

LiMOBILE M2 Pro

Mobile Laser Scanning System



The LiMOBILE M2 Pro mobile laser scanning system, developed by GreenValley International (GVI), is a highly practical survey-grade mobile measurement system. The system integrates a long-range, high-precision LiDAR, GNSS/INS integrated navigation system, multi-channel SLAM LiDAR, and a high-resolution panoramic camera. It also provides multiple expansion interfaces and can be installed on different vehicle models. Paired with GVI's self-developed LiDAR360MLS software, it enables one-stop data processing to deliver industry results in applications like road maintenance, road reconstruction and expansion, road asset census, intelligent transportation, high-precision maps, digital twins, and more.

Advantages

I High Precision

The system employs GNSS, IMU, DMI, and LiDAR SLAM technologies to easily handle various complex working conditions, accurately recreating 3D reality even in GPS-denied areas. Integrated with a LiDAR offering millimeter-level accuracy, the system can achieve centimeter-level precision.

I Instant Insight, Total Control

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

I Highly Integrated, Flexible Installation

The M2 Pro system is compatible with a quick-release design that allows for rapid installation and removal. Seven predefined mounting angles (0° , $\pm 15^\circ$, $\pm 30^\circ$, $\pm 45^\circ$) can be flexibly selected to meet the needs of different projects.

I Abundant Expansion

Compatible with optional pavement camera, front camera, DMI, and other external sensors. 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.

I Long-lasting Power, Continuous Operation

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

I Multi-Industry Applications

It is widely used in various fields, including road maintenance, road reconstruction and expansion, road asset extraction, intelligent transportation, high-precision maps, digital twins, and more.



Specifications

System Parameters

Dimensions	508.5×263×573.3 mm	Weight	15 kg
Roof Rock Dimensions	740×350×95 mm	Roof Rock 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 (1 σ)			Scan Rate		25-200 Scans/Sec		
	3 mm @ 100 m (1 σ)			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			
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 1 σ) ^[2]	Horizontal: 0.01 m	Roll / Pitch Accuracy (RMS 1 σ) ^[2]	0.005°
	Vertical: 0.02 m	Heading Accuracy (RMS 1 σ) ^[2]	0.01°

Data Output

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