

# GEOMATE

Premium Surveying. Trusted Solutions



# GEOMATE VA15

PREMIUM AIRBORNE LIDAR SOLUTION



## EFFICIENT AND POWERFUL CORRIDOR MAPPING SENSOR

The VA15 is a lightweight airborne LiDAR system. It combines long-range scanning capability and high accuracy with an extremely fast data acquisition rate, all in a compact design. The VA15 is ideal for scenarios where high density data is required to accurately extract building and road information from point clouds. For large-scale operations, especially in mountainous areas with significant elevation changes, the VA15 accurately detects ground features even at the bottom of valleys. Equipped with a variety of cameras to meet diverse needs, the system can be mounted on light aircraft, helicopters or UAV platforms.

## SPECIFICATIONS

### General system performance

Absolute Hz accuracy	2 cm ~ 5 cm RMS <sup>(1)</sup>
Absolute V accuracy	2 cm ~5 cmRMS <sup>(1)</sup>
Mounting	Quickly install & release design, easily switch between various UAV platforms, RPAS, small manned aircraft and helicopters
Weight of instrument	2.5 kg
Dimensions of instrument	247mm × 126mm × 156mm
Data storage	512 G (Optional for 1T)
Coping speed	Coping speed
Imaging system	External camera C5/C30 (Optional for third-party oblique or ortho cameras)

### Positioning and orientation system

GNSS system	Multiple GPS, GLONASS, Galileo BeiDou, SBAS and QZSS constellation, L-Band
IMU update rate	600 Hz
Attitude accuracy after post-processing	0.005° RMS pitch/roll, 0.010° RMS heading
Position accuracy after post-processing	0.010 m RMS horizontal, 0.020 m RMS vertical,

### Imaging system

Resolution	45MP
Focal length	21 mm / 35 mm
Sensor size	36 mm x 24 mm (8184 x 5460)
Pixel size	4.4 μm
Min photoing interval	1 s
FOV	81.2*59.5 / 53.4*37.8

### Environmental

Operating temperature	-20 °C to +50 °C
Storage temperature	-20 °C to +60 °C
IP rating	IP64
Humidity (operating)	80%, non-condensing

### Electrical

Input voltage	DC 24V(15 ~ 27V )
Power consumption	60W

### Optional software

CoPre Intelligent Processing SW	Data copy, POS solve, point cloud and images creation, strip adjustment & GCP refine, noise optimization, DOM and 3D model generation
CoProcess Efficient Feature Extraction SW	Terrain module, Road module, Volume module, Road Extractions module, Building Extractions module

### Laser scanner

Laser divergence angle	0.032°
Minimum range	5m
Accuracy <sup>(4)</sup>	15 mm (1σ,@ 150m)
Precision <sup>(5)</sup>	5 mm (1σ,@ 150m)
Multi-Period capability	up to 7 zones
Field of view	75°
Scanning mechanism	rotating mirror
Max. Measurement Rate	2,000,000 meas./sec.
Scan speed (selectable)	50~600 scans/sec
Waveform	Full waveform

### Laser scanner

Laser product classification	Class 3R (in accordance with IEC 60825-1:2014)									
Laser pulse repetition rate PRR	100 kHz	200 kHz	300 kHz	400 kHz	500 kHz	800 kHz	1000 kHz	1500 kHz	2000 kHz	
Max. range, @p > 20% <sup>(2)</sup>	900m	720m	700m	610m	545m	430m	385m	315m	272m	
Max. range, @p > 80% <sup>(2)</sup>	1800m	1440m	1400m	1220m	1090m	860m	770m	630m	500m	
Max. Operating Flight Altitude AGL@p > 20% <sup>(3)</sup>	700m	570m	550m	480m	430m	340m	300m	250m	200m	
Max. Number of return pulses up to	16	16	16	16	16	16	16	10	8	

\* Specifications are subject to change without notice.

(1) According to CHCNAV test condition :150 m AGL with 8 m/s speed. (2) Typical values for average conditions. (3) Flat terrain assumed. (4) Accuracy is the degree of conformity of a measured quantity to its actual (true) value. (5) Precision is the degree to which further measurements show the same results.

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