GreenValley International

LiMobile M2 Pro

Mobile Laser Scanning System



The LiMobile M2 Pro mobile laser scanning system, developed by GreenValley International (GVI), is a highly professional survey-grade mobile measurement system. The system integrates a long-range, high-precision LiDAR, a GNSS/INS integrated navigation system, multi-channel SLAM LiDAR, and a high-resolution panoramic camera. The system also provides multiple expansion interfaces and can be installed on various vehicle models. Paired with GVI's self-developed LiDAR360MLS software, it enables one-stop data processing and delivers industry-ready results for applications such as road maintenance and reconstruction, road asset inventory, intelligent transportation, high-precision mapping, digital twins, and more.

Advantages

High Precision

The system employs GNSS, IMU, DMI, and LiDAR SLAM technologies to handle complex operating environments and enables accurate 3D scene reconstruction, even in GPS-denied areas. Integrated with a LiDAR offering millimeter-level accuracy, the system can achieve centimeter-level precision.

Instant Insight, Total Control

The newly designed data collection APP features a guided operational process, enabling real-time monitoring of data and positioning status, and ensuring convenient access to all critical information.

Highly Integrated, Flexible Installation

The M2 Pro system features a quick-release design, allowing rapid installation and removal. Seven predefined mounting angles (0°, ±15°, ±30°, ±45°) can be flexibly selected to meet the requirements of different projects.

Abundant Expansion

The system is compatible with optional external sensors, including a pavement camera, front camera, DMI, and more.The pavement camera focuses on the road surface for a detailed pavement analysis. The front camera captures traffic signs at high resolution. The DMI provides assistance when satellite signals are blocked or missing, improving system stability.

Long-lasting Power, Continuous Operation

The system supports an external power supply, enabling efficient and uninterrupted operation.

Multi-Industry Applications

The system is widely used in applications such as road maintenance and reconstruction, road asset extraction, intelligent transportation, high-precision mapping, digital twins, and more.





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Specifications

System Parameters			
Dimensions	561×230×574 mm	Weight	15 kg
Roof Rack Dimensions	740×350×95 mm	Roof Rack Weight	17.5 kg
Operating Time	≥3 h	Port	LAN, ODO
Storage	1 TB×2	Battery Capacity	6000 mAh×6
Operating Temperature	-10 °C ~ 50 °C	IP Rating	IP65
Power Consumption (Typical)	125 W	Power Supply Input Voltage	24 V DC
Power Consumption (Max)	155 W	Interface Connection	Wi-Fi / Ethernet

LiDAR Parameters								
Accuracy	1 mm @ 30 m (1σ)			Scan Rate		25-200 Scans/Sec		
	3 mm @ 100 m (1σ)			FOV		360°		
Laser Pulse Repetition Rate[1]	2000 kHz	1500 kHz	1000 kHz	750 kHz	500 kHz	300 kHz	150 kHz	100 kHz
Maximum Range (Target Reflectivity ≥ 80%)	75 m	100 m	150 m	200 m	300 m	500 m	1000 m	1500 m

Camera Parameters	DuxCam G2S	Ladybug5+ (Optional)	Ladybug6 (Optional)	Pavement / Front (Optional)
Pixels	72 MP(12 MP×6 Sensors)	30 MP (5 MP×6 Sensors)	72 MP (12 MP×6 Sensors)	24 MP (12 MP×2 Sensors)
Maximum Frame Rate	5 FPS	10 FPS	5 FPS	5 FPS (4096×3000)
Image Resolution	12000×6000	8192×4096	12288×6144	4096×3000
Sensor Type	CMOS	CMOS	CMOS	CMOS
Trigger Mode	Time / Distance Trigger	Time / Distance Trigger	Time / Distance Trigger	Time / Distance Trigger
Power Consumption	Maximum 36 W	Maximum 13 W	Maximum 13 W	3.0 W @ 12 V DC

Positioning and Orientation System Parameters			
GNSS System	GPS; GLONASS; GALILEO; BEIDOU; QZSS; SBAS	IMU Data Frequency	500 Hz
Mechanical DMI (Optional)	Mechanical wheel odometer for road applications.		
Position Accuracy (RMS, 1σ)[2]	Horizontal: 0.01 m	Roll / Pitch Accuracy (RMS, 1σ)[2]	0.005°
	Vertical: 0.02 m	Heading Accuracy (RMS, 1σ)[2]	0.01°

Data Output			
Absolute Accuracy[3]	≤3 cm	Point Cloud Data Format	LAS, LAZ, LiData

Software			
Data Collection	GreenValley APP		
Pre-Processing	LiDAR360MLS-Geo Module	Post-Processing	LiDAR360MLS (Optional)

[1] In vehicle-mounted mode, the laser pulse repetition ranges from 500 kHz to 1000 kHz.
[2] PPK performance in open-sky GNSS environment.
[3] The accuracy is measured in a specific calibration field of GVI, with a vehicle speed of 40 km/h and LiDAR360MLS software. The accuracy may vary in different operating environments, so please refer to actual use.