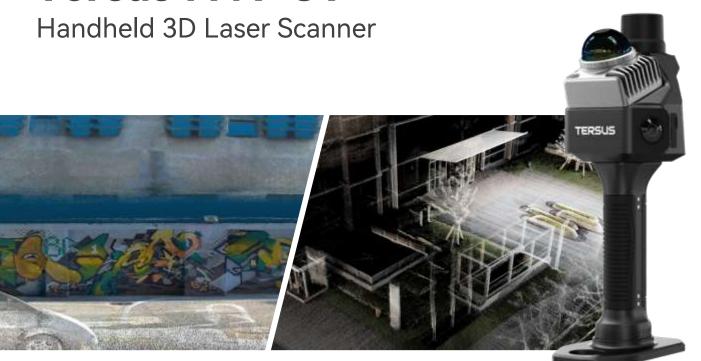# Tersus MVP S1
Handheld 3D Laser Scanner

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.

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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Tersus MVP S1
Handheld 3D Laser Scanner

System & Data

Weight	982g (Battery: 363g, Main unit: 619g)
Dimensions	104 × 140 × 305.7 mm (with positioning plate)
Main Unit Size	104 × 105 × 133.2 mm
Ingress Protection	IP5X
Operating Temperature	-20℃ to +55℃
Storage Temperature	-20℃ to +60℃
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	< 20 w
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	< 1cm
Accuracy	Relative < 1cm Absolute < 5cm

RTK/GNSS

Accuracy	Horizontal 0.8 cm + 1 ppm Vertical 1.5 cm + 1 ppm
Supported Constellations	GPS: L1C/A,L1C,L2C, L2P(Y),L5; BDS: B11, B21, B31, B1C,B2a,B2b; GLONASS: G1, G2, G3; Galileo: E1, E5a,E5b, E6; QZSS: L1C/A,L1C,L2C, L5; NavIC: L5;

3DGS

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

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Software

Mobile App	iOS and Android
TF Card Reading	Supported
PC Type-C Reading	Supported
Desktop Software	One-click colored point cloud export; supports post-processing, RGB/elevation/intensity display, image–point cloud integration
Mapping Modes	RTK-SLAM; Multi-Sensor Fusion SLAM
Colorization	Real-time and post-processing
Computation	Real-time or post-processing

Output

Point Cloud Formats	.las, .pcd, .ply, .rcp
Image Format	.jpg

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.

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