agriculture Imaging

The ALTiMapper AV-01 provides centimeter spatial accuracy and with our NIR camera, is capable of calculating relative crop performance (NDVI) effectively. Digital elevation models can also be created to produce contours for drainage and water flow analysis.

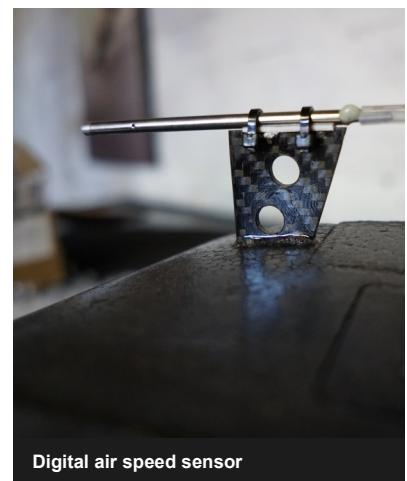
Information today is key to a successful tomorrow.



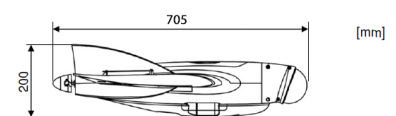
Carbon reinforced EPO foam



NDVI Analysis with our NIR camera



Digital air speed sensor



[mm]

## Trusted Performance

Due to fires in early 2016, many wine farmers were faced with the decision to either re-plant or try re-vive their vines. Aero-vision was tasked to help assess the damage.

Armed with the ALTiMapper AV-01, We were not only able to approximate how much area was burnt/scorched but also where the restoration needed to happen—how may hectares, level of damage and where.

## After Sales Service

You don't want to be wasting your valuable time with aircraft maintenance and data processing. That is why we have easy maintenance plans and knowledgeable staff who will assist if ever you need it. We also provide in-house GIS mapping and NDVI services to process your data with quick turn around times. For on site viewing, your data can be converted into compatible formats so that you can view your results in the field on Google Earth maps.



The high resolution Sony a5100 NIR camera is ideal for crop performance analysis

## Created with mapping in mind

The ALTiMapper AV-01 was developed on the job with consultants from Stellenbosch and Kansas State Universities together with internationally renowned viticulturists. We believed in creating a superior product from those in the know, leveraging their knowledge to provide a quality mapping platform. With decades of GIS, engineering and remote sensing experience behind it, the ALTiMapper AV-01 is the right tool for the job.





# ALTiMAPPER AV-01

## SPECIFICATIONS SHEET

### Wings & Fuselage

Wingspan: 1950mm

Material: EPO & Carbon Composite

Modular airframe with removable wings for transportation

Integrated landing skid and bungee launch hook

Weight: 3kg (incl. battery and camera)

### Power Unit

Motor: 330Kv brushless

ESC: 40/60A with 3A SBEC

13"x10" Folding propeller

45mm Aluminium folding prop spinner

6S Li-ion battery (Tesla style)

### Flight Control

Pixhawk Cube flight controller

Telemetry transmitter radio

Digital airspeed sensor

External M8N GPS and compass (RTK optional)

### Flight Characteristics

Cruise speed: 55-60 km/h

Maximum speed: 100 km/h

Stall speed: 30 km/h (sea level)

Flying time: 90 min (sea level)

Bungee Launch: 20m required

Auto take off and land (manual landing recommended)

### Payload

Standard Camera: Sony a5100 (24 mega pixel aps-c sensor)

Lens: 16 or 20mm Sony prime lens

Type: RGB or NDVI (optional extra)

Options for many other cameras and sensors

Distance based auto trigger via flight controller

### Ground Station

Laptop with Mission Planner software installed

Telemetry receiver radio and cable

Taranis radio Tx and long range receiver

Mission Planner flight planning software

Programmable flight modes (RTL, loiter, fly-by-wire)

All flight data automatically logged

Geo-fence capability

Unlimited waypoints

Built in fail-safes

Upgradable firmware

### Extras Included

Charger and power supply

Bungee launch

Operations manual

Flight Case

Systems Training

\* Agisoft Photoscan /

Pix4d software optional

### Contact Us

Give us a call for more information about our services and products

+27825641809

info@aerovision-sa.com

43 Sea Cottage Drive  
Noordhoek  
Cape Town  
7979  
South Africa

Visit us on the web at  
[www.aerovision-sa.com](http://www.aerovision-sa.com)