GreenValley International

LiAir X3-H

Enhanced Lightweight UAV LiDAR System

LiAir X3-H is the newest compact, high-performance unit in the LiAir series by GVI. It adopts a new integrated design style and integrates lightweight LiDAR, self-developed inertial navigation, a high-resolution mapping camera and on-board computer systems providing new levels of efficiency.

Advantages

Lightweight & Simple

Integrated simple yet rugged design, allowing for protection against various environmental elements. The operation interface is straightforward, allowing one-touch operation for maximum efficiency.

New Camera, providing ultra-clear picture quality

Built-in new high-resolution custom mapping camera, the image resolution is upgraded from 24 MP to 26 MP, allowing for high-quality true-color point clouds as well as orthophotos for Photogrammetry.

GreenValley Flight Assistance Software makes field work easy

GreenValley software supports real-time point cloud display, parameter adjustment, and status monitoring. It can be directly installed on the M300/M350 RTK remote controllers, helping operators to control the on-site situation in real time.

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-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.

High-efficiency operation

3-5c m super high accuracy, point density better than 10,000 pts/m^2, effective measurement range of 190 m (10% reflectivity), and an operation efficiency of up to 100,000 m^2 per hour.

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.

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Specifications

System Specifications			
Detection Range	190 m @ 10% reflectivity 450 m @ 80% reflectivity	System Accuracy (Vertical)	5 cm @ 70m
Dimensions	136×106×129 mm	Typical Flight Speed	5-10 m/s
Weight	1.25 kg	Voltage	12~24 V, 0.9 A @ 24 VDC
Power Consumption	22 W	Storage	256 GB TF Card
Operating Temperature	-20~50 ℃	Storage Temperature	-30~60 ℃
LiDAR Sensor Parameters			
Wavelength	905 nm	Laser Class	Class1
Range Accuracy	2 cm (1σ @ 20m)	FOV	70.4° (Horizontal)×4.5° (Vertical)
Scan Rate	720,000 pts/s （Triple Return）	Number of Returns	3
Scan Method	Repetitive Scan		
Inertial Navigation System			
GNSS	GPS, GLONASS, Galileo, BDS	Azimuth Accuracy	0.038°
Attitude Accuracy	0.008°	IMU Data Frequency	200 Hz
Camera Parameters			
Image Sensor	APS-C	Pixels	26 MP
Focal Length	16 mm / 24 mm （Equiv. Focal Length）	Image Resolution	6252×4168
Software			
Control Software	GreenValley	Pre-Processing	LiGeoreference
Post-Processing	LiDAR360 / LiPowerline (Optional)		

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		