GEOSPACE

GS800

UAV/Helicopter LiDAR System

Geospace GS800 is a next-generation medium-to-long-range UAV/Helicopter LiDAR system.
It integrates lightweight LiDAR, a self-developed inertial navigation system, and a built-in high-resolution mapping camera, combining the advantages of lightweight and long-range capabilities. With the support of flight control software

GreenValley App and data processing software LiGeoreference, providing more efficient all-in-one solution tasks for power line inspection, forest monitoring, emergency disaster assessment, and more.

Advantages

❚ Lightweight & Long-range

Integrated with lightweight LiDAR, the total weight of the device is 2.25kg, and it can be equipped with M350/M300 RTK for operations. With a data frequency of 1000kHz, it can achieve a maximum range of 1000m. It supports an unlimited number of echoes for data collection, enabling complete terrain data acquisition even in vegetated areas.

❚ High Efficiency & High Accuracy

With a horizontal field of view of 100 degrees, at a flight height of 200m, the effective swath width of a single pass is greater than 450m. The system has a repeat ranging accuracy of 5mm, and the vertical positioning error at a flight height of 200m is less than 5cm.

❚ Adaptive LiDAR Rotational Speed, Point Cloud Distribution More Evenly

Offer 9 different configurations for flight height, data frequency, and energy settings, the device can adaptively adjust the LiDAR rotation speed to ensure consistent line spacing and point spacing in different survey areas, ensuring uniform distribution of point clouds and preserving the three-dimensional spatial characteristics of objects with greater accuracy.

### ❚ Built-in Camera, Ultra-clear Picture Quality

Built-in 26-megapixel high-resolution mapping camera, 200m altitude can obtain 4.7cm resolution images, and can generate high-quality color point clouds, meeting the production requirements for mapping products.

❚ Intelligent Flight Control Mode

Intelligent judgment of flight altitude, automatic start of data collection in the air, and automatic stop of collection on the ground, ensure the integrity of the surveyed area while minimizing data redundancy to the maximum extent possible.

❚ Support of GreenValley Flight Assistant

GreenValley App supports status monitoring, parameter adjustment and 3D real-time point cloud display. The simpler and clearer design of the interface provides a more convenient flight experience.
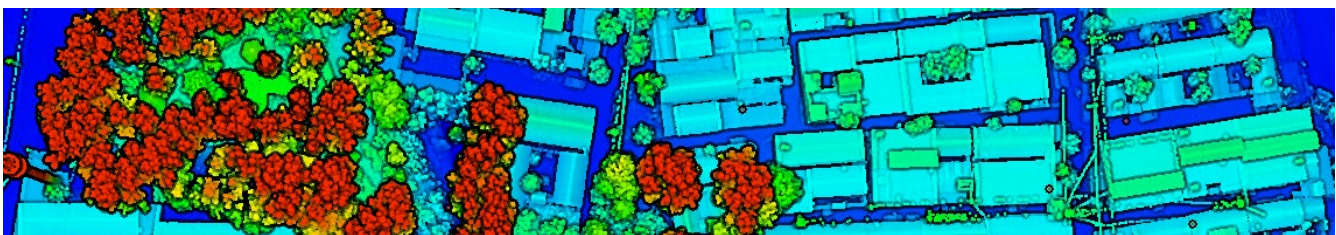
Specifications

System Parameters

Detection Range	350m @ 10% reflectance	Accuracy (Vertical)	±5cm
Typical Flight Speed	5-10m/s	Memory	256GB TF Card
Weight	2.25kg	Voltage	18~24V
Power Consumption	61W	Communication	WIFI
Operating Temperature	-20~50℃	Storage Temperature	-30~60℃

LiDAR Unit

Wavelength	1535nm	Number of Channels	3
FOV	100°	Repeatability Accuracy	5mm
Number of Returns	Unlimited waveform returns	Data Frequency	100~1000KHZ

Inertial Navigation System

GNSS	GPS，GLONASS，BeiDou	Azimuth Accuracy	0.019°
IMU Data Frequency	1kHZ	Attitude Accuracy	0.006°

Camera

Pixels	26MP	Focal Length	16mm/24mm (Equiv. Focal Length)
Image Size	6252×4168		

Software

Control Software	GreenValley	Pre-processing	LiGeoreference
Post-processing	LiDAR360/LiPowerline (Optional)		