Specifications

Laser Scanning Performance		
Product model	LS1	LS1 Pro
LiDAR Channels	16 channels	32 channels
Point Rate	320,000 pts/s	640,000 pts/s
Measurement Range	Up to 120 m	Up to 300 m
Field of View	360° × 280°	360° × 280°
Relative Accuracy	1 cm	1 cm
Point Cloud Thickness	1 cm	1 cm
Absolute Accuracy	Up to 4 cm*	Up to 2 cm*
Mapping & Positioning		
Mapping Modes	SLAM / RTK-SLAM / PPK-SLAM	
Real-Time Processing	Yes	
Real-Time Point Cloud Preview	Yes	
Accuracy Heatmap	Yes	
Resume Scanning	Yes	
RTK Protocol	NTRIP	
GNSS Satellite Systems		
GNSS Signal	BDS: B1 / B2 / B3 / B1C / B2a / B2b GPS: L1 C/A / L1C / L2P(Y) / L2C / L5 GLONASS: L1 / L2 Galileo: E1 / E5a / E5b / E6 QZSS: L1 / L2 / L5 / L6 IRNSS: L5 SBAS: L1 / L2 / L5	
Camera System		
Resolution	2 × 48 MP + 1 × 5 MP	
Camera Field of View	190°x190°(48 MP)	135°x100°(5 MP)
General Specifications		
Weight	1.98 kg	1.68 kg
Battery Weight	0.52 kg	
Battery Capacity	70 Wh	
Operating Time	Up to 180 min	
Storage	512 G SSD	
IP Rating	IP54	
Operating Temperature	–20 °C to +55 °C	
Interfaces	Type-C / SkyPort / GNSS	
Power Supply	Handle battery / UAV power	
Mounting Modes	Handheld / Backpack / UAV / Vehicle-mounted	

* LS1 is equipped with a 16-channel LiDAR delivering up to 320,000 pts/s. LS1 Pro features a 32-channel LiDAR with a point rate of up to 640,000 pts/s.
* Accuracy values are obtained under Hi-Target standard calibration conditions (RMS). Performance may vary depending on environment and GNSS availability.
* Battery endurance depends on operating temperature and working conditions.

AUTHORIZED DISTRIBUTION PARTNER

25M116

Hi-Target Surveying Instrument Co., Ltd

ADD: Hi-Target Headquarters, No. 6, Hongchuang 2nd Street, Nancun Town, Panyu District, 511442 Guangzhou, China.
www.hi-target.com.cn +86-20-28688296 sales@hi-target.com.cn

Hi-Target

LS1 Pro

SLAM Scanner

LS1 Series Scanner

The LS1 Series is a portable engineering-grade SLAM laser scanner designed for complex real-world environments. By combining LiDAR, vision, RTK positioning, and advanced SLAM algorithms, LS1 delivers reliable accuracy and robust performance for demanding projects. More than a point cloud capture device, LS1 transforms field data into trusted engineering outputs, helping users improve efficiency and unlock real project value.

Integrated RTK
Clean, highly integrated design with no exposed cables

Real-Time Accuracy Feedback
Live accuracy heatmap during scanning
Verify data quality on-site, no guesswork, no rework

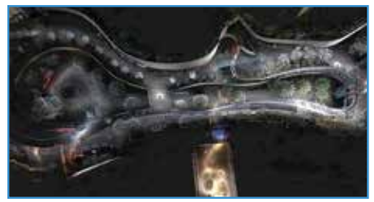
Multiple Platforms, One Workflow
Handheld / Backpack / Vehicle / UAV
One scanner adapts to multiple platforms

One Scan, Rich Outputs
Point Cloud / Mesh / 3DGS
Engineering accuracy and visual deliverables from one dataset

Industry-Leading SLAM with Integrated RTK

- Advanced SLAM algorithms ensure robust mapping in complex scenes
- RTK processing is fully integrated inside the system, providing global coordinate consistency
- No external RTK brackets or exposed cables, resulting in a clean and highly integrated design
- Reduced setup complexity and improved system reliability

For airborne operation: External GNSS antenna improves signal reception



Real-Time Data Confidence

- Real-time full-resolution point cloud preview
- Live color point cloud visualization
- Accuracy heatmap feedback during data collection
- Verify data quality on-site, not after processing
- Flexible Operation Modes

Available on both Android and iOS platforms

Multiple Output Forms

- High-Accuracy Point Clouds ----Engineering-grade geometry for surveying and analysis
- Mesh Surface Models ---Structured surfaces for inspection, visualization, and measurements
- 3DGS Reconstruction & Visualization ---Visual representations for presentation, communication, and digital twins

Flexible Operation Modes

- Handheld Mode
- Backpack Mode
- Vehicle-Mounted Mode
- UAV-Mounted Mode

Hi-LiDAR Software Workflow & Ecosystem

High-Quality Data Processing

- SLAM data processing with quality checks and reports
- RTK/PPK -SLAM and GCPs-SLAM processing for consistent global positioning
- Point cloud optimization for reliable downstream use

One Dataset, Multiple Possibilities

- SLAM data processing
- Terrain analysis(DEM, contours, volume measurement)
- Architecture and engineering applications
- Visualization and digital twin preparation

From Point Clouds to Engineering Applications

Architecture & Engineering Modules

- Effortless point cloud slicing and unfolding
- Supports CAD geometry assistance
- Section extraction and visualization
- Horizontal and vertical profiles
- Volume measurement and comparison
- Reporting tools for engineering workflows

Note: Advanced drawing and design workflows are supported in combination with third-party CAD and BIM software.

Application Scenarios

Urban Mapping

Infrastructure & Corridors

Industrial Facilities

Architecture
& Construction

Digital Twins
& Visualization

Emergency Response
& Rapid Mapping

Hi-Target

LS1 Pro

SLAM Scanner

LS1 Series Scanner

The LS1 Series is a portable engineering-grade SLAM laser scanner designed for complex real-world environments. By combining LiDAR, vision, RTK positioning, and advanced SLAM algorithms, LS1 delivers reliable accuracy and robust performance for demanding projects. More than a point cloud capture device, LS1 transforms field data into trusted engineering outputs, helping users improve efficiency and unlock real project value.

Integrated RTK
Clean, highly integrated design with no exposed cables

Real-Time Accuracy Feedback
Live accuracy heatmap during scanning
Verify data quality on-site, no guesswork, no rework

Multiple Platforms, One Workflow
Handheld / Backpack / Vehicle / UAV
One scanner adapts to multiple platforms

One Scan, Rich Outputs
Point Cloud / Mesh / 3DGS
Engineering accuracy and visual deliverables from one dataset

Industry-Leading SLAM with Integrated RTK

- Advanced SLAM algorithms ensure robust mapping in complex scenes
- RTK processing is fully integrated inside the system, providing global coordinate consistency
- No external RTK brackets or exposed cables, resulting in a clean and highly integrated design
- Reduced setup complexity and improved system reliability

For airborne operation: External GNSS antenna improves signal reception

Real-Time Data Confidence

- Real-time full-resolution point cloud preview
- Live color point cloud visualization
- Accuracy heatmap feedback during data collection
- Verify data quality on-site, not after processing
- Flexible Operation Modes

Available on both Android and iOS platforms

Multiple Output Forms

- High-Accuracy Point Clouds ----Engineering-grade geometry for surveying and analysis
- Mesh Surface Models ---Structured surfaces for inspection, visualization, and measurements
- 3DGS Reconstruction & Visualization ---Visual representations for presentation, communication, and digital twins

Flexible Operation Modes

- Handheld Mode
- Backpack Mode
- Vehicle-Mounted Mode
- UAV-Mounted Mode

Hi-LiDAR Software Workflow & Ecosystem

High-Quality Data Processing

- SLAM data processing with quality checks and reports
- RTK/PPK -SLAM and GCPs-SLAM processing for consistent global positioning
- Point cloud optimization for reliable downstream use

One Dataset, Multiple Possibilities

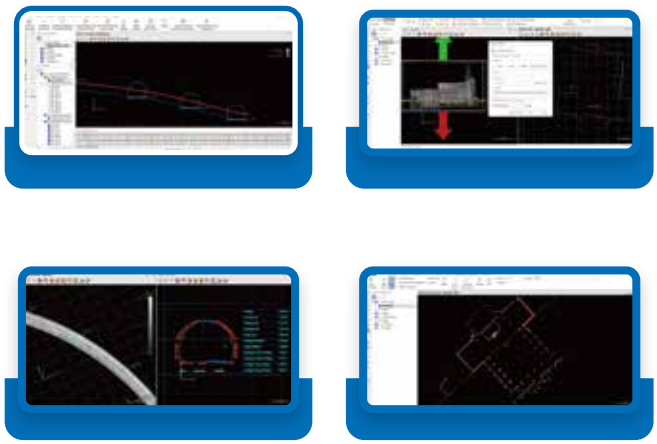
- SLAM data processing
- Terrain analysis(DEM, contours, volume measurement)
- Architecture and engineering applications
- Visualization and digital twin preparation

From Point Clouds to Engineering Applications

Architecture & Engineering Modules

- Effortless point cloud slicing and unfolding
- Supports CAD geometry assistance
- Section extraction and visualization
- Horizontal and vertical profiles
- Volume measurement and comparison
- Reporting tools for engineering workflows

Note: Advanced drawing and design workflows are supported in combination with third-party CAD and BIM software.



Application Scenarios

Urban Mapping

Infrastructure & Corridors

Industrial Facilities

Architecture
& Construction

Digital Twins
& Visualization

Emergency Response
& Rapid Mapping

Specifications

Laser Scanning Performance		
Product model	LS1	LS1 Pro
LiDAR Channels	16 channels	32 channels
Point Rate	320,000 pts/s	640,000 pts/s
Measurement Range	Up to 120 m	Up to 300 m
Field of View	360° × 280°	360° × 280°
Relative Accuracy	1 cm	1 cm
Point Cloud Thickness	1 cm	1 cm
Absolute Accuracy	Up to 4 cm*	Up to 2 cm*
Mapping & Positioning		
Mapping Modes	SLAM / RTK-SLAM / PPK-SLAM	
Real-Time Processing	Yes	
Real-Time Point Cloud Preview	Yes	
Accuracy Heatmap	Yes	
Resume Scanning	Yes	
RTK Protocol	NTRIP	
GNSS Satellite Systems		
GNSS Signal	BDS: B1 / B2 / B3 / B1C / B2a / B2b GPS: L1 C/A / L1C / L2P(Y) / L2C / L5 GLONASS: L1 / L2 Galileo: E1 / E5a / E5b / E6 QZSS: L1 / L2 / L5 / L6 IRNSS: L5 SBAS: L1 / L2 / L5	
Camera System		
Resolution	2 × 48 MP + 1 × 5 MP	
Camera Field of View	190°x190°(48 MP)	135°x100°(5 MP)
General Specifications		
Weight	1.98 kg	1.68 kg
Battery Weight	0.52 kg	
Battery Capacity	70 Wh	
Operating Time	Up to 180 min	
Storage	512 G SSD	
IP Rating	IP54	
Operating Temperature	–20 °C to +55 °C	
Interfaces	Type-C / SkyPort / GNSS	
Power Supply	Handle battery / UAV power	
Mounting Modes	Handheld / Backpack / UAV / Vehicle-mounted	

* LS1 is equipped with a 16-channel LiDAR delivering up to 320,000 pts/s. LS1 Pro features a 32-channel LiDAR with a point rate of up to 640,000 pts/s.

* Accuracy values are obtained under Hi-Target standard calibration conditions (RMS). Performance may vary depending on environment and GNSS availability.

* Battery endurance depends on operating temperature and working conditions.

AUTHORIZED DISTRIBUTION PARTNER

25M116

Hi-Target Surveying Instrument Co., Ltd

ADD: Hi-Target Headquarters, No. 6, Hongchuang 2nd Street, Nancun Town, Panyu District, 511442 Guangzhou, China.

www.hi-target.com.cn +86-20-28688296 sales@hi-target.com.cn