GreenValley International

LiAir X3C-H

Compact UAV LiDAR System

The LiAir X3C-H is a new compact high-performance UAV LiDAR system. It adopts a new integrated design style and a built-in highresolution mapping camera, providing higher performance and convenient operation for power-line inspection, topographic surveying, agricultural and forest monitoring, and more.

Advantages

Integrated Design

The operation interface is compact and convenient, with an unpluggable TF card and engineered data storage model that allows for one-touch operation and copying of laser and camera data.

New Camera, providing ultra-clear picture quality

The built-in high-resolution mapping camera has been upgraded to 26 MP, providing ultraclear picture quality and enabling the creation of high-quality true-color point clouds and orthophotos for Photogrammetry. Additionally, the external camera interface allows for simultaneous mounting of infrared cameras and other camera types, making the LiAir X3C-H a versatile tool for a wide range of applications.

Handheld Accessories

Lightweight and quick-release design, one-button operation for efficient work. 3 hours of extra-long battery life. GNSS module with SLAM technology for signal-blocking resistance, enabling operation in indoor and outdoor spaces. Compatible with multiple fields such as forestry, mining surveying, power monitoring, and building facade surveying.

Lightweight and easy to disassemble

The overall weight of the handheld part is 0.68 kg, and the ergonomic design allows for easy grip. The single battery has a battery life of 3 hours, and with one-button operation and installation, it can be used immediately after installation.

High-efficiency operation

3-5 cm super high accuracy, point density better than 10,000 pts/m², effective measurement range of 190 m (10% reflectivity), and an operation efficiency of up to 100,000 m² per hour.

High-precision fusion

From aerial (with GNSS signal) to indoor (without GNSS signal) operation in all spaces, with a flying platform and handheld kit, directly obtain ground point cloud data with absolute coordinates and airborne point cloud data, meeting the needs of multiple scenarios. The point cloud fusion accuracy can reach centimeter level.

Multi-scene operation

With SLAM technology and GNSS module for accurate positioning, it can be used in areas without GNSS signal to generate accurate 3D point cloud models and rich features. It is suitable for multiple applications such as forestry, mining surveying, power monitoring, building scanning, and more.

Specifications

System Specifications

Detection Range	80 m @ 10% reflectivity 200 m @ 54% reflectivity 300 m @ 90% reflectivity	System Accuracy (Vertical)	5 cm @ 70m
		Typical Flight Speed	5-10 m/s
Weight	1.12 kg	Storage	256 GB TF Card
Voltage	12~24 V	Power Consumption	24 W
Operating Temperature	-20~50 ℃	Storage Temperature	-30~60 ℃
Communication	WiFi		

LiDAR Sensor Parameters

Wavelength	905 nm	Number of Channels	32
Point Rate	Single Return: 640,000 pts/s Dual Return: 1,280,000 pts/s Triple Return: 1,920,000 pts/s	FOV	360° (Horizontal)×40.3° (Vertical)
		Number of Returns	3

Inertial Navigation System

GNSS	GPS, GLONASS, Galileo, BDS	Azimuth Accuracy	0.038°
Attitude Accuracy	0.008°	IMU Data Frequency	200 Hz

Camera Parameters

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

Software

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

Compatible Platforms

DJI, Freefly, etc.

Handheld Accessories

System Parameters

Handheld Size	181.8×108×88 mm	Handheld Weight	0.68 kg (Including Base)	Voltage	15.2 V
Battery Box Size	146×57×148 mm	Battery Capacity	5870 mAh	Antenna	AT-106
Single-Flight Continuous Operation Time	Maximum 55 mins	Battery Box Weight	0.81 kg	Working Time of One Battery Block	3 h
Applicable Environment	Applicable to multiple scenarios both indoors and outdoors				

Mapping Method

Mapping Principle	SLAM, PPK-SLAM	Real-Time Calculation	Not Supported

Data Results

Absolute Accuracy	≤5 cm	Point Cloud Format	LAS, LiData