

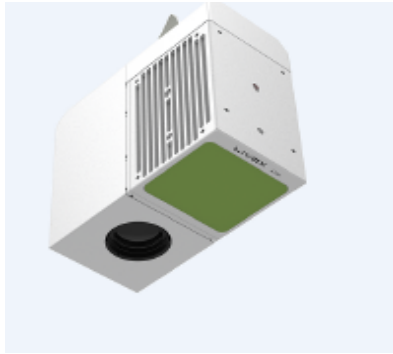
**GEOMATE**

Premium Surveying. Trusted Solutions



# **GEOMATE VA3**

**POCKET UAV LIDAR SYSTEM**



## GEOMATE VA3

The GEOMATE VA3 is very likely the best UAV LiDAR solution with integrated Livox Avia. The VA3 is a major breakthrough in the democratization of mobile mapping technology, allowing its use by non-professional users in the geospatial reality capture industry and to those who have never been able to access such technology before. The VA3 is the first generation of GEOMATE LiDAR solutions, which are widely used for power line inspection, topographic mapping, emergency response, agricultural and forestry surveys, and more. This all-in-one, lightweight and rugged system integrates a high-performance laser scanner with an industrial-grade professional 26 MP camera and a high-precision inertial navigation system for quality data collection

## TECHNICAL SPECIFICATIONS

### General system performance

Absolute accuracy	<10 cm HZ <5 cm V
Accuracy conditions	Without control points, @50 m flight altitude AGL
Mounting	Skyport for DJI M300 External power source with the dedicated port for other UAVs (CHCNAV Alphasport interface)
Weight of instrument <sup>(1)</sup>	0.95 kg
Dimensions of instrument	12.8 × 14.0 × 6.80 cm 5.04" × 5.51" × 2.65"
Communications	1× port for GNSS antenna Skyport interface 1× USB Type-C, copy speed up to 160 Mb/s
Data storage	256 GB
Point density on UAV setup	570 pts/sqm @ 50 m AGL
5 m/s (18 km/h) speed	280 pts/sqm @ 100 m AGL
Covered area	2 km <sup>2</sup> area by 30 mins UAV flight
Operation	One-touch acquisition or remote control via DJI M300 Smart controller enterprise
Transport box	1× protected soft bag with custom precut foam

### Laser scanner

Laser class	1 (in accordance with IEC 60825-1:2014)
Max.range, reflectivity > 80% <sup>(2)</sup>	450 m
Max.range, reflectivity > 10% <sup>(2)</sup>	190 m
Max. returns supported	Up to 3
Accuracy <sup>(3)</sup>	20 mm @ 20 m 30 mm @100 m
Precision <sup>(4)</sup>	15 mm
Field of view	70.4° (Horizontal) × 4.5° (Vertical)
Scan rate	240 000 pts/sec (first or strongest return) 480 000 pts/sec (dual return) 720 000 pts/sec (triple return)

### Positioning and orientation system

GNSS system	Dual-frequency GNSS GPS, GLONASS, BeiDou, Galileo, sampling frequency 5 Hz
IMU update rate	600 Hz
Position accuracy	0.010 m RMS horizontal, 0.020 m RMS vertical, 0.01 degrees RMS pitch/roll, 0.04 degrees RMS heading

### Imaging system

Camera type	Built-in calibrated Camera
Resolution	6252 × 4168
Effective pixels	26 MP, 30 fps
Min. trigger interval	0.8 sec

### Environmental

Operating temperature	-20°C ~ +50°C
Storage temperature	-20°C ~ +65°C
IP rating	IP54
Humidity (operating)	80%, non-condensing

### Electrical

Input voltage	DC 12 ~ 28 V
Power consumption	32 W, min. 2A
Power source	Depending on UAV battery, or by Skyport from DJI M300

\* Specifications are subject to change without notice.

(1) Weight calculated with integrated camera. (2) Typical values for average conditions. (3) Accuracy is the degree of conformity of a measured quantity to its actual (true) value. (4) Precision is the degree to which further measurements show the same results. Improved by GEOMATE COPre SW.