GreenValley International

LiGrip O1 Lite

Lightweight 3D Laser Scanner

The LiGrip O1 Lite is the latest generation of lightweight products in GreenValley International'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 LAS 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 LAS 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 free.

1.0KG

Turnkey Solution

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

Specifications

System Parameters

Size	L 184mm×W 115mm×H 304mm	Handheld Weight	1.0kg (including base stand and battery)
Battery	3350 mAh	Voltage	14.4 V
Storage	256GB[1]	Protection Rating	IP54
Port	Type-C, TF Card	Single Battery Life	180mins[2]
Controls	App/Button	Firmware Upgrade	OTA/Offline

LiDAR Sensor Parameters

Laser	Mid360	Wavelength	905 nm
Scan Rate	200,000 pts/s	Scan Range	40m@10% reflectivity, 70m@80% reflectivity
Scanning Accuracy	2cm	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	Supported
Real-time Coloring	Supported		

Data Outcomes

Relative Accuracy	≤2cm	Absolutely Accuracy	≤5cm[3]
Point Cloud Data Format	Las (real-time processing), LiData (post-processing)		

[1] 256GB (standard), supports up to 1TB 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, and it is recommended to obtain high-precision point cloud results according to the recommended operation method.

Option Parameters: RTK module

RTK Module

	Supports 5-constellations 14-band	RTK Accuracy	Horizontal 0.8cm+1ppm, Vertical 1.5cm+1ppm
	GPS：L1/L2/L5	RTK Protocol	NTRIP
	GLO：L1/L2	Network Communication	4G Global Pass[4]
GNSS System	BDS：B1I/B2I/B3I	Size	L 45mm×W 45mm×H 95mm
	GAL：E1/E5a/E5b	Weight	119g
	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