

LiGRIP O1 LITE



Lightweight 3D Laser Scanner

The LiGrip O1 Lite is the latest generation of lightweight products in GVI's LiGrip handheld series. It features an integrated design and supports various mapping methods, including RTK-SLAM, PPK-SLAM, and SLAM. It can output real-time, high precision, true-color LAZ point cloud data with absolute coordinates.

The LiGrip O1 Lite can be equipped with an RTK module and a telescopic pole, making it suitable for applications such as floor plan measurement, mine surveying, stockpile measurement, and facade measurement. Combined with LiDAR360 and LiDAR360MLS software, it provides customers with a more efficient turnkey solution.

Integration

The product is highly integrated, with the camera, LiDAR and power supply system in one hand, which makes the user's operation more convenient.



Real-time Mapping and Real-time Colorization

Multi-source sensors synchronized in time and space, real-time processing, real-time colorization, to generate high-precision, true-color LAZ point cloud data, the results are exported for immediate use. When RTK is available, point cloud data with absolute coordinates can be obtained.



Specialized Accessories

The product can be equipped with an RTK module to meet users' needs for collecting data in absolute coordinates for immediate use. The product can be equipped with telescopic pole to meet the needs of users to extend the arm to collect data in high or low places under specific scenarios as well as to collect multi-directional control points.



Lightweight Equipment

A weight of 1 kilogram makes measurement more comfortable and unrestricted.

1.0KG

Turnkey Solution

With the LiDAR360 and LiDAR360MLS software developed by GVI, it can provide users with a turnkey solution.



Specifications

System Parameters			
Dimensions	L184 mm×W115 mm×H304 mm	Weight	1.0 kg (including GCP base and battery)
Battery Capacity	3450 mAh	Voltage	14.4 V
Storage	256 GB ^[1]	Protection Rating	IP54
Port	Type-C, TF Card	Single Battery Life	180 mins ^[2]
Controls	App / Button	Firmware Upgrade	OTA / Offline
Working Temperature	-20°C ~40°C		
LiDAR Sensor Parameters			
Laser	Mid360	Wavelength	905 nm
Scan Rate	200,000 pts/s	Scan Range	40 m @ 10% reflectivity, 70 m @ 80% reflectivity
Scanning Accuracy	2 cm	FOV	Horizontal 360°, Vertical -7°~52°
Camera Parameters			
Camera Type	LiCam	Resolution Ratio	3840×2160
FOV	240°×143°	Image Format	bin (before parsing)/JPG (after parsing)
Capturing Frame Rate	0~5 frames/sec (adjustable)		
Mapping Method			
Mapping Principles	RTK-SLAM, PPK-SLAM, SLAM	Real-time Processing	Support
Real-time Coloring	Support		
Data Results			
Relative Accuracy	≤2 cm	Absolutely Accuracy	≤5 cm ^[3]
Point Cloud Data Format	LAZ(real-time processing), LiData (post-processing)		

[1] 256 GB (standard), supports up to 1 TB expansion;

[2] No GNSS, no camera recording;

[3] Standard precision field, strictly standardized operation; the more feature points in the scanned scene and the better the quality of the features, the higher the point cloud accuracy. It is recommended to obtain high-precision point cloud results according to the recommended operation method.

Option Parameters: RTK Module

RTK Module			
GNSS System	Supports 5-constellations 14-band	RTK Accuracy	Horizontal 0.8 cm+1 ppm, Vertical 1.5 cm+1 ppm
	GPS: L1/L2/L5	RTK Protocol	NTRIP
	GLO: L1/L2	Network Communication	4G Global Pass ^[4]
	BDS: B11/B21/B31	Dimensions	L 45 mm×W 45 mm×H95 mm
	GAL: E1/E5a/E5b	Weight	119 g
	QZSS: L1/L2/L5	GNSS Raw Data Format	log
Compatibility	Support for LiGrip O1 Lite and LiGrip O1	RTK Data Format	rtk

[4] Support frequency bands: LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28
 LTE-TDD: B38/B39/B40/B41
 UMTS: B1/B2/B4/B5/B6/B8/B19
 GSM: B2/B3/B5/B8