GreenValley International

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 accessories such as RTK module, telescopic pole adapter and LiGrip frontpack. The rich accessories can be flexibly matched according to the collection scenarios to meet various collection needs such as multi-directional pointing, instant collection, freeing hands, etc., further improving the operational efficiency.

Lightweight Equipment

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

1.0 KG

Turnkey Solution

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

LiDAR360 LiDAR360 LS

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Specifications

System Parameters			
Dimensions	184×115×304 mm	Handheld Weight	1.0 kg (including GCP base and battery)
Battery Capacity	3450 mAh	Voltage	14.4 V
Storage	256 GB[1]	IP Rating	IP54
Port	Type-C, TF Card	Single Battery Life	180 mins[2]
Controls	App / Button	Firmware Upgrade	OTA / Offline
Operating Temperature	-20℃ ~40℃	Equipment Storage Temperature	-40℃ ~70℃
Battery Storage emperature	Recommended storage temperature: 22℃ ~30℃ [3]		
LiDAR Sensor Parameters			
Laser	Mid360	Wavelength	905 nm
Scan Rate	200,000 pts/s	Detection Range	40 m @ 10% reflectivity, 70 m @ 80% reflectivity
Range Accuracy	2 cm	FOV	360°(Horizontal)×59°(Vertical)
Camera Parameters			
Camera Type	LiCam	Image Resolution	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[4]
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] Battery Storage Temperature, -20℃ ~45℃ Less than 1 month; -20℃ ~35℃ Greater than 1 month;

[4] 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.

Optional Accessories Parameters

RTK Module			
GNSS System	Supports 5 constellations and 14 frequencies	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[5]
	BDS：B1I/B2I/B3I	Dimensions	45×45×95 mm
	GAL：E1/E5a/E5b	Weight	119 g
	QZSS：L1/L2/L5	GNSS Raw Data Format	.log
Compatible with	LiGrip O1 Lite and LiGrip O1	RTK Data Format	rtk
Pole Adapter			
Weight	300 g	Support Telescopic Pole Diameter	25-25.5 mm[6]
LiGrip Frontpack			
Weight	2.1 kg	Outer Package Size	560×340×160 mm

[5] 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

[6] The adapter only supports the RTK telescopic pole with an outer diameter of 25-25.5 mm of the telescopic part, and the locking device does not support the telescopic pole adapter with a protruding ring on the top contact surface of the RTK telescopic pole.