

Tersus MVP S1

Handheld 3D Laser Scanner



Overview

Designed for professionals who demand portability without compromise. The Tersus MVP S1 combines a 360° LiDAR, high-precision RTK module, and flagship panoramic imaging into a compact body. Whether mapping indoor spaces or outdoor construction sites, it ensures seamless data capture with microsecond-level synchronization.

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Key Features

- **Ultra-lightweight design** (only 982 g total) with a compact form factor
- **High-precision point cloud acquisition:** 200,000 pts/s, thickness <1 cm
- **Wide scanning range:** 0.1–70 m (@80% reflectivity)
- **Field of view:** 360° horizontal, -7° to +52° vertical
- **High accuracy:** Relative <1 cm, Absolute <5 cm
- **Advanced RTK/GNSS support:** multi-constellation, high-frequency positioning
- **Real-time color point cloud** and scan report generation
- **Seamless resume scan** with automatic stitching
- **Dual 48 MP cameras** supporting 3DGS reconstruction
- **Long battery life:** up to 150 minutes of continuous operation

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System & Data

Weight	982 g (Battery: 363 g, Main unit: 619 g)
Dimensions	104 × 140 × 305.7 mm (with positioning plate)
Main Unit Size	104 × 105 × 133.2 mm
Ingress Protection	IP5X
Operating Temperature	-20°C to +55°C
Storage Temperature	-20°C to +60°C
Phone Mounting	Magnetic

Interfaces

WIFI	Wi-Fi 6, 2.4G / 5G dual-band, up to 20 m
Bluetooth	Supported
Data Export	TF card / Type-C
USB	USB OTG, Supports app connection and SD card copy

LIDAR

Laser Class	Class 1 / 905 nm
Point Cloud Rate	200,000 pts/s
Frequency	10 Hz
Range	0.1–40 m @10% reflectivity 0.1–70 m @80% reflectivity
Field of View (FOV)	Horizontal 360°, Vertical -7° to +52°
Mounting Angle:	Tilted 20° to ground

Camera System

Resolutio	48 MP × 2
Sensor Size	1/2"
Panoramic Image	Supported
Camera Count	2
Max Capture Rate	10hz
Lens Field of View	Vertical 200° Horizontal 200° (per fisheye lens)

Power

Voltage Range	13.2 V – 16.8 V
Power Consumption	< 20w
Battery Capacity	41.97 Wh (2849.41 mAh)
Battery Voltage	12.7 – 16.2 V
Operating Time	150 min
Charging Port	Type-C
Charging Power	PD 30 W
Charging Time	120 min

Onboard Computing

Computing Power	6 TOPS
Memory	8 GB
Storage	256 GB (expandable)

Processed Accuracy

Point Thickness	< 1 cm
Accuracy	Relative < 1 cm Absolute < 5 cm

RTK/GNSS

Accuracy	Horizontal 0.8 cm + 1 ppm Vertical 1.5 cm + 1 ppm
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Supported Constellations

BDS: B11, B21, B31, B1C, B2a, B2b;
GPS: L1C/A, L1C, L2C, L2P(Y), L5; GLONASS: G1, G2, G3;
Galileo: E1, E5a, E5b, E6;
QZSS: L1C/A, L1C, L2C, L5;
NavIC: L5;
SBAS: L1C/A

3DGS

Model Generation	Basic 3DGS model generation
Preview	Basic 3DGS preview

Note:

- (1) The initialization time depends on various factors, including the number of satellites, observation time, atmospheric conditions, multi-path, obstructions, satellite geometry, etc.
- (2) The initialization reliability may be affected by atmospheric conditions, signal multipath, and satellite geometry.
- (3) It is recommended using 2A instead of 1A when the external power is 5V.
- (4) The actual size/weight may vary depending on the manufacturing process and measurement method.