

LiAIRXmini

UAV LiDAR System

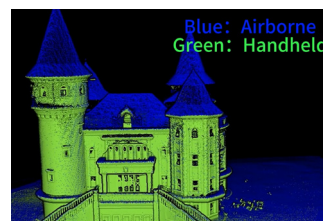


The LiAIRXmini is a lightweight, compact autonomous flight LiDAR acquisition system developed by GreenValley International. It integrates a lightweight 360° scanning laser scanner, a high-precision inertial navigation system and a high-performance edge computing platform. As a LiDAR system compatible with DJI Matrice4E/4T drones, It supports data acquisition through pre-planned routes or autonomous flight modes to capture complete 3D point clouds of objects, making it suitable for point cloud data acquisition in indoor and outdoor close-range scenarios.

Advantages

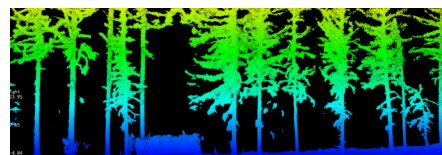
I Surveying-grade SLAM LiDAR system

Utilizing surveying-grade SLAM algorithms and high-precision fusion positioning technology, it achieves high-precision 3D point cloud with a relative accuracy of 2 cm and an absolute accuracy of 5 cm. it can effectively supplement data in areas that cannot be reached by handheld LiDAR systems, such as building rooftops.



I Autonomous Flight Operation in GNSS-Denied Environments

Equipped with a proprietary SLAM algorithm and path planning algorithm, the device can perform real-time positioning and path planning without relying on GNSS. It enables fully autonomous flight by planning waypoints in real-time without the need for prior maps or manual intervention. making it suitable for 3D point cloud data collection in enclosed spaces such as under forest canopies, mine tunnels, and passageways.



Specifications

System Parameters

Detection Range	40m@10% reflectance ; 70m@80% reflectance	Typical Flight Speed	Approx. 15 Minutes
Internal Storage	256 G	Weight	405 g
Dimensions	113×64×131 mm	Voltage	12~26 V
Power Consumption	20 W	Operating Temperature	-20~50 °C
Storage Temperature	-30~60°C		

LiDAR Sensor Parameters

Wavelength	905 nm	Laser Class	Class1
FOV	360°×59°	Point Rate	200,000 points/s

Inertial Navigation System

GNSS	GPS, GLONASS, Galileo, BDS	Azimuth Accuracy	0.05°
Attitude Accuracy	0.02°	IMU Data Frequency	500 Hz

Software

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